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09-10 2012



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Тест отчет
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Dear Readers,

More and more receivers operate with an Internet connection and offer users an enormous assortment of TV channels that are available via the worldwide Internet. It could be streaming channels such as with a regular TV broadcaster or video files that would first need to be downloaded. The choices are becoming more and more limitless. The selection of the transmission path is actually a way to limit these choices.

Of all the different technical variants, terrestrial TV transmissions in most regions offer the least amount of TV channels. A step up in the number of available channels would be cable TV and even better would be TV via satellite. But far larger are the number of TV channels that can be received via the Internet, but there's no way to actually confirm how many there really are. All too often one Web/IP-TV provider starts up service while another stops service making it difficult to count the number of channels.

If you take a closer look at the TV channels that you can receive with the different methods, an interesting picture begins to develop. With terrestrial TV the number of available channels might be small, but they'd mostly be channels that viewers would want to see. Not only that, these channels would naturally offer programming of local interest.

The channels available via cable TV fulfill similar criteria; they are also mostly channels liked by the viewers attached to the cable network. The plight of the cable TV viewer, that usually doesn't have any other way of receiving TV, is that they are typically exploited by the cable provider in that they fill up their channel space with far too many useless channels such as shopping channels.

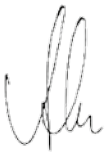
The satellite viewer has the best selection but they often have to do without channels that deal with local news and events. The selection of channels is so large that choosing a channel to watch becomes a tiresome task. Even more gigantic is the choice with Web/IP-TV; here there's absolutely no organization at all.

On what criteria should you base your decision on? The list of channels that every receiver presents after a scan has become so long that I easily lose the overview. And that's the problem: I should be able to choose a TV channel based on its name alone. But this is simply not enough information. There are many channels that have selected very peculiar names. How am I supposed to know, for example, that Press TV isn't a journalism channel but rather a news channel from Iran? And how many Tele5 and TV 5 channels are there that appear in a channel list after as scan? Which one should I choose?

As a user I think receivers should provide another bit of information for each channel that would help me make a decision. And that would be the picture quality which would be expressed in the bitrate. Ever since I've had an HD television, I've wanted to be able to use it exactly for that purpose, and that is to watch TV channels in high technical quality. For that reason my current criteria out of all the channels that are available is to search for only those channels that carry the two letters 'HD'. That reduces the choices significantly but it's not cut and dry. Quite a few SD channels also broadcast in good technical quality.

What's missing for me is an indication of the bitrate for each channel in the receiver's channel list. Then I would be able to sort the channels based on bitrate and would only surf between the first 100 channels. For those TV channels that don't put any value on the quality of their picture, I in return wouldn't put any value on those channels. Exceptions prove the rule.

So this is my wish for the scan function of a receiver: the bitrate should also be measured during a scan and sorting based on bitrate should also be possible. That's what I'd like to see.



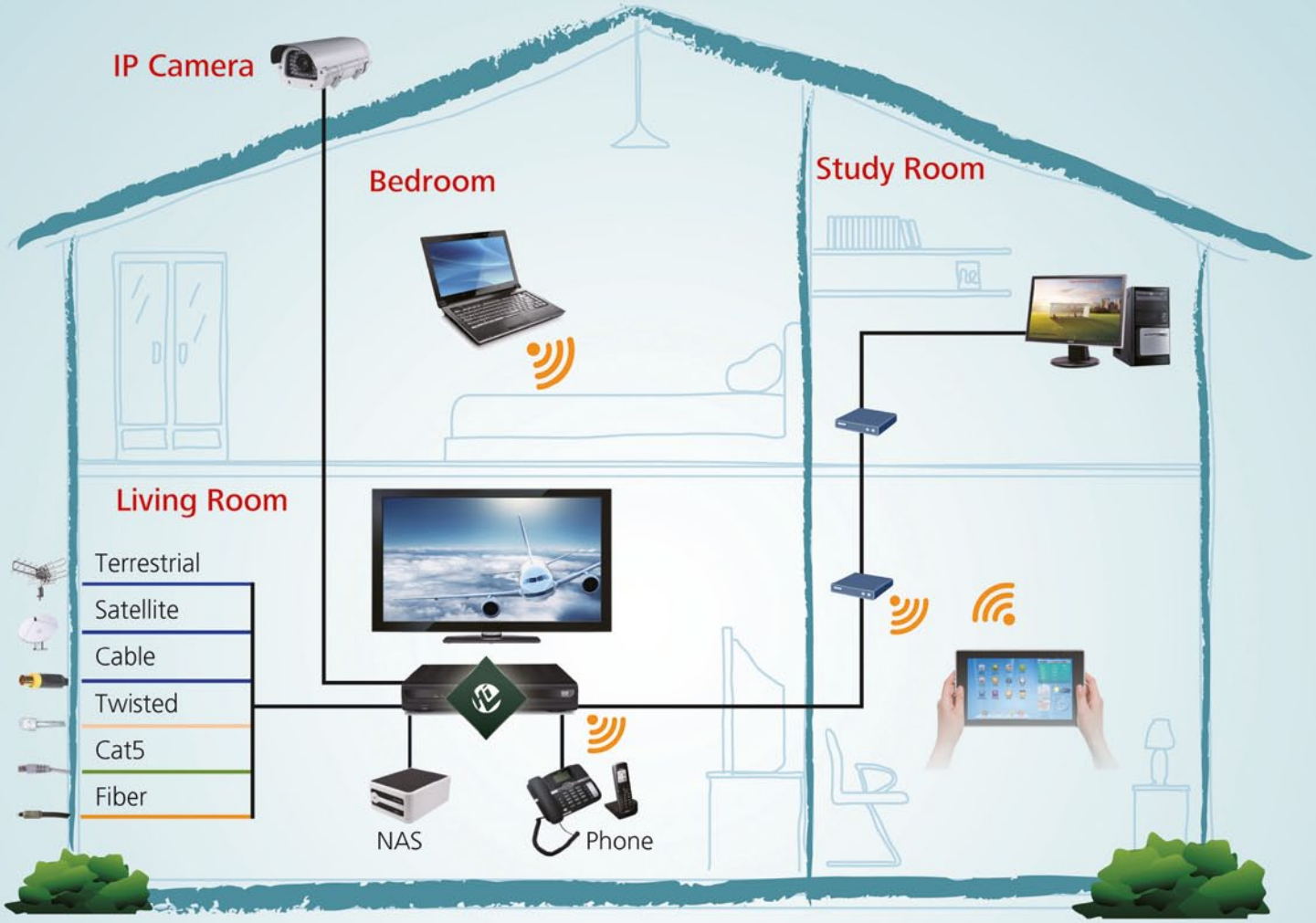
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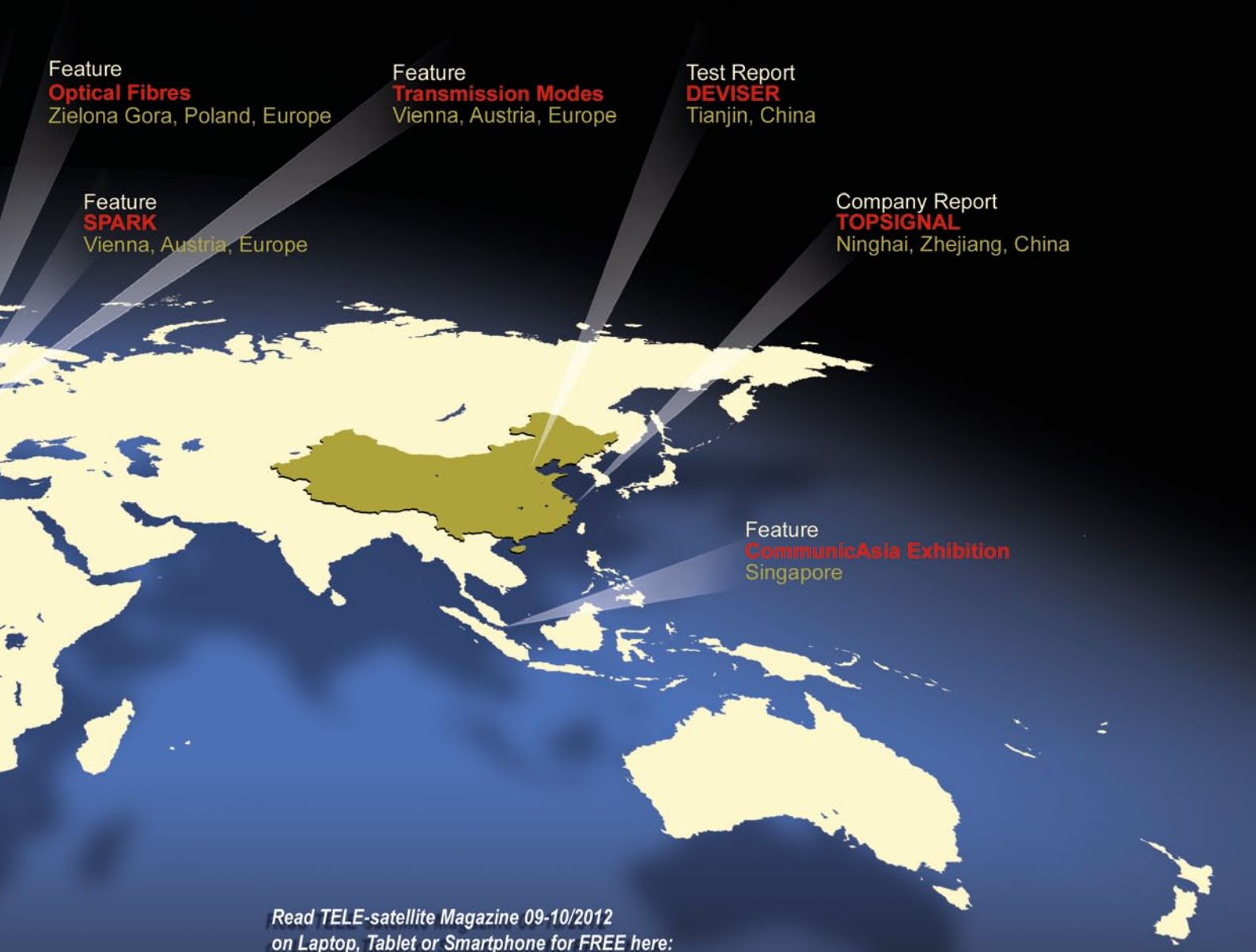


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***Company Reports** are written by TELE-satellite's editorial staff on location*
***Test Reports** are written by TELE-satellite's engineering staff located at different strategic reception points around the world*



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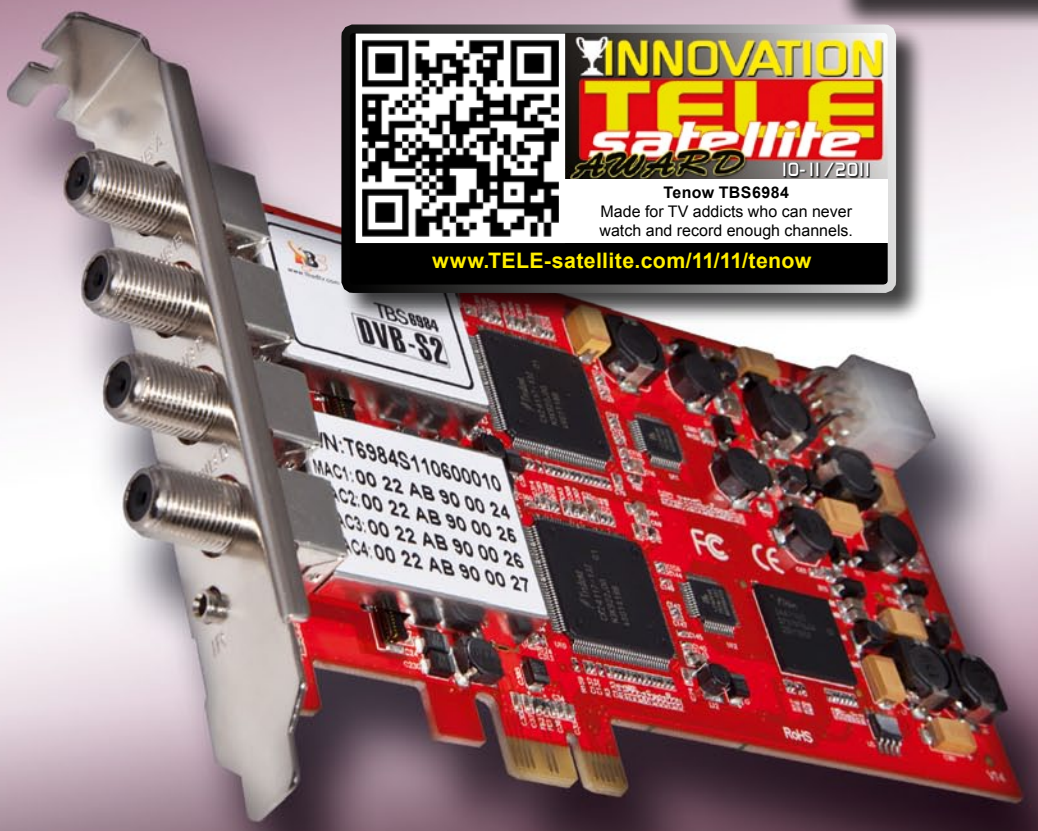
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Ever since we first tested the AZBox ME in TELE-satellite 02-03/2012 we simply cannot take our eyes off this receiver. The latest variant arrived at our test center in an unusually small box and carries the fitting name AZBox miniMe.



■ **Read Test Report of the AZBox miniMe's big sister AZBox ME in TELE-satellite 02-03/2012**
www.TELE-satellite.com/12/03/azbox-me

The AZBox miniMe sports a stylish 'set-top box design', which means it comes with an unobtrusive back plastic casing which will make it a suitable addition to all your existing home entertainment gear.

We were particularly taken to the slightly inclined side panels and the interesting design of the ventilation openings on the top side. In contrast to those unusual characteristics, the front panel looks rather conventional and comes with a button on the left to switch on the receiver. The button is surrounded by an LED that indicates the current operating mode of the receiver:

- **lilac:** deep standby
- **red:** standby
- **blue:** on

In addition, there is the 'AZBox miniMe' model designation in white lettering and the characteristic Z logo in black. Looks really great! To the right there is a mini phone jack which can be used to connect an infrared receiver. This way the AZBox miniMe can be hidden out of sight in a cabinet or behind the TV panel, for example.

If you want to make use of that option you need to separately obtain the IR receiver, since the receiver itself is shipped without it.

Due its small size the back panel of AZBox miniMe looks a bit crowded, but that's only due to the fact that it offers a surprisingly wide range of connections:

- **LNB-In und LNB-Loop:** Additional receivers or meters can be hooked up to the LNB loop-through output.
- **S/PDIF:** Music lovers and home theatre enthusiasts will surely appreciate this optical digital output in connection with a digital amplifier. For analog processing you might require a digital-analog converter (DAC).
- **LAN:** An RJ-45 connection is a must-have feature

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for Linux-based receivers, as it allows access to local servers and the Internet.

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- **YPbPr:** A mini phone jack puts out a component video signal using the YPbPr colour scheme, which provides better video quality with higher resolution than the conventional FBAS signal. If you own a video projector without digital input options you will certainly be grateful for component video. The receiver is shipped complete with a suitable adapter cable.
- **Recovery switch:** This is a neat feature for reconstructing the boot loader in case an unsuccessful flash attempt has damaged the receiver's firmware. We'll deal with that in more detail a little later.
- **A/V:** Another mini phone jack is available for composite video and an audio/video signal. Older TV sets can be connected directly or with the help of a euroscart adapter, depending on the available input socket(s) of the TV. Once again, the corresponding A/V cable is supplied, while those requiring a euroscart adapter have to obtain one on their own.
- **Two USB interfaces:** You can use those to attach external hard disks, flash memories etc.
- **e-SATA:** This connection can be used instead of the USB ports for connecting an external hard disk. e-SATA supports higher transfer rates than USB.
- **12V/2A socket:** Like the AZBox ME the AZBox miniMe comes with an external power supply unit. This reduces the heat that is generated inside the receiver and also facilitates mobile use in caravans, for example.

There is no mechanical on/off switch, but with an external power supply unit this is not really required. You can always plug out the cable from the mains to fully disconnect the receiver, even though we recommend using a switchable power strip to be on the safe and economical side. Obviously, we checked power consumption in deep standby, standby and on modes. Please refer to the chart at the end of the report for all results.

The internal smartcard reader is located on the left side of the AZBox miniMe and by default it is not active, which means it does not support any encryption system known to us. The remote control is the same that also comes with the AZBox ME, so we were able to swap the remotes and still operate both receivers with any of the two remote controls.

The remote sits nicely in your hand and sports an ergonomic design that allows reaching all buttons with your thumb. What might be confusing at first is that in addition to the usual ring-shaped buttons around the OK button there is another set of six buttons in an outer circle.

New users might find themselves pressing the EPG button instead of the DOWN button when zapping channels at first, but after a short while your thumb won't miss its target. What's more, we've been using the AZBox ME quite intensively in recent months so it's great to know we can just stick to the same remote.

If truth be spoken, it only trickles down after a while how smart the layout of the remote is: As mentioned above, all buttons can easily be reached with the thumb and individual buttons can be distinguished even without looking at them.

The actual high point of the remote control, however, is only revealed at second sight: If you open the battery compartment you will detect a small button that activates a learning function.

With that you can re-program the right button in the first row of the remote. By default it turns on and off the TV, but you can change that

to any desired command. In theory you won't even need the TV's remote control any longer, which is an absolute bonus in this day and age of multimedia overload.

Apart from the receiver, the remote control and adapter cables for component video and composite video mentioned above, the manufacturer also supplies a short manual and two AAA batteries for the remote.

Before we went about checking out all features and functions of the AZBox miniMe we first looked at aspects differentiating it from the AZBox ME. After all, the 'mini' in the model name is there for a reason.

Even though the standard AZBox ME is by no means a large receiver, the miniMe

	AZBox miniMe	AZBox ME
CPU	SIGMA processor SMP 8653	SIGMA processor SMP 8655
FLASH	256 MB	512 MB
RAM	DDR 128 MB	DDR 256 MB
VIDEO	DDR 128 MB	DDR 256 MB
Tuner	Single tuner (DVB-S2)	Single tuner (DVB-S2)
HDD	eSATA	eSATA and internal SATA
Video Container	MPEG1/2/4 (M1V, M2V, M4V); MPEG1/2 PS (M2P, MPG); MPEG2 Transport Stream (TS, TP, TRP, M2T, M2TS, MTS), VOB, AVI, ASF, WMV, IFO, ISO; Matroska (MKV), MOV (H.264), MP4, RMP4	MPEG1/2/4 (M1V, M2V, M4V); MPEG1/2 PS (M2P, MPG); MPEG2 Transport Stream (TS, TP, TRP, M2T, M2TS, MTS), VOB, AVI, ASF, WMV, IFO, ISO; Matroska (MKV), MOV (H.264), MP4, RMP4
Video Codecs	XVID SD/HD; MPEG-1; MPEG-2: MP@HL; MPEG-4.2: ASP@L5, 720p, 1-point GMC; WMV9: MP@HL; H.264: BP@L3; H.264: MP@L4.0; H.264: HP@L4.0; H.264: HP@L4.1; VC-1: MP@HL; VC-1: AP@L3	XVID SD/HD; MPEG-1; MPEG-2: MP@HL; MPEG-4.2: ASP@L5, 720p, 1-point GMC; WMV9: MP@HL; H.264: BP@L3; H.264: MP@L4.0; H.264: HP@L4.0; H.264: HP@L4.1; VC-1: MP@HL; VC-1: AP@L3
Audio Container	AAC, M4A, MPEG audio (MP1, MP2, MP3, MPA), WAV, WMA, FLAC, OGG	AAC, M4A, MPEG audio (MP1, MP2, MP3, MPA), WAV, WMA, FLAC, OGG
Audio Codecs	AAC, AAC+, DTS, WMA, WMA Pro, MP1, MP2, MP3, LPCM, FLAC, Vorbis, DTS (Audio Passthrough)	AAC, AAC+, Dolby Digital Plus, DTS, WMA, WMA Pro, MP1, MP2, MP3, LPCM, FLAC, Vorbis, DTS (Audio Passthrough), Dolby Digital Plus (Audio Passthrough)
In/Output Front	Coloured Leds; Power Button; 1x IR Jack;	1x USB 2.0; Coloured Leds & VFD; Power Button
In/Output Rear	1x HDMI; 1x JACK; 1x e-SATA; 1x RJ45; 1x Optical S/PDIF; Power Switch; 2x USB 2.0; 1x AV connector;	1x HDMI; 1x Component (YcbCr); 1x RCA Video; 1x RCA Audio (L/R); 1x e-SATA 1x RJ45; 1x USB 2.0; 1x Optical S/PDIF; Power Switch;
Card Reader	1x (side)	1x (side)

Table 1.



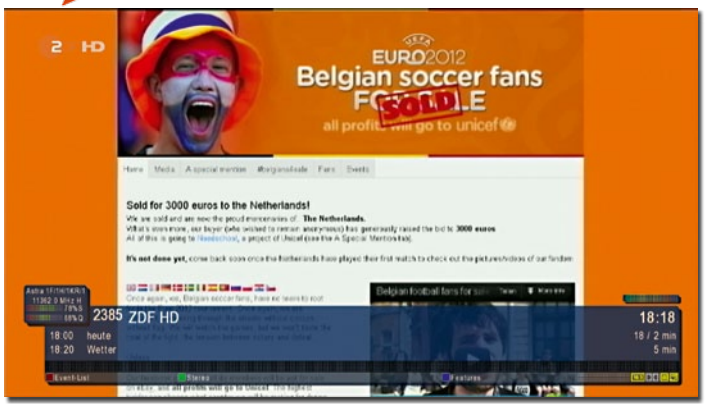


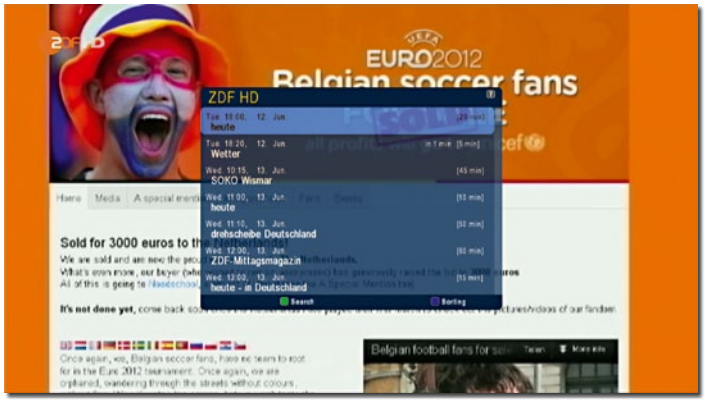


















is considerably smaller. An overview of the distinguishing factors between the two can be seen in our table.

The receivers use different processors, even though both are clocked with 1230 DMIPS at 500/333 MHz (CPU/DSP) and thus are largely identical.

There are only marginal differences which go unnoticed by users, since the processing capacity is identical and in both receivers the CPU is not fully exploited. In theory, for example, both processors could support even more flash memory. The single genuine processor-based distinction is Dolby Digital Plus, which is only available with the AZBox ME thanks to its SIGMA SMP 8655 processor.

Here is a quick rundown of the major differences between the two receivers:

- **Hard disk:** While it is possible to install in internal 2.5" HDD in the AZBox ME, the miniMe only allows an external HDD via USB or e-SATA.
- **Firmware:** The flash memory of the AZBox ME can store three different firmware versions. When switching on the receiver you can either press 0, 1 or 2 on the remote control to select the firmware you prefer. With the AZBox miniMe it is only possible to store two different firmware versions in the (smaller) flash memory (0 and 1).
- **Display:** With the AZBox ME you get a blue alphanumeric VDF display showing the channel name when switched on and the current time when in standby. The display is particularly important when selecting the firmware version to boot from – the display will show BOOT[0], BOOT[1] or BOOT[2] so that you know you can release the corresponding button on the remote control. The AZBox miniMe does not feature such a display, which means you select the firmware by pressing the respective button (0, 1 or VOL+) and most probably keep your finger on the button much longer than required.

The AZBox miniMe we received for testing came with pre-installed AZtrino v1.6. We checked on the manufacturer's website (http://www.azbox.com) and found out that it was the current firmware for the receiver.

Once we had connected all cables to the receiver we were finally able to turn it on. It always surprises us no end to see how user-friendly a receiver can be with top-notch software. In this case we were smoothly guided through various configuration steps by an efficient wizard, starting with language selection.

Even though this receiver is small, the range of available languages is huge and we cannot think of a box that offers more options!

Video resolution is next, with all modes from 480p to 1080p being available, either with 50 Hz or 60 Hz. Obviously, it is also possible to select interlaced mode (i) for all resolutions. We went for 1080i, a configuration that is very popular in Europe.

What follows is the correct time zone, and here too the manufacturer seemed to have thought of all corners of the world.

From these basic settings we are guided to the network parameters. DHCP is activated by default, and this actually makes sense since the router automatically assigns all required values and addresses.

If you prefer to work with a static user-defined IP address you can of course also manually set all parameters.

At this stage you can even define a so-called time server from which the AZBox miniMe obtains the exact time.

While it is true that the current time is also transmitted with DVB-S/S2 data streams we found that some providers are simply incapable of sending a correct and standardised time stamp so that it may happen during zapping


Mount Network volume
Back
Type CIFS
Server IP 192.168.1.252
Directory/Share /Multimedia
Local dir /media/atom
Mount on startup Yes
Mount options ro,soft,udp
Mount options nolock,rsize=8192,wsize=8192
Username vitor
Password
MAC address 11:22:33:44:55:66
Mount now

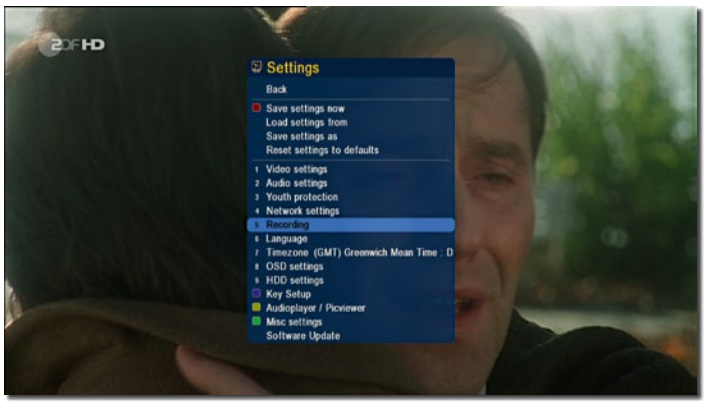

TS MovieBrowser
22.27:46
Title
Info 1
Date
MB
Ag
Ein starkes Team
12.05.12
Mädchen Liebe
12.05.12
ZDF_HD_20120512_222204.ts
12.05.12
24


19:24:05
Picture viewer
dscf0384 (jpg) 22-07-2006 20:09
dscf0385 (jpg) 22-07-2006 20:09
dscf0386 (jpg) 22-07-2006 20:09
dscf0387 (jpg) 22-07-2006 20:10
dscf0388 (jpg) 22-07-2006 20:10
dscf0389 (jpg) 22-07-2006 20:10
dscf0390 (jpg) 22-07-2006 20:10
dscf0391 (jpg) 22-07-2006 20:10
dscf0392 (jpg) 22-07-2006 20:10
dscf2323 (jpg) 04-05-2010 16:55
dscf2324 (jpg) 04-05-2010 16:55
dscf2325 (jpg) 04-05-2010 16:55
dscf2326 (jpg) 04-05-2010 16:55
dscf2327 (jpg) 04-05-2010 16:55
dscf2328 (jpg) 04-05-2010 16:55
dscf2329 (jpg) 04-05-2010 16:56
dscf2330 (jpg) 04-05-2010 16:56
dscf2331 (jpg) 04-05-2010 16:56


Misc settings
Back
Save settings now
General
Switch off after 0
Startup to standby Off
Swap rotor east/west Off
Subchannel display Top right
Cache teletext Off
Virtual zap Off
Channellist
Programtext Align Left
Extended channel list On
Create list of HD channels On
EPG settings
Save/Restore EPG on reboot Off
EPG-Cache (Days) 14
EPG Long Description (hours) 360
EPG remove after (std.) 1
Max. Events 30000


22.17:06
Current Track: 1
Bersuit Vergarabat / Fuera De Aca
Audio Playlist
1 : Bersuit Vergarabat, Fuera De Aca (Asquerosa Alegria) 4:11
2 : Bersuit Vergarabat, Sin Son (Asquerosa Alegria) 4:59
3 : Bersuit Vergarabat, Tu Pastilla Fue (Asquerosa Alegria) 4:00
4 : Bersuit Vergarabat, Clara (Asquerosa Alegria) 5:05
5 : Bersuit Vergarabat, Cha Cha Cha (Asquerosa Alegria) 2:49
6 : Bersuit Vergarabat, Ausencia De Estribillo (Asquerosa Alegria) 2:35
7 : Bersuit Vergarabat, Si Amanece (Asquerosa Alegria) 4:32
8 : Bersuit Vergarabat, Decile A Tu Mama (Asquerosa Alegria) 2:23
9 : Bersuit Vergarabat, Balada De Guang Chang Kein (Asquerosa Alegria) 0:46
10 : Bersuit Vergarabat, Los Elefantitos (Asquerosa Alegria) 5:14
11 : Bersuit Vergarabat, Vamos No Llegamos (Asquerosa Alegria) 3:42
12 : Bersuit Vergarabat, Nepore'y (Tu Ausencia) (Asquerosa Alegria) 5:48
13 : Bersuit Vergarabat, Buceando En El Riachuelo (Asquerosa Alegria) 2:12
14 : 3 Doors Down, When I'm Gone (Away From The Sun) 4:21
15 : 3 Doors Down, Away From The Sun (Away From The Sun) 3:53
16 : 3 Doors Down, The Road Im On (Away From The Sun) 3:59
17 : 3 Doors Down, Ticket To Heaven (Away From The Sun) 3:27
Sin Son
Bersuit Vergarabat (Asquerosa Alegria)
Rock / 1993


Ghana
MON-FRI: 7 - 8 : 30 AM


Settings
Back
Save settings now
Load settings from
Save settings as
Reset settings to defaults
1 Video settings
2 Audio settings
3 Youth protection
4 Network settings
5 Recording
6 Language
7 Timezone (GMT) Greenwich Mean Time : D
8 OSD settings
9 HDD settings
Key Setup
Audioplayer / Picviewer
Misc settings
Software Update


SUNDAY
10:00pm


HDD settings
Back
Sleep time 10 min.
Noise control Fast
Activate settings
Manage sda (WD-5000AAV 500 GB)


15
Kafui Danku

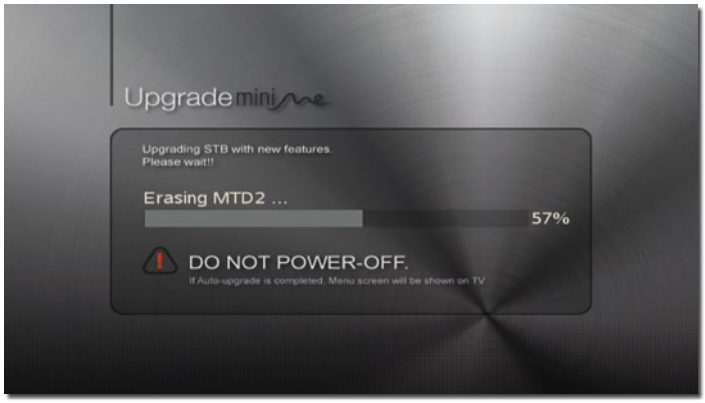














that the receiver's internal time jumps back and forth an hour or two. Thankfully, there is a time server (NTP – Network Time Protocol) already pre-set in the AZBox miniMe: time.tu-berlin.de.

Now we're only one step away from actually watching TV with the AZBox miniMe, and this final step deals with getting the receiver to work with the reception equipment in place.

Just so you know, all DiSEqC protocols are supported. We began with connecting the box to our existing array of antennas, which consists of four flat antennas aligned to the following positions:

DiSEqC-1 - ASTRA 1 (19.2E), DiSEqC-2 - HOTBIRD (13.0E), DiSEqC-3 - HISPASAT (30.0W) and DiSEqC-4 - ASTRA 2 (28.2E).

For that configuration to work you don't even need to consult the manual, since all OSD menus are self-explanatory.

We then initiated a channel search across all four positions, which had us waiting for a total of 34 minutes. While this is a tad on the long side, we were rewarded with 3178 channels, which is quite an impressive result for a standard search with 60cm flat antennas in bad weather.

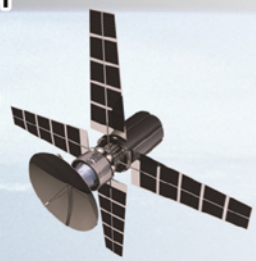
Speaking of the channel search, the AZBox miniMe comes with a tuner that is capable of performing blind scan searches, just like the larger AZBox ME. The current AZtrino firmware supports blind scan as well, which is why we couldn't refrain from hooking up our 2.4m mesh antenna with C band LNB for a blind scan search on 37.5W.

The AZBox miniMe flawlessly detected a number of transponders as well as the Metro TV channel from Ghana. This signal is broadcast with a symbol rate of 1674 and an FEC of 7/8. While the resolution of only a quarter of PAL standard is very unusual and feels like an insult to the eyes – especially when compared to all the latest FTA HD channels on ASTRA 1 (19.2E) – it is truly exciting to be able to watch African TV in Europe. All DXers out there will surely understand what we mean!

The only thing that was not met with our approval was the wrong indication of the transponders' frequencies: The figures given were based on a universal LNB, even

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Fly Away, Movable Antenna





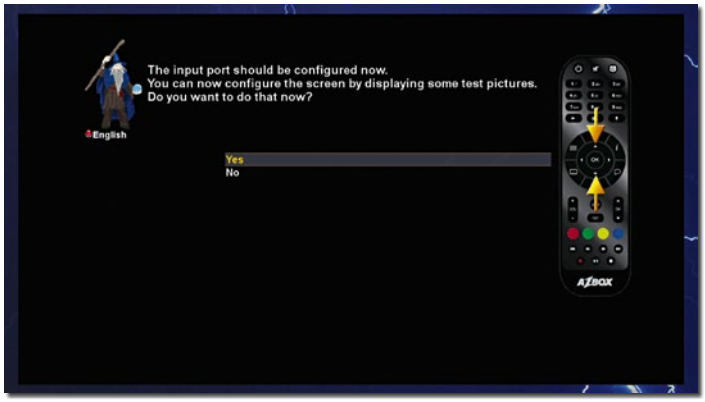


AZURE✦SHINE

AZURE SHINE INTERNATIONAL INC.

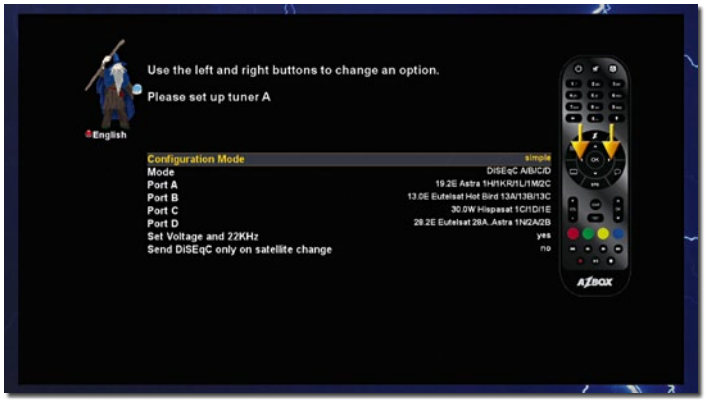
No. 1000, Gwang Fu Road, Pa Teh City, Taoyuan, 33455, Taiwan R.O.C.
Http://www.azureshine.com.tw/ E-mail: azure.shine@azureshine.com.tw
Tel: 886-3-3611393 Fax: 886-3-3615877

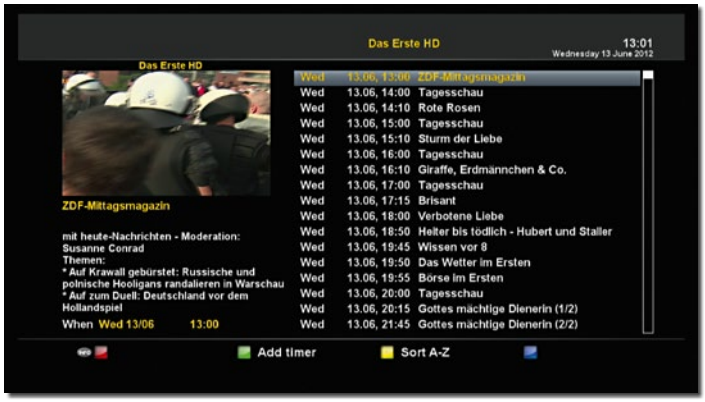




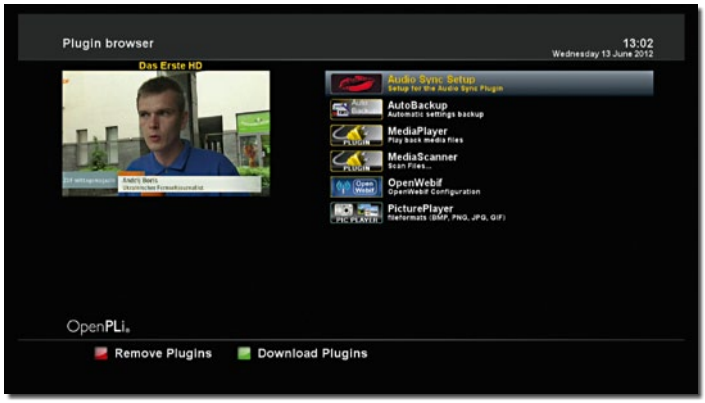












though our LNB was specifically configured as a C band LNB. Apart from that, we were genuinely pleased with the blind scan results.

Let's turn to another very important aspect now. After all, the blind scan option is nice to have, but a receiver can only prove its worth in everyday use for watching television.

No need to worry as far as the AZBox miniMe is concerned: It offers fast channel switching and comes with a very reliable software environment. During our test we were never faced with any freezes and all standard functions such as EPG, teletext or subtitles worked without a glitch.

In order to test the PVR function we attached an external hard disk to the USB interface of the AZBox miniMe. It was formatted with FAT32 and already included a number of multimedia files, so that we were able to find out how easy or difficult it would be to use a pre-formatted hard disk with existing files in connection with the AZBox miniMe.

To cut a long story short: The external HDD was detected automatically and added to the directory tree under /media/sda1.

The only thing we had to add manually was the path for the time-shift directory which is normally created automatically at the time a hard disk is formatted by the AZBox miniMe's AZtrino firmware. In our case the external HDD already had some

files on it that we of course wanted to keep, which is why we added the time-shift and recording directories manually.

Once that was accomplished we were able to use those functions to the full and could not detect any flaws. Everything worked just the way we knew it from other Linux receivers.

We went through all other menu options as well and also tested a motorised antenna with the SG2100 DiSEqC 1.2 motor from Motek, which worked right away. This part of our test was completed extremely quickly since we used the existing settings from our AZBox ME. It pays off to stick to products from the same family!

Last but by no means least we opened the Internet browser on our PC and entered the IP address of the AZBox miniMe.

Spoilt by the AZBox ME, we had certain hopes in that regard and luckily the miniMe did not disappoint us. The website of the receiver appears on the monitor and allows remote access to all receiver functions.

In addition, it is even possible to stream the currently received channel across the entire home network. Sitting on your work desk and at the same time watching a soccer match? No problem at all thanks to the AZBox miniMe!

This is a receiver that meets all of our demands: The pre-installed firmware lives up to its promises and the receiver has treats in store for everybody.

If you like watching films and playing back multimedia files you can simply hook up an existing hard disk and watch or listen to more or less all file formats.

If you're the adventurous type and love to spend hours on end hunting for out-of-the-ordinary channels from exotic positions or for feeds that are not intended for the average viewer you will greatly appreciate the blind scan function.

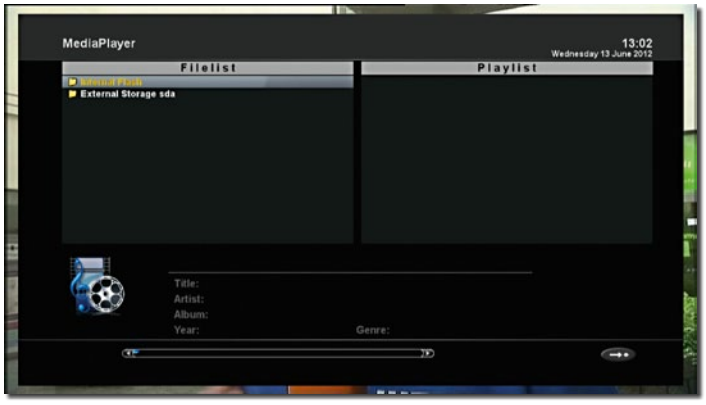
For the rest of the family who merely wants to watch TV this receiver offers ease of use and a logical user interface. Who could possibly ask for more?

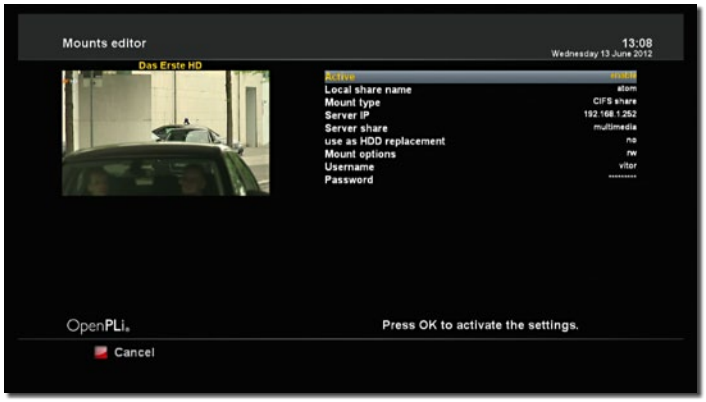
Well, there is always more. More features and more functions, thanks to alternative firmware versions that can be used optionally.

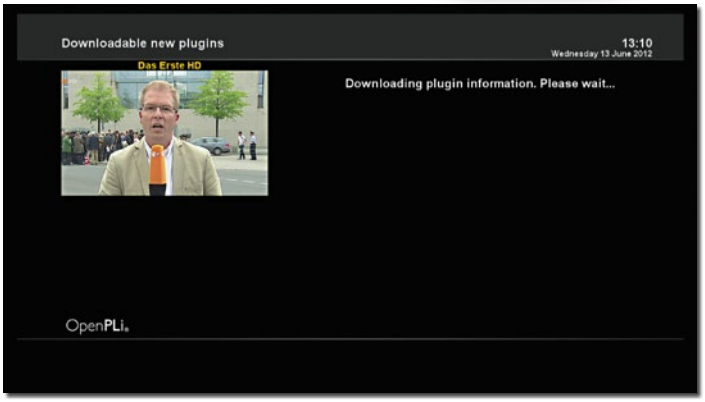
Just like with the AZBox ME you can find a range of different firmware distributions for the AZBox miniMe. There is the official AZtrino firmware, with which the receiver is shipped by default.

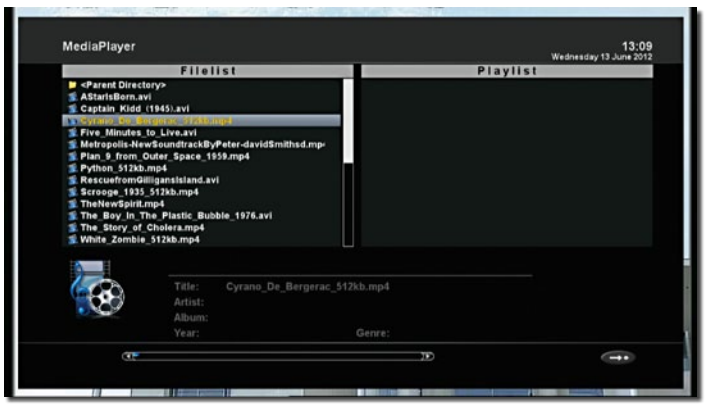
And then there's a firmware version called RTI or an OpenRSI version. It's really

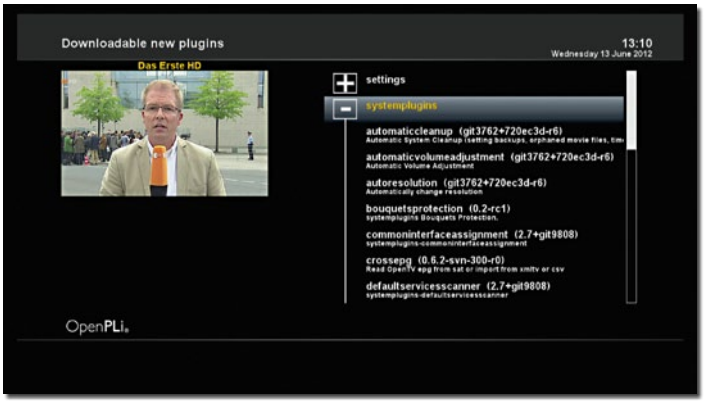




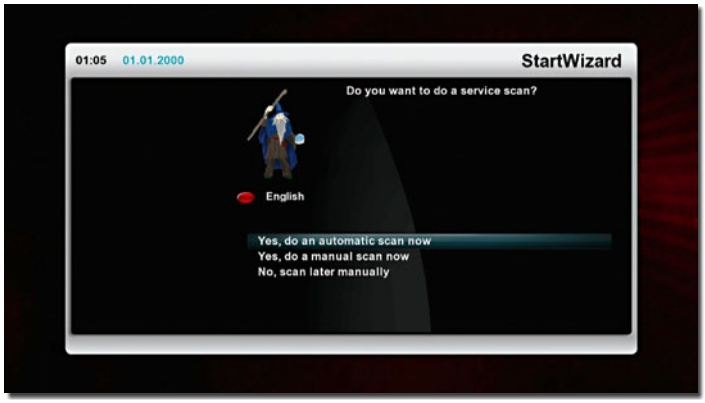


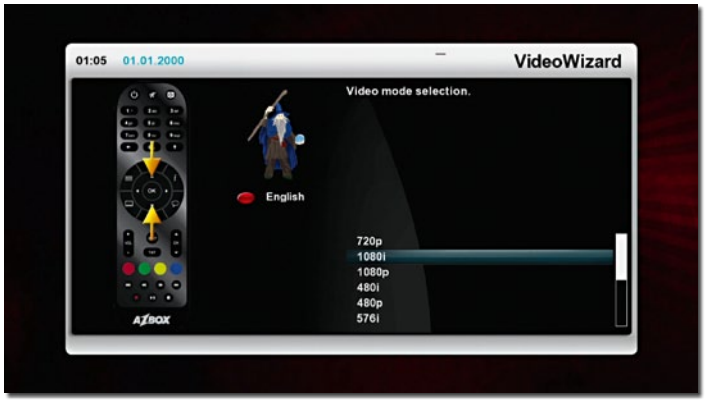


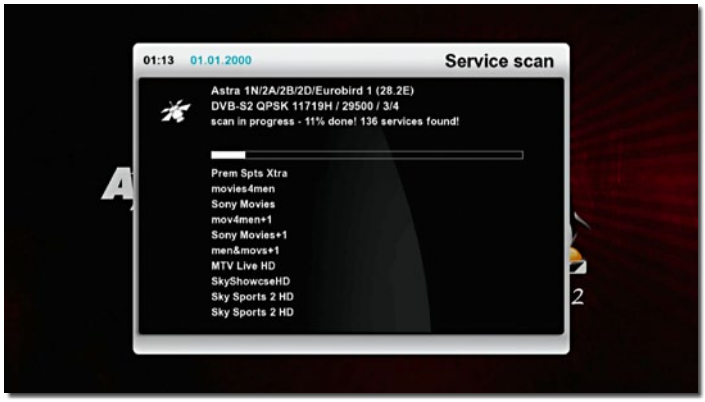




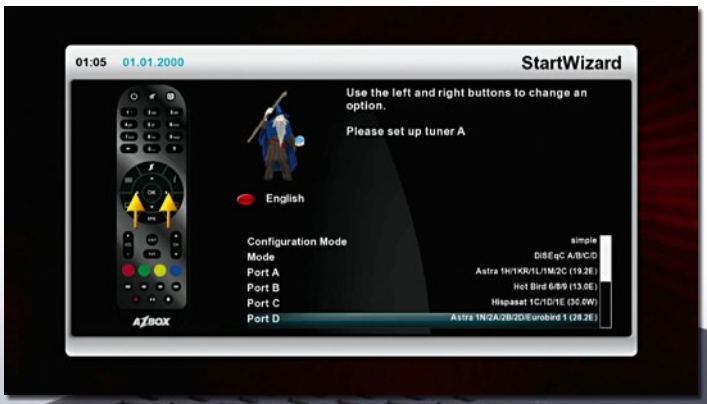












not hard to guess that we tried out both!

First we had to find out how to install new firmware in the first place. The short manual that is shipped with the receiver is rather vague regarding alternative firmware and the missing VFD display does not help either.

Just like the AZBox ME the miniMe is started with the 0 or 1 button of the remote pressed in order to boot from flash memory 0 or 1. The AZBox ME offers a third option by pressing button 2. Alternatively you can press the VOL+ button to access the flash menu.

The AZBox miniMe does not have a display, so even though you press either 0/1 or VOL+ you have no information on whether your command is being executed or how long you need to press the button. This felt a little strange at first and to be on the save side we kept our finger on the button until the first screen appeared on the TV.

After a while, however, we knew intuitively when to release the button, and we even discovered that the power LED flashes shortly right after the selection has been executed.

Contrary to the AZBox ME a flash menu appears on the screen. At that stage it is possible to either flash the receiver with BOOT[0], Boot[1] or MICOM (front-end



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- Programmable channel name and logical channel number insertion
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Karel Nerinckxlaan 1
1500 Halle
T: +32 (0)2-361 31 15
F: +32 (0)2-361 29 08
E: stefaan@satsound.be
www.satson.eu

processor), or to restart the box. The current IP address of the receiver is indicated as well, so that you can flash the receiver from your browser on the PC. In that case the screen goes blank and you control the receiver from the PC.

This is when we had to try out a few things since the procedure is different from the one with the AZBox ME.

To start with, we had downloaded a firmware version that was offered as a TAR file. WinRAR then identified this file as corrupt, even though it was perfectly all right and included the flash image as well as the kernel file. This TAR file can be flashed via the browser on the PC.

Alternatively, you may go for firmware files that come in the RAR format. In that case you will need two files, one with the flash image (image0.jffs2) and the other with the corresponding kernel (zbimage-linux-xload).

Please note that what you just read is not a typo: Using the browser you need a firmware image in TAR format, using USB you require two files that are downloaded as a single RAR archive and then unpacked onto the root directory of the USB memory. Sounds complicated? You bet, but that's the way it works…

Both the AZBox ME and the AZBox miniMe use a joint kernel in the flash memory, that works with the different firmware version. While this certainly has its benefits, it also means that the firmware version you intend to install must be compiled for that particular kernel version since they all share it.

What follows from this is that we were unable to keep the current AZtrino and the RTI firmware in the flash memory at the same time, since the two require different kernel versions. If you do start a firmware with the wrong kernel your screen will stay blank. However, the receiver can still be addressed via Telnet.

So we had to test the different firmware versions one after the other. This is not such a big deal, and we expect the three firmware versions to be available for the same kernel shortly. Considering the short time that this receiver is on the market, the number of available firmware versions is already very impressive.

We mentioned on several occasions that the AZBox ME and the AZBox miniMe are very similar in many ways, so we went about installing the ME's AZtrino v1.7 on the mini-Me. To that end we changed the file extension from IMP to RAR and extracted the two firmware files onto our USB memory. Installation was successful and we could address the receiver via Telnet. The TV screen, however, remained dark.

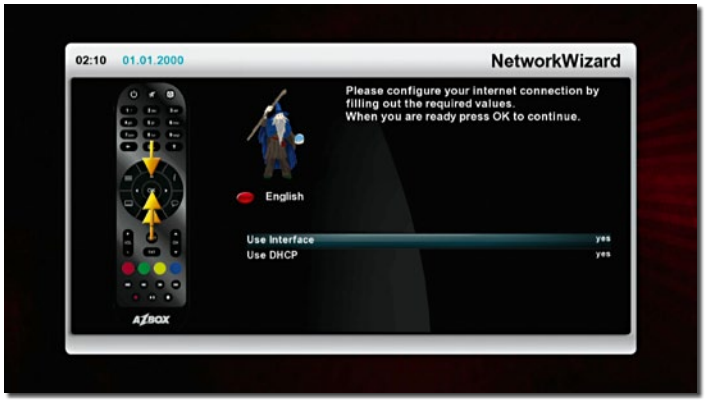
At this stage we were lured into a flash tour as we simply did not want to believe we'd manoeuvred ourselves into a dead end. The final result after some 20 minutes was: rien ne va plus!

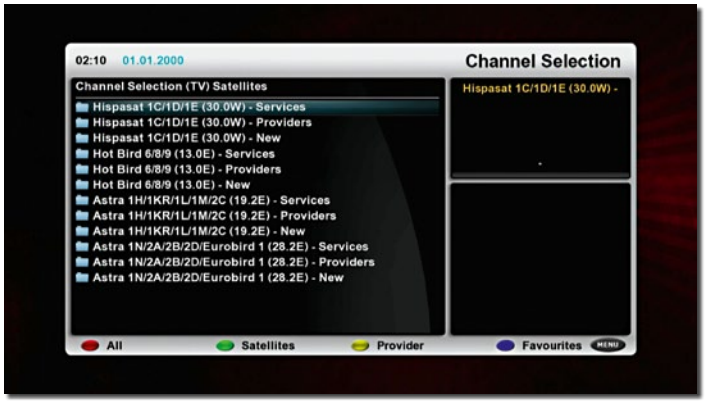
Most other receivers would have earned the name 'brick' by that time, but the AZBox miniMe comes with the famed recovery button. Simply switch it to recovery and reboot the receiver.

The power LED will flash in orange colour during that process and when the receiver is all set again it will turn to blue. After deactivating the recovery switch we restarted the receiver and were greeted by the familiar flash menu soon after.

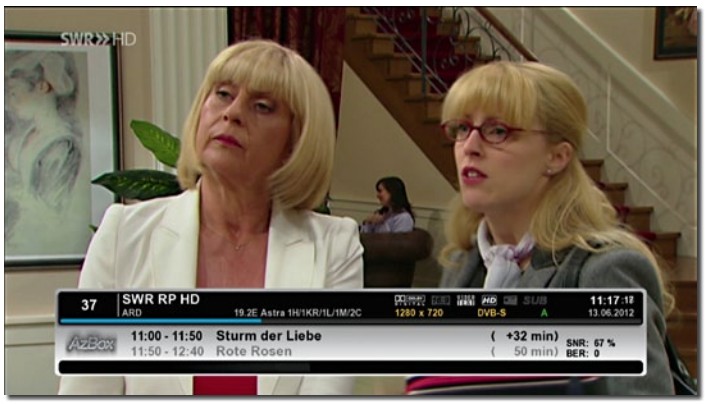
This allowed us to install the standard AZtrino v1.6 firmware again. It remains a mystery to us why other manufacturers don't make use of this brilliant safety measure as well. Then again, this is one of the distinguishing features of the AZBox miniMe and you never need to despair after an unsuccessful flash attempt.

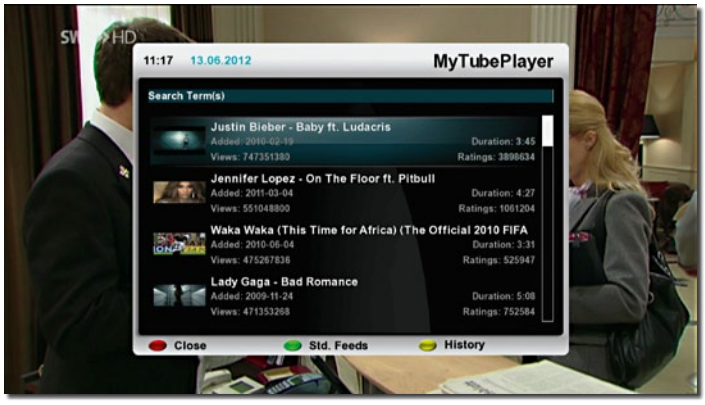
We continued with the current v1.85 of RTI. While installation went smoothly, you should make a point of



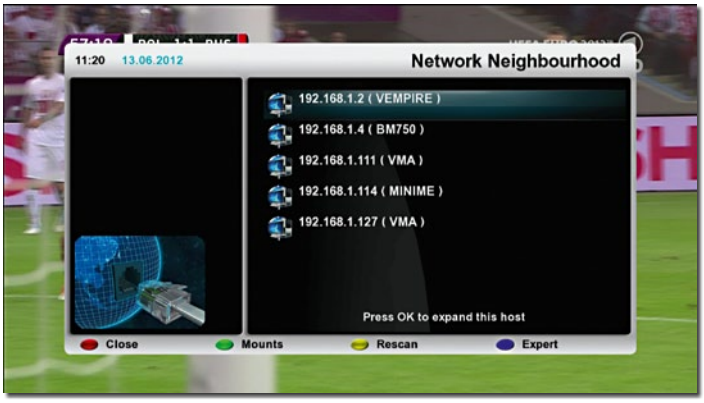




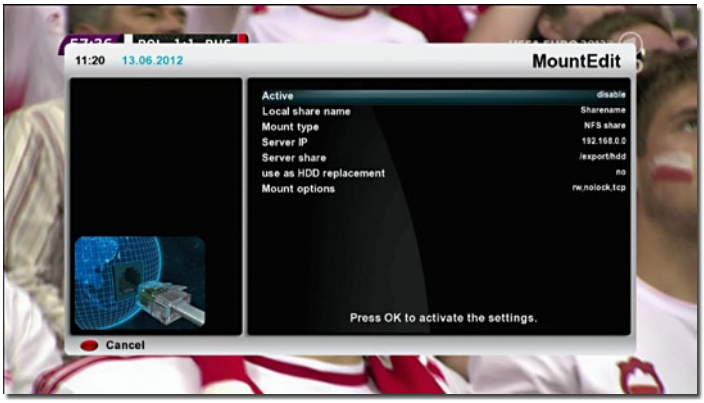




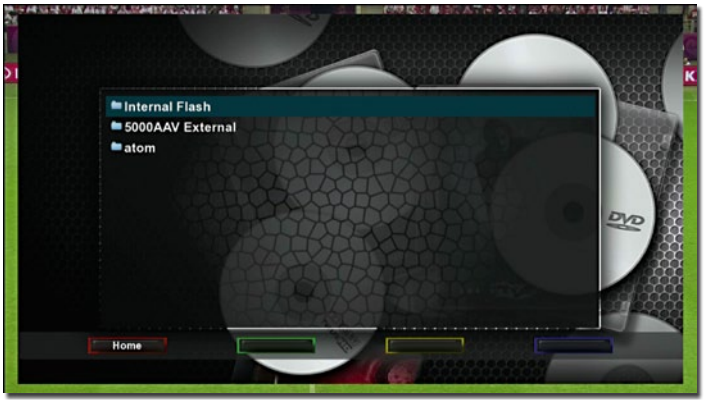

55:09
POL 0:1 RUS
UEFA EURO 2012™
HD


11:20 13.06.2012
Network Neighbourhood
192.168.1.2 (VEMPIRE)
192.168.1.4 (BM750)
192.168.1.111 (VMA)
192.168.1.114 (MINIME)
192.168.1.127 (VMA)
Press OK to expand this host
Close
Mounts
Rescan
Expert

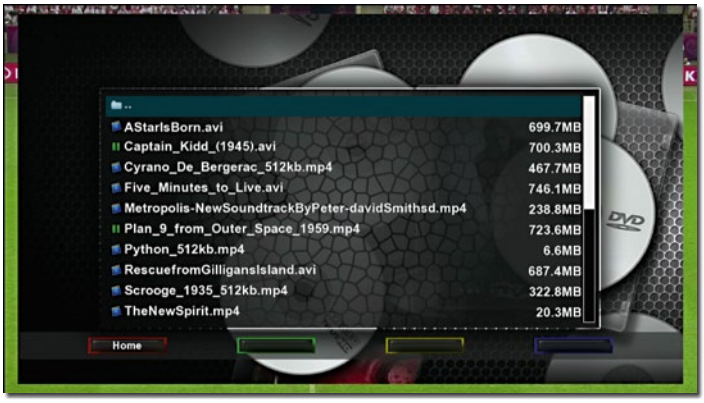

11:18 13.06.2012
Eventview
Das Erste HD
13.06, 10:15
105 min
UEFA EURO 2012 (TM): Polen - Russland
Vorrunde Gruppe A (Wdh. vom 12.06.12)
* Reporter: Tom Bartels
* Moderation: Gerhard Delling
* Experte: Mehmet Scholl
* Übertragung aus Warschau
Add timer
Single EPG
Multi EPG


11:20 13.06.2012
MountEdit
Active
Local share name
Mount type
Server IP
Server share
use as HDD replacement
Mount options
Press OK to activate the settings.
Cancel


11:18 13.06.2012
Serviceinfo
Name: Das Erste HD
Provider: ARD
Aspect ratio: 16:9
Resolution: 1280x720
Namespace: 0x00c00000
Service reference 1:0:19:283D:3FB:1:C00000:0:0:0
Service
PIDs
Multiplex
Tuner status

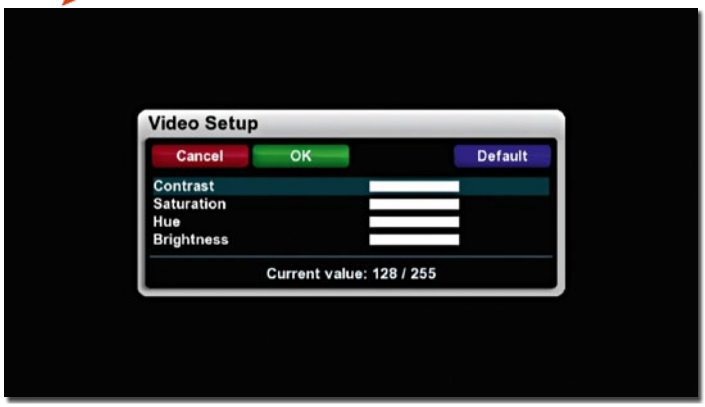

Internal Flash
5000AAV External
atom
Home

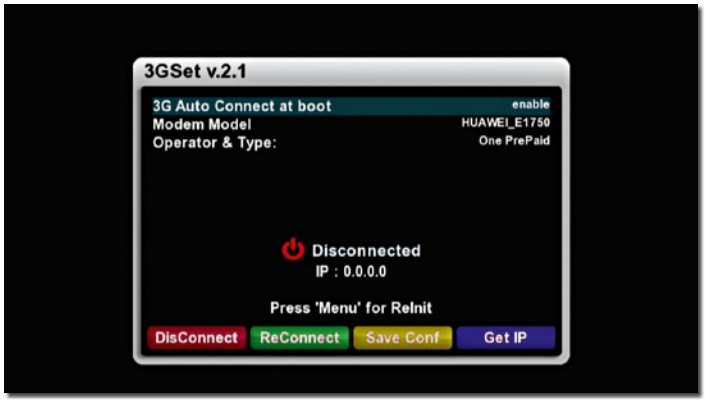

11:19 13.06.2012
Serviceinfo
Video PID: 0x13ed (5101d)
Audio PID: 0x13ee (5102d)
PCR PID: 0x13ed (5101d)
PMT PID: 0x13ec (5100d)
TXT PID: 0x13f0 (5104d)
TSID: 0x03fb (1019d)
ONID: 0x0001 (1d)
SID: 0x283d (10301d)
Service
PIDs
Multiplex
Tuner status

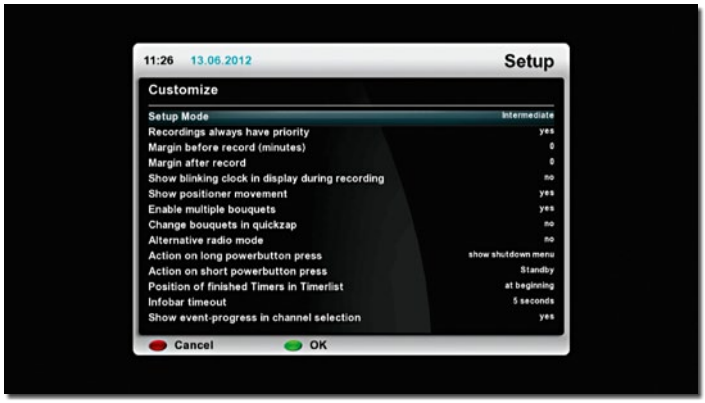

..
AStarIsBorn.avi 699.7MB
Captain_Kidd_(1945).avi 700.3MB
Cyrano_De_Bergerac_512kb.mp4 467.7MB
Five_Minutes_to_Live.avi 746.1MB
Metropolis-NewSoundtrackByPeter-davidSmithsd.mp4 238.8MB
Plan_9_from_Outer_Space_1959.mp4 723.6MB
Python_512kb.mp4 6.6MB
RescuefromGilligansIsland.avi 687.4MB
Scrooge_1935_512kb.mp4 322.8MB
TheNewSpirit.mp4 20.3MB
Home

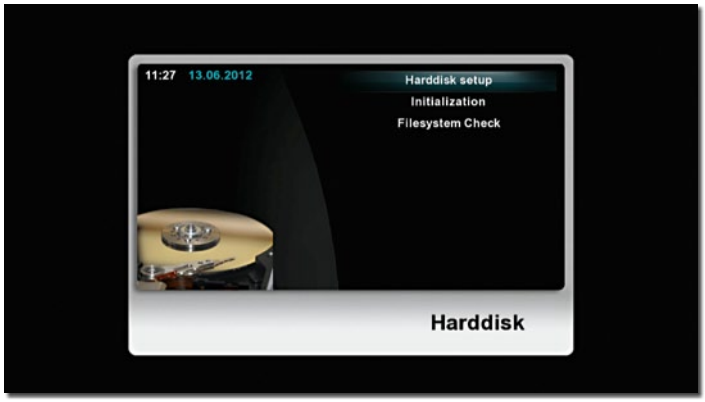

11:19 13.06.2012
Serviceinfo
NIM: A
Type: Satellite
System: DVB-S2
Modulation: 8PSK
Orbital position: Astra 1H/1KR/1L/1M/2C (19.2E)
Frequency: 11493750
Symbol rate: 22000000
Polarization: Horizontal
Inversion: Auto
FEC: 2/3
Pilot: Auto
Service
PIDs
Multiplex
Tuner status


11:26 13.06.2012
Setup
A/V Settings
Digital Video Output HDMI
Mode 1080i
Refresh Rate (reflected at analog out: 50Hz=PAL, 60Hz=NTSC) 50Hz
Color Space) RGB 16 235
AFD (Digital Out) none
Aspect Ratio (Digital Out) 16:9
Analog Video Output: Composite & Component CVBS & YPbPr
AFD (Analog Output) none
Aspect Ratio (Analog Output) 4:3
input video scan mode default (EMhwlibScanMode_Source)
interlaced progressive algo. default (Algorithm_Using_Decoder_Specification)
Cancel
OK











removing the USB memory after flashing so that the receiver does not automatically start the flash menu.

Again, the receiver needs to be re-started after the flash routine and it first shows the RTI welcome screen, followed by an installation wizard.

The first parameter that needs to be adjusted is screen resolution, which we once again set at 1080i with 50 Hz. Language selection is next and just like with AZtrino the list of options is very long.

Finally, we had to configure our reception equipment. To that end we selected the SIMPLE mode and entered the four satellite positions we can receive. After that, we were able to initiate a channel search, which was completed after 48 minutes with a result of 4017 channels in total.

We should like to mention at this point that the weather had vastly improved since the previous search and when looking up we saw a blue sky instead of grey cloud.

We went on to test the media player of the RTI image, only to find out that the firmware version we used came with a bug of the media player which meant that films or music just would not play back. What a shame, even though we are convinced one of the upcoming release versions will address that issue.

While we were at it, we simply could not keep our fingers off the OpenPLI image either. In terms of functions, it is largely identical with the RTI image, even though the pre-installed skins obviously look different.

You need to dig a little deeper to discover the differences: The OpenPLI firmware comes with a different media player which was able to access all of our films on an external USB HDD or via the local network. The player even displayed subtitles correctly.

On the other hand, blind scan is not available with this image. As they say, you win some, you lose some…

Just like with the RTI image there is a pre-installed plugin server which provides a wide range of plugins and therefore can be used to expand the range of features of the receiver enormously. Among other things, e-mail plugins are available as is access to various content libraries.

Once again, the AZBox manufacturer has come up with a new product for a market segment that has been neglected so far.

The AZBox miniMe is a very small Linux receiver with elegant, yet low-key looks plus a range of functions and features that are second to none. For more information about general features of the AZBox range please have a read of our 'AZBox Receiver Software' series which focuses on a specific aspect in each issue of TELE-satellite.

In spite of its small size the AZBox miniMe does not heat up even during heavy-duty use: lukewarm is all we could feel. There is no built-in fan required, which means the unit does not create any noise whatsoever.

No matter whether you only want to watch satellite television or tinker with your hardware and software: The AZBox miniMe is the way to go. Not only is it possible to install different firmware versions, two images can even be installed at the same time, provided they work with the same kernel.

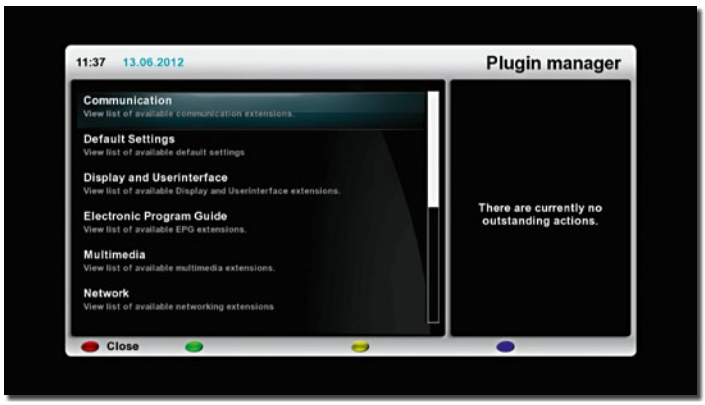
If worse comes to worst, you can always switch the recovery button which will quickly get you out of troubles with a working image.

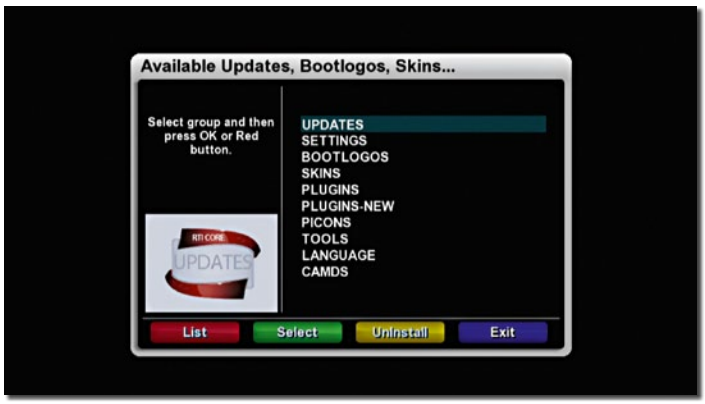
Trying out new plugins is fun, and creating network shares with all associated possibilities will keep you entertained for days. Even the missing front display can be retrofitted – find out how by reading 'Digital Picture Frame for the AZBox ME' in TELE-satellite 06-07-08/2012.

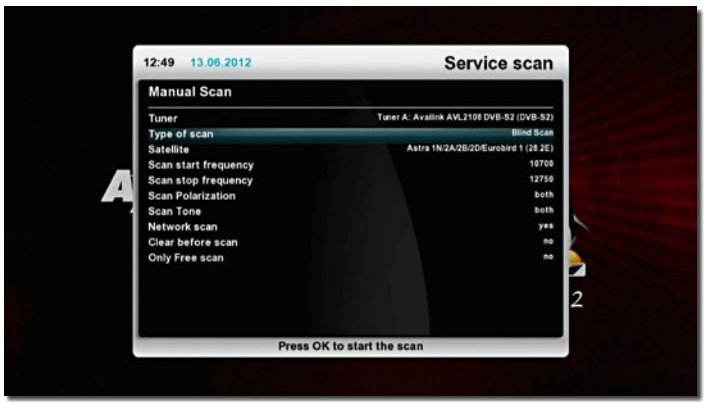
Thanks to the IR jack it also possible to position the receiver completely out of sight











and only place the picture frame and IR receiver next to your flat screen TV. Use it as you like, the sky's the limit!

As far as multimedia use is concerned the AZBox miniMe will also become your best mate: It plays back all current file formats either from e-SATA or USB hard disks or via your local network.

Now the big question that begs answering is: Which receiver should you opt for? Is the AZBox ME the box for you, or rather the AZBox miniMe?

You really want an answer from us? Take both! There you go. Or better still: One AZboxME and several AZBox miniMe's!

The average home these days has more than one TV: There's one in the living room, the master bedroom, the children's rooms and more often than not the kitchen as well. And that's not even counting the study, basement, or any other area in your house or apartment. TV has become a by-word for multimedia.

Long gone are the days when the whole family assembled in front of the telly to watch one of only three available channels. With hundreds or thousands of satellite channels available, there is no way a family would ever agree on a particular channel to watch.

What's more, in this day and age you want to watch the beginning of a movie from the couch in your living room, and the end from your bed in the bedroom.

That's why it does make sense to own more than one receiver, and to hook them all up to your local network.

This is where all the capabilities of the AZBox ME and the AZBox miniMe come to the fore.

The ideal set-up would consist of an AZBox ME in the living room, equipped with a large-capacity hard disk and acting as server. AZBox miniMe's can then be installed in all other rooms with a TV. These need not have a HDD attached, since recordings and time-shift viewing can be accomplished with the networked AZBox ME in the living room.

This way all multimedia content and recordings can be distributed to all clients and films downloaded from the Internet can be played back by simply connecting the USB storage device to any of the AZBox receivers.

The really great thing with such an environment is that two different categories of receivers can be used simultaneously with identical firmware and the same remote control.

Even the not so tech-savvy members of your family will like that because they can easily change from the 'small' to the 'large' receiver without worrying about different user interfaces.

Make no mistake about it, the AZBox miniMe is a fully-fledged satellite receiver all by itself and offers almost the same range of features as the AZBox ME, but at a slightly lower price.

All we're saying is that a reduced price brings with it the differences mentioned above: A smaller flash memory allowing only two firmware versions at the same time, no internal hard disk and no front display.

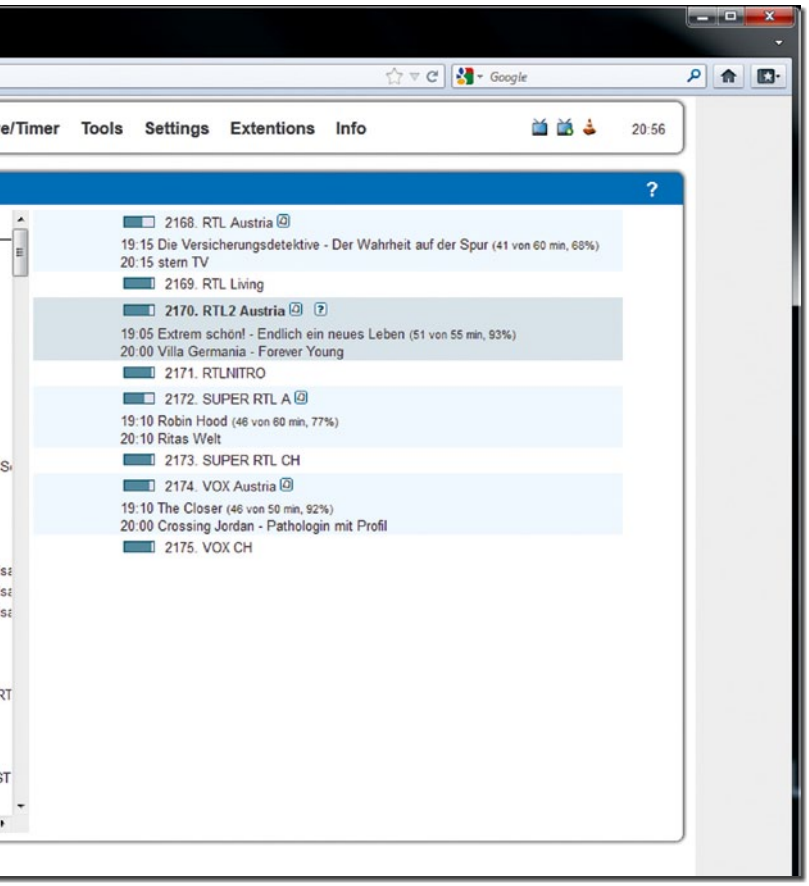
If you can easily do without those features we can happily recommend the AZBox miniMe, as it is on par with the AZBox ME, our reference receiver.

Once again Opensat, the manufacturer of AZBox receivers, is to be congratulated.

The AZBox miniMe is a great small Linux receiver with which Opensat adds further proof that the AZBox series is here to stay.

For us (and you) this means continued technical support and a steady supply of new and improved firmware versions, just like we have come to appreciate for the AZBox ME.


AZBox MiniME Web Interfa
192.168.1.114/index.html
This is the AZBOX FlashMe™ Interface.
AZBOX me
AZBOX mini me
If you see this, your box didn't boot to Linux.
Unless you interrupted the boot process, this usually means that you have no valid operating system in flash.
Don't panic! It's not a problem. You can just flash a new version and everything will be fine!
If you're about to give up, you might get help at the OpenSat Support board!
Currently there aren't many other features...
device info
firmware upgrade (BOOT 0)
firmware upgrade (BOOT 1)
MICOM upgrade
REBOOT!
Firefox
AZBox HD1 yWeb
192.168.1.114
yWeb
Version 2.5.0
Boxcontrol
Liv
Boxcontrol
Bouquets
Control
Messages
Remote
OSD Screenshot
Remote & OSD
Bouquet
Channels
My Favorites
[E013.0] AB SAT
[E013.0] AH-EDP
[E013.0] Al Jazeera
[E013.0] ARABSAT
[E013.0] Arqiv
[E013.0] Arqiva
[E013.0] ART
[E013.0] Bahrain TV
[E013.0] BBC
[E013.0] BBC World
[E013.0] BSS
[E013.0] BSS
[E013.0] BSS_LDK
[E013.0] CYFRA +
[E013.0] Cyfrowy Pol
[E013.0] Cyfrowy Pol
[E013.0] Cyfrowy Pol
[E013.0] du
[E013.0] Du
Control
Mute
TV
Radio
AZBox MiniME Web Interfa
192.168.1.114/upgrade1.html
Firmware Upgrade BOOT[1]
Select .flash-File:
Choose File
MiniMe_AZtrino15.tar
Upload!
Note: Depending on your browser, the file upload can take several minutes. The recommended browser to use is Mozilla / Firefox, but Opera 6.xx+ and IE5+ work as well.
AZBox MiniME Web Interfa
192.168.1.114/UPGRADEFLASH1
OS Firmware has been upgraded. Now it's safe
ANT IN
LOOP
S/PDIF
LAN
HDMI
Recovery
YPbPr
Normal Boot
A/V
BRAND AZBOX
MODEL miniMe
DISTRIBUTOR OpenSAT Lda.







Expert Opinion



Vitor Martins Augusto
TELE-satellite
Test Center
Portugal

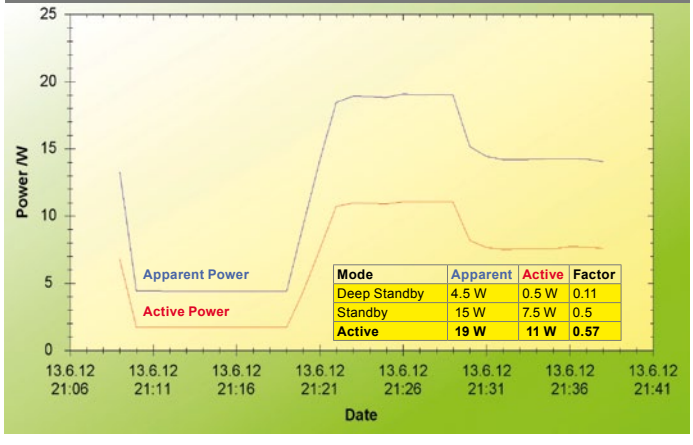
Small size
Loads of functionality
2 totally different firmware versions available
Blind scan
4:2:2 capability

No front-display

TECHNICAL DATA

Manufacturer	OpenSAT Ltd, Lagoa, 4950-283 Mazedo, Portugal
Website	www.azbox.com
E-Mail	info@azbox.com
Model	AZBox mini ME
Function	DVB-S / DVB-S2 Miniature HDTV Linux Receiver with Multimedia Features
Operating System	Linux
Processor (CPU)	SIGMA processor SMP 8653
Working Memory	DDR 128 MB
Video Memory	DDR 128 MB
Tuner	Single tuner (DVB-S2 or DVB-C) embedded.
DiSEqC	1.0, 1.1, 1.2, 1.3, USALS
Flash Memory	256 MB
HDD	eSATA
Video Output	PAL / NTSC
Video Containers	MPEG1/2/4 (M1V, M2V, M4V); MPEG1/2 PS (M2P, MPG); MPEG2 Transport Stream (TS, TP, TRP, M2T, M2TS, MTS), VOB, AVI, ASF, WMV, IFO, ISO; Matroska (MKV), MOV (H.264), MP4, RMP4
Video Codec's	XVID SD/HD; MPEG-1; MPEG-2: MP@HL; MPEG-4.2: ASP@L5, 720p, 1-point GMC; WMV9: MP@HL; H.264: BP@L3; H.264: MP@L4.0; H.264: HP@L4.0; H.264: HP@L4.1; VC-1: MP@HL; VC-1: AP@L3
Audio Containers	AAC, M4A, MPEG audio (MP1, MP2, MP3, MPA), WAV, WMA, FLAC, OGG
Audio Codec's	AAC, AAC+, DTS, WMA, WMA Pro, MP1, MP2, MP3, LPCM, FLAC, Vorbis, DTS (Audio Pass-through)
Picture Support	JPEG, BMP, GIF
Subtitle Supported	SMI, SRT, TXT, SUB, SSA
Resolution	576i (480i), 576p, (480p), 720p, 1080i, 1080p
Ethernet	10/100 Base-T Ethernet (max.100Mbit/s)
Front I/O	Coloured Led's; Power Button; 1x IR Jack;
Rear I/O	1x HDMI; 1x JACK; 1x e-SATA; 1x RJ45; 1x Optical S/PDIF; Power Switch; 2x USB 2.0; 1x AV connector;

ENERGY DIAGRAM



DEVISER DS2400T



DEVISER

- ***Оснащем всевозможными функциями необходимыми профессиональным установщикам антенн***
- ***Имеет отображение коэффициента ошибок модуляции (MER) для каждого транспондера, измерение наземного контура и функцию удаленного измерения***
- ***Восхитительный пользовательский интерфейс и превосходные функции ПО***
- ***Дисплей оценб высокого разрешения идеален для показа диаграмм спектра и созвездия***
- ***Бонус-функция – длительное измерение уровня ошибок (BER)***



Excellent Meter for Professionals in DVB-T, DVB-C and CATV (analog TV)



We received the DS2400T in a rather plain cardboard box that featured the prominent Deviser logo. Safely packed inside was a good-looking protective bag made of nylon which can be used for storing the signal meter. There is enough space for the device itself and the power pack, and the bag even sports an outside pocket on one side which comes very handy for accessories such as the measuring cable or some socket adapters.

Together with the meter and power pack you receive a special cable for hooking up the unit to a PC, as well as two 8cm mini CDs. One includes the driver software for the virtual serial interface that is used by the meter to establish a connection with the PC, while the second CD provides a PDF file with an English-language user manual and the DS2400 Toolbox software that is required to operate the meter directly from the PC. We'll dig a little deeper with regard to that option in a moment.

The signal meter is very compact in size and thus sits extremely comfortably in your hand. With the light blue colour so typical of Deviser products it not only feels good, but also looks rather unique. As far as weight is concerned it is

TELE satellite AWARD 09-10/2012

DEVISER DS2400T
This is by far the best handheld measuring instrument for DVB-T, DVB-C and CATV I have come across. Deviser has done an excellent job!

www.TELE-satellite.com/12/09/deviser

■ **ECHO measurement with the new antenna.**

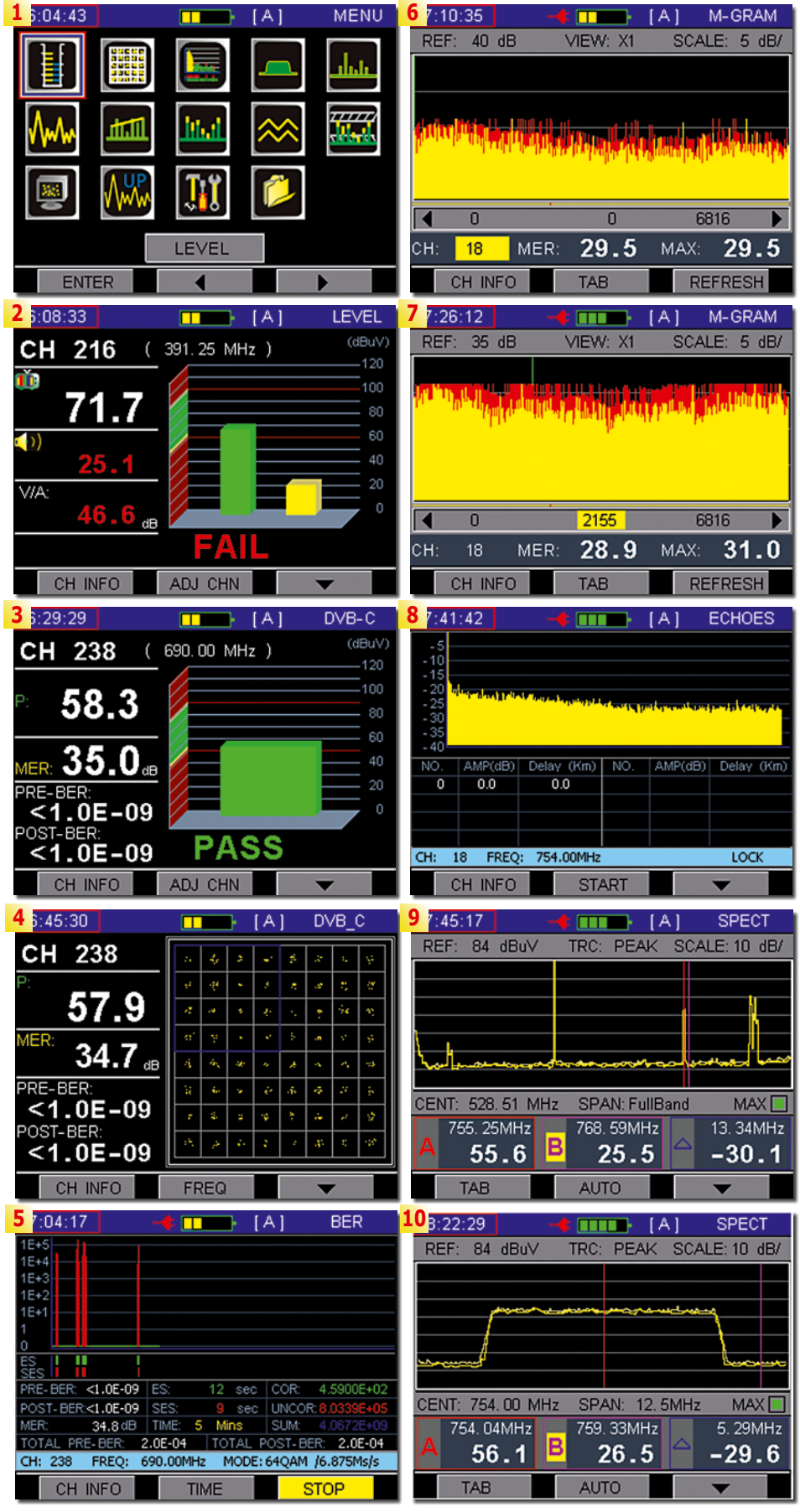


■Of course we put the DS2400T to a real-world test right away. Here we use it to align a new DVB-T antenna.

within the expected range and the rubber protection all around the DS2400T safeguards against damage when used outside and up on the roof.

While the HF input is placed on the back panel of the device, USB input and power supply socket are located on the front panel. In addition, the front panel features a high-resolution TFT display and a total of 17 buttons below the screen. An LED indicates the current status of the battery pack.

All buttons are self-explanatory and provide a pleasant pressure point with just the right amount of feedback you need. The first row of buttons consists of the F1, F2 and F3 function keys whose currently active function is shown on the bottom line of the display. In the second row there is the HOME button that always brings you back to the main menu in an instant, as well as the UP and DOWN buttons for navigating between menu items. Below this row comes the numeric pad that is set up just like on phones, which means that each number can also be used to type three different letters (much like texting), so that you can easily enter names as well, for example. The last row of buttons features



1. Main menu of the DS2400T with twelve different measurement modes.

2. Level measurement: Results are displayed as numerical values and as a bar chart. Seen here is an analog transponder with simultaneous measurement of video and audio levels. The level is below a predefined threshold, hence the FAIL indication of the automatic quality check.

3. Signal strength measurement of a DVB-C transponder. Here too, the result is displayed as a numerical value and a bar chart. In addition, the meter shows MER, PRE-BER and POST-BER parameters. The automatic quality check gives the PASS mark.

4. The constellation diagram is greatly helped by the high-resolution TFT display.

5. Long-term BER measurement: As the signal in our test center is too good, the antenna cable was plugged off for a split second. The meter reacted swiftly and reliably. Long-term measurements are great for detecting occasional faults at a client's system and for establishing a correlation with other events.

6. MER vs. carriers: This type of measurement is still not very common and shows the MER (Modulation Error Rate) of each carrier on a DVB-T transponder. This way it is possible to determine interference on individual carriers which results in occasional loss of video, even though the average MER looks fine. No other measurement is capable of identifying such problems.

7. The marker was moved to carrier no. 2155 in order to find out its specific MER. The DS2400T also offers a peak hold mode for such cases.

8. ECHO measurements are particularly important with SFN (Single Frequency Network) DVB-T networks, since a second time-delayed signal on the same frequency can easily cause reception problems. At our location, however, no echoes can be received even though we use a SFN.

9. The DS2400T is able to generate a very detailed spectrum. Seen here is the entire spectrum, with two markers available for measuring the signal level at two different positions and showing the difference between the two.

10. Speed is not the main point of this meter's spectrum, but this is not an issue for DVB-T, DVB-C and CATV – contrary to DVB-S. Small frequency spans offer much more help, as they can visualise even individual carriers (and their problems) of the transponder.

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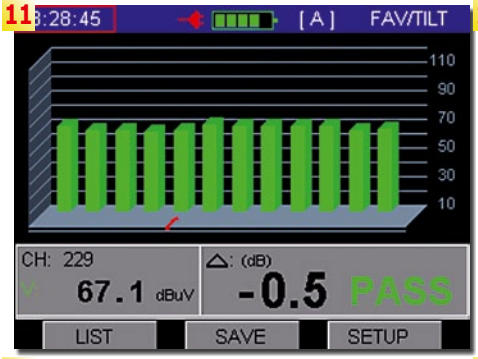


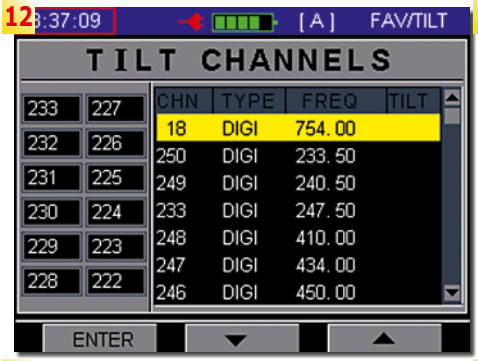
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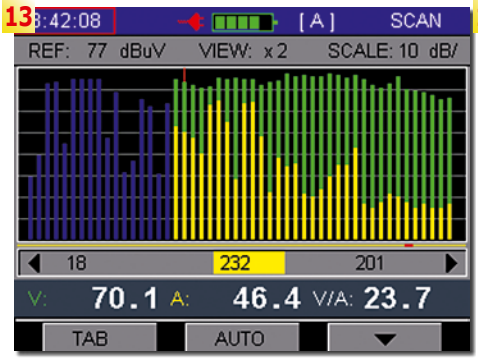
the main switch to turn the meter on and off, as well as the ZERO button and the status LED.

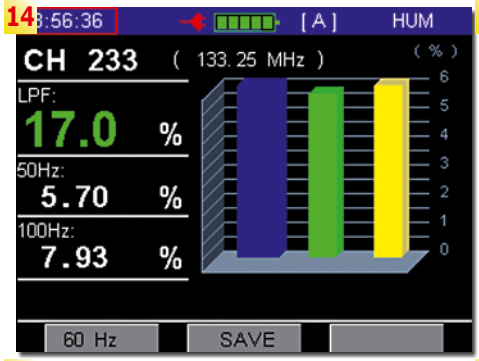
We should once again stress that we're talking about a professional signal meter for antenna installers. Deviser is a major manufacturer for TV, CATV (analog TV), and satellite signal meters (for more information about Deviser please have a look at the company report in TELE-satellite 06-07/2011), and as soon as you turn on the DS2400T for the first time you will notice that this is not a gadget for amateurs, but a top-notch tool for pros. It's ready to use after only a few seconds, there are no colourful animations, and loading times are impressively short. All that pops up on the display is the model name DS2400T, followed after a short moment by the main menu. And what a main menu it is: No less than twelve different measurement modes are available, as well as dedicated menus for configuration and file management. The sheer number of distinct measurement options leaves no doubt that Deviser is very serious about its new DS2400T meter.

To give you an impression of the power hidden inside this neat device we'll look at all twelve modes below:

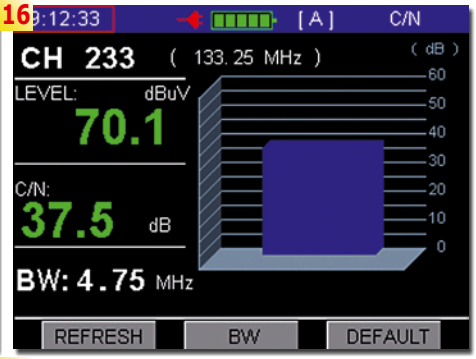


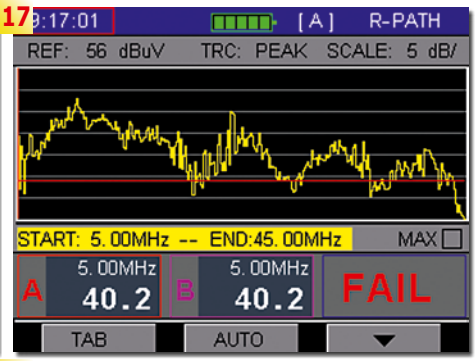


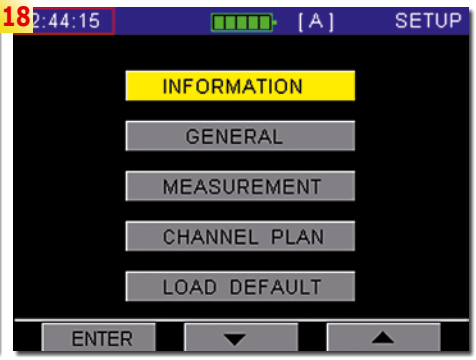


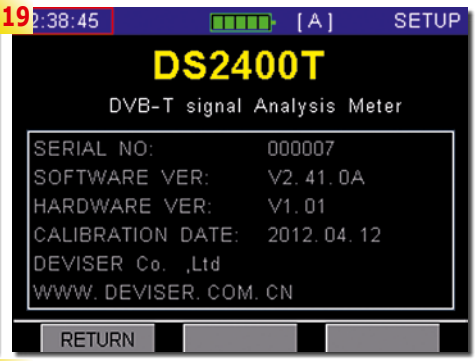


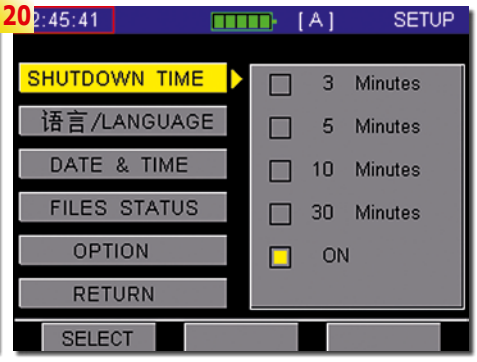












Signal level/signal strength

The DS2400T makes a difference between analog and digital signals. For analog signals the meter shows numeric values for video and audio levels, as well as bars. The corresponding distance – commonly referred to as V/A ratio or video/audio ratio – is also indicated. This shows that Deviser has professional installers in mind, many of whom set up large-scale distribution systems in apartment buildings or hotels and who can see at a glance whether or not signal levels

11. Tilt measurements are required for the correct adjustment of signal amplifiers in cable networks, for example. The aim is to achieve similar signal levels for all channels.

12. With the DS2400T it is possible to select up to eight channels of the channel list for tilt measurement.

13. Bar search: Blue bars indicate digital channels, green/yellow bars indicate analog channels, with green showing the video level and yellow showing the corresponding audio level.

14. Ground loop measurement: Ground loops are caused within the power grid and interfere with analog channels. Depending on the power supply in place the meter can be set at 50Hz or 60Hz.

15. Result of threshold measurement: All pre-defined channels are measured and the result is then presented in a chart. If preferred, a graphic presentation of the result is possible as well.

16. Measurement of carrier/noise ratio: Again, this is relevant for analog channels. The DS2400T even shows the total bandwidth of the channels as a useful bonus.

17. Return channel: The spectrum shows the frequency range from 5MHz to 45MHz or – if required – 65MHz.

18. Configuration menu with user-friendly grouping of various parameters.

19. Information about the meter: Note that the most recent calibration date can also be called up at any time.

20. Users can set a period of inactivity, after which the meter automatically switches off in order to save valuable battery life.

are OK. The DS2400T offers an automatic signal quality check that either shows PASS or FAIL, depending on whether or not the measured signal reaches a predefined threshold level.

If it's a digital signal you're analysing the display content changes and the signal strength is shown with numeric values and bars together with MER, PRE-BER and POST-BER parameters. Once again the built-in signal quality check will indicate PASS or FAIL, thus showing installers right away whether or not the signal in question is all right. Using the arrow buttons it is possible to navigate up and down the channel list, with the meter reacting very swiftly to new channels and displaying all corresponding signal data without significant delay. This is what we call true value for money, and what the DS2400T offers is much better than just PASS, it's closer to pass with distinction!

Constellation

If your digital signal is error-prone and you need to find the root cause a constellation diagram can work wonders. If it turns out that signals are not located in the correct square field you get BIT errors. By looking at the concentration of dots within the cloud of dots in a constellation diagram you can find out how stable your reception is. If each square field comes with a relatively small and concise cloud of dots there's nothing in the way of reliable reception. If the cloud covers a large and more or less uncontained area some dots may wander off into a wrong square field and impair the overall signal quality. Together with the constellation diagram the DS2400T also shows signal strength, MER, PRE-BER and POST-BER values, thanks to the high-resolution TFT display with its 320x200 pixels. It's not only brilliant to read but also allows packing in a great deal of information and useful details without putting at risk usability.

BER measurement

BER measurement is used to find out the bit error rate, or in other words: how many faulty bits are received. There are a number of different DVB standards in place all around the world, and each comes with its own distinctive automatic error correction regime, which is called VITERBI. This correction routine makes sure that bit errors up to a certain threshold can be corrected without generating a faulty TV image. The threshold of bit errors lies between 10-5 und 10-7, depending on the DVB standard used. This means that one incorrect bit for every 10,000 to 1,000,000 correct bits will

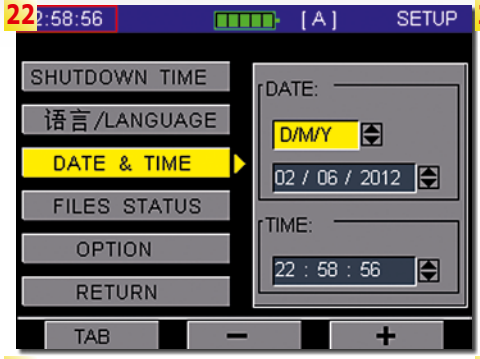


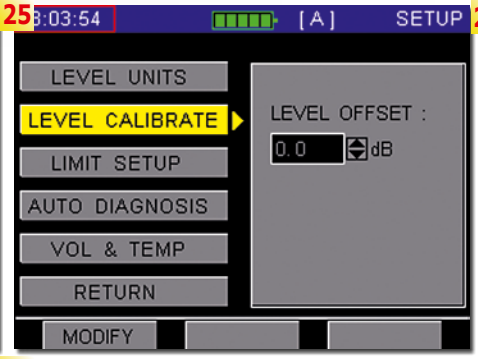
Thanks to a metal strap the meter can easily be fixed to equipment, so that both of your hands are free for installation jobs.

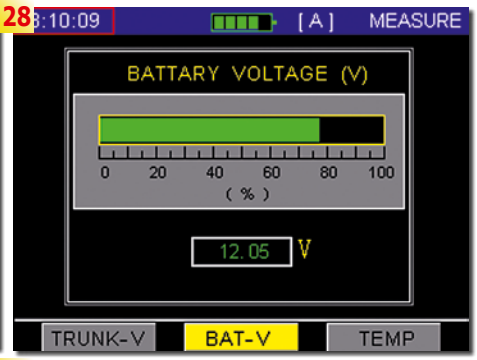


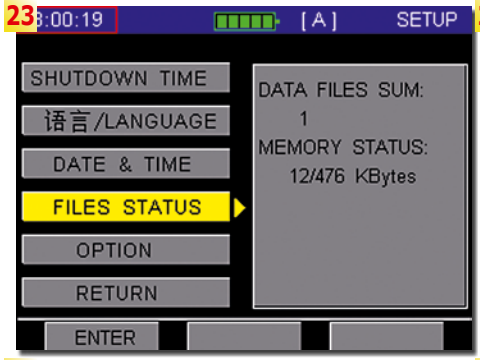
be fine. Because of automatic VITERBI error correction BER measurements are frequently performed as two separate measurements: The first result shows bit errors before automatic correction (PRE-BER), the second result indicates bit errors after correction (POST-BER).

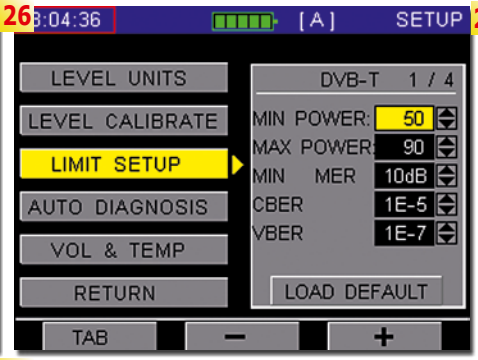
At first I was not entirely sure why there are separate menu items for BER and MER measurements, as both parameters are also shown in the measure-

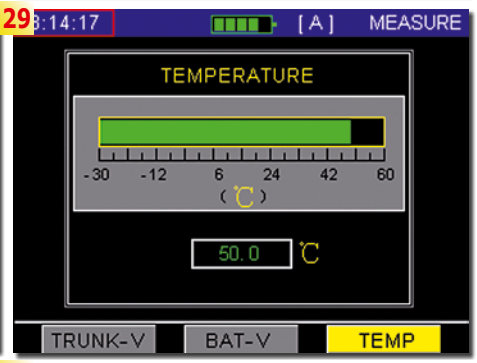


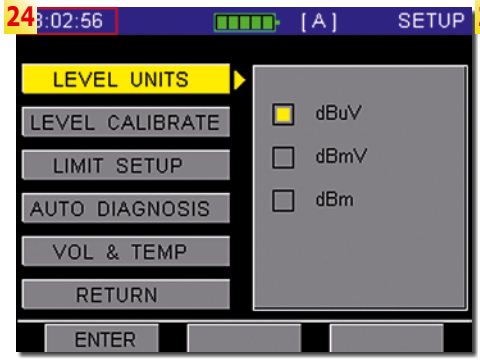


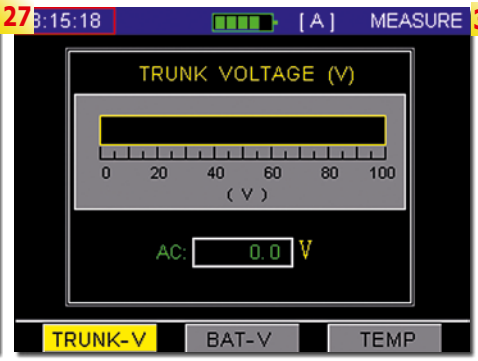


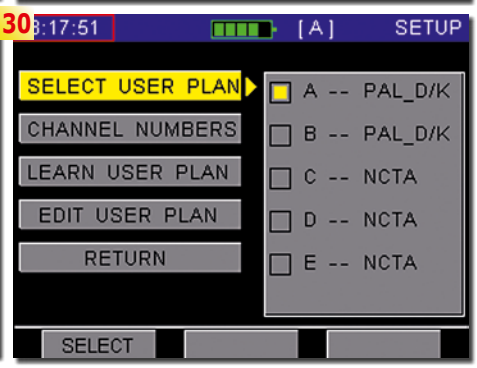












ment modes we already looked at. When I called up MER measurement, however, I was simply at awe: At long last a manufacturer has come up with a convenient hand-held device that is able to perform long-term measurements which can actually be put to use by professionals. With the DS2400T users can define a period from one minute to several days during which the meter will collect all relevant data and then present the results in a way that is nothing short of extraordinary. The sheer amount of data does not compromise usability at all. What's more, there is no need to connect the meter to a PC for long-term measurements. Installers can use this feature to even detect occasional image faults, something that is of enormous value and can only be found in professional equipment.

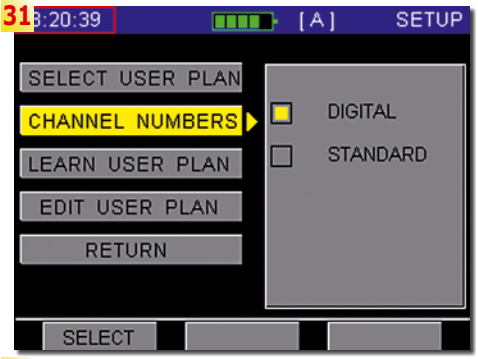
M-GRAM measurement

And that's not all: It may sound too good to be true but the DS2400T is capable of measuring the MER (modulation error ratio) of individual carriers. Such a measurement is often referred to as 'MER versus carriers' and is particularly important for DVB-T. While most meters only measure MER as the average across all active carriers, only very few can give separate results for each carrier of a DVB-T transponder. Why is this so important? In some scenarios a neighbouring analog transmitter might interfere with some – but not all – carriers of a digital transponder, since analog transmitters broadcast three relatively small frequency spaces for video, audio and colour. In such a case the average MER value may well look OK, even though reception is not possible because some carriers experience massive interference while the majority of carriers boast an excellent signal. Conventional measurements cannot identify such a problem, and you really require professional equipment such as the DS2400T to get to the heart of the matter. All you need to do is position a marker above individual carriers to find out the corresponding results of the MER measurement. Moreover, MER measurements have a peak hold function, which means the current MER value is shown in yellow, while the peak value is drawn with red colour. Too good to be true? Yes, but that's what you should get used to with this meter.

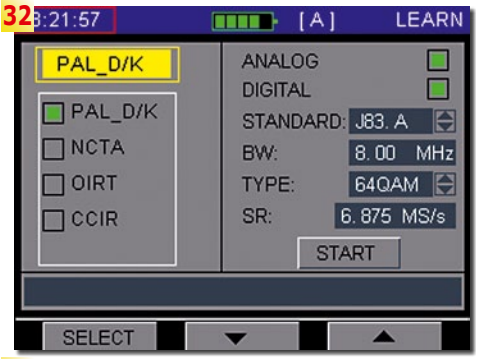
Echo measurement

Again, this is a measurement that is particularly helpful for DVB-T signal analysis. A number of countries (including Portugal, our test location for this report) have opted to implement DVB-T as SFN (Single Frequency Network). The advantage of such an approach is that all broadcast cells use the same frequency so that reception equipment can have the same channel list irrespective of where it is used. Mobile reception benefits greatly, since you never need to perform a channel search while moving around within a country's borders. On the other hand, all that glitters is not gold since single frequency networks cause different lag times in cases when a receiver is operated between two cells. In such a case two slightly time-delayed signals with the same frequency reach the receiver and cause interference that is called echo. DVB-T comes with an integrated correction mechanism that filters echoes up to a certain distance. That distance is referred to GUARD INTERVAL and echoes that are produced within the guard interval do not cause image interference, while echoes exceeding the guard interval will result in visible interference.

31



32



33



21. Language selection: English, Dutch, Turkish, Chinese

22. The DS2400T comes with an integrated clock that can be used to add a timestamp to each measurement.

23. Deviser has equipped the DS2400T with enough memory capacity to also deal with large-scale installations without the need for a PC.

24. Measuring units can be adjusted to meet personal requirements.

25. The DS2400T even allows user calibration, to make sure different meters used within a company all give out the same measurement results, for example.

26. Separate threshold values can be defined for DVB-T, CATV and DVB-C, which then flow into the automatic quality check.

29. The DS2400T comes with a built-in voltage checker which can measure the voltage arriving at the HF input.

30. What's more, the current voltage of the internal battery pack can also be checked.

31. And for the curious among you, it is even possible to find out the inside temperature of the meter.

32. A number of different channel lists are pre-stored in the meter.

33. Each channel list can include both analog and digital channels. If you only want to measure analog or digital channels there is no need to set up additional channel lists. This is the menu item for channel list configuration/editing.



The DS2400T shines once again, delivering excellent ECHO measurements which are shown as a graphic as well as listed in a chart which also includes the signal strength and distance to cell given in km. Based on this information installers are able to optimise the alignment of the antenna.

Spectrum analyzer

Obviously the DS2400T comes with a spectrum analyzer function as well. Thanks to the high-resolution TFT display the spectrum is shown with great detail, something that is not usually the case with handheld meters. Frequency spans can be set in pre-defined steps of 2.5MHz, 6.25MHz, 12.5MHz, 25MHz and 62.5MHz or Full Band. These options alone speak volumes about Deviser's target group, namely professional installers. It's the small steps that come to the fore, as they are required to look at individual carriers of digital transponders. The vast amount of analysis that is involved causes the spectrum build-up to be on the slow side, but it is quite evident that the DS2400T spectrum analyzer is not for real-time antenna alignment, but much rather for detecting even the slightest interference. We also appreciated the option of freely positioning two markers anywhere in the spectrum in order to measure the C/N ratio.

Tilt measurement

For this measurement up to eight channels from the channel list are selected. They are then analysed and the results are presented as a bar graph. Among other things, this measurement can be used to set up antenna amplifiers, for example, so that all channels are distributed with the same signal level. We were truly impressed by the fact that you can perform a tilt measurement for up to eight channels with the DS2400T.

Bar search

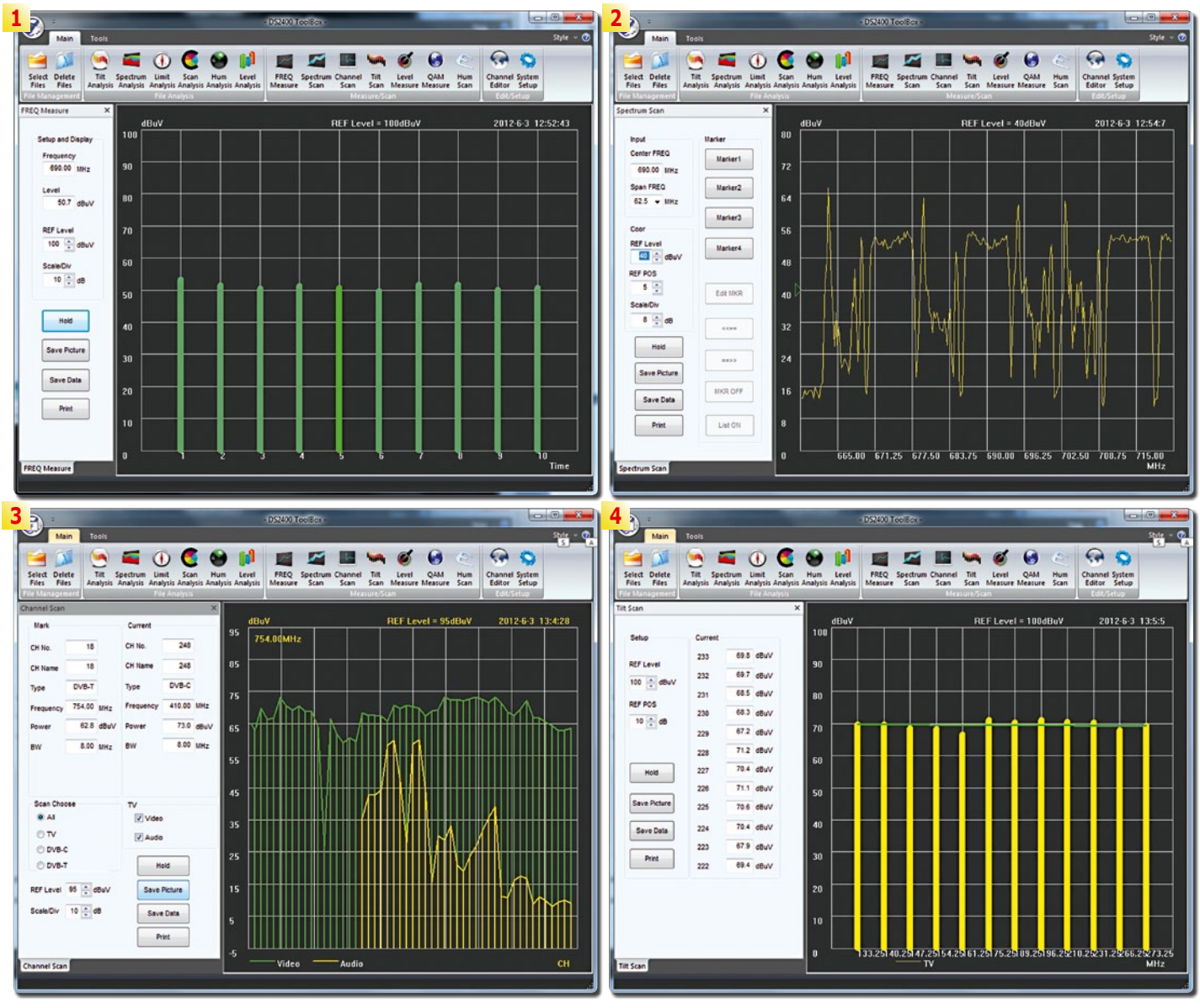
This is another very popular measurement option that is useful for cable networks. Instead of measuring the entire spectrum only the channels on the channel list are evaluated and the individual results are shown as a bar graph in

1. The Toolbox software for the DS2400T meter has a modern look and feel, and offers a user-friendly structure. Even though the product is shipped with a comprehensive user manual written in brilliant English you will most probably find out everything you need to know without it. A number of measurements can be performed directly on the PC in real time if you connect the DS2400T with the supplied adapter cable. In this example the selected frequency is measured continuously.

2. The spectrum can be displayed directly on the PC as well. This makes the DS2400T a perfect fit for remote monitoring of a system thanks to Windows Remote Desktop Protocol.

3. Bar search with digital and analog channels. The audio level of analog channels is shown in yellow.

4. Tilt measurement: Easy to use and fast – right from the PC. There even is an interpolated line giving an indication of tilt!



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- One Common Interface(CI) (Optional)
- Ethernet
- Support OTA (Optional)
- WiFi (Optional)
- 2 USB

HD DVB-T



- Fully DVB-T/MPEG-2/MPEG-4/H.264 Compliant
- PVR Recording (Viewing one channel and Recording another channel Simultaneously)
- Multi-media Function (Playback TS, MKV, AVI, VOB etc.)
- Record TV and playback with External Storage Devices (USB stick/HDD)
- Advanced Time-shift function
- Format Resolution: 1080i, 720p, 576p
- OTA (Optional)

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real time. Here again the PASS or FAIL indication provides an automatic quality check at a single glance. The bar search implementation leaves nothing to be desired and adds additional appeal to the DS2400T. We arranged the channel list in a way that listed digital channels (blue colour) first, followed by analog channels, for which the video level is shown in green and the audio level in yellow. If you need to find out detailed results for individual channels you can once again use a marker to point to the bar you're looking for.

HUM/ground-loop

This measurement was an absolute first for me, one that I have never come across in a signal meter before. It can be used to measure the impact of an electric ground loop – which is caused by the power grid – on analog TV channels. For



a meaningful result you first have to select whether your power supply runs with 50Hz or 60Hz.

Threshold measurement

You've read it before, but once again the DS2400T comes with a powerful measurement option that does not have many peers. Installers often have to obtain a quick overview of all channels distributed in a cable network. For analog channels, Deviser has implemented a neat routine that automatically measures all available channels and then provides detailed information on channels with video or audio levels below a set threshold. The process resembles the bar search, and here too the results are shown with a bar graph. When the measurement is completed the final results are shown on the display, complete with minimum and maximum signal levels and signal ratio.

Carrier/noise ratio

Frequently called C/N measurement, this function determines the ratio between carrier and noise, or in other words: the signal level in relation to background noise. Sufficient separation of the two is paramount for flawless video. Obviously this measurement applies to analog signals only, but Deviser once again demonstrates attention to detail since you can only select analog channels of the channel list for this measurement in the first place.

Return channel

The last measurement option should be selected to evaluate the return channel in cable networks. The 5MHz to 45MHz or 5MHz to 65MHz spectrums are active for this type of measurement.

Configuration options

No installation job is the same as the one before, so luckily this meter offers a range of customisation options in the system configuration menu:

Information about the DS2400T

Here you cannot only access software and hardware version numbers, but also the calibration date. This piece of information is particularly important for contract jobs performed by certified installation companies, which have to be able to prove calibration of their devices on request. This goes to show yet again that Deviser has designed a meter that targets the professional market in a convincing way.

Generic configuration settings

Use this menu item to define a time limit for automatic switch-off, for example, which can help save valuable battery capacity. Plus it is possible to adjust additional important parameters such as OSD language, among other things. The meter we received for our test offered English, Dutch, Turkish and Chinese. If you need to find out the status of the internal memory you can also look it up here.

Configuration of measurements

By default, signal level and strength are measured in dbµV, but you can also change that to dBmV or dBm, which does make sense when evaluating digital signals, since dBµV is only used for better comparison with analog signals in digital modulations. The DS2400T from Deviser comes fully calibrated, yet installers have the option of manually calibrating the meter for individual measurements. This way it is possible to calibrate several meters of the same installer in a way that makes sure all devices show exactly the same signal level of a reference signal. Alternatively, it is of course also possible to calibrate the DS2400T against a reference meter, if one is available. We believe this is an impressive feature that will be appreciated by many professionals.

Using the LIMIT SETUP menu item it is possible to define minimum and maximum values for measurements, as well as a threshold level for the automatic quality check. All these parameters can be set individually for DVB-T, analog TV and DVB-C. What's more, the DS2400T comes with an integrated auto diagnose mode which is run every time the meter is turned on.

The VOL & TEMP menu item hides another interesting feature: Use it to measure the voltage of the signal arriving at the HF input. This way it is possible to check the power supply for all active components in a cable installation, or to find out if undesired voltage exists due to faulty connection boxes or bad insulation. The same screen mode can be used to call up the current voltage of the internal power pack. We were surprised that – in addition to all options mentioned above – it is even possible to find out the meter's internal temperature. In our opinion this is not only quite unusual, but also very useful.

Channel lists

Deviser ships its DS2400T signal meter with a number of pre-stored channel lists which can be edited directly on the meter or – more conveniently – on the PC using the supplied Toolbox software. In each individual channel list it is possible to activate analog channels only, digital channels only, or both types. This means there is no need for installers to set up different channel lists for different broadcasting types. It goes without saying that the DS2400T sports an automatic channel search which can be defined with parameters such as analog/digital or all channels. Digital channels are displayed complete with DVB norm, bandwidth, modulation and symbol rate. In our test the meter turned out to be a quick performer, and it also found all channels carried in our cable network. The search result is presented in an easy-to-use chart. In addition, there is an integrated file manager which can be used to call up stored measurements or to delete files that are no longer required in order to free up memory.

Factory reset

Not that we like to find ourselves in such a situation, but if worse comes to worst you can always reset all parameters to their default values. This option is available in most signal meters tested by us, and is indeed a must-have feature.

File manager

The DS2400T comes with a USB adapter cable and a CD ROM, on which you can find a PDF file with a very detailed user manual. Even though it is only available in English it is perfectly written and therefore an enormous help for discovering all nooks and crannies of this meter.

The main reason for me to install the software was so that I was able to adjust the channel list to the offering of my cable provider. And this was actually the first time I encountered problems in connection with the DS2400T. My test computer was running a 32bit version of Windows7 for compatibility reasons, the second CD Rom entitled DRIVERS that is shipped with the device however only includes a software version for 64bit versions of the Windows7 operating software, which meant that the DS2400T was not detected automatically. After looking at all my options I finally decided to install the existing drivers in the 64bit directory and give the whole installation another go. Miraculously, this worked on my 32bit operating software.

I tried the setup on a second PC with the 64bit version of Windows7 and – as expected – the driver was installed without any hassle whatsoever. However, I was faced with another problem: The driver that comes with the DS2400T installs a COM interface, which means the meter is connected to the PC through a virtual RS-232 interface. In theory, this is a worthwhile strategy, but these days PCs and laptops support Bluetooth and other communication devices so that COM ports 1 to 10 are frequently used for those devices and are not available for the meter. While you can select the COM port of the DS2400T with the

Toolbox software, you can only choose between ports 1 to 10. I had to call up the Windows driver manager in order to change the COM ports so that in the end COM1 was available and my PC was finally able to detect the DS2400T.

I could hardly wait for the software to start and when it finally appeared on my monitor I was almost lost for words by looking at the endless range of options it offered. It happens so often in life that we think 'too little, too late', but with the Toolbox software Deviser has come up with the exact opposite and 'too much, too soon' almost sprang to mind. Then again, 'too much' never gives us reason to complain! It's not only possible to edit channel lists and load measurements that were performed with the DS2400T, you can even make measurements directly with the software and an attached DS2400T. Take a deep breath and find out which measurements we're talking about:

- Frequency measurement
- Spectrum analysis
- Bar search
- Tilt
- Level/strength
- QAM
- Ground loop

One reason I was positively surprised by this option was that it would be possible to use RDP (Remote Desktop Protocol) to remotely diagnose an installation via the Internet. This way it is possible to permanently monitor a broadcast cell or head end, for example, from an operations centre. In general, one would use dedicated rack hardware for such a purpose, but it's great to know the small DS2400T handheld meter from Deviser can be used just as well, if need be.

Furthermore, the DS2400T Toolbox software allows downloading measurements from the device to the computer and then graphically enhancing and saving them onto the PC for creating sophisticated documentation for your measurements. The built-in channel list editor is very easy to use and we were able to set up customised channels lists without consulting the user manual.

It goes without saying that all configuration parameters of the meter can be adjusted with the help of the DS2400T Toolbox software and for those looking for another extra special treat you can even load the current display content of the meter onto the PC. Here we finally discovered a small flaw which proved that our hunting instinct was still intact: Whenever we tried to download the current display content we were met with an error message indicating that the picture could not be saved. We tried it on two different PCs but the result stayed the same. To be honest, I didn't have a clue as to what was wrong, but at one stage I came up with the idea of running the software as administrator with all permissions associated with that. Et voilà, all screenshots were transmitted to the PC without even the slightest problem. The reason for this detour is as follows: The Toolbox software attempts to save all pictures to the installation directory, and this is where Windows7 has some objections, since this is a directory that requires administrator permissions. No matter how hard I tried, I could not succeed in trying to convince the software to access another user directory, so the only thing I could do was change the permissions of the installation directory so that – in addition to the administrator – all users would have write privileges as well. Not the most efficient solution, but at least one that worked nicely for us.

Side-by-side comparison with our reference meter

No signal meter leaves our test center without being subjected to a side-by-side comparison with our in-house reference meter. The values indicated by the DS2400T did not differ significantly from our reference values. The chart below shows the results for the DVB-C transponder at 690MHz, which is a popular transponder of the TV CABO/ZON cable



System	Level (dBmV)	MER	Pre-BER	Post-BER
DS2400T	59.5	35.6	<1E-9	<1E-9
Reference	57.5	34.0	<1E-9	<1E-9

Table 1.

Highlights

www.spaun.com Quality made in Germany

Compact Headend 8 / 16 x DVB-S(2) into QAM
BluBox 8 and BluBox 16

- 8 / 16 x DVB-S(2) (QPSK/8PSK) into DVB-C (QAM)
- For the reception of 60/120 TV programs SD/HD and 30/60 Radio programs
- Compact dimensions and high energy efficiency
- LNB control with 14/18 V + 22 kHz or DiSEqC
- Configuration via LAN/IP
- Complete processing of the transport streams possible
- All 8 / 16 output channels can be placed individually in the spectrum
- Two individual input ports







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- Splash-resistant keypad

Optical Transmitter
SOTx 1310607 NF

- Frequency range of 47 ... 2200 MHz
- Laser output power: +6 dBm
- Quattro- and QUAD-LNB support

Optical Receiver
SORx 1310607 NF and SORx 1310607/1 NF

- 4-way / 1-way receiver in a compact housing
- Remote powerable through one coaxial output

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Email: contact@spaun.com · www.spaun.com

network in Portugal, as it is available free-to-air.

Everyday use

No test report is complete without finding out what a device is worth in the real world. Coincidentally, analog terrestrial broadcasting was switched off in April in Portugal and our test center was still without a DVB-T antenna. So using the DS2400T for aligning our rooftop antenna was the logical choice. To be frank, I can cut this long story very short because with a top-notch signal meter like that all I had to do was enter the required channel (754 MHz, irrespective of the location in Portugal thanks to a Single Frequency Network DVB-T system) and in less than one minute the antenna was perfectly aligned.

Ironically, this brilliant result even caused some problems for my real-world test – how can you possibly show screenshots of MER and BER measurements when there are virtually no errors in the signal? All you get is a line hovering around the zero value. In the end I had to use my good old stub antenna again, not for achieving brilliant reception but for receiving a less than perfect signal for test purposes. In addition, I used the DS2400T for measuring all antenna sockets in my house and even detected a faulty antenna cable that had caused noise with some channels.

Conclusion

I am absolutely convinced by this meter and can recommend it without reservation. It's a small, lightweight device that still offers all options a professional installer will ever need for DVB-T, DVB-C and CATV. The range of features and measurement functions is truly unique and will help you detect potential flaws quickly and reliably. But you don't need to be on the hunt for problems in order to fully appreciate the capabilities of the DS2400T. Routine installation jobs become child's play too and thanks to the supplied Toolbox software it is even possible to draw up comprehensive documentation or to monitor a reception system in real time. This can also be done remotely via the Internet with the help of Remote Desktop Protocol. While the meter itself is awe-inspiring, it's also the small additional things that propel the DS2400T right to the top of our pick list: The battery pack supports mobile use for hours on end, and the supplied charging unit replenishes the battery in as little as two to three hours. We used this handheld on and off for about three weeks and not once did we experience any malfunction. It just worked as advertised. To be honest, it exceeded our expectations by far. We'd be hard pressed to come up with some criticism, and the only thing we were missing was watching the TV channel on the meter's display. But let's be honest, this is a feature that professional installers simply don't require and Deviser has stayed true to its motto for the DS2400T: A top-notch and feature-rich meter for professional use, delivering accurate measurement results rather than useless gadgets and eye-candy.

This is exactly what the DS2400T is all about. We can wholeheartedly recommend this meter for all DVB-T, DVB-C and CATV jobs.

TECHNICAL DATA

Manufacturer	Tianjin Deviser Electronics Instrument Co., Ltd.
Fax	+86-22-27645002
E-mail	overseasbiz@deviser.com.cn
Website	www.devisertek.com
Model	DS2400T
Function	Professional Meter for DVB-T, DVB-C and CATV (analog TV)
Frequency Range	5 ~ 1000 MHz
Function	Power, MER, CBER, VBER, ECHOES and MER Versus Carriers
DVB-T Signal Parameters	
Carriers	2 k / 8 k (Set by user)
Guard Interval	1/4 1/8 1/16 1/32(Set by user)
Code Rate	1/2 2/3 3/4 5/6 7/8
Modulation	QPSK 16QAM 64QAM
Spectral Inversion	Automatic
Channel Power	
Range	30 ~ 100 dBµV
Accuracy	±2.0 dB
MER	
Range	~30 dB
Accuracy	±2.0 dB
BER	CBER, VBER
ECHOES Analysis	
Range	0 ~ 112 us (2 k) 0 ~ 448 us (8 k)
Marker	50 Echoes List
Power Supply	
Battery	11.1 V 1.6 AH Lithium Battery(Chargeable)
Charger	AC 100 V to 240 V 50-60 Hz
Working Time	5 Hours (Fully Charged)
Charge Time	~ 3 Hours
Others	
Serial Port	RS 232 C
Operating Temperature	0 ? ~ 50 ?
Dimension	218 mm × 95 mm × 49 mm
Weight	700 g
Display	320 × 240 TFT

Experte Opinion



Vitor Martins Augusto
TELE-satellite
Test Center
Portugal

+
- **Amazing measuring possibilities with high accuracy**
- **Includes special DVB-T measurements like ECHO or MER vs Carrier**
- **Easy to use**
- **Long battery autonomy**
- **Rugged casing**
- **Long-time measurements**
- **Possibility to remote control meter through PC**

–
- **saving screenshots only in Administrator mode**

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www.TELE-satellite.com/TELE-satellite-1107/eng/deviser.pdf



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- Pre-/ Post-BER and MER indicator, C/N in the dB and signal level in dB/μV
- Constellation analyzer
- Screenshot Function (Capturing): screens with data can be in BMP format on a USB-stick
- Super ECO system management for power saving, auto-standby function supported
- Multi-lingual OSD menu supported
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- Dimensions: (W*H*D) 105*170*45 mm

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• Простое построение системы благодаря смарт-разъемам
• Длина кабеля не влияет на работу
Split4-OFpro
Dual Window - 4 Way Optical Fibre Splitter
Split2-OFpro
Dual Window - 2 Way Optical Fibre Splitter
GI FibreMDU
Input
Output
DAB/FM Input
+20V

The Battle Is Over and Fiber Has Won

The carrier-to-noise ratio is one of the major concerns when designing large systems to distribute satellite tv signals. When you have to deal with long coaxial cables and/or many signal splitters, your signal quality degrades significantly. To keep it good enough for the most peripheral users, you have to minimize the number of signal splitter between the LNB and the very last receiver and keep the total cable length as short as possible. You also need to install quite a large dish and low noise LNB to ensure high carrier-to-noise ratio at the input of the distribution system. However, this may not work well enough for really large systems.

What then? Until recently, you had no choice but to install additional large dishes and LNBs and build several separate distribution systems. Of course, this is not a welcome solution. It adds complexity, cost and the antenna farm on the roof does not make (normal) people happy. But now GlobalInvacom comes to our rescue. Thanks to their innovative solution based on fiber optic cables and optical splitters, building even very extensive networks becomes easy and manageable.

In order to switch from coax cable to fiber optic cable, the very first thing needed is the conversion of the electromagnetic waves coming from a satellite (or from a DTT transmitter) to modulated light that can be then distributed over fiber optic cables. TELE-satellite readers remember that we already introduced GlobalInvacom's FibreMDU Universal Optical LNB. We first reported about this innovative LNB in TELE-satellite 04-05/2008 and in a follow-up story in TELE-satellite 08-09/2009. But this time, we had the opportunity to test something else. It was the FibreIRS LNBm wholeband LNB with integrated frequency stacker.

The FibreIRS LNBm is installed in place of an ordinary LNB but it does not output signal in the familiar 0.95 – 2.15 GHz frequency range. And it does not re-

■ **The FibreIRS LNBm mounted on a 90cm dish**



TELE satellite AWARD 09-10/2012

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DVB-S Spectrum:
In satellite signal C band and KU band range ,
show the energy distribution of the received signal,
show Cursor location and signal strength downlink frequency,
Signal was locked。
Show spectrum bandwith：1200MHz；540 MHz；108 MHz

DVB-T Spectrum:
In the 104MHz-862MHz frequency range or stored state table, Shows the energy distribution of the received signal (Frequency, bandwidth, signal strength)Signal was locked, can be displayed Ber, S / N and other indicators.

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For the first time in an Economical digital meter, you are now able to view the actual channel on the screen of the meter. Now you can quickly and accurately align the satellite and you can instantly check the stable of the channel right on the screen of the meter. Transponders, Frequency, Symbol Rate, Polarity, and other settings can be modified by the user.



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■ **Checking the optical signal at one of the fibre optic to coax converters**

TEST REPORT | Optical LNB |

The Future Starts Now:

Global Invacom Optical LNB

The Satellite Reception Revolution

Time flies when you're having fun! It was just about a year ago when TELE-satellite ran an exclusive on an optical LNB; a Global Invacom invention. This wouldn't be the first time that this company, based in Stevenage near London, has made headlines when it comes to direct satellite reception, but the introduction of the optical LNB will undoubtedly become a developmental milestone that has occurred in the age of satellite reception over the past several years, if not decades. But what is it that's so revolutionary about an optical LNB?



Back in the 04-05/2008 issue, TELE-satellite published an exclusive report on the first official public demonstration of optical LNB from Global Invacom



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TEST REPORT | Optical LNB |

First of its Kind:

Global Invacom Optical LNB

Tested for the first time ever: LNB with optical fiber connection in a real reception test

In the previous issue of TELE-satellite we reported exclusively on the development of an LNB with an optical fiber connection by the English manufacturer Global Invacom. At the time the only specimen available was a bulky lab sample. Since then Global Invacom has put together ten prototype optical LNBs so that this new and innovative technology can be tested in real world applications. Global Invacom carried out their first public test at the TELE-satellite Test Center in Austria. Two Global Invacom representatives, project manager Andrew Collar and technician Norman Harris, travelled to Vienna and mounted their optical LNB on an existing 90 cm offset antenna and routed the optical cable from LNB to the lab.

While installing the LNB, Andrew Collar and Norman Harris explained how the new LNB actually works. As it turns out, simplicity is the key to success - a stacker that is built into the LNB distributes the four reception polarizations (vertical low and high band as well as horizontal low and high band) to four distinct frequency ranges.

Next, the RF signal is converted into a digital signal which is then sent through the optical cable via a laser beam. At the other end of the line this light beam is received by a converter box which reconverts the signal back into a regular satellite signal which can then be processed by any standard digital satellite receiver.

As we watched the Global Invacom staff set up the test system, it became evident that the company intends to introduce the system one step at a time with the aim of keeping everything as simple as possible.

The LNB features two connectors, a standard "F" connec-



Optical LNB by Global Invacom – the 9th of only ten hand-made and fully functional prototype LNBs.

Comment

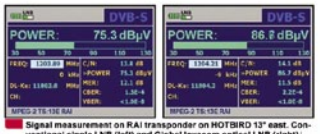
Tony Taylor, managing director of Global Invacom, and his team of advisors are in the rare but envious position of making decisions regarding the future of a new technology which will affect the entire satellite industry. They have to look for and find answers to questions such as: Which type of plugs will be used for the optical LNB? Shall we rely on the existing standard even though it has not been conceived for outdoor use? How can we make the plug of an optical cable weather-proof? How durable and water-proof are existing optical cables that are available in stores today?

And then there are those strategic questions which are even more difficult to answer: Should optical LNBs be licensed? Not at all, or can technological details be given to other manufacturers? What about the pricing aspects of the optical LNB and converter box? Too high a price will slow down market penetration of any new technology and at the same time favor the development of less expensive competing products with yet another technology. A mishmash of different standards would then be the result.

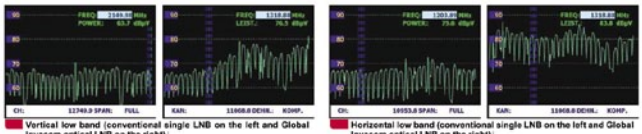
And then there's the mother of all questions: How should the optical LNB be marketed? Is the term 'optical LNB' one that should stay or does it call for the invention of a new name? How about "Laser LNB"? And finally: How can manufacturers of satellite receivers be convinced to add optical LNB inputs to their boxes?

Only one thing is for sure: Global Invacom will find the right answers to all of these questions!

Alexander Wiese



Signal measurement on RAI transponder on HOTBIRD 13° east. Conventional single LNB (left) and Global Invacom optical LNB (right)



Vertical low band (conventional single LNB on the left and Global Invacom optical LNB on the right)

Horizontal low band (conventional single LNB on the left and Global Invacom optical LNB on the right)

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■ **TELE-satellite has introduced GlobalInvacom's fibre optic LNB first in 2008 and then again in 2009.**

quire a receiver for switching between lower or higher sub-band of Ku Band and horizontal or vertical polarization. No, it outputs two sub-bands of Ku-Band and both polarities stacked one over another in the range 0.95 – 5.45 GHz. Such RF signal is then fed to the Global Invacom RF-to-light converter which is designated as FibreIRS ODU32. Because here we deal with very high frequencies, we can not use regular coax cable to connect these two devices. Global Invacom provides a special 2 meters long thick and stiff coaxial cable. Thanks to that, even a 5.45 GHz signal is not at-

tenuated before reaching the FibreIRS ODU32.

Except for the satellite signal, the FibreIRS ODU32 accepts also a signal from DTT/DAB/FM antennas. Preferably, the latter one should come not directly from terrestrial antennas but through a DTT processor of Global Invacom described in the previous issue of TELE-satellite (Pages 16-21 in TELE-satellite 06-07-08/2012). In this way, we can achieve the best possible performance. FibreIRS ODU32 has two optical outputs as well as a connector for 20V DC power supply. GlobalInvacom provides a suitable plug type power supply unit. You do not need a separate power supply unit for the LNBm. It gets DC power via the thick coax cable from the ODU 32.

But the picture is not complete yet. Two optical channels have to be distributed among a number of end users. To do that, you can use optical splitters like Spit2-OFpro or Split4-OF – 2 way or 4 way optical splitters offered by GlobalInvacom. At the very end of such system, a device called FibreMDU should be connected. The FibreMDU converts the optical signal back to the RF domain. It has four outputs. So, up to four regular satellite receivers can be connected to it and each of them will be able to receive any channel from the satellite the dish is directed to. No matter which sub band or polarity. That's because everything comes down through the fiber optic cables to FibreMDU.

We started our tests with measuring the optical splitters. Spli2-OFpro specification promises not more than 4 dB attenuation of the signal (from the input to any of its two outputs). We measured that the actual attenuation was only 3.5 dB. The same story repeated for Split4-OFpro. Its actual performance was better than its specifications (6 dB vs. 7 dB). This is the way good manufacturers specify their products. Once they promise something, they deliver it! It is not a universal rule these days unfortunately. We are happy to say that you can trust GlobalInvacom.

Then, we decided to test the whole system. First, we measured a classical system with a very good low noise LNB installed on a 90 cm offset dish to have a reference for the optical system. Our reference system had about 20 meters of coaxial cable. The problem was which satellite we should use? A very strong one in our location - like ASTRA 19.2° East or HOTBIRD 13° East or rather a weaker one like TURKSAT 42° East. We decided to make it hard for GlobalInvacom and chose TURKSAT. Some of its transponders are actually below the reception threshold of most contemporary receivers. Fortunately, our satellite analyzer – SPAROS SAT HD of SPAUN is an extreme-



TELE-satellite Test Editor Jacek Pawlowski testing a setup with rolls of fibre optic cable imitating a large distribution system.

ly sensitive instrument - capable of processing even such weak signals. We mean signals with a MER of 5.5 dB and less. It corresponds to a C/N below 8 dB. Such transponders are hardly receivable by regular receivers.

The optical system we built had FibreIRS LNBm installed on the same 90 cm dish, FibreIRS ODU32, 100 meters of fiber optic cable, Spit2-OFpro, another 100 meters of fiber optic cable, Spit4-OFpro, another 100 meters of fiber optics cable and FibreMDU to which we connected the satellite signal analyzer. As you can calculate, the system had in total 300 meters of fiber optic cable and two splitters in series.

The results were really astonishing! The optical system was able to deliver almost all transponders we had with a classical system except for the two weakest transponders (12577HH and 12618HH). As we said before, those two transponders were below the reception threshold of a regular receiver anyway. So, in fact, we did not lose anything. All the remaining transponders were significantly stronger in the optical system. MER was at par with the classical system. This means that signal quality did not degraded despite 300 meters of cable and two splitters! You can see our results on the attached graphs.

After the first round of measurements, we changed the output of Spit2-OFpro splitter and did the second run for the optical system. And finally, we changed the output of Spit4-OFpro splitter and repeated the measurements. As you can see, there was practically no difference in performance what proves that all outputs of the splitters produced very similar signal. (graph.1, 2)

All the GlobalInvacom components we tested were perfectly finished off and we had absolutely no problem in making the connections. Just click, click, click and everything was connected. All optical and RF connectors of the devices had protective covers so that no dirt could access it during transportation or the installation process. Building such optical system was like playing with LEGO blocks. It was nothing but joy.

If we connected more fiber optic cables, splitters and converters, we could deliver exactly the same signal as presented on our graphs to not fewer but 64 satellite receivers. And all this from a single dish and single FibreIRS LNBm. If we used even more splitters or Spit4-OFpros in place of Spit2-OFpros, the number of end users would be much greater. The only thing one can expect then is somewhat lower output power



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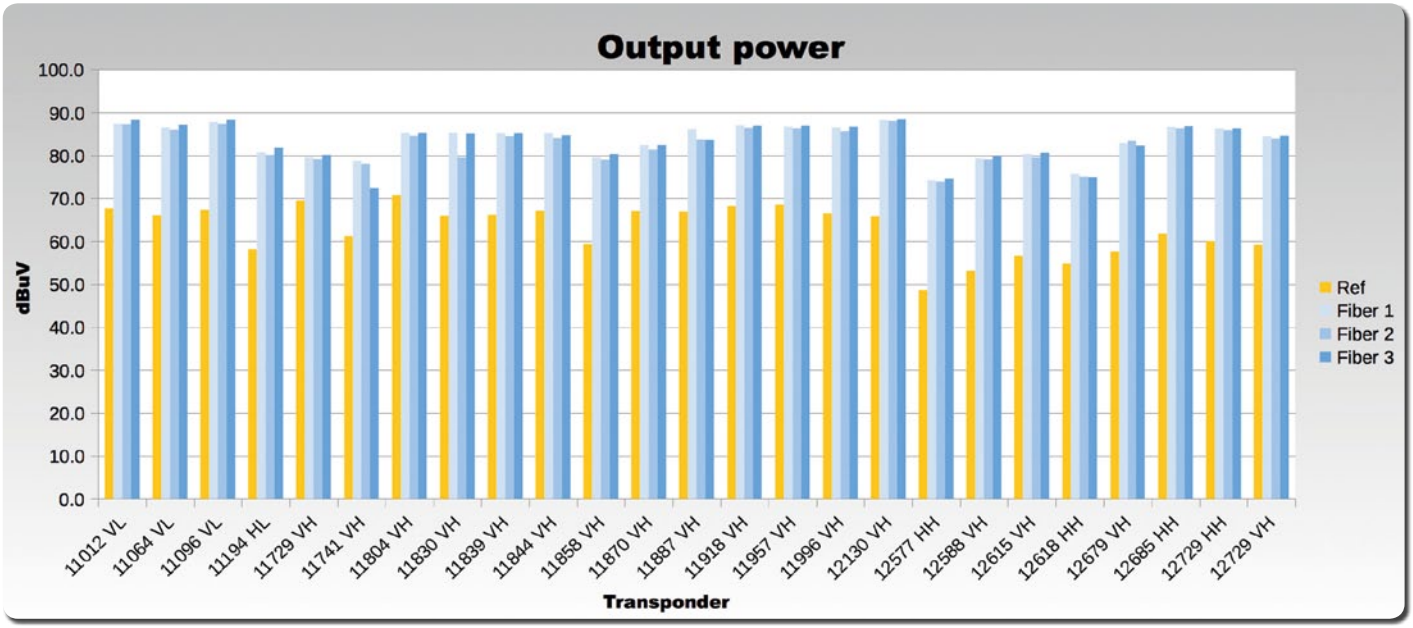
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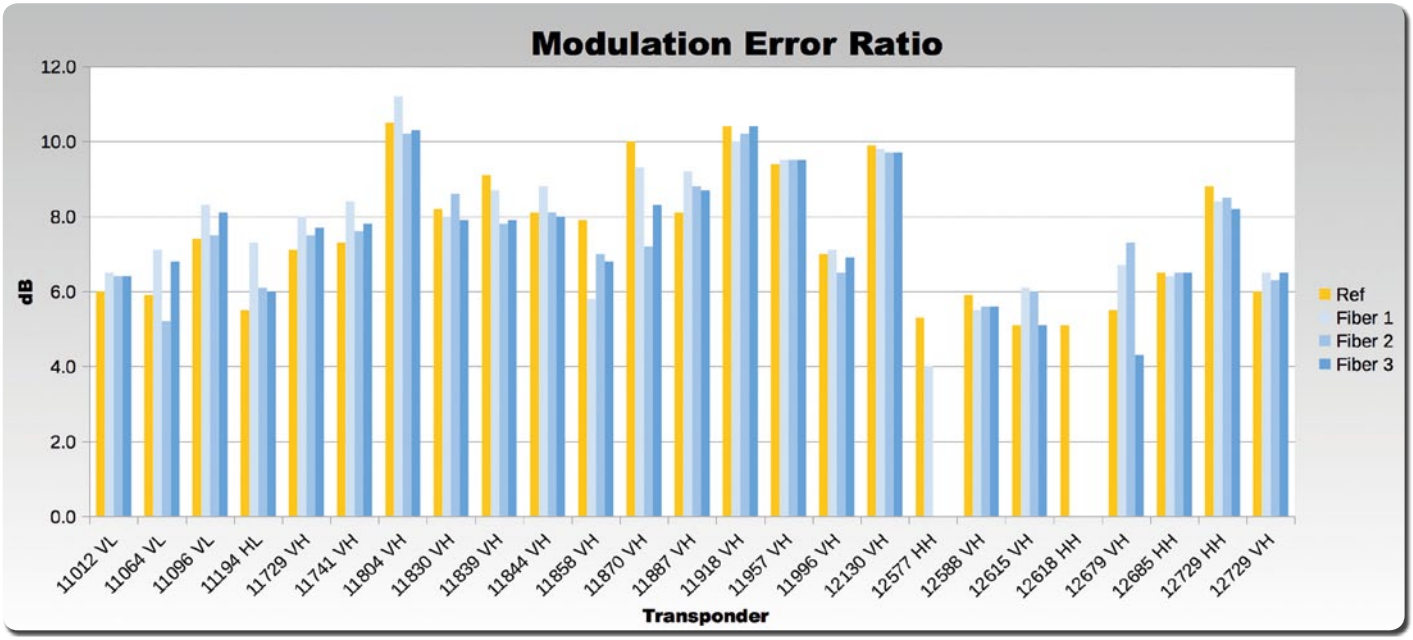
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Made in China
Production Date: 20111118
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Dual Window - 2 Way Optical Fibre Splitter
Product Characteristics
Wavelength ± 40 nm
CR (%) : Typical
Typical Insertion Loss :
1310 nm
1550 nm
50:0
50:0
4 dB
4 dB
GI FibreMDU
F700336
globalinvacom.com
Made in China
Input
Output
1
2
3
4
A2





but this is not a problem as the 80-90 dBµV we achieved in our test setup was a very strong signal. Normally, you have 60-70 dBµV or so.

So, we can do nothing but heartily recommend the optical system of GlobalInvacom for large distribution systems. You can forget about signal attenuation or carrier to noise ratio. Using optical components, practically everybody can build a large distribution system without tedious gain margin calculations or interference concerns. No more problems. The battle is over thanks to fibre optics.

Expert Opinion



Jacek Pawlowski
TELE-satellite
Test Center
Poland

\+ **High signal gain**
Very good carrier-to-noise ratio
Solid design and workmanship
Actual performance better than parameter specification
All components available from the same manufacturer

– **FibreIRS LNBm is larger and heavier than a classical LNB – select a dish with a robust LNB holder**

TECHNICAL DATA

Manufacturer	Global Invacom Ltd., Great Britain
Web	www.gloablinvacom.com
E-mail	Fibre@globalinvacom.com
Phone	+44-1621-743440
Fax	+44-1621-743676
FibreIRS LNBm	
Function	Wholeband LN with integrated frequency stacker
Input frequency range	10.7 – 12.75 GHz
Output frequency range	0.95 – 5.45 GHz
Noise figure typ.	0.7 dB
FibreIRS ODU32	
Function	RF to fiber optic converter
Satellite input frequency range	0.95 – 5.45 GHz
DAB/DTT input frequency range	217-230 MHz and 470-854 MHz
No. of optical outputs	2
Power supply	20 V DC, < 0.5A incl. wholeband LNB
Spli2-OFpro & Spli4-OFpro	
Function	2 way and 4 way optical splitters
CR typ.	50% and 25 % respectively
Insertion loss typ.	4 dB and 7 dB respectively

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KU-Band Antenna with Plastic Back Mount



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KU-Band Satellite Antenna







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SPAUN VAM 420 NG PAL

Высококачественный Аналоговый модулятор



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- ***Очень высокие технические характеристики***
- ***Простота и скорость программирования***
- ***Пригоден к использованию с очень длинными кабелями***



TELE satellite AWARD 09-10/2012

SPAUN VAM 420 NG PAL
Easy way to create analogue tv channels

www.TELE-satellite.com/12/09/spaun-vam

■ Ready for the measurements

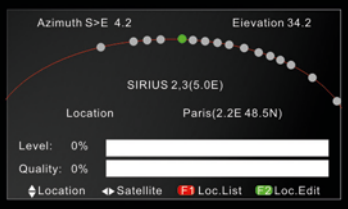
Generate your own analogue tv channel system

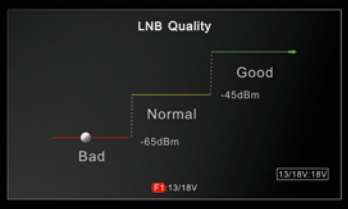
When you need to send an analogue TV signal to a destination far away or when you would like to distribute just a couple of TV channels, it still makes sense to use an analogue modulator and the old good PAL, SECAM or NTSC color systems. It is quite simple today to create your own analogue TV channel. All you need is a source of analogue signals (TV camera, VCR, or just the output of a satellite receiver) and a VSB modulator. One such modulator is the VAM 420 NG PAL of SPAUN.

Interestingly, SPAUN recently also launched a similar device, the VAM 420 NG DVB-T. Obviously, this device is doing exactly the same as the VAM 420 NG PAL, only in DVB-T. But let's get back to the analogue version, which will currently find many more uses than the digital version (there aren't yet so many signal sources with a digital output).

This twin modulator is care-

DVB S2









- Installation Meter & Full Measurement for DVB-S2
- Real-Time and Multi-Analyzing Spectrum
- Constellation Chart
- LNB Test MDU & Unicable
- BER, S/N(MER),FEC Measurement
- Auto Search,Blind Search,NIT Search,Manual Search
- Satellite Name & Degree Auto Detective & Display
- Auto DiSEqC1.0/DiSEqC1.1/DiSEqC1.2,USALS
- Local satellites list showing automatically
- Easy upgrading by Ethernet & USB & RS232 Port
- Satellite List Editable by Editor via PC
- Li-ion Battery(2350mAH), last 6 hours, Fast Charge(2 to 3 hours)
- Accessories: Adaptor,Car Charger,upgrading cable,AV cable,
- Water-Proof Bag,Compass,User Manual
- Size:162x100x42(mm) Weight: 0.45kg

Tiny But Mighty



Size:162mmx100mmx42mm



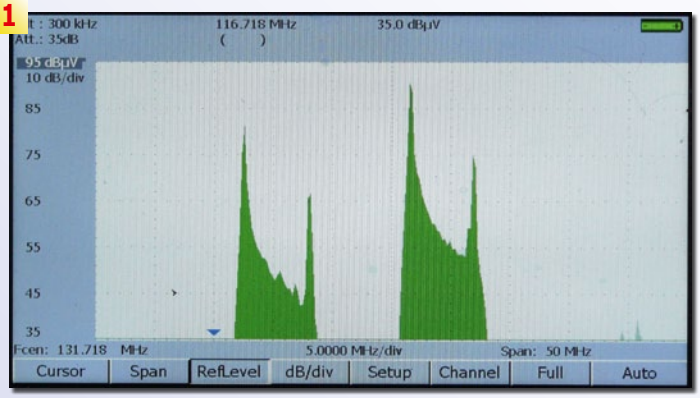


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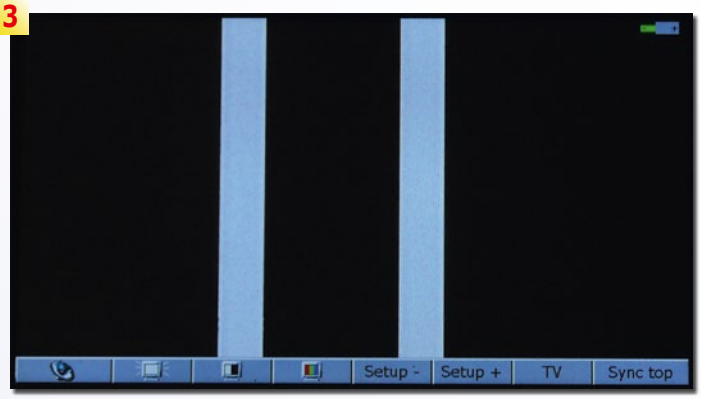
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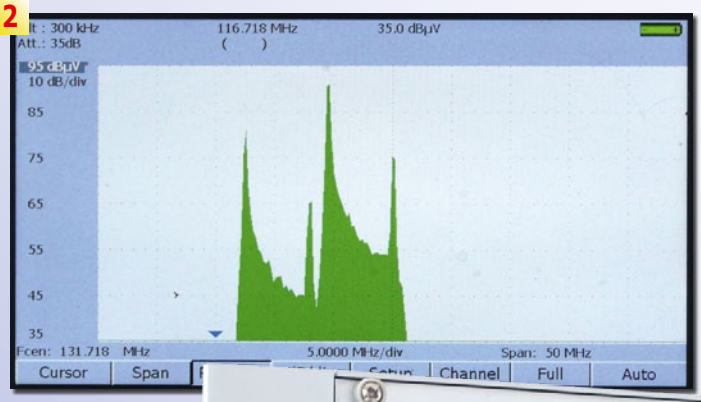
1


t : 300 kHz
Att.: 35dB
116.718 MHz
35.0 dBµV
95 dBµV
10 dB/div
85
75
65
55
45
35
Fcen: 131.718 MHz
5.0000 MHz/div
Span: 50 MHz
Cursor
Span
RefLevel
dB/div
Setup
Channel
Full
Auto

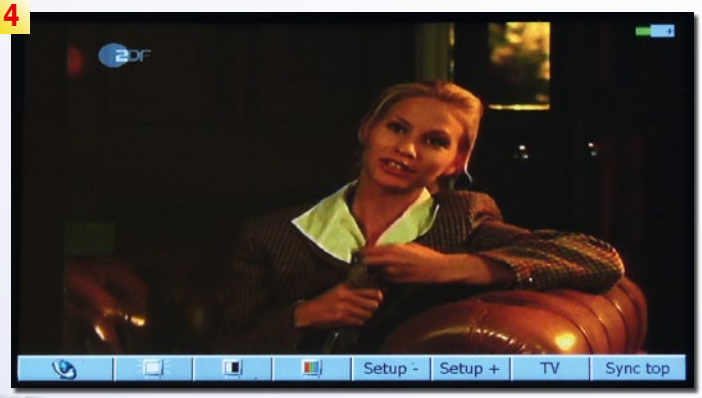
3


Setup -
Setup +
TV
Sync top

2


t : 300 kHz
Att.: 35dB
116.718 MHz
35.0 dBµV
95 dBµV
10 dB/div
85
75
65
55
45
35
Fcen: 131.718 MHz
5.0000 MHz/div
Span: 50 MHz
Cursor
Span
Channel
Full
Auto

4


ZDF
Setup -
Setup +
TV
Sync top


SpaceBox
VAM 10
VAM 420 NG
ENTER
SPAUN
DC IN 12V

fully finished off as all SPAUN products. It is designed to be mounted either on a DIN rail or on a flat surface, like a wall - either directly or with the help of the included bracket. SPAUN even offers a perfect housing for the VAM 420 NG PAL: it is called SpaceBox and is a 19" rack which can accomodate either up to 5 or up to 10 VAM 420 NG PAL units.

The modulator can be cascaded with three other identical units and in such case you can use a single power supply unit (SPAUN SNG 12/2000) to power all four modulators. One VAM 420 NG PAL has two sets of inputs (video and stereo audio) and generates two analogue TV channels. As you can easily calculate, four such devices can generate 8 analogue TV channels. SPAUN includes a plastic spacer to be used when mounting the modulators one next to the other on a DIN rail.

Please mind that it is just a modulator – so if the input video signal complies to the PAL color system, it will not be changed and we will get the output in analogue TV in PAL. Should it be SECAM, it will stay as SECAM. However, except for the color system, you should also be aware of the TV standard that specifies how audio is transmitted. And here we have a few possibilities: B, G, D, K, I or L standards. VAM 420 NG PAL is compatible with all of them. It will be perfect for feeding analogue tv sets used in Europe and many other regions of the world were signals like PAL D/K or PAL B/G were used and sometimes are still in regular days. What it does not support are the N and M standards mostly used in the Americas.

1. The SPAUN VAM 420 NG PAL configured to generated two TV signals: one with maximum level, the other with minimum level (-10 dB). Note that the signals are over 50 dB above the ground noise.

2. As above, but now the adjacent channels are used.

3. Test card picture generated by VAM 420 NG PAL.

4. An analogue TV channel demodulated by the VAM 420 NG PAL and displayed by the SPAUN SPAROS meter



■The SpaceBox by SPAUN solves any problems, where to mount the VAM modules. It can house up to 5 or up to 10 VAM 420 NG PAL units.

The VAM 420 NG PAL has two sets of inputs. You can see the familiar yellow/white/red RCA connectors in two columns located at the top of the front panel. In the bottom part of the panel, there are two F connectors. One of them is the output (where two TV channels appear) and the other in the input. You can connect another VAM 420 NG PAL to the input to increase the number of analogue channels. Here you can also feed a coax from a terrestrial antenna to combine the terrestrial signal with your own two channels generated by the VAM 420 NG PAL. Observe the advice SPAUN gives in the included brochure with technical instructions: when connecting a terrestrial antenna make sure you insert an amplifier between the antenna and the modulator that has at least 20 dB input/output isolation.

Programming the modulator is pretty simple. Only three buttons are used: Up, Down and Enter. Frankly saying, we would prefer if SPAUN called the last button L/R or something like that. Its function is just switching between the left and right channel. In the normal mode, you select the left or right channel by pressing the Enter button. The decimal point on the two digit display moves either to the left or to the right digit indicating in this way which channel is currently chosen. You use then the Up and Down buttons to change the channel number from S03 to 69.

When you press and hold the Up and Down buttons simultaneously for one second, VAM 420 NG PAL switches to programming mode. Now you can use the Down button to travel down the "menu" and the Up button to change the value of the present option. The options are as follow: TV system, fine tuning of video carrier frequency, video/audio ratio (16 or 12 dB), test pattern generator (on/off), RF output signal (on/off), RF level adjustment (from 0 through -10 dB), Audio signal level (from -6 dB through +6 dB), Audio processing mode (mono, stereo, dual). When you are through with all the settings, you again press and hold Up and Down buttons simultaneously and leave the programming mode. And that's all you need to program and operate this device.

To evaluate the performance of the modulator, we drove it with two analogue signals taken from two satellite receivers (video and stereo audio). We connected the SPAUN SPAROS meter to the output of the VAM 420 NG PAL to observe its frequency spectrum. As you can see in our screen shots, the generated signals were extremely



■A similar device as the VAM 420 NG PAL is the above model VAM 420 NG DVB-T, which has recently been launuched by SPAUN. The features are the same as for the VAM 420 NG PAL, but instead of an analogue PAL signal the VAM 420 NG DVB-T has a COFDM output signal.

clear – well over 50 dB above the noise level. We tested both maximum and minimum amplitude settings and performance at the low end and the high end of the terrestrial frequency band. We also checked how it worked when two adjacent channels were chosen to output the analogue channels. We are happy to inform that the performance of VAM 420 NG PAL was brilliant for all the settings we tried.

To give you the idea how great the performance was let us provide you with a couple of measurement results. See the table below. C/N significantly exceeded the specification (50 dB) for all level and frequency settings. Video to audio level ratio was quite close to its nominal value 16 dB. With such superb performance, you can connect the VAM 420 NG PAL even to a very long coax cables without any fear of signal degradation. This modulator is really a top quality device.



	Min. level setting		Max. level setting		
Channel	S03	67	S04	S05	69
Frequency [MHz]	119.25	839.25	126.25	133.25	855.25
Level [dBµV]	80.4	79.1	91.3	91.2	91.2
C/N [dB]	>55.7	>51.4	>57.1	>57.9	>61.8
V/A [dB]	15.1	15.7	17.4	18.1	15.4

Expert Opinion



Jacek Pawlowski
TELE-satellite
Test Center
Poland

+
Excellent C/N ratio exceeding the specified 50 dB.
Very good workmanship.
Versatile mounting options.
Cascadable with other identical units.
Easy programming.

–
None

TECHNICAL DATA

Manufacturer	SPAUN electronic GmbH & Co. KG, Germany
Web	www.spaun.com
E-mail	contact@spaun.com
Phone	+49-7731-8673-0
Fax	+49-7731-8673-17
Model	VAM 420 NG PAL
Function	VSB Twin Modulator
Number of analogue A/V inputs	2
Frequency range	110 … 862 MHz
TV standard	B/G/D/K/I/L
Output level max	90 dBµV
Output level adjustment	0...-10 dB
Spurious level	<-60 dB
C/N ratio	≥ 50 dB
Input level	1 ± 0.1 V p-p
Supply	12 V, 475 mA
Dimensions	196 x 106 x 35 mm



DESCRIPTION:KU SUPER MINI SINGLE
MODEL :BKS-01

KU-BAND

Features:

1.Dual Polarity Switchable
2. Super low Noise
3. Digital Ready
4. High Gain Output
5. Easy Installation
6. Waterproof



DESCRIPTION:C-BAND SINGLE
MODEL :BC-103B

C-BAND

Features:

1.Dual Polarity Switchable
2. Super low Noise
3. Digital Ready
4. High Gain Output
5. Easy Installation
6. Waterproof





KU-BAND SINGLE
MODEL:BK-101B



KU-BAND TWIN
MODEL:BK-201B



KU-BAND QUAD
MODEL:BK-401



KU-BAND OCTO
MODEL:BK-801



KU BAND DUAL SINGLE
MODEL:BKM-01



C-BAND TWIN
MODEL:BCM-12B



C-BAND QUAD
MODEL:BCM-14



C-BAND ONE CABLE SOLUTION
MODEL:BCS-11



C-BAND V./H. OUTPUT
MODEL:BCM-11



C+KU-BAND
MODEL:BCK-13



DiSEqC 2x1
MODEL:BDS-23



DiSEqC 4x1
MODEL:BDS-43



DiSEqC 4x1
MODEL:BDS-45



DiSEqC 8x1
MODEL:BDS-81



DiSEqC 4x1
MODEL:BDS-46



DiSEqC 4x1
MODEL:BDS-47



MULTISWITCH 2x4
MODEL:BMS-24



MULTISWITCH 2x6
MODEL:BMS-26



MULTISWITCH 2x8
MODEL:BMS-28



MULTISWITCH 4x4
MODEL:BMS-44



MULTISWITCH 4x6
MODEL:BMS-46



MULTISWITCH 4x8
MODEL:BMS-48

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- *Программа QuickRecovery быстро сбрасывает прибор к заводским установкам*
- *На смену модели LEXIUM 5100Pro*



TELE-satellite Test Editor Ron Roessel aligning a 76cm dish using the new LEXIUM FastAlign 5110Pro Professional Satellite Meter. "It so easy to point the dish with this meter," says Ron Roessel, "and it even makes fun!"



Handheld Powerhouse

LEXIUM is quickly becoming a recognized name when it comes to satellite receivers and test equipment. WS International, a global distributor of the most up to date & current DTH (Direct to home) satellite equipment including MPEG2 & MPEG4, DVB-S & DVB-S2 equipment has distribution branches based out of Atlanta, Georgia, Los Angeles, California and with sales & development offices in Zhuhai and Guangzhou China markets the LEXIUM brand name world-wide. Just a few months ago, in fact, it was in the 12-01/2012 issue of this magazine, TELE-satellite introduced the LEXIUM FastAlign 7100Pro satellite signal analyzer. The 7100Pro boasted the unique capability of identifying the name of a satellite as soon as the meter showed a lock. The LEXIUM line of digital satellite signal meters, up until recently, also included the FastAlign 5100Pro. With all this going for them, did they feel the need to sit back and relax after these success stories? Did they feel that their job was done? No, not at all. Instead, the engineers went straight back to work.

The result of their efforts is the LEXIUM FastAlign 5110Pro. The 5110Pro is actually a direct replacement for their very popular 5100Pro model. Of course, when we heard about this new meter, we wanted to find out more about it. If it's anything like the 7100Pro, then this new meter should be just as exciting, even more so. Once again our friends at WS International provided us with a sample of the FastAlign 5110Pro so that we could have a little fun with it and see what all the fuss is about.

The 5110Pro signal meter comes packaged in a nice, small box along with all of its accessories including two battery chargers – one for a wall outlet and another one for the car, two female-to-female "F" type adapters, a USB cable and a handy carrying strap. There's also a 24-page English-language user manual.

So, let's look at the meter itself. The 5110Pro is a handheld digital signal analyzer that is small enough to fit in one hand. The internal electronics are enclosed in a sturdy black plastic case that is 142 x 82 x 35mm in size. The case itself is encased in a bright yellow rubberized cover that acts as a shock absorber; it will help protect the analyzer if it should ever fall to the ground. The rubberized cover can easily be removed if you ever need to access the battery compartment. At just a hair over 1.0 pound in weight, the meter is very easy to carry around with you wherever you have to go. So, it's no trouble to climb that ladder to the top of that roof with the 5110Pro hanging on your shoulder; you won't even know it's there.

The meter sports a pair of male "F" type connectors on the top side of the unit. The connector on the right side is

TELE satellite AWARD 09-10/2012
LEXIUM FastAlign 5110Pro
Digital Satellite Meter
Helps enormously to install
any satellite dish
www.TELE-satellite.com/12/09/LEXIUM

used to connect to the LNB on the satellite dish. Power to the LNB is supplied by the 5110Pro itself. The manufacturer specifies that the meter should last for about four hours on a single charge and this should be more than enough time for a typical installation. However, if you find that a little more time is needed at the installation site, the meter can also be powered by the satellite receiver. That's where the second "F" connector on the left side comes in. Ordinarily, the left connector isn't needed unless supplemental power is needed. The two female-to-female "F" type adapters supplied in the package are used to connect the meter to any existing coax cables.



Oddly enough, though, the two male "F" connectors on the meter are not marked in any way on the casing; we had to refer to the user manual in order to figure out which connector did what. There are also no markings for the ports on the bottom of the 5110Pro but in this case it was easy to figure out what they were for just by looking at the type of connector that was being used.

On the bottom of the analyzer you'll find the charging port for the two power adapters (home and car), a USB port to link the meter with a PC and a number of slats behind which is located the meter's speaker. The front panel of the meter consists of an LCD display and a keyboard. The display is 6.2 x 4.6mm in size and is divided into five different sections. We'll get more into this a little later. The keyboard is located under the display and is made up of a numerical keypad as well as a number of additional color-





ed function buttons.

According to the manufacturer, the meter should be fully charged before it's used for the first time. The charging process should take about four hours but no more than six hours to complete. An LED on the front panel of the analyzer lights up red indicating that the meter is being charged by the external power supply. This LED turns green when the meter is turned on and the power cord is removed.

To turn on the 5110Pro, momentarily push the red POWER button on the front panel. If the meter has never been used before, the display will not show any data except for

SmartWi wireless Multi Room Solution



Master Box

New SmartWi ready for Operators

Please let us introduce the new SmartWi. The market leader in wireless multi-room solutions now comes with a range of improved technical features, and we are frankly very proud of the new design. Coming from Denmark it is almost like the fairy tale 'The Ugly Duckling' that turned into a beautiful swan.

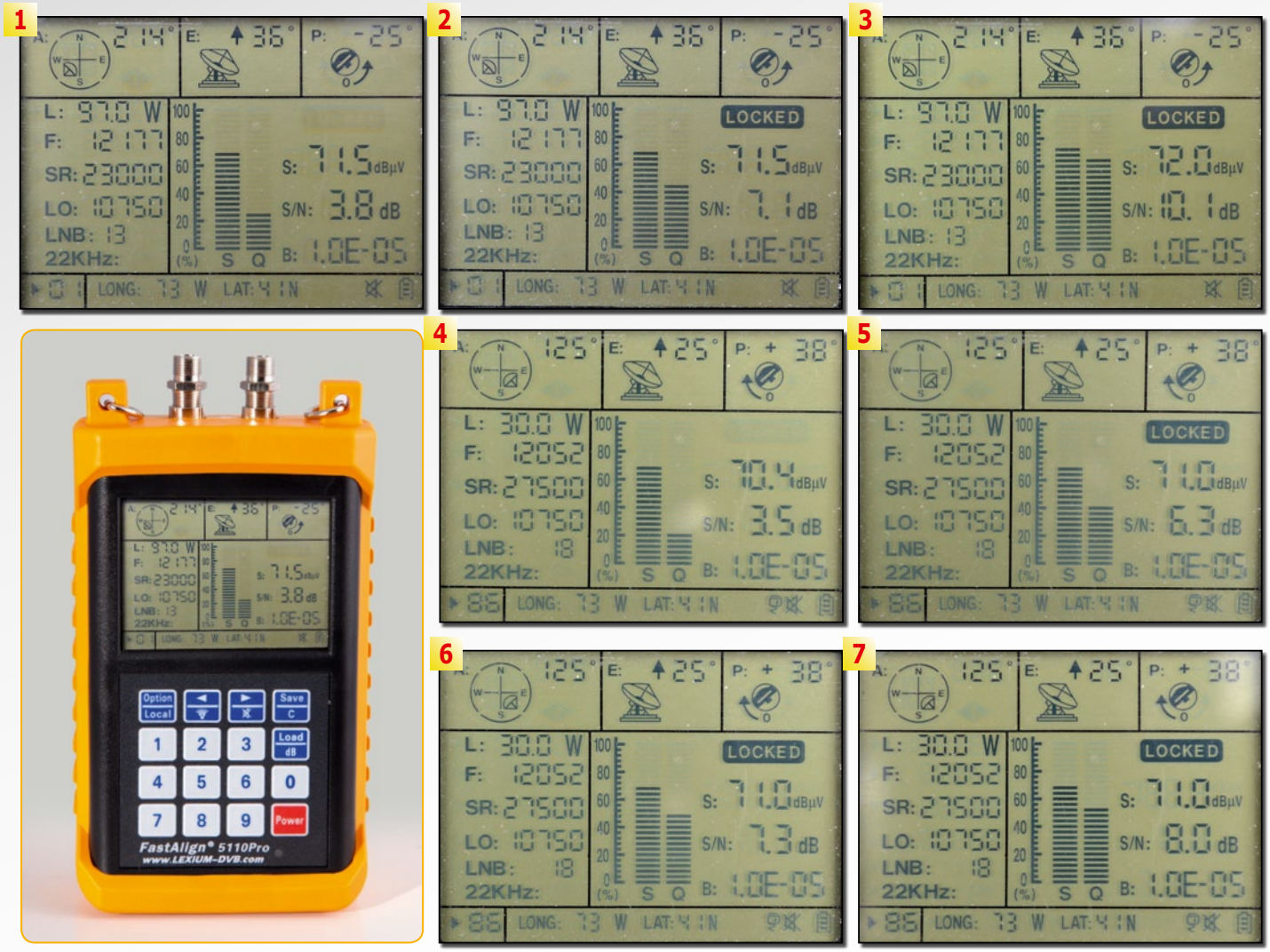
The improved qualities make SmartWi the obvious choice of Multiroom Solution for Operators. It is very flexible and may be adopted to the specific preferences of an Operator in terms of technology, design or commercial setup. The final result is increased customer loyalty and a stronger future market presence for the Operator.

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www.smartwi.net



zeroes. As mentioned before, the display is divided into five sections: Positioning, Satellite Selection, Channel Number, Latitude and Longitude and Measurement. The Positioning section runs across the top of the display from one side to the other and shows the required azimuth, elevation and polarization angle settings for the target satellite. This section will only display data if you already have entered in your local position and selected the satellite you want to find. The Satellite Selection section on the left side displays information on the currently selected channel (satellite position (L), transponder frequency (F), symbolrate (SR), LNB local oscillator (LO), polarization (LNB) and 22 kHz). The Channel Number section in the lower left hand corner of the display shows the currently selected channel number either from the "local channel list" or from the "user defined channel list". The Latitude and Longitude section highlights the location where the meter will be used in degrees latitude and longitude. Also found here are a number of additional function indicators such as battery level, PC link, speaker mute and channel list. The Measurement section displays the signal strength (S) and quality (Q) levels in bar graph form. Additionally, the signal strength (S) is also shown in numerical form as is the signal-to-noise level (S/N) and the bit error rate (B).

In order to get the most out of this meter it's clear that the very first step would be to enter in the local latitude and longitude position where the meter will be used. For our location here in Long Island, New York, it is 41°N 073°W. Only whole numbers can be entered; a more precise location for us would have been 40.7°N 73.3°W but for the purposes of entering in our location in this meter, we had to round to the nearest whole number. Fortunately, this minor limitation should not hamper us in any way when trying to find a specific satellite.

Now that our location has been set up, it's time to see what this meter can do. The 5110Pro comes with a pre-programmed "local channel list" that includes nearly every satellite from around the world. The LEXIUM 5110Pro automatically filters out the satellites that are below the horizon and thus not visible from your location based on the local coordinates that were entered earlier. For our test location the visible satellites (above the horizon) included all those from 139.0°W to 4.8°E for a total of 111 channels to choose from. If you change the location coordinates in the meter, the list of visible satellites changes along with it to adapt to the new location. To give you an

1. As the antenna was rotated, the signal quality (Q) bar graph clearly shows that we were closing in on GALAXY 19

2. Turning the antenna a little more and "Locked" lit up telling us that we had a signal lock on GALAXY 19

3. Adjusting the dish a little further increased the S/N level until we reached a peak S/N level of 10.1 dB. The dish was now perfectly aligned with GALAXY 19.

4. Next we tried for the HISPASAT satellite at 30°W using the same antenna. As the dish came within range of the target satellite, the 5110Pro showed that we were getting close; the signal quality bar graph (Q) began to react

5. And then moving the antenna just a little bit more...LOCKED!

6. Fine tuning the antenna...

7. ...until a maximum S/N level was achieved. The antenna was now peaked on HISPASAT.

THE LASER DISH SYSTEM 500

激光卫星接收天线系统 500



The Laser Dish System allows mounting satellite dish far away from where the satellite receiver is located. Ideal for difficult reception areas, e.g. when a dish installation is not allowed in vicinty to receiver or when obstacles hinder satellite reception. The Laser Dish System is based on the fibre optic system invented by GlobalInvacom and allows the connection of up to 4 satellite receivers.
激光卫星接收天线系统支持卫星接收机和卫星接收天线之间的远距离传输。
假想有一些接收比较困难的地方，例如：当卫星接收天线不允许安装在邻近卫星接收机的地方或者有障碍物阻挡卫星接收。激光卫星接收天线系统基于GlobalInvacom 公司发明的光纤系统，他允许连接多达4个卫星接收机。

The Laser Dish System 500:
- Fibre Optic LNB, Type Universal, Ku-band, Offset, 40mm
- Power Supply for LNB
- 500m Fibre Optic Cable, ready to connect
- Converter Type Quad for 4 Satellite Receiver or Multiswitch

Guaranteed 100% Signal Quality thanks to GlobalInvacom Fibre Optic technology
GlobalInvacom的光纤技术使信号质量保证100%



global invacom *powered by GlobalInvacom*



500 METER 500米

Distance from Dish to Receiver

从卫星接收天线到卫星接收机的距离

ALuoSat
29D, Block B, Nanhai Building, Dongmen Centre Road,
Luohu District, Shenzhen 518001, CHINA

Tel.: +86-755-82175354
Email: sales@ALuo-Sat.com
Website: www.ALuo-Sat.com

ALuoSat
深圳市罗湖区东门中路南海中心B座29D, 518001

电话: +86-755-82175354
邮箱: sales@ALuo-Sat.com
网址: www.ALuo-Sat.com

ALuoSat
Advanced Technology Division

idea of how this changes, we changed the local coordinates in the analyzer to 37°N 122°W to simulate the use of the 5110Pro in San Francisco, California. The list of visible satellites for this west coast location included everything from 160°E to 43°W. As you can see, the meter automatically adjusts the local channel list based on its operational location. One thing to keep in mind though: this visible list of satellites represents those satellites that can be "seen" from your location and does not necessarily represent a list of those satellites that can actually be received. Only those satellites that have a beam pointing in your direction can be received.

In addition to the "local channel list" there's also a "user defined channel list". This list is customizable by the user so that more popular satellites can be accessed more quickly. The 5110Pro comes shipped from the factory without any data in this list. When setting up the "user defined channel list", the first open channel is selected so that a satellite can be set up. So, let's say, for example, we wanted to add Galaxy 19 at 97°W into the user defined list. The meter has to first be placed into the "user defined channel list" mode by pressing and holding down the Option/Local button for about three seconds.

Once the meter is in the correct mode, you can then enter in all the relevant data for Galaxy 19 (orbital position (L), transponder frequency (F), symbolrate (SR), local oscillator frequency (LO), polarization (LNB) and 22 kHz on/off). For this purpose we chose the 12.177V GHz transponder with a symbolrate of 23000. As soon as the entered data is saved into the meter's memory, the correct alignment information for the antenna (azimuth, elevation and polarization angle) instantly appears at the top of the display. This data tells you exactly where to point the antenna to receive that satellite.

So, with the meter in hand, we went outside to align the dish. Since Galaxy 19 was just entered into the "user defined channel list", it makes sense to begin by aligning our antenna to this very popular satellite. Keep in mind that you can use either the "user defined channel list" or the "local channel list" to start with since Galaxy 19 also appears in the preprogrammed list. You'll also need a short piece of coax cable to connect the meter to the antenna's LNB. And don't forget the compass so that you know which way to turn the antenna! As it turns out, the 5110Pro is not compatible with any of the DiSEqC protocols so the analyzer needs to be connected directly to the LNB; there cannot be any DiSEqC switches in between the meter and the LNB.

As luck would have it, we had a spare 76cm offset dish lying around so we decided to use this antenna to align to GALAXY 19. We installed a standard Ku-band LNBF (LOF = 10.750 GHz) on the dish and connected it to the LEXIUM 5110Pro meter using a short 10-foot piece of coax cable. The meter was turned on and we decided to use the channel data that was just entered into the "user-defined channel list". We could have also used the preprogrammed data in the "local channel list" (channel 38) that was associated with the Ku-band side of GALAXY 19 at 97°W. This channel was set for 11.789 GHz, 28125 SR, LOF 10.750 GHz and LNB 13 (vertical polarization). Either transponder would have worked for this test.

At this point pressing any one of the number buttons (0 to 9) activates the measurement section of the meter. The 5110Pro was set to go; all we had to do is start moving the antenna into roughly the correct position. According to the 5110Pro, the antenna alignment settings yield an azimuth (A) of 214°, an elevation (E) of 36° and a polarization angle (P) of -25°.

With the help of our compass, we turned the antenna in the general direction of 214° and elevated it roughly 36° above the horizon. Since our 76cm dish was not on a horizon-to-horizon (H-H) mount, the LNBF had to be rotated inside its holder so that its horizontal and vertical polarization levels matched the position of the GALAXY 19 satellite. We adjusted the position of the LNBF in its mount to reflect the -25° offset suggested by the meter.

Thanks to the 5110Pro's built-in QuickSweep technology you don't have to worry about missing the target satellite if you turn the antenna too quickly. There is no delay from the time the signal is received to when it is displayed on the meter; it reacts almost instantly. This lets you move the antenna much faster than you might otherwise be able to if you were using a different meter. It's a time saving feature that helps to speed up the alignment process.

So, with the meter connected to our 76cm dish and turned on, we rotated the antenna towards 214° while keeping an eye on the 5110Pro. The analyzer also has an audible tone that changes pitch with the signal level. This lets you take your eyes off the meter and listen to changes in signal level if for any reason the display is out of your view.

As soon as we approached the 214° position as dictated by the 5110Pro, the signal quality bar graph on the display (Q) began to instantly react. We had found GALAXY 19 on the very first pass! As we continued to move the antenna the signal quality (Q) bar graph continued to increase and the "Locked" indicator on the display illuminated. We continued to move the antenna until we reached a maximum point. We then fine

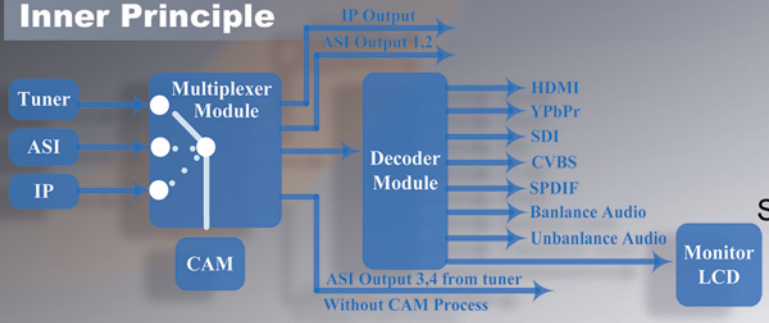


NDS3975 DVB-S2 HD IRD

New design IRD with video monitor LCD equipped on the front panel



Inner Principle



Key Features

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- MPEG-2 & MPEG-4 decoding
- Re-multiplexer embedded
- Supports Tuner, IP, ASI Input at the same time
- Supports IP, ASI, Decoding output at the same time
- Supports CAM card insert (CI/CI+)
- Supports Front Panel and NMS Operation
- Support 10xSPTS output

NDS3402-C DVB-S2 Modulator

High performance modulator developed according to DVB-S2 (EN302307) standard



Key Features

- Backwards-compatible with DVB-S (EN300421) modulating standard
- Two ASI inputs supporting hot backup
- Supporting local and remote control
- Output level attenuation
- 10MHz outer reference clock input
- Output frequency range: 950~2150MHz
- Coupling output: 24V/4A DC optional
- Coupling output: 10MHz reference clock optional

www.dsdvb.com

Dexin Digital Technology (Chengdu) Co.,Ltd
56# Feizhushi Street, Jiangxi Road, Wuhou District, Chengdu, Sichuan P.R. of CHINA
Tel: +86-28-85558928, +86-28-85550524, +86-13882088846 ▪ Fax: +86-28-85585255
http://www.dsdvb.com/english ▪ E-mail: sunyu@dsdvb.com

tuned the elevation (E) until a maximum S/N level was achieved. The dish was then secured in place; it couldn't get any easier than that.

Was this just beginners luck? We wanted to make sure so we decided to give the HISPASAT satellite at 30°W a try with the same dish. From the "local channel list" we scrolled through the channels until we found the only entry for 30°W located at channel 86. The entry at this location was for 11.466 GHz, 3500 SR, 9750 LOF. As it turns out, this frequency is not an active frequency for North America.

Luckily, changing the existing entry in the "local channel list" to a workable value is a snap. At present, the cursor arrow indicator should be pointing to the channel number (in this case channel 86). By momentarily pushing the Option/Local button on the front panel once, the cursor arrow should move to the frequency position (F) and the first digit in the current frequency should be blinking. Simply enter in the correct transponder frequency using the numerical keypad and then momentarily press the Option/Local button once again to move the arrow cursor to the next entry (SR). For our test we used the 12.052H transponder with a symbol-rate of 27500. Continue this procedure until all the remaining parameters are entered and then press the Save/C button to store the data. The LEXIUM 5110Pro is now ready for the HISPASAT satellite.

According to the 5110Pro, the proper antenna settings for HISPASAT are an azimuth (A) of 125°, an elevation (E) of 25° and an LNB polarization adjustment (P) of +38°. We repositioned the LNBF in the mount to reflect the new polarization adjustment angle of +38°. Next we loosened the mounting bolts on the antenna so that it could be moved. The antenna was turned towards an azimuth setting of 125° and sure enough as we approached the 125° position the signal quality bar graph (Q) on the meter began to react.

As the antenna was moved a little more, the S/N level increased and the "Locked" indicator on the display illuminated. We had found HISPASAT and once again we found the target satellite on the first pass!

Clearly, the LEXIUM 5110Pro's QuickSweep technology lives up to its name. The meter reacts instantly when you approach the target satellite as you're turning the antenna. Thanks to this speedy response time, you don't have to sit there waiting for the analyzer to do its job every time the antenna is moved a notch. You can simply rotate the dish on its mount and stop the rotation when the analyzer reacts to the target satellite. It's that simple.

A note to those of you who will be setting up systems that use universal Ku-band LNBFs: the LEXIUM 5110Pro will work with these types of LNBFs but not exactly in the way that you might expect. When selecting the LOF to be used, you'd undoubtedly expect one of the choices to be "universal" however that is not the case here. With this meter you have to enter the correct universal LOF (9.750 or 10.600 GHz) and set the 22 kHz signal to ON if needed. The correct settings will depend on whether the transponder frequency to be received is in the LNBF's low band (10.7 to 11.7 GHZ) or high band (11.7 to 12.75 GHz). Of course, the LEXIUM 5110Pro is also C-band compatible.

And as if all of the above wasn't enough, this meter comes with yet another fascinating feature: it has Quick-Recovery Software built in. This software restores the 5110Pro back to its original factory settings should a problem ever occur during a data transfer to the meter. In the past such a data transfer interruption would almost always result in a dead meter. Restoring the meter used to involve opening up the case, locating and then reflashing the memory. It's a process



that's not all that much fun to perform. But thanks to the built-in QuickRecovery software, you don't have to worry about any of this. Simply press the "Recovery" button to reset the meter back to its original factory settings. How great is that?

Earlier we mentioned the USB port located on the bottom of the meter; this port allows you to connect the meter to your PC and gives you the ability to add, delete or modify the satellite list, transponder specifications and 22 kHz settings directly from your PC or laptop. In order to be able to do this, you'd need to download the necessary interface software which can be obtained free of charge by going to www.LEXIUM-dvb.com.

The LEXIUM FastAlign 5110Pro digital satellite meter is an extremely powerful signal analyzer wrapped up in a nice little package. It's a lightweight handheld device that you can easily hold for longer periods of time without any fatigue. It comes with numerous useful features that help make satellite installations a breeze. It comes with a pre-installed list of satellites from all around the world and yet is smart enough to only show those satellites that are visible from your location. It would make the perfect addition to any satellite installer's toolbox.

Expert Opinion



Ron Roessel
TELE-satellite
Test Center
USA

+ **Lightweight, easy to use handheld digital satellite signal meter for precise alignment of antenna to target satellite. Its QuickSweep technology takes the worry out of accidentally passing the target satellite while moving the antenna in that the meter reacts instantly to any antenna movements. Its three-digit azimuth display allows this meter to be used anywhere in the world.**

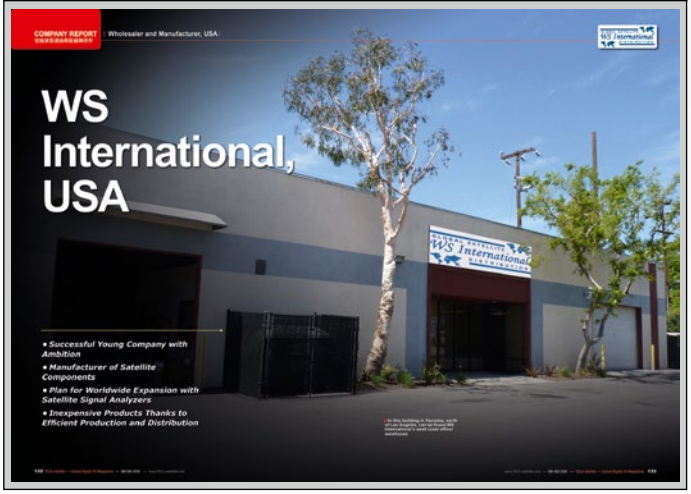
– **No DiSEqC protocols; meter must be connected directly to the LNB without any DiSEqC switches in between. There's also no universal setting for the LOF; universal LNBFs can be used with this meter but the LOFs need to be set up manually.**

TECHNICAL DATA

Manufacturer	LEXIUM California, USA
Home Page	www.LEXIUM-DVB.com
E-mail	sales@lexium-dvb.com
Model	FastAlign 5110Pro Digital Satellite Meter
Input Frequency Range	950 – 2150 MHz
LNB Power	13V, 18V; 400mA
C/Ku-band Compatible	yes
Memory	300 channels (local channel list); 100 channels (user defined list)
Symbolrate	2 – 45 Ms/sec
22 kHz Control	yes
USB Interface	yes
Operating Temperature	0 - 40° C
AC Power Supply	Input 100 – 240VAC, 1.6A, 50-60Hz; Output 18.5VDC, 3.5A
Dimensions	142 x 82 x 35mm
Weight	1.0 LBS (including battery)

MORE ABOUT THIS COMPANY

www.TELE-satellite.com/TELE-satellite-1109/eng/wsinternational.pdf



Using the LEXIUM FastAlign 5110 Pro in Europe

Thomas Haring

Even though the LEXIUM FastAlign 5110 Pro is distributed by US company WS International the device comes with all prerequisites that are needed to use it in other regions as well. This is all the more reason for marketing their latest meter on a global scale. Due to the fact that the local position has to be entered when the meter is first turned on, it is possible for the device to find out fully automatically which satellites are visible at the current location and which positions are below the horizon. Obviously, we were more than happy to evaluate the LEXIUM FastAlign 5110 Pro in one of our European test centers in Austria.

First things first, and so we entered our coordinates for Vienna, Austria right after turning on the LEXIUM FastAlign 5110 Pro for the first time. Hardly had we keyed in 16° East and 48° North that the FastAlign 5110 Pro called up a list of pre-programmed satellite positions ranging from 58° West to 92.2° East. This means the device truly shows all satellites that can be received at our current location – at least in theory. Why do we say in theory? The fact is that the list of satellites shows visible satellites, as opposed to receivable beams. For example, CHINASAT 9 at 92.2° East is shown as the easternmost visible orbital position, even though its beams are sent to China only and reception in



Vienna therefore is not possible. We think this makes sense as beams can easily be changed and moved by satellite operators, so that the odd Asian position might in fact be of interest in Europe one day. If or when such changes occur, the new LEXIUM signal meter will already have the relevant parameters stored in its internal memory.

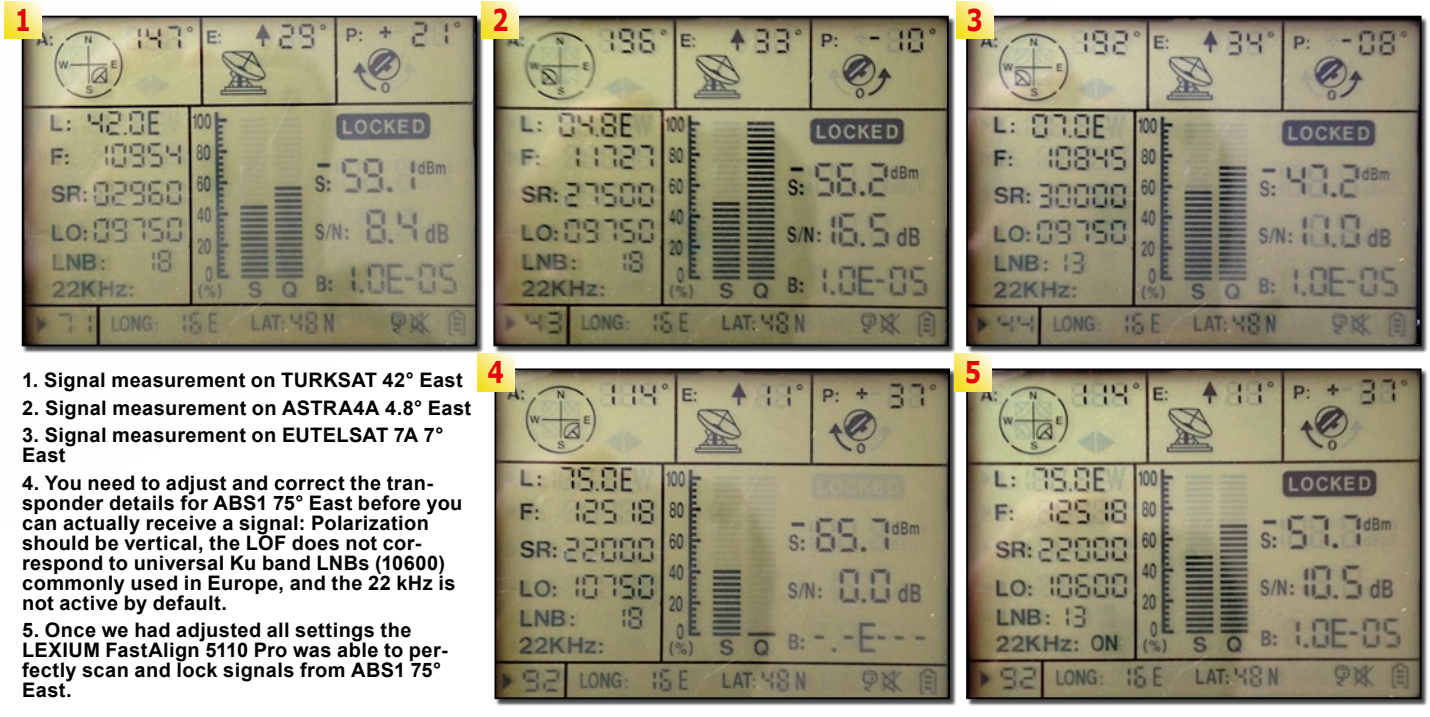
We appreciated the fact that LEXIUM has pre-stored both C band and Ku band transponders: While the Ku band definitely dominates the European market the C band is the preferred frequency range in most other corners of the world.

In total, we found 109 pre-stored satellite entries on our list. You might object at this stage that this is way beyond the number of receivable positions in Europe – and you're right. LEXIUM has chosen to create separate entries for Ku band and C band transponders on satellites that use both bands, such as INTELSAT 14 at 45° West. In terms of usability, they couldn't have made a smarter decision.

Then again, an impressive number of satellite entries is not everything that counts. The painful truth is that it can quickly become worthless if transponder data are not equally up-to-date and comprehensive. To check the LEXIUM FastAlign 5110 Pro's worth in that field we randomly selected a number of European satellite positions and tried to align our dish to those birds using the LEXIUM meter. We noticed right away that the pre-stored LOF for the high band was correctly set at 10600 for some positions (such as ASTRA 4A at 4.8° East), while other satellites (such as BADR 26° East) came with a wrong frequency of 10750. In addition, none of the pre-stored high band entries came with an activated 22 kHz signal, which is required for the LNB to switch from low band to high band. This means that European users have to make a point of checking all pre-stored transponder settings for the selected satellite and the LNB that is used.

Most European satellites come with correct transponder data, however, so that the LEXIUM FastAlign 5110 Pro turned out to be a useful companion for aligning satellite antennas. It worked nicely with weaker signals as well, such as those from BADR 26° East or ASTRA 2D 28.2° East – the built-in tuner boasts a reasonably low threshold and the measurement results turned out to be very precise. We loved how quickly the LEXIUM meter reacts to changes in the incoming signal, which in turn allows for a swift alignment process without the risk of overlooking a signal while moving the antenna.

To sum up, we truly enjoyed working with the LEXIUM FastAlign 5110 Pro under a European sky. It's a very handy tool and if the manufacturer decides to update the pre-stored transponder list it would leave nothing to be desired.



1. Signal measurement on TURKSAT 42° East

2. Signal measurement on ASTRA4A 4.8° East

3. Signal measurement on EUTELSAT 7A 7° East

4. You need to adjust and correct the transponder details for ABS1 75° East before you can actually receive a signal: Polarization should be vertical, the LOF does not correspond to universal Ku band LNBs (10600) commonly used in Europe, and the 22 kHz is not active by default.

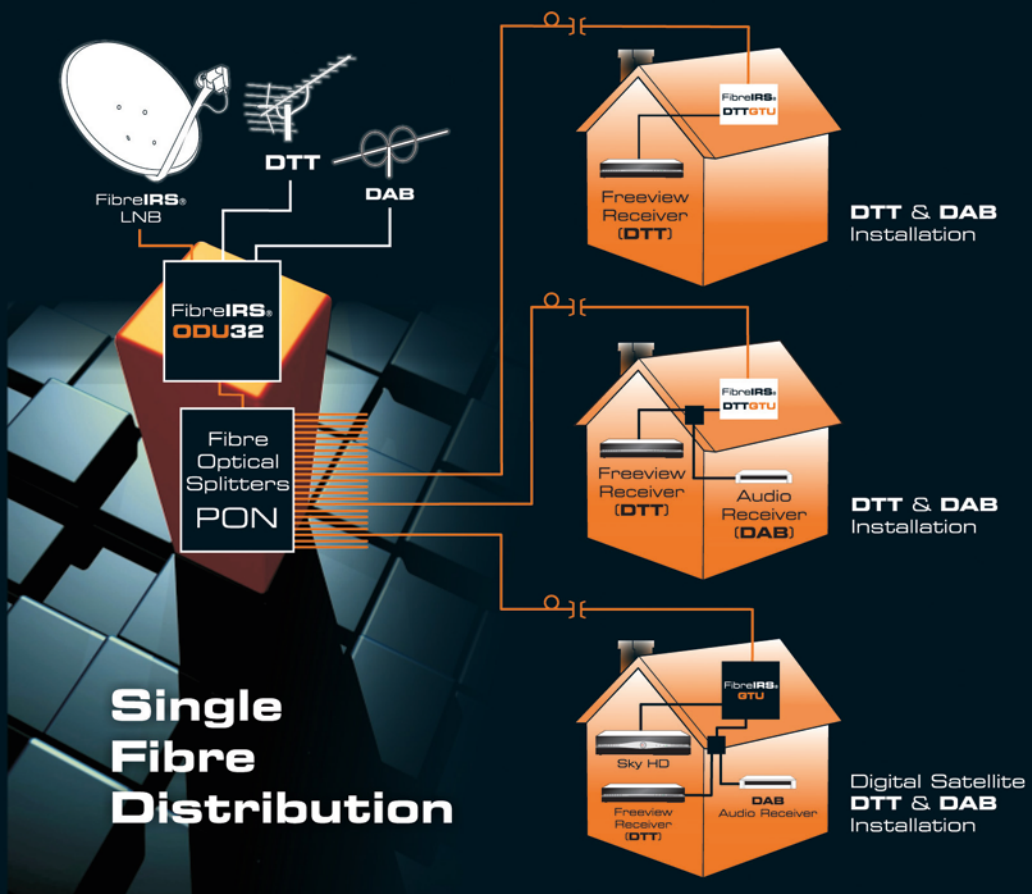
5. Once we had adjusted all settings the LEXIUM FastAlign 5110 Pro was able to perfectly scan and lock signals from ABS1 75° East.

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The only cost effective solution for distributing
Satellite IF, DTT and DAB over a Single Fibre Optic Network.



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- ***Большой выбор бесплатных каналов***
- ***Web-TV предлагает SD, HD и 3D каналы***
- ***Простое редактирование списка каналов в Spark***
- ***ПО Spark показывает все технические параметры канала Web-TV***

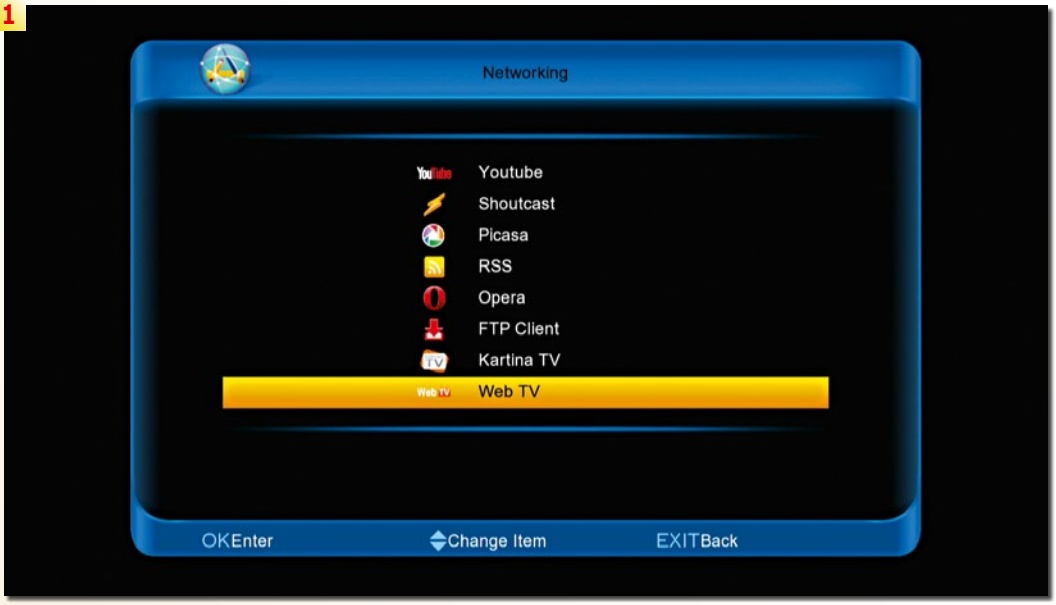
Часть 4
Web-TV



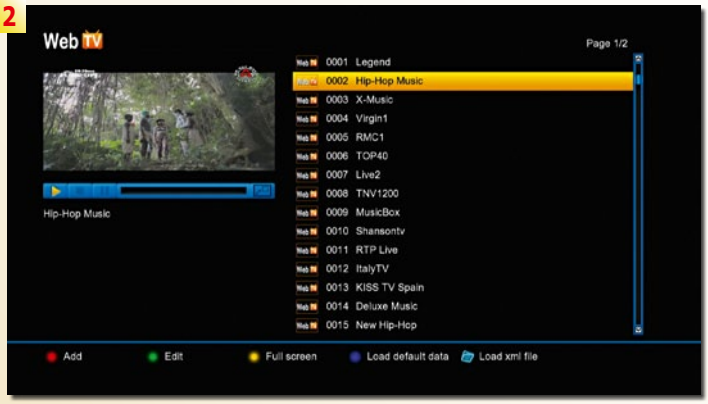
Unlimited TV via the Internet

Thomas Haring

1



2



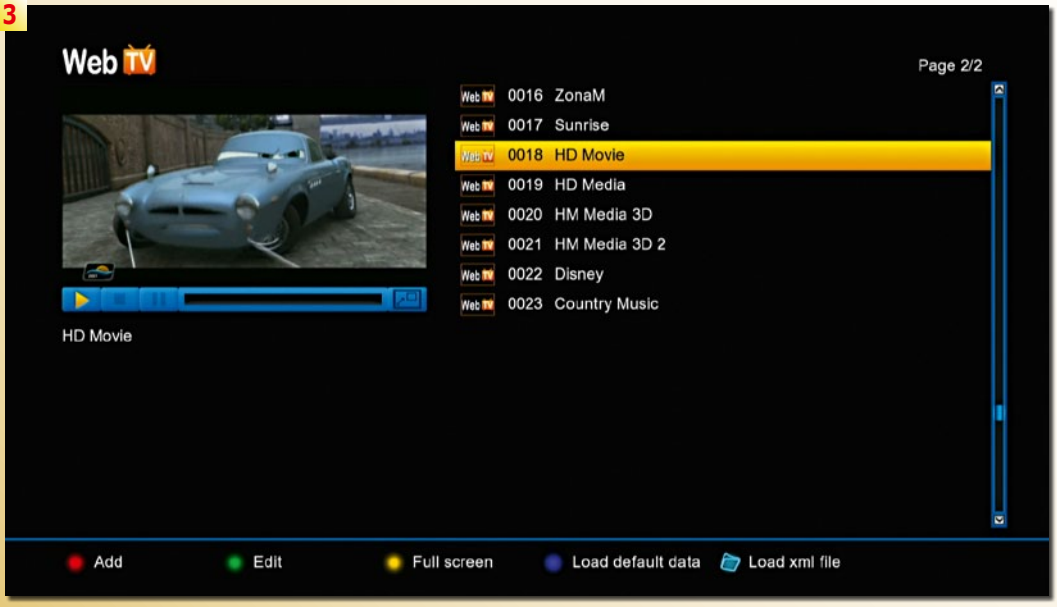
Fulan, with their Spark software platform, has given themselves an ambitious goal: and that is to provide the end user a software package for their digital receiver with the largest possible array of functions. Obviously, with requirements like these, the network/Internet connection of the receiver won't be limited to just software updates or the transfer of recordings.

Fulan takes it quite a few steps further and opens for the user not only the tuner input as a signal source but also the Internet as a way to view hundreds of TV channels. This function can be found on any Spark software equipped receiver under the Web-TV menu in the Networking section of the Main menu. Before we go deeper into the specialties of this feature, we want to quickly get a handle on some of the terms that you might come across.

The International Telecommunication Union (ITU) defines IPTV as TV, video, audio, picture, multimedia and data services that are transmitted via IP based networks with the required amount of quality, security, interactivity and reliability. Clearly, though, the Internet does not satisfy all of the requirements of quality, security and reliability so that it's relatively easy to tell the difference between WebTV and IPTV. If an end-user uses his receiver, whether it's a mobile or stationary device, to make a direct connection with the IPTV network of his provider without the need of an Internet connection, then we're talking about IPTV. If the Internet is required as a transmission medium, then it's WebTV.

While the IPTV end-user, in a provider controlled en-

3



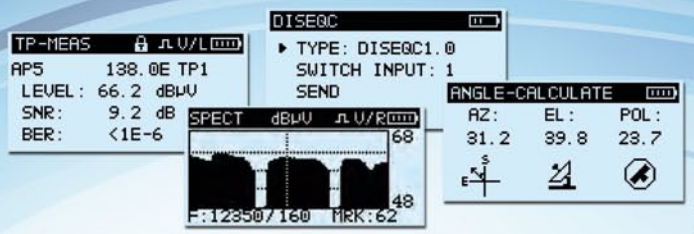
1. The WebTV player can be found in the Networking section of the Spark software

2. While the channel list appears on the right side of the display, the currently selected channel can be seen in a smaller window on the left side

3. Even HD content can be received via WebTV

DEVISER

www.devisertek.com



S20/S30

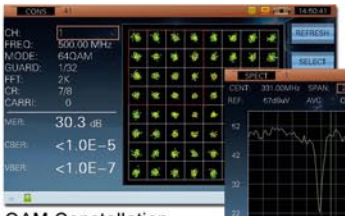
Satellite Finder



- S20 supports DVB-S
- S30 supports DVB-S2
- C, Ku, Ka or L band
- SNR and BER
- Spectrum function
- Support DiSEqC 1.0/1.1
- Signal level and quality display together
- 128×64 matrix LCD with back-lighted
- Large lithium battery capacity, over 4 hours working time
- Software upgrade and parameter set via USB interface

S7000

TV Analyzer


QAM Constellation


Spectrum


TR101 290 Three level Monitoring

- All standards in one: QAM(J.83A/B/C), 8VSB, DVB-T/H/T2, DVB-S/S2
- Digital/Analog TV and Satellite TV analysis
- MPEG2 Transport stream analyzer and monitoring via TS-ASI input & RF input
- Fast spectrum analysis with 5~2150 MHz frequency span
- DSP Technology to support different Video decoding: MPEG-2, MPEG-4 and H.264 for 1080i, 720p and 576i, support PAL/NTSC/SECAM color system
- Support SD&HD Video format
- CI module (Common Interface) for encrypted channels
- TS-ASI input and output
- TS record and TS replay
- IPTV analysis option
- GPS option
- HDMI, LAN and USB interface
- Easy to use
- High resolution 7" TFT LCD with bright display for indoors and outdoors use
- W245×H194×L105, light weight
- Working time >4 hours (battery)




DVB-T Signal

DVB-S2 Constellation

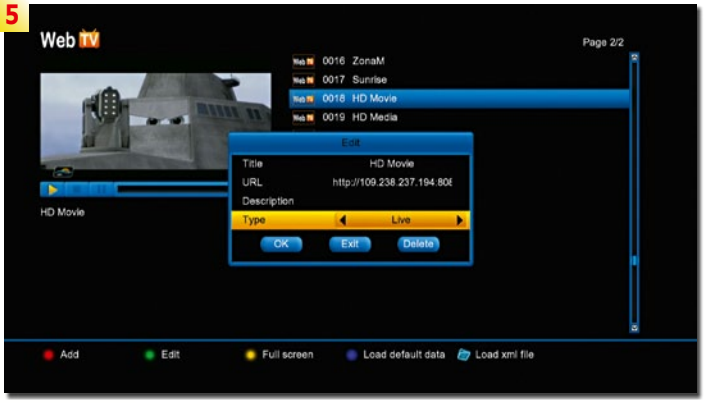
Deviser Electronics Instrument Co., Ltd
No.40 Yibin Road, Nankai District, Tianjin 300113, China
Tel: +86-22-27682088, 27645003 ext 803 ▪ Fax: +86-22-27645002
Http://www.devisertek.com ▪ E-mail: overseasbiz@deviser.com.cn

DEVISER

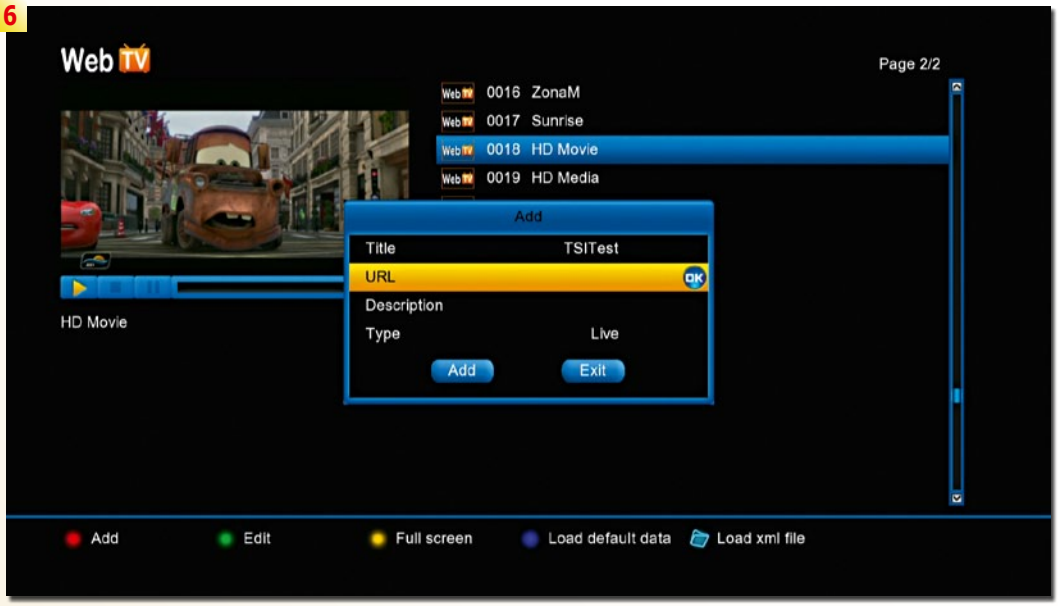
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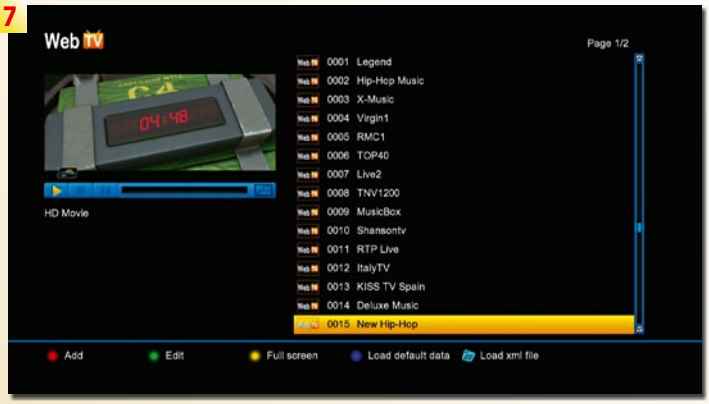
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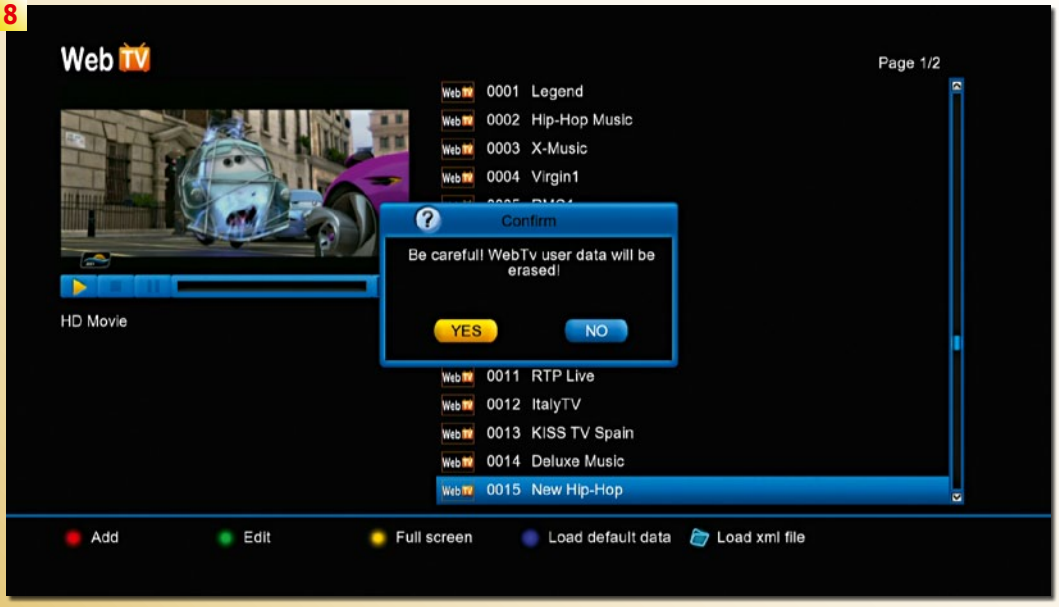
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8



vironment, can expect and demand the proper content quality, WebTV providers are not at risk in this regard. Instead of setting up and using their own IP broadcasting networks, they opt to utilize the freely available Internet and pass on the problems of transmission speed, service availability and in most cases the necessary reception hardware to the end-user.

The absolute best part about WebTV is that so much content is available free of charge while IPTV is not free because of the costs incurred by the providers for infrastructure maintenance.

Let's get back to the digital receiver with the Spark software: when you turn on the WebTV function for the first time, you'll be greeted with a blank screen without any programming entries. Fulan is planning to offer a standard channel list with a number of interesting entries, but, unfortunately, this feature was not yet available on our test sample. While it is relatively easy with satellite or cable reception to set up a fre-

4. Depending on the WebTV broadcaster, the picture quality is average to very good; there's nothing to object to here

5. The individual WebTV stations can be edited directly from the receiver

6. New WebTV stations can be added with the push of just one button

7. Regardless of whether it's music, movies, sports or adult-oriented content, Web-TV has something for everyone

8. Currently, there's no standard channel list for WebTV available from Fulan, this will change in the future

9. Technical details of an HD stream via WebTV. The resolution is 720p while the signal is transmitted in MPEG4/H.264

10. An XML file with about two dozen WebTV channels

9



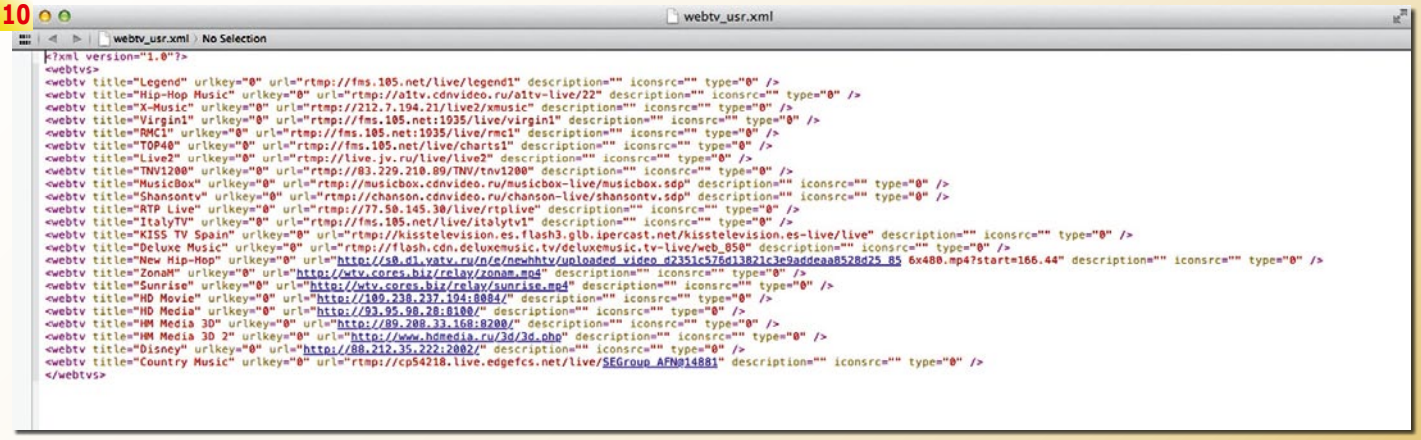
quency/channel list based on the planned marketing area, this task would be more difficult with WebTV. The available content is far too extensive and the wishes of the end-users are also far to individualized.

For our tests the first task was to start an Internet search. In just a few mouse clicks we found a multitude of complete lists with interesting channels. It included news reports, sporting events and music channels as well as sub-channels, HD and 3D movie broadcasters and even adult-oriented content. The URLs from all of these broadcasters are in an XML file; it's a familiar file format from the Internet that allows the representation of hierarchically structured data in a cross-platform text file. Such an XML file can be displayed and edited with most text editors without any problems (Note: text editor programs can only be used if the text itself is not formatted). The pictures in this test report show an example of one of these XML files that contain several dozen interesting WebTV entries. To feed your Spark receiver with this XML file you simply need to save the file to a USB storage device, connect it to your Spark receiver and then press the 'Load' button on the remote control. You can also load the XML file directly from the Internet using the FTP function in the Spark software.

Of course, you can also edit the channel list directly from the receiver; the green function button will help you get started here or you can add a new WebTV channel using the red function button. The Spark software always blends in the channel list on the right side of the OSD while the desired WebTV channel is shown in a smaller window on the left side. This gives the user a quick overview of what channel or program is of interest at the moment. Once you've found the desired channel, a simple push of the yellow function button brings the selected WebTV channel to full-screen display.

The picture quality from one channel to another varies greatly, ranging from perfect HDTV to pixilated SDTV. Once again the difference between IPTV and WebTV can clearly be seen. With IPTV, the programming provider makes sure that every channel in the package reaches the end-user in the same quality. With WebTV, factors such as the bandwidth of the Internet connection, the number of viewers and even the budget of the WebTV broadcaster can affect the end-user's picture quality. All in all though, we were able to

10



determine that the picture and audio quality of the individual channels ranged from very good to acceptable. To play back SD content, your Internet download connection should be at least 1.0 Mb/sec while for HD content it should be at least 3.0 Mb/sec.

The Spark software's WebTV function supports the Flash format and MPEG4/H.264 in SD and HD. Keep in mind though, that you will need to know the URL of the WebTV stream. Content from the media sites of TV channels or clips from video platforms, even when they happen to be in Flash format, can only be played back if you know the exact address of the desired stream. Unfortunately, many providers go to great lengths to hide these addresses from the end-users mostly because they don't want to jeopardize any ad income that they would receive from their own web site.

11

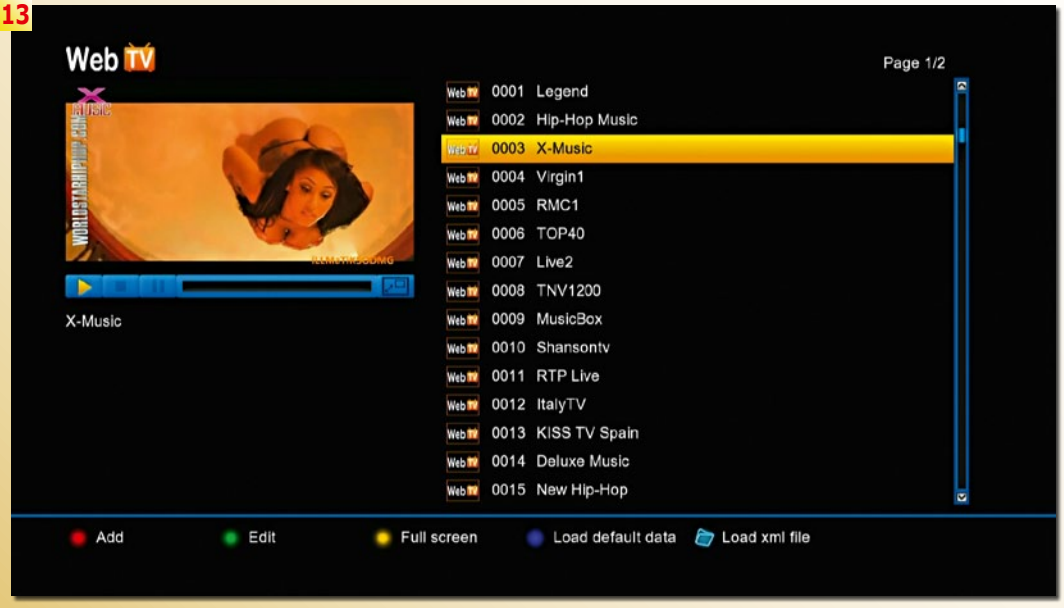


12



So, is WebTV an alternative to TV reception via satellite, cable or antenna? At the end of a test report like this, you'd undoubtedly be asking yourself that very question. Our simple answer to that is 'No'. If you're looking for an alternative to TV reception via the three classic methods of satellite, cable or antenna, you'd have to go the IPTV route. WebTV is a practical and, above all, mostly free way to watch TV channels via the Internet but there's no guarantee that the same channel you were watching today will be there tomorrow, and if it is still there, its quality is not guaranteed. Another thing to watch out for is that the channels in some of the WebTV lists are possibly being redistributed illegally. In the course of our testing we discovered one WebTV list with dozens of Russian-language TV channels - all being redistributed over one server – that we managed to localize to the Ukraine. Included in the list of channels, in addition to Russian legal/public and private broadcasters, were other familiar channels such as MTV. It's fairly safe to assume that these streams were being redistributed without the owner's permission. And sure enough, when we tried to access the server just before our deadline, it could no longer be reached.

13



In the end though, it was for us a lot of fun to dive into the world of WebTV but it still remains just an expansion of all the other reception methods. We also liked that the picture quality of the individual channels was on average quite appealing and thanks to the logical and easy use of the Spark software, WebTV is definitely interesting for professionals and beginners alike.

11. 3D channels are also available via WebTV for free

12. Music channels of all different styles are also available

13. With X-Music, the name says it all

HORIZON

For a reliable solution!

Winners of the Queen's Award for international Trade 2007, Horizon Global Electronics is a UK Company established in 2001 specialising in the design and manufacture of hand held test equipment for the digital satellite and TV sector. Our strength lies in being able to find innovative solutions to leading technology issues.

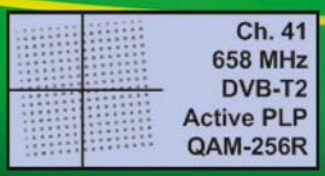
HORIZON DOES IT AGAIN WITH THE ALL NEW HD-T2!

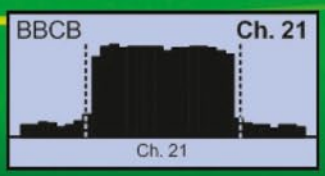
Horizon's newest product, the HD-T2, combines a collection of impressive qualities to create the world's first stand alone DVB-T2 installer's meter.



- This meter will have the familiar look and feel of the Horizon range with simplicity being the key characteristic. It's easy to use layout feels comfortable from start to finish, giving a broad range of accessibility to all. As with all Horizon meters the end user has the ability to set the menu for a novice, right up to advanced precision with data that can be logged and download into an excel spreadsheet.
- The HD-T2 utilizes an all new hardware and firmware platform with features not found on a meter of this calibre before and at 1.2 kg it won't break your back or bank balance!
- Horizon has strived to build a cost effective solution for installers that offers real time readings on analogue, digital and now high definition digital DVB-T2. In addition the ability to read DAB/FM signals with full spectrum mode and rotating constellation along with all the tools the installer will need as the new DVB-T2 system becomes live, leads to create a product that offers a broad range of technological features.







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The Wonderful World of Spark

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Part 4: Web-TV

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Часть 3: Установка плагинов



Раскрываем секреты AZBox ME Super Box

- *Пошаговое руководство по установке плагинов*
- *Простое расширение возможностей и функций AZBox ME*
- *Плагин AirPlayer превращает ваш телевизор в мультимедиа центр для просмотра фотографий в кругу друзей*
- *Легкая интеграция смартфонов и планшетных компьютеров с AZBox ME*

AirPlayer Plugin for the AZBox ME

Vitor Martins Augusto

One of the aces up the sleeve of Linux receivers such as the AZBox ME is the option of installing new plugins and thereby adding new functions and features. Keep reading to find out how.

Many Linux distributions come with an integrated download function which allows installation of a range of plugins at the touch of a button on the remote control. A closer look at those download menus, however, reveals that by default the AZBox ME offers only certain plugins for download.

There's a simple reason for that: A lot of plugin servers for Linux receivers don't only host legal OpenSource plugins, but also illegal offerings. It's only logical that the original firmware does not provide links to those servers.

What this does not mean, however, is that you can't make use of all the legal plugins hosted on such servers. You only need to know

How to find out the IP Address

1. Need to find out your AZBox ME's IP address? Look it up in the Setup menu.
2. Then select System.
3. From there proceed to the Network sub-menu.
4. And finally choose Adapter Settings to...
5. ...find out the current IP address.

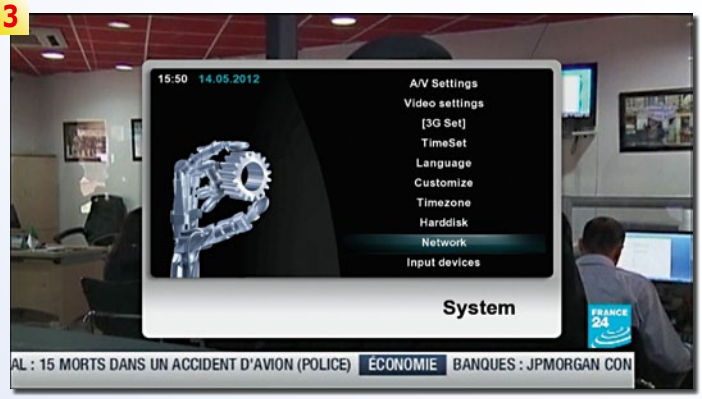
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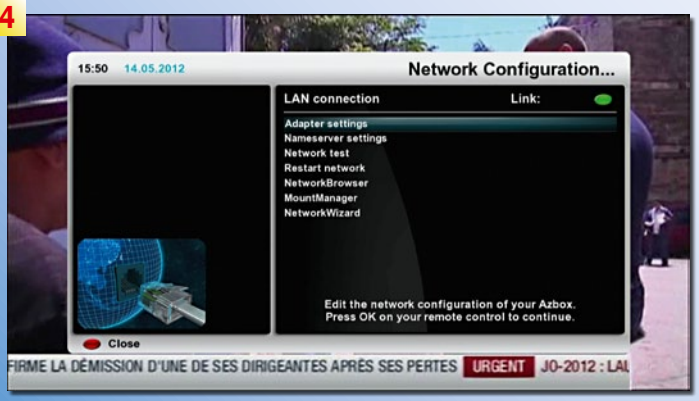
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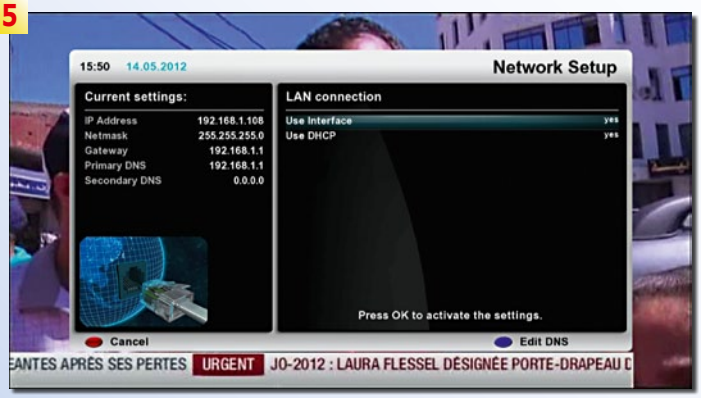
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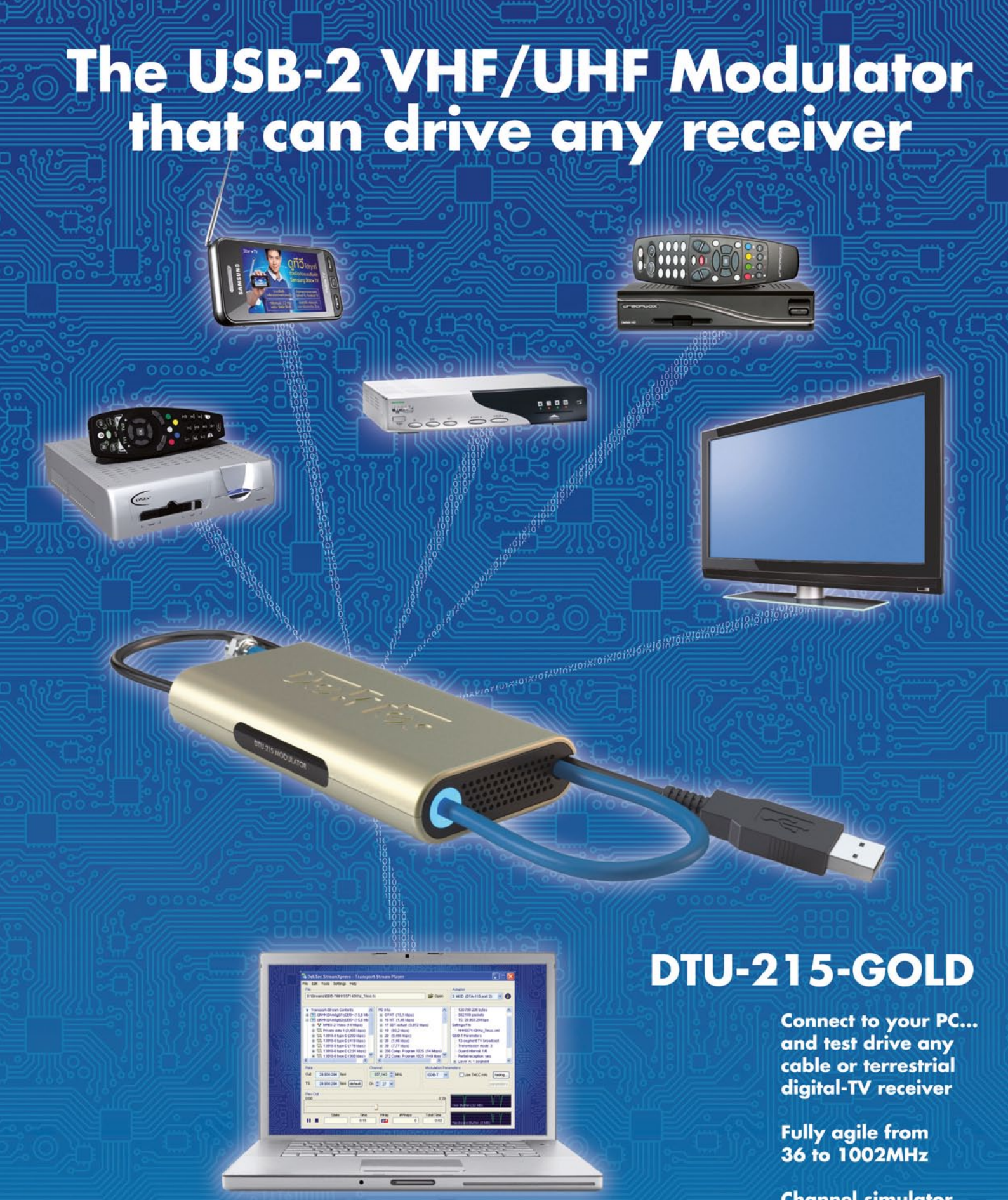
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5



The USB-2 VHF/UHF Modulator that can drive any receiver



DTU-215-GOLD

Connect to your PC... and test drive any cable or terrestrial digital-TV receiver

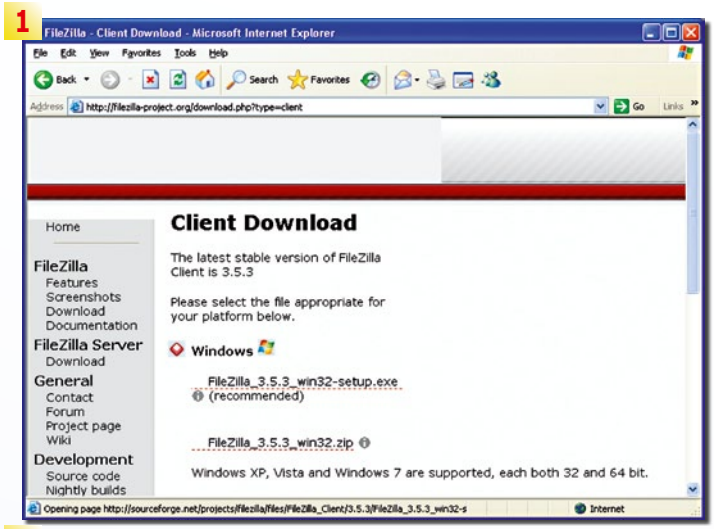
Fully agile from 36 to 1002MHz

Channel simulator included

DekTec's USB modulator DTU-215-GOLD is an option-packed compact modulator that can cope with any cable or terrestrial modulation standard used throughout the world, including DVB-T2, DVB-C2 and ISDB-T. The modulator comes with streamer software that can run on a PC or laptop. The RF output of the modulator can be connected directly to the antenna input of a digital-TV receiver. As it is powered from the USB-2 bus, no external power adapter is required. This modulator is the ideal tool for demonstrations, research and development and to test drive setup boxes and decoders. For more information visit our website where you also will find our local resellers worldwide.

DekTec

www.dektec.com



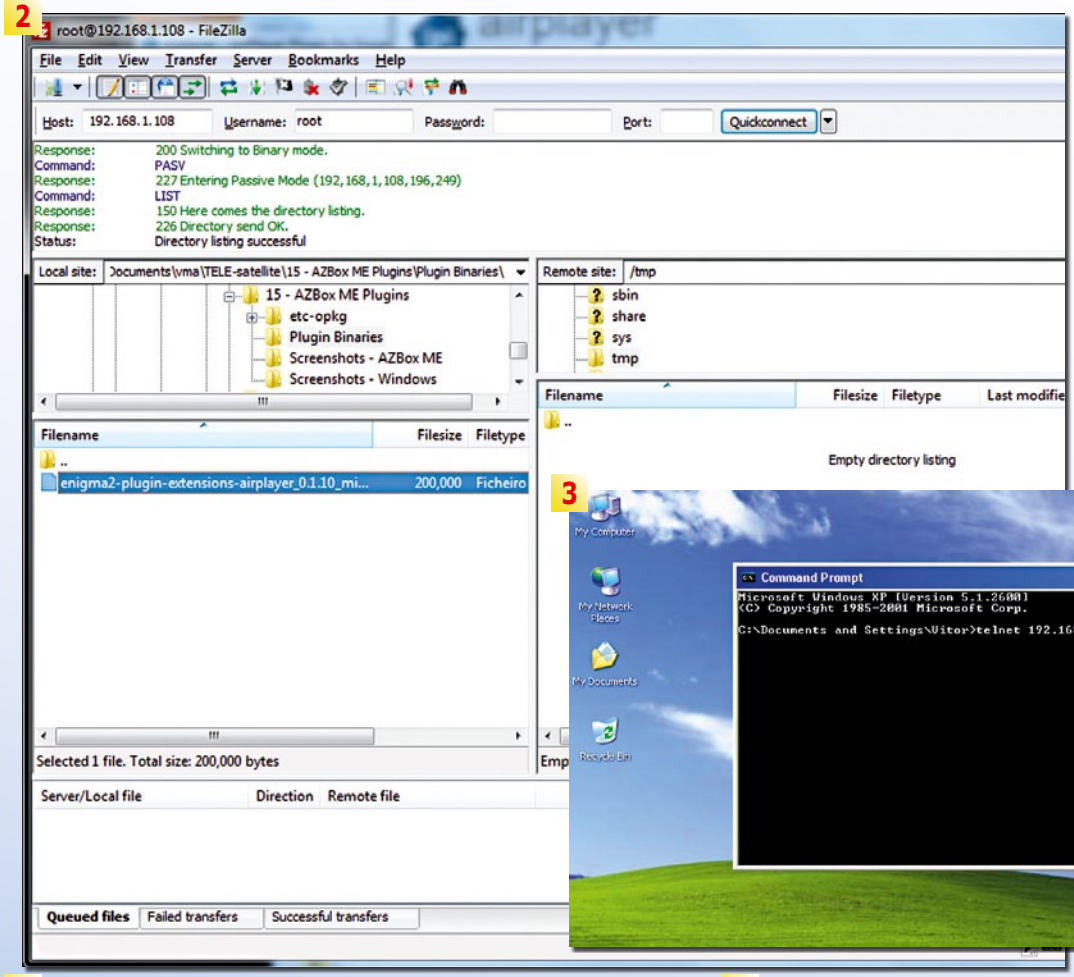
how to do it, and we'll show you exactly that with the example of the AirPlayer plugin.

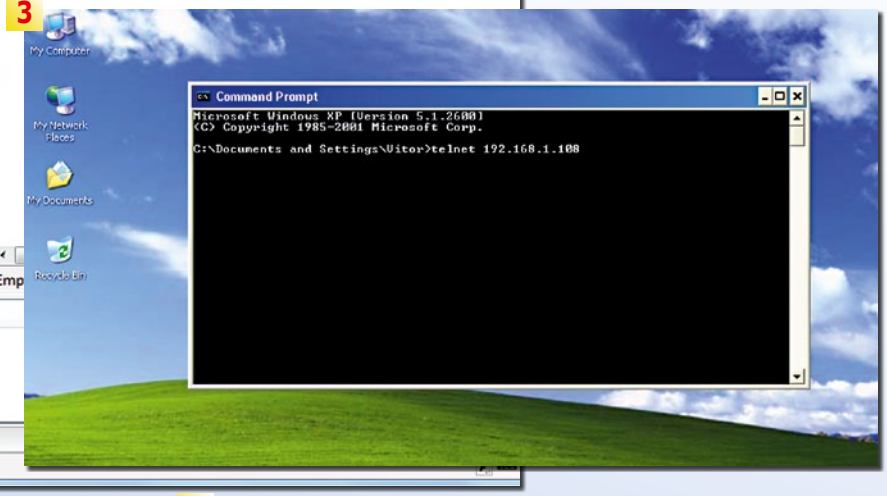
This is a great plugin for presenting photos directly on the TV panel from an iPhone, iPod Touch or iPad. The first thing you need (apart from all the hardware, that is) is the plugin itself.

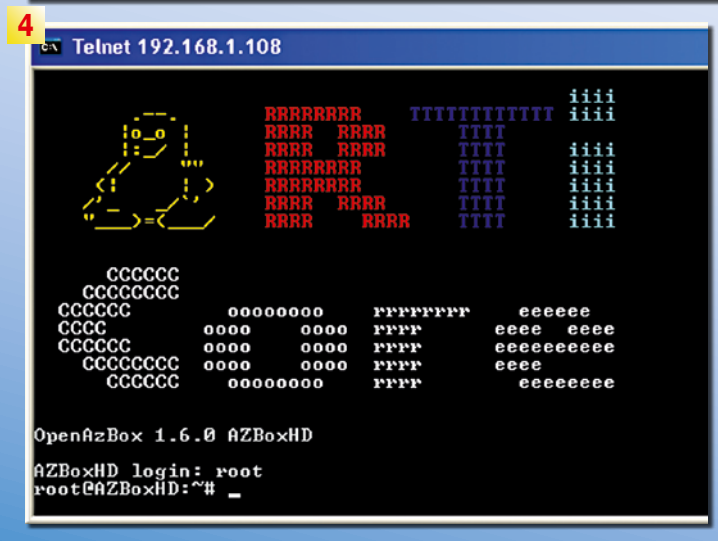
As always, a Google search for 'airplayer' is the best starting point and will yield numerous links to the readily compiled plugin. You should, however, make a point of downloading the 'mipsel' version, since this is supported by the AZBox ME processor. For a current version please go to http://code.google.com/p/airplayer/.

In addition to the plugin itself you need an FTP client. At our test centre we use FileZilla, which is a fully-fledged FTP client that is not only totally free but also small in size and very capable. Once again, Google will help you find a download link for that software.

Finally, we have to establish a direct connection to the AZBox ME via Telnet. For those of you not familiar with Telnet, this is a protocol that allows access to the receiver using command lines. Linux is Unix-based, and with Unix it is customary to work with command lines. Telnet is required for exactly that, since









it allows sending command lines from a remote location across a network. Windows operating systems come with a Telnet client right from the start, which can be called up in a DOS window, for example: You only need to press the Windows and R buttons at the same time to start it, and then enter 'cmd'.

So let's turn from theory to practice now: In order to install the plugin you first have to copy it to the receiver using FTP. Ideally, the plugin should be placed into the /tmp directory which is used for temporary files (hence the name /tmp) which are not required permanently for the receiver to work.

The content of the /tmp directory is deleted every time the receiver starts up, something that is just right for us since the installation file of the plugin will not be required any longer after the plugin is fully installed and thus will not occupy valuable memory capacity. Even though the AZBox ME provides a generous amount of memory there is no reason to be wasteful.

In the FTP client of your choice (FileZilla in our test) you then need to enter the IP address of the AZBox ME receiver. If you don't know it or are not 100% sure you can always look it up in the setup menu of the receiver. Simply go to Setup, then select System, followed by Network and finally Adapter Settings. This will gives you the correct IP. If you see 0.0.0.0 this means you first need to go about configuring your local network before you are able to proceed.

Apart from an IP address FileZilla requires a username with corresponding password before it will establish an FTP connection. Connection data can be set up permanently or you may choose to use the upper line to create a 'Quickconnect' session. We use this field to enter the IP address of our AZBox ME, 'root' as the username and we leave the password field empty. This should work, unless a password was specifically set by the user via Telnet.

This set up should allow us to connect to the AZBox ME and the first thing we will see is the base directory. From here, a double click on 'tmp' will lead us to the /tmp directory, which is right where we belong at this stage. The link section of the FileZilla window displays the directory structure of the PC which means it is possible to drag and drop files from any directory of the PC to the /tmp directory of the receiver.

Next, we call up a DOS window on the PC (press the Windows and R buttons at the same time, then enter CMD and press ENTER). We then key in 'telnet 192.168.1.108', with 192.168.1.108 being the IP of our AZBox ME. The IP of your receiver may of course be different and you always have to use the actual IP address of your AZBox for this procedure to work.

What follows next is a request to enter the username (root) and password (press ENTER to leave that field empty) in order to access the home directory. Again, we need to change from there to the /tmp directory, which can easily be done by keying in 'cd/tmp'. To the left of the cursor the currently selected directory is shown and at this stage this should read root@AZBoxHD:/tmp#.

Using the command 'ls' calls up a list of all files in the current directory and one of those files should be the installation file of the plugin.

You might ask yourself what the *.ipk file extension stands for. IPK means that files of this type are managed by the so-called Itsy Package Management System which makes sure that all files are automatically copied into the correct directory of the AZBox ME. In case runtime libraries are not available the installation routine is interrupted and the system will create a corresponding alert message.

In order to install the IPK file on the AZBox the following ipkg command has to be entered:

Ipkg –install enigma2-plugin-extensions-airplayer_0.1.10_mipsel.ipk

By the way: Use the TAB key to complete file names – in this case you only have to key in ipkg –install e and a touch of the TAB key will insert the rest automatically.

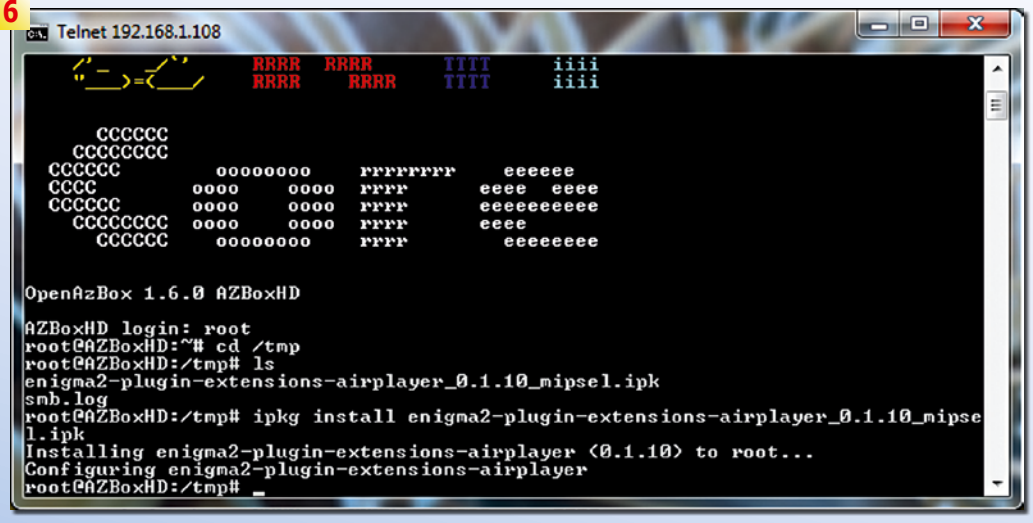
Once the plugin has been installed it is necessary to re-start the receiver. In most cases it will even suffice to re-start the user interface only. At last the time has come to try out the new plugin. And what an awesome plugin it is. Simply take your iOS device (no matter whether it's an iPhone, iPod or iPad), open a photo, click on the Airplay icon, select the receiver (AirPlayer E2) and as if by magic the photo will appear on the TV. The same also works for videos, even though at this stage the sound is unfortunately missing.

Obviously, your iOS device must use the same WiFi network as your AZBox ME for all this to work, but in most environments this is the case anyway.

Thanks to this plugin the AZBox ME can easily become the centre for a slideshow

Downloading and Installing the AirPlayer Plugin and required Tools

6



1. Website for downloading FileZilla, a top-notch FTP client that is available as freeware.

2. The plugin is copied to the AZBox ME with the help of FileZilla. We have chosen Quickconnect and entered the IP address and username in the top line. A password is not required.

3. Then we start a Telnet session in the DOS window.

4. Once again we need to enter the username. And once again a password is not required – just press ENTER.

5. We now use the cd command to go into the /tmp directory. With the ls command we can call up all files inside that directory.

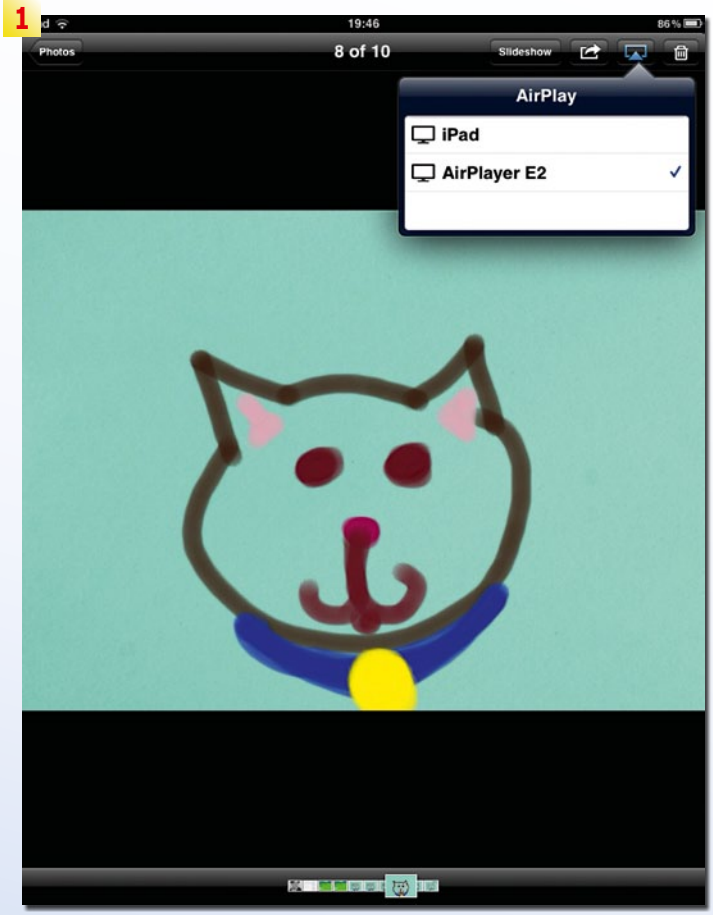
6. The ipkg command finally installs the plugin. The install option is also entered.

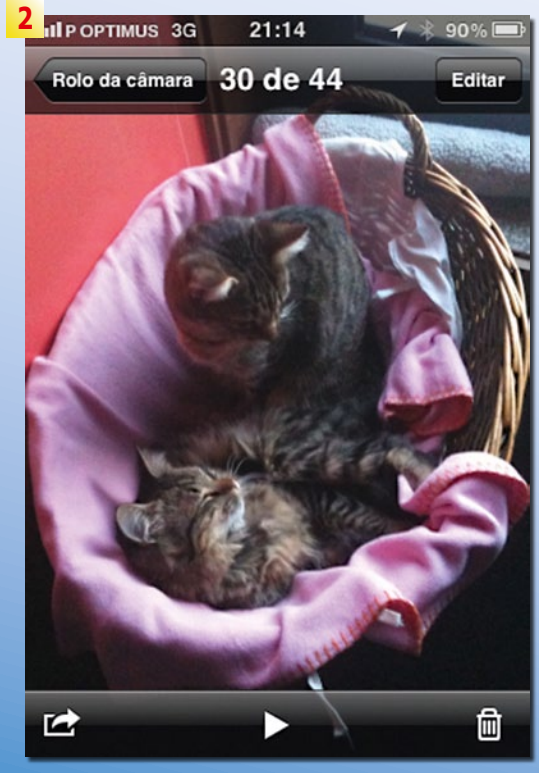
Using iPAD and iPhone with AirPlayer Plugin

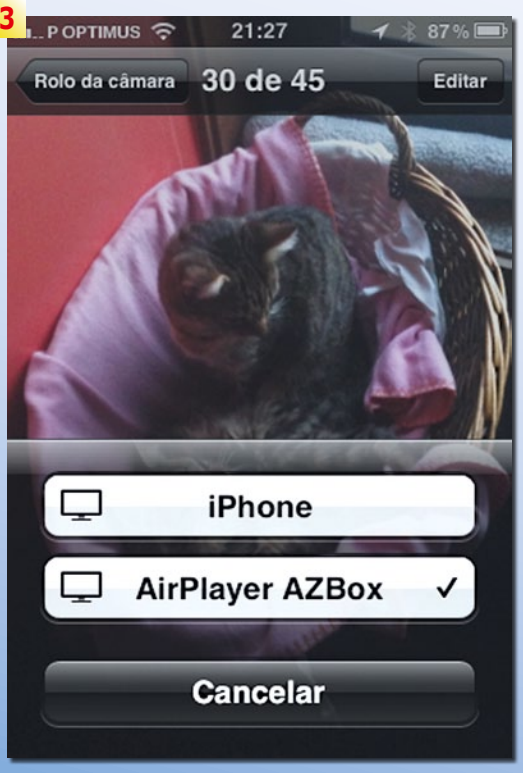
1. If you tap on the shown photo the AirPlay icon appears in the top right corner. Here you select the required AirPlay server that will receive the photo or video.

2. Of course it works just as nicely with the iPhone.

3. If the plugin is installed correctly the AZBox ME will act as AirPlay server.







presentation with friends, where anybody with an iOS device or Android mobile/ tablet can show their pictures and videos on the TV. In a word: brilliant!

This example goes to show that manual plugin installation is nothing to be afraid of. There is, however, another option that is even more convenient: All you need to do is copy another file with the extension *.conf into the /etc/opkg directory of the AZBox ME. This CONF file contains information as to where the plugin server is located. This way it even becomes possible to tap into plugin servers of other firmware versions.

The *.conf file can be named as you like and consists of a command line with the following format:

src/gz openpli-azboxme http://downloads.rsi-images.org/feeds/openpli-2.1/azboxme/azboxme

If, for example, you create a text file with this line using Notepad on your PC, save it under 'test.conf' and copy it to the /etc/opkg directory of the AZBox ME using FTP. All of a sudden there will be available many more plugins, skins, system extension etc. when you press Manage Extensions (red button on the remote) in the Plugin menu.

A little bit of patience and some hunting instincts will give you many more plugin and extension servers thanks to Google, and even if a plugin you want to have is not available in any repository you can always decide to install it manually – now that you know how to do it.

A word of caution: We all now from experience that we sometimes go overboard with software experiments, and AZBox ME plugins are no exception. It may happen that the operating system is damaged and the receiver will not re-start.

In such a case renewed flashing of the firmware will quickly get you out of trouble.

Owners of the AZBox ME in particular need not worry too much: Their box comes with a switch on the back panel which can always program a working bootloader into the flash memory. For more details about that handy feature see our AZBox ME test report in TELE-satellite 02-03/2012.

The only thing you have to take very seriously is a backup of all settings, which you should always create before you start experimenting. Now that you know all about FTP it is child's play to copy the entire /etc/tuxbox directory to the PC in order to have a backup of your channels lists. If things go astray on the AZBox ME you only need to copy that directory onto the receiver and all is well and good again.

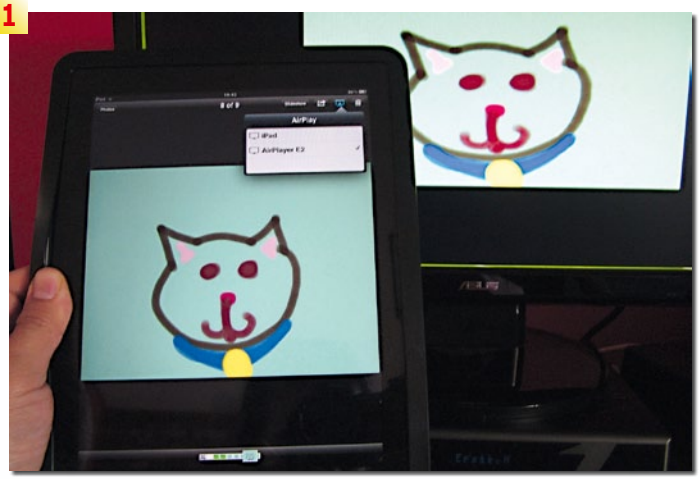
Conclusion: Even all by itself the AZBox ME is a great device. But if you make use of available plugins and system extensions which can be installed manually or from dedicated plugin servers you enter a whole new world of virtually endless possibilities for your AZBox ME.

Using iPAD and iPhone with AirPlayer Plugin

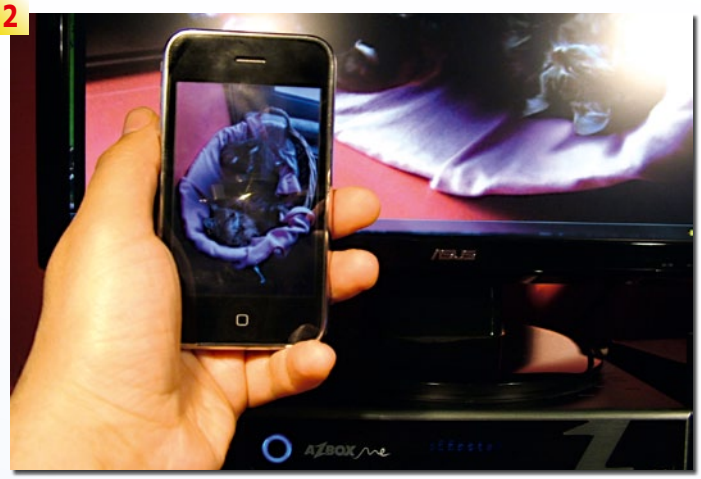
1. As soon as the AZBox ME has been chosen as AirPlay server the photo on the iPad display will also appear on the TV panel.

2. It does of course also work that way with the iPhone.

1



2



Starting the AirPlayer Plugin

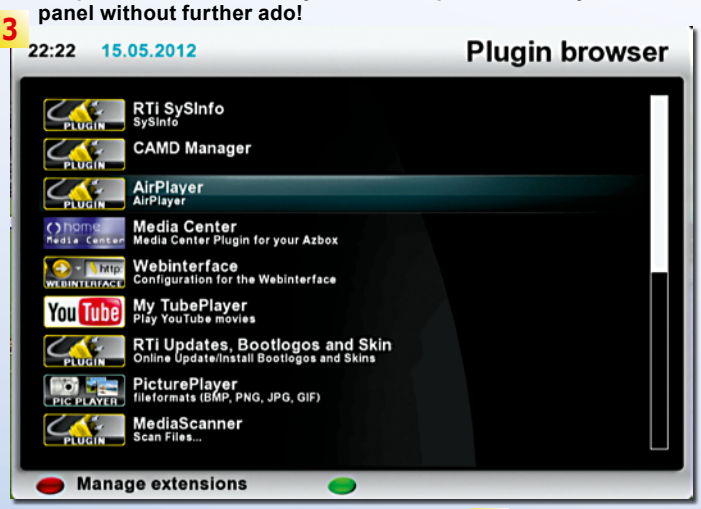
3. After successful installation of the AirPlayer plugin and a re-start of the receiver the AirPlayer plugin will appear on the list of available plugins.

4. If you activate the plugin you can initiate the AirPlayer service and also make changes to its settings, if required.

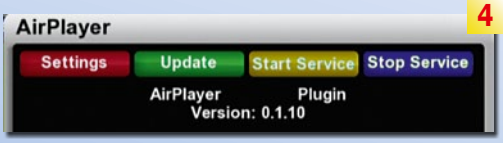
5. Once the plugin indicates that the service is active you may use your iPad or iPhone to send pictures and videos from your mobile device directly to the AZBox ME via your WiFi network, and from the receiver to your TV.

6. The picture that is currently selected is presented on your panel without further ado!

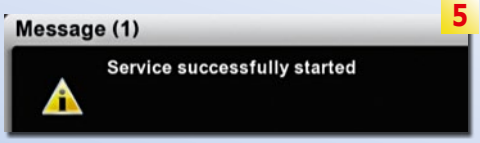
3



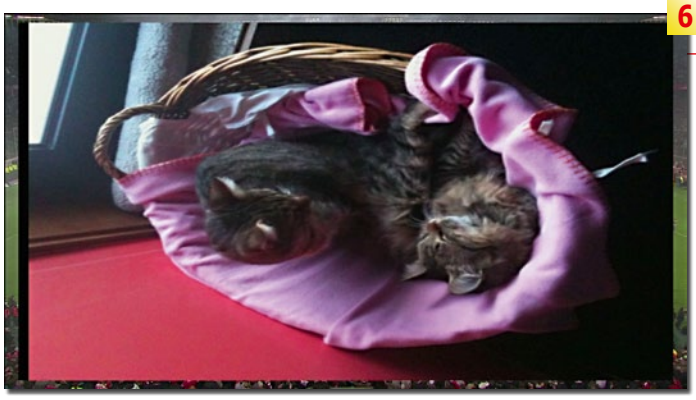
4



5



6



Using Custom Plugin-Server

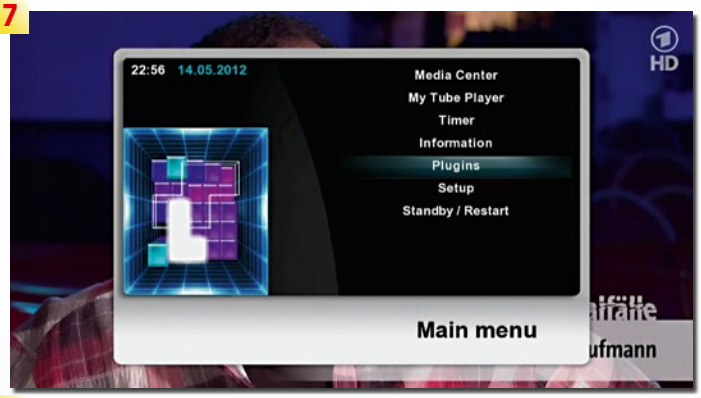
7. The plugin menu does not only give you access to all installed plugins, but theoretically also allows convenient installation of new plugins that are downloaded from a dedicated plugin server.

8. You need to go to the Manage Extension menu item, which can be called up with the red button on your remote control.

9. Now it is possible to manually set up plugin servers. The receiver then checks all these for available files and creates a list with all plugins, skins, channels lists etc. that can be downloaded from those servers.

10. You can select any number of plugins, all of which will be installed or uninstalled automatically at the end of the routine.

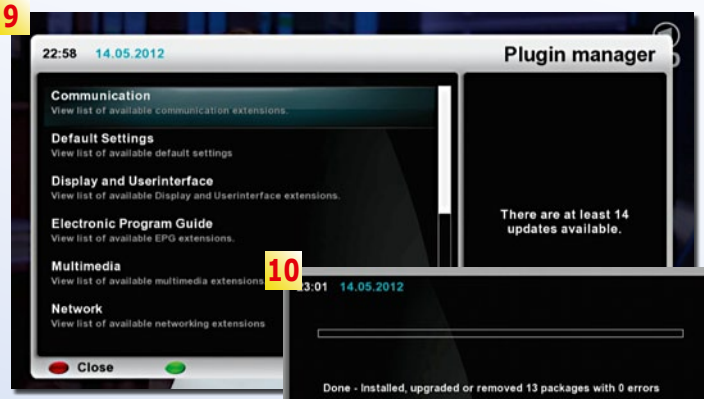
7



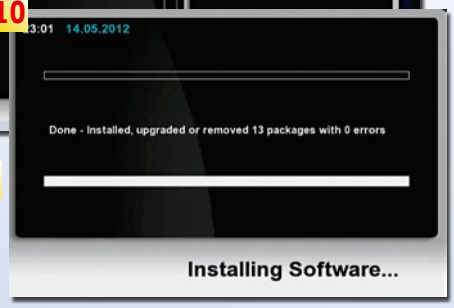
8



9



10



Revealing the Secrets of the AZBox ME Super Box



Part 1: Blindscan

Read Full Report

www.TELE-satellite.com /12/05/azbox-me



Part 2: Multimedia

Read Full Report

www.TELE-satellite.com /12/07/azbox-me



Part 3: Plugin-Installation

Read Full Report

www.TELE-satellite.com /12/09/azbox-me



AWARD WINNING 21 DIGITAL RECEIVERS OF 21ST CENTURY

这些是获得最高奖的产品




Manufacturer | AZBox
Website | www.azbox.com
Function | HDTV DVB S/DVB S2 Miniature HDTV Linux Receiver with Multimedia Features
DVB S2/LAN | • / •
Channel Memory | unlimited
DiSEqC | 1.0 / 1.1 / 1.2 / 1.3 / USALS
S-Video/HDMI | — / •
Scart/Digital Audio | — / •
TELE satellite AWARD 09-10/2012
AZBox mini ME
Excellent mini-receiver with Network features - ideal for a home network
TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/12/09/azbox-mini-me
Read TELE-satellite Test Report
AZBOX mini me
ANT IN
LOOP
S/PDIF
LAN
HDMI
Recovery
USB
e-SATA
YPbPr
Normal Boot
A/V
BRAND AZBOX
MODEL miniMe
DISTRIBUTOR OpenSAT Lda.
Energy Efficiency Rating
eco friendly
0.57
power factor
tested by TELE-satellite
AZBOX


Manufacturer | Amiko
Website | www.amikostb.com
Function | DVB S2 / DVB T & DVB C Triple Tuner PVR Receiver
DVB S2/LAN | • / •
Channel Memory | unlimited
DiSEqC | 1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI | — / •
Scart/Digital Audio | • / •
INNOVATION TELE satellite AWARD 06-07-08/2012
AMIKO ALIEN 2
Unbeatable combination of features and function – for excellent viewing pleasure!
TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/12/07/amiko
Read TELE-satellite Test Report
AMIKO
ALIEN²
05:28 TV BS ASI
ETHERNET
HDMI
S/PDIF
TV
RS 232
POWER
Energy Efficiency Rating
eco friendly
0.57
power factor
tested by TELE-satellite
AMIKO

Manufacturer	Panodic
Website	www.panodic.com
Function	Small DVB T HD PVR Receiver
DVB S2/LAN	— / —
DiSEqC	—
S-Video/HDMI	— / •
Scart/Digital Audio	• / —

TELE satellite AWARD 06-07-08/2012

Panodic HDT-127A DVB-T
Well-equipped DVB-T Mini-Receiver

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/12/07/panodic
Read TELE-satellite Test Report







PANODIC

Manufacturer	Skyworth
Website	www.skyworthdigital.com
Function	Very small DVB T PVR Receiver with HDMI
DVB S2/LAN	— / —
DiSEqC	—
S-Video/HDMI	— / •
Scart/Digital Audio	— / —

TELE satellite AWARD 06-07-08/2012

Skyworth HT-21 DVB-T
Extremely small receiver with best reception characteristics

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/12/07/skyworth
Read TELE-satellite Test Report







SKYWORTH



Manufacturer	Amiko
Website	www.amikostb.com
Function	DVB S / DVB S2 & DVB T Combo Receiver with PVR
DVB S2/LAN	• / •
Channel Memory	unlimited
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	• / •



Manufacturer	Skyworth
Website	www.skyworthdigital.com
Function	Very small DVB S2 PVR Receiver with HDMI
DVB S2/LAN	• / •
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	— / —



Manufacturer	Panodic
Website	www.panodic.com
Function	DVB-T Mini Receiver with HDMI and PVR
DVB-S2/LAN	— / —
DiSEqC	—
S-Video/HDMI	— / •
Scart/Digital Audio	— / —

TELE satellite AWARD 04-05/2012
Panodic M3601E DVB-T
Extremely small receiver with high-sensitivity HDTV tuner

Energy Efficiency Rating eco friendly 0.55 power factor tested by TELE-satellite

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/12/05/panodic
Read TELE-satellite Test Report



Manufacturer	AZBox
Website	www.azbox.com
Function	HDTV DVB-S/DVB-S2 Linux Receiver with Multimedia Features and large Flash-memory for 3 Boot Images
DVB-S2/LAN	• / •
Channel Memory	unlimited
DiSEqC	1.0 / 1.1 / 1.2 / USALS
S-Video/HDMI	— / •
Scart/Digital Audio	— / •

INNOVATION TELE satellite AWARD 02-03/2012
AZBox ME
Today's absolute best Linux Receiver

Energy Efficiency Rating eco friendly 0.51 power factor tested by TELE-satellite

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/12/03/azbox-me
Read TELE-satellite Test Report



Manufacturer	Jiuzhou
Website	www.jiuzhou.com.cn
Function	DVB S/DVB S2, DVB T PVR Digital Receiver
DVB S2/LAN	• / •
Channel Memory	4000
PVR	•
S-Video/HDMI	• / •
Scart/Digital Audio	• / •

TELE satellite AWARD 12-01 / 2012
Jiuzhou Combo PVR DTS6695
Top-notch receiver for the whole family

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/12/01/jiuzhou
Read TELE-satellite Test Report



Manufacturer	Skyworth
Website	www.skyworth.com.hk
Function	ISDB-T Receiver with PVR function
DVB S2/LAN	— / —
Channel Memory	1000
PVR	•
S-Video/HDMI	— / •
Scart/Digital Audio	— / —

TELE satellite AWARD 10-11 / 2011
Skyworth HI-11 PVR ISDB-T
Easy to use terrestrial receiver for South America

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/11/11/skyworth
Read TELE-satellite Test Report



Manufacturer	Jiuzhou
Website	www.jiuzhou.com.cn
Function	DVB S/DVB S2, ISDB-T PVR Digital Receiver
DVB S2/LAN	• / •
Channel Memory	4000
PVR	•
S-Video/HDMI	• / •
Scart/Digital Audio	— / •

TELE satellite AWARD 08-09/2011

Jiuzhou DTS6696
Ideal living room HD Combo receiver for South America

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/11/09/jiuzhou
Read TELE-satellite Test Report



Manufacturer	Amiko
Website	www.amikostb.com
Function	Digital HDTV DVB S2 including dual boot
DVB S2/LAN	• / •
Channel Memory	unlimited
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	• / •

TELE satellite AWARD 04-05/2011

Amiko SHD-8900 Alien
Innovative dual boot receiver with two different operating systems

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/11/05/amiko
Read TELE-satellite Test Report



Manufacturer	Fulan
Website	www.fulansoft.com
Function	Digital HDTV Receiver with Dual-Boot and Spark online-plattform
DVB S2/LAN	• / •
Channel Memory	unlimited
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	— / •

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/11/05/fulan
Read TELE-satellite Test Report



Manufacturer	AZBox
Website	www.azbox.com
Function	Digital HDTV Receiver with DVB S2 and ISDB-Tb Tuners and various Multimedia & Internet Features
DVB S2/LAN	• / •
Channel Memory	15000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	• / •

TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/11/01/azbox
Read TELE-satellite Test Report


Manufacturer | Jiuzhou
Website | www.jiuzhou.com.cn
Function | Digital PVR DVB T Receiver
DVB T2/LAN | — / —
Channel Memory | 1000
PVR | •
S-Video/HDMI | — / •
Scart/Digital Audio | • / •
TELE satellite AWARD 06-07/2010
JIUZHOU DTT6720
Future-proof HDTV receiver for terrestrial TV loaded with features and outstanding picture quality
TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/10/07/jiuzhou
Read TELE-satellite Test Report
eco friendly
Energy Efficiency Rating
0.58 power factor
tested by TELE-satellite
JIUZHOU


Manufacturer | AZBox
Website | www.azbox.com
Function | HDTV DVB S2 receiver with various Multimedia & Internet Features
DVB S2/LAN | • / •
Channel Memory | 15000
DiSEqC | 1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI | — / •
Scart/Digital Audio | • / •
TELE satellite AWARD 04-05/2010
AZBOX PREMIUM HD PLUS
Excellent video quality with full Internet access
TELE-satellite Magazine
Expert Opinion
www.TELE-satellite.com/10/05/azbox
Read TELE-satellite Test Report
eco friendly
Energy Efficiency Rating
0.52 power factor
tested by TELE-satellite
AZBOX

CHINA



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AWARD WINNING 21 HDTV PC CARDS OF 21ST CENTURY

这些是获得最高奖的产品



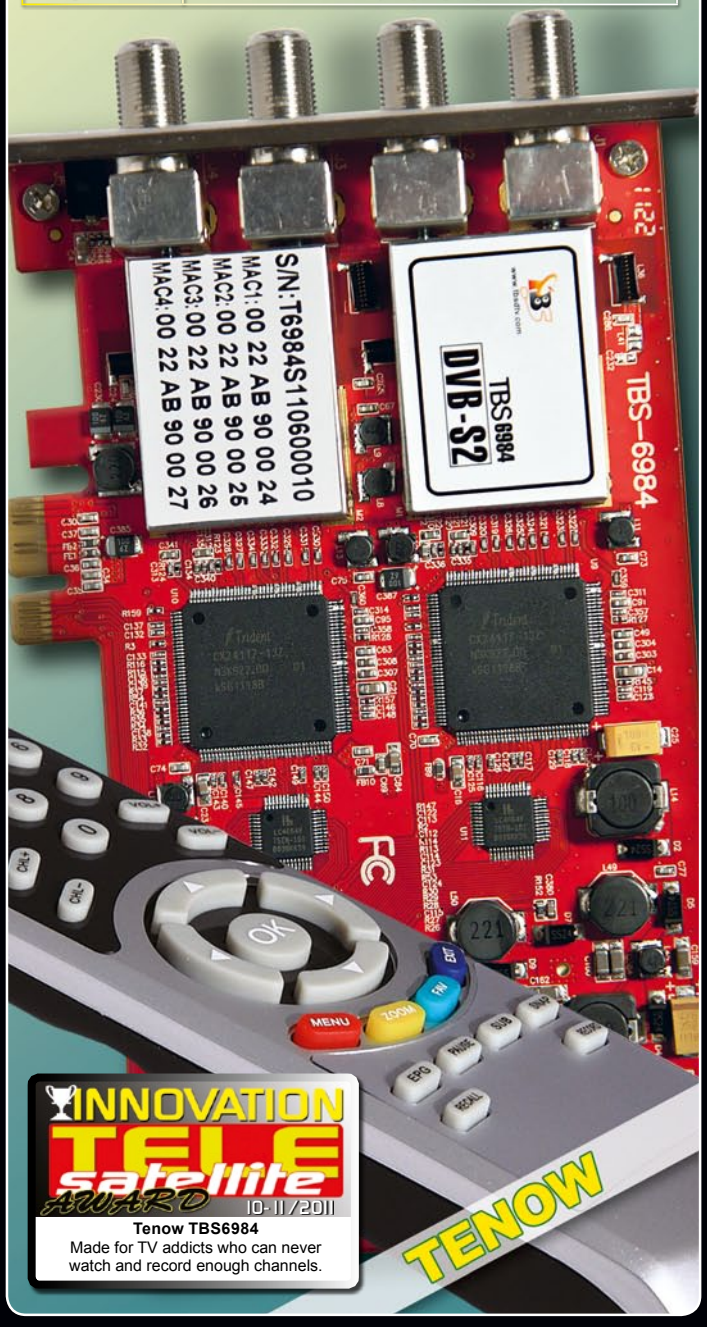
TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/11/11/tenow

Read TELE-satellite Test Report

Manufacturer	Tenow International
Website	www.tbsdtv.com
Function	DVB S2 PCI-E card with 4 tuners compatible with Windows and Linux operating systems
Channel Memory	unlimited
Satellite Memory	unlimited
Symbol Rates	1-45 Ms/sec (QPSK), 2-36 Ms/sec (8PSK)
DiSEqC	1.0, 1.1, 1.2, 1.3, 2.x



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/11/11/tenow

Read TELE-satellite Test Report

Manufacturer	Tenow International
Website	www.tbsdtv.com
Function	DVB-S2 PCI-E professional card with Blindscan function
Channel Memory	unlimited
Satellite Memory	unlimited
Symbol Rates	0.2-45 Ms/sec (QPSK), 0.2-45 Ms/sec (8PSK)
DiSEqC	1.0, 1.1, 1.2, 1.3, 2.x



TELE satellite AWARD 10-11/2011

Tenow TBS6925
Has every reception feature you could possibly ask for, plus blind scan. The card of choice for true die-hard professionals venturing to the extreme edges of satellite reception.

TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/11/11/tenow

Read TELE-satellite Test Report

Manufacturer	Tenow International
Website	www.tbsdtv.com
Function	DVB-T / DVB-T2 PCI-E card with 2 Tuners
Channel Memory	unlimited
Channel Bandwidth	6,7,8 MHz
FFT mode	1K, 2K, 4K, 8K, 16K, 32K
Center IF Frequency	3 ~ 5 MHz



TELE satellite AWARD 10-11/2011

Tenow TBS6280
Fit for the future thanks to impeccable DVB-T/T2 implementation.

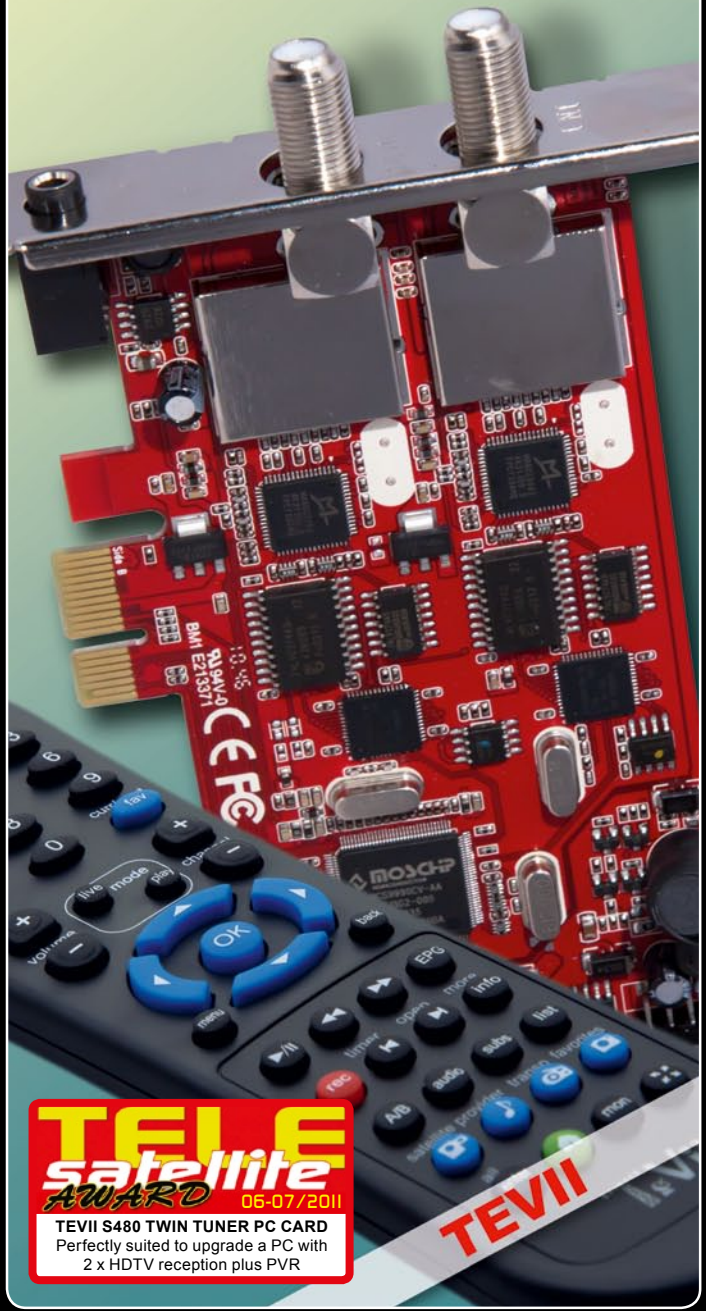
TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/11/07/tevii

Read TELE-satellite Test Report

Manufacturer	TeVii Technology
Website	www.tevii.com
Function	PCI-E card for TV & Radio reception on the PC in SDTV and HDTV with two separate Tuners
Channel Memory	unlimited
Satellite Memory	178 preprogrammed - added by user: unlimited
Symbol Rates	2-45 Ms/sec
DiSEqC	1.0, 1.1, 1.2, 1.3



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/09/09/tevii

Read TELE-satellite Test Report

Manufacturer	TeVii Technology
Website	www.tevii.com
Function	PCI-E card for TV reception on the PC in SDTV and HDTV
Channel Memory	unlimited
Satellite Memory	177
Symbol Rates	2-45 Ms/sec
DiSEqC	1.0, 1.1, 1.2, 1.3



AWARD WINNING 21 SIGNAL ANALYZERS OF 21ST CENTURY

这些是获得最高奖的产品



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/12/09/lexium

Read TELE-satellite Test Report

Manufacturer	LEXIUM
Website	www.lexium-dvb.com
Function	Digital Satellite Meter with QuickSweep Technology
Frequency Range	950~2150 MHz
Video Output	—
Built-in Monitor	LCD display

TELE satellite AWARD 09-10/2012

LEXIUM FastAlign 5110Pro
Digital Satellite Meter
Helps enormously to install any satellite dish



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/12/09/deviser

Read TELE-satellite Test Report

Manufacturer	Tianjin Deviser Electronics Instrument
Website	www.devisertek.com
Function	Professional Meter for DVB-T, DVB-C and CATV (analog TV)
Frequency Range	5 ~ 1000 MHz
Video Output	—
Built-in Monitor	320 × 240 TFT display



TELE satellite AWARD 09-10/2012

DEVISER DS2400T
This is by far the best handheld measuring instrument for DVB-T, DVB-C and CATV I have come across. Deviser has done an excellent job!

TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/12/05/spaun

Read TELE-satellite Test Report

Manufacturer	SPAUN Electronic
Website	www.spaun.com
Function	DVB-S / DVB-S2 and DSS Signal Analyzer
Frequency Range	950-2150 MHz
Video Output	—
Built-in Monitor	4.3" TFT LCD display (16:9)

TELE satellite AWARD 04-05/2012

SPAROS SAT HD
Very useful meter for setting up critical satellite systems



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/12/03/satcatcher

Read TELE-satellite Test Report

Manufacturer	SatCatcher
Website	www.satcatcher.com
Function	Digital and analog cable TV meter
Frequency Range	46~862 MHz (for digital TV) and 46~870 MHz (for analog TV)
Video Output	—
Built-in Monitor	120 x 64 3.5" LCD color display

TELE satellite AWARD 02-03/2012

Satcatcher Digipro C Max
More than a cable meter: includes everything a professional installer needs



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/12/01/horizon

Read TELE-satellite Test Report

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Satellite and terrestrial antenna meter
Frequency Range	45~861 MHz (terrestrial) and 950~2150 MHz (satellite)
Video Output	—
Built-in Monitor	LCD display



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/12/01/lexium

Read TELE-satellite Test Report

Manufacturer	LEXIUM
Website	www.lexium-dvb.com
Function	Digital Satellite Meter with AutoFind and QuickSweep features
Frequency Range	950~2150 MHz
Video Output	—
Built-in Monitor	LCD display



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/12/01/deviser

Read TELE-satellite Test Report

Manufacturer	Tianjin Deviser Electronics Instrument
Website	www.devisertek.com
Function	Satellite Antenna Meter
Frequency Range	950~2150 MHz
Video Output	—
Built-in Monitor	LCD display

TELE satellite AWARD 12-01/2012

Deviser S20 Satellite Meter
Ideally suited to fastly install dishes



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/11/09/8dtek

Read TELE-satellite Test Report

Manufacturer	8dtek Technology
Website	www.8dtek.com
Function	Satellite Meter for Antenna Alignment
Frequency Range	L-Band (950-2150 MHz), DVB-S/S2 and analog signal
Video Output	A/V (composite + mono)
Built-in Monitor	Color graphic 16:9 LCD

TELE satellite AWARD 08-09/2011

8DTEK DSM DESIRED
A HDTV signal meter and receiver all in one with plenty of professional features



TELE-satellite Magazine Expert Opinion

www.TELE-satellite.com/11/07/8dtek

Read TELE-satellite Test Report

Manufacturer	8dtek Technology
Website	www.8dtek.com
Function	Satellite Meter for Antenna Alignment
Frequency Range	L-Band (950-2150 MHz), DVB-S/S2 and analog signal
Video Output	Composite
Built-in Monitor	Color graphic LCD

TELE satellite AWARD 06-07/2011

8DTEK DSM GIFTED
Very useful small tv meter with high-end features



TELE-satellite Magazine Expert Opinion

www.TELE-satellite.com/11/07/satcatcher

Read TELE-satellite Test Report

Manufacturer	SatCatcher
Website	www.satcatcher.com
Function	Signal meter for digital signals in DVB-S, DVB-T and DAB. Analogue signals in FM radio.
Frequency Range	46~870 MHz
Video Output	Composite
Built-in Monitor	120 x 64 3.5" LCD color display

TELE satellite AWARD 06-07/2011

SATCATCHER DIGIPRO ST COMBO
Combo Signal Analyzer with Huge Memory for Satellite and Terrestrial Channels



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/10/11/horizon

Read TELE-satellite Test Report

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Antenna Alignment Meter
Frequency Range	950~2150 MHz
Video Output	—
Built-in Monitor	LCD display



TELE satellite AWARD 10-11/2010

HORIZON HD-S2
Extremely easy to use with an amazing list of features for the pros

TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/10/09/spaun

Read TELE-satellite Test Report

Manufacturer	SPAUN Electronic
Website	www.spaun.com
Function	TV Signal Analyzer with WiFi Receiver
Frequency Range	45~865 MHz (terrestrial) and 950~2150 MHz (satellite)
Video Output	RCA Composite
Built-in Monitor	7 inch 16:9 color LCD display

TELE satellite AWARD 08-09/2010

SPAROS 609 WIFI OPTION
Converts the signal analyzer to a universally usable tool



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/10/09/horizon

Read TELE-satellite Test Report

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Digital and analog terrestrial TV meter with spectrum analyzer and USB data output
Frequency Range	49~861 MHz
Video Output	—
Built-in Monitor	LCD display

TELE satellite AWARD 08-09/2010

HORIZON HD-TM USB PLUS
Small, economic and fast terrestrial signal meter



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/10/07/satcatcher

Read TELE-satellite Test Report

Manufacturer	SatCatcher
Website	www.satcatcher.com
Function	Signal Meter for DVB-T, analogue TV, digital DAB radio, analogue FM radio
Frequency Range	46~870 MHz
Video Output	—
Built-in Monitor	120 x 64 3.5“ LCD color display

TELE satellite AWARD 06-07/2010

SATCATCHER DIGIPRO T MAX
Easy to use signal meter that doesn't stop at DVB-T. Everything you want from a signal meter



TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/10/05/8dtek

Read TELE-satellite Test Report

Manufacturer	8dtek Technology
Website	www.8dtek.com
Function	DVB Signal Meter with tv monitor for DVB-S and DVB-T
Frequency Range	950~2150 MHz (satellite) and UHF/VHF (terrestrial)
Video In/Output	RCA/RCA
Built-in Monitor	3.5" LCD color display

TELE satellite AWARD 04-05/2010

8DTEK TSM-8800
Easy menu operation and exceptionally simple to operate

Energy Efficiency Rating eco friendly 0.6 Power factor tested by TELE-satellite



8DTEK

TELE-satellite Magazine

Expert Opinion

www.TELE-satellite.com/10/01/horizon

Read TELE-satellite Test Report

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Handheld Satellite Meter for fast and easy Dish Alignment
Frequency Range	950~2150 MHz
Video Output	—
Built-in Monitor	128x64 Pixel LCD

TELE satellite AWARD 12-01/2010

HORIZON NANOSAT
Ideal for the speedy alignment of satellite antennas



NANOSAT

TELE-satellite Magazine Expert Opinion

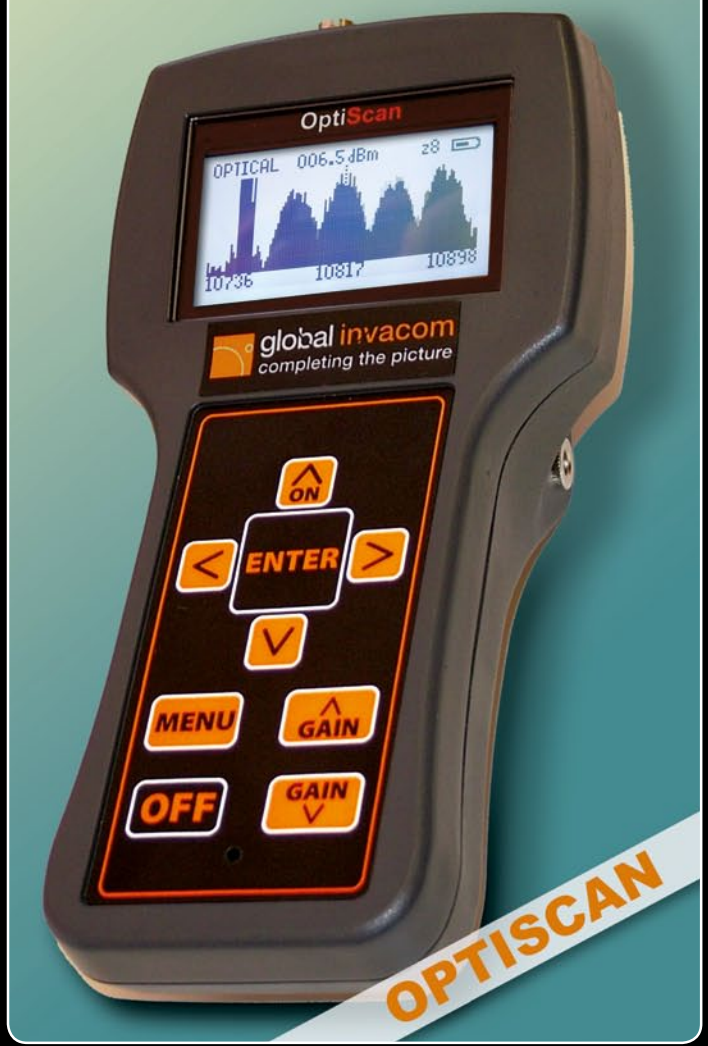
www.TELE-satellite.com/10/01/optiscan

Read TELE-satellite Test Report

Manufacturer	Global Invacom
Website	www.globalinvacom.com
Function	Signal Analyzer with an Optical Input
Frequency Range	950(160)~2150 MHz
Optical Range	+10 to -25 dBm
Video Output	—
Built-in Monitor	Eight-digit LCD display

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TELE-satellite Magazine Expert Opinion

www.TELE-satellite.com/09/11/horizon

Read TELE-satellite Test Report

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Satellite Meter optimized for Ka-Band
Frequency Range	950~2150 MHz
Video Output	—
Built-in Monitor	LCD display

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ATSC	Channel Name Missing (USA)
ATSC	Identical Channel Names (USA)
ATSC	Mechanical Channel Names (USA)
DTMB	with HDTV (China)
DTMB	with false video descriptor (China)
DTMB	with MHEG (Hongkong)
DVB-C	in Nagravision 3 (Portugal)
DVB-S	with 3D (ASTRA)
DVB-S	with MPEG2 and H.264 mix (PALAPA)
DVB-S	in MIS (ATLTANIC BIRD)
DVB-S2	with HDTV (HOTBIRD)
DVB-S2	with MPEG 4:2:2 (EUROBIRD)
DVB-S2	with 3D (TURKSAT)
DVB-S2	with HDTV (AMAZONAS)
DVB-S2	with 3D (THOR)
DVB-S2	with 1Seg mobile TV (AMC 6)
DVB-T	with radio (Netherlands)
DVB-T	with MHEG (UK)
DVB-T	as retransmission off satellite (Qatar)
DVB-T2	with HDTV (Germany, UK)
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Manufacturer | AZBox
Website | www.azbox.com
Function | HDTV DVB S/DVB S2 Miniature HDTV Linux Receiver with Multimedia Features
DVB S2/LAN | • / •
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S-Video/HDMI | — / •
Scart/Digital Audio | — / •
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Manufacturer | Amiko
Website | www.amikostb.com
Function | DVB S2 / DVB T & DVB C Triple Tuner PVR Receiver
DVB S2/LAN | • / •
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Manufacturer	AZBox
Website	www.azbox.com
Function	HDTV DVB-S/DVB-S2 Linux Receiver with Multimedia Features and large Flash-memory for 3 Boot Images
DVB-S2/LAN	• / •
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S-Video/HDMI	— / •
Scart/Digital Audio	— / •

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Expert Opinion
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Manufacturer	Logitech
Website	www.logitech.com
Function	IPTV Receiver

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Function	IPTV Set-Top-Box
Stream Protocol	UDP
Menu Standards	HTML4, Javascript 1.5, Java Virtual Machine
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IPTV Receiver Equipped with Top-Notch Technology

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Website	www.azbox.com
Function	HDTV DVB S2 and IPTV receiver with various Multimedia&Internet Features
Stream Protocol	UDP
Menu Standards	html
WLAN	—

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Fully Equipped Satellite and Internet HDTV Receiver

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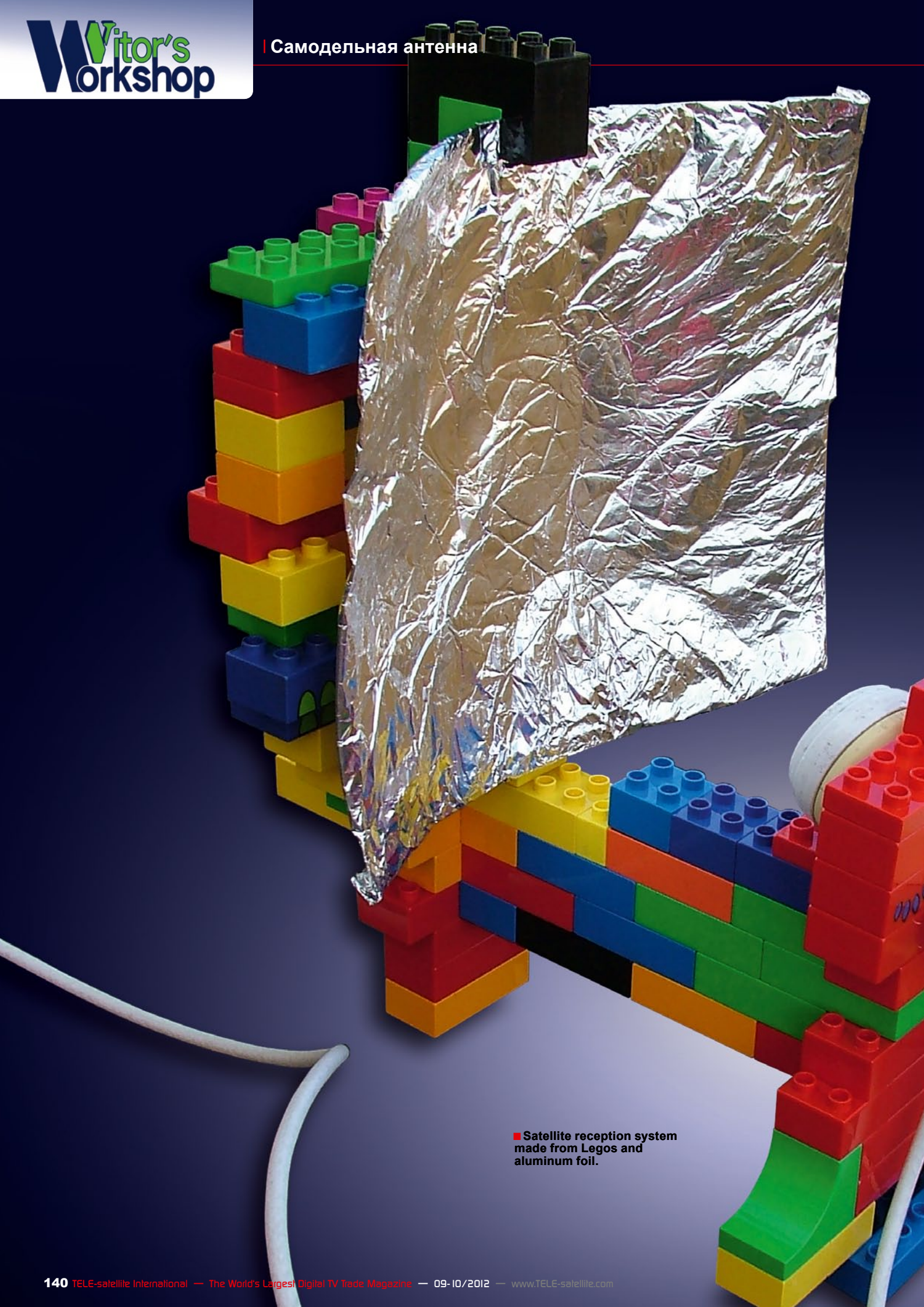
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Satellite reception system made from Legos and aluminum foil.

Антенна из Лего



- *Даже пятилетний ребенок сможет сделать спутниковую антенну (если отец поможет)*
- *Вы можете самостоятельно сделать параболическую антенну из алюминиевой фольги*
- *Установка на балконе подходит только для безветренных дней*
- *Срок службы антенны? Не более часа, потом ваша дочь захочет собрать что-то другое из своих деталей Лего*
- *Интересный способ провести вечер с детьми*

A passionate satellite DXer plays with his daughter and uses Legos to build a satellite antenna!

Vitor Martins Augusto

Today, in an industry that consistently offers LNBs with lower and lower noise figures and where satellite receivers are getting more and more sensitive, you tend to forget how powerful DTH satellites have become. In Europe those satellites would be ASTRA and HOTBIRD. To demonstrate how simple it really is to receive a satellite signal and since I had already committed to spending some time with my daughter in the afternoon, I decided to make the best of things and use her Lego blocks to build a Lego satellite antenna with my daughter. The reflector was made out of aluminum foil that I "borrowed" from my wife in the kitchen. For the reflector three layers of aluminum foil were folded together resulting in a fairly stable square.



The materials needed for the Lego antenna: building blocks from my daughter and a roll of aluminum foil from the kitchen.

The still flat aluminum foil had to be molded into a parabolic form. Since a simple imprint from another antenna was out of the question – that would have been cheating – the following technique was used: you take the flat aluminum foil and lay it on a couch or mattress or on some other soft surface. Then you take a smooth ball and roll it on the aluminum foil in a spiral fashion from the center to the outside. Repeat this procedure several times without exerting too much pressure.

The result is a parabolic form. For best results, test the aluminum foil several times. If it hasn't quite reached its parabolic shape, simply roll the ball in a spiral fashion across the foil again. By testing the shape several times, you avoid accidentally over shaping the foil in which case you'd have to start over from the beginning. To secure the foil, a mount is built using the Lego blocks. This serves two purposes: first of all the mount has to support the aluminum foil (i.e. satellite dish) so that it can be set to the proper angle and doesn't fly away or become deformed with the slightest breeze. Second, it serves as a mount for the LNB. Of course, it has to be placed at the proper offset so that it sits in the focal point of the antenna.

It was surprising how close the LNB was placed to the aluminum foil. Since the foil was shaped by hand using a ball, it has a larger curvature to it compared to a standard antenna. This changes the f/D relationship. Don't be fooled by this; it's better at first to have the LNB too close to the foil instead of too far away!

Through trial and error and with the help of a signal analyzer it shouldn't take long to find the first transponders. By repositioning the LNB, you'll find the best

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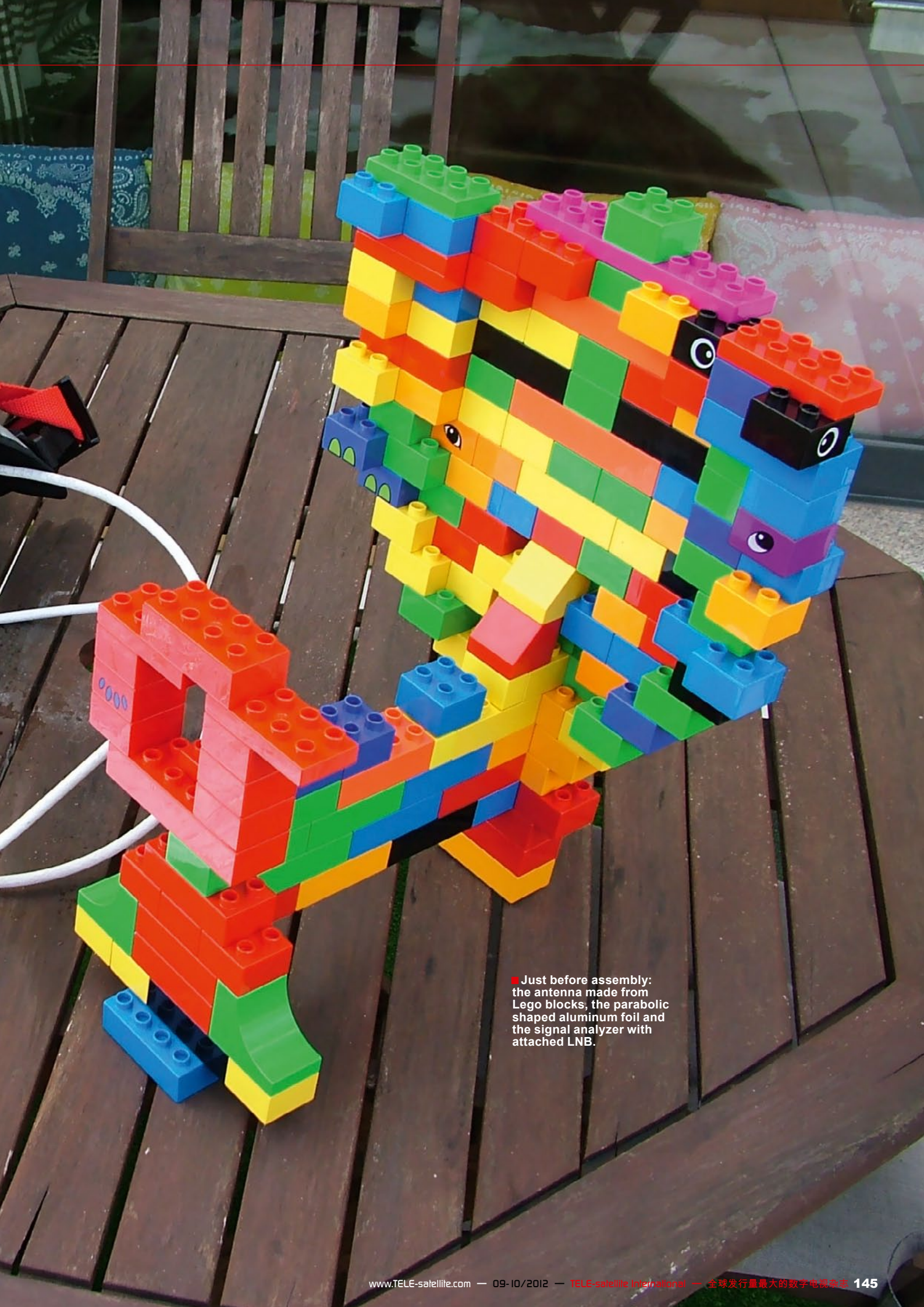
possible position so that the construction of the Lego mount can be completed. Manual formation of the aluminum foil was always necessary in order to obtain the best possible results.

During the alignment of the Lego antenna, you'll notice a huge disadvantage when analog satellite transmissions are turned off: while an analog receiver allowed you to align an antenna in real time, a digital receiver brings with it a relatively large delay. It's no wonder that more and more satellite signal analyzers are appearing on the market! The real-time spectrum display on an analyzer identifies signals before the tuner in the receiver has a chance to process the signals. Unfortunately, most low-end signal analyzers don't have a spectrum display or it's extremely slow and therefore not quite suitable for such an experiment. Of course it would be nice to have a professional analyzer at hand.

The further fine-tuning of the antennas alignment along with the manually shaped aluminum foil reflector provide sufficient gain in the antenna so that both analog and digital transponders can be received. There were no problems receiving ASTRA although it needs to be mentioned that this small antenna has no bad weather reserve and also that it shouldn't be mounted on a balcony or terrace if it's a windy day outside.

This experiment clearly shows how powerful modern DTH satellites really are and how LNBs and tuners have become such high-quality items. The time went by very fast that afternoon and my daughter got a small peak into the fascination of satellite reception!





Just before assembly: the antenna made from Lego blocks, the parabolic shaped aluminum foil and the signal analyzer with attached LNB.

Making a Parabolic Dish out of Aluminum Foil



1. Three layers of aluminum foil were folded on top of each other to form a square and then placed on a soft surface (here: carpet).

2. A smooth ball (also obtained from my daughter's stash of toys) is rolled in a spiral fashion on the surface of the aluminum foil starting from the center and moving to the outside in order to form a parabolic shape.

3. Next the curved aluminum foil is secured to the antenna mount. It's a good idea to do this on calm days otherwise the reflector could blow away in the wind.

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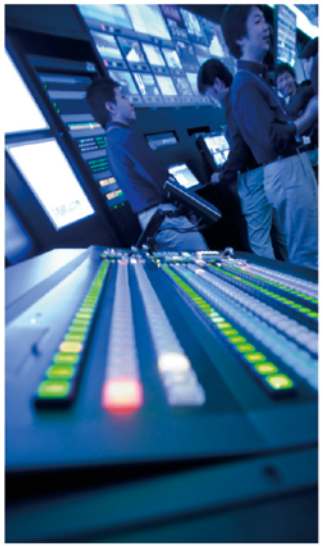
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1. The Lego antenna without reflector and without LNB.
2. The Lego antenna from behind.
3. No problems with reception according to the signal analyzer.

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Connecting the Light

Jacek Pawlowski

Optical fibers introduced enormous improvement in data transmission. Anybody who is even moderately interested in technology knows that the most important reason for that was the very low signal attenuation of fiber optic cables. The first cables manufactured in 1970 had an attenuation of 20 dB/km. Today, we can achieve even 0.16 dB per kilometer. It is almost nothing when compared to the classical electrical cables.

However, there is yet another factor influencing the maximum useful length of a fiber optic cable. This is chromatic dispersion. To explain it in simple terms – various light rays in a fiber have a different propagation time what distorts the shape of the impulses carrying digital data. Dispersion puts a limit on the maximum useful bit rate that can be transmitted in a given cable. Dispersion is less painful in single mode fiber optic cable (i.e. those with a diameter less than 12 µm) but even such cables are not quite free from this phenomenon due to material structure non-homogeneity.

Attenuation and dispersion depend on the light wavelength and optical fiber material. The first generation of optical fiber worked with wavelengths of around 850 nm, the second generation with 1300 nm and the third one with 1550 nm. Theoretically, the lowest attenuation is achievable for 1550 nm while the lowest dispersion (= the highest bit rate) for 1300 nm.

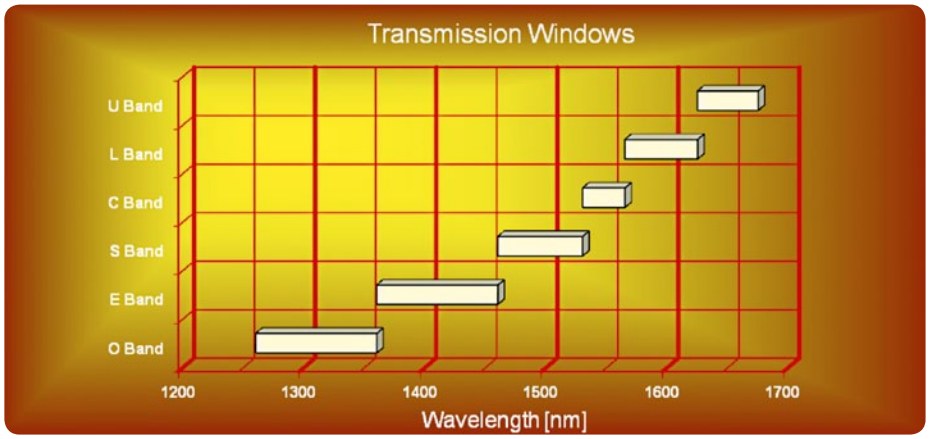
The wavelength used in optical fiber based systems have been standardized. There are six transmission windows named: O, E, S, C, L and U-band. The corresponding wavelength ranges are listed in the table 1.

For your comparison, the visible range for humans is: 380-780 nm. So, the light used in fiber optics, no matter what band, lies in the deep infrared and you cannot see it.

The optical transmitter generates (usually) modulated light in one of the bands specified above. The transmitter designs are based either on LEDs (Light Emitting Diodes) or laser diodes. LEDs made from gallium arsenide phosphide (GaAsP) generate light at about 1300 nm while older types made from GaAs worked at 810-870 nm. That's why we still sometimes meet installations using these wavelengths. LEDs produce incoherent light – the signal peak is about 30-60 nm wide. Laser diodes that produce coherent light are not only much sharper in spectral view but also more efficient (50% vs. 1%) and ensuring higher bit rates. Modern laser diodes are not that much expensive anymore and they started superseding LEDs in many applications.

Band	Wavelength Range
O band	1260 to 1360 nm
E band	1360 to 1460 nm
S band	1460 to 1530 nm
C band	1530 to 1565 nm
L band	1565 to 1625 nm
U band	1625 to 1675 nm

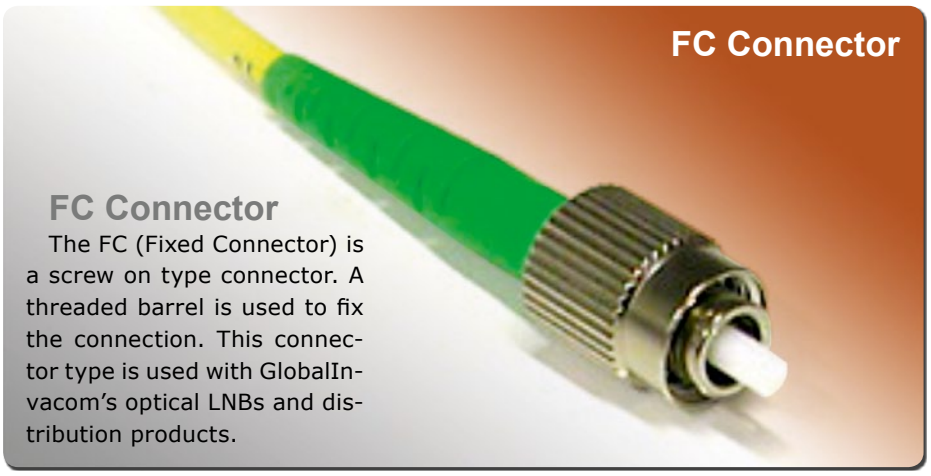
Table 1.



To receive a signal at the other end of a fiber optic cable, one needs an optical receiver. Its main component is a photo detector converting light into electrical current. It is usually a photodiode. Depending on the elements and compounds used to create a p-n junction, we achieve maximum sensitivity for a different wavelength. For example, to build a receiver for 1300 nm, one needs either germanium (Ge), indium phosphide (InP), or indium gallium arsenide (InGaAs) photodiode.

Detailed information on standardized optical connectors can be found in IEC 61754 norm.

A number of connectors for fiber optic cables have been developed and standardized over the years. Here are the most popular connectors:



FC Connector

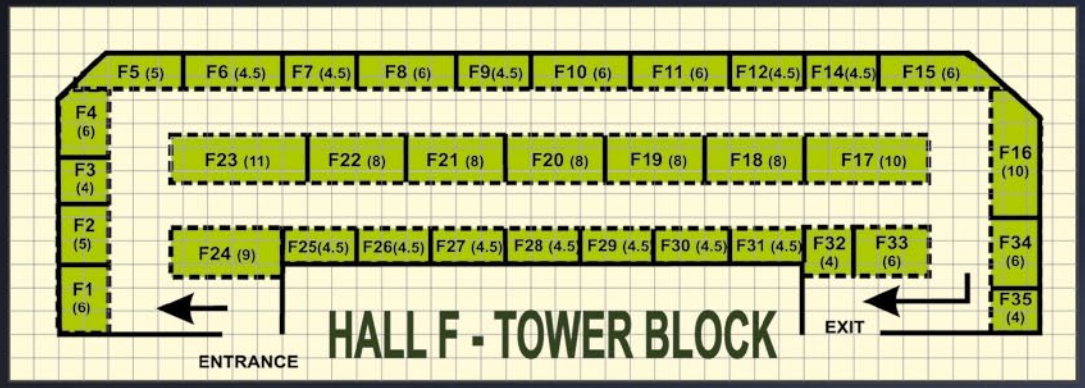
The FC (Fixed Connector) is a screw on type connector. A threaded barrel is used to fix the connection. This connector type is used with GlobalInvacom's optical LNBs and distribution products.



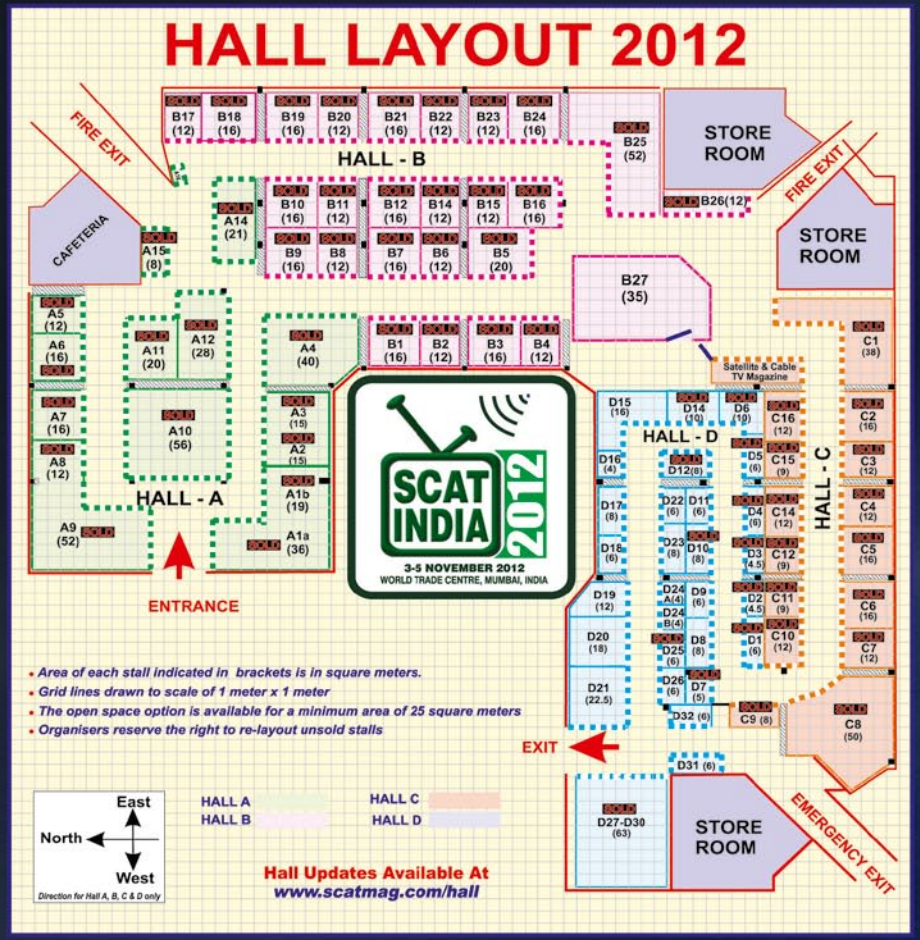
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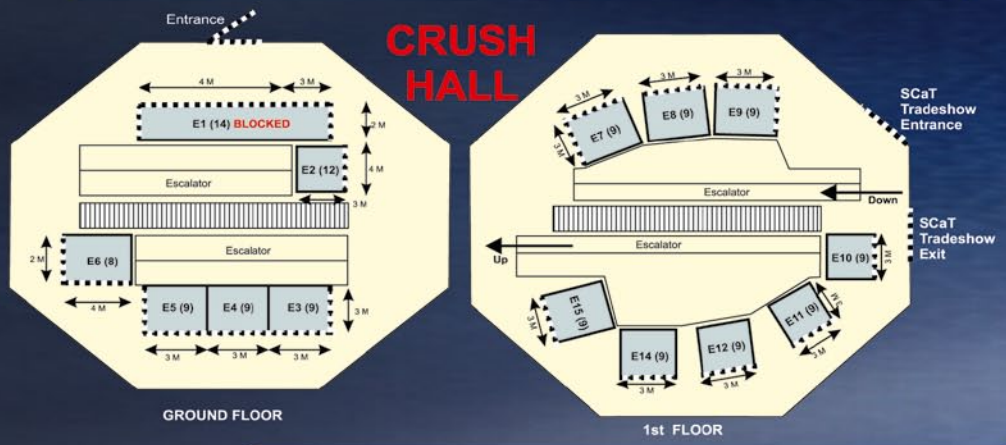
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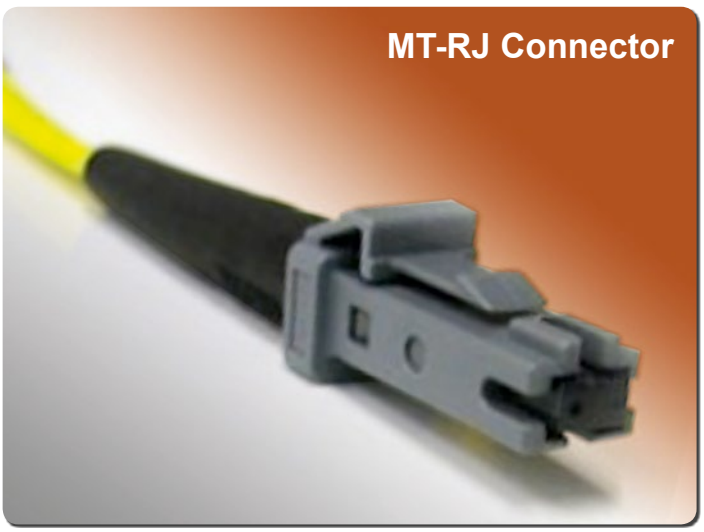
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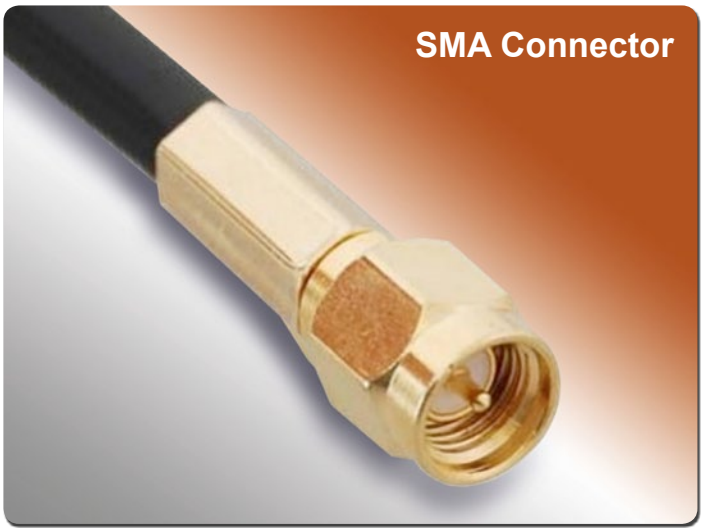
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SC Connector

SC (Subscriber Connector) is a snap-in connector. It is frequently used for newer network installations.

ST Connector

ST (Straight Tip) is a slotted bayonet style connector very popular in late 80s and early 90s.

LC Connector

LC (Lucent Connector) is a smaller version of SC connector (the ferrule is half the size).

MT-RJ Connector

MT-RJ (Mechanical Transfer Registered Jack) is a small size connector commonly used for networking applications.

SMA Connector

SMA (SubMiniature version A) was the first standardized connector for optical fibers. It uses a threaded connection to keep the plug intact in the socket

CLICK!

This is a proprietary design – a push-pull low profile connector dedicated for the miniature H+S fiber optic distribution system.

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Making life hard for DXers – or: TV stations' little tricks to avoid viewers

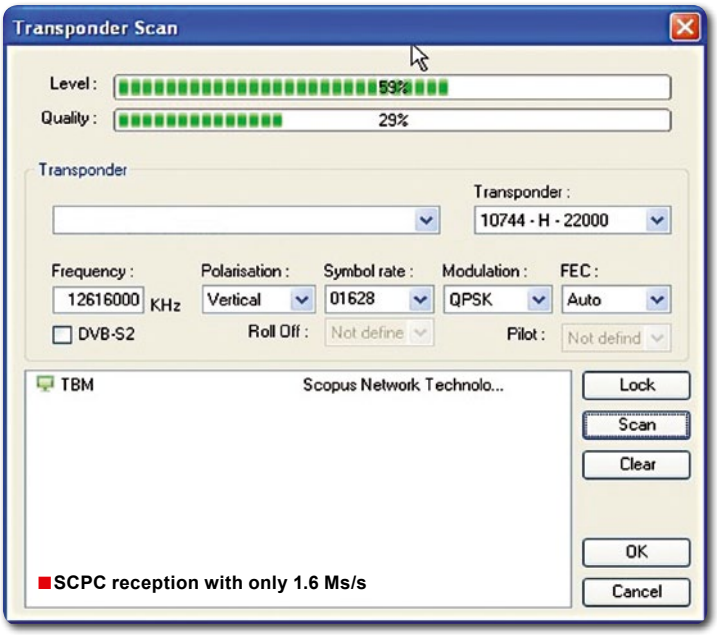
Thomas Haring

Transmissions that are broadcast via satellite usually can be received by anyone within a particular satellite's footprint. In the case of DTH (direct to home) TV and radio reception this is a welcome scenario, because providers are trying to max out on potential audiences. On the other hand, programs also need to be distributed within and between different providers without any viewers being able to receive them. In satellite speak these transmissions are called feeds. Feeds can be used to transmit a baseball game from the US, for example, or a live report from a news event.



■ A motorised antenna is required for feed reception





■ SCPC reception with only 1.6 Ms/s

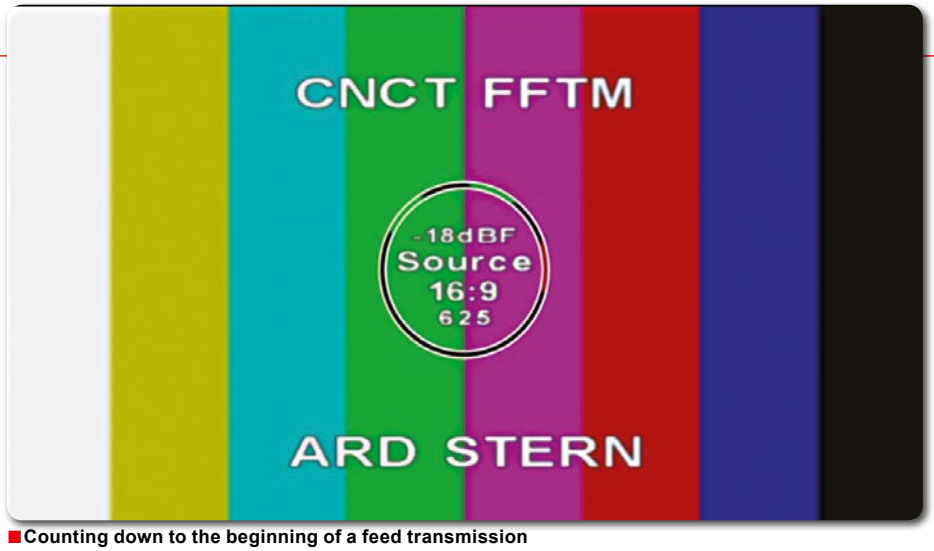
■ In Europe the most popular multi-feed reception system is aligned towards ASTRA 19.2° East and HOTBIRD 13° East. Feeds cannot be received with such a set-up.



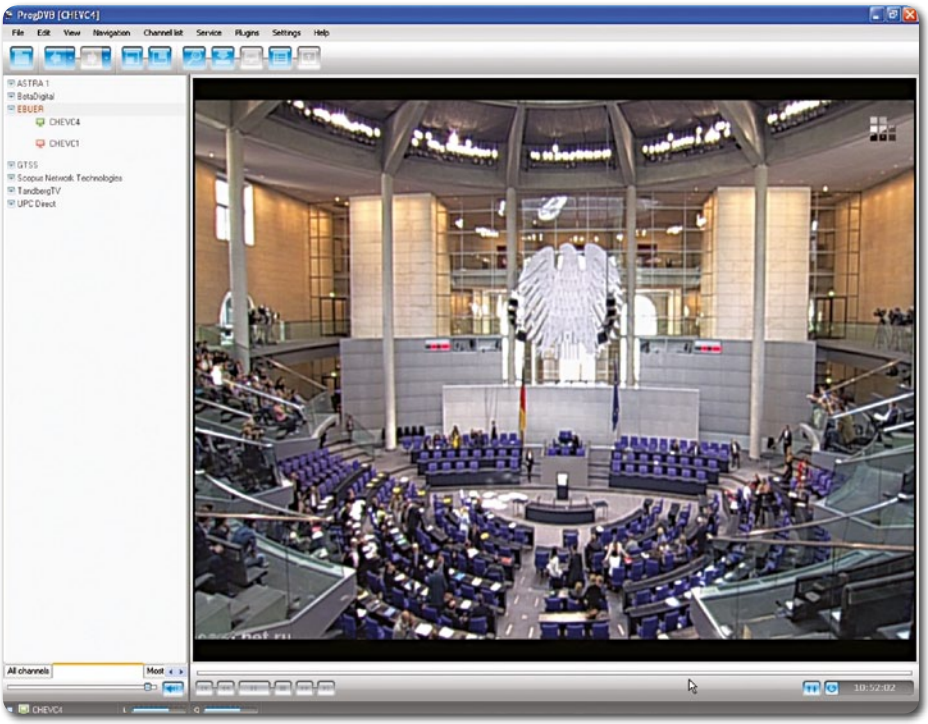
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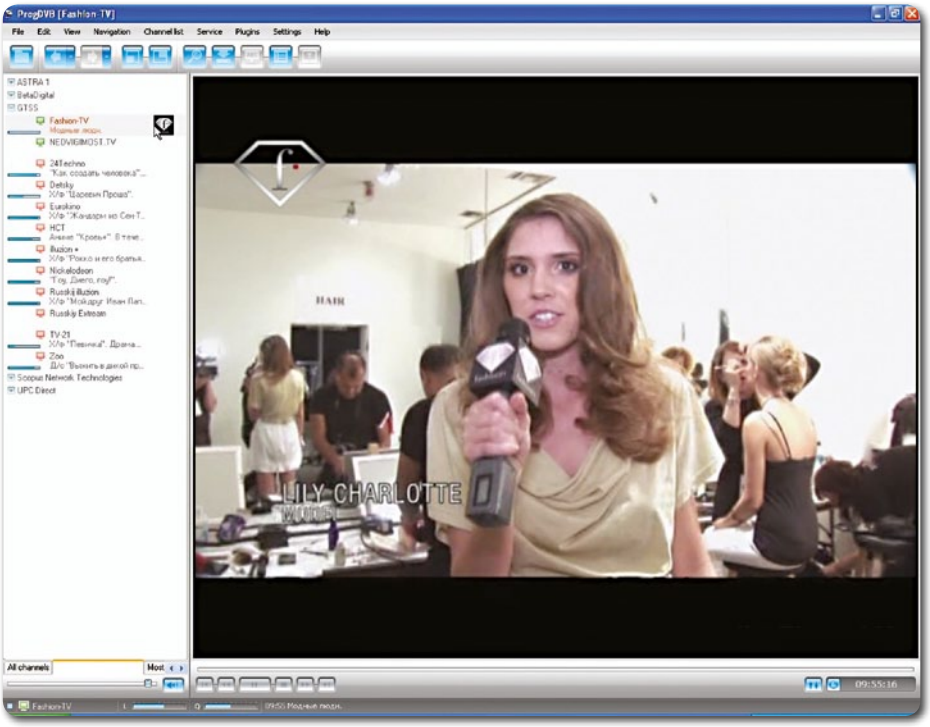
List of today's feed transmissions



Counting down to the beginning of a feed transmission



MPEG 4:2:2 feed from the German parliament. A standard receiver would not be able to process this signal. With a PC and appropriate software the signal turns into nice video on the PC monitor.



Fashion TV on ABS1 75° East with an FEC of 7/8.

In both cases, TV stations do not want any unwelcome viewers for their feeds, because they only want the final product to reach households, including commercial breaks. This is why transmissions between studios or TV stations frequently use fibre optic cables to make sure only the two transmission partners can access material.

Luckily for satellite DXers, in today's world a cable cannot always be used, for example if the distance is too large or if no cable is available on site to send a live report to station headquarters. In these cases, satellites have to be used for feeds.

Of course all sorts of technical tricks are used to limit the number of onlookers and the following account lists major strategies TV stations rely on:

Encryption

This is the most effective protection against unwanted viewers and for studio-to-studio transmissions this in most cases does not pose a challenge from a technical point of view. With outside broadcast (OB) vans it's a different story altogether.

While most OB vans are equipped with encryption hardware, time is of the essence in live reports so that setting up the required encryption is frequently not possible as it takes some time until all parameters are set and checked. Generally, feed transmissions fall back on directly addressable encryption systems such as PowerVu or BISS. The latter, in particular, is protected by a password that is defined by the TV station.

Even if you try as hard as you can with the help of BruteForce luck will probably not be on your side in finding the correct password during the short time most feeds last. After all, the BISS password consists of 16 hexadecimal digits.

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If a feed is used to transmit content that is protected by copyright laws (for example a rock concert with clearly specified exploitation rights) TV stations will go out of their way to make sure the feed is fully encrypted. If the content is in the public domain anyway the measures used by TV stations generally are less stringent but at the same time lock out as many potential viewers as possible.

Selection of satellite

Using a popular DTH satellite for feeds always results in a comparably high number of unintended viewers. In addition, the cost for using hugely popular positions such as ASTRA 19.2° East or HOTBIRD 13° East is enormous, so why would a provider select these birds for feeds in the first place? Dozens of less known satellites are available for that very same purpose and apart from being considerably less expensive they cannot be received by 99% of satellite antenna owners.

In Europe, the most frequently used satellites for feeds are EUTELSAT W2 at 16° East, EUTELSAT W3A at 7° East, EUTELSAT W1 at 10° East or TELSTAR 12 at 15° West for feeds to and from North America, ATLANTIC BIRD 1 at 12.5° West and PAS3R auf 43° West as the westernmost option. Unless you own a motorised dish or top-notch multi-feed antenna you'll be left without a chance to receive signals from these positions.

MPEG 4:2:2

For many years, TV stations have tried to lock out viewers from feeds using modified colour sub-sampling. Digital TV reception via satellite generally uses the 4:2:0 standard which is characterised by identical colour sampling in both spatial directions, similar to the system used for compressed JPEG images.

MPEG 4:2:2, on the other hand, features a slightly different colour sampling process which distinguishes between horizontal and vertical colour sampling. Colour sub-sampling has its origin in the analog NTSC colour system and is used for digital video signals based on the ITU-R BT 601 norm.

With MPEG 4:2:2 horizontal colour sampling has only half the size of vertical colour sampling, yet this difference does not result in different colour resolutions for the two spatial directions because of interlacing that is inherent in the analog PAL and NTSC standards. Special receivers are required to correctly process and display such signals and because these receivers are designed for professionals only they carry a rather hefty price tag and thus are unaffordable for most amateurs.

However, most new Linux-based receivers allow real-time streaming of satellite signals to the PC using the built-in network interface. On the PC software decoders (which are available from the Internet at little or no cost) can take over decoding MPEG 4:2:2 signals and display feeds for DX enthusiasts.

Low symbol rate

This is a clever trick used to make sure transmissions cannot be received by just about anyone. Almost all DVB-S receivers available today are able to process symbol rates between 2 and 45 Ms/s, with the symbol rate denoting the number of changes of state per second of the carrier signal. This is not to be confused with the bit rate which specifies the number of bits transmitted per second and thus is an indication of the video quality of a specific channel. However, the two values are in fact interdependent as a low symbol rate automatically means that less information can be transmitted and as a consequence the bit rate used must also be lower.

This means that using a low symbol rate for feeds is a delicate balancing act for TV stations. On the one hand they want to lock out as many unwanted viewers as possible by using a low symbol rate, but on the other hand too low a symbol rate automatically reduces video quality, which of course is an absolute no-go in the professional world.

In the end, mainly symbol rates between 5000 and 6000 Ks/s are used, which does in fact leave out a substantial proportion of DTH viewers, but still allows transmitting a high-quality signal.

Naturally, there are some examples for extremely low values, such as signal feeds of some Italian channels on NSS7 at 22° West which use symbol rates of way below 2000 KS/s and therefore cannot be received on most digital boxes.



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Now you might wonder what it is that so many receivers encounter troubles with low symbol rates, while a few brave boxes seem to be unaffected at all. The root problem lies in the quality of the tuner as well as in software fine-tuning. If a transponder with extremely low symbol rates comes in, the bandwidth has to be reduced exactly in line with the symbol rate in order to arrive at a low noise level and achieve an optimum carrier-to-noise (C/N) ratio.

In turn, the frequency has to be maintained even more precisely for a stable and reliable signal. Many manufacturers are trying to cut costs both in the hardware and the software fine-tuning fields, which consequently creates problems with ultra low symbol rates. Yet, manufacturers are hardly to blame as their specifications in most cases explicitly state that only symbol rates of 2 MS/s and above are supported.

Low FEC

If a high-capacity transponder is required for a feed and the symbol rate cannot be reduced TV stations have the additional option of reducing the Forward Error Correction (FEC). FEC is a mathematic correction process to set off signal errors that occur during satellite transmission. If it weren't for this process, most of us would never be able to enjoy reliable satellite reception with reasonably small antennas.

The FEC N/M value specifies how many M (gross) bits need to be transmitted for each N (net) bit. An FEC of 1/2 therefore means that two gross bits are required for each net bit, with 3/4 it is four gross bits for 3 net bits and so on. The higher the FEC value, the lower the possibilities of mathematically correcting a faulty signal. If, for example, an FEC of 7/8 is in place you will need a very large antenna for reliable reception.

So basically, the FEC defines the size of the required antenna and this way the FEC of a transponder can be modified to allow for either easy reception with an FEC of 1/2 or very difficult reception with an FEC of 7/8. As a matter of fact, the new DVB-S2 standard brought about even more FEC modes such as 2/3, 3/5, 4/5, 8/9 or 9/10.

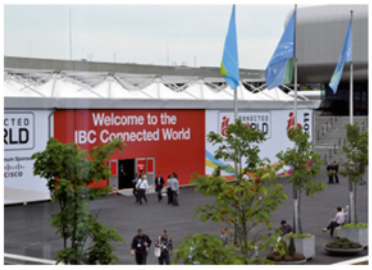
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Transponders lying close to each other

The reception parameters required by standard users for their satellite receivers are average values. In other words, a transponder with a specified frequency of 12,600 MHz in general is not received at precisely this frequency but rather at an optimum frequency of, say, 12,598 MHz.

This deviation between nominal and optimum frequency is caused by the LNB converter and cables, among others. Digital satellite receivers are designed to detect the optimum frequency and adjust their internal reception parameters accordingly.

Strong transponders with sufficient spacing between each other therefore hardly cause any problems due to this impreciseness, but SCPC transponders with identical or similar symbol rates, which are close to each other and of which one transponder is significantly stronger than the other will cause receivers to lock the stronger transponder and ignore the weaker transponder.

The situation is aggravated by the fact that only very few receivers for private users still have the option of limiting the reception bandwidth, which can be used to force the receiver to select its frequency from a very limited range.

The result of all this is that TV stations can easily hide individual transponders behind others. If you're eager to find out how your receiver at home copes with this, you can try to receive horizontal channels between 11,619 MHz and 11,645 MHz on NSS7 at 22° West. The same is true for channels between 12,507 MHz and 12,655 MHz on EUTELSAT SEASAT 36° East – here too many receivers will try in vain to lock in a signal.

As you can see there are many ways for TV stations to restrict feed reception for Joe Average even without resorting to encryption. However, if you're in the know you can react accordingly and use suitable hardware to have your way in the end. In all TELE-satellite reports you will find some reference to a receiver's SCPC capabilities and an account of how sensitively its tuner deals with weak signals.

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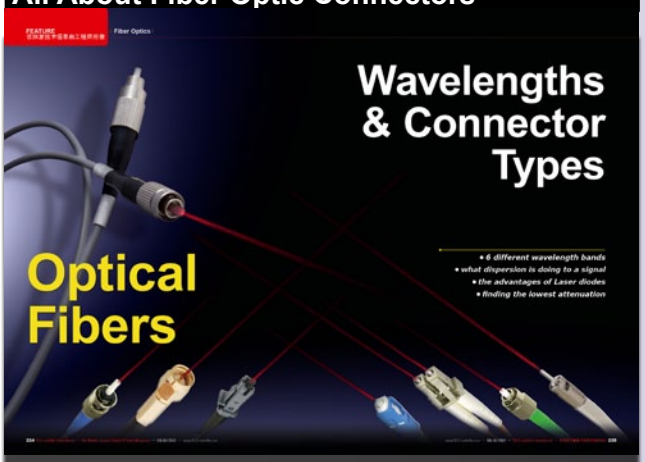
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How a tuner for VCM operates



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All About Fiber Optic Connectors



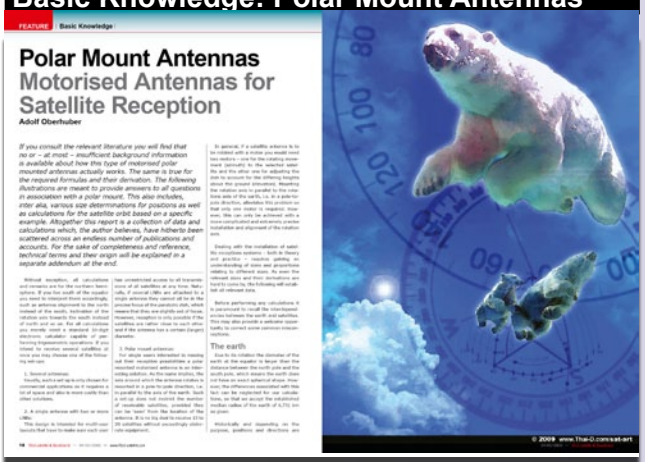
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DVB-S2 MIS Reception with VCM/ACM



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DVB-S2: Hide the SD inside the HD



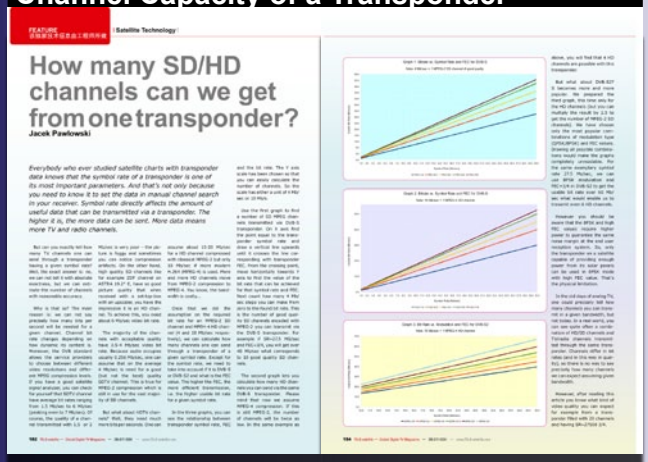
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How a Silicon Tuner Works



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Channel Capacity of a Transponder



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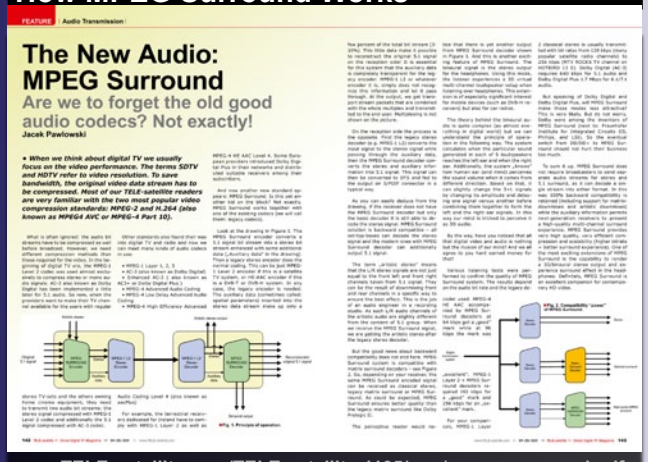
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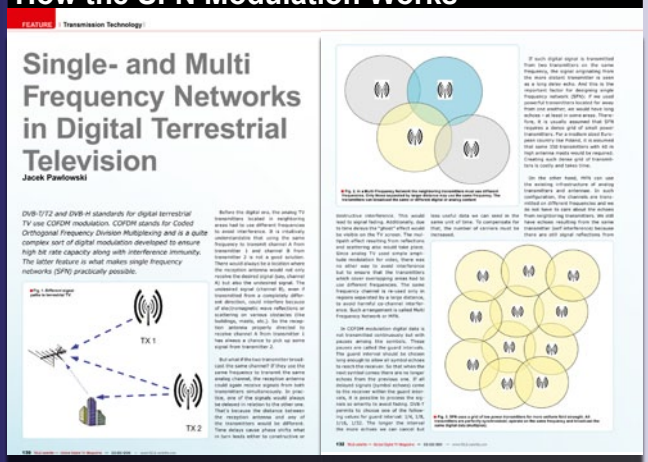
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Streaming TV via the Internet



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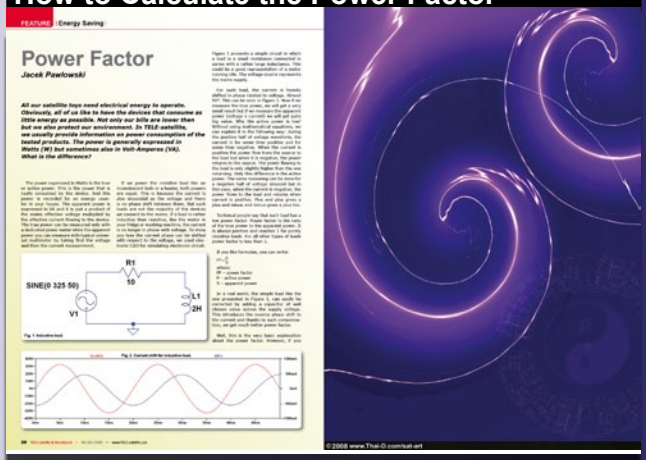
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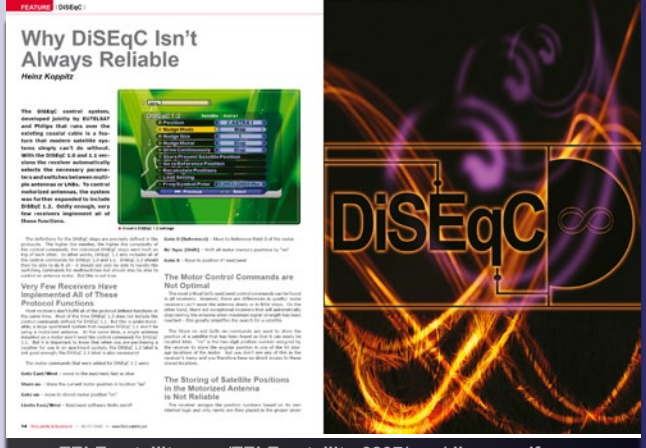
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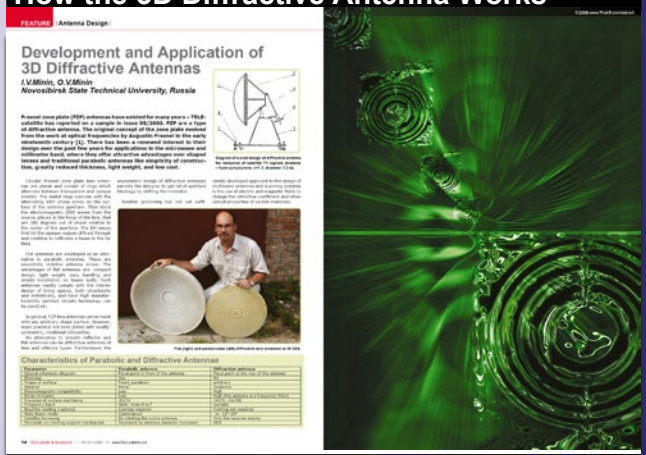
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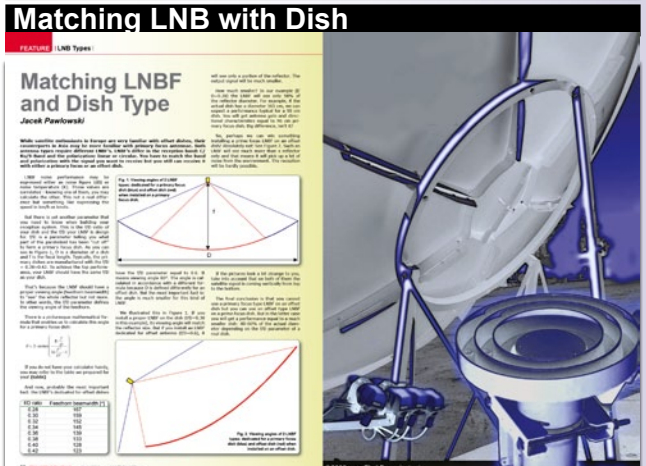
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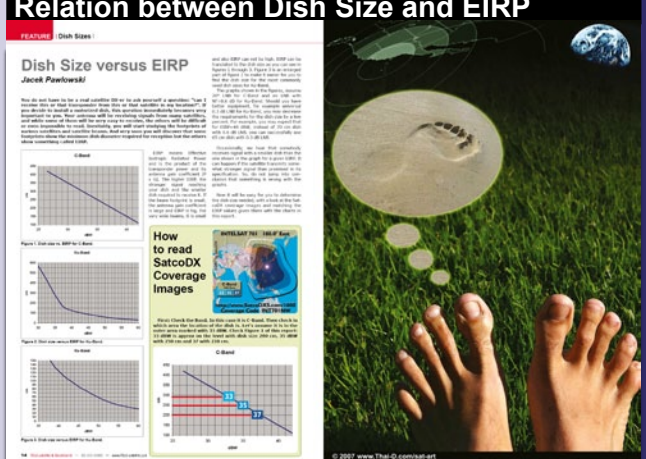
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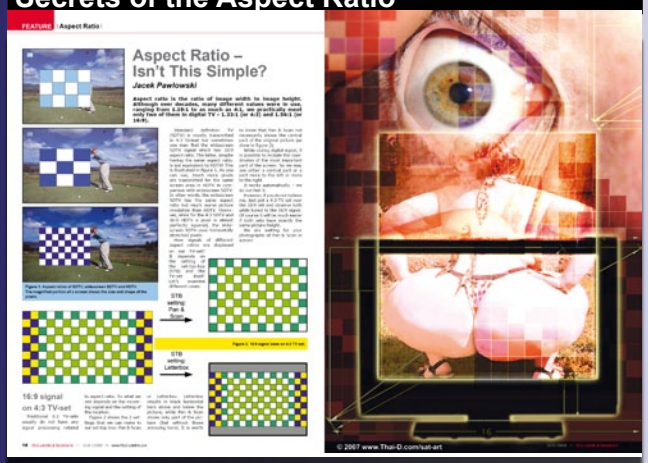
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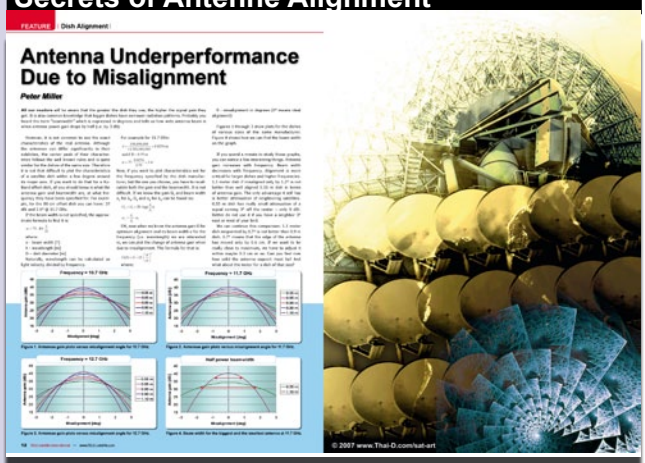
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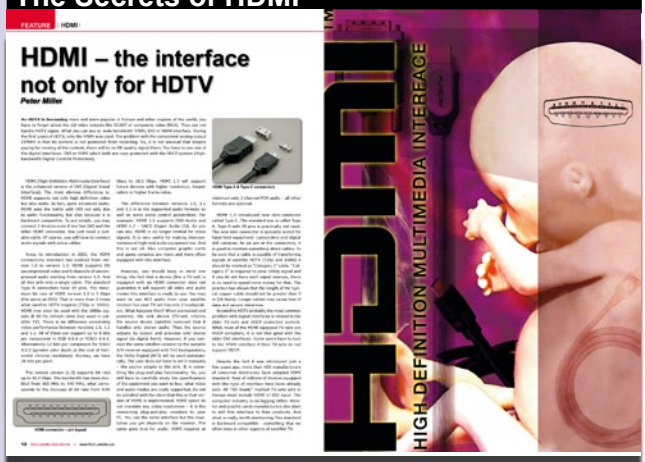
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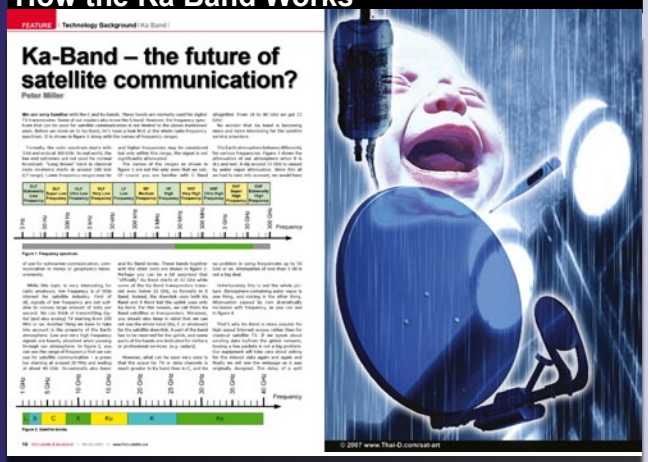
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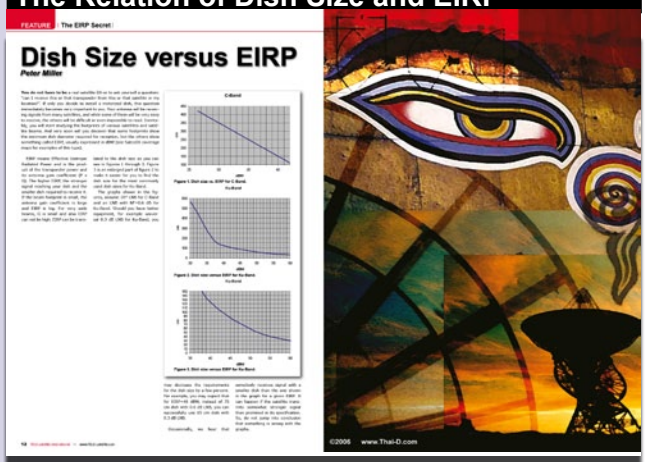
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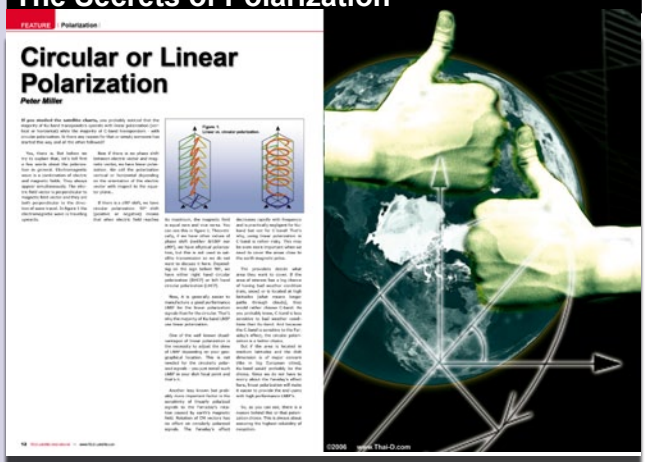
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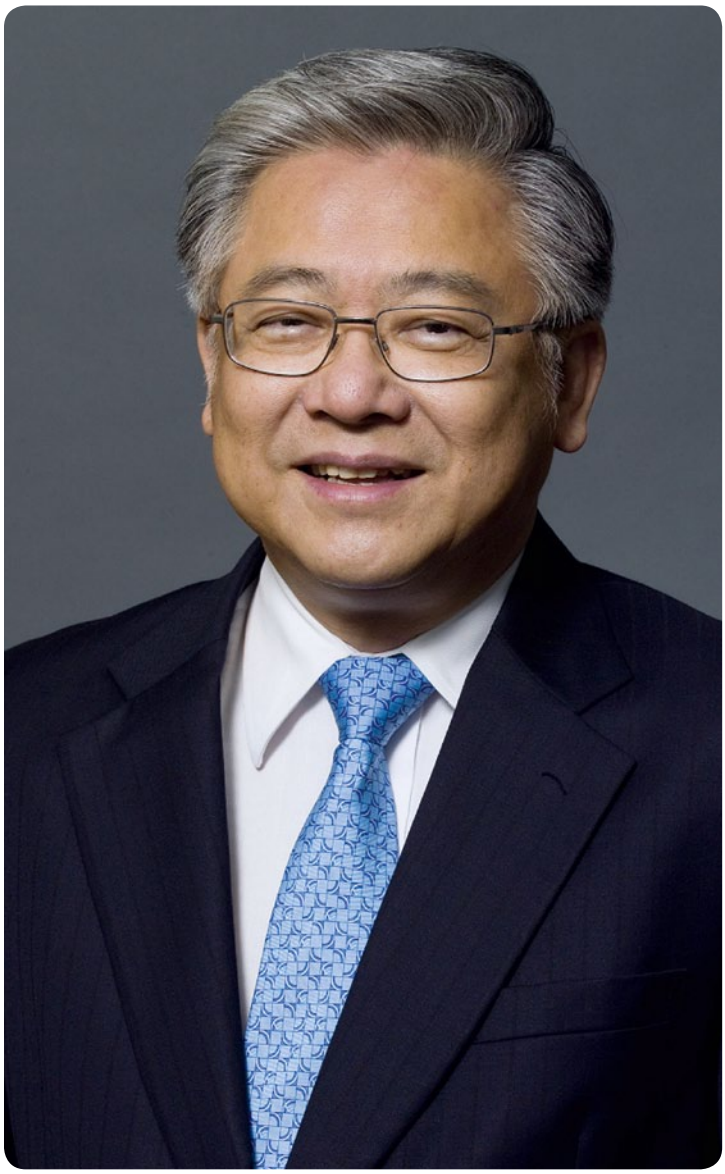


Attendees to established industry trade shows immersed in the latest innovations and key discussions with business leaders

CommunicAsia2012 and EnterpriseIT2012 and BroadcastAsia2012, Asia's three focal industry venues for ICT, digital broadcasting and entertainment technology industry professionals, was held in Singapore; the first two at the Marina Bay Sands Convention Center and the latter at the Suntec Singapore Convention Center.

Attendees from more than 56 countries and regions were counted over the four days the venue lasted. Close to 2,000 exhibitors presented the latest technologies in next generation fibre broadband, M2M technology, cloud security, DVB-T2, Over-the-Top Technology (OTT) and more. Conference speakers addressed pertinent industry topics and presented insightful industry trends and views. About 49,000 attendees including exhibiting staff, visitors, conference speakers and delegates, and members of the media were at this year's CommunicAsia, EnterpriseIT and BroadcastAsia.

"The shows brought together like-minded industry professionals to network, discuss current trends and challenges, exchange ideas, and forge new partnerships. This year, we received posit ive response to the new conference tracks, increased hospitality suites and new tech zones," says Mr. Stephen Tan, Chief Executive of show organiser, Singapore Exhibition Services (SES). "We will continue to evolve the content and format of our shows to be in tune with the latest trends and technology advancements, to meet the most current needs of the industry. This is why exhibitors and visitors, speakers and delegates, return to the shows, year after year. Our gratitude goes out to all participants who have contributed to the success of the event, and we look forward to staging yet another successful event in 2013," Mr. Tan adds.



Stephen Tan is Chief Executive of Singapore Exhibition Services, organizer of the CommunicAsia, EnterpriseIT and BroadcastAsia exhibitions held in each year in Singapore.

Latest Technologies and Innovations at CommunicAsia2012

The Huawei booth, individual largest exhibitor at CommunicAsia2012, wowed the crowd with its new, sleek range of consumer and enterprise products, including the Android-powered Ascend handsets and mobile Wi-Fi devices. "Huawei sees the value of participating in CommunicAsia, and has committed to not only make an appearance, but to surprise our customers through Huawei's innovative end to end ICT solutions. The Huawei booth received overwhelming attention from the crowds, ranging from business partners and enterprise customers to end users who are interested in the latest release, signature Huawei smartphone – Ascend P1," says Mr. Lim Chee Siong, CMO of South Pacific Region, Huawei.

Huawei presented the new Android-powered Ascend handset [Foto: Luo Shigang]



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ST Electronics showed data management and resource utilisation for publi utilities
[Foto: Luo Shigang]

ST Electronics also attracted a continuous stream of visitors with its Smart Cities showcase of the latest in data management and resource utilisation for public utilities – a technology concept that is making waves across the globe.

MAVEN – a robot from Nanyang Technological University's Institute for Media Innovation – excited the crowd with its ability to recreate a 3D representation of its surroundings as it travelled the exhibition floor. MAVEN, in addition to Singapore Polytechnic's Express Melody, a solution that leverages on cloud technology and helps businesses to attach a unique sound to their brand, were amongst some of the innovations showcased at the new Discovery Lounge at CommunicAsia2012.



3D presentations at CommunicAsia2012
[Foto: Luo Shigang]



■**TELE-satellite Magazine's booth at CommunicAsia2012 in Singapore** [Foto: Luo Shigang]



Human IT Solutions in the Korea pavilion unveiled 'Human Gate – Lite', an indoor gateball system using infrared motion capture of the whole body so that the player does not need to wear any equipment or use a handheld device.

EnterpriseIT, held in conjunction with CommunicAsia, showcased exhibitors comprising international IT systems providers and companies offering enterprise solutions ranging from cloud computing, data centre services, security and M2M, to mobility solutions and video conferencing. Mr. Adrian Tee, Head of Software Solutions of O'Connor's Singapore declares, "This is the first time the O'Connor's Software Solutions Business Unit is participating in CommunicAsia to showcase two software solutions, Puffersoft Labs' reverse cloud desktop virtualisation and Zenprise's mobile device management. We are surprised and pleased with the overwhelming response and interest we received from customers and potential partners in the region. Our teams were engaged in back to back meetings from the start of the day till way past closing time. The exhibition certainly exceeded our expectations."

The special OTT feature area, one of the star attractions at BroadcastAsia2012, saw a huge number of visitors stopping to catch a glimpse of the Euro2012 on various platforms including TV, laptop, tablet and mobile phone; and other content contributed by Sony Pictures. A consortium of exhibitors facilitated this multi-platform delivery of content. The Cinematography/Film/Production zone drew packed audiences keen to see and learn about the latest motion picture tools and software. The Media Village's hourly demonstrations of the most exciting post production and visual effects solutions was seen to be highly popular with the audience. An interesting draw was the photography subject Sony used to demonstrate the features and versatility of its cameras – a sparkling Mini Cooper. Sony showcased its PMW-100 professional camera that is particularly popular in broadcasting stations and production houses for gathering news and producing documentaries.

"As Topas TV is a new DTH satellite and pay TV station broadcasting 65



High level interviews were conducted during the venue and transmitted live to a worldwide audience

channels, I came to BroadcastAsia2012 to shop for equipment from set-top boxes to head-end products and encoders. I visited COSHIP, Harmonic, Wellav, Grass Valley and Ideal Systems, as well as updated myself on the newest technologies. I am happy with the management of the exhibition. Everything is very well arranged," says Mr. Michael Mulyanto, Chief Operating Officer, Topas TV, Indonesia.

The CommunicAsia2012 Summit, BroadcastAsia2012 International Conference and Creative Content Production Conference, received overwhelming response from delegates, with exciting questions and discussions generated during the sessions, workshops and panel discussions. Over 200 speakers including two visionary speakers, Ms. Aliza Knox from Google and Ambassador David Gross from Wiley Rein LLP, ensured delegates had something to debate. The BroadcastAsia2012 International Conference and Creative Content Production Conference featured speakers from some of the media and broadcasting industries' most successful companies including Fremantle Productions, Lucasfilm Animation, Pinewood Iskander Malaysia and Pixelmetrix Corporation, sharing their expertise and experiences working on world-famous projects. "The conference experience has been very informative. It covered a wide range of topics, and dealt with convergence and new technologies which helps us to keep abreast of developments," says Mr. Mautik Tolia, Executive VP (Programming), NEO Sports Broadcast.

The next exhibitions CommunicAsia2013, EnterpriseIT2013 and BroadcastAsia2013 will all three be held from 18 -21 June 2013 at Marina Bay Sands Convention Center in Singapore.

More information:
www.communicasia.com



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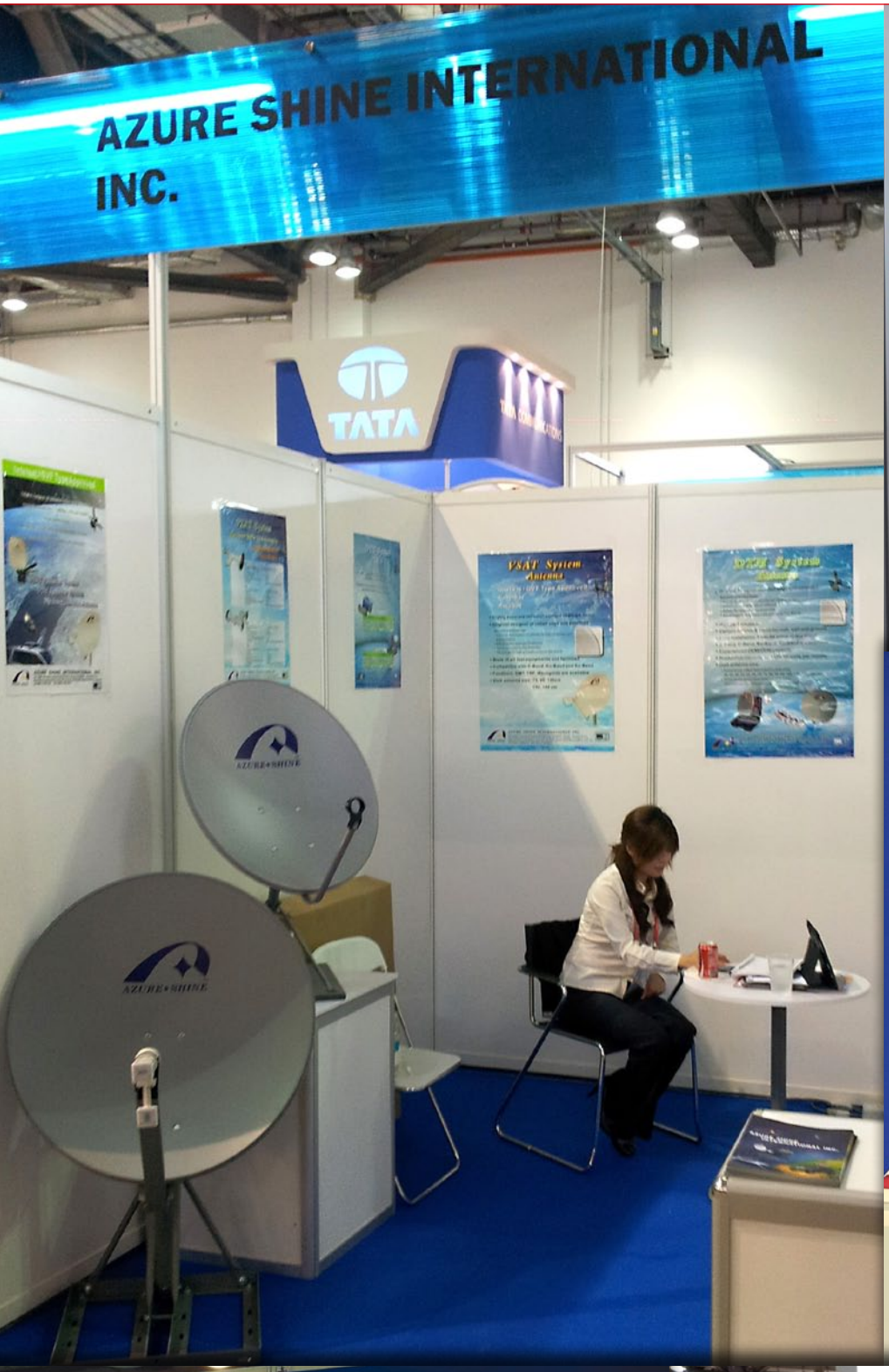
Impressions from CommunicAsia2012

[Fotos: Luo Shigang]



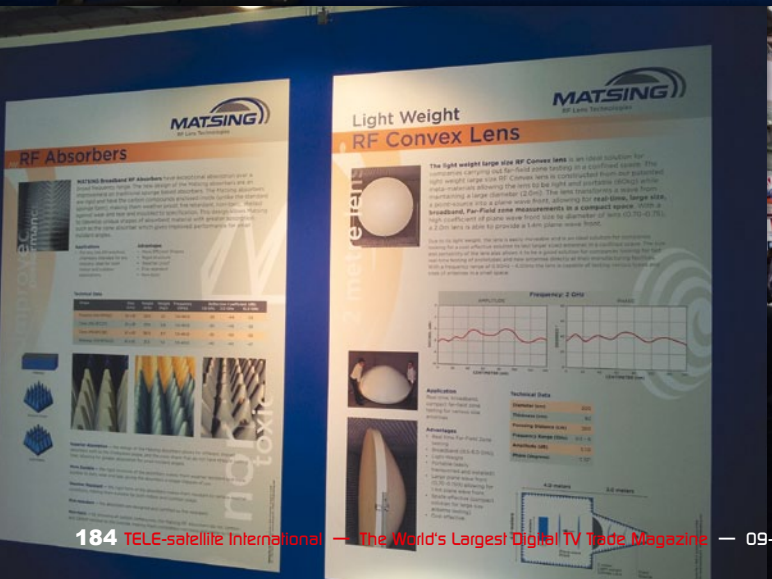

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- IR Remote Control
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Самый занятый в Америке спутниковый энтузиаст Tim Heinrichs

- *Всегда с энтузиазмом берется за новые проекты*
- *Специальный фокус на анализаторах сигнала для полу-профессионалов*
- *Огромный рост на международном рынке за пределами Северной Америки*
- *Инновационная экспансия спутниковых анализаторов модельного ряда 2012 года*



■ DMS International could be found here in the Northpoint Business Park with its two buildings and attached warehouse.

из DMS

Actively Involved in Satellite Business for 33 Years



There aren't too many companies that have hung around for decades and at the same time are still in the same business segment. DMS International, which has been in existence since the very early days of TV reception via satellite, belongs to that group. Tim Heinrichs is Founder and CEO of satellite wholesaler DMS International and if you've been in the same business for so long, there's absolutely no doubt that you are a real enthusiast. In the small town of Acworth, not too far from Lockheed and Marietta northwest of Atlanta, Georgia, USA, we found Tim Heinrichs and his wife Vicky, the President of the company. We wanted to know how DMS International became what it is today.

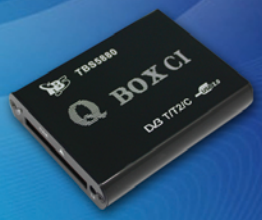
Tim Heinrichs has been a DXer for a long time: he was excited about CB communications when it first started and all that could be done with it. It allowed people for the first time to communicate wirelessly with each other without too much in the form of technical requirements. Oh really? In 1968 Tim erected a tower 25 meters high for his CB antenna. He used it to listen in when railroad employees talked to each other, when construction companies passed on work orders to their builders, when truck drivers warned others of radar traps on the highways and when the police would coordinate road blocks with their headquarters. But Tim was especially fascinated with the phenomenon of "skip" transmissions: under certain weather conditions CB radio transmis-



■ Tim Heinrichs, DMS International's CEO, in his office in Acworth, Georgia, northwest of Atlanta. He's testing an FS2 signal analyzer beta model.

Innovative DVB-S2/S DVB-T2/T DVB-C PC TV Tuners



DVB-S2 Dual Tuner Dual CI PCIe Card (TBS 6991)

1. Dual Tuner for Recording Two Different Channels/Transponders.
2. Unicable/One Cable compatible.
3. Dual Common Interface Support.
4. Transponders Blindscan.

DVB-S2 Quad Tuner PCIe Card (TBS 6984)

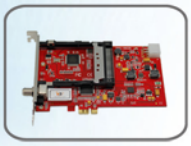
1. DVB-S2/DVB-S SD or HD TV Receiving.
2. Four Tuners for Recording Four Different Channels/Transponders.
3. Transponders Blindscan.

DVB-T2/T Dual Tuner PCIe Card (TBS 6280)

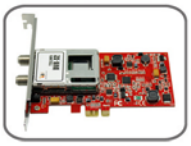
1. Both DVB-T2 and DVB-T are supported.
2. Dual Channel Receiving simultaneously.
3. Low Profile Size.

DVB-T2/T/C TV Tuner CI USB Box (TBS 5880)

1. DVB-T2/T/C SD or HD TV Receiving.
2. Time Shifting to Pause Live TV.
3. Common Interface Support.



TBS 6928
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sions in the 27 MHz range would skip off the ionosphere or troposphere allowing for two-way communications over extremely long distances. "Back then I collected QSL cards from my contacts and managed to collect nearly 1000 of those cards."

Tim also worked for the railroad in Nebraska and when word got around among his friends and coworkers that he liked to tinker with radios in his free time, they began bringing him defective radios, TVs and CBs. At first it was tedious, but later on it became routine for him to repair these devices. "Even the police came to me to repair their radios." Tim was becoming more and more experienced in radio technology. In 1979 he read an article in a technical magazine about satellite reception. This new technology was irresistible to Tim; he simply had to have it. He spent a lot of money on his first three-meter dish. "Back then the dish antennas were quite heavy; they were made of fiberglass with metal braces and weighed 400 pounds." Tim still remembers today what an experience it was to be able to receive a TV picture with his new dish. "It was an absolute sensation to be able to receive a signal from space from so far away."

Then came the turning point in Tim Heinrichs' evening job: a farmer bought that dish from him. "That's when it all started, next I bought two new dishes." That was in 1980 and it was at this point that Tim Heinrichs recognized that there was a new business brewing. He sold and installed these dish antennas at a faster and faster rate. The breakthrough came in 1982: "I invested $40,000 and bought my first truckload of dishes - it was 500 three-meter antennas." Tim Heinrichs young company became a satellite wholesaler.

"At first I worked both jobs; my regular job at the railroad and at nights and weekends at my own company DMS International." That only worked for a few months: he had to make a decision and naturally he chose his own company. "My wife Vicky worked along side me from the beginning; at first she took care of the books and now she's the President of the company."

In 1991 another big decision had to be made: the market in Nebraska was covered so in order to better expand his business the decision was made to move his company to Atlanta, Georgia. DMS International can still be found there today. "Transportation costs are cheaper here", rationalizes Tim regarding this decision and then grins as he adds, "Besides, the weather is much better here." Sure enough, the company experienced quite a boom in business. Vicky provides us with a few sales figures: "In 1991 DMS managed sales of roughly $2.0 million." The company's best year was 2008: "Back then we had sales of $12 million. Sales have pulled back a little bit since then although in 2009 they were still at about $9.0 million."

For many years DMS International was a small company with very few employees: It was Vicky and Tim along with one or two warehouse and administrative employees. "Today we have 10 employees with a warehouse that is 14,000 Sq-ft in size." Up until recently DMS International was mainly focused on the North American market, "that is, the USA, Canada and Mexico", explains Tim. As recently as 2009/2010

1. Vicky Heinrichs is the President of DMS International and runs the administrative side of the company.

2. Ivy Bliss is the receptionist and takes care of DMS International's website (www.dmsiusa.com). If you call the company, Ivy is your first contact.

3. Tina Ryan handles the accounting



70% of all shipments were sent to this local market. "That all changed dramatically in 2011", reveals Tim to us, "Export shipments sharply increased to 60%." The largest increase was for shipments to South America (30%); other large markets for DMS International are India, Africa and surprisingly Portugal. "Some shipments from Portugal find their way back to Brazil", says Tim regarding the occasionally roundabout paths that can be taken in the global marketplace.

As a satellite wholesaler, DMS International for many years sold everything that an installer would need. It's not like that today anymore. DMS International is now concentrating on a few product segments. "Our largest sales item is satellite signal analyzers at around 50%. We produce analyzers under the brand name 'First Strike'." Tim wants to take the newest version of these analyzers and further expand his export business: "My goal is analyzers that can be used anywhere in the world." Another important segment is LNBs: "They account for roughly 25% of our sales." That is only accomplished because DMS International sells large numbers of LNBs; the margin with LNBs has in the meantime become very small. "We also sell multiswitches, receivers and dishes."

Vicky has some more numbers for us: "In 2011 we sold about 30,000 signal analyzers, roughly 100,000 LNBs and around 15,000 receivers." In 2008 DMS International began marketing their own line of signal analyzers under the brand name 'First Strike' and the first model FS1. The successor model FS2 is planned for release when this report is published and will soon after be supplemented by the FS2Pro. The FS2Pro will be for DVB-S2 with a color display and - according to the plan - a GPS receiver for the direct display of satellite antenna data (azimuth and elevation). "Our signal analyzers are not modified satellite receivers; instead they are true measurement instruments", comments Tim, "that provide comparable measurement data." Additional 'First Strike' models include a cable TV analyzer as well as a terrestrial model. "We're making sure that these signal analyzers can be used internationally. The cable analyzer will operate on an expanded frequency range so that it will cover every possible cable TV network." Tim has something special in mind for the terrestrial analyzer model: "It will be able to receive every known signal standard - ATSC, ISDB-T and DVB-T."

Obviously, Tim Heinrichs still has the



■Who needs a satellite dish? Warehouse Manager Luis Burrion is responsible for shipping their products.


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90 cm
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kg
Thickness of steel
0.7 mm
Thickness of finished product
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An antenna by the stockroom serves as a test bed to check out the LNBs.



A selection of LNBs that DMS International distributes. The Avenger model using PLL technology is one of their best sellers.



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1



2

1. Extremely popular just a few years ago, today there's not much demand for C-band scalar rings.

2. Demand has also declined here: Combi LNBs for the C-band and Ku-band

3. DMS International has a specialty to offer: LNBs from INVACOM that can receive both circular and linear polarizations at the same time

same enthusiasm that he had 33 years ago. He consistently comes up with new ideas and new products that allow him to conquer new markets. After so many years of experience he knows that existing markets can disappear but that there are always new markets that provide new opportunities. Tim Heinrichs remains devoted and is always keeping an eye out for the latest technological advancement.



3

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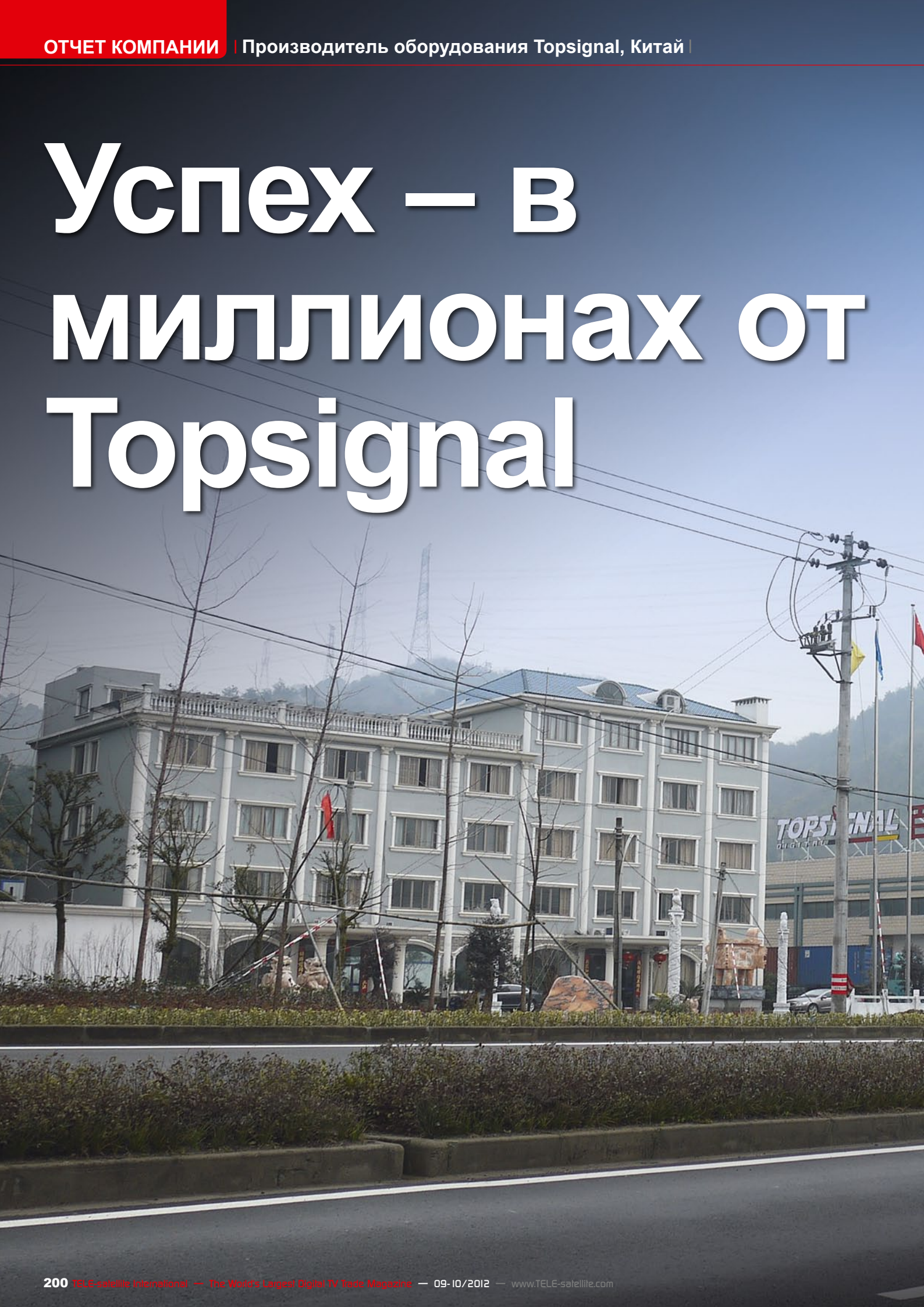
The products can be branded. In case of larger order the products will be delivered free of charge.



An interesting side business is reception dishes for commercial services such as wireless data transmissions. Tim Heinrichs shows us a reflector from one of these professional reception antennas.


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Успех – в миллионах от Topsignal

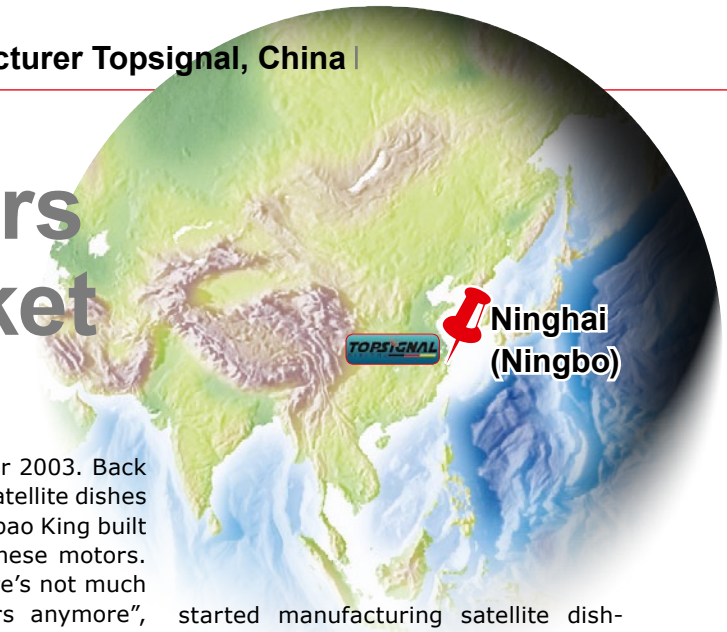


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- *Большинство отгрузок в Южгую Америку*
- *Расширение продуктовой палитры в сторону высококачественных конверторов и VSAT*



Topsignal's production plant in Ninghai, China. The administration building is to the left and two of the four production buildings are to the right. Satellite dishes and LNBs are manufactured here in large quantities.

Enormous Numbers for the World Market



With a yearly production of five million satellite dishes and even more LNBs, Topsignal is one of the largest manufactures of these products. The company actually started in a completely different product segment: actuators and motors for satellite dishes. It's an unusual development that we had a look at in the small city of Ninghai. Ninghai is located near Ningbo which itself is a three-hour train ride south of Shanghai.

Zongbao King founded the company in Ninghai back in the year 2003. Back then antenna motors for satellite dishes were in demand and Zongbao King built a production facility for these motors. "Unfortunately, today there's not much demand for these motors anymore", explains Sales Manager James You to us. Order quantities have steadily decreased, "but we can still handle any kind of order since our storeroom is still fully stocked."

Two other product groups are today's sales giants at Topsignal: "In 2008 we started manufacturing satellite dishes and in 2011 we started producing LNBs." The quantities are huge: nearly a half million satellite dishes are produced monthly and even more LNBs. The reason these production numbers are almost the same is simply that the dishes and LNBs are sold in sets. A



■ Topsignal's Founder and Chairman of the Board Zongbao King

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DishPointer is the world's No.1 satellite dish pointing site, offering custom built tools for mobile devices or websites to businesses. For more information, visit www.dishpointer.com.

References

CANAL DIGITAAL SATELLIET

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large portion of their production is for the 60cm and 90cm variants; a smaller portion is for 75cm antennas.

Where do these antenna sets end up? "Roughly 80% of our production gets shipped to South America, above all to Brazil."

However you won't have much luck searching for the Topsignal brand name in Brazil: the company is an original equipment manufacturer (OEM) and the satellite dishes and LNBs are shipped without any name stenciled on them. "We work together with an agent who resells the sets in Brazil and adds the brand names of the large customers right there in Brazil."

Topsignal's next largest shipping zone is The Middle East and Africa accounting for 15% of deliveries. The remaining production goes to large distributors and dealers in Southeast Asia. "1.5 and 1.7-meter mesh antennas are quite popular there."

Now Topsignal is looking to penetrate the large markets in Europe and North America. "We want to start there by concentrating on our LNB products such as the Ka-band LNB in the USA." But VSAT is also on the list of newly developed products from Topsignal.

A small in-house team of 10 R&D engineers is currently working on this but Topsignal also receives additional design input from outside specialists for these new markets. "We are currently working on a new LNB series with specifications that are far better than our current production."

As you can see, Topsignal is consistently working on improving their products. At the moment, Topsignal's LNB assortment consists of Single, Twin and Quattro LNBs; additional variants are in the works.

Sales Manager James You is very optimistic with their new LNB series. He takes a look into his crystal ball: "In 2011 our sales amounted to roughly 50 million RMB (about US$8 million), but for 2012 we foresee a 30% increase due in large part to our new and improved products."

With its enormous quantities, Topsignal has managed in just ten years to work its way up into the top class of manufacturers. With new and improved products and the expansion into new markets, Topsignal wants to continue this success.

The next 10 years should be very exciting at Topsignal!



■ The receptionist greets every visitor



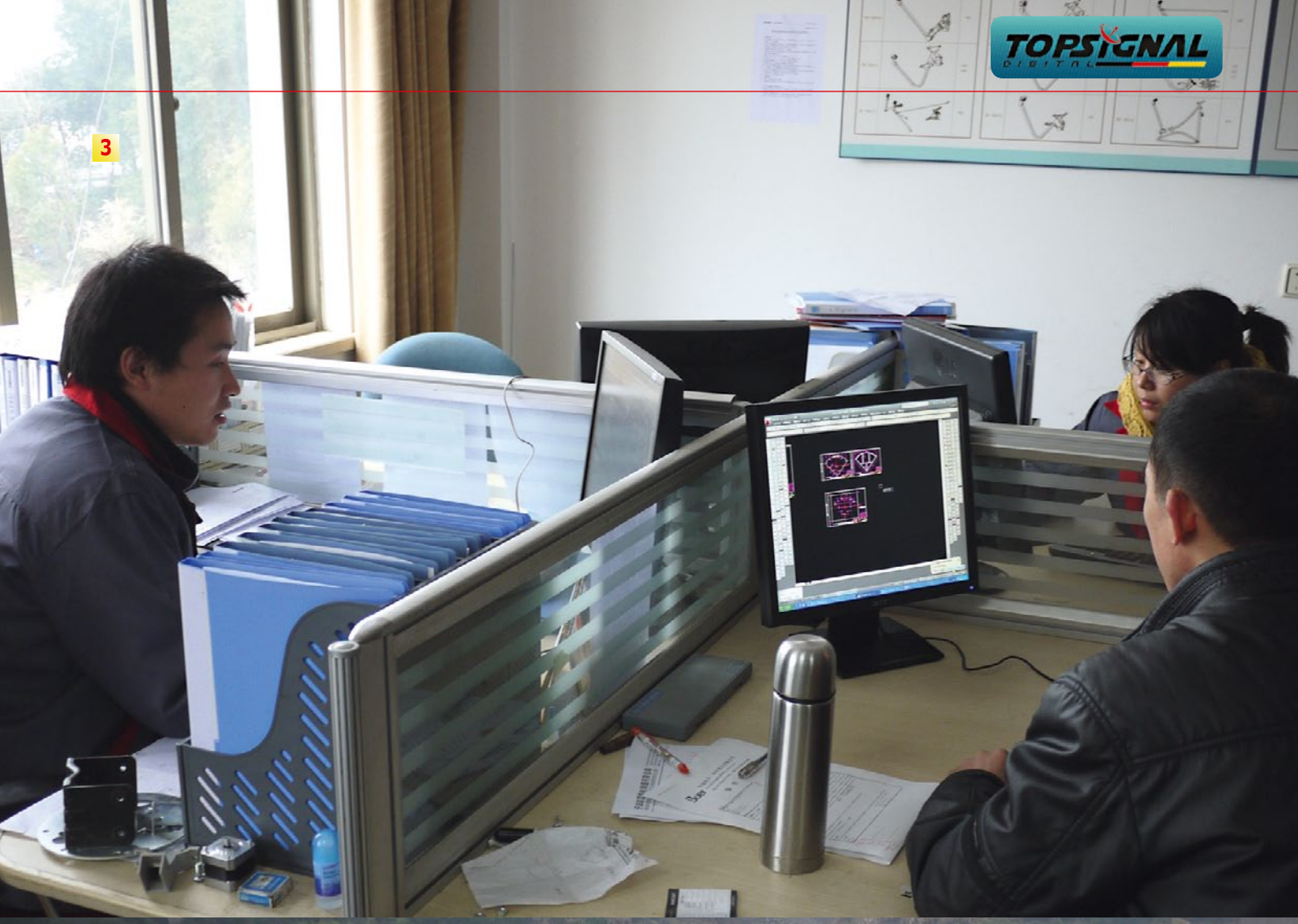
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1. Chaofeng Ge is General Manager. He coordinates production and is always on the phone coordinating production with customer orders.

2. James You is Sales Manager and counts on the help of the Lion in front of the entrance to Topsignal's building.



2



3



4

3. Some of the R&D engineers. A total of 10 engineers work here.

4. View of the four production buildings as seen from the administration building


1


2


4


3


5

1. This is just a small portion of the in-line storage area. The dishes wait here for further assembly.

2. One of the many steps involved in a completed dish: the raw shapes are hung on a chain and driven through a paint station.

3. Another paint station is used for the smaller dishes.

4. Employees inspect each and every dish for defects. Those that pass inspection are placed on a palette; those that fail are removed from the rest.

5. The mounting holes are punched here

6. Topsignal sells satellite antennas and LNBs in sets. Naturally mounts are also included. Wall mounts are pressed into shape here. Topsignal uses pipes with 42mm and 47mm diameter depending on the size of the dish.

7. How do the holes get into the mounts? Yes exactly, with this machine. Topsignal has more than one of these machines and they are used to punch holes in the mounts.

8. The mounts travel along a long chain through the paint station where they are spray painted by workers and then dried.










9


10


12
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11


13







9. Topsignal requires an enormous amount of raw materials. Truckloads of tubes are delivered that only a short time later become mounts.

10. The LNB mount is shaped. A waveguide is pulled along and then shaped into the proper form with a press.

11. The LNB mounts also need holes. This takes place here.

12. The required pieces are pressed from an endless roll of sheet metal which will then be converted into the dish mounts.

13. The dish mounts are prepared here. The spacers are formed here and fitted with the necessary holes.

14. Workers hang the antenna mounts for passage through the paint station.

15. Topsignal also has mast mounts. A worker can be seen here punching holes in the mast brackets.

16. Topsignal also manufactures mesh antennas. The panels are stamped here.

17. The assembly pieces for the mesh dishes are prepared here.

18. The LNB mounts for the PFA mesh dishes











19. Peter Lin is the LNB Production Manager. "We operate four production lines and work in eight-hour shifts."

20. A look at LNB production

21. Each LNB is tested for functionality

22. If everything checks out, the LNBs are packed for shipping. As an OEM, Topsignal ships the LNBs in neutral packaging without any brand names.



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23



23. The quality control station takes sample LNBs and checks to see that they function correctly.

24. One of the quality checks involves testing the LNBs in a refrigerated environmental chamber. Topsignal has two of these test chambers.

25. If there are defective LNBs, they are checked out here to identify weak spots

26. Workers can be seen here packing completed products for shipment. It's always palette-sized shipments because of the enormous numbers involved

24






25


26

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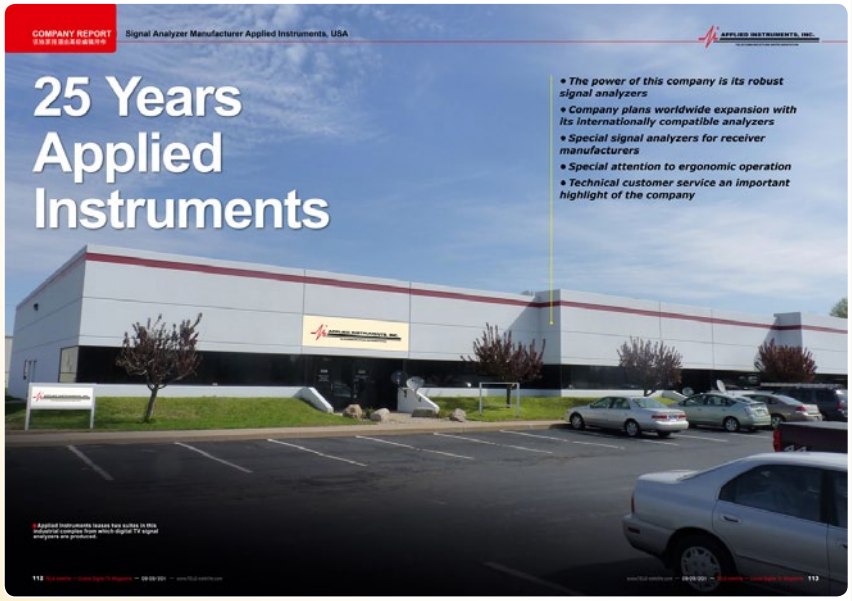
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COMPANY REPORT | LNB Manufacturer Boiingsat, China |

Boiingsat's Numerous Production Facilities

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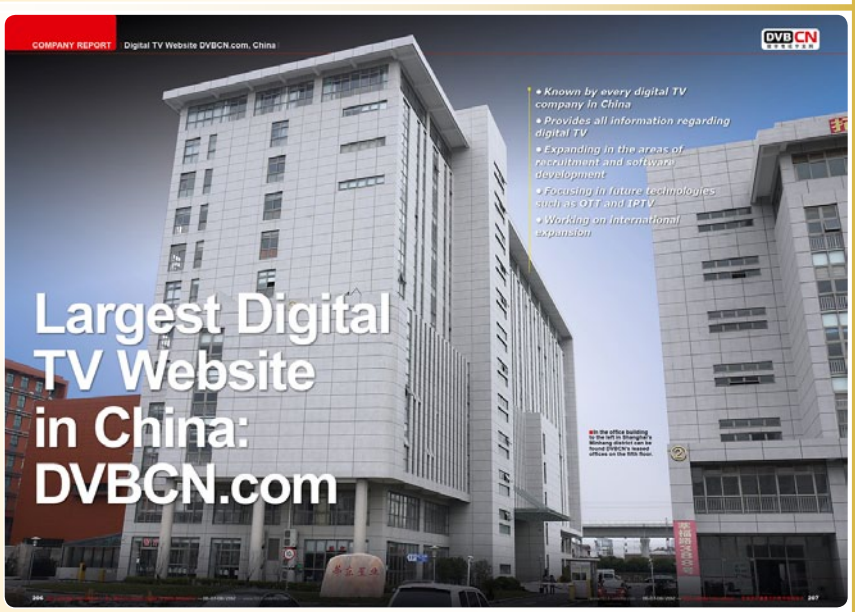
www.dvbcn.com

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PRODUCT NEWS | Fibre Optic Products |

GlobalInvacom Expands Product Palette

The British company GlobalInvacom invented the optical LNB. TELE-satellite reported on this futuristic invention back in its 04-05/2008 and 08-09/2009 issues. In the meantime, GlobalInvacom has expanded its optical LNB product palette. TELE-satellite, in the 04-05/2010 issue, introduced the newest versions, a PFA optical LNB, (until then optical LNBs were only available for offset antennas) and an expansion of the terrestrial optical LNB system in which the transmission of both satellite and terrestrial signals on two optical frequency ranges are carried on one optical cable.

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COMPANY REPORT | Manufacturer and Distributor Golden Media, Germany |

New On The Market: Golden Media

Rudersberg (Stuttgart)

GOLDEN Media

Shortly after you open this issue of TELE-satellite, a young company will be celebrating its first birthday, namely Golden Media, based in Rudersberg near Stuttgart in Germany. It was only first founded in September 2009 and has had surprising growth since then. We wanted to find out the secret to their quick success.

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GOOSAT China

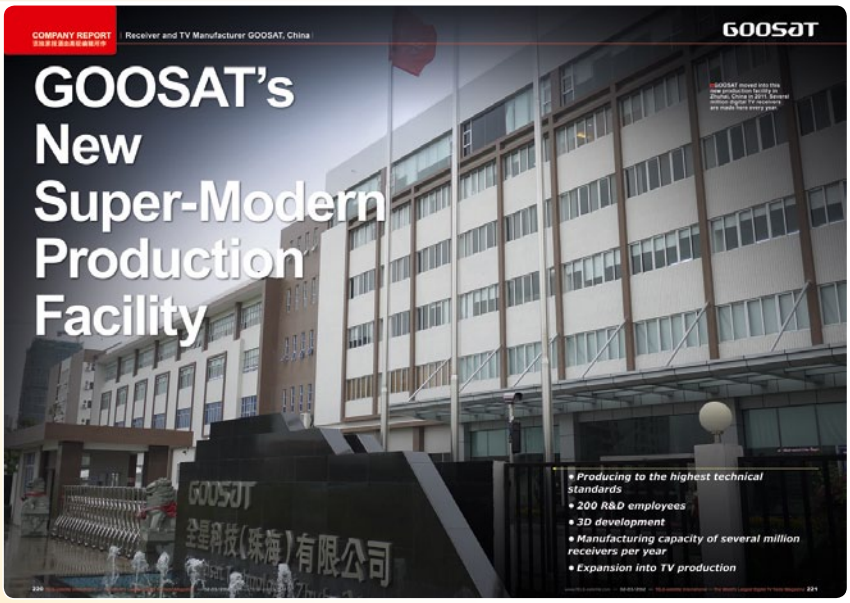
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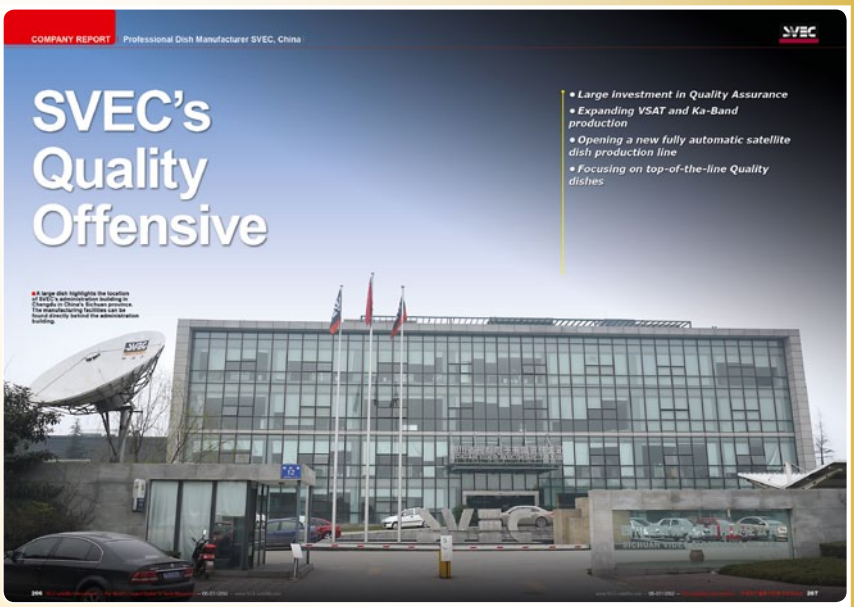
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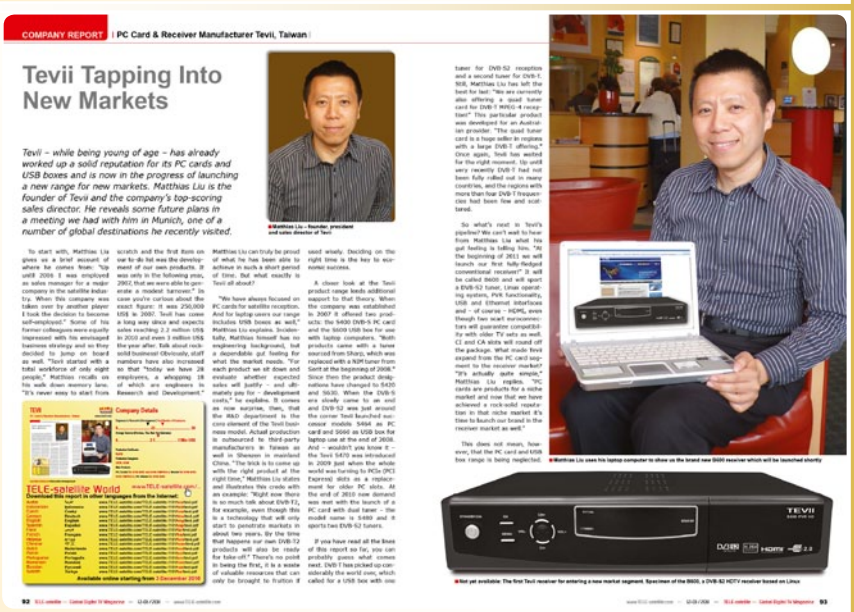
www.tevii.com

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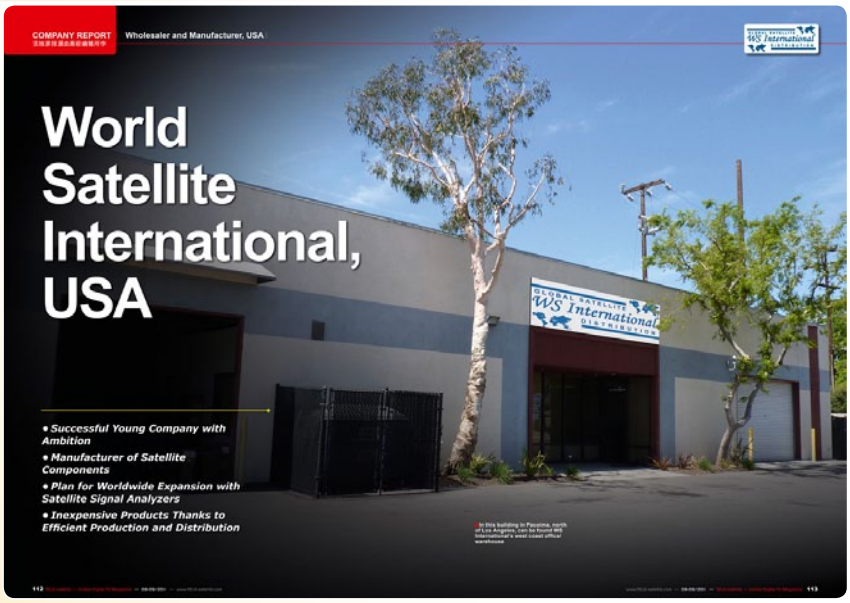
WSInternational USA

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Nivaldo da Silva Knows How to Align Large Antennas



■ 'Antenna Whisperer' Nivaldo da Silva in front of his TV Século 21 satellite antenna installations in Valinhas, Sao Paulo Province, Brazil

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The broadcasting antenna and the large 6.0 meter satellite dish for the TV Século 21 station. If you look closely, you'll see a 1.2-meter offset dish mounted by Nivaldo da Silva up on the mast in an inverted position.

Anyone who has any experience setting up and aligning satellite antennas knows only too well the difference between small dishes and larger dishes: the smaller the antenna, the easier it is to align it to the desired satellite; on the other side of the coin, the larger the dish, the more difficult it is to bring it into focus on the right satellite.

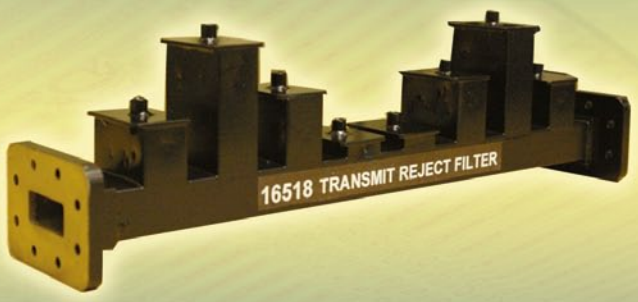
Some installers have a certain way of performing these alignments and one of them is Nivaldo da Silva from Sao Paulo, Brazil. He has the ability to perfectly align the largest of antennas and seems to be able to talk to the dishes. They call him the 'Antenna Whisperer'.

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1

He's been installing antennas for 40 years. "I erected my first antennas back in 1966", he says remembering the start of it all. When the first satellite signals began streaming down into Brazil, Nivaldo da Silva became instantly excited about this new technology. "There was hardly any literature on the subject. Back then we had to work out everything ourselves - we even built the parabolic dishes ourselves."

The first attempt was not very successful: "We simply couldn't find the satellite signal." Eventually they did succeed when they acquired a used satellite dish and successfully installed it.

Now there was nothing to hold him back and Nivaldo da Silva installed one system after the another. He be-



gan purchasing the necessary materials in combination with others. Nivaldo da Silva is very concerned about the quality of the materials he uses for his own installations: "It always pays to use quality materials in the long run." In 1977 he started his own installation company.

It didn't take long for the professional users of satellite signals to discover him. "Rede Globo de Televisao was my first professional customer; I installed satellite systems for the broadcaster's advertising customers." Later on he acquired contracts with other broadcasters like TV Campinas, an affiliate of TV Bandeirantes, for SBT, TV Cultura and the religious channel TV Século 21.

This broadcaster is located in the small city of Valinhas, south of Campinas in the Sao Paulo province in southeastern Brazil.

José Maria Albiero is TV Século 21's TV Director. He willingly showed us the antenna installation that 'Antenna Whisperer' Nivaldo erected at his station. "We've been operating a TV production facility here since 1994 and since 1998 we've been transmitting our program on channel 53." And since 2000 TV Século 21 has been occupying an 18 MHz half-transponder on the STARONE C2 satellite at 70W. "We use a 6.0-meter antenna to uplink our program to that satellite. This dish was erected by Nivaldo."

Nivaldo lists for us: "For TV Século 21 I installed a total of five dish antennas - three that are 3.2 meters in diameter, a 2.6-meter dish and a 4.5-meter antenna." One of the 3.2-meter dishes was fitted with a motor by Nivaldo, the others are all fixed in place.

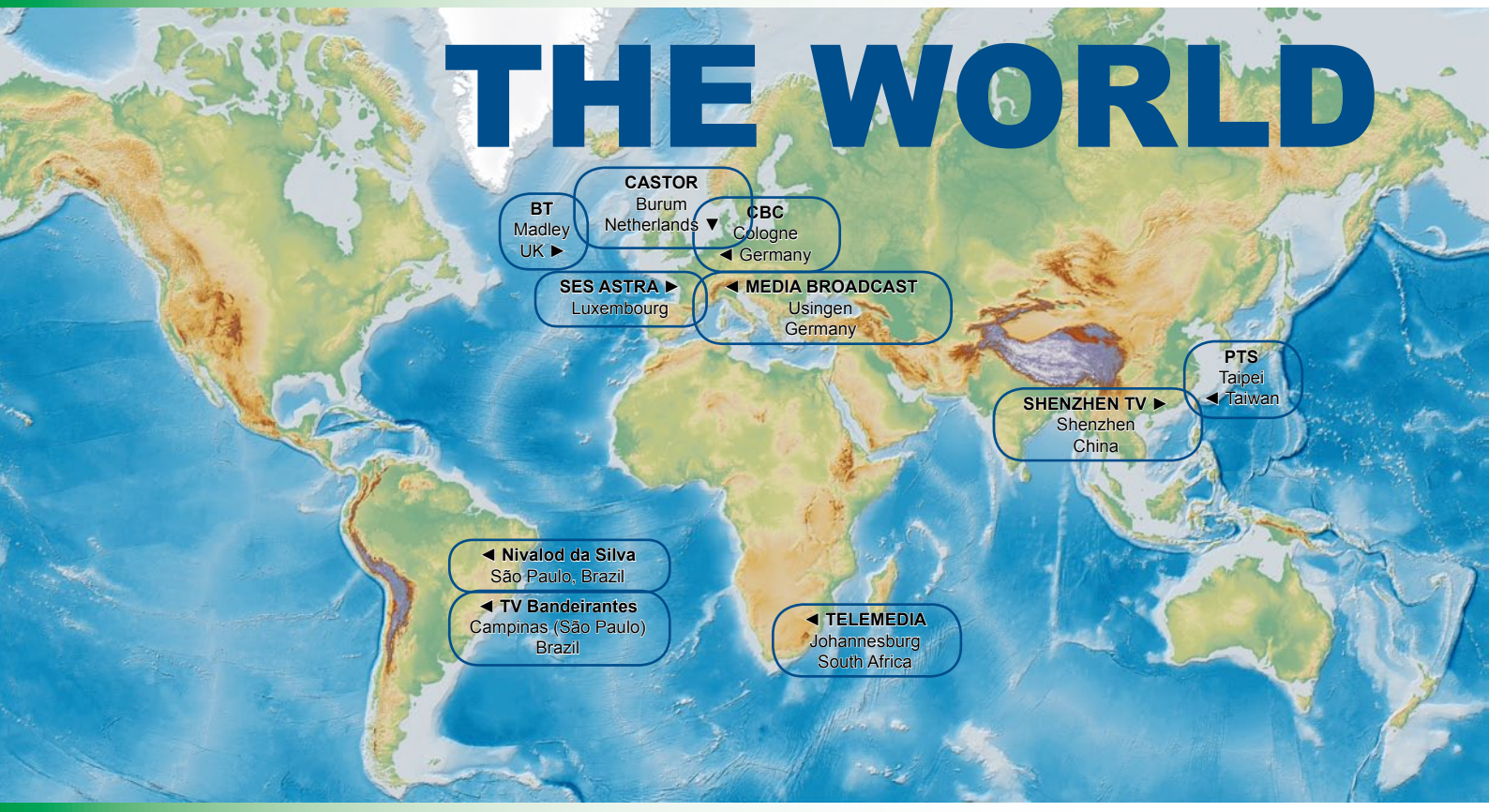
'Antenna Whisperer' Nivaldo da Silva can be proud of what he's achieved. He took his personal interest in satellite technology and successfully turned it into a flourishing business. His focus on careful and precise installations has resulted in him becoming one of the most sought after large antenna specialists in his region.

1. José Maria Albiero is TV Século 21's TV Director and is seen here showing us the satellite signal reception components

2. A look in the TV Século 21 broadcasting control room. Programming is transmitted locally via UHF channel 53 but can also be received through the Internet at www.tvseculo21.org.br



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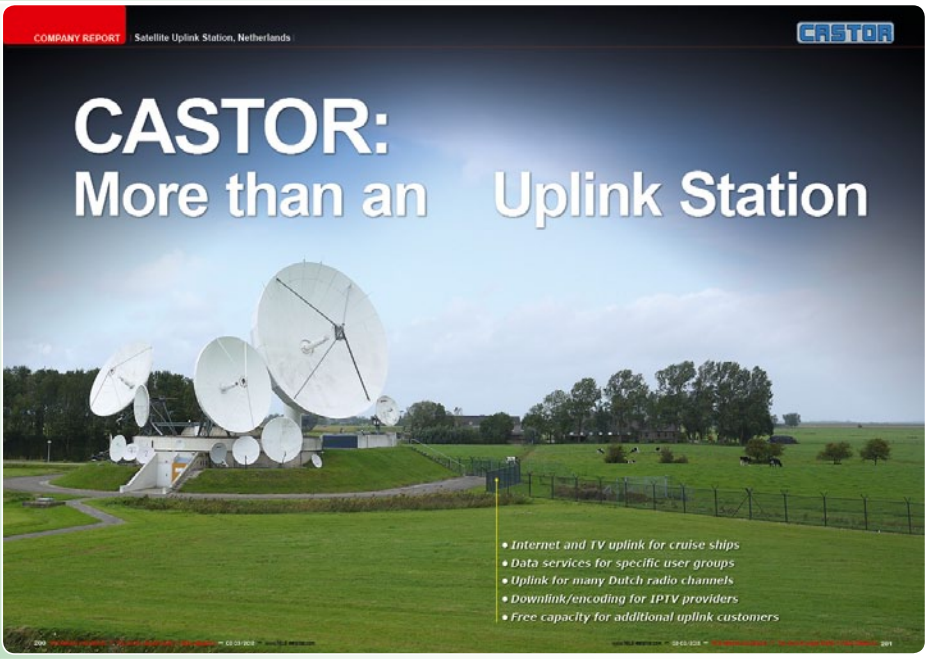
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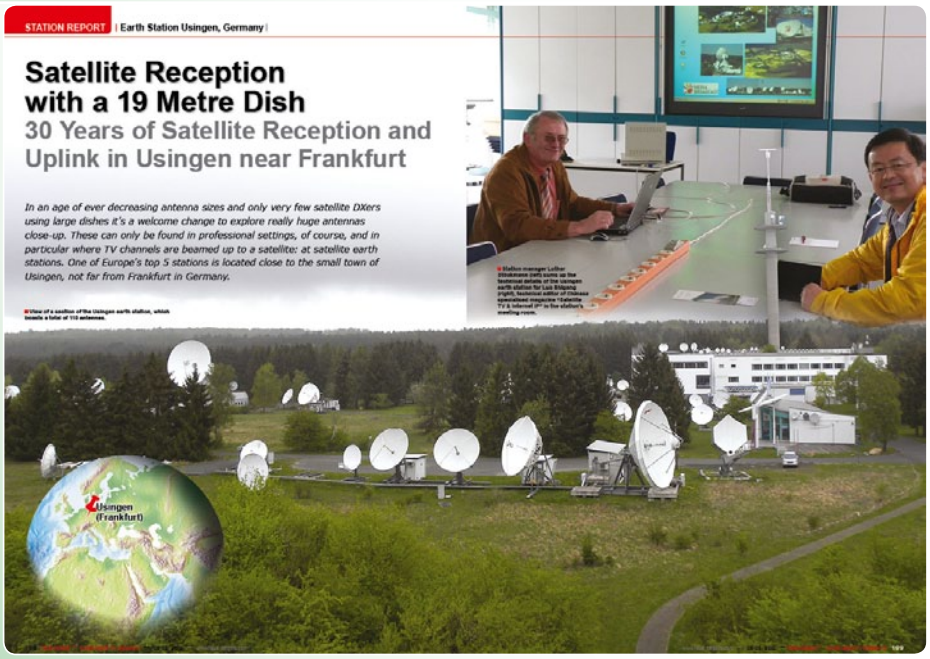
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Телевидение Китая в США





- *Производит несколько ТВ каналов на китайском языке в США*
- *Использует оригинальные материалы из Китая*
- *Полу-онлайн трансляции новостей из Китая*
- *Уже используется IPTV*
- *Транслируется открыто через ATSC станции*

On the first floor of this office building in El Monte, east of Los Angeles, you'll find ICN's headquarters. ICN stands for "Information, Culture, News" and perfectly describes the content of ICN's produced TV programs. About 35 employees work here with another 30 employees located in those cities with ICN TV stations.

ICN supplies Chinese Americans with TV from Home



In most countries the terrestrial TV frequencies are reserved for those channels that broadcast in that country's language. In a melting pot country like the USA, there are so many languages spoken by immigrants from every corner of the world and this is reflected by the terrestrially broadcasted TV channels. There are freely receivable TV channels in every conceivable language including Chinese.

One of the larger providers of Chinese-language TV in the USA is the company ICN (www.icntv.net or www.iavcusa.com) whose headquarters

Neil Nieh is Vice President and Director of ICN. He is responsible for the technical side of the operation and is standing here in the studio ICN uses for their locally produced news broadcasts.



can be found in Los Angeles, California. There you'll find two digital ICN TV channels receivable terrestrially in ATSC, one of them in Chinese and the other in English with a focus on Asia as well as China.

We wanted to know more about this: where does ICN get its programming content from and how is all of this financed?

The right person to talk to about this is Neil Nieh. He is ICN's Vice President and Director and is primarily responsible for the technical side of the business. He explains to us how ICN got its start: "In 1982 the government in Taiwan decided to address the interests of the out-of-country Chinese in the USA by making available video cassettes of movies and TV series from Taiwan."

In just a few years a network of 400

■Broadcasting network for ICN in the USA. From the headquarters in Los Angeles, the programming is distributed to various cities in the USA via fiber optic link and then transmitted terrestrially in ATSC in these cities.

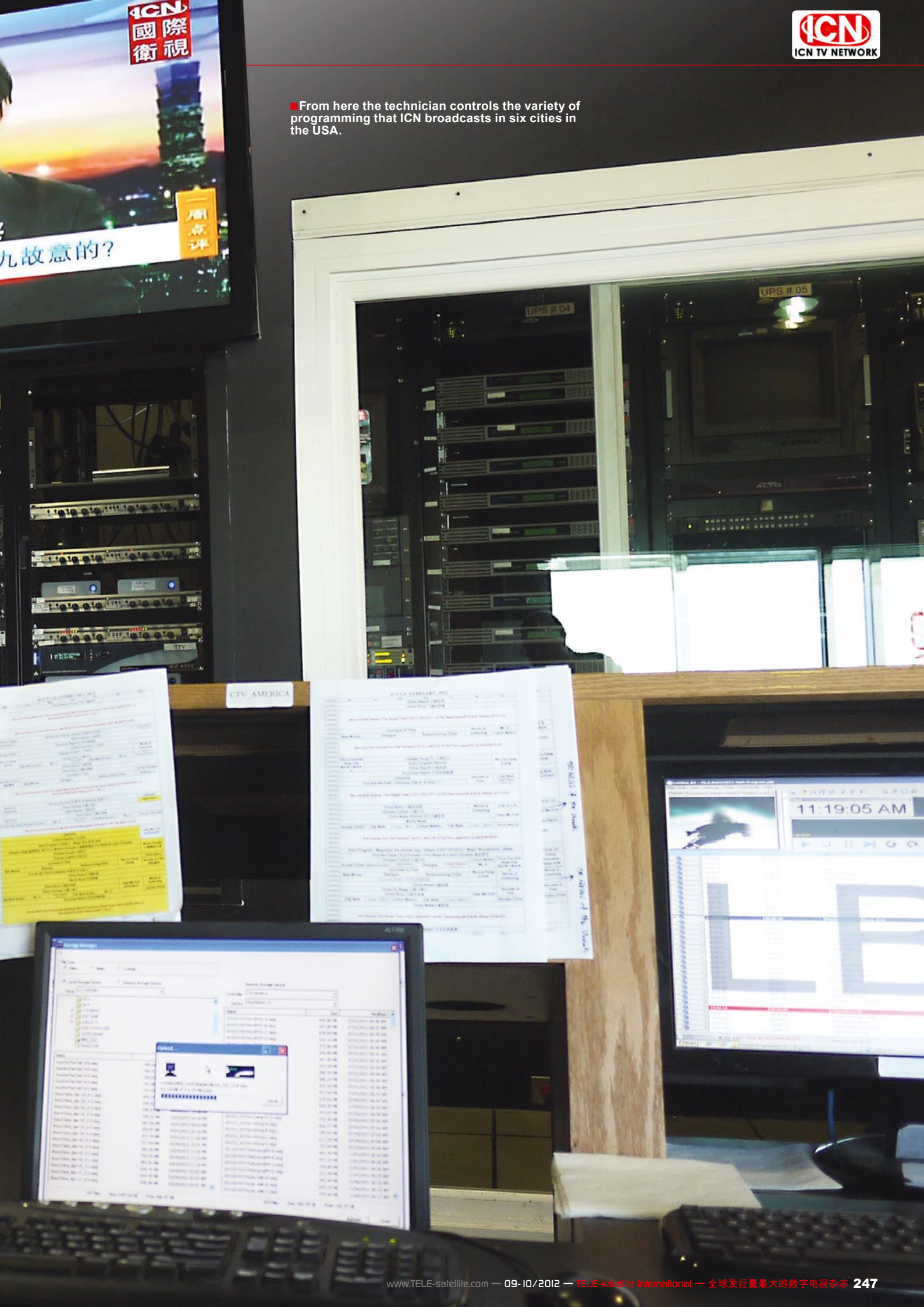


distribution stations all across the USA had been built up through which these video cassettes could be rented. In 1998 a satellite channel was even leased and was used to broadcast three Chinese-language channels in Viaccess.

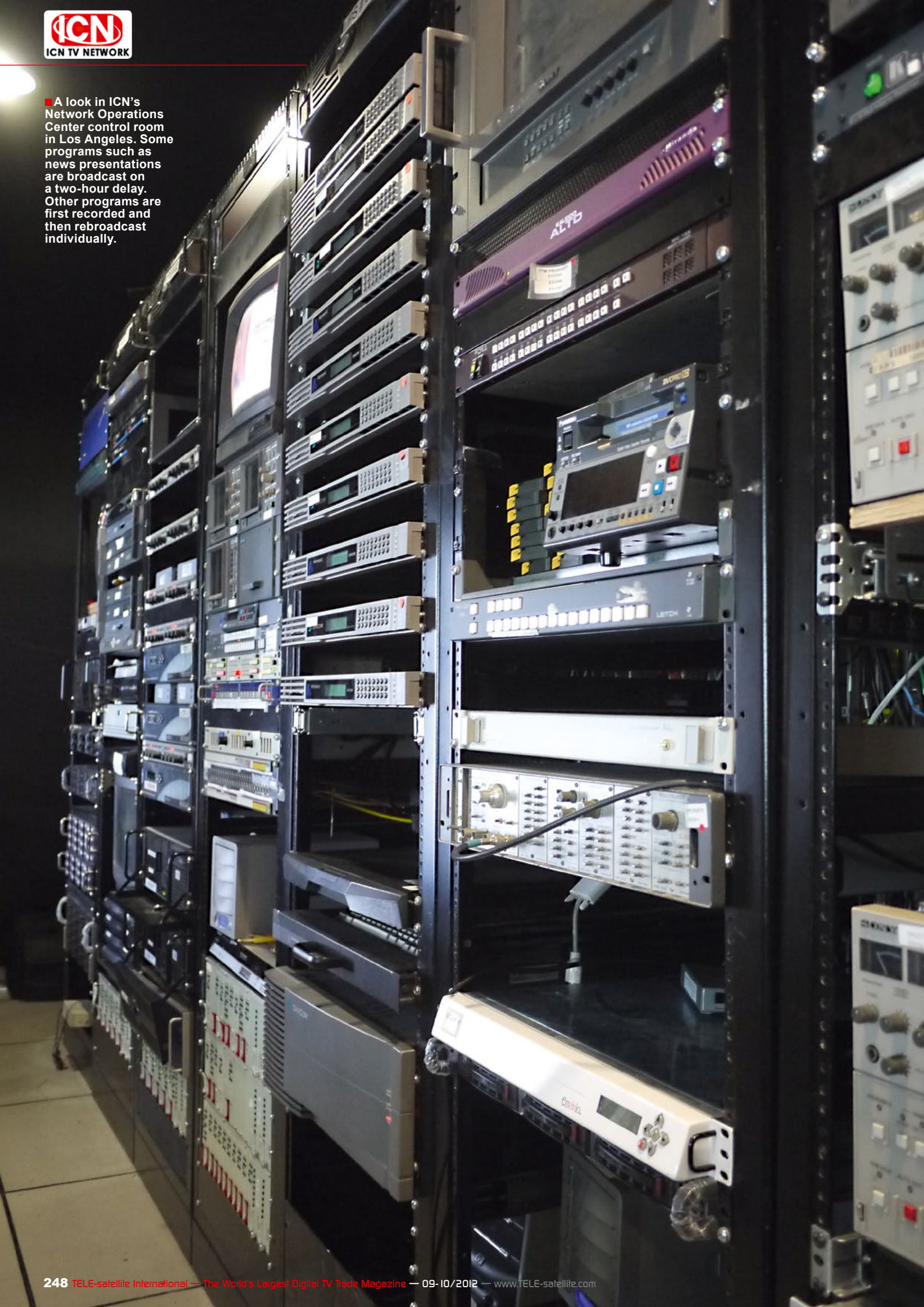
But then in 2004 the elections in Taiwan resulted in a new government. The new government decided to send over to the USA a new leadership for ICN. Inexperienced and naïve, these new bosses ran the company into the ground in just a few months.

Neil Nieh, who had been working for ICN already since 1990, and a coworker in administration, Amanda Lee, recognized ICN's potential and offered to take over the nearly collapsed company in a management buyout. "I took over 60% and my partner Amanda Lee took over the remaining 40%", explains Neil Nieh to us.

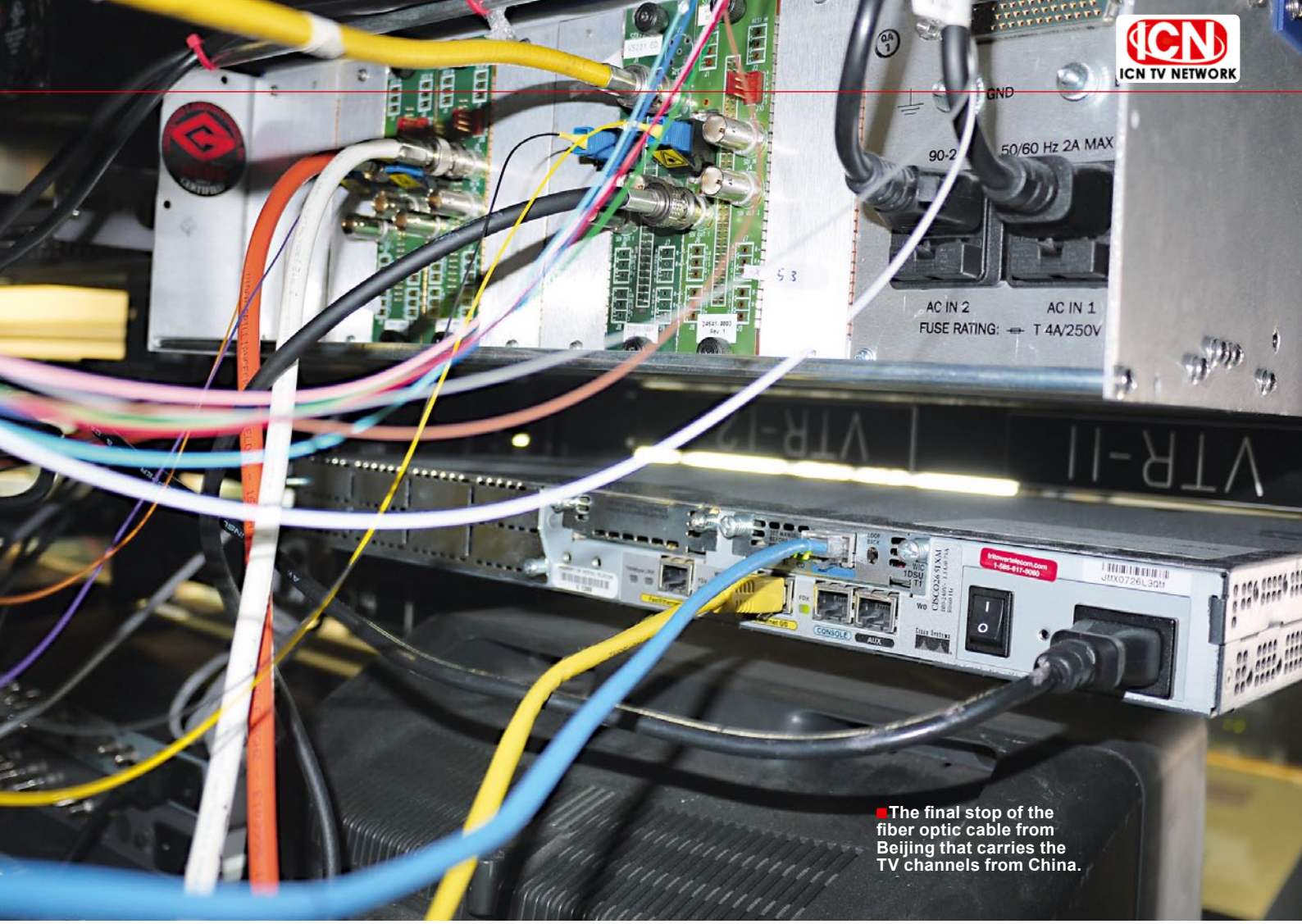
Amanda Lee as the CEO runs the company's daily operations while Neil Nieh is the Technical Director for Programming Development. The owner-



■ From here the technician controls the variety of programming that ICN broadcasts in six cities in the USA.



A look in ICN's Network Operations Center control room in Los Angeles. Some programs such as news presentations are broadcast on a two-hour delay. Other programs are first recorded and then rebroadcast individually.



The final stop of the fiber optic cable from Beijing that carries the TV channels from China.

ship changed once again in 2009 when the company "Beauty Media" acquired an 85% stake in ICN.

Neil Nieh explains to us how ICN functions technically: "We receive about nine channels from state-run CCTV and an additional 16 Chinese provincial TV channels (the number of channels changes from time to time) directly out of China from the programming provider "Great Wall" (a state-run company) via a trans-pacific fiber-optic cable." From all of this ICN selects the programming compatible for viewers in the USA. "CCTV's news programs we carry, for example, with a two-hour delay while popular TV series are delayed by four weeks or three months." ICN also offers video-on-demand services so that viewers can see their favorite series sooner for a fee.

ICN doesn't rebroadcast the original Chinese TV channels; instead they create their own programming using the programs from the Chinese broadcasters. "We have a license from the American FCC (Federal Communications Commission) to operate as full broadcaster and that means we have to include local content in our programming." And that's the reason why ICN operates their own studio. They use it to produce cooking shows, kids programs and local news broadcasts. ICN can be viewed not only in Los Angeles via terrestrial ATSC broadcasters, but can also be seen in San Francisco, Houston, New York and Seattle. These other stations also have to follow the same FCC rules regarding local content. "We have our own TV studio in each of these cities so that we can produce local programming. The locally produced programs are then transferred to our network control center here in Los Angeles where we put everything together."

Neil Nieh gives us an idea on viewer potential: "Officially there are around one million Chinese people living in the Los Angeles area but we estimate that unofficially it's more like two million." This potential is about the same in the other cities. "Only in New York do we broadcast our two channels in English with Chinese subtitles because of the many second and third generation Chinese that live there." ICN is planning additional TV stations in Chicago, Atlanta and Boston. ICN is taking small steps in expanding its network across the entire USA.

But ICN doesn't only broadcast their programming for free via terrestrial TV stations in ATSC, they are also available via cable networks in these cities. "Not only that, we also have capacity with satellite provider DishNetwork and our programming can also be viewed through the three large IPTV providers: KyLinTV (www.kylintv.com), iTV (www.itv.cn) and iTalkTV (www.italkbb.com)."

How does ICN finance all of this? Neil Nieh explains: "40% of our income comes from advertisements, 30% from subscription fees and the remaining 30% from our Home Shopping activities and other events." How does the future look to him? "A real problem for us are the advertising agencies that are consistently under more and more pressure by their own customers to invest in Internet advertising. We have to revamp our advertising in such a way that they can satisfy the requirements of the ad agencies." Neil Nieh makes it clear: "a simple website for our TV channels is not what is in demand." That's why Neil Nieh is working on OTT concepts and interactive services. One thing is clear: ICN has to change since not only are the requirements of the viewers changing, the advertising customers are also adjusting to this change and expect new offerings. And just like every other programming provider, ICN is constantly adjusting itself.

Спутниковая станция Oscar-a



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- ***Всегда привозит из путешествий что-нибудь для спутникового ТВ***



■ Satellite DXer Oscar Campos on his covered terrace at his home in Santiago de Chile. From here he enjoys watching satellite TV channels from all over the world.





■Oscar Campos mounted six 70cm dishes in a row: three of them were installed normally while the other three were installed in the inverted position. In the middle is a Helix antenna for the reception of the NOAA weather satellites.

From long-distance radio listener to long-distance TV viewer



Satellite reception is nothing new for Oscar Campos, he worked for many years at an earth station. His employer was the Chilean Telecommunications company ENTEL and he worked at he Longovilo teleport southwest of the Chilean capital of Santiago as an electrical engineer. That's already nine years ago but since then he's managed to construct his own satellite reception system at his home.

"The dishes are here on my terrace", he explains to us. He refers to them as his mascots. "I don't have a cat or a dog; I have my dish antennas to take care of", he says smiling.

He has an array of 70cm dishes: "Here on the left side is the dish aligned to TELSATR 12 at 15W; the antenna on the right side is pointed to SATMEX 6 at 113W", he points out. He uses a DiSEqC multiswitch to switch between the antennas and two FTA receivers. "This setup lets me receive channels from all over the world including channels in Chinese, Russian, Arabic as well as many European channels and, of course, channels from Brazil, Argentina and Chile."

When he looks for new channels he makes use of a motorized test antenna that he has mounted on a pedestal. "I mounted this 90cm antenna in the inverted position so that I could also receive satellites at very low elevations."

For the C-band Oscar Campos uses a 1.8-meter dish on which he mounted expansion panels to convert it into a 2.4-meter antenna. "I use it to receive the analog channels from Brazil but this won't last too much longer; at some point the analog channels will be turned off." In return though he also receives the very new 3D and HD channels in DVB-S2.

An interesting feature in his antenna park is a helix antenna. "It's a QFH Quadri Filar Helix antenna that I use to receive APT signals in the 137 MHz

range. It has to do with the NOAA polar satellites that transmit weather images that are freely receivable." With this antenna he can always check live what the weather is like at that particular moment. "It's also FTA even though there's no TV or radio; but very few people know about this free service."

He is always busy modifying his antenna system and installing new dishes. "Whenever I travel out of the country I always bring something back for my reception system; it could be a multiswitch, an LNB or a new receiver." The channels that he enjoys the most are the Russian channels CTC on TELSTAR 12 and Russia Today on INTELSAT 9. There's a reason for this: "When I was younger I heard Radio Moscow for the first time on my father's shortwave radio. I was fascinated by that and wondered how people lived on the other side of the world. Today, thanks to satellites, I can watch TV from these countries!" He also likes to watch the news channels on CCTV from China as well as NHK from Japan. He finds particularly interesting the channels Rede TV and TV Scola from Brazil on STARONE C2.

Oscar Campos is the master of his own satellite station with which he watches channels from all over the world in the best quality right in his home in Santiago.



■ **The large 2.4-meter antenna he uses for analog signal reception.**

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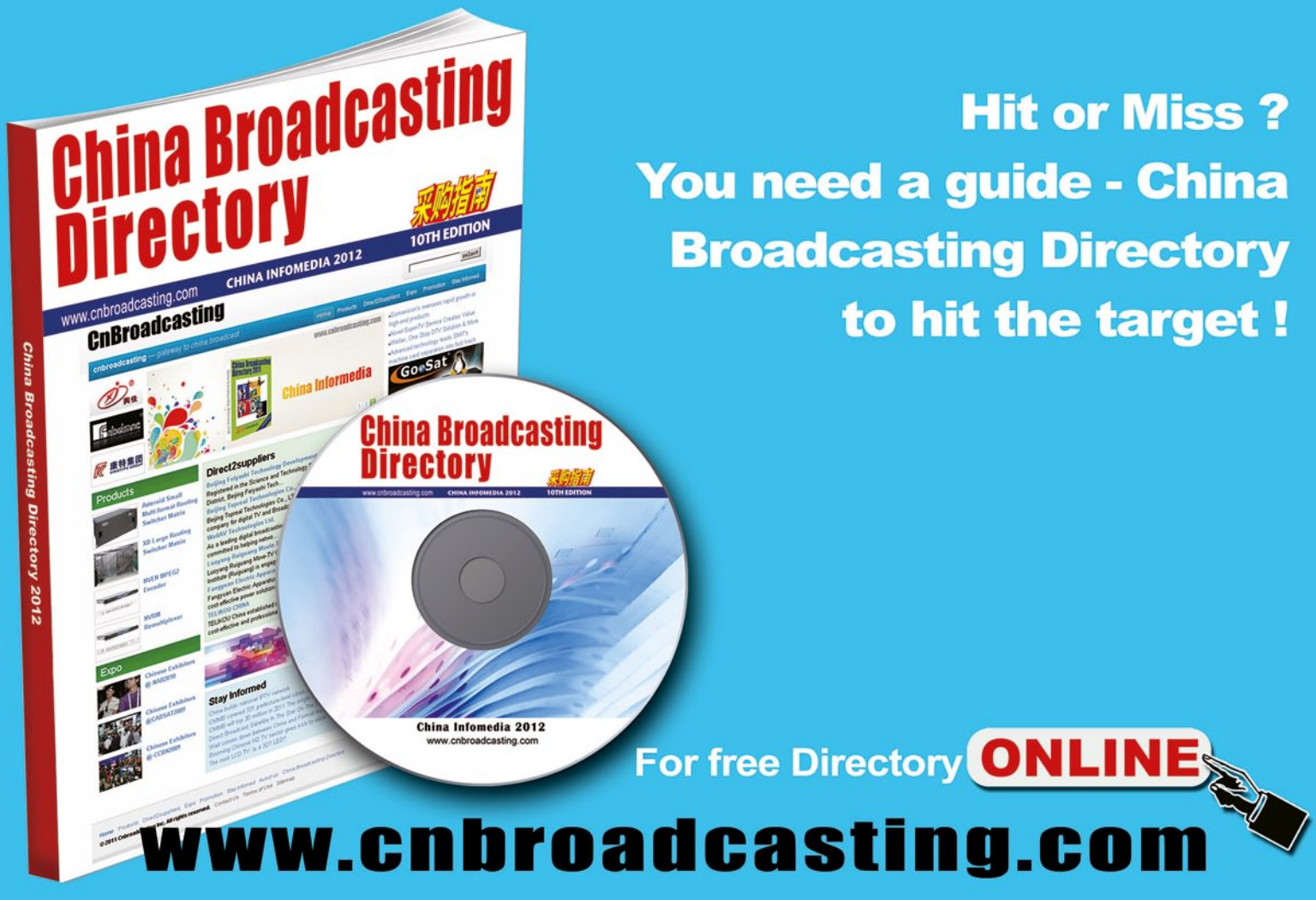
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1. Oscar Campos' test system that he uses to find new satellites and new channels

2. This is how Oscar Campos receives weather information from the NOAA satellites


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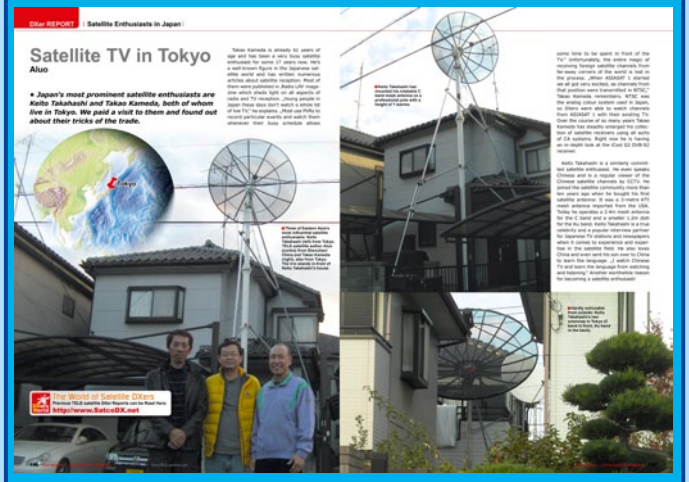
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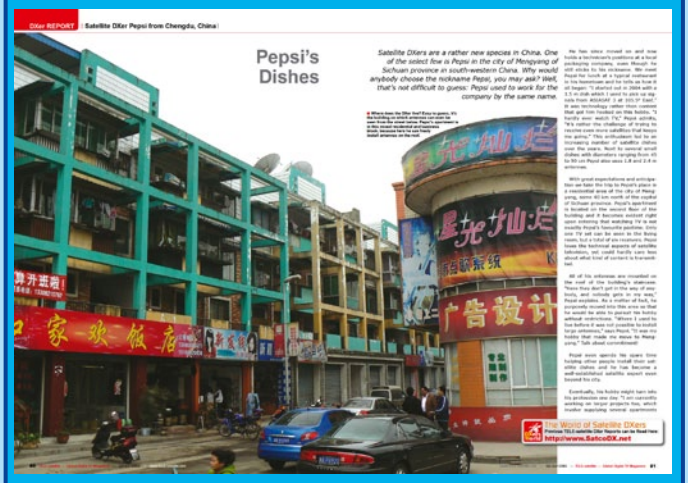
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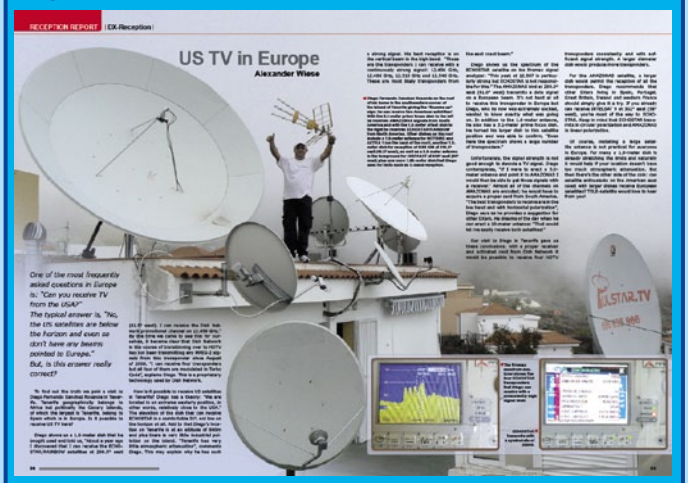
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Highlights:

ATSC with HDTV (USA)
ATSC with 1 Single Channel (USA)
ATSC with 2 Audio PIDs for 1 Video (USA)
ATSC with High Null Packets (USA)
ATSC with Wrong TS ID (USA)
ATSC Fully Packed (USA)
ATSC with Channel Name Missing (USA)
ATSC with Private Sections
ATSC with Additional Data Services

DTMB with HDTV (China)
DTMB with false video descriptor (China)
DTMB with MHEG (Hongkong)
DVB-C in Nagravision 3 (Portugal)
DVB-S with 3D (ASTRA)
DVB-S with MPEG2 and H.264 mix (PALAPA)
DVB-S in MIS (ATLTANIC BIRD)
DVB-S2 with HDTV (HOTBIRD)
DVB-S2 with MPEG 4:2:2 (EUROBIRD)
DVB-S2 with 3D (TURKSAT)

DVB-S2 with HDTV (AMAZONAS)
DVB-S2 with 3D (THOR)
DVB-S2 with 1Seg mobile TV (AMC 6)
DVB-T with radio (Netherlands)
DVB-T with MHEG (UK)
DVB-T as retransmission off satellite (Qatar)
DVB-T2 with HDTV (Germany, UK)
ISDB-T with 1Seg mobile TV and HD (Brazil)

ATSC terrestrial

US USA

ATSC US

Transportstream ID 751 Recording TELE-satellite
Transmitter Atlanta Channel 19 *Remark* *1 Single Channel*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
49	0x0031	MPEG2 Video	-	16521.84	85.17	WGCL-TV
8182	0x1FF6	?	-	1831.31	9.44	N/A
52	0x0034	AC3 Audio	-	460.87	2.38	WGCL-TV
512	0x0200	AC3 Audio	-	263.35	1.36	N/A
8191	0x1FFF	Null Packets	-	182.61	0.94	N/A
8187	0x1FFB	MGT	-	60.20	0.31	N/A
0	0x0000	PAT	-	15.08	0.08	N/A
48	0x0030	PMT	-	15.04	0.08	WGCL-TV
1	0x0001	CAT	-	15.04	0.08	N/A
4108	0x100C	EIT	-	6.65	0.03	N/A
4620	0x120C	ETT	-	4.46	0.02	N/A
8186	0x1FFA	?	-	1.57	0.01	N/A
4109	0x100D	EIT	-	1.44	0.01	N/A
4111	0x100F	EIT	-	0.96	0.00	N/A
4110	0x100E	EIT	-	0.96	0.00	N/A
4621	0x120D	ETT	-	0.87	0.00	N/A
4125	0x101D	EIT	-	0.66	0.00	N/A
4104	0x1008	EIT	-	0.66	0.00	N/A
4102	0x1006	EIT	-	0.66	0.00	N/A
4101	0x1005	EIT	-	0.66	0.00	N/A
4099	0x1003	EIT	-	0.66	0.00	N/A
4098	0x1002	EIT	-	0.66	0.00	N/A
4124	0x101C	EIT	-	0.52	0.00	N/A
4123	0x101B	EIT	-	0.52	0.00	N/A
4122	0x101A	EIT	-	0.52	0.00	N/A
4117	0x1015	EIT	-	0.52	0.00	N/A
4116	0x1014	EIT	-	0.52	0.00	N/A
4115	0x1013	EIT	-	0.52	0.00	N/A
4114	0x1012	EIT	-	0.52	0.00	N/A
4127	0x101F	EIT	-	0.44	0.00	N/A
4126	0x101E	EIT	-	0.44	0.00	N/A
4107	0x100B	EIT	-	0.44	0.00	N/A
4106	0x100A	EIT	-	0.44	0.00	N/A
4105	0x1009	EIT	-	0.44	0.00	N/A
4103	0x1007	EIT	-	0.44	0.00	N/A
4100	0x1004	EIT	-	0.44	0.00	N/A
4097	0x1001	EIT	-	0.44	0.00	N/A
4096	0x1000	EIT	-	0.44	0.00	N/A
4121	0x1019	EIT	-	0.35	0.00	N/A
4120	0x1018	EIT	-	0.35	0.00	N/A
4119	0x1017	EIT	-	0.35	0.00	N/A
4118	0x1016	EIT	-	0.35	0.00	N/A
4113	0x1011	EIT	-	0.35	0.00	N/A
4112	0x1010	EIT	-	0.35	0.00	N/A
4616	0x1208	ETT	-	0.22	0.00	N/A
4637	0x121D	ETT	-	0.17	0.00	N/A
4634	0x121A	ETT	-	0.17	0.00	N/A

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ATSC US

Transportstream ID 1379 Recording TELE-satellite
Transmitter Baltimore Channel 42

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
49	0x0031	MPEG2 Video	-	12609.24	64.85	MPT-HD
65	0x0041	MPEG2 Video	-	3042.52	15.65	MPT-2
81	0x0051	MPEG2 Video	-	2040.13	10.49	V-me
8191	0x1FFF	Null Packets	-	405.07	2.08	N/A
52	0x0034	AC3 Audio	-	394.67	2.03	MPT-HD
85	0x0055	AC3 Audio	-	197.86	1.02	V-me
84	0x0054	AC3 Audio	-	197.86	1.02	V-me
69	0x0045	AC3 Audio	-	197.86	1.02	MPT-2
68	0x0044	AC3 Audio	-	197.86	1.02	MPT-2
7427	0x1D03	EIT	-	28.68	0.15	N/A
7426	0x1D02	EIT	-	25.49	0.13	N/A
7425	0x1D01	EIT	-	25.17	0.13	N/A
8187	0x1FFB	MGT	-	18.90	0.10	N/A
7424	0x1D00	EIT	-	18.90	0.10	N/A
0	0x0000	PAT	-	15.82	0.08	N/A
7683	0x1E03	ETT	-	4.04	0.02	N/A
80	0x0050	PMT	-	4.04	0.02	V-me
64	0x0040	PMT	-	4.04	0.02	MPT-2
48	0x0030	PMT	-	3.93	0.02	MPT-HD
7682	0x1E02	ETT	-	3.82	0.02	N/A
7681	0x1E01	ETT	-	3.82	0.02	N/A
7680	0x1E00	ETT	-	3.19	0.02	N/A
7808	0x1E80	ETT	-	0.53	0.00	N/A

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ATSC US

Transportstream ID 459 Recording TELE-satellite
Transmitter Denver Channel 18 *Remark* *Additional Data Services*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
49	0x0031	MPEG2 Video	-	6899.04	35.11	KRMA-DT
8191	0x1FFF	Null Packets	-	5270.25	26.82	N/A
81	0x0051	MPEG2 Video	-	3293.70	16.76	Create
65	0x0041	MPEG2 Video	-	2917.56	14.85	V-Me
52	0x0034	AC3 Audio	-	466.84	2.38	KRMA-DT
84	0x0054	AC3 Audio	-	200.02	1.02	Create
68	0x0044	AC3 Audio	-	200.02	1.02	V-Me
69	0x0045	AC3 Audio	-	133.34	0.68	V-Me
154	0x009A	Data	-	91.11	0.46	_Service 9
4097	0x1001	EIT	-	32.86	0.17	N/A
4096	0x1000	EIT	-	29.87	0.15	N/A
8187	0x1FFB	MGT	-	22.41	0.11	N/A
0	0x0000	PAT	-	16.97	0.09	N/A
4608	0x1200	ETT	-	13.04	0.07	N/A
170	0x00AA	Data	-	10.18	0.05	_Service 10
4610	0x1202	ETT	-	9.23	0.05	N/A
4611	0x1203	ETT	-	8.69	0.04	N/A
4609	0x1201	ETT	-	8.42	0.04	N/A
160	0x00A0	PMT	-	3.94	0.02	_Service 10
144	0x0090	PMT	-	3.94	0.02	_Service 9
80	0x0050	PMT	-	3.94	0.02	Create
64	0x0040	PMT	-	3.94	0.02	V-Me
48	0x0030	PMT	-	3.94	0.02	KRMA-DT
4099	0x1003	EIT	-	3.26	0.02	N/A
4098	0x1002	EIT	-	2.99	0.02	N/A
5120	0x1400	ETT	-	1.09	0.01	N/A

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ATSC US

Transportstream ID 455 Recording TELE-satellite
Transmitter Denver Channel 34

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
49	0x0031	MPEG2 Video	-	12364.43	63.44	KWGN-DT
65	0x0041	MPEG2 Video	-	3283.25	16.84	THISTV
8191	0x1FFF	Null Packets	-	2876.56	14.76	N/A
52	0x0034	AC3 Audio	-	395.55	2.03	KWGN-DT
53	0x0035	AC3 Audio	-	198.52	1.02	KWGN-DT
68	0x0044	AC3 Audio	-	198.27	1.02	THISTV
8187	0x1FFB	MGT	-	78.96	0.41	N/A
0	0x0000	PAT	-	18.07	0.09	N/A
64	0x0040	PMT	-	17.82	0.09	THISTV
48	0x0030	PMT	-	17.82	0.09	KWGN-DT
4101	0x1005	EIT	-	11.14	0.06	N/A
4102	0x1006	EIT	-	7.18	0.04	N/A
4104	0x1008	EIT	-	6.93	0.04	N/A
4103	0x1007	EIT	-	5.20	0.03	N/A
4614	0x1206	ETT	-	4.70	0.02	N/A
4613	0x1205	ETT	-	2.72	0.01	N/A
4615	0x1207	ETT	-	2.23	0.01	N/A
4616	0x1208	ETT	-	1.24	0.01	N/A
4607	0x11FF	ETT	-	0.50	0.00	N/A

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ATSC US

Transportstream ID 515 Recording TELE-satellite
Transmitter Hartford Channel 35 *Remark* *big null packet*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
49	0x0031	MPEG2 Video	-	12228.17	63.00	WVIT-HD
8191	0x1FFF	Null Packets	-	3266.54	16.83	N/A
8182	0x1FF6	?	-	1841.61	9.49	N/A
65	0x0041	MPEG2 Video	-	1091.77	5.63	NBC+
52	0x0034	AC3 Audio	-	395.05	2.04	WVIT-HD
53	0x0035	AC3 Audio	-	197.63	1.02	WVIT-HD
68	0x0044	AC3 Audio	-	197.58	1.02	NBC+
8187	0x1FFB	MGT	-	86.65	0.45	N/A
64	0x0040	PMT	-	25.04	0.13	NBC+
48	0x0030	PMT	-	25.04	0.13	WVIT-HD
0	0x0000	PAT	-	24.98	0.13	N/A
5000	0x1388	EIT	-	10.73	0.06	N/A
5133	0x140D	ETT	-	3.25	0.02	N/A
5005	0x138D	EIT	-	1.95	0.01	N/A
5001	0x1389	EIT	-	1.79	0.01	N/A
5134	0x140E	ETT	-	1.63	0.01	N/A
5131	0x140B	ETT	-	1.30	0.01	N/A
5006	0x138E	EIT	-	1.30	0.01	N/A
5132	0x140C	ETT	-	1.14	0.01	N/A
5130	0x140A	ETT	-	1.14	0.01	N/A
5129	0x1409	ETT	-	0.98	0.01	N/A
5007	0x138F	EIT	-	0.98	0.01	N/A
5128	0x1408	ETT	-	0.87	0.00	N/A
5003	0x138B	EIT	-	0.81	0.00	N/A
5002	0x138A	EIT	-	0.81	0.00	N/A
5004	0x138C	EIT	-	0.54	0.00	N/A

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ATSC US

Transportstream ID 1639 Recording TELE-satellite
Transmitter Kansas City Channel 24 *Remark* *one channel with high bitrate*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
49	0x0031	MPEG2 Video	-	18493.27	95.49	KCTV
52	0x0034	AC3 Audio	-	394.20	2.04	KCTV
8191	0x1FFF	Null Packets	-	367.74	1.90	N/A
8187	0x1FFB	MGT	-	31.18	0.16	N/A
48	0x0030	PMT	-	14.97	0.08	KCTV
1	0x0001	CAT	-	14.97	0.08	N/A
0	0x0000	PAT	-	14.97	0.08	N/A
4101	0x1005	EIT	-	7.38	0.04	N/A
4100	0x1004	EIT	-	7.38	0.04	N/A
4357	0x1105	ETT	-	5.74	0.03	N/A
4103	0x1007	EIT	-	5.33	0.03	N/A
4102	0x1006	EIT	-	4.92	0.03	N/A
4358	0x1106	ETT	-	1.44	0.01	N/A
4359	0x1107	ETT	-	0.82	0.00	N/A
4096	0x1000	EIT	-	0.62	0.00	N/A
4353	0x1101	ETT	-	0.41	0.00	N/A
4099	0x1003	EIT	-	0.41	0.00	N/A
4098	0x1002	EIT	-	0.41	0.00	N/A
4097	0x1001	EIT	-	0.41	0.00	N/A
4355	0x1103	ETT	-	0.21	0.00	N/A
4354	0x1102	ETT	-	0.21	0.00	N/A
4352	0x1100	ETT	-	0.21	0.00	N/A

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ATSC US

Transportstream ID 2083 Recording TELE-satellite
Transmitter Las Vegas Channel 11

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
49	0x0031	MPEG2 Video	-	7803.76	40.09	KLVXHD
65	0x0041	MPEG2 Video	-	3571.86	18.35	KLVXSD1
8182	0x1FF6	?	-	2763.31	14.20	N/A
81	0x0051	MPEG2 Video	-	2496.00	12.82	KLVXSD2
2304	0x0900	Private Data	-	1038.73	5.34	_Service 6
52	0x0034	AC3 Audio	-	394.91	2.03	KLVXHD
8191	0x1FFF	Null Packets	-	219.21	1.13	N/A
68	0x0044	AC3 Audio	-	198.20	1.02	KLVXSD1
84	0x0054	AC3 Audio	-	197.51	1.01	KLVXSD2
85	0x0055	AC3 Audio	-	132.17	0.68	KLVXSD2
69	0x0045	AC3 Audio	-	132.17	0.68	KLVXSD1
53	0x0035	AC3 Audio	-	132.05	0.68	KLVXHD
138	0x008A	Data	-	90.24	0.46	_Service 8
8187	0x1FFB	MGT	-	35.98	0.18	N/A
7680	0x1E00	ETT	-	28.44	0.15	N/A
7424	0x1D00	EIT	-	24.10	0.12	N/A
0	0x0000	PAT	-	16.79	0.09	N/A
128	0x0080	PMT	-	15.19	0.08	_Service 8
112	0x0070	PMT	-	15.19	0.08	_Service 7
64	0x0040	PMT	-	15.19	0.08	KLVXSD1
96	0x0060	PMT	-	15.08	0.08	_Service 6
80	0x0050	PMT	-	15.08	0.08	KLVXSD2
48	0x0030	PMT	-	15.08	0.08	KLVXHD
7681	0x1E01	ETT	-	14.16	0.07	N/A
122	0x007A	Data	-	10.05	0.05	_Service 7
7682	0x1E02	ETT	-	9.37	0.05	N/A
7425	0x1D01	EIT	-	8.22	0.04	N/A
7683	0x1E03	ETT	-	7.77	0.04	N/A
7684	0x1E04	ETT	-	5.71	0.03	N/A
7426	0x1D02	EIT	-	5.37	0.03	N/A
7685	0x1E05	ETT	-	5.25	0.03	N/A
7686	0x1E06	ETT	-	4.57	0.02	N/A
7687	0x1E07	ETT	-	4.11	0.02	N/A
7427	0x1D03	EIT	-	3.88	0.02	N/A
7428	0x1D04	EIT	-	3.77	0.02	N/A
126	0x007E	?	-	3.77	0.02	N/A
7808	0x1E80	ETT	-	2.97	0.02	N/A
7431	0x1D07	EIT	-	2.51	0.01	N/A
7430	0x1D06	EIT	-	2.51	0.01	N/A
7429	0x1D05	EIT	-	2.51	0.01	N/A
8186	0x1FFA	?	-	1.49	0.01	N/A

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ATSC US

Transportstream ID 0 Recording TELE-satellite
Transmitter Las Vegas Channel 15 *High Null Packets, Wrong TS ID*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	10779.99	55.30	N/A
49	0x0031	MPEG2 Video	-	8444.28	43.32	KELV HD
51	0x0033	AC3 Audio	-	198.52	1.02	KELV HD
8187	0x1FFB	MGT	-	18.81	0.10	N/A
0	0x0000	PAT	-	15.84	0.08	N/A
7425	0x1D01	EIT	-	9.90	0.05	N/A
7427	0x1D03	EIT	-	9.41	0.05	N/A
7426	0x1D02	EIT	-	6.27	0.03	N/A
48	0x0030	PMT	-	3.96	0.02	KELV HD
7424	0x1D00	EIT	-	3.14	0.02	N/A
7681	0x1E01	ETT	-	1.49	0.01	N/A
7683	0x1E03	ETT	-	0.99	0.01	N/A
7682	0x1E02	ETT	-	0.83	0.00	N/A
7680	0x1E00	ETT	-	0.66	0.00	N/A

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ATSC US

Transportstream ID 2085 Recording TELE-satellite
Transmitter Las Vegas Channel 17 *Remark* *High Null Packets*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	9607.46	49.38	N/A
49	0x0031	MPEG2 Video	-	9584.70	49.26	KEEN
51	0x0033	AC3 Audio	-	198.06	1.02	KEEN
0	0x0000	PAT	-	16.66	0.09	N/A
8187	0x1FFB	MGT	-	16.00	0.08	N/A
7680	0x1E00	ETT	-	8.91	0.05	N/A
7424	0x1D00	EIT	-	5.94	0.03	N/A
7681	0x1E01	ETT	-	4.62	0.02	N/A
48	0x0030	PMT	-	3.79	0.02	KEEN
7682	0x1E02	ETT	-	3.46	0.02	N/A
7683	0x1E03	ETT	-	2.31	0.01	N/A
7425	0x1D01	EIT	-	1.98	0.01	N/A
7808	0x1E80	ETT	-	1.48	0.01	N/A
7426	0x1D02	EIT	-	1.32	0.01	N/A
7427	0x1D03	EIT	-	0.99	0.01	N/A

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ATSC US

Transportstream ID 1 Recording TELE-satellite
Transmitter Las Vegas Channel 28 *High Null Packets, Wrong TS ID*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	15042.84	77.13	N/A
481	0x01E1	MPEG2 Video	-	3979.30	20.40	SBN
482	0x01E2	AC3 Audio	-	198.48	1.02	SBN
483	0x01E3	AC3 Audio	-	198.34	1.02	SBN
8187	0x1FFB	MGT	-	30.96	0.16	N/A
480	0x01E0	PMT	-	14.87	0.08	SBN
0	0x0000	PAT	-	14.87	0.08	N/A
8147	0x1FD3	EIT	-	5.95	0.03	N/A
8146	0x1FD2	EIT	-	5.95	0.03	N/A
8145	0x1FD1	EIT	-	5.95	0.03	N/A
8144	0x1FD0	EIT	-	5.95	0.03	N/A

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ATSC US

Transportstream ID 359 Recording TELE-satellite
Transmitter Los Angeles Channel 18 *Remark Mechanic Channel Names*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
65	0x0041	MPEG2 Video	-	2950.49	15.06	LA18.2
177	0x00B1	MPEG2 Video	-	2525.59	12.89	LA18.9
129	0x0081	MPEG2 Video	-	2525.34	12.89	LA18.6
145	0x0091	MPEG2 Video	-	2453.95	12.52	LA18.7
161	0x00A1	MPEG2 Video	-	1914.02	9.77	LA18.8
81	0x0051	MPEG2 Video	-	1649.76	8.42	LA18.3
113	0x0071	MPEG2 Video	-	1582.83	8.08	LA18.5
97	0x0061	MPEG2 Video	-	1260.07	6.43	LA18.4
49	0x0031	MPEG2 Video	-	1020.85	5.21	LA18.1
8191	0x1FFF	Null Packets	-	164.36	0.84	N/A
164	0x00A4	AC3 Audio	-	133.12	0.68	LA18.8
116	0x0074	AC3 Audio	-	133.12	0.68	LA18.5
100	0x0064	AC3 Audio	-	133.12	0.68	LA18.4
68	0x0044	AC3 Audio	-	133.12	0.68	LA18.2
180	0x00B4	AC3 Audio	-	132.87	0.68	LA18.9
148	0x0094	AC3 Audio	-	132.87	0.68	LA18.7
132	0x0084	AC3 Audio	-	132.87	0.68	LA18.6
84	0x0054	AC3 Audio	-	132.87	0.68	LA18.3
52	0x0034	AC3 Audio	-	132.87	0.68	LA18.1
7424	0x1D00	EIT	-	85.77	0.44	N/A
8187	0x1FFB	MGT	-	31.24	0.16	N/A
0	0x0000	PAT	-	30.49	0.16	N/A
7425	0x1D01	EIT	-	28.01	0.14	N/A
7680	0x1E00	ETT	-	23.80	0.12	N/A
7681	0x1E01	ETT	-	18.84	0.10	N/A
7808	0x1E80	ETT	-	13.63	0.07	N/A
7426	0x1D02	EIT	-	13.14	0.07	N/A
7427	0x1D03	EIT	-	12.39	0.06	N/A
176	0x00B0	PMT	-	9.17	0.05	LA18.9
160	0x00A0	PMT	-	9.17	0.05	LA18.8
144	0x0090	PMT	-	9.17	0.05	LA18.7
128	0x0080	PMT	-	9.17	0.05	LA18.6
112	0x0070	PMT	-	9.17	0.05	LA18.5
96	0x0060	PMT	-	9.17	0.05	LA18.4
80	0x0050	PMT	-	9.17	0.05	LA18.3
64	0x0040	PMT	-	9.17	0.05	LA18.2
48	0x0030	PMT	-	9.17	0.05	LA18.1
7683	0x1E03	ETT	-	6.45	0.03	N/A

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ATSC US

Transportstream ID 325 Recording TELE-satellite
Transmitter Los Angeles Channel 24 *Remark Identical Channel Names*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
65	0x0041	MPEG2 Video	-	2642.06	13.35	KBEH-DT
145	0x0091	MPEG2 Video	-	2336.30	11.80	KBEH-DT
81	0x0051	MPEG2 Video	-	2251.67	11.38	KBEH-DT
49	0x0031	MPEG2 Video	-	2223.47	11.23	KBEH-DT
129	0x0081	MPEG2 Video	-	2115.90	10.69	KBEH-DT
257	0x0101	MPEG2 Video	-	2105.00	10.64	KBEH-DT
113	0x0071	MPEG2 Video	-	1974.49	9.98	KBEH-DT
97	0x0061	MPEG2 Video	-	1835.34	9.27	KBEH-DT
8191	0x1FFF	Null Packets	-	400.16	2.02	N/A
260	0x0104	AC3 Audio	-	233.18	1.18	KBEH-DT
132	0x0084	AC3 Audio	-	202.34	1.02	KBEH-DT
84	0x0054	AC3 Audio	-	201.59	1.02	KBEH-DT
68	0x0044	AC3 Audio	-	201.59	1.02	KBEH-DT
52	0x0034	AC3 Audio	-	201.59	1.02	KBEH-DT
148	0x0094	AC3 Audio	-	200.83	1.01	KBEH-DT
116	0x0074	AC3 Audio	-	200.83	1.01	KBEH-DT
100	0x0064	AC3 Audio	-	200.46	1.01	KBEH-DT
8187	0x1FFB	MGT	-	55.29	0.28	N/A
5000	0x1388	EIT	-	45.13	0.23	N/A
0	0x0000	PAT	-	23.32	0.12	N/A
256	0x0100	PMT	-	11.66	0.06	KBEH-DT
144	0x0090	PMT	-	11.66	0.06	KBEH-DT
128	0x0080	PMT	-	11.66	0.06	KBEH-DT
112	0x0070	PMT	-	11.66	0.06	KBEH-DT
96	0x0060	PMT	-	11.66	0.06	KBEH-DT
80	0x0050	PMT	-	11.66	0.06	KBEH-DT
64	0x0040	PMT	-	11.66	0.06	KBEH-DT
48	0x0030	PMT	-	11.66	0.06	KBEH-DT
5130	0x140A	ETT	-	10.15	0.05	N/A
5129	0x1409	ETT	-	9.78	0.05	N/A
5128	0x1408	ETT	-	9.78	0.05	N/A
5001	0x1389	EIT	-	9.03	0.05	N/A
5003	0x138B	EIT	-	4.51	0.02	N/A
5002	0x138A	EIT	-	4.51	0.02	N/A

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ATSC US

Transportstream ID 2011 Recording TELE-satellite
Transmitter Newark Channel 13

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
81	0x0051	MPEG2 Video	-	12062,07	61,75	WNET-HD
65	0x0041	MPEG2 Video	-	2855,28	14,62	V-ME
49	0x0031	MPEG2 Video	-	2486,42	12,73	KIDS
8191	0x1FFF	Null Packets	-	685,91	3,51	N/A
84	0x0054	AC3 Audio	-	398,03	2,04	WNET-HD
68	0x0044	AC3 Audio	-	198,87	1,02	V-ME
52	0x0034	AC3 Audio	-	198,87	1,02	KIDS
86	0x0056	AC3 Audio	-	132,78	0,68	WNET-HD
85	0x0055	AC3 Audio	-	132,48	0,68	WNET-HD
149	0x0095	Data	-	90,50	0,46	Service 101
7680	0x1E00	ETT	-	42,57	0,22	N/A
7424	0x1D00	EIT	-	35,72	0,18	N/A
8187	0x1FFB	MGT	-	32,15	0,16	N/A
144	0x0090	PMT	-	30,37	0,16	Service 101
0	0x0000	PAT	-	30,07	0,15	N/A
7681	0x1E01	ETT	-	19,35	0,10	N/A
80	0x0050	PMT	-	15,18	0,08	WNET-HD
64	0x0040	PMT	-	15,18	0,08	V-ME
48	0x0030	PMT	-	14,89	0,08	KIDS
7682	0x1E02	ETT	-	12,50	0,06	N/A
7425	0x1D01	EIT	-	11,31	0,06	N/A
7683	0x1E03	ETT	-	7,74	0,04	N/A
7426	0x1D02	EIT	-	7,74	0,04	N/A
7684	0x1E04	ETT	-	6,85	0,04	N/A
7427	0x1D03	EIT	-	5,66	0,03	N/A
7685	0x1E05	ETT	-	5,06	0,03	N/A

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ATSC **US**

TransportStream ID 2015 Recording Ron Roessel

Transmitter New York Channel 63

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
49	0x0031	MPEG2 Video	-	4004.26	20.62	WMBC DT
129	0x0081	MPEG2 Video	-	3003.24	15.47	Azteca
113	0x0071	MPEG2 Video	-	3003.20	15.47	NTDTV
97	0x0061	MPEG2 Video	-	2502.68	12.89	SinoVSN
81	0x0051	MPEG2 Video	-	2002.13	10.31	CGN-TV
65	0x0041	MPEG2 Video	-	2002.13	10.31	MBN
8182	0x1FF6	?	-	921.74	4.75	N/A
8191	0x1FFF	Null Packets	-	780.78	4.02	N/A
52	0x0034	AC3 Audio	-	197.63	1.02	WMBC DT
84	0x0054	AC3 Audio	-	103.54	0.53	CGN-TV
164	0x00A4	AC3 Audio	-	103.50	0.53	WDNJ
148	0x0094	AC3 Audio	-	103.50	0.53	KCBN
132	0x0084	AC3 Audio	-	103.50	0.53	Azteca
116	0x0074	AC3 Audio	-	103.50	0.53	NTDTV
100	0x0064	AC3 Audio	-	103.50	0.53	SinoVSN
68	0x0044	AC3 Audio	-	103.50	0.53	MBN
4110	0x100E	EIT	-	53.12	0.27	N/A
8187	0x1FFB	MGT	-	45.62	0.23	N/A
160	0x00A0	PMT	-	15.08	0.08	WDNJ
112	0x0070	PMT	-	15.08	0.08	NTDTV
96	0x0060	PMT	-	15.08	0.08	SinoVSN
64	0x0040	PMT	-	15.08	0.08	MBN
0	0x0000	PAT	-	15.08	0.08	N/A
144	0x0090	PMT	-	15.04	0.08	KCBN
128	0x0080	PMT	-	15.04	0.08	Azteca
80	0x0050	PMT	-	15.04	0.08	CGN-TV
48	0x0030	PMT	-	15.04	0.08	WMBC DT
1	0x0001	CAT	-	15.04	0.08	N/A
4111	0x100F	EIT	-	7.62	0.04	N/A
4117	0x1015	EIT	-	2.93	0.02	N/A
4112	0x1010	EIT	-	2.93	0.02	N/A
4116	0x1014	EIT	-	2.73	0.01	N/A
4114	0x1012	EIT	-	2.73	0.01	N/A
4113	0x1011	EIT	-	2.73	0.01	N/A
4115	0x1013	EIT	-	2.54	0.01	N/A
8186	0x1FFA	?	-	1.56	0.01	N/A
4623	0x120F	ETT	-	0.20	0.00	N/A

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ATSC **US**

Transportstream ID 2491 Recording TELE-satellite

Transmitter Philadelphia Channel 34 *Remark* *2 Audio PIDs for 1 Video*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
49	0x0031	MPEG2 Video	-	12865.42	66.17	WCAU-DT
65	0x0041	MPEG2 Video	-	3483.70	17.92	NonStop
8182	0x1FF6	?	-	1830.51	9.41	N/A
52	0x0034	AC3 Audio	-	395.90	2.04	WCAU-DT
8191	0x1FFF	Null Packets	-	377.23	1.94	N/A
68	0x0044	AC3 Audio	-	197.86	1.02	NonStop
53	0x0035	AC3 Audio	-	103.67	0.53	WCAU-DT
8187	0x1FFB	MGT	-	82.58	0.42	N/A
64	0x0040	PMT	-	25.08	0.13	NonStop
48	0x0030	PMT	-	25.08	0.13	WCAU-DT
0	0x0000	PAT	-	25.08	0.13	N/A
7424	0x1D00	EIT	-	14.49	0.07	N/A
7425	0x1D01	EIT	-	1.95	0.01	N/A
7559	0x1D87	ETT	-	1.49	0.01	N/A
7557	0x1D85	ETT	-	1.49	0.01	N/A
7426	0x1D02	EIT	-	1.49	0.01	N/A
7431	0x1D07	EIT	-	1.39	0.01	N/A
7430	0x1D06	EIT	-	1.11	0.01	N/A
7428	0x1D04	EIT	-	1.11	0.01	N/A
7427	0x1D03	EIT	-	1.11	0.01	N/A
7556	0x1D84	ETT	-	1.02	0.01	N/A
7558	0x1D86	ETT	-	0.93	0.00	N/A
7554	0x1D82	ETT	-	0.84	0.00	N/A
7429	0x1D05	EIT	-	0.84	0.00	N/A
7552	0x1D80	ETT	-	0.74	0.00	N/A
7555	0x1D83	ETT	-	0.65	0.00	N/A
7553	0x1D81	ETT	-	0.65	0.00	N/A

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DTMB terrestrial

CN China

DTMB **CN**

Network Name 1 Recording TELE-satellite

Transmitter Beijing Channel 59 *Remark* *encrypted*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
74	0x004A	MPEG2 Video	$	2391.17	44.15	DVT2
58	0x003A	MPEG2 Video	$	2390.80	44.14	DVT1
75	0x004B	MPEG Audio	$	188.09	3.47	DVT2
59	0x003B	MPEG Audio	$	188.05	3.47	DVT1
211	0x00D3	ECM/EMM	-	186.35	3.44	N/A
1282	0x0502	ECM/EMM	-	14.88	0.27	DVT2
1281	0x0501	ECM/EMM	-	14.88	0.27	DVT1
8191	0x1FFF	Null Packets	-	13.47	0.25	N/A
64	0x0040	PMT	-	6.84	0.13	DVT2
48	0x0030	PMT	-	6.84	0.13	DVT1
1	0x0001	CAT	-	6.82	0.13	N/A
0	0x0000	PAT	-	3.71	0.07	N/A
17	0x0011	SDT	-	2.97	0.05	N/A
21	0x0015	Network Sync	-	1.51	0.03	N/A

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DTMB **CN**

Network Name 65535 Recording TELE-satellite

Transmitter Chengdu Channel 40 *Remark* *HDTV*

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
1201	0x04B1	H.264 Video	-	10291.69	49.22	CCTV HD T
1001	0x03E9	H.264 Video	-	2605.87	12.46	SCTV 3 T
1309	0x051D	H.264 Video	-	2588.00	12.38	SCTV 5 T
1301	0x0515	H.264 Video	-	2585.77	12.37	SCTV 1 T
8191	0x1FFF	Null Packets	-	1539.50	7.36	N/A
1202	0x04B2	MPEG Audio	-	440.85	2.11	CCTV HD T
1302	0x0516	MPEG Audio	-	189.15	0.90	SCTV 5 T
1002	0x03EA	MPEG Audio	-	189.15	0.90	SCTV 3 T
1310	0x051E	MPEG Audio	-	188.90	0.90	SCTV 1 T
1308	0x051C	PCR	-	50.39	0.24	N/A
1300	0x0514	PCR	-	50.39	0.24	N/A
1200	0x04B0	PCR	-	50.39	0.24	N/A
1000	0x03E8	PCR	-	50.39	0.24	N/A
17	0x0011	SDT	-	18.62	0.09	N/A
259	0x0103	PMT	-	9.93	0.05	SCTV 5 T
258	0x0102	PMT	-	9.93	0.05	SCTV 1 T
16	0x0010	NIT	-	9.93	0.05	N/A
1	0x0001	CAT	-	9.93	0.05	N/A
257	0x0101	PMT	-	9.68	0.05	CCTV HD T
256	0x0100	PMT	-	9.68	0.05	SCTV 3 T
0	0x0000	PAT	-	9.68	0.05	N/A

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DTMB CN

Network Name 1 Recording TELE-satellite
Transmitter Chengdu Channel 60 *Remark* MPEG2 and MPEG4

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
1001	0x03E9	MPEG2 Video	-	2216.28	40.89	MOBILE
1201	0x04B1	H.264 Video	-	888.89	16.40	SCTV-1
1101	0x044D	H.264 Video	-	786.84	14.52	CCTV-NEWS
1301	0x0515	H.264 Video	-	735.75	13.57	CCTV-1
8191	0x1FFF	Null Packets	-	459.00	8.47	N/A
1002	0x03EA	MPEG Audio	-	138.16	2.55	MOBILE
1202	0x04B2	MPEG Audio	-	69.75	1.29	SCTV-1
1102	0x044E	MPEG Audio	-	69.75	1.29	CCTV-NEWS
1302	0x0516	MPEG Audio	-	34.84	0.64	CCTV-1
1200	0x04B0	PMT	-	3.39	0.06	SCTV-1
1	0x0001	CAT	-	3.39	0.06	N/A
0	0x0000	PAT	-	3.39	0.06	N/A
1300	0x0514	PMT	-	3.32	0.06	CCTV-1
1100	0x044C	PMT	-	3.32	0.06	CCTV-NEWS
1000	0x03E8	PMT	-	3.32	0.06	MOBILE
17	0x0011	SDT	-	0.78	0.01	N/A
16	0x0010	NIT	-	0.14	0.00	N/A

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DTMB CN

Network Name 3 Recording TELE-satellite
Transmitter Chengdu Channel 62

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	1502.52	20.77	N/A
1041	0x0411	H.264 Video	-	1043.40	14.42	CITY
1171	0x0493	H.264 Video	-	992.28	13.71	SCTV-4
1031	0x0407	H.264 Video	-	941.15	13.01	CCTV-6
6101	0x17D5	H.264 Video	-	787.79	10.89	CCTV-5
6001	0x1771	H.264 Video	-	787.79	10.89	CCTV-3
1151	0x047F	H.264 Video	-	736.66	10.18	SCTV-3
1172	0x0494	MPEG Audio	-	69.92	0.97	SCTV-4
1042	0x0412	MPEG Audio	-	69.92	0.97	CITY
1032	0x0408	MPEG Audio	-	69.92	0.97	CCTV-6
6102	0x17D6	MPEG Audio	-	69.76	0.96	CCTV-5
6002	0x1772	MPEG Audio	-	69.76	0.96	CCTV-3
1152	0x0480	MPEG Audio	-	34.80	0.48	SCTV-3
18	0x0012	EIT	-	18.14	0.25	N/A
6000	0x1770	PMT	-	5.11	0.07	CCTV-3
1040	0x0410	PMT	-	5.11	0.07	CITY
6100	0x17D4	PMT	-	4.95	0.07	CCTV-5
1170	0x0492	PMT	-	4.95	0.07	SCTV-4
1150	0x047E	PMT	-	4.95	0.07	SCTV-3
1030	0x0406	PMT	-	4.95	0.07	CCTV-6
0	0x0000	PAT	-	4.95	0.07	N/A
17	0x0011	SDT	-	3.30	0.05	N/A
1	0x0001	CAT	-	3.30	0.05	N/A
16	0x0010	NIT	-	0.16	0.00	N/A

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DTMB CN

Network Name [none] Recording TELE-satellite
Transmitter Guangzhou Channel 57 *Remark* unqualified descriptor

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
163	0x00A3	MPEG2 Video	-	3079.28	31.92	GZ-M3
512	0x0200	MPEG2 Video	-	2772.28	28.74	_Service 1
161	0x00A1	MPEG2 Video	-	1950.78	20.22	_Service 154
8191	0x1FFF	Null Packets	-	1489.94	15.44	N/A
650	0x028A	MPEG Audio	-	132.56	1.37	_Service 1
85	0x0055	MPEG Audio	-	69.70	0.72	GZ-M3
81	0x0051	MPEG Audio	-	69.70	0.72	_Service 154
0	0x0000	PAT	-	16.73	0.17	N/A
32	0x0020	PMT	-	15.15	0.16	_Service 1
1027	0x0403	PMT	-	15.05	0.16	_Service 154
1026	0x0402	PMT	-	15.05	0.16	GZ-M3
1	0x0001	CAT	-	15.05	0.16	N/A
17	0x0011	SDT	-	2.97	0.03	N/A
16	0x0010	NIT	-	2.97	0.03	N/A
20	0x0014	TOT	-	0.20	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only
Duration: 30 Sec, File Size: 39 MB **ts.TELE-satellite.com/DTMB/CN/Guangzhou-Ch57-1110.ts**
Transponderstream Technical Service File Download for Clients Only
Duration: 5 Min, File Size: 372 MB **www.transponderstream.com/DTMB/CN/Guangzhou-Ch57-1110.ts**

DTMB CN

Network Name 3 Recording TELE-satellite
Transmitter Shanghai Channel 50 *Remark* video descriptor false

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	5683.78	39.37	N/A
801	0x0321	MPEG1 Video	$	2255.69	15.62	MMTV
817	0x0331	MPEG1 Video	-	1642.36	11.37	MPEG TEST
834	0x0342	?	$	1396.46	9.67	N/A
865	0x0361	Video	-	1390.71	9.63	ELECTRONIC BOARD
849	0x0351	Video	-	1287.93	8.92	CCTV-NEW
818	0x0332	MPEG Audio	-	116.39	0.81	MPEG TEST
802	0x0322	MPEG Audio	$	116.39	0.81	MMTV
866	0x0362	MPEG Audio	-	75.40	0.52	ELECTRONIC BOARD
850	0x0352	MPEG Audio	-	75.39	0.52	CCTV-NEW
833	0x0341	MPEG Audio	$	75.34	0.52	ICS
864	0x0360	PMT	-	30.08	0.21	ELECTRONIC BOARD
848	0x0350	PMT	-	30.08	0.21	CCTV-NEW
832	0x0340	PMT	-	30.08	0.21	ICS
816	0x0330	PMT	-	30.08	0.21	MPEG TEST
800	0x0320	PMT	-	30.08	0.21	MMTV
17	0x0011	SDT	-	30.08	0.21	N/A
1	0x0001	CAT	-	30.08	0.21	N/A
0	0x0000	PAT	-	30.08	0.21	N/A
840	0x0348	ECM/EMM	-	15.14	0.10	ICS
838	0x0346	ECM/EMM	-	15.14	0.10	ICS
808	0x0328	ECM/EMM	-	15.14	0.10	MMTV
806	0x0326	ECM/EMM	-	15.14	0.10	MMTV
20	0x0014	TOT	-	9.91	0.07	N/A
55	0x0037	?	-	7.53	0.05	N/A
1296	0x0510	ECM/EMM	-	2.34	0.02	N/A
21	0x0015	Network Sync	-	1.49	0.01	N/A
1280	0x0500	ECM/EMM	-	0.19	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only
Duration: 30 Sec, File Size: 57 MB **ts.TELE-satellite.com/DTMB/CN/Shanghai-Ch50-1203.ts**
Transponderstream Technical Service File Download for Clients Only
Duration: 5 Min, File Size: 552 MB **www.transponderstream.com/DTMB/CN/Shanghai-Ch50-1203.ts**

DTMB CN

Network Name 腻胰胰漏艇陆路垄艇盲脤篓 Recording TELE-satellite
Transmitter Shenzhen Channel 32

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
101	0x0065	H.264 Video	-	10428.31	50.15	SZTV-HD
104	0x0068	H.264 Video	-	2405.08	11.57	SZTV-7
103	0x0067	H.264 Video	-	2002.94	9.63	SZTV-5
102	0x0066	H.264 Video	-	1421.97	6.84	SZTV-3
113	0x0071	H.264 Video	-	1351.58	6.50	GDTV
114	0x0072	H.264 Video	-	1105.19	5.31	CCTV-4
8191	0x1FFF	Null Packets	-	687.67	3.31	N/A
1001	0x03E9	AC3 Audio	-	459.03	2.21	SZTV-HD
2001	0x07D1	AC3 Audio	-	262.33	1.26	SZTV-HD
18	0x0012	EIT	-	224.23	1.08	N/A
1014	0x03F6	MPEG Audio	-	66.10	0.32	CCTV-4
1013	0x03F5	MPEG Audio	-	66.10	0.32	GDTV
1004	0x03EC	MPEG Audio	-	66.10	0.32	SZTV-7
1003	0x03EB	MPEG Audio	-	66.10	0.32	SZTV-5
1002	0x03EA	MPEG Audio	-	66.10	0.32	SZTV-3
44	0x002C	PMT	-	15.06	0.07	GDTV
35	0x0023	PMT	-	15.06	0.07	SZTV-7
33	0x0021	PMT	-	15.06	0.07	SZTV-3
45	0x002D	PMT	-	15.02	0.07	CCTV-4
34	0x0022	PMT	-	15.02	0.07	SZTV-5
32	0x0020	PMT	-	15.02	0.07	SZTV-HD
0	0x0000	PAT	-	15.02	0.07	N/A
17	0x0011	SDT	-	4.55	0.02	N/A
20	0x0014	TOT	-	2.60	0.01	N/A
21	0x0015	Network Sync	-	1.52	0.01	N/A
16	0x0010	NIT	-	1.30	0.01	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only
Duration: 30 Sec, File Size: 90 MB **ts.TELE-satellite.com/DTMB/CN/Shenzhen-Ch32-1110.ts**
Transponderstream Technical Service File Download for Clients Only
Duration: 5 Min, File Size: 812 MB **www.transponderstream.com/DTMB/CN/Shenzhen-Ch32-1110.ts**

DTMB

CN

Network Name 腻膳脓漏艇陆路垄艇盲脤篓 Recording TELE-satellite

Transmitter Shenzhen Channel 50

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
108	0x006C	H.264 Video	-	1653.32	17.10	CCTV-NEWS
110	0x006E	H.264 Video	-	1572.80	16.26	SZTV-M2
105	0x0069	H.264 Video	-	1533.57	15.86	SZTV-1
106	0x006A	H.264 Video	-	1517.57	15.69	SZTV-2
107	0x006B	H.264 Video	-	1327.72	13.73	GD
109	0x006D	H.264 Video	-	1176.53	12.17	SZTV-M1
8191	0x1FFF	Null Packets	-	189.67	1.96	N/A
18	0x0012	EIT	-	185.02	1.91	N/A
1010	0x03F2	MPEG Audio	-	66.57	0.69	SZTV-M2
1006	0x03EE	MPEG Audio	-	66.57	0.69	SZTV-2
1008	0x03F0	MPEG Audio	-	66.39	0.69	CCTV-NEWS
1007	0x03EF	MPEG Audio	-	66.39	0.69	GD
1005	0x03ED	MPEG Audio	-	66.39	0.69	SZTV-1
1009	0x03F1	MPEG Audio	-	66.20	0.68	SZTV-M1
36	0x0024	PMT	-	15.25	0.16	SZTV-1
41	0x0029	PMT	-	15.06	0.16	SZTV-M2
40	0x0028	PMT	-	15.06	0.16	SZTV-M1
39	0x0027	PMT	-	15.06	0.16	CCTV-NEWS
38	0x0026	PMT	-	15.06	0.16	GD
37	0x0025	PMT	-	15.06	0.16	SZTV-2
0	0x0000	PAT	-	15.06	0.16	N/A
17	0x0011	SDT	-	4.65	0.05	N/A
20	0x0014	TOT	-	2.60	0.03	N/A
21	0x0015	Network Sync	-	1.49	0.02	N/A
16	0x0010	NIT	-	1.30	0.01	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

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DTMB

CN

Network Name 腻膳脓漏艇陆路垄艇盲脤篓 Recording TELE-satellite

Transmitter Shenzhen Channel 60 *Remark* HD only

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
112	0x0070	H.264 Video	-	11465.37	47.01	CCTV-HD
111	0x006F	H.264 Video	-	10973.21	44.99	CCTV-1 HD
8191	0x1FFF	Null Packets	-	762.57	3.13	N/A
1012	0x03F4	AC3 Audio	-	459.43	1.88	CCTV-HD
1011	0x03F3	AC3 Audio	-	459.43	1.88	CCTV-1 HD
18	0x0012	EIT	-	215.68	0.88	N/A
42	0x002A	PMT	-	15.09	0.06	CCTV-1 HD
43	0x002B	PMT	-	15.04	0.06	CCTV-HD
0	0x0000	PAT	-	15.04	0.06	N/A
17	0x0011	SDT	-	3.97	0.02	N/A
20	0x0014	TOT	-	2.64	0.01	N/A
16	0x0010	NIT	-	1.32	0.01	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

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HK HongKong

DTMB

HK

Network Name [none] Recording TELE-satellite

Transmitter HongKong Channel 30

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
111	0x006F	MPEG2 Video	-	5337.54	24.61	Home
811	0x032B	MPEG2 Video	-	5206.29	24.00	Jade
161	0x00A1	MPEG2 Video	-	3701.24	17.06	World
841	0x0349	MPEG2 Video	-	3589.95	16.55	Pearl
8191	0x1FFF	Null Packets	-	1984.21	9.15	N/A
18	0x0012	EIT	-	209.96	0.97	N/A
843	0x034B	AC3 Audio	-	197.76	0.91	Pearl
842	0x034A	AC3 Audio	-	197.70	0.91	Pearl
813	0x032D	AC3 Audio	-	197.70	0.91	Jade
812	0x032C	AC3 Audio	-	197.65	0.91	Jade
163	0x00A3	AC3 Audio	-	197.04	0.91	World
112	0x0070	AC3 Audio	-	196.99	0.91	Home
162	0x00A2	AC3 Audio	-	196.93	0.91	World
113	0x0071	AC3 Audio	-	196.93	0.91	Home
840	0x0348	PMT	-	15.06	0.07	Pearl
810	0x032A	PMT	-	15.06	0.07	Jade
160	0x00A0	PMT	-	15.06	0.07	World
110	0x006E	PMT	-	15.06	0.07	Home
0	0x0000	PAT	-	15.06	0.07	N/A
17	0x0011	SDT	-	2.97	0.01	N/A
846	0x034E	DVB Subtitles	-	0.77	0.00	Pearl
845	0x034D	DVB Subtitles	-	0.77	0.00	Pearl
817	0x0331	DVB Subtitles	-	0.77	0.00	Jade
816	0x0330	DVB Subtitles	-	0.77	0.00	Jade
815	0x032F	DVB Subtitles	-	0.77	0.00	Jade
16	0x0010	NIT	-	0.27	0.00	N/A
20	0x0014	TOT	-	0.16	0.00	N/A

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Duration: 30 Sec, File Size: 86 MB **ts.TELE-satellite.com/DTMB/HK/HongKong-Ch30-1110.ts**

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DTMB

HK

Network Name MFN_TVB Recording TELE-satellite

Transmitter HongKong Channel 35 *Remark* MHEG

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
851	0x0353	H.264 Video	-	11970.85	55.26	High Definition Jade
821	0x0335	H.264 Video	-	3698.76	17.07	J2
831	0x033F	H.264 Video	-	2983.64	13.77	iNews
8191	0x1FFF	Null Packets	-	866.69	4.00	N/A
1001	0x03E9	MHEG	-	490.60	2.26	J2
853	0x0355	AC3 Audio	-	423.06	1.95	High Definition Jade
852	0x0354	AC3 Audio	-	235.06	1.09	High Definition Jade
18	0x0012	EIT	-	200.74	0.93	N/A
823	0x0337	AC3 Audio	-	197.41	0.91	J2
822	0x0336	AC3 Audio	-	197.41	0.91	J2
832	0x0340	AC3 Audio	-	133.20	0.61	iNews
834	0x0342	AC3 Audio	-	100.73	0.47	iNews
833	0x0341	AC3 Audio	-	100.73	0.47	iNews
850	0x0352	PMT	-	15.04	0.07	High Definition Jade
830	0x033E	PMT	-	15.04	0.07	iNews
820	0x0334	PMT	-	15.04	0.07	J2
0	0x0000	PAT	-	15.04	0.07	N/A
21	0x0015	Network Sync	-	1.49	0.01	N/A
17	0x0011	SDT	-	0.95	0.00	N/A
16	0x0010	NIT	-	0.36	0.00	N/A
20	0x0014	TOT	-	0.18	0.00	N/A
857	0x0359	DVB Subtitles	-	0.05	0.00	High Definition Jade
856	0x0358	DVB Subtitles	-	0.05	0.00	High Definition Jade
855	0x0357	DVB Subtitles	-	0.05	0.00	High Definition Jade
825	0x0339	DVB Subtitles	-	0.05	0.00	J2

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DTMB **HK** Network Name aTV-SFN Recording TELE-satellite

Transmitter HongKong Channel 37

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
121	0x0079	H.264 Video	-	14865.22	68.58	Asia
151	0x0097	H.264 Video	-	1553.23	7.17	CCTV-1
131	0x0083	H.264 Video	-	1553.23	7.17	TVS
171	0x00AB	H.264 Video	-	1553.18	7.17	SZTV
8191	0x1FFF	Null Packets	-	982.23	4.53	N/A
123	0x007B	AC3 Audio	-	393.76	1.82	Asia
122	0x007A	AC3 Audio	-	196.90	0.91	Asia
18	0x0012	EIT	-	194.28	0.90	N/A
132	0x0084	AC3 Audio	-	100.86	0.47	TVS
172	0x00AC	AC3 Audio	-	100.82	0.47	SZTV
152	0x0098	AC3 Audio	-	100.77	0.46	CCTV-1
170	0x00AA	PMT	-	15.06	0.07	SZTV
130	0x0082	PMT	-	15.06	0.07	TVS
0	0x0000	PAT	-	15.06	0.07	N/A
150	0x0096	PMT	-	15.02	0.07	CCTV-1
120	0x0078	PMT	-	15.02	0.07	Asia
17	0x0011	SDT	-	2.28	0.01	N/A
21	0x0015	Network Sync	-	1.51	0.01	N/A
16	0x0010	NIT	-	1.16	0.01	N/A
20	0x0014	TOT	-	0.09	0.00	N/A

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DVB-C cable

PT Portugal

DVB C **PT** Network Name Cabo Porto Recording Vitor Martins Augusto

Transmitter Porto Channel 48

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
6256	0x1870	MPEG2 Video	-	3772.57	9.91	BNT World
6176	0x1820	MPEG2 Video	-	3304.36	8.68	Deutsche Welle
6192	0x1830	MPEG2 Video	-	3283.63	8.63	Inter+
6304	0x18A0	MPEG2 Video	-	3203.01	8.42	Eurosport 2
7562	0x1D8A	MPEG2 Video	-	3151.46	8.28	Aljazeera
6352	0x18D0	MPEG2 Video	-	3000.76	7.89	RAI News
6208	0x1840	MPEG2 Video	-	2823.47	7.42	Phoenix CNE
6240	0x1860	MPEG2 Video	-	2621.93	6.89	RTR-Planeta
6160	0x1810	MPEG2 Video	-	2537.14	6.67	Cubavisión Internacional
6272	0x1880	MPEG2 Video	-	2325.39	6.11	TVR International
6224	0x1850	MPEG2 Video	-	2078.96	5.46	Phoenix Infonews
6288	0x1890	MPEG2 Video	-	1766.40	4.64	Rússia 24
8191	0x1FFF	Null Packets	-	1509.76	3.97	N/A
817	0x0331	PMT	-	297.58	0.78	_Service 4
7563	0x1D8B	MPEG Audio	-	263.44	0.69	Aljazeera
6177	0x1821	MPEG Audio	-	203.87	0.54	Deutsche Welle
18	0x0012	EIT	-	198.70	0.52	N/A
6257	0x1871	MPEG Audio	-	198.66	0.52	BNT World
33	0x0021	Private Sections	-	198.07	0.52	N/A
6353	0x18D1	MPEG Audio	-	196.90	0.52	RAI News
6161	0x1811	MPEG Audio	-	138.06	0.36	Cubavisión Internacional
6193	0x1831	MPEG Audio	-	138.02	0.36	Inter+
6273	0x1881	MPEG Audio	-	132.39	0.35	TVR International
6289	0x1891	MPEG Audio	-	131.63	0.35	Rússia 24
6241	0x1861	MPEG Audio	-	131.63	0.35	RTR-Planeta
6209	0x1841	MPEG Audio	-	131.63	0.35	Phoenix CNE
6305	0x18A1	MPEG Audio	-	101.98	0.27	Eurosport 2
6225	0x1851	MPEG Audio	-	73.24	0.19	Phoenix Infonews
17	0x0011	SDT	-	55.15	0.14	N/A
0	0x0000	PAT	-	37.52	0.10	N/A
1	0x0001	CAT	-	24.74	0.07	N/A
16	0x0010	NIT	-	21.59	0.06	N/A
20	0x0014	TOT	-	2.70	0.01	N/A

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DVB C **PT** Network Name Cabo Porto Recording Vitor Martins Augusto

Transmitter Porto Channel 54 *Remark* Nagravision 3

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
5184	0x1440	MPEG2 Video	$	5827.72	15.32	TVI
7968	0x1F20	MPEG2 Video	$	4930.85	12.97	SIC Notícias
5168	0x1430	MPEG2 Video	$	3740.60	9.84	SIC
7210	0x1C2A	MPEG2 Video	$	3603.73	9.48	RTP Informação
5152	0x1420	MPEG2 Video	$	3562.78	9.37	RTP 2
8191	0x1FFF	Null Packets	-	3027.04	7.96	N/A
5136	0x1410	MPEG2 Video	$	2988.99	7.86	RTP 1
5232	0x1470	MPEG2 Video	$	2266.82	5.96	Canal Panda
7648	0x1DE0	MPEG2 Video	$	2087.22	5.49	Panda Biggs
18	0x0012	EIT	-	696.07	1.83	N/A
6743	0x1A57	?	-	350.08	0.92	N/A
6772	0x1A74	Data	-	300.07	0.79	DSMCC - IPPV
817	0x0331	PMT	-	297.25	0.78	Canal de Teste
5186	0x1442	Teletext	-	263.26	0.69	TVI
5170	0x1432	Teletext	-	225.63	0.59	SIC
8160	0x1FE0	Private Sections	-	200.03	0.53	N/A
8144	0x1FD0	Private Sections	-	200.03	0.53	N/A
8096	0x1FA0	Private Sections	-	200.01	0.53	N/A
5185	0x1441	MPEG Audio	$	198.53	0.52	TVI
5233	0x1471	MPEG Audio	$	198.51	0.52	Canal Panda
5169	0x1431	MPEG Audio	$	198.51	0.52	SIC
5153	0x1421	MPEG Audio	$	198.51	0.52	RTP 2
5137	0x1411	MPEG Audio	$	198.51	0.52	RTP 1
7969	0x1F21	MPEG Audio	$	198.48	0.52	SIC Notícias
7649	0x1DE1	MPEG Audio	$	198.48	0.52	Panda Biggs
7211	0x1C2B	MPEG Audio	$	198.48	0.52	RTP Informação
33	0x0021	Private Sections	-	198.18	0.52	N/A
5280	0x14A0	MPEG2 Video	-	195.96	0.52	Canal de Teste
5138	0x1412	Teletext	-	188.10	0.49	RTP 1
6776	0x1A78	Data	-	170.04	0.45	DSMCC - RADIOS
8162	0x1FE2	Private Sections	-	150.02	0.39	N/A
8128	0x1FC0	Private Sections	-	150.02	0.39	N/A
8176	0x1FF0	Private Sections	-	100.02	0.26	N/A
6760	0x1A68	Data	-	100.02	0.26	Canal de Teste
119	0x0077	ECM/EMM	-	92.30	0.24	N/A
17	0x0011	SDT	-	56.40	0.15	N/A
217	0x00D9	?	-	56.30	0.15	N/A
0	0x0000	PAT	-	37.51	0.10	N/A
1	0x0001	CAT	-	24.70	0.06	N/A
16	0x0010	NIT	-	21.76	0.06	N/A
1193	0x04A9	ECM/EMM	-	15.05	0.04	Panda Biggs
1166	0x048E	ECM/EMM	-	15.05	0.04	RTP Informação
1017	0x03F9	ECM/EMM	-	15.05	0.04	SIC Notícias
1006	0x03EE	ECM/EMM	-	15.05	0.04	Canal Panda
1003	0x03EB	ECM/EMM	-	15.05	0.04	TVI
1002	0x03EA	ECM/EMM	-	15.05	0.04	SIC
1001	0x03E9	ECM/EMM	-	15.05	0.04	RTP 2
1000	0x03E8	ECM/EMM	-	15.05	0.04	RTP 1
216	0x00D8	?	-	8.38	0.02	N/A
20	0x0014	TOT	-	2.74	0.01	N/A

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DVB-S satellite

9°E EUROBIRD

DVB S 9°E

Network Name Skylogic Recording Thomas Haring

Transmitter EUROBIRD 11.823H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
1701	0x06A5	H.264 Video	-	11406.99	29.99	3D SAT TV
5633	0x1601	MPEG2 Video	$	3605.94	9.48	Lifestyle
4865	0x1301	MPEG2 Video	$	3070.46	8.07	TVBN
4609	0x1201	MPEG2 Video	$	2822.57	7.42	TVBS_Europe
1841	0x0731	MPEG2 Video	$	2725.62	7.17	S2K
5377	0x1501	MPEG2 Video	$	2585.26	6.80	TVB_Premium_Drama
1801	0x0709	MPEG2 Video	-	2412.11	6.34	SMtv San Marino
5121	0x1401	MPEG2 Video	$	2326.55	6.12	TVB_Junior
2001	0x07D1	Data	$	1691.88	4.45	BCC TV 2
1901	0x076D	Data	$	1268.79	3.34	BCC TV 1
2201	0x0899	Data	$	1057.40	2.78	BCC TEST
8191	0x1FFF	Null Packets	-	597.27	1.57	N/A
1550	0x060E	MPEG Audio	-	200.65	0.53	Radio Studio 7
1702	0x06A6	MPEG Audio	-	198.58	0.52	3D SAT TV
1802	0x070A	MPEG Audio	-	137.94	0.36	SMtv San Marino
5890	0x1702	MPEG Audio	$	135.87	0.36	RTHK
1570	0x0622	MPEG Audio	-	135.87	0.36	Ecoradio
1560	0x0618	MPEG Audio	-	135.87	0.36	Millennium Radio
1540	0x0604	MPEG Audio	-	135.85	0.36	Radio CRC
5635	0x1603	MPEG Audio	$	132.39	0.35	Lifestyle
5634	0x1602	MPEG Audio	$	132.39	0.35	Lifestyle
5122	0x1402	MPEG Audio	$	132.39	0.35	TVB_Junior
4611	0x1203	MPEG Audio	$	132.39	0.35	TVBS_Europe
5378	0x1502	MPEG Audio	$	132.36	0.35	TVB_Premium_Drama
4866	0x1302	MPEG Audio	$	132.36	0.35	TVBN
4610	0x1202	MPEG Audio	$	132.36	0.35	TVBS_Europe
1843	0x0733	MPEG Audio	$	98.68	0.26	S2K
1842	0x0732	MPEG Audio	$	98.66	0.26	S2K
601	0x0259	ECM/EMM	-	15.04	0.04	RTHK
501	0x01F5	ECM/EMM	-	15.04	0.04	Lifestyle
401	0x0191	ECM/EMM	-	15.04	0.04	TVB_Premium_Drama
301	0x012D	ECM/EMM	-	15.04	0.04	TVB_Junior
201	0x00C9	ECM/EMM	-	15.04	0.04	TVBN
101	0x0065	ECM/EMM	-	15.04	0.04	TVBS_Europe
504	0x01F8	ECM/EMM	-	14.88	0.04	BCC TEST
503	0x01F7	ECM/EMM	-	14.88	0.04	BCC TV 1 and 2
502	0x01F6	ECM/EMM	-	14.88	0.04	BCC TV 2
500	0x01F4	ECM/EMM	-	14.88	0.04	BCC TV 1
17	0x0011	SDT	-	10.01	0.03	N/A
240	0x00F0	ECM/EMM	-	5.06	0.01	N/A
5888	0x1700	PMT	-	5.01	0.01	RTHK
5632	0x1600	PMT	-	5.01	0.01	Lifestyle
5376	0x1500	PMT	-	5.01	0.01	TVB_Premium_Drama
5120	0x1400	PMT	-	5.01	0.01	TVB_Junior
4864	0x1300	PMT	-	5.01	0.01	TVBN
4608	0x1200	PMT	-	5.01	0.01	TVBS_Europe
2200	0x0898	PMT	-	5.01	0.01	BCC TEST
2100	0x0834	PMT	-	5.01	0.01	BCC TV 1 and 2
2000	0x07D0	PMT	-	5.01	0.01	BCC TV 2
1900	0x076C	PMT	-	5.01	0.01	BCC TV 1
1800	0x0708	PMT	-	5.01	0.01	SMtv San Marino
1700	0x06A4	PMT	-	5.01	0.01	3D SAT TV
1571	0x0623	PMT	-	5.01	0.01	Ecoradio
1561	0x0619	PMT	-	5.01	0.01	Millennium Radio
1551	0x060F	PMT	-	5.01	0.01	Radio Studio 7
1541	0x0605	PMT	-	5.01	0.01	Radio CRC
32	0x0020	PMT	-	5.01	0.01	S2K
0	0x0000	PAT	-	5.01	0.01	N/A
16	0x0010	NIT	-	3.01	0.01	N/A
1	0x0001	CAT	-	3.01	0.01	N/A
1844	0x0734	Private Data	$	1.51	0.00	S2K
20	0x0014	TOT	-	0.11	0.00	N/A

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DVB S 9°E

Network Name BSS LIEDEKERKE Recording Thomas Haring

Transmitter EUROBIRD 11.843V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
2511	0x09CF	H.264 Video	-	8001.68	21.04	TRACE TROPICAL HD
3011	0x0BC3	H.264 Video	-	5134.35	13.50	LUXE. TV HD
8191	0x1FFF	Null Packets	-	4596.79	12.09	N/A
2500	0x09C4	MPEG2 Video	$	4300.86	11.31	EUROSPORT 2 BL
2051	0x0803	MPEG2 Video	-	3992.95	10.50	BSS
711	0x02C7	MPEG2 Video	-	3468.58	9.12	MESOPOTAMIA TV
701	0x02BD	MPEG2 Video	-	3205.81	8.43	ROJ TV
411	0x019B	MPEG2 Video	-	3055.43	8.04	NEWROZ TV
2512	0x09D0	MPEG Audio	-	198.49	0.52	TRACE TROPICAL HD
3014	0x0BC6	MPEG Audio	-	165.32	0.43	LUXE. TV HD
2503	0x09C7	MPEG Audio	-	164.53	0.43	EUROSPORT 2 BL
3018	0x0BCA	MPEG Audio	-	132.62	0.35	LUXE. TV HD
3017	0x0BC9	MPEG Audio	-	132.62	0.35	LUXE. TV HD
3016	0x0BC8	MPEG Audio	-	132.62	0.35	LUXE. TV HD
3015	0x0BC7	MPEG Audio	-	132.62	0.35	LUXE. TV HD
3013	0x0BC5	MPEG Audio	-	132.62	0.35	LUXE. TV HD
2504	0x09C8	MPEG Audio	-	132.33	0.35	EUROSPORT 2 BL
768	0x0300	MPEG Audio	-	118.39	0.31	DENGE RADIO
2052	0x0804	MPEG Audio	-	116.40	0.31	BSS
712	0x02C8	MPEG Audio	-	116.40	0.31	MESOPOTAMIA TV
702	0x02BE	MPEG Audio	-	116.40	0.31	ROJ TV
412	0x019C	MPEG Audio	-	116.40	0.31	NEWROZ TV
2502	0x09C6	MPEG Audio	$	100.29	0.26	EUROSPORT 2 BL
2501	0x09C5	MPEG Audio	$	100.29	0.26	EUROSPORT 2 BL
2508	0x09CC	Teletext	-	75.22	0.20	EUROSPORT 2 BL
33	0x0021	ECM/EMM	-	15.83	0.04	EUROSPORT 2 BL
32	0x0020	ECM/EMM	-	15.83	0.04	EUROSPORT 2 BL
18	0x0012	EIT	-	12.66	0.03	N/A
500	0x01F4	PMT	-	6.34	0.02	EUROSPORT 2 BL
3010	0x0BC2	PMT	-	3.17	0.01	LUXE. TV HD
2510	0x09CE	PMT	-	3.17	0.01	TRACE TROPICAL HD
704	0x02C0	PMT	-	3.17	0.01	DENGE RADIO
410	0x019A	PMT	-	3.17	0.01	NEWROZ TV
0	0x0000	PAT	-	3.17	0.01	N/A
2050	0x0802	PMT	-	3.16	0.01	BSS
710	0x02C6	PMT	-	3.16	0.01	MESOPOTAMIA TV
700	0x02BC	PMT	-	3.16	0.01	ROJ TV
1	0x0001	CAT	-	3.16	0.01	N/A
17	0x0011	SDT	-	1.58	0.00	N/A
2509	0x09CD	Private Sections	-	1.51	0.00	N/A
16	0x0010	NIT	-	0.32	0.00	N/A
20	0x0014	TOT	-	0.19	0.00	N/A

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DVB S 9°E

Network Name E.B.9 NMX Recording Thomas Haring

Transmitter EUROBIRD 11.919V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	9324.02	17.51	N/A
2010	0x07DA	H.264 Video	$	8202.59	15.40	National Geographic HD
2011	0x07DB	H.264 Video	$	8002.47	15.03	FOX HD
2001	0x07D1	H.264 Video	-	7302.32	13.71	FTV HD
2007	0x07D7	H.264 Video	$	6567.28	12.33	MEZZO HD
2002	0x07D2	H.264 Video	$	5414.85	10.17	iConcerts
2006	0x07D6	H.264 Video	$	4501.45	8.45	Duck TV HD
3006	0x0BBE	MPEG Audio	$	397.01	0.75	Duck TV HD
3001	0x0BB9	MPEG Audio	-	397.01	0.75	FTV HD
5011	0x1393	AC3 Audio	$	394.92	0.74	FOX HD
4010	0x0FAA	AC3 Audio	$	394.92	0.74	National Geographic HD
3010	0x0BC2	AC3 Audio	$	394.92	0.74	National Geographic HD
3007	0x0BBF	MPEG Audio	$	266.41	0.50	MEZZO HD
3002	0x0BBA	MPEG Audio	$	266.41	0.50	iConcerts
502	0x01F6	ECM/EMM	-	211.56	0.40	N/A
3011	0x0BC3	MPEG Audio	$	198.51	0.37	FOX HD
4011	0x0FAB	MPEG Audio	$	198.50	0.37	FOX HD
1000	0x03E8	ECM/EMM	-	98.30	0.18	N/A
18	0x0012	EIT	-	85.39	0.16	N/A
501	0x01F5	ECM/EMM	-	78.33	0.15	N/A
4001	0x0FA1	MPEG Audio	-	73.14	0.14	FTV HD
16	0x0010	NIT	-	25.08	0.05	N/A
1	0x0001	CAT	-	25.06	0.05	N/A
0	0x0000	PAT	-	25.06	0.05	N/A
1011	0x03F3	PMT	-	24.26	0.05	FOX HD
1010	0x03F2	PMT	-	24.26	0.05	National Geographic HD
1008	0x03F0	PMT	-	24.26	0.05	Penthouse HD
1007	0x03EF	PMT	-	24.26	0.05	MEZZO HD
1006	0x03EE	PMT	-	24.26	0.05	Duck TV HD
1002	0x03EA	PMT	-	24.26	0.05	iConcerts
1001	0x03E9	PMT	-	24.26	0.05	FTV HD
116	0x0074	ECM/EMM	-	15.10	0.03	MEZZO HD
132	0x0084	ECM/EMM	-	15.09	0.03	MEZZO HD
119	0x0077	ECM/EMM	-	15.09	0.03	National Geographic HD
121	0x0079	ECM/EMM	-	15.07	0.03	National Geographic HD
118	0x0076	ECM/EMM	-	15.07	0.03	FOX HD
117	0x0075	ECM/EMM	-	15.07	0.03	MEZZO HD
112	0x0070	ECM/EMM	-	15.07	0.03	Duck TV HD
108	0x006C	ECM/EMM	-	15.07	0.03	Duck TV HD
131	0x0083	ECM/EMM	-	15.05	0.03	iConcerts
114	0x0072	ECM/EMM	-	15.05	0.03	Penthouse HD
133	0x0085	ECM/EMM	-	15.04	0.03	Penthouse HD
120	0x0078	ECM/EMM	-	15.04	0.03	FOX HD
115	0x0073	ECM/EMM	-	15.04	0.03	Penthouse HD
100	0x0064	ECM/EMM	-	7.57	0.01	MEZZO HD
101	0x0065	ECM/EMM	-	7.55	0.01	MEZZO HD
103	0x0067	ECM/EMM	-	7.53	0.01	iConcerts
102	0x0066	ECM/EMM	-	7.53	0.01	iConcerts
17	0x0011	SDT	-	6.02	0.01	N/A
20	0x0014	TOT	-	0.13	0.00	N/A

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DVB S

9°E

Network Name E.B.9 NMX Recording Thomas Haring

Transmitter EUROBIRD 11.938H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
4331	0x10EB	MPEG2 Video	$	4105.59	10.79	RAI Africa
1026	0x0402	MPEG2 Video	$	3659.23	9.62	Disney Channel ME
1011	0x03F3	MPEG1 Video	-	2862.23	7.53	CCTV9 DOCUMENTARY
1005	0x03ED	MPEG2 Video	-	2759.03	7.25	NET 25 INTERNATIONAL
1003	0x03EB	MPEG2 Video	-	2327.30	6.12	JSTV
1004	0x03EC	MPEG2 Video	$	2215.43	5.82	TFM Senegal
1221	0x04C5	MPEG2 Video	-	2105.53	5.54	Ayngaran TV
1231	0x04CF	MPEG2 Video	-	1941.20	5.10	Jaya TV
1211	0x04BB	MPEG2 Video	-	1649.68	4.34	Touba Medias
1002	0x03EA	MPEG2 Video	-	1498.68	3.94	PTV
1007	0x03EF	MPEG2 Video	-	1437.95	3.78	YAARL TV
601	0x0259	Data	-	1426.52	3.75	PMI Streaming W3
1001	0x03E9	MPEG2 Video	$	1390.50	3.66	Walf TV
1008	0x03F0	MPEG2 Video	-	1159.79	3.05	KURD1
8191	0x1FFF	Null Packets	-	1027.15	2.70	N/A
1009	0x03F1	MPEG2 Video	-	926.76	2.44	Africa 7
600	0x0258	Data	-	200.91	0.53	PMI File W3
1154	0x0482	MPEG Audio	$	200.65	0.53	RFM
1127	0x0467	MPEG Audio	$	198.55	0.52	Disney Channel ME
1129	0x0469	MPEG Audio	$	198.52	0.52	Disney Channel ME
4332	0x10EC	MPEG Audio	$	196.81	0.52	RAI Africa
1128	0x0468	MPEG Audio	$	196.81	0.52	Disney Channel ME
1126	0x0466	MPEG Audio	$	196.81	0.52	Disney Channel ME
1150	0x047E	MPEG Audio	$	135.88	0.36	Walf 1
1612	0x064C	MPEG Audio	-	135.85	0.36	RFI Music
1611	0x064B	MPEG Audio	-	135.85	0.36	RFI Divers 4
1610	0x064A	MPEG Audio	-	135.85	0.36	RFI Divers 3
1609	0x0649	MPEG Audio	-	135.85	0.36	RFI Hispasat1
1606	0x0646	MPEG Audio	-	135.85	0.36	RFI Divers 2
1604	0x0644	MPEG Audio	-	135.85	0.36	RFI Test
1603	0x0643	MPEG Audio	-	135.85	0.36	RFI Erevan
1601	0x0641	MPEG Audio	-	135.85	0.36	RFI Skopje
1151	0x047F	MPEG Audio	$	135.85	0.36	Walf 2
1608	0x0648	MPEG Audio	-	135.82	0.36	RFI Rmc Amman
1607	0x0647	MPEG Audio	-	135.82	0.36	RFI Divers 7
1602	0x0642	MPEG Audio	-	135.82	0.36	RFI Langues Est
1331	0x0533	MPEG Audio	-	132.39	0.35	Jaya TV
1107	0x0453	MPEG Audio	-	132.39	0.35	YAARL TV
1311	0x051F	MPEG Audio	-	132.36	0.35	Touba Medias
1108	0x0454	MPEG Audio	-	132.36	0.35	KURD1
1105	0x0451	MPEG Audio	-	132.36	0.35	NET 25 INTERNATIONAL
1104	0x0450	MPEG Audio	$	132.36	0.35	TFM Senegal
1102	0x044E	MPEG Audio	-	132.36	0.35	PTV
1101	0x044D	MPEG Audio	$	132.36	0.35	Walf TV
1321	0x0529	MPEG Audio	-	132.33	0.35	Ayngaran TV
1109	0x0455	MPEG Audio	-	132.33	0.35	Africa 7
1103	0x044F	MPEG Audio	-	132.33	0.35	JSTV
1111	0x0457	MPEG Audio	-	131.57	0.35	CCTV9 DOCUMENTARY
1605	0x0645	MPEG Audio	-	69.66	0.18	RFI Divers 1
8190	0x1FFE	PCR	-	44.25	0.12	CCTV9 DOCUMENTARY
1029	0x0405	PCR	-	39.37	0.10	N/A
18	0x0012	EIT	-	25.40	0.07	N/A
8000	0x1F40	ECM/EMM	-	15.83	0.04	RAI Africa
1511	0x05E7	ECM/EMM	-	15.83	0.04	Walf TV
971	0x03CB	ECM/EMM	-	15.83	0.04	TFM Senegal
961	0x03C1	ECM/EMM	-	15.83	0.04	Walf TV
126	0x007E	PMT	-	15.83	0.04	Disney Channel ME
0	0x0000	PAT	-	15.83	0.04	N/A
17	0x0011	SDT	-	15.71	0.04	N/A
1130	0x046A	DVB Subtitles	-	13.73	0.04	Disney Channel ME
500	0x01F4	PMT	-	7.94	0.02	PMI File W3
111	0x006F	PMT	-	7.94	0.02	CCTV9 DOCUMENTARY
102	0x0066	PMT	-	7.94	0.02	PTV
1599	0x063F	PMT	-	7.91	0.02	RFI Test
1592	0x0638	PMT	-	7.91	0.02	RFI Skopje
1591	0x0637	PMT	-	7.91	0.02	RFI Anik
1589	0x0635	PMT	-	7.91	0.02	RFI Barcelona
1588	0x0634	PMT	-	7.91	0.02	RFI Ordispace
1587	0x0633	PMT	-	7.91	0.02	RFI Hispasat2
1586	0x0632	PMT	-	7.91	0.02	RFI Hispasat1
1585	0x0631	PMT	-	7.91	0.02	RFI Rmc Amman
1584	0x0630	PMT	-	7.91	0.02	RFI Orbit
1583	0x062F	PMT	-	7.91	0.02	RFI Austria
1582	0x062E	PMT	-	7.91	0.02	RFI M Orient
1581	0x062D	PMT	-	7.91	0.02	RFI Multilingue
1580	0x062C	PMT	-	7.91	0.02	RFI Ekaterinbourg
1579	0x062B	PMT	-	7.91	0.02	RFI Liban
1578	0x062A	PMT	-	7.91	0.02	RFI Montenegro
1577	0x0629	PMT	-	7.91	0.02	RFI Kosovo
1576	0x0628	PMT	-	7.91	0.02	RFI Albania
1575	0x0627	PMT	-	7.91	0.02	RFI Chisinau
1574	0x0626	PMT	-	7.91	0.02	RFI Ocean Indien
1573	0x0625	PMT	-	7.91	0.02	RFI Erevan
1572	0x0624	PMT	-	7.91	0.02	RFI Russia
1571	0x0623	PMT	-	7.91	0.02	RFI Astra 4
1570	0x0622	PMT	-	7.91	0.02	RFI Bucarest
1569	0x0621	PMT	-	7.91	0.02	RFI Lisbonne
1568	0x0620	PMT	-	7.91	0.02	RFI Sofia
1567	0x061F	PMT	-	7.91	0.02	RFI Bakou
1566	0x061E	PMT	-	7.91	0.02	RFI Tbilissi
1565	0x061D	PMT	-	7.91	0.02	RFI Prague
1564	0x061C	PMT	-	7.91	0.02	RFI Germany
1563	0x061B	PMT	-	7.91	0.02	RFI Americas 5
1562	0x061A	PMT	-	7.91	0.02	RFI Music
1561	0x0619	PMT	-	7.91	0.02	RFI Divers 4
1560	0x0618	PMT	-	7.91	0.02	RFI Divers 3
1559	0x0617	PMT	-	7.91	0.02	RFI Latine
1558	0x0616	PMT	-	7.91	0.02	RFI Rmc Mo
1557	0x0615	PMT	-	7.91	0.02	RFI Divers 7
1556	0x0614	PMT	-	7.91	0.02	RFI Divers 2
1555	0x0613	PMT	-	7.91	0.02	RFI Divers 1
1554	0x0612	PMT	-	7.91	0.02	RFI Afrique
1553	0x0611	PMT	-	7.91	0.02	RFI Langues Div
1552	0x0610	PMT	-	7.91	0.02	RFI Langues Est
1551	0x060F	PMT	-	7.91	0.02	RFI Français
501	0x01F5	PMT	-	7.91	0.02	PMI Streaming W3
151	0x0097	PMT	-	7.91	0.02	Walf 2
150	0x0096	PMT	-	7.91	0.02	Walf 1
123	0x007B	PMT	-	7.91	0.02	Jaya TV
122	0x007A	PMT	-	7.91	0.02	Ayngaran TV
121	0x0079	PMT	-	7.91	0.02	Touba Medias
114	0x0072	PMT	-	7.91	0.02	RFM
109	0x006D	PMT	-	7.91	0.02	Africa 7
108	0x006C	PMT	-	7.91	0.02	KURD1
107	0x006B	PMT	-	7.91	0.02	YAARL TV
105	0x0069	PMT	-	7.91	0.02	NET 25 INTERNATIONAL
104	0x0068	PMT	-	7.91	0.02	TFM Senegal
101	0x0065	PMT	-	7.91	0.02	Walf TV
35	0x0023	PMT	-	7.91	0.02	JSTV
32	0x0020	PMT	-	7.91	0.02	RAI Africa
1	0x0001	CAT	-	7.91	0.02	N/A
1199	0x04AF	ECM/EMM	-	5.09	0.01	Disney Channel ME
1132	0x046C	DVB Subtitles	-	3.00	0.01	Disney Channel ME
1131	0x046B	DVB Subtitles	-	3.00	0.01	Disney Channel ME
16	0x0010	NIT	-	0.64	0.00	N/A
1226	0x04CA	ECM/EMM	-	0.61	0.00	N/A
20	0x0014	TOT	-	0.06	0.00	N/A

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DVB S

9°E

Network Name eVision Recording Thomas Haring

Transmitter EUROBIRD 11.958V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
1100	0x044C	H.264 Video	-	11924.11	31.36	m2 HD
1200	0x04B0	H.264 Video	-	7482.59	19.68	Duna 2 HD
200	0x00C8	MPEG2 Video	-	4035.00	10.61	m2
500	0x01F4	MPEG2 Video	$	3462.61	9.11	m1
8191	0x1FFF	Null Packets	-	2392.17	6.29	N/A
300	0x012C	MPEG2 Video	-	2355.44	6.19	Duna
400	0x0190	MPEG2 Video	-	1751.01	4.60	Duna 2
1202	0x04B2	AC3 Audio	-	394.93	1.04	Duna 2 HD
1102	0x044E	AC3 Audio	-	394.93	1.04	m2 HD
901	0x0385	MPEG Audio	-	275.83	0.73	MR3 Bartok
949	0x03B5	MPEG Audio	-	275.81	0.73	MR2 Petofi
1201	0x04B1	MPEG Audio	-	271.65	0.71	Duna 2 HD
1101	0x044D	MPEG Audio	-	271.65	0.71	m2 HD
933	0x03A5	MPEG Audio	-	200.60	0.53	MR1 Kossuth
18	0x0012	EIT	-	200.08	0.53	N/A
311	0x0137	Teletext	-	192.86	0.51	Duna
503	0x01F7	Teletext	-	189.17	0.50	m1
111	0x006F	Teletext	-	187.86	0.49	m2 HD
110	0x006E	Teletext	-	187.86	0.49	m2
981	0x03D5	MPEG Audio	-	137.92	0.36	MR5 Parlament
965	0x03C5	MPEG Audio	-	137.92	0.36	MR4 Nemzetsegi
917	0x0395	MPEG Audio	-	137.91	0.36	Katolikus Radio-TESZT
501	0x01F5	MPEG Audio	$	135.83	0.36	m1
201	0x00C9	MPEG Audio	-	135.83	0.36	m2
401	0x0191	MPEG Audio	-	135.82	0.36	Duna 2
301	0x012D	MPEG Audio	-	135.82	0.36	Duna
304	0x0130	Private PES	-	37.63	0.10	Duna
504	0x01F8	Private PES	-	37.61	0.10	m1
404	0x0194	Private PES	-	37.61	0.10	Duna 2
204	0x00CC	Private PES	-	37.61	0.10	m2
16	0x0010	NIT	-	25.08	0.07	N/A
1	0x0001	CAT	-	25.07	0.07	N/A
0	0x0000	PAT	-	25.07	0.07	N/A
17	0x0011	SDT	-	25.04	0.07	N/A
1098	0x044A	PMT	-	24.27	0.06	m2 HD
986	0x03DA	PMT	-	24.27	0.06	MR5 Parlament
970	0x03CA	PMT	-	24.27	0.06	MR4 Nemzetsegi
954	0x03BA	PMT	-	24.27	0.06	MR2 Petofi
922	0x039A	PMT	-	24.27	0.06	Katolikus Radio-TESZT
906	0x038A	PMT	-	24.27	0.06	MR3 Bartok
1198	0x04AE	PMT	-	24.26	0.06	Duna 2 HD
938	0x03AA	PMT	-	24.26	0.06	MR1 Kossuth
502	0x01F6	PMT	-	24.26	0.06	m1
406	0x0196	PMT	-	24.26	0.06	Duna 2
306	0x0132	PMT	-	24.26	0.06	Duna
202	0x00CA	PMT	-	24.26	0.06	m2
2986	0x0BAA	ECM/EMM	-	22.16	0.06	N/A
2816	0x0B00	ECM/EMM	-	20.22	0.05	N/A
511	0x01FF	ECM/EMM	-	14.96	0.04	m1
934	0x03A6	Private PES	-	5.72	0.02	MR1 Kossuth
982	0x03D6	Private PES	-	4.18	0.01	MR5 Parlament
966	0x03C6	Private PES	-	4.18	0.01	MR4 Nemzetsegi
950	0x03B6	Private PES	-	4.18	0.01	MR2 Petofi
902	0x0386	Private PES	-	4.18	0.01	MR3 Bartok
20	0x0014	TOT	-	2.99	0.01	N/A

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DVB S

9°E

Network Name Euro TV Recording Thomas Haring

Transmitter EUROBIRD 12.092H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	28231.85	74.21	N/A
4208	0x1070	MPEG2 Video	$	2871.65	7.55	IBERALIA
4144	0x1030	MPEG2 Video	-	2871.63	7.55	PARLAMENTO
4260	0x10A4	MPEG2 Video	-	2814.07	7.40	REAL MADRID TV
4261	0x10A5	MPEG Audio	-	137.98	0.36	REAL MADRID TV
4145	0x1031	MPEG Audio	-	135.86	0.36	PARLAMENTO
4209	0x1071	MPEG Audio	$	125.45	0.33	IBERALIA
4400	0x1130	ECM/EMM	-	98.37	0.26	N/A
4406	0x1136	MPEG Audio	-	73.18	0.19	Musicam 6
4403	0x1133	MPEG Audio	-	73.18	0.19	Musicam 3
4405	0x1135	MPEG Audio	-	73.16	0.19	Musicam 5
4404	0x1134	MPEG Audio	-	73.16	0.19	Musicam 4
4402	0x1132	MPEG Audio	-	73.16	0.19	Musicam 2
4401	0x1131	MPEG Audio	-	73.16	0.19	Musicam 1
17	0x0011	SDT	-	22.61	0.06	N/A
45	0x002D	PMT	-	22.59	0.06	IBERALIA
39	0x0027	PMT	-	22.59	0.06	PARLAMENTO
38	0x0026	PMT	-	22.59	0.06	REAL MADRID TV
37	0x0025	PMT	-	22.59	0.06	Musicam 1
36	0x0024	PMT	-	22.59	0.06	Musicam 2
35	0x0023	PMT	-	22.59	0.06	Musicam 3
34	0x0022	PMT	-	22.59	0.06	Musicam 4
33	0x0021	PMT	-	22.59	0.06	Musicam 5
32	0x0020	PMT	-	22.59	0.06	Musicam 6
16	0x0010	NIT	-	22.59	0.06	N/A
1	0x0001	CAT	-	22.59	0.06	N/A
0	0x0000	PAT	-	22.59	0.06	N/A
194	0x00C2	ECM/EMM	-	16.04	0.04	N/A
514	0x0202	ECM/EMM	-	7.52	0.02	IBERALIA
20	0x0014	TOT	-	0.43	0.00	N/A

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DVB S

9°E

Network Name AFN Eurobird 9A Recording Thomas Haring

Transmitter EUROBIRD 12.418V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	3900.20	10.25	N/A
510	0x01FE	MPEG2 Video	$	2836.36	7.46	News
910	0x038E	MPEG2 Video	$	2800.37	7.36	Family Channel
810	0x032A	MPEG2 Video	-	2621.95	6.89	Pentagon Channel
210	0x00D2	MPEG2 Video	$	2498.79	6.57	AFN Vicenza / Livorno
1310	0x051E	MPEG2 Video	$	2393.11	6.29	AFN Freedom
610	0x0262	MPEG2 Video	$	2382.07	6.26	AFN Xtra
1010	0x03F2	MPEG2 Video	$	2326.88	6.12	Movie Channel
410	0x019A	MPEG2 Video	$	2299.75	6.05	AFN Sigonella
110	0x006E	MPEG2 Video	$	2267.42	5.96	AFN Aviano
710	0x02C6	MPEG2 Video	$	2242.15	5.90	AFN Rota
310	0x0136	MPEG2 Video	$	1882.06	4.95	AFN Naples
1061	0x0425	Private Data	-	1679.74	4.42	News
902	0x0386	MPEG Audio	$	266.48	0.70	Family Channel
904	0x0388	PCR	$	172.42	0.45	N/A
706	0x02C2	MPEG Audio	$	172.42	0.45	AFN Rota
1304	0x0518	MPEG Audio	$	141.09	0.37	AFN Freedom
202	0x00CA	MPEG Audio	$	141.09	0.37	AFN Vicenza / Livorno
106	0x006A	MPEG Audio	$	141.09	0.37	AFN Aviano
1306	0x051A	MPEG Audio	$	141.07	0.37	AFN Freedom
1302	0x0516	MPEG Audio	$	141.07	0.37	AFN Freedom
1006	0x03EE	MPEG Audio	-	141.07	0.37	AFNS Audio Test Signal
804	0x0324	MPEG Audio	-	141.07	0.37	Pentagon Channel
802	0x0322	MPEG Audio	-	141.07	0.37	Pentagon Channel
704	0x02C0	MPEG Audio	$	141.07	0.37	AFN Rota
702	0x02BE	MPEG Audio	$	141.07	0.37	AFN Rota
602	0x025A	MPEG Audio	$	141.07	0.37	AFN Xtra
504	0x01F8	MPEG Audio	$	141.07	0.37	News
502	0x01F6	MPEG Audio	$	141.07	0.37	News
404	0x0194	MPEG Audio	$	141.07	0.37	AFN Sigonella
402	0x0192	MPEG Audio	$	141.07	0.37	AFN Sigonella
304	0x0130	MPEG Audio	$	141.07	0.37	AFN Naples
302	0x012E	MPEG Audio	$	141.07	0.37	AFN Naples
204	0x00CC	MPEG Audio	$	141.07	0.37	AFN Vicenza / Livorno
104	0x0068	MPEG Audio	$	141.07	0.37	AFN Aviano
102	0x0066	MPEG Audio	$	141.07	0.37	AFN Aviano
1300	0x0514	MPEG Audio	$	125.39	0.33	AFN Freedom
1002	0x03EA	MPEG Audio	-	125.39	0.33	Movie Channel
1000	0x03E8	MPEG Audio	$	125.39	0.33	Movie Channel
900	0x0384	MPEG Audio	$	125.39	0.33	Family Channel
700	0x02BC	MPEG Audio	$	125.39	0.33	AFN Rota
600	0x0258	MPEG Audio	$	125.39	0.33	AFN Xtra
509	0x01FD	MPEG Audio	$	125.39	0.33	News
400	0x0190	MPEG Audio	$	125.39	0.33	AFN Sigonella
300	0x012C	MPEG Audio	$	125.39	0.33	AFN Naples
200	0x00C8	MPEG Audio	$	125.39	0.33	AFN Vicenza / Livorno
100	0x0064	MPEG Audio	$	125.39	0.33	AFN Aviano
800	0x0320	MPEG Audio	-	109.72	0.29	Pentagon Channel
506	0x01FA	MPEG Audio	$	109.72	0.29	News
5026	0x13A2	PMT	-	15.07	0.04	AFN Freedom
5262	0x148E	PMT	-	15.05	0.04	AFN Freedom Radio
5223	0x1467	PMT	-	15.05	0.04	AFNE Power Net - Livorno 107FM
5222	0x1466	PMT	-	15.05	0.04	AFN The Eagle - Livorno 106FM
5203	0x1453	PMT	-	15.05	0.04	AFNE Power Net - Sigonella 107FM
5202	0x1452	PMT	-	15.05	0.04	AFN The Eagle - Sigonella 105.9FM
5183	0x143F	PMT	-	15.05	0.04	AFNE Power Net - Naples 107FM
5182	0x143E	PMT	-	15.05	0.04	AFN The Eagle - Naples 106FM
5164	0x142C	PMT	-	15.05	0.04	AFN The Eagle Souda Bay 107.3FM
5163	0x142B	PMT	-	15.05	0.04	AFN Rota Power Net
5162	0x142A	PMT	-	15.05	0.04	AFN The Eagle Rota 102.5FM
5143	0x1417	PMT	-	15.05	0.04	AFNE Power Net-Vicenza 107FM
5142	0x1416	PMT	-	15.05	0.04	AFN The Eagle-Vicenza 106FM
5123	0x1403	PMT	-	15.05	0.04	AFN Aviano 107FM
5122	0x1402	PMT	-	15.05	0.04	AFN Aviano 106FM
5062	0x13C6	PMT	-	15.05	0.04	AFNS Audio Test Signal
5043	0x13B3	PMT	-	15.05	0.04	AFN PowerTalk
5042	0x13B2	PMT	-	15.05	0.04	AFNE Power Net - Vicenza 107FM
5041	0x13B1	PMT	-	15.05	0.04	AFN The Eagle - Vicenza 106 FM
5020	0x139C	PMT	-	15.05	0.04	AFN Sigonella
5018	0x139A	PMT	-	15.05	0.04	AFN Naples
5016	0x1398	PMT	-	15.05	0.04	AFN Rota
5014	0x1396	PMT	-	15.05	0.04	AFN Vicenza / Livorno
5012	0x1394	PMT	-	15.05	0.04	AFN Aviano
5010	0x1392	PMT	-	15.05	0.04	Movie Channel
5009	0x1391	PMT	-	15.05	0.04	Family Channel
5008	0x1390	PMT	-	15.05	0.04	Pentagon Channel
5006	0x138E	PMT	-	15.05	0.04	AFN Xtra
5005	0x138D	PMT	-	15.05	0.04	News
1	0x0001	CAT	-	15.05	0.04	N/A
0	0x0000	PAT	-	15.05	0.04	N/A
6262	0x1876	ECM/EMM	-	14.88	0.04	AFN Freedom Radio
6223	0x184F	ECM/EMM	-	14.88	0.04	AFNE Power Net - Livorno 107FM
6222	0x184E	ECM/EMM	-	14.88	0.04	AFN The Eagle - Livorno 106FM
6203	0x183B	ECM/EMM	-	14.88	0.04	AFNE Power Net - Sigonella 107FM
6202	0x183A	ECM/EMM	-	14.88	0.04	AFN The Eagle - Sigonella 105.9FM
6183	0x1827	ECM/EMM	-	14.88	0.04	AFNE Power Net - Naples 107FM
6182	0x1826	ECM/EMM	-	14.88	0.04	AFN The Eagle - Naples 106FM
6164	0x1814	ECM/EMM	-	14.88	0.04	AFN The Eagle Souda Bay 107.3FM
6163	0x1813	ECM/EMM	-	14.88	0.04	AFN Rota Power Net
6162	0x1812	ECM/EMM	-	14.88	0.04	AFN The Eagle Rota 102.5FM
6143	0x17FF	ECM/EMM	-	14.88	0.04	AFNE Power Net-Vicenza 107FM
6142	0x17FE	ECM/EMM	-	14.88	0.04	AFN The Eagle-Vicenza 106FM
6123	0x17EB	ECM/EMM	-	14.88	0.04	AFN Aviano 107FM
6122	0x17EA	ECM/EMM	-	14.88	0.04	AFN Aviano 106FM
6042	0x179A	ECM/EMM	-	14.88	0.04	AFNE Power Net - Vicenza 107FM
6041	0x1799	ECM/EMM	-	14.88	0.04	AFN The Eagle - Vicenza 106 FM
6026	0x178A	ECM/EMM	-	14.88	0.04	AFN Freedom
6020	0x1784	ECM/EMM	-	14.88	0.04	AFN Sigonella
6018	0x1782	ECM/EMM	-	14.88	0.04	AFN Naples
6014	0x177E	ECM/EMM	-	14.88	0.04	AFN Vicenza / Livorno
6012	0x177C	ECM/EMM	-	14.88	0.04	AFN Aviano
6010	0x177A	ECM/EMM	-	14.88	0.04	Movie Channel
6009	0x1779	ECM/EMM	-	14.88	0.04	Family Channel
6006	0x1776	ECM/EMM	-	14.88	0.04	AFN Xtra
6005	0x1775	ECM/EMM	-	14.88	0.04	News
6016	0x1780	ECM/EMM	-	14.86	0.04	AFN Rota
18	0x0012	EIT	-	10.03	0.03	N/A
17	0x0011	SDT	-	5.02	0.01	N/A
16	0x0010	NIT	-	3.01	0.01	N/A
20	0x0014	TOT	-	0.15	0.00	N/A

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19°E ASTRA

DVB S

19°E

Network Name ASTRA1 Recording Thomas Haring

Transmitter ASTRA 11.023H *Remark* 3D side-by-side

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	13188.42	38.98	N/A
33	0x0021	H.264 Video	-	8188.04	24.20	ASTRA 3D demo
2091	0x082B	MPEG2 Video	-	6173.50	18.25	ASTRA Caption
2051	0x0803	MPEG2 Video	-	3547.00	10.48	RTS SAT
640	0x0280	MPEG2 Video	-	1430.39	4.23	AB Channel
36	0x0024	Private Data	-	459.99	1.36	ASTRA 3D demo
642	0x0282	Teletext	-	225.71	0.67	AB Channel
2062	0x080E	MPEG Audio	-	138.13	0.41	Radio Beograd
2052	0x0804	MPEG Audio	-	137.98	0.41	RTS SAT
641	0x0281	MPEG Audio	-	131.63	0.39	AB Channel
1701	0x06A5	PCR	-	42.72	0.13	N/A
1301	0x0515	PCR	-	42.72	0.13	N/A
2060	0x080C	PMT	-	18.85	0.06	Radio Beograd
2050	0x0802	PMT	-	18.85	0.06	RTS SAT
1112	0x0458	PMT	-	18.85	0.06	ASTRA Caption
34	0x0022	PMT	-	18.85	0.06	3D Tile Format
32	0x0020	PMT	-	18.85	0.06	ASTRA 3D demo
5220	0x1464	PMT	-	18.77	0.06	AB Channel
1	0x0001	CAT	-	3.77	0.01	N/A
0	0x0000	PAT	-	3.77	0.01	N/A
16	0x0010	NIT	-	2.00	0.01	N/A
17	0x0011	SDT	-	1.77	0.01	N/A
20	0x0014	TOT	-	0.15	0.00	N/A

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23.5°E ASTRA

DVB S

23.5°E

Network Name Skylink Recording Thomas Haring
Transmitter ASTRA 11.798H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
2720	0x0AA0	MPEG2 Video	$	4166.89	10.96	TV JOJ
2721	0x0AA1	MPEG2 Video	$	3218.99	8.47	JOJ PLUS
2728	0x0AA8	MPEG2 Video	$	3078.58	8.10	NG Wild
2727	0x0AA7	MPEG2 Video	$	2480.98	6.52	Discovery
2723	0x0AA3	MPEG2 Video	$	2328.28	6.12	History channel
2729	0x0AA9	MPEG2 Video	-	2281.81	6.00	Fashion TV
2016	0x07E0	H.264 Video	$	2200.72	5.79	Sport 2
2722	0x0AA2	MPEG2 Video	-	2195.87	5.78	TA3
2018	0x07E2	H.264 Video	$	2097.76	5.52	HBO Comedy
2732	0x0AAC	MPEG2 Video	-	2058.70	5.41	tv8
2017	0x07E1	H.264 Video	$	1778.14	4.68	TV Paprika
2726	0x0AA6	MPEG2 Video	$	1707.02	4.49	NGC
8191	0x1FFF	Null Packets	-	1648.86	4.34	N/A
2733	0x0AAD	MPEG2 Video	$	866.99	2.28	duck tv
2892	0x0B4C	MPEG Audio	-	266.38	0.70	tv8
3280	0x0CD0	Teletext	-	263.26	0.69	TV JOJ
3200	0x0C80	Teletext	-	263.26	0.69	TV JOJ
18	0x0012	EIT	-	242.25	0.64	N/A
3053	0x0BED	MPEG Audio	$	203.72	0.54	duck tv
2882	0x0B42	MPEG Audio	-	203.72	0.54	TA3
2880	0x0B40	MPEG Audio	$	203.72	0.54	TV JOJ
2038	0x07F6	MPEG Audio	$	203.72	0.54	HBO Comedy
2028	0x07EC	MPEG Audio	$	203.72	0.54	HBO Comedy
2026	0x07EA	MPEG Audio	$	203.72	0.54	Sport 2
3046	0x0BE6	MPEG Audio	$	203.70	0.54	NGC
2889	0x0B49	MPEG Audio	-	203.70	0.54	Fashion TV
2881	0x0B41	MPEG Audio	$	203.70	0.54	JOJ PLUS
101	0x0065	ECM/EMM	-	197.55	0.52	N/A
2047	0x07FF	MPEG Audio	$	141.02	0.37	TV Paprika
2027	0x07EB	MPEG Audio	$	141.02	0.37	TV Paprika
102	0x0066	ECM/EMM	-	140.01	0.37	N/A
2967	0x0B97	MPEG Audio	$	133.20	0.35	Discovery
2887	0x0B47	MPEG Audio	$	133.20	0.35	Discovery
2538	0x09EA	MPEG Audio	$	133.20	0.35	NG Wild
2528	0x09E0	MPEG Audio	$	133.20	0.35	NG Wild
2966	0x0B96	MPEG Audio	$	133.19	0.35	NGC
2963	0x0B93	MPEG Audio	$	133.19	0.35	History channel
2886	0x0B46	MPEG Audio	$	133.19	0.35	NGC
2883	0x0B43	MPEG Audio	$	133.19	0.35	History channel
103	0x0067	ECM/EMM	-	120.95	0.32	N/A
2558	0x09FE	MPEG Audio	$	87.74	0.23	NG Wild
3208	0x0C88	Teletext	-	75.22	0.20	NG Wild
104	0x0068	ECM/EMM	-	72.50	0.19	N/A
3206	0x0C86	Teletext	-	37.62	0.10	NGC
3281	0x0CD1	Private PES	-	37.60	0.10	JOJ PLUS
3131	0x0C3B	Private PES	-	37.60	0.10	Sport 2
2603	0x0A2B	DVB Subtitles	-	36.01	0.09	History channel
16	0x0010	NIT	-	34.40	0.09	N/A
3383	0x0D37	DVB Subtitles	-	28.23	0.07	History channel
17	0x0011	SDT	-	18.32	0.05	N/A
418	0x01A2	ECM/EMM	-	15.05	0.04	NG Wild
408	0x0198	ECM/EMM	-	15.05	0.04	NG Wild
348	0x015C	ECM/EMM	-	15.05	0.04	NG Wild
328	0x0148	ECM/EMM	-	15.05	0.04	NG Wild
308	0x0134	ECM/EMM	-	15.05	0.04	NG Wild
198	0x00C6	ECM/EMM	-	15.05	0.04	NG Wild
196	0x00C4	ECM/EMM	-	15.05	0.04	NGC
191	0x00BF	ECM/EMM	-	15.05	0.04	JOJ PLUS
190	0x00BE	ECM/EMM	-	15.05	0.04	TV JOJ
178	0x00B2	ECM/EMM	-	15.05	0.04	NG Wild
176	0x00B0	ECM/EMM	-	15.05	0.04	NGC
171	0x00AB	ECM/EMM	-	15.05	0.04	JOJ PLUS
170	0x00AA	ECM/EMM	-	15.05	0.04	TV JOJ
148	0x0094	ECM/EMM	-	15.05	0.04	NG Wild
146	0x0092	ECM/EMM	-	15.05	0.04	NGC
141	0x008D	ECM/EMM	-	15.05	0.04	JOJ PLUS
140	0x008C	ECM/EMM	-	15.05	0.04	TV JOJ
183	0x00B7	ECM/EMM	-	14.89	0.04	duck tv
177	0x00B1	ECM/EMM	-	14.89	0.04	Discovery
147	0x0093	ECM/EMM	-	14.89	0.04	Discovery
2333	0x091D	ECM/EMM	-	14.88	0.04	History channel
2323	0x0913	ECM/EMM	-	14.88	0.04	History channel
361	0x0169	ECM/EMM	-	14.88	0.04	duck tv
331	0x014B	ECM/EMM	-	14.88	0.04	duck tv
323	0x0143	ECM/EMM	-	14.88	0.04	History channel
311	0x0137	ECM/EMM	-	14.88	0.04	duck tv
173	0x00AD	ECM/EMM	-	14.88	0.04	History channel
153	0x0099	ECM/EMM	-	14.88	0.04	duck tv
143	0x008F	ECM/EMM	-	14.88	0.04	History channel
2598	0x0A26	DVB Subtitles	-	11.34	0.03	NG Wild
2814	0x0AFE	?	-	8.60	0.02	N/A
2812	0x0AFC	PMT	-	8.60	0.02	tv8
2811	0x0AFB	PMT	-	8.60	0.02	duck tv DUT
2808	0x0AF8	PMT	-	8.60	0.02	NG Wild
2807	0x0AF7	PMT	-	8.60	0.02	Discovery
2806	0x0AF6	PMT	-	8.60	0.02	NGC
2804	0x0AF4	PMT	-	8.60	0.02	NG Wild DUT
2803	0x0AF3	PMT	-	8.60	0.02	History channel
2801	0x0AF1	PMT	-	8.60	0.02	JOJ PLUS
2008	0x07D8	PMT	-	8.60	0.02	HBO Comedy
2007	0x07D7	PMT	-	8.60	0.02	TV Paprika
2006	0x07D6	PMT	-	8.60	0.02	Sport 2
1	0x0001	CAT	-	8.60	0.02	N/A
0	0x0000	PAT	-	8.60	0.02	N/A
2815	0x0AFF	PMT	-	8.59	0.02	History channel DUT
2813	0x0AFD	PMT	-	8.59	0.02	duck tv
2809	0x0AF9	PMT	-	8.59	0.02	Fashion TV
2802	0x0AF2	PMT	-	8.59	0.02	TA3
2800	0x0AF0	PMT	-	8.59	0.02	TV JOJ
2010	0x07DA	PMT	-	8.59	0.02	NG Wild BG
2009	0x07D9	PMT	-	8.59	0.02	History channel BG
3368	0x0D28	ECM/EMM	-	7.52	0.02	NG Wild
3371	0x0D2B	ECM/EMM	-	7.35	0.02	duck tv
3363	0x0D23	ECM/EMM	-	7.35	0.02	History channel
2848	0x0B20	ECM/EMM	-	5.02	0.01	NG Wild
2846	0x0B1E	ECM/EMM	-	5.02	0.01	NGC
2841	0x0B19	ECM/EMM	-	5.02	0.01	JOJ PLUS
2840	0x0B18	ECM/EMM	-	5.02	0.01	TV JOJ
268	0x010C	ECM/EMM	-	5.02	0.01	NG Wild
266	0x010A	ECM/EMM	-	5.02	0.01	NGC
261	0x0105	ECM/EMM	-	5.02	0.01	JOJ PLUS
260	0x0104	ECM/EMM	-	5.02	0.01	TV JOJ
248	0x00F8	ECM/EMM	-	5.02	0.01	NG Wild
246	0x00F6	ECM/EMM	-	5.02	0.01	NGC
241	0x00F1	ECM/EMM	-	5.02	0.01	JOJ PLUS
240	0x00F0	ECM/EMM	-	5.02	0.01	TV JOJ
2268	0x08DC	ECM/EMM	-	4.96	0.01	HBO Comedy
2267	0x08DB	ECM/EMM	-	4.96	0.01	TV Paprika
2266	0x08DA	ECM/EMM	-	4.96	0.01	Sport 2
2258	0x08D2	ECM/EMM	-	4.96	0.01	HBO Comedy
2257	0x08D1	ECM/EMM	-	4.96	0.01	TV Paprika
2256	0x08D0	ECM/EMM	-	4.96	0.01	Sport 2
273	0x0111	ECM/EMM	-	4.96	0.01	duck tv
267	0x010B	ECM/EMM	-	4.96	0.01	Discovery
263	0x0107	ECM/EMM	-	4.96	0.01	History channel
253	0x00FD	ECM/EMM	-	4.96	0.01	duck tv
247	0x00F7	ECM/EMM	-	4.96	0.01	Discovery
243	0x00F3	ECM/EMM	-	4.96	0.01	History channel
3286	0x0CD6	DVB Subtitles	-	3.02	0.01	NGC
105	0x0069	?	-	2.04	0.01	N/A

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DVB S

23.5°E

Network Name: Skylink
Transmitter: ASTRA 12.110H
Recording
Remark
Thomas Haring
HDTV

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
3515	0x0DBB	H.264 Video	$	8760.98	14.61	Spektrum HD
4003	0x0FA3	H.264 Video	$	8466.02	14.12	FILMBOX HD
4008	0x0FA8	H.264 Video	$	6212.31	10.36	Travel Channel HD CE
3514	0x0DBA	H.264 Video	$	5308.37	8.85	Markiza HD
4007	0x0FA7	H.264 Video	$	4755.34	7.93	HBO HD
4001	0x0FA1	H.264 Video	$	4417.19	7.37	EUROSPORT HD
4002	0x0FA2	H.264 Video	$	3658.44	6.10	HISTORY HD
8191	0x1FFF	Null Packets	-	2582.58	4.31	N/A
3011	0x0BC3	H.264 Video	$	2109.51	3.52	HBO Comedy
4019	0x0FB3	H.264 Video	$	2047.25	3.41	Muzika CS
4006	0x0FA6	H.264 Video	$	1512.91	2.52	Doku CS
3012	0x0BC4	H.264 Video	$	1174.51	1.96	Film Europe
4018	0x0FB2	H.264 Video	$	583.36	0.97	Kino CS
4243	0x1093	AC3 Audio	$	459.08	0.77	FILMBOX HD
4163	0x1043	AC3 Audio	$	458.71	0.76	FILMBOX HD
4247	0x1097	AC3 Audio	$	394.23	0.66	HBO HD
4241	0x1091	AC3 Audio	$	394.23	0.66	EUROSPORT HD
4167	0x1047	AC3 Audio	$	394.10	0.66	HBO HD
4322	0x10E2	MPEG Audio	$	271.94	0.45	HISTORY HD
4162	0x1042	AC3 Audio	$	264.76	0.44	HISTORY HD
5148	0x141C	MPEG Audio	$	203.98	0.34	Travel Channel HD EE
5068	0x13CC	MPEG Audio	$	203.98	0.34	Travel Channel HD EE
5058	0x13C2	MPEG Audio	$	203.98	0.34	Travel Channel HD EE
4641	0x1221	MPEG Audio	$	203.98	0.34	EUROSPORT HD
4328	0x10E8	MPEG Audio	$	203.98	0.34	Travel Channel HD CE
4323	0x10E3	MPEG Audio	$	203.98	0.34	FILMBOX HD
4248	0x1098	MPEG Audio	$	203.98	0.34	Travel Channel HD CE
4242	0x1092	MPEG Audio	$	203.98	0.34	HISTORY HD
4168	0x1048	MPEG Audio	$	203.98	0.34	Travel Channel HD CE
3545	0x0DD9	MPEG Audio	$	203.98	0.34	Spektrum HD
3534	0x0DCE	MPEG Audio	$	203.98	0.34	Markiza HD
3525	0x0DC5	MPEG Audio	$	203.98	0.34	Spektrum HD
3524	0x0DC4	MPEG Audio	$	203.98	0.34	Markiza HD
4179	0x1053	MPEG Audio	$	203.86	0.34	Muzika CS
4161	0x1041	MPEG Audio	$	203.86	0.34	EUROSPORT HD
3581	0x0DFD	MPEG Audio	$	203.86	0.34	Eurosport HD BG
3031	0x0BD7	MPEG Audio	$	203.86	0.34	HBO Comedy
3021	0x0BCD	MPEG Audio	$	203.86	0.34	HBO Comedy
101	0x0065	ECM/EMM	-	197.79	0.33	N/A
3022	0x0BCE	MPEG Audio	$	197.05	0.33	Film Europe
18	0x0012	EIT	-	184.18	0.31	N/A
4166	0x1046	MPEG Audio	$	141.23	0.24	Doku CS
4178	0x1052	MPEG Audio	$	141.10	0.24	Kino CS
102	0x0066	ECM/EMM	-	139.87	0.23	N/A
103	0x0067	ECM/EMM	-	124.52	0.21	N/A
104	0x0068	ECM/EMM	-	62.01	0.10	N/A
16	0x0010	NIT	-	34.66	0.06	N/A
4482	0x1182	DVB Subtitles	-	25.25	0.04	HISTORY HD
17	0x0011	SDT	-	18.20	0.03	N/A
4082	0x0FF2	PMT	-	17.33	0.03	HISTORY HD
4081	0x0FF1	PMT	-	17.33	0.03	EUROSPORT HD
3838	0x0EFE	ECM/EMM	-	14.98	0.02	Travel Channel HD CE
3832	0x0EF8	ECM/EMM	-	14.98	0.02	HISTORY HD
3831	0x0EF7	ECM/EMM	-	14.98	0.02	EUROSPORT HD
3828	0x0EF4	ECM/EMM	-	14.98	0.02	Travel Channel HD CE
3822	0x0EEE	ECM/EMM	-	14.98	0.02	HISTORY HD
3821	0x0EED	ECM/EMM	-	14.98	0.02	EUROSPORT HD
3788	0x0ECC	ECM/EMM	-	14.98	0.02	Travel Channel HD CE
3778	0x0EC2	ECM/EMM	-	14.98	0.02	Travel Channel HD CE
372	0x0174	ECM/EMM	-	14.98	0.02	HISTORY HD
371	0x0173	ECM/EMM	-	14.98	0.02	EUROSPORT HD
192	0x00C0	ECM/EMM	-	14.98	0.02	HISTORY HD
191	0x00BF	ECM/EMM	-	14.98	0.02	EUROSPORT HD
189	0x00BD	ECM/EMM	-	14.98	0.02	Muzika CS
182	0x00B6	ECM/EMM	-	14.98	0.02	HISTORY HD
181	0x00B5	ECM/EMM	-	14.98	0.02	EUROSPORT HD
179	0x00B3	ECM/EMM	-	14.98	0.02	Muzika CS
172	0x00AC	ECM/EMM	-	14.98	0.02	HISTORY HD
171	0x00AB	ECM/EMM	-	14.98	0.02	EUROSPORT HD
168	0x00A8	ECM/EMM	-	14.98	0.02	Travel Channel HD CE
162	0x00A2	ECM/EMM	-	14.98	0.02	HISTORY HD
161	0x00A1	ECM/EMM	-	14.98	0.02	EUROSPORT HD
148	0x0094	ECM/EMM	-	14.98	0.02	Travel Channel HD CE
188	0x00BC	ECM/EMM	-	14.85	0.02	Kino CS
178	0x00B2	ECM/EMM	-	14.85	0.02	Kino CS
177	0x00B1	ECM/EMM	-	14.85	0.02	HBO HD
176	0x00B0	ECM/EMM	-	14.85	0.02	Doku CS
173	0x00AD	ECM/EMM	-	14.85	0.02	FILMBOX HD
167	0x00A7	ECM/EMM	-	14.85	0.02	HBO HD
166	0x00A6	ECM/EMM	-	14.85	0.02	Doku CS
163	0x00A3	ECM/EMM	-	14.85	0.02	FILMBOX HD
4098	0x1002	PMT	-	8.66	0.01	Kino CS
4096	0x1000	PMT	-	8.66	0.01	Travel Channel HD WE
4089	0x0FF9	PMT	-	8.66	0.01	Eurosport HD DUT
4086	0x0FF6	PMT	-	8.66	0.01	Doku CS
4083	0x0FF3	PMT	-	8.66	0.01	FILMBOX HD
4080	0x0FF0	PMT	-	8.66	0.01	HISTORY HD DUT
3505	0x0DB1	PMT	-	8.66	0.01	Spektrum HD
3007	0x0BBF	PMT	-	8.66	0.01	HISTORY HD BG
3005	0x0BBD	PMT	-	8.66	0.01	Eurosport HD BG
0	0x0000	PAT	-	8.66	0.01	N/A
4099	0x1003	PMT	-	8.54	0.01	Muzika CS
4088	0x0FF8	PMT	-	8.54	0.01	Travel Channel HD CE
4087	0x0FF7	PMT	-	8.54	0.01	HBO HD
3504	0x0DB0	PMT	-	8.54	0.01	Markiza HD
3004	0x0BBC	PMT	-	8.54	0.01	Travel Channel HD EE
3002	0x0BBA	PMT	-	8.54	0.01	Film Europe
3001	0x0BB9	PMT	-	8.54	0.01	HBO Comedy
1	0x0001	CAT	-	8.54	0.01	N/A
3668	0x0E54	DVB Subtitles	-	8.05	0.01	Travel Channel HD WE
3688	0x0E68	DVB Subtitles	-	7.80	0.01	Travel Channel HD WE
3818	0x0EEA	ECM/EMM	-	7.43	0.01	Travel Channel HD CE
392	0x0188	ECM/EMM	-	7.43	0.01	HISTORY HD
391	0x0187	ECM/EMM	-	7.43	0.01	EUROSPORT HD
262	0x0106	ECM/EMM	-	5.07	0.01	HISTORY HD
261	0x0105	ECM/EMM	-	5.07	0.01	EUROSPORT HD
242	0x00F2	ECM/EMM	-	5.07	0.01	HISTORY HD
241	0x00F1	ECM/EMM	-	5.07	0.01	EUROSPORT HD
3765	0x0EB5	ECM/EMM	-	4.95	0.01	Spektrum HD
3764	0x0EB4	ECM/EMM	-	4.95	0.01	Markiza HD
3755	0x0EAB	ECM/EMM	-	4.95	0.01	Spektrum HD
3754	0x0EAA	ECM/EMM	-	4.95	0.01	Markiza HD
3262	0x0CBE	ECM/EMM	-	4.95	0.01	Film Europe
3261	0x0CBD	ECM/EMM	-	4.95	0.01	HBO Comedy
3252	0x0CB4	ECM/EMM	-	4.95	0.01	Film Europe
3251	0x0CB3	ECM/EMM	-	4.95	0.01	HBO Comedy
279	0x0117	ECM/EMM	-	4.95	0.01	Muzika CS
278	0x0116	ECM/EMM	-	4.95	0.01	Kino CS
268	0x010C	ECM/EMM	-	4.95	0.01	Travel Channel HD CE
267	0x010B	ECM/EMM	-	4.95	0.01	HBO HD
266	0x010A	ECM/EMM	-	4.95	0.01	Doku CS
263	0x0107	ECM/EMM	-	4.95	0.01	FILMBOX HD
259	0x0103	ECM/EMM	-	4.95	0.01	Muzika CS
258	0x0102	ECM/EMM	-	4.95	0.01	Kino CS
248	0x00F8	ECM/EMM	-	4.95	0.01	Travel Channel HD CE
247	0x00F7	ECM/EMM	-	4.95	0.01	HBO HD
246	0x00F6	ECM/EMM	-	4.95	0.01	Doku CS
243	0x00F3	ECM/EMM	-	4.95	0.01	FILMBOX HD
4818	0x12D2	DVB Subtitles	-	3.47	0.01	Travel Channel HD CE
3698	0x0E72	DVB Subtitles	-	3.47	0.01	Travel Channel HD CE
3678	0x0E5E	DVB Subtitles	-	3.47	0.01	Travel Channel HD CE
20	0x0014	TOT	-	0.25	0.00	N/A

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DVB S

23.5°E

Network Name: CS Link
Transmitter: ASTRA 12.525H
Recording
Thomas Haring

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
166	0x00A6	MPEG2 Video	$	5868.69	15.44	CT 4
165	0x00A5	MPEG2 Video	-	4758.20	12.51	CT 24
162	0x00A2	MPEG2 Video	$	4588.26	12.07	CT 1 JM
161	0x00A1	MPEG2 Video	$	4254.41	11.19	Prima TV
163	0x00A3	MPEG2 Video	$	3900.06	10.26	CT 2
167	0x00A7	MPEG2 Video	-	3271.70	8.61	Noe TV
8191	0x1FFF	Null Packets	-	3179.57	8.36	N/A
18	0x0012	EIT	-	533.59	1.40	N/A
90	0x005A	AC3 Audio	$	460.66	1.21	CT 1
184	0x00B8	MPEG Audio	-	275.78	0.73	CRo D-dur
92	0x005C	MPEG Audio	$	271.61	0.71	CT 2
102	0x0066	MPEG Audio	$	271.59	0.71	CT 4
88	0x0058	MPEG Audio	$	271.59	0.71	CT 1 JM
43	0x002B	Teletext	-	225.64	0.59	CT 2
40	0x0028	Teletext	-	225.64	0.59	CT 1 JM
37	0x0025	Teletext	-	225.64	0.59	Prima TV
180	0x00B4	MPEG Audio	-	208.92	0.55	Proglas
186	0x00BA	MPEG Audio	-	200.57	0.53	Radio Cesko
181	0x00B5	MPEG Audio	-	200.57	0.53	CRo 2+6/CRo 7
179	0x00B3	MPEG Audio	-	200.57	0.53	CRo 3 - Vltava
178	0x00B2	MPEG Audio	-	200.57	0.53	CRo 2 - Praha
187	0x00BB	MPEG Audio	-	200.55	0.53	CRo Radio Wave
185	0x00B9	MPEG Audio	-	200.55	0.53	CRo Leonardo
183	0x00B7	MPEG Audio	-	200.55	0.53	BBC CZ
182	0x00B6	MPEG Audio	-	200.55	0.53	CRo Region
177	0x00B1	MPEG Audio	-	200.55	0.53	CRo 1 - Radiozurnal
100	0x0064	MPEG Audio	-	198.48	0.52	CT 24
93	0x005D	MPEG Audio	$	198.48	0.52	CT 2
91	0x005B	MPEG Audio	-	198.48	0.52	CT 1
89	0x0059	MPEG Audio	$	198.48	0.52	CT 1
84	0x0054	MPEG Audio	$	198.48	0.52	Prima TV
106	0x006A	MPEG Audio	-	198.46	0.52	Noe TV
96	0x0060	MPEG Audio	$	198.46	0.52	CT 2
288	0x0120	ECM/EMM	-	197.84	0.52	N/A
201	0x00C9	ECM/EMM	-	194.46	0.51	N/A
52	0x0034	Teletext	-	150.43	0.40	CT 24
32	0x0020	Teletext	-	150.41	0.40	CT 4
272	0x0110	ECM/EMM	-	140.09	0.37	N/A
85	0x0055	MPEG Audio	$	135.80	0.36	Prima TV
274	0x0112	ECM/EMM	-	124.06	0.33	N/A
273	0x0111	ECM/EMM	-	70.67	0.19	N/A
55	0x0037	Teletext	-	37.60	0.10	Noe TV
16	0x0010	NIT	-	25.10	0.07	N/A
1	0x0001	CAT	-	25.08	0.07	N/A
0	0x0000	PAT	-	25.08	0.07	N/A
17	0x0011	SDT	-	25.05	0.07	N/A
1050	0x041A	PMT	-	24.27	0.06	CRo Radio Wave
1049	0x0419	PMT	-	24.27	0.06	CRo Leonardo
1048	0x0418	PMT	-	24.27	0.06	CRo D-dur
1047	0x0417	PMT	-	24.27	0.06	BBC CZ
1046	0x0416	PMT	-	24.27	0.06	CRo Region
1045	0x0415	PMT	-	24.27	0.06	CRo 2+6/CRo 7
1044	0x0414	PMT	-	24.27	0.06	Proglas
1043	0x0413	PMT	-	24.27	0.06	CRo 3 - Vltava
1042	0x0412	PMT	-	24.27	0.06	CRo 2 - Praha
1041	0x0411	PMT	-	24.27	0.06	CRo 1 - Radiozurnal
1040	0x0410	PMT	-	24.27	0.06	Radio Cesko
1031	0x0407	PMT	-	24.27	0.06	Noe TV
1030	0x0406	PMT	-	24.27	0.06	CT 4
1029	0x0405	PMT	-	24.27	0.06	CT 24
1027	0x0403	PMT	-	24.27	0.06	CT 2
1026	0x0402	PMT	-	24.27	0.06	CT 1
1025	0x0401	PMT	-	24.27	0.06	Prima TV
1028	0x0404	PMT	-	21.49	0.06	CT 1 SM
1024	0x0400	PMT	-	21.49	0.06	CT 1 JM
1795	0x0703	ECM/EMM	-	15.06	0.04	Prima TV
1794	0x0702	ECM/EMM	-	15.06	0.04	CT 2
1793	0x0701	ECM/EMM	-	15.06	0.04	CT 1 JM
1631	0x065F	ECM/EMM	-	15.06	0.04	CT 4
1620	0x0654	ECM/EMM	-	15.06	0.04	CT 2
1619	0x0653	ECM/EMM	-	15.06	0.04	CT 1 JM
1617	0x0651	ECM/EMM	-	15.06	0.04	CT 4
1616	0x0650	ECM/EMM	-	15.06	0.04	Prima TV
1553	0x0611	ECM/EMM	-	15.06	0.04	CT 4
1552	0x0610	ECM/EMM	-	15.06	0.04	CT 2
1551	0x060F	ECM/EMM	-	15.06	0.04	CT 1 JM
1538	0x0602	ECM/EMM	-	15.06	0.04	Prima TV
209	0x00D1	Private Data	-	8.93	0.02	CRo 1 - Radiozurnal
211	0x00D3	Private Data	-	7.70	0.02	CRo 3 - Vltava
41	0x0029	ECM/EMM	-	6.79	0.02	N/A
3847	0x0F07	ECM/EMM	-	5.03	0.01	Prima TV
3846	0x0F06	ECM/EMM	-	5.03	0.01	Prima TV
3845	0x0F05	ECM/EMM	-	5.03	0.01	CT 4
3844	0x0F04	ECM/EMM	-	5.03	0.01	CT 4
3840	0x0F00	ECM/EMM	-	5.03	0.01	CT 1 JM
39	0x0027	ECM/EMM	-	5.03	0.01	Prima TV
38	0x0026	ECM/EMM	-	5.03	0.01	CT 1 JM
34	0x0022	ECM/EMM	-	5.03	0.01	CT 4
3843	0x0F03	ECM/EMM	-	5.01	0.01	CT 2
3842	0x0F02	ECM/EMM	-	5.01	0.01	CT 2
3841	0x0F01	ECM/EMM	-	5.01	0.01	CT 1 JM
36	0x0024	ECM/EMM	-	5.01	0.01	CT 2
212	0x00D4	Private Data	-	4.33	0.01	CRo Region
210	0x00D2	Private Data	-	4.18	0.01	CRo 2 - Praha
20	0x0014	TOT	-	3.03	0.01	N/A
950	0x03B6	Private Sections	-	1.51	0.00	N/A

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108°E TELKOM 1

DVB S **108°E** Network Name Network1 Recording Vincent Witjhun
Transmitter TELKOM 1 3.620H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
111	0x006F	MPEG2 Video	$	3628.16	9.78	GlobalTV
120	0x0078	MPEG2 Video	$	2637.51	7.11	Goal TV 2
126	0x007E	MPEG2 Video	$	2616.85	7.05	Disney Junior
135	0x0087	MPEG2 Video	$	2400.74	6.47	NG Adventure
117	0x0075	MPEG2 Video	$	2368.70	6.39	AXN Beyond
129	0x0081	MPEG2 Video	$	2305.45	6.22	FOX Channel
138	0x008A	MPEG2 Video	$	2286.72	6.16	Alif TV
102	0x0066	MPEG2 Video	$	2103.35	5.67	Metro TV
96	0x0060	MPEG2 Video	$	1935.93	5.22	RCTI
141	0x008D	MPEG2 Video	$	1858.81	5.01	B Channel
123	0x007B	MPEG2 Video	$	1745.07	4.70	FOXCrime
105	0x0069	MPEG2 Video	$	1671.97	4.51	Indosiar
132	0x0084	MPEG2 Video	$	1656.86	4.47	MGM
108	0x006C	MPEG2 Video	$	1488.05	4.01	ANTV
99	0x0063	MPEG2 Video	$	1398.03	3.77	Bali TV
114	0x0072	MPEG2 Video	$	1336.16	3.60	SCTV
34	0x0022	MPEG Audio	-	181.15	0.49	Trial Radio
32	0x0020	MPEG Audio	$	181.15	0.49	Trial Radio JAK FM
769	0x0301	ECM/EMM	-	141.90	0.38	N/A
18	0x0012	EIT	-	141.76	0.38	N/A
109	0x006D	MPEG Audio	$	136.21	0.37	ANTV
142	0x008E	MPEG Audio	$	135.93	0.37	B Channel
139	0x008B	MPEG Audio	$	135.93	0.37	Alif TV
136	0x0088	MPEG Audio	$	135.93	0.37	NG Adventure
133	0x0085	MPEG Audio	$	135.93	0.37	MGM
130	0x0082	MPEG Audio	$	135.93	0.37	FOX Channel
124	0x007C	MPEG Audio	$	135.93	0.37	FOXCrime
121	0x0079	MPEG Audio	$	135.93	0.37	Goal TV 2
115	0x0073	MPEG Audio	$	135.93	0.37	SCTV
112	0x0070	MPEG Audio	$	135.93	0.37	GlobalTV
106	0x006A	MPEG Audio	$	135.93	0.37	Indosiar
103	0x0067	MPEG Audio	$	135.93	0.37	Metro TV
100	0x0064	MPEG Audio	$	135.93	0.37	Bali TV
97	0x0061	MPEG Audio	$	135.93	0.37	RCTI
127	0x007F	MPEG Audio	$	135.79	0.37	Disney Junior
118	0x0076	MPEG Audio	$	135.79	0.37	AXN Beyond
1024	0x0400	Private Data	-	97.23	0.26	_Service 9990
143	0x008F	PMT	-	30.10	0.08	B Channel
140	0x008C	PMT	-	30.10	0.08	Alif TV
137	0x0089	PMT	-	30.10	0.08	NG Adventure
134	0x0086	PMT	-	30.10	0.08	MGM
131	0x0083	PMT	-	30.10	0.08	FOX Channel
128	0x0080	PMT	-	30.10	0.08	Disney Junior
125	0x007D	PMT	-	30.10	0.08	FOXCrime
122	0x007A	PMT	-	30.10	0.08	Goal TV 2
119	0x0077	PMT	-	30.10	0.08	AXN Beyond
116	0x0074	PMT	-	30.10	0.08	SCTV
113	0x0071	PMT	-	30.10	0.08	GlobalTV
110	0x006E	PMT	-	30.10	0.08	ANTV
107	0x006B	PMT	-	30.10	0.08	Indosiar
104	0x0068	PMT	-	30.10	0.08	Metro TV
101	0x0065	PMT	-	30.10	0.08	Bali TV
98	0x0062	PMT	-	30.10	0.08	RCTI
37	0x0025	PMT	-	30.10	0.08	_Service 9990
35	0x0023	PMT	-	30.10	0.08	Trial Radio
33	0x0021	PMT	-	30.10	0.08	Trial Radio JAK FM
1	0x0001	CAT	-	30.10	0.08	N/A
0	0x0000	PAT	-	30.10	0.08	N/A
17	0x0011	SDT	-	17.34	0.05	N/A
2307	0x0903	ECM/EMM	-	4.99	0.01	Trial Radio JAK FM
1046	0x0416	ECM/EMM	-	4.99	0.01	B Channel
1045	0x0415	ECM/EMM	-	4.99	0.01	Alif TV
1044	0x0414	ECM/EMM	-	4.99	0.01	NG Adventure
1043	0x0413	ECM/EMM	-	4.99	0.01	MGM
1042	0x0412	ECM/EMM	-	4.99	0.01	FOX Channel
1041	0x0411	ECM/EMM	-	4.99	0.01	Disney Junior
1040	0x0410	ECM/EMM	-	4.99	0.01	FOXCrime
1033	0x0409	ECM/EMM	-	4.99	0.01	Goal TV 2
1032	0x0408	ECM/EMM	-	4.99	0.01	AXN Beyond
1031	0x0407	ECM/EMM	-	4.99	0.01	SCTV
1030	0x0406	ECM/EMM	-	4.99	0.01	GlobalTV
1029	0x0405	ECM/EMM	-	4.99	0.01	ANTV
1028	0x0404	ECM/EMM	-	4.99	0.01	Indosiar
1027	0x0403	ECM/EMM	-	4.99	0.01	Metro TV
1026	0x0402	ECM/EMM	-	4.99	0.01	Bali TV
1025	0x0401	ECM/EMM	-	4.99	0.01	RCTI
16	0x0010	NIT	-	3.88	0.01	N/A
20	0x0014	TOT	-	0.14	0.00	N/A

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DVB S **108°E** Network Name Tandberg Recording Vincent Witjhun
Transmitter TELKOM 1 3.990H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
512	0x0200	MPEG2 Video	-	7771.55	94.56	TRANS7-JKT
256	0x0100	MPEG Audio	-	395.86	4.82	TRANS7-JKT
8190	0x1FFE	PCR	-	39.45	0.48	N/A
32	0x0020	PMT	-	3.89	0.05	TRANS7-JKT
0	0x0000	PAT	-	3.75	0.05	N/A
18	0x0012	EIT	-	1.81	0.02	N/A
17	0x0011	SDT	-	0.97	0.01	N/A
1	0x0001	CAT	-	0.83	0.01	N/A
20	0x0014	TOT	-	0.14	0.00	N/A
16	0x0010	NIT	-	0.14	0.00	N/A

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DVB S **108°E** Network Name TransTV Recording Vincent Witjhun
Transmitter TELKOM 1 4.015H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
257	0x0101	MPEG2 Video	-	7576.75	93.64	antv
258	0x0102	MPEG Audio	-	396.17	4.90	antv
32	0x0020	PMT	-	39.38	0.49	antv
0	0x0000	PAT	-	38.70	0.48	N/A
43	0x002B	Private Data	-	37.47	0.46	antv
18	0x0012	EIT	-	1.78	0.02	N/A
17	0x0011	SDT	-	0.82	0.01	N/A
20	0x0014	TOT	-	0.27	0.00	N/A
16	0x0010	NIT	-	0.14	0.00	N/A
2	0x0002	TSDT	-	0.14	0.00	N/A

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DVB S **108°E** Network Name Tandberg Recording Vincent Witjhun
Transmitter TELKOM 1 4.084H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
33	0x0021	MPEG2 Video	-	7324,15	94,76	Trans TV 1
36	0x0024	MPEG Audio	-	394,26	5,10	Trans TV 1
0	0x0000	PAT	-	3,76	0,05	N/A
32	0x0020	PMT	-	3,62	0,05	Trans TV 1
18	0x0012	EIT	-	1,61	0,02	N/A
17	0x0011	SDT	-	0,81	0,01	N/A
1	0x0001	CAT	-	0,81	0,01	N/A
16	0x0010	NIT	-	0,13	0,00	N/A

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DVB S **108°E** Network Name DSNG Codec Recording Vincent Witjhun
Transmitter TELKOM 1 4.097H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
308	0x0134	MPEG2 Video	-	3423,84	84,72	JTV-REK
257	0x0101	MPEG Audio	-	263,16	6,51	JTV-REK
256	0x0100	MPEG Audio	-	263,16	6,51	JTV-REK
8190	0x1FFE	PCR	-	38,23	0,95	N/A
32	0x0020	PMT	-	7,55	0,19	JTV-REK
20	0x0014	TOT	-	7,55	0,19	N/A
18	0x0012	EIT	-	7,55	0,19	N/A
17	0x0011	SDT	-	7,55	0,19	N/A
16	0x0010	NIT	-	7,55	0,19	N/A
1	0x0001	CAT	-	7,55	0,19	N/A
0	0x0000	PAT	-	7,55	0,19	N/A

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Duration: 30 Sec, File Size: 15 MB **ts.TELE-satellite.com/DVB-S/108/TELKOM-4097H-1109.ts**

113°E PALAPA D

DVB S 113°E Network Name SNG TRUCK Recording Vincent Witjhun
Transmitter PALAPA D 3.756H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
2201	0x0899	MPEG2 Video	-	7166.88	87.83	SCTV
2203	0x089B	MPEG Audio	-	407.65	5.00	SCTV
2202	0x089A	MPEG Audio	-	407.65	5.00	SCTV
500	0x01F4	ECM/EMM	-	82.94	1.02	N/A
1130	0x046A	Private Data	-	37.66	0.46	SCTV
5001	0x1389	PMT	-	14.97	0.18	SCTV
1	0x0001	CAT	-	14.97	0.18	N/A
0	0x0000	PAT	-	14.97	0.18	N/A
18	0x0012	EIT	-	6.01	0.07	N/A
16	0x0010	NIT	-	3.00	0.04	N/A
17	0x0011	SDT	-	1.53	0.02	N/A
20	0x0014	TOT	-	1.48	0.02	N/A

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Duration: 30 Sec, File Size: 32 MB **ts.TELE-satellite.com/DVB-S/113/PALAPA-3756H-1109.ts**

DVB S 113°E Network Name ASIALINK Recording Vincent Witjhun
Transmitter PALAPA D 3.785H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
308	0x0134	MPEG2 Video	-	6810.44	92.07	ASIALINK
256	0x0100	MPEG Audio	-	272.61	3.69	ASIALINK
257	0x0101	MPEG Audio	-	263.47	3.56	ASIALINK
8190	0x1FFE	PCR	-	39.46	0.53	N/A
32	0x0020	PMT	-	3.74	0.05	ASIALINK
0	0x0000	PAT	-	3.74	0.05	N/A
18	0x0012	EIT	-	1.66	0.02	N/A
17	0x0011	SDT	-	0.83	0.01	N/A
1	0x0001	CAT	-	0.83	0.01	N/A
16	0x0010	NIT	-	0.28	0.00	N/A

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Duration: 30 Sec, File Size: 10 MB **ts.TELE-satellite.com/DVB-S/113/PALAPA-3785H-1109.ts**

DVB S 113°E Network Name B-Channel Recording Vincent Witjhun
Transmitter PALAPA D 3.863V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
512	0x0200	MPEG2 Video	-	5172.78	93.88	TVN-1
4112	0x1010	MPEG Audio	-	209.05	3.79	TVN-1
256	0x0100	PMT	-	30.11	0.55	TVN-1
17	0x0011	SDT	-	30.11	0.55	N/A
16	0x0010	NIT	-	30.11	0.55	N/A
0	0x0000	PAT	-	30.11	0.55	N/A
20	0x0014	TOT	-	7.53	0.14	N/A

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DVB S 113°E Network Name MPEG-2 ENCODER Recording Vincent Witjhun
Transmitter PALAPA D 3.926H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
33	0x0021	MPEG2 Video	-	5194.48	91.63	Service 1
37	0x0025	MPEG Audio	-	221.24	3.90	Service 1
36	0x0024	MPEG Audio	-	221.16	3.90	Service 1
32	0x0020	PMT	-	15.04	0.27	Service 1
0	0x0000	PAT	-	15.04	0.27	N/A
17	0x0011	SDT	-	0.99	0.02	N/A
16	0x0010	NIT	-	0.99	0.02	N/A

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DVB S 113°E Network Name MPEG-2 ENCODER Recording Vincent Witjhun
Transmitter PALAPA D 4.044V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
3601	0x0E11	MPEG2 Video	-	3423.25	88.79	DAAI-TV
3606	0x0E16	MPEG Audio	-	313.56	8.13	DAAI-TV
33	0x0021	PCR	-	75.24	1.95	N/A
0	0x0000	PAT	-	15.07	0.39	N/A
32	0x0020	PMT	-	15.02	0.39	DAAI-TV
17	0x0011	SDT	-	6.00	0.16	N/A
20	0x0014	TOT	-	3.02	0.08	N/A
16	0x0010	NIT	-	2.98	0.08	N/A
18	0x0012	EIT	-	1.51	0.04	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only
Duration: 30 Sec, File Size: 22 MB **ts.TELE-satellite.com/DVB-S/113/PALAPA-4044V-1110.ts**

DVB S 113°E Network Name Indosat 01 Recording Vincent Witjhun
Transmitter PALAPA D 4.080H *Remark* MPEG-2 and H.264

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
513	0x0201	MPEG2 Video	-	6136.76	18.47	MetroTV
516	0x0204	MPEG2 Video	-	2688.50	8.09	NHK
519	0x0207	H.264 Video	-	2557.16	7.69	CH10
512	0x0200	MPEG2 Video	-	2412.66	7.26	CH3
515	0x0203	MPEG2 Video	-	2305.19	6.94	Spacetoon
514	0x0202	MPEG2 Video	-	2098.78	6.32	Lejel
2102	0x0836	MPEG2 Video	-	2083.89	6.27	CH 20
1902	0x076E	MPEG2 Video	-	2057.68	6.19	Ch 19
1802	0x070A	MPEG2 Video	-	2053.75	6.18	Ch 18
518	0x0206	MPEG2 Video	-	1760.92	5.30	CH7
517	0x0205	MPEG2 Video	-	1557.64	4.69	CH6
520	0x0208	H.264 Video	-	511.41	1.54	CH11
664	0x0298	MPEG Audio	-	262.63	0.79	MTA FM
1903	0x076F	MPEG Audio	-	262.59	0.79	Ch 19
657	0x0291	MPEG Audio	-	262.59	0.79	CH10
656	0x0290	MPEG Audio	-	262.59	0.79	CH7
654	0x028E	MPEG Audio	-	262.59	0.79	NHK
653	0x028D	MPEG Audio	-	262.59	0.79	Spacetoon
652	0x028C	MPEG Audio	-	262.59	0.79	Lejel
651	0x028B	MPEG Audio	-	262.59	0.79	MetroTV
650	0x028A	MPEG Audio	-	262.59	0.79	CH3
2103	0x0837	MPEG Audio	-	262.54	0.79	CH 20
1803	0x070B	MPEG Audio	-	262.54	0.79	Ch 18
666	0x029A	MPEG Audio	-	262.54	0.79	POP FM
665	0x0299	MPEG Audio	-	262.54	0.79	BBC
658	0x0292	MPEG Audio	-	262.54	0.79	CH11
655	0x028F	MPEG Audio	-	262.54	0.79	CH6
1804	0x070C	MPEG Audio	-	131.67	0.40	Rodja
2001	0x07D1	MPEG Audio	-	66.18	0.20	Reda Crossa
1904	0x0770	MPEG Audio	-	66.18	0.20	Radio 19
8190	0x1FFE	PCR	-	44.28	0.13	N/A
202	0x00CA	PCR	-	39.65	0.12	N/A
2101	0x0835	PCR	-	39.60	0.12	N/A
1901	0x076D	PCR	-	39.60	0.12	N/A
211	0x00D3	PCR	-	39.60	0.12	N/A
210	0x00D2	PCR	-	39.60	0.12	N/A
207	0x00CF	PCR	-	39.60	0.12	N/A
206	0x00CE	PCR	-	39.60	0.12	N/A
205	0x00CD	PCR	-	39.60	0.12	N/A
204	0x00CC	PCR	-	39.60	0.12	N/A
203	0x00CB	PCR	-	39.60	0.12	N/A
201	0x00C9	PCR	-	39.60	0.12	N/A
1801	0x0709	PCR	-	39.55	0.12	N/A
1	0x0001	CAT	-	15.03	0.05	N/A
0	0x0000	PAT	-	15.03	0.05	N/A
107	0x006B	PMT	-	13.25	0.04	CH7
106	0x006A	PMT	-	13.25	0.04	CH6
104	0x0068	PMT	-	13.25	0.04	Spacetoon
103	0x0067	PMT	-	13.25	0.04	CH3
102	0x0066	PMT	-	13.25	0.04	MetroTV
2900	0x0B54	PMT	-	13.20	0.04	Radio 19
2800	0x0AF0	PMT	-	13.20	0.04	Rodja
2100	0x0834	PMT	-	13.20	0.04	CH 20
2000	0x07D0	PMT	-	13.20	0.04	Reda Crossa
1900	0x076C	PMT	-	13.20	0.04	Ch 19
1800	0x0708	PMT	-	13.20	0.04	Ch 18
117	0x0075	PMT	-	13.20	0.04	POP FM
116	0x0074	PMT	-	13.20	0.04	BBC
115	0x0073	PMT	-	13.20	0.04	68H
114	0x0072	PMT	-	13.20	0.04	MTA FM
111	0x006F	PMT	-	13.20	0.04	CH11
110	0x006E	PMT	-	13.20	0.04	CH10
105	0x0069	PMT	-	13.20	0.04	NHK
101	0x0065	PMT	-	13.20	0.04	Lejel
17	0x0011	SDT	-	4.54	0.01	N/A
16	0x0010	NIT	-	0.19	0.00	N/A
20	0x0014	TOT	-	0.05	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only
Duration: 1 Min, File Size: 133 MB **ts.TELE-satellite.com/DVB-S/113/PALAPA-4080H-1110.ts**

DVB S

113°E

Network Name NoName Recording Vincent Witjhun
Transmitter PALAPA D 4.185V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
1110	0x0456	MPEG2 Video	-	7750.06	92.87	MNCTV Selalu di Hati
1211	0x04BB	MPEG Audio	-	268.68	3.22	MNCTV Selalu di Hati
1213	0x04BD	MPEG Audio	-	268.31	3.22	R.DANGDUT TPI

0	0x0000	PAT	-	17.27	0.21	N/A
1002	0x03EA	PMT	-	17.08	0.20	R.DANGDUT TPI
1001	0x03E9	PMT	-	16.90	0.20	MNCTV Selalu di Hati
18	0x0012	EIT	-	5.01	0.06	N/A

17	0x0011	SDT	-	1.49	0.02	N/A
20	0x0014	TOT	-	0.19	0.00	N/A
16	0x0010	NIT	-	0.19	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

Duration: 30 Sec, File Size: 32 MB **ts.TELE-satellite.com/DVB-S/113/PALAPA-4185V-1110.ts**

DVB S

113°E

Network Name HCBN Recording Vincent Witjhun
Transmitter PALAPA D 4.190V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
308	0x0134	MPEG2 Video	-	2531.87	93.13	HCBN
256	0x0100	MPEG Audio	-	136.62	5.03	HCBN
8190	0x1FFE	PCR	-	38.96	1.43	N/A

32	0x0020	PMT	-	3.79	0.14	HCBN
0	0x0000	PAT	-	3.79	0.14	N/A
18	0x0012	EIT	-	1.76	0.06	N/A
1	0x0001	CAT	-	0.95	0.03	N/A

17	0x0011	SDT	-	0.81	0.03	N/A
16	0x0010	NIT	-	0.14	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

Duration: 30 Sec, File Size: 20 MB **ts.TELE-satellite.com/DVB-S/113/PALAPA-4190V-1110.ts**

247°E (113°W) SATMEX 6

DVB S

247°E

Network Name ADTH Recording Juan Carlos Duarte
Transmitter SATMEX 6 12.080H

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	6192.45	17.45	N/A
322	0x0142	MPEG2 Video	-	3408.32	9.60	BVN-TV
274	0x0112	MPEG2 Video	-	2703.91	7.62	DA-AI
306	0x0132	MPEG2 Video	-	2225.93	6.27	MACTV
273	0x0111	MPEG2 Video	-	1899.26	5.35	HWAZAN
1001	0x03E9	H.264 Video	-	1047.01	2.95	GDTVI
258	0x0102	H.264 Video	$	861.17	2.43	ETNEWS
37	0x0025	H.264 Video	$	765.41	2.16	CCTV-MOV
4216	0x1078	H.264 Video	-	744.43	2.10	CCTV4
3105	0x0C21	H.264 Video	$	742.95	2.09	GDTV
112	0x0070	H.264 Video	$	701.70	1.98	ZHEJIANG
83	0x0053	H.264 Video	$	698.15	1.97	BTV
51	0x0033	H.264 Video	$	684.54	1.93	TVS
74	0x004A	H.264 Video	$	683.84	1.93	CCTV-ENT
57	0x0039	H.264 Video	$	681.95	1.92	JIANGSU
66	0x0042	H.264 Video	$	679.87	1.92	HUNAN
86	0x0056	H.264 Video	$	675.53	1.90	DRGTV
109	0x006D	H.264 Video	$	663.25	1.87	XIAMEN
290	0x0122	H.264 Video	$	659.12	1.86	ETGLB
76	0x004C	H.264 Video	$	640.39	1.80	PSTV
62	0x003E	H.264 Video	$	632.57	1.78	ATV
4194	0x1062	H.264 Video	$	628.59	1.77	PTVN
60	0x003C	H.264 Video	$	627.60	1.77	CYRTV
69	0x0045	H.264 Video	$	562.68	1.59	CCTV-OPR
44	0x002C	H.264 Video	$	560.60	1.58	FUJIAN
71	0x0047	H.264 Video	$	540.73	1.52	CCTV-E
338	0x0152	MPEG Audio	-	165.37	0.47	RNW-2
339	0x0153	MPEG Audio	-	165.34	0.47	RNW-3
337	0x0151	MPEG Audio	-	165.34	0.47	RNW-1
323	0x0143	MPEG Audio	-	136.91	0.39	BVN-TV
307	0x0133	MPEG Audio	-	132.25	0.37	MACTV
4195	0x1063	MPEG Audio	-	125.74	0.35	CCTV4
259	0x0103	MPEG Audio	$	125.56	0.35	ETNEWS
79	0x004F	MPEG Audio	$	125.50	0.35	CCTV-ENT
291	0x0123	MPEG Audio	$	124.48	0.35	ETGLB
275	0x0113	MPEG Audio	-	104.60	0.29	DA-AI
3766	0x0EB6	?	-	101.14	0.29	N/A
33	0x0021	MPEG Audio	-	99.24	0.28	HWAZAN
342	0x0156	MPEG Audio	-	99.21	0.28	RNW-6
341	0x0155	MPEG Audio	-	99.18	0.28	RNW-5
152	0x0098	ECM/EMM	-	92.53	0.26	N/A
1002	0x03EA	AAC Audio	-	89.76	0.25	GDTVI
2018	0x07E2	?	-	75.31	0.21	N/A
2013	0x07DD	?	-	75.31	0.21	N/A
2011	0x07DB	?	-	75.31	0.21	N/A
2007	0x07D7	?	-	75.31	0.21	N/A

2005	0x07D5	?	-	75.31	0.21	N/A
2010	0x07DA	?	-	75.28	0.21	N/A
340	0x0154	MPEG Audio	-	66.12	0.19	RVI-1
68	0x0044	MPEG Audio	$	62.87	0.18	CCTV-OPR
38	0x0026	MPEG Audio	$	62.87	0.18	CCTV-MOV
4100	0x1004	MPEG Audio	$	62.75	0.18	PTVN
113	0x0071	MPEG Audio	$	62.75	0.18	ZHEJIANG
87	0x0057	MPEG Audio	$	62.75	0.18	DRGTV
84	0x0054	MPEG Audio	$	62.75	0.18	BTV
72	0x0048	MPEG Audio	$	62.75	0.18	CCTV-E
67	0x0043	MPEG Audio	$	62.75	0.18	HUNAN
61	0x003D	MPEG Audio	$	62.75	0.18	CYRTV
53	0x0035	MPEG Audio	$	62.75	0.18	TVS
110	0x006E	MPEG Audio	$	62.72	0.18	XIAMEN
77	0x004D	MPEG Audio	$	62.72	0.18	PSTV
63	0x003F	MPEG Audio	$	62.72	0.18	ATV
58	0x003A	MPEG Audio	$	62.69	0.18	JIANGSU
47	0x002F	MPEG Audio	$	62.51	0.18	FUJIAN
3106	0x0C22	AAC Audio	$	61.43	0.17	GDTV
17	0x0011	SDT	-	25.14	0.07	N/A
16	0x0010	NIT	-	25.11	0.07	N/A
1	0x0001	CAT	-	25.11	0.07	N/A
0	0x0000	PAT	-	25.11	0.07	N/A
114	0x0072	PMT	-	24.30	0.07	ZHEJIANG
111	0x006F	PMT	-	24.30	0.07	XIAMEN
102	0x0066	PMT	-	24.30	0.07	GDTV
101	0x0065	PMT	-	24.30	0.07	RNW-6
100	0x0064	PMT	-	24.30	0.07	RNW-5
99	0x0063	PMT	-	24.30	0.07	RVI-1
98	0x0062	PMT	-	24.30	0.07	RNW-3
97	0x0061	PMT	-	24.30	0.07	RNW-2
96	0x0060	PMT	-	24.30	0.07	RNW-1
88	0x0058	PMT	-	24.30	0.07	DRGTV
85	0x0055	PMT	-	24.30	0.07	BTV
82	0x0052	PMT	-	24.30	0.07	CCTV-ENT
81	0x0051	PMT	-	24.30	0.07	PTVN
78	0x004E	PMT	-	24.30	0.07	PSTV
75	0x004B	PMT	-	24.30	0.07	HWAZAN
73	0x0049	PMT	-	24.30	0.07	CCTV-E
70	0x0046	PMT	-	24.30	0.07	HUNAN
65	0x0041	PMT	-	24.30	0.07	CYRTV
64	0x0040	PMT	-	24.30	0.07	ATV
59	0x003B	PMT	-	24.30	0.07	JIANGSU
56	0x0038	PMT	-	24.30	0.07	TVS
54	0x0036	PMT	-	24.30	0.07	BVN-TV
52	0x0034	PMT	-	24.30	0.07	CCTV4
50	0x0032	PMT	-	24.30	0.07	FUJIAN

49	0x0031	PMT	-	24.30	0.07	GDTVI
46	0x002E	PMT	-	24.30	0.07	ETNEWS
40	0x0028	PMT	-	24.30	0.07	CCTV-MOV
39	0x0027	PMT	-	24.30	0.07	DA-AI
36	0x0024	PMT	-	24.30	0.07	CCTV-OPR
35	0x0023	PMT	-	24.30	0.07	MACTV
34	0x0022	PMT	-	24.30	0.07	ETGLB
6144	0x1800	ECM/EMM	-	10.12	0.03	ETNEWS
5640	0x1608	ECM/EMM	-	7.65	0.02	ETGLB
5637	0x1605	ECM/EMM	-	7.65	0.02	CCTV-OPR
5636	0x1604	ECM/EMM	-	7.65	0.02	CCTV-MOV
5635	0x1603	ECM/EMM	-	7.65	0.02	CCTV-ENT
5633	0x1601	ECM/EMM	-	7.65	0.02	BTV
5680	0x1630	ECM/EMM	-	7.62	0.02	XIAMEN
5673	0x1629	ECM/EMM	-	7.62	0.02	ZHEJIANG
5670	0x1626	ECM/EMM	-	7.62	0.02	TVS
5664	0x1620	ECM/EMM	-	7.62	0.02	PTVN
5657	0x1619	ECM/EMM	-	7.62	0.02	PSTV
5655	0x1617	ECM/EMM	-	7.62	0.02	JIANGSU
5654	0x1616	ECM/EMM	-	7.62	0.02	DRGTV
5652	0x1614	ECM/EMM	-	7.62	0.02	HUNAN
5651	0x1613	ECM/EMM	-	7.62	0.02	GDTV
5650	0x1612	ECM/EMM	-	7.62	0.02	FUJIAN
5641	0x1609	ECM/EMM	-	7.62	0.02	ETNEWS
5638	0x1606	ECM/EMM	-	7.62	0.02	CYRTV
5634	0x1602	ECM/EMM	-	7.62	0.02	CCTV-E
5632	0x1600	ECM/EMM	-	7.62	0.02	ATV
6153	0x1809	ECM/EMM	-	5.12	0.01	CCTV-MOV
6152	0x1808	ECM/EMM	-	5.12	0.01	CCTV-ENT
6149	0x1805	ECM/EMM	-	5.12	0.01	BTV
6145	0x1801	ECM/EMM	-	5.12	0.01	ETGLB
6192	0x1830	ECM/EMM	-	5.09	0.01	ZHEJIANG
6185	0x1829	ECM/EMM	-	5.09	0.01	XIAMEN
6184	0x1828	ECM/EMM	-	5.09	0.01	TVS
6176	0x1820	ECM/EMM	-	5.09	0.01	PTVN
6169	0x1819	ECM/EMM	-	5.09	0.01	PSTV
6167	0x1817	ECM/EMM	-	5.09	0.01	JIANGSU
6165	0x1815	ECM/EMM	-	5.09	0.01	HUNAN
6164	0x1814	ECM/EMM	-	5.09	0.01	GDTV
6163	0x1813	ECM/EMM	-	5.09	0.01	FUJIAN
6162	0x1812	ECM/EMM	-	5.09	0.01	DRGTV
6161	0x1811	ECM/EMM	-	5.09	0.01	CYRTV
6160	0x1810	ECM/EMM	-	5.09	0.01	CCTV-OPR
6148	0x1804	ECM/EMM	-	5.09	0.01	ATV
6147	0x1803	ECM/EMM	-	5.09	0.01	CCTV-E
20	0x0014	TOT	-	1.51	0.00	N/A
153	0x0099	ECM/EMM	-	1.35	0.00	N/A

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288°E (72°W) AMC 6

288°E | Network Name: Site - 1 | Recording: Juan Carlos Duarte
Transmitter: AMC 6 11.546V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
33	0x0021	MPEG2 Video	-	3043.34	20.64	CN23
99	0x0063	MPEG2 Video	-	3012.40	20.43	SEMSAT
36	0x0024	MPEG2 Video	$	2723.43	18.47	ENC
39	0x0027	MPEG2 Video	$	2206.62	14.96	C7NQ
8191	0x1FFF	Null Packets	-	552.31	3.75	N/A
35	0x0023	MPEG2 Video	-	479.27	3.25	C7
43	0x002B	MPEG Audio	$	208.94	1.42	MEGA
47	0x002F	MPEG Audio	$	208.93	1.42	TKM
45	0x002D	MPEG Audio	$	208.93	1.42	RAD10
42	0x002A	MPEG Audio	$	208.91	1.42	POP
41	0x0029	MPEG Audio	-	208.91	1.42	VALE
32	0x0020	MPEG Audio	-	135.82	0.92	CN23
98	0x0062	MPEG Audio	-	135.80	0.92	SEMSAT
63	0x003F	MPEG Audio	-	135.80	0.92	LA950
58	0x003A	MPEG Audio	-	135.80	0.92	CADECO
49	0x0031	MPEG Audio	-	135.80	0.92	AM630
34	0x0022	MPEG Audio	-	135.80	0.92	C7
53	0x0035	MPEG Audio	$	135.79	0.92	RNAC
38	0x0026	MPEG Audio	$	135.79	0.92	C7NQ
37	0x0025	MPEG Audio	$	135.79	0.92	ENC
51	0x0033	MPEG Audio	-	135.78	0.92	R UNO
17	0x0011	SDT	-	47.56	0.32	N/A
16	0x0010	NIT	-	23.78	0.16	N/A
101	0x0065	PMT	-	13.84	0.09	SEMSAT
61	0x003D	PMT	-	13.81	0.09	C7NQ
1	0x0001	CAT	-	13.79	0.09	N/A
50	0x0032	PMT	-	13.77	0.09	R UNO
103	0x0067	PMT	-	13.76	0.09	RAD10
62	0x003E	PMT	-	13.76	0.09	ENC
60	0x003C	PMT	-	13.76	0.09	C7
0	0x0000	PAT	-	13.76	0.09	N/A
82	0x0052	PMT	-	13.74	0.09	CADECO
48	0x0030	PMT	-	13.74	0.09	AM630
40	0x0028	PMT	-	13.74	0.09	VALE
102	0x0066	PMT	-	13.72	0.09	MEGA
52	0x0034	PMT	-	13.72	0.09	RNAC
44	0x002C	PMT	-	13.72	0.09	CN23
104	0x0068	PMT	-	13.70	0.09	LA950
100	0x0064	PMT	-	13.70	0.09	POP
46	0x002E	PMT	-	13.69	0.09	TKM
64	0x0040	Private PES	-	2.97	0.02	C7
1357	0x054D	ECM/EMM	-	2.40	0.02	C7NQ
1355	0x054B	ECM/EMM	-	2.37	0.02	VALE
1353	0x0549	ECM/EMM	-	2.37	0.02	POP
1346	0x0542	ECM/EMM	-	2.37	0.02	RNAC
1354	0x054A	ECM/EMM	-	2.33	0.02	TKM
1351	0x0547	ECM/EMM	-	2.28	0.02	RAD10
1358	0x054E	ECM/EMM	-	2.25	0.02	ENC
1352	0x0548	ECM/EMM	-	2.21	0.01	MEGA
1280	0x0500	ECM/EMM	-	0.96	0.01	N/A

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288°E | Network Name: TV CRONICA | Recording: Juan Carlos Duarte
Transmitter: AMC 6 11.603V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
161	0x00A1	MPEG2 Video	-	4550.85	34.43	CM
160	0x00A0	MPEG2 Video	$	4549.70	34.42	CRONICA TV
162	0x00A2	MPEG2 Video	$	2067.77	15.64	Service Three
23	0x0017	ECM/EMM	-	380.59	2.88	N/A
8191	0x1FFF	Null Packets	-	324.54	2.46	N/A
88	0x0058	MPEG Audio	$	269.65	2.04	Service Three
84	0x0054	MPEG Audio	-	269.65	2.04	CM
80	0x0050	MPEG Audio	$	269.65	2.04	CRONICA TV
89	0x0059	MPEG Audio	$	134.91	1.02	Service Three
85	0x0055	MPEG Audio	-	134.91	1.02	CM
81	0x0051	MPEG Audio	$	134.91	1.02	CRONICA TV
1538	0x0602	ECM/EMM	-	15.04	0.11	Service Three
1536	0x0600	ECM/EMM	-	15.04	0.11	CRONICA TV
16	0x0010	NIT	-	14.55	0.11	N/A
1	0x0001	CAT	-	14.55	0.11	N/A
0	0x0000	PAT	-	14.55	0.11	N/A
1026	0x0402	PMT	-	14.38	0.11	Service Three
1025	0x0401	PMT	-	14.38	0.11	CM
1024	0x0400	PMT	-	14.38	0.11	CRONICA TV
17	0x0011	SDT	-	14.38	0.11	N/A

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Duration: 3 Min, File Size: 117 MB **www.transponderstream.com/DVB-S/288/AMC6-11603V-1111.ts**

288°E | Network Name: 4369 | Recording: Juan Carlos Duarte
Transmitter: AMC 6 11.679V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
4194	0x1062	MPEG2 Video	-	3627.41	88.30	CH 3 - LA PAMPA
4197	0x1065	MPEG Audio	-	198.89	4.84	CH 3 - LA PAMPA
8191	0x1FFF	Null Packets	-	60.80	1.48	N/A
0	0x0000	PAT	-	37.61	0.92	N/A
4217	0x1079	PMT	-	37.31	0.91	CH 3 - LA PAMPA
16	0x0010	NIT	-	37.01	0.90	N/A
17	0x0011	SDT	-	36.72	0.89	N/A
18	0x0012	EIT	-	36.42	0.89	N/A
20	0x0014	TOT	-	36.12	0.88	N/A

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Duration: 3 Min, File Size: 31 MB **www.transponderstream.com/DVB-S/288/AMC6-11679V-1111.ts**

297°E (63°W) ESTRELLA DEL SUR

297°E | Network Name: ENTEL | Recording: Juan Carlos Duarte
Transm. ESTRELLA DEL SUR 11.600V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
272	0x0110	MPEG2 Video	-	4519.88	23.84	Via X
256	0x0100	MPEG2 Video	-	4217.90	22.24	Zona Latina
3	0x0003	MPEG2 Video	-	3992.16	21.05	UCV
304	0x0130	MPEG2 Video	-	3238.42	17.08	Vive Deportes
8191	0x1FFF	Null Packets	-	2149.11	11.33	N/A
2	0x0002	MPEG Audio	-	198.24	1.05	UCV
273	0x0111	MPEG Audio	-	135.75	0.72	Via X
257	0x0101	MPEG Audio	-	135.68	0.72	Zona Latina
305	0x0131	MPEG Audio	-	135.46	0.71	Vive Deportes
4	0x0004	PMT	-	30.17	0.16	UCV
264	0x0108	PMT	-	30.09	0.16	Zona Latina
17	0x0011	SDT	-	30.09	0.16	N/A
16	0x0010	NIT	-	30.09	0.16	N/A
280	0x0118	PMT	-	30.02	0.16	Via X
0	0x0000	PAT	-	30.02	0.16	N/A
1	0x0001	CAT	-	29.94	0.16	N/A
312	0x0138	PMT	-	29.87	0.16	Vive Deportes

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Duration: 3 Min, File Size: 286 MB **www.transponderstream.com/DVB-S/297/ESTRELLA-11600V-1111.ts**

297°E | Network Name: ENTEL | Recording: Juan Carlos Duarte
Transm. ESTRELLA DEL SUR 11.640V

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
305	0x0131	MPEG2 Video	$	5303.59	18.16	03 CANAL 13
273	0x0111	MPEG2 Video	$	5303.59	18.16	01 MEGA
289	0x0121	MPEG2 Video	-	3886.08	13.30	02 TELETRAK
337	0x0151	MPEG2 Video	-	3702.48	12.68	05 CHILEVISION
353	0x0161	MPEG2 Video	$	3371.44	11.54	06 CAMARA DIPUTADOS
321	0x0141	MPEG2 Video	-	2268.00	7.76	04 SENADO TV
369	0x0171	MPEG2 Video	$	1781.57	6.10	07 Business TV
8191	0x1FFF	Null Packets	-	1573.69	5.39	N/A
354	0x0162	MPEG Audio	$	271.74	0.93	06 CAMARA DIPUTADOS
338	0x0152	MPEG Audio	-	271.74	0.93	05 CHILEVISION
306	0x0132	MPEG Audio	$	271.74	0.93	03 CANAL 13
274	0x0112	MPEG Audio	$	271.74	0.93	01 MEGA
385	0x0181	MPEG Audio	-	198.60	0.68	TEST RADIO1
370	0x0172	MPEG Audio	$	135.87	0.47	07 Business TV
322	0x0142	MPEG Audio	-	135.87	0.47	04 SENADO TV
290	0x0122	MPEG Audio	-	135.87	0.47	02 TELETRAK
1281	0x0501	ECM/EMM	-	32.32	0.11	N/A
17	0x0011	SDT	-	22.59	0.08	N/A
389	0x0185	PMT	-	22.56	0.08	TEST RADIO1
373	0x0175	PMT	-	22.56	0.08	07 Business TV
357	0x0165	PMT	-	22.56	0.08	06 CAMARA DIPUTADOS
341	0x0155	PMT	-	22.56	0.08	05 CHILEVISION
325	0x0145	PMT	-	22.56	0.08	04 SENADO TV
309	0x0135	PMT	-	22.56	0.08	03 CANAL 13
293	0x0125	PMT	-	22.56	0.08	02 TELETRAK
277	0x0115	PMT	-	22.56	0.08	01 MEGA
2	0x0002	NIT	-	22.56	0.08	N/A
1	0x0001	CAT	-	22.56	0.08	N/A
0	0x0000	PAT	-	22.56	0.08	N/A
515	0x0203	ECM/EMM	-	5.66	0.02	03 CANAL 13
519	0x0207	ECM/EMM	-	5.63	0.02	07 Business TV
518	0x0206	ECM/EMM	-	5.63	0.02	06 CAMARA DIPUTADOS
513	0x0201	ECM/EMM	-	5.63	0.02	01 MEGA
20	0x0014	TOT	-	0.40	0.00	N/A

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330°E (30°W) HISPASAT

DVB S **330°E**

Network Name Telecaribe, Colombia
Transmitter HISPASAT 11.935V
Recording Juan Carlos Duarte

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
101	0x0065	MPEG2 Video	-	3892.72	53.63	TELECARIBE COLOMBIA
103	0x0067	MPEG2 Video	-	2666.68	36.74	ZOOM
102	0x0066	MPEG Audio	-	263.22	3.63	TELECARIBE COLOMBIA
8191	0x1FFF	Null Packets	-	234.66	3.23	N/A
104	0x0068	MPEG Audio	-	132.31	1.82	ZOOM
100	0x0064	PMT	-	15.84	0.22	TELECARIBE COLOMBIA
32	0x0020	PMT	-	15.84	0.22	ZOOM
1	0x0001	CAT	-	15.84	0.22	N/A
0	0x0000	PAT	-	15.84	0.22	N/A
18	0x0012	EIT	-	3.16	0.04	N/A
17	0x0011	SDT	-	1.59	0.02	N/A
16	0x0010	NIT	-	0.31	0.00	N/A
20	0x0014	TOT	-	0.20	0.00	N/A

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Duration: 3 Min, File Size: 110 MB **www.transponderstream.com/DVB-S/330/HISPASAT-11935V-1110.ts**

DVB S **330°E**

Network Name TVE, America
Transmitter HISPASAT 12.052V
Recording Juan Carlos Duarte

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	9215.00	24.21	N/A
4368	0x1110	MPEG2 Video	$	5585.14	14.67	TVEA1
4384	0x1120	MPEG2 Video	$	4055.85	10.66	24HTVE
1160	0x0488	MPEG2 Video	$	3688.44	9.69	ANTENA3
4416	0x1140	MPEG2 Video	$	3180.82	8.36	TVEA2
4240	0x1090	MPEG2 Video	-	2703.57	7.10	TV3 Cat
4256	0x10A0	MPEG2 Video	-	2703.52	7.10	CANAL VASCO
4208	0x1070	MPEG2 Video	-	2703.52	7.10	TVGA
4209	0x1071	MPEG Audio	-	271.96	0.71	TVGA
36	0x0024	MPEG Audio	-	271.96	0.71	RCLA
46	0x002E	MPEG Audio	-	271.91	0.71	RNE3
45	0x002D	MPEG Audio	-	207.90	0.55	C.R.
44	0x002C	MPEG Audio	-	207.85	0.55	REUS
42	0x002A	MPEG Audio	-	207.85	0.55	C.C.
43	0x002B	MPEG Audio	-	207.80	0.55	EUSK
41	0x0029	MPEG Audio	-	207.80	0.55	RGA
4257	0x10A1	MPEG Audio	-	198.73	0.52	CANAL VASCO
4241	0x1091	MPEG Audio	-	198.68	0.52	TV3 Cat
1120	0x0460	MPEG Audio	-	141.18	0.37	ANTENA3
47	0x002F	MPEG Audio	-	136.01	0.36	REE
4417	0x1141	MPEG Audio	$	135.95	0.36	TVEA2
49	0x0031	MPEG Audio	-	135.95	0.36	RNE5
38	0x0026	MPEG Audio	-	135.95	0.36	SAR7
4385	0x1121	MPEG Audio	$	135.90	0.36	24HTVE
4369	0x1111	MPEG Audio	$	135.90	0.36	TVEA1
35	0x0023	MPEG Audio	-	135.90	0.36	RNE1
68	0x0044	MPEG Audio	-	134.47	0.35	Radio Galicia 2
4386	0x1122	Private Data	$	131.81	0.35	24HTVE
4370	0x1112	Private Data	$	131.81	0.35	TVEA1
4418	0x1142	Private Data	$	131.76	0.35	TVEA2
48	0x0030	PMT	-	83.62	0.22	ANTENA3
1211	0x04BB	MPEG Audio	-	71.02	0.19	NSE Radio
17	0x0011	SDT	-	51.62	0.14	N/A
16	0x0010	NIT	-	30.11	0.08	N/A
1	0x0001	CAT	-	30.11	0.08	N/A
0	0x0000	PAT	-	30.11	0.08	N/A
6001	0x1771	ECM/EMM	-	15.05	0.04	ANTENA3
192	0x00C0	ECM/EMM	-	13.72	0.04	N/A
20	0x0014	TOT	-	10.04	0.03	N/A
4431	0x114F	ECM/EMM	-	6.14	0.02	TVEA2
4399	0x112F	ECM/EMM	-	6.14	0.02	24HTVE
4383	0x111F	ECM/EMM	-	6.14	0.02	TVEA1

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352.5°E (7.5°W) ATLANTIC BIRD 1

DVB S **352.5°E**

Network Name TIMB4
Transmitter ATLANTIC BIRD 1 12.718H
Recording Thomas Haring
Remark MIS

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
757	0x02F5	H.264 Video	-	9232.66	41.14	LA7 HD
762	0x02FA	H.264 Video	-	9232.39	41.14	LA7 test 3D
101	0x0065	H.264 Video	-	1801.87	8.03	LA7 test MOSAICO
8191	0x1FFF	Null Packets	-	1158.70	5.16	N/A
763	0x02FB	MPEG Audio	-	394.77	1.76	LA7 test 3D
758	0x02F6	MPEG Audio	-	394.68	1.76	LA7 HD
18	0x0012	EIT	-	39.17	0.17	N/A
104	0x0068	AAC Audio	-	26.64	0.12	LA7 test MOSAICO
102	0x0066	AAC Audio	-	26.64	0.12	LA7 test MOSAICO
105	0x0069	AAC Audio	-	26.55	0.12	LA7 test MOSAICO
103	0x0067	AAC Audio	-	26.55	0.12	LA7 test MOSAICO
1	0x0001	CAT	-	15.13	0.07	N/A
771	0x0303	PMT	-	15.04	0.07	LA7 test MOSAICO
761	0x02F9	PMT	-	15.04	0.07	LA7 test 3D
756	0x02F4	PMT	-	15.04	0.07	LA7 HD
0	0x0000	PAT	-	15.04	0.07	N/A
21	0x0015	Network Sync	-	2.51	0.01	N/A
17	0x0011	SDT	-	1.58	0.01	N/A
16	0x0010	NIT	-	0.28	0.00	N/A
20	0x0014	TOT	-	0.09	0.00	N/A

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DVB S **352.5°E**

Network Name TIMB2
Transmitter ATLANTIC BIRD 1 12.718H
Recording Thomas Haring
Remark MIS

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
757	0x02F5	H.264 Video	-	8717.97	38.86	LA7 HD
770	0x0302	H.264 Video	-	4112.51	18.33	LA7D HD
766	0x02FE	H.264 Video	-	3089.98	13.77	MTV HD
790	0x0316	MPEG2 Video	-	2567.23	11.44	RTL 102.5 TV
650	0x028A	MPEG2 Video	-	1465.59	6.53	Padre Pio TV
772	0x0304	AC3 Audio	-	423.75	1.89	LA7D HD
759	0x02F7	AC3 Audio	-	423.75	1.89	LA7 HD
768	0x0300	AC3 Audio	-	423.65	1.89	MTV HD
18	0x0012	EIT	-	259.40	1.16	N/A
792	0x0318	MPEG Audio	-	200.78	0.90	RTL 102.5
791	0x0317	MPEG Audio	-	198.71	0.89	RTL 102.5 TV
8191	0x1FFF	Null Packets	-	193.95	0.86	N/A
651	0x028B	MPEG Audio	-	135.94	0.61	Padre Pio TV
7094	0x1BB6	Data	-	35.05	0.16	ROVI
7041	0x1B81	Data	-	23.86	0.11	ROVI
33	0x0021	PMT	-	15.15	0.07	MTV MUSIC HD
1	0x0001	CAT	-	15.15	0.07	N/A
769	0x0301	PMT	-	15.05	0.07	LA7D HD
765	0x02FD	PMT	-	15.05	0.07	MTV HD
756	0x02F4	PMT	-	15.05	0.07	LA7 HD
549	0x0225	PMT	-	15.05	0.07	Padre Pio TV
490	0x01EA	PMT	-	15.05	0.07	RTL 102.5
290	0x0122	PMT	-	15.05	0.07	RTL 102.5 TV
269	0x010D	PMT	-	15.05	0.07	ROVI
0	0x0000	PAT	-	15.05	0.07	N/A
7040	0x1B80	Data	-	4.65	0.02	ROVI
17	0x0011	SDT	-	2.97	0.01	N/A
21	0x0015	Network Sync	-	2.48	0.01	N/A
16	0x0010	NIT	-	0.30	0.00	N/A
20	0x0014	TOT	-	0.20	0.00	N/A

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DVB S

352.5°E

Network Name TIMB3 Recording Thomas Haring

Transmitter ATLANTIC BIRD 1 12.718H *Remark* MIS

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
6112	0x17E0	MPEG2 Video	-	5023.91	22.39	LA7
6122	0x17EA	MPEG2 Video	-	2874.71	12.81	LA7D
6132	0x17F4	MPEG2 Video	-	2567.58	11.44	MTV MUSIC
6117	0x17E5	MPEG2 Video	-	2465.31	10.99	MTV
1457	0x05B1	MPEG2 Video	-	2362.96	10.53	frisbee
981	0x03D5	MPEG2 Video	-	2362.88	10.53	K2
8191	0x1FFF	Null Packets	-	1262.97	5.63	N/A
2039	0x07F7	MPEG2 Video	-	433.78	1.93	La7ondemand
6133	0x17F5	MPEG Audio	-	394.71	1.76	MTV MUSIC
6118	0x17E6	MPEG Audio	-	394.71	1.76	MTV
6113	0x17E1	MPEG Audio	-	263.61	1.17	LA7
18	0x0012	EIT	-	259.63	1.16	N/A
7011	0x1B63	MHP	-	244.39	1.09	LA7
6120	0x17E8	Teletext	-	188.37	0.84	MTV
6115	0x17E3	Teletext	-	150.71	0.67	LA7
7001	0x1B59	MHP	-	144.31	0.64	LA7
7081	0x1BA9	MHP	-	144.23	0.64	LA7
6123	0x17EB	MPEG Audio	-	132.51	0.59	LA7D
1458	0x05B2	MPEG Audio	-	132.51	0.59	frisbee
982	0x03D6	MPEG Audio	-	132.51	0.59	K2
990	0x03DE	MHP	-	94.15	0.42	CUBOVISION
6111	0x17DF	PMT	-	30.16	0.13	LA7
6160	0x1810	PMT	-	15.08	0.07	MTV
6157	0x180D	PMT	-	15.08	0.07	La7ondemand
6152	0x1808	PMT	-	15.08	0.07	LA7D
6141	0x17FD	PMT	-	15.08	0.07	MTV MUSIC
6131	0x17F3	PMT	-	15.08	0.07	MTV MUSIC
6116	0x17E4	PMT	-	15.08	0.07	MTV
6106	0x17DA	PMT	-	15.08	0.07	CUBOVISION
1551	0x060F	PMT	-	15.08	0.07	PIU' SERVIZI
1546	0x060A	PMT	-	15.08	0.07	PORTALE SERVIZI TELECOM
1541	0x0605	PMT	-	15.08	0.07	MTV MUSIC On Demand
1536	0x0600	PMT	-	15.08	0.07	MTV+ On Demand
1531	0x05FB	PMT	-	15.08	0.07	La7 Servizi On Demand
1526	0x05F6	PMT	-	15.08	0.07	La7D On Demand
1521	0x05F1	PMT	-	15.08	0.07	MTV On Demand
1516	0x05EC	PMT	-	15.08	0.07	MTV News On Demand
1512	0x05E8	PMT	-	15.08	0.07	La7 News On Demand
1461	0x05B5	PMT	-	15.08	0.07	frisbee
0	0x0000	PAT	-	15.08	0.07	N/A
6151	0x1807	PMT	-	15.00	0.07	LA7D
6150	0x1806	PMT	-	15.00	0.07	LA7
1511	0x05E7	PMT	-	15.00	0.07	K2
1	0x0001	CAT	-	15.00	0.07	N/A
590	0x024E	Private Sections	-	6.09	0.03	N/A
7080	0x1BA8	Private Sections	-	6.02	0.03	N/A
7010	0x1B62	Private Sections	-	6.02	0.03	N/A
7000	0x1B58	Private Sections	-	6.02	0.03	N/A
577	0x0241	Private Sections	-	6.02	0.03	N/A
400	0x0190	Private Sections	-	6.02	0.03	N/A
17	0x0011	SDT	-	4.45	0.02	N/A
21	0x0015	Network Sync	-	2.42	0.01	N/A
16	0x0010	NIT	-	0.63	0.00	N/A
20	0x0014	TOT	-	0.23	0.00	N/A

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DVB-S2 satellite

9°E EUROBIRD

DVB S2

9°E

Network Name Kabelkiosk Recording Thomas Haring

Transmitter EUROBIRD 10.971H *Remark* cable feed

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	4018.05	7.55	N/A
2273	0x08E1	MPEG2 Video	$	3665.36	6.89	HSE24
2305	0x0901	MPEG2 Video	$	3152.18	5.92	Russia Today
2113	0x0841	MPEG2 Video	$	3140.79	5.90	QVC Plus
2209	0x08A1	MPEG2 Video	$	2990.83	5.62	VIVA
2497	0x09C1	MPEG2 Video	$	2987.57	5.61	CNBC
2337	0x0921	MPEG2 Video	$	2863.09	5.38	Eurosport
2561	0x0A01	MPEG2 Video	$	2779.54	5.22	Das Vierte
2241	0x08C1	MPEG2 Video	$	2720.67	5.11	sixx
2593	0x0A21	MPEG2 Video	$	2675.14	5.03	HSE 24 Extra
2081	0x0821	MPEG2 Video	$	2567.05	4.82	Channel 21 Shop
2465	0x09A1	MPEG2 Video	$	2406.72	4.52	CNN
2369	0x0941	MPEG2 Video	$	2342.50	4.40	1-2-3 TV
2529	0x09E1	MPEG2 Video	$	2233.27	4.20	DMAX
2145	0x0861	MPEG2 Video	$	2147.38	4.03	Nick/Comedy Central
2433	0x0981	MPEG2 Video	$	1809.54	3.40	YAVIDO
2401	0x0961	MPEG2 Video	$	1368.59	2.57	iMusic 1
2104	0x0838	Teletext	$	300.74	0.57	Channel 21 Shop
2232	0x08B8	Teletext	$	296.40	0.56	VIVA
2168	0x0878	Teletext	$	294.46	0.55	Nick/Comedy Central
2552	0x09F8	Teletext	$	263.18	0.49	DMAX
2210	0x08A2	MPEG Audio	$	263.15	0.49	VIVA
2616	0x0A38	Teletext	$	263.15	0.49	HSE 24 Extra
2392	0x0958	Teletext	$	263.15	0.49	1-2-3 TV
2264	0x08D8	Teletext	$	263.15	0.49	sixx
2146	0x0862	MPEG Audio	$	263.15	0.49	Nick/Comedy Central
2520	0x09D8	Teletext	$	225.55	0.42	CNBC
2584	0x0A18	Teletext	$	225.54	0.42	Das Vierte
2050	0x0802	ECM/EMM	-	211.50	0.40	N/A
2498	0x09C2	MPEG Audio	$	203.63	0.38	CNBC
2434	0x0982	MPEG Audio	$	200.50	0.38	YAVIDO
2402	0x0962	MPEG Audio	$	200.50	0.38	iMusic 1
2242	0x08C2	MPEG Audio	$	200.50	0.38	sixx
2594	0x0A22	MPEG Audio	$	200.50	0.38	HSE 24 Extra
2530	0x09E2	MPEG Audio	$	200.50	0.38	DMAX
2274	0x08E2	MPEG Audio	$	200.50	0.38	HSE24
2082	0x0822	MPEG Audio	$	200.50	0.38	Channel 21 Shop
2562	0x0A02	MPEG Audio	$	200.49	0.38	Das Vierte
2370	0x0942	MPEG Audio	$	200.49	0.38	1-2-3 TV
2338	0x0922	MPEG Audio	$	200.49	0.38	Eurosport
2049	0x0801	ECM/EMM	-	193.25	0.36	N/A
2136	0x0858	Teletext	$	187.97	0.35	QVC Plus
2296	0x08F8	Teletext	$	187.97	0.35	HSE24
18	0x0012	EIT	-	148.66	0.28	N/A
2114	0x0842	MPEG Audio	$	137.85	0.26	QVC Plus
2466	0x09A2	MPEG Audio	$	137.84	0.26	CNN
2306	0x0902	MPEG Audio	$	137.84	0.26	Russia Today
5424	0x1530	ECM/EMM	-	21.35	0.04	N/A
2481	0x09B1	ECM/EMM	-	15.17	0.03	CNN
2480	0x09B0	ECM/EMM	-	15.17	0.03	CNN
2449	0x0991	ECM/EMM	-	15.17	0.03	YAVIDO
2448	0x0990	ECM/EMM	-	15.17	0.03	YAVIDO
2353	0x0931	ECM/EMM	-	15.17	0.03	Eurosport
2352	0x0930	ECM/EMM	-	15.17	0.03	Eurosport
2321	0x0911	ECM/EMM	-	15.17	0.03	Russia Today
2320	0x0910	ECM/EMM	-	15.17	0.03	Russia Today
2161	0x0871	ECM/EMM	-	15.17	0.03	Nick/Comedy Central
2160	0x0870	ECM/EMM	-	15.17	0.03	Nick/Comedy Central
2609	0x0A31	ECM/EMM	-	15.16	0.03	HSE 24 Extra
2608	0x0A30	ECM/EMM	-	15.16	0.03	HSE 24 Extra
2577	0x0A11	ECM/EMM	-	15.16	0.03	Das Vierte
2576	0x0A10	ECM/EMM	-	15.16	0.03	Das Vierte
2545	0x09F1	ECM/EMM	-	15.16	0.03	DMAX
2544	0x09F0	ECM/EMM	-	15.16	0.03	DMAX
2513	0x09D1	ECM/EMM	-	15.16	0.03	CNBC
2512	0x09D0	ECM/EMM	-	15.16	0.03	CNBC
2417	0x0971	ECM/EMM	-	15.16	0.03	iMusic 1
2416	0x0970	ECM/EMM	-	15.16	0.03	iMusic 1
2385	0x0951	ECM/EMM	-	15.16	0.03	1-2-3 TV
2384	0x0950	ECM/EMM	-	15.16	0.03	1-2-3 TV
2289	0x08F1	ECM/EMM	-	15.16	0.03	HSE24
2288	0x08F0	ECM/EMM	-	15.16	0.03	HSE24
2257	0x08D1	ECM/EMM	-	15.16	0.03	sixx
2256	0x08D0	ECM/EMM	-	15.16	0.03	sixx
2225	0x08B1	ECM/EMM	-	15.16	0.03	VIVA
2224	0x08B0	ECM/EMM	-	15.16	0.03	VIVA
2129	0x0851	ECM/EMM	-	15.16	0.03	QVC Plus
2128	0x0850	ECM/EMM	-	15.16	0.03	QVC Plus
2097	0x0831	ECM/EMM	-	15.16	0.03	Channel 21 Shop
2096	0x0830	ECM/EMM	-	15.16	0.03	Channel 21 Shop
16	0x0010	NIT	-	12.89	0.02	N/A
17	0x0011	SDT	-	9.02	0.02	N/A
2452	0x0994	ECM/EMM	-	6.16	0.01	YAVIDO
2580	0x0A14	ECM/EMM	-	6.16	0.01	Das Vierte
2579	0x0A13	ECM/EMM	-	6.16	0.01	Das Vierte
2578	0x0A12	ECM/EMM	-	6.16	0.01	Das Vierte
2548	0x09F4	ECM/EMM	-	6.16	0.01	DMAX
2516	0x09D4	ECM/EMM	-	6.16	0.01	CNBC
2484	0x09B4	ECM/EMM	-	6.16	0.01	CNN
2451	0x0993	ECM/EMM	-	6.16	0.01	YAVIDO
2450	0x0992	ECM/EMM	-	6.16	0.01	YAVIDO
2420	0x0974	ECM/EMM	-	6.16	0.01	iMusic 1
2419	0x0973	ECM/EMM	-	6.16	0.01	iMusic 1
2418	0x0972	ECM/EMM	-	6.16	0.01	iMusic 1
2388	0x0954	ECM/EMM	-	6.16	0.01	1-2-3 TV
2387	0x0953	ECM/EMM	-	6.16	0.01	1-2-3 TV
2386	0x0952	ECM/EMM	-	6.16	0.01	1-2-3 TV
2324	0x0914	ECM/EMM	-	6.16	0.01	Russia Today
2323	0x0913	ECM/EMM	-	6.16	0.01	Russia Today
2322	0x0912	ECM/EMM	-	6.16	0.01	Russia Today
2292	0x08F4	ECM/EMM	-	6.16	0.01	HSE24
2260	0x08D4	ECM/EMM	-	6.16	0.01	sixx
2227	0x08B3	ECM/EMM	-	6.16	0.01	VIVA
2226	0x08B2	ECM/EMM	-	6.16	0.01	VIVA
2164	0x0874	ECM/EMM	-	6.16	0.01	Nick/Comedy Central
2163	0x0873	ECM/EMM	-	6.16	0.01	Nick/Comedy Central
2162	0x0872	ECM/EMM	-	6.16	0.01	Nick/Comedy Central
2132	0x0854	ECM/EMM	-	6.16	0.01	QVC Plus
2100	0x0834	ECM/EMM	-	6.16	0.01	Channel 21 Shop
2099	0x0833	ECM/EMM	-	6.16	0.01	Channel 21 Shop
2098	0x0832	ECM/EMM	-	6.16	0.01	Channel 21 Shop
2547	0x09F3	ECM/EMM	-	6.15	0.01	DMAX
2546	0x09F2	ECM/EMM	-	6.15	0.01	DMAX
2515	0x09D3	ECM/EMM	-	6.15	0.01	CNBC
2514	0x09D2	ECM/EMM	-	6.15	0.01	CNBC
2483	0x09B3	ECM/EMM	-	6.15	0.01	CNN
2482	0x09B2	ECM/EMM	-	6.15	0.01	CNN
2291	0x08F3	ECM/EMM	-	6.15	0.01	HSE24
2290	0x08F2	ECM/EMM	-	6.15	0.01	HSE24
2259	0x08D3	ECM/EMM	-	6.15	0.01	sixx
2258	0x08D2	ECM/EMM	-	6.15	0.01	sixx
2228	0x08B4	ECM/EMM	-	6.15	0.01	VIVA
2131	0x0853	ECM/EMM	-	6.15	0.01	QVC Plus
2130	0x0852	ECM/EMM	-	6.15	0.01	QVC Plus
2592	0x0A20	PMT	-	5.02	0.01	HSE 24 Extra
2560	0x0A00	PMT	-	5.02	0.01	Das Vierte
2496	0x09C0	PMT	-	5.02	0.01	CNBC
2432	0x0980	PMT	-	5.02	0.01	YAVIDO
2400	0x0960	PMT	-	5.02	0.01	iMusic 1
2368	0x0940	PMT	-	5.02	0.01	1-2-3 TV
2336	0x0920	PMT	-	5.02	0.01	Eurosport
2304	0x0900	PMT	-	5.02	0.01	Russia Today
2272	0x08E0	PMT	-	5.02	0.01	HSE24
2240	0x08C0	PMT	-	5.02	0.01	sixx
2208	0x08A0	PMT	-	5.02	0.01	VIVA
2144	0x0860	PMT	-	5.02	0.01	Nick/Comedy Central
2112	0x0840	PMT	-	5.02	0.01	QVC Plus
2080	0x0820	PMT	-	5.02	0.01	Channel 21 Shop
0	0x0000	PAT	-	5.02	0.01	N/A
2528	0x09E0	PMT	-	5.01	0.01	DMAX
2464	0x09A0	PMT	-	5.01	0.01	CNN
1	0x0001	CAT	-	3.01	0.01	N/A
100	0x0064	Private Sections	$	1.54	0.00	N/A
5428	0x1534	ECM/EMM	-	1.01	0.00	N/A
5427	0x1533	ECM/EMM	-	1.01	0.00	N/A

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DVB S2 **9°E**

Network Name E.B.9 NMX Recording Thomas Haring
Transmitter EUROBIRD 11.881V *Remark* HDTV

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	9324.02	17.51	N/A
2010	0x07DA	H.264 Video	$	8202.59	15.40	National Geographic HD
2011	0x07DB	H.264 Video	$	8002.47	15.03	FOX HD
2001	0x07D1	H.264 Video	-	7302.32	13.71	FTV HD
2007	0x07D7	H.264 Video	$	6567.28	12.33	MEZZO HD
2002	0x07D2	H.264 Video	$	5414.85	10.17	iConcerts
2006	0x07D6	H.264 Video	$	4501.45	8.45	Duck TV HD
3006	0x0BBE	MPEG Audio	$	397.01	0.75	Duck TV HD
3001	0x0BB9	MPEG Audio	-	397.01	0.75	FTV HD
5011	0x1393	AC3 Audio	$	394.92	0.74	FOX HD
4010	0x0FAA	AC3 Audio	$	394.92	0.74	National Geographic HD
3010	0x0BC2	AC3 Audio	$	394.92	0.74	National Geographic HD
3007	0x0BBF	MPEG Audio	$	266.41	0.50	MEZZO HD
3002	0x0BBA	MPEG Audio	$	266.41	0.50	iConcerts
502	0x01F6	ECM/EMM	-	211.56	0.40	N/A
3011	0x0BC3	MPEG Audio	$	198.51	0.37	FOX HD

4011	0x0FAB	MPEG Audio	$	198.50	0.37	FOX HD
1000	0x03E8	ECM/EMM	-	98.30	0.18	N/A
18	0x0012	EIT	-	85.39	0.16	N/A
501	0x01F5	ECM/EMM	-	78.33	0.15	N/A
4001	0x0FA1	MPEG Audio	-	73.14	0.14	FTV HD
16	0x0010	NIT	-	25.08	0.05	N/A
1	0x0001	CAT	-	25.06	0.05	N/A
0	0x0000	PAT	-	25.06	0.05	N/A
1011	0x03F3	PMT	-	24.26	0.05	FOX HD
1010	0x03F2	PMT	-	24.26	0.05	National Geographic HD
1008	0x03F0	PMT	-	24.26	0.05	Penthouse HD
1007	0x03EF	PMT	-	24.26	0.05	MEZZO HD
1006	0x03EE	PMT	-	24.26	0.05	Duck TV HD
1002	0x03EA	PMT	-	24.26	0.05	iConcerts
1001	0x03E9	PMT	-	24.26	0.05	FTV HD
116	0x0074	ECM/EMM	-	15.10	0.03	MEZZO HD
132	0x0084	ECM/EMM	-	15.09	0.03	MEZZO HD

119	0x0077	ECM/EMM	-	15.09	0.03	National Geographic HD
121	0x0079	ECM/EMM	-	15.07	0.03	National Geographic HD
118	0x0076	ECM/EMM	-	15.07	0.03	FOX HD
117	0x0075	ECM/EMM	-	15.07	0.03	MEZZO HD
112	0x0070	ECM/EMM	-	15.07	0.03	Duck TV HD
108	0x006C	ECM/EMM	-	15.07	0.03	Duck TV HD
131	0x0083	ECM/EMM	-	15.05	0.03	iConcerts
114	0x0072	ECM/EMM	-	15.05	0.03	Penthouse HD
133	0x0085	ECM/EMM	-	15.04	0.03	Penthouse HD
120	0x0078	ECM/EMM	-	15.04	0.03	FOX HD
115	0x0073	ECM/EMM	-	15.04	0.03	Penthouse HD
100	0x0064	ECM/EMM	-	7.57	0.01	MEZZO HD
101	0x0065	ECM/EMM	-	7.55	0.01	MEZZO HD
103	0x0067	ECM/EMM	-	7.53	0.01	iConcerts
102	0x0066	ECM/EMM	-	7.53	0.01	iConcerts
17	0x0011	SDT	-	6.02	0.01	N/A
20	0x0014	TOT	-	0.13	0.00	N/A

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13°E HOTBIRD

DVB S2 **13°E**

Network Name EUTELSAT 13 EAST Recording Thomas Haring
Transmitter HOTBIRD 10.971H *Remark* HD tests

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
532	0x0214	H.264 Video	$	10500.60	18.26	TSR1 HD
542	0x021E	H.264 Video	$	10500.55	18.26	TSR2 HD
512	0x0200	H.264 Video	$	10500.55	18.26	SF zwei HD
502	0x01F6	H.264 Video	$	10500.55	18.26	SF 1 HD
8191	0x1FFF	Null Packets	-	9526.50	16.57	N/A
18	0x0012	EIT	-	1060.37	1.84	N/A
535	0x0217	AC3 Audio	$	460.64	0.80	TSR1 HD
515	0x0203	AC3 Audio	$	460.64	0.80	SF zwei HD
505	0x01F9	AC3 Audio	$	460.64	0.80	SF 1 HD
545	0x0221	AC3 Audio	$	460.59	0.80	TSR2 HD
537	0x0219	Teletext	-	263.23	0.46	TSR1 HD
507	0x01FB	Teletext	-	263.23	0.46	SF 1 HD

547	0x0223	Teletext	-	263.18	0.46	TSR2 HD
517	0x0205	Teletext	-	263.18	0.46	SF zwei HD
543	0x021F	MPEG Audio	$	198.50	0.35	TSR2 HD
514	0x0202	MPEG Audio	$	198.50	0.35	SF zwei HD
544	0x0220	MPEG Audio	$	198.45	0.35	TSR2 HD
534	0x0216	MPEG Audio	$	198.45	0.35	TSR1 HD
533	0x0215	MPEG Audio	$	198.45	0.35	TSR1 HD
513	0x0201	MPEG Audio	$	198.45	0.35	SF zwei HD
504	0x01F8	MPEG Audio	$	198.45	0.35	SF 1 HD
503	0x01F7	MPEG Audio	$	198.45	0.35	SF 1 HD
602	0x025A	ECM/EMM	-	99.74	0.17	N/A
604	0x025C	ECM/EMM	-	99.70	0.17	N/A
603	0x025B	ECM/EMM	-	99.70	0.17	N/A

1	0x0001	CAT	-	15.03	0.03	N/A
0	0x0000	PAT	-	15.03	0.03	N/A
541	0x021D	PMT	-	13.61	0.02	TSR2 HD
531	0x0213	PMT	-	13.61	0.02	TSR1 HD
511	0x01FF	PMT	-	13.61	0.02	SF zwei HD
501	0x01F5	PMT	-	13.61	0.02	SF 1 HD
17	0x0011	SDT	-	7.61	0.01	N/A
739	0x02E3	ECM/EMM	-	7.56	0.01	SF 1 HD
729	0x02D9	ECM/EMM	-	7.56	0.01	SF 1 HD
719	0x02CF	ECM/EMM	-	7.56	0.01	SF 1 HD
16	0x0010	NIT	-	4.58	0.01	N/A
20	0x0014	TOT	-	1.46	0.00	N/A

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DVB S2 **13°E**

Network Name CYFRA+ Recording Thomas Haring
Transmitter HOTBIRD 11.411H *Remark* 3D tests

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
161	0x00A1	H.264 Video	$	11419.29	16.75	CANAL+ GOL HD
166	0x00A6	H.264 Video	$	8748.77	12.83	KUCHNIA+ HD
165	0x00A5	H.264 Video	$	7405.04	10.86	PLANETE+ HD
167	0x00A7	H.264 Video	$	7107.82	10.43	DOMO+ HD
162	0x00A2	H.264 Video	$	6255.24	9.18	C+ WEEKEND HD
163	0x00A3	H.264 Video	$	5582.34	8.19	MINIMINI+ HD
164	0x00A4	H.264 Video	$	4928.63	7.23	teleTOON+ HD
168	0x00A8	H.264 Video	$	4071.44	5.97	ALE KINO+ HD
160	0x00A0	H.264 Video	$	3975.70	5.83	CANAL+ FILM HD
169	0x00A9	H.264 Video	$	3520.78	5.16	CANAL+ 3D test
88	0x0058	AC3 Audio	$	394.90	0.58	C+ WEEKEND HD
113	0x0071	AC3 Audio	$	394.89	0.58	ALE KINO+ HD
84	0x0054	AC3 Audio	$	394.89	0.58	CANAL+ GOL HD
81	0x0051	AC3 Audio	$	394.89	0.58	CANAL+ FILM HD
8191	0x1FFF	Null Packets	-	370.46	0.54	N/A
104	0x0068	AC3 Audio	$	263.27	0.39	KUCHNIA+ HD
100	0x0064	AC3 Audio	$	263.27	0.39	PLANETE+ HD
116	0x0074	AC3 Audio	$	263.26	0.39	CANAL+ 3D test
112	0x0070	AC3 Audio	$	263.26	0.39	ALE KINO+ HD
108	0x006C	AC3 Audio	$	263.26	0.39	DOMO+ HD
80	0x0050	AC3 Audio	$	263.26	0.39	CANAL+ FILM HD

18	0x0012	EIT	-	225.62	0.33	N/A
96	0x0060	AC3 Audio	$	197.45	0.29	teleTOON+ HD
92	0x005C	AC3 Audio	$	197.44	0.29	MINIMINI+ HD
182	0x00B6	ECM/EMM	-	186.35	0.27	N/A
680	0x02A8	?	-	183.85	0.27	N/A
501	0x01F5	Teletext	-	37.59	0.06	CANAL+ FILM HD
2110	0x083E	ECM/EMM	-	22.57	0.03	CANAL+ 3D test
2109	0x083D	ECM/EMM	-	22.57	0.03	ALE KINO+ HD
2108	0x083C	ECM/EMM	-	22.57	0.03	DOMO+ HD
2107	0x083B	ECM/EMM	-	22.57	0.03	KUCHNIA+ HD
2106	0x083A	ECM/EMM	-	22.57	0.03	PLANETE+ HD
2105	0x0839	ECM/EMM	-	22.57	0.03	teleTOON+ HD
2104	0x0838	ECM/EMM	-	22.57	0.03	MINIMINI+ HD
2103	0x0837	ECM/EMM	-	22.57	0.03	C+ WEEKEND HD
2102	0x0836	ECM/EMM	-	22.57	0.03	CANAL+ GOL HD
2101	0x0835	ECM/EMM	-	22.57	0.03	CANAL+ FILM HD
1039	0x040F	PMT	-	22.57	0.03	ALE KINO+ HD
1038	0x040E	PMT	-	22.57	0.03	DOMO+ HD
1037	0x040D	PMT	-	22.57	0.03	KUCHNIA+ HD
1036	0x040C	PMT	-	22.57	0.03	PLANETE+ HD
1035	0x040B	PMT	-	22.57	0.03	teleTOON+ HD
1034	0x040A	PMT	-	22.57	0.03	MINIMINI+ HD

33	0x0021	?	-	22.57	0.03	N/A
32	0x0020	?	-	22.57	0.03	N/A
0	0x0000	PAT	-	20.01	0.03	N/A
183	0x00B7	ECM/EMM	-	17.02	0.02	N/A
1080	0x0438	PMT	-	10.03	0.01	_Service 14280
17	0x0011	SDT	-	10.03	0.01	N/A
16	0x0010	NIT	-	10.03	0.01	N/A
1	0x0001	CAT	-	10.03	0.01	N/A
1010	0x03F2	PMT	-	10.01	0.01	CANAL+ 3D test
1009	0x03F1	PMT	-	10.01	0.01	ALE KINO+ HD
1008	0x03F0	PMT	-	10.01	0.01	DOMO+ HD
1007	0x03EF	PMT	-	10.01	0.01	KUCHNIA+ HD
1006	0x03EE	PMT	-	10.01	0.01	PLANETE+ HD
1005	0x03ED	PMT	-	10.01	0.01	teleTOON+ HD
1004	0x03EC	PMT	-	10.01	0.01	MINIMINI+ HD
1003	0x03EB	PMT	-	10.01	0.01	C+ WEEKEND HD
1002	0x03EA	PMT	-	10.01	0.01	CANAL+ GOL HD
1001	0x03E9	PMT	-	10.01	0.01	CANAL+ FILM HD
184	0x00B8	ECM/EMM	-	8.28	0.01	N/A
721	0x02D1	DVB Subtitles	-	7.60	0.01	CANAL+ FILM HD
729	0x02D9	DVB Subtitles	-	3.69	0.01	ALE KINO+ HD
20	0x0014	TOT	-	0.38	0.00	N/A

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28.2°E ASTRA

DVB S2 **28.2°E**

Network Name ASTRA | Recording TELE-satellite
Transmitter ASTRA 10.847V | Remark HD

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
5400	0x1518	H.264 Video	-	8459.56	29.58	BBC One HD
2333	0x091D	H.264 Video	$	7986.90	27.93	ITV1 HD
5500	0x157C	H.264 Video	-	5926.60	20.72	BBC HD
2322	0x0912	Private Sections	-	1500.15	5.25	N/A
3847	0x0F07	Data	-	700.23	2.45	BBC HD
2321	0x0911	Private Sections	-	500.16	1.75	N/A
3843	0x0F03	Private Sections	-	312.89	1.09	N/A
96	0x0060	?	-	291.16	1.02	N/A
192	0x00C0	ECM/EMM	-	285.16	1.00	N/A
17	0x0011	SDT	-	274.18	0.96	N/A
5502	0x157E	MPEG Audio	-	263.32	0.92	BBC HD
5402	0x151A	MPEG Audio	-	263.21	0.92	BBC One HD
5501	0x157D	AC3 Audio	-	235.03	0.82	BBC HD
5401	0x1519	AC3 Audio	-	235.03	0.82	BBC One HD
2334	0x091E	AC3 Audio	$	235.03	0.82	ITV1 HD
52	0x0034	?	-	198.48	0.69	N/A
3846	0x0F06	Data	-	117.01	0.41	BBC HD
89	0x0059	?	-	103.54	0.36	N/A
85	0x0055	?	-	51.94	0.18	N/A
3841	0x0F01	Private Sections	-	50.47	0.18	N/A
5506	0x1582	Private Sections	-	50.02	0.17	N/A
5505	0x1581	Private Sections	-	50.02	0.17	N/A
3845	0x0F05	MHEG	-	50.02	0.17	BBC HD
2329	0x0919	Private Sections	-	50.02	0.17	N/A
260	0x0104	PMT	-	41.08	0.14	BBC One HD
259	0x0103	PMT	-	41.08	0.14	6945
258	0x0102	PMT	-	41.08	0.14	BBC HD
3842	0x0F02	Private Sections	-	40.51	0.14	N/A
18	0x0012	EIT	-	39.04	0.14	N/A
5503	0x157F	Teletext	-	37.57	0.13	BBC HD
5403	0x151B	Teletext	-	37.57	0.13	BBC One HD
2335	0x091F	Teletext	-	37.57	0.13	ITV1 HD
5404	0x151C	DVB Subtitles	-	24.90	0.09	BBC One HD
1287	0x0507	ECM/EMM	-	15.05	0.05	ITV1 HD
0	0x0000	PAT	-	13.69	0.05	N/A
288	0x0120	PMT	-	13.58	0.05	ITV1 HD
5504	0x1580	DVB Subtitles	-	9.51	0.03	BBC HD
80	0x0050	?	-	4.98	0.02	N/A
3844	0x0F04	Private Sections	-	2.94	0.01	N/A
3840	0x0F00	Private Sections	-	1.70	0.01	N/A
1	0x0001	CAT	-	1.47	0.01	N/A
5507	0x1583	Private Sections	-	1.36	0.00	N/A
2330	0x091A	Private Sections	-	1.36	0.00	N/A
16	0x0010	NIT	-	1.36	0.00	N/A
20	0x0014	TOT	-	0.11	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only
Duration: 30 Sec, File Size: 121 MB **ts.TELE-satellite.com/DVB-S2/028/ASTRA-10847V-1111.ts**
Transponderstream Technical Service File Download for Clients Only
Duration: 5 Min, File Size: 1050 MB **www.transponderstream.com/DVB-S2/028/ASTRA-10847V-1111.ts**

DVB S2 **28.2°E**

Network Name ASTRA | Recording TELE-satellite
Transmitter ASTRA 12.460H | Remark 3D

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
513	0x0201	H.264 Video	$	17747.89	41.10	Sky Arts 1 HD
514	0x0202	H.264 Video	$	12610.29	29.20	Sky 3D
512	0x0200	H.264 Video	$	8502.03	19.69	Sky News HD
3080	0x0C08	Private Sections	-	724.90	1.68	N/A
3081	0x0C09	Private Sections	-	500.09	1.16	N/A
661	0x0295	AC3 Audio	$	393.51	0.91	Sky Arts 1 HD
660	0x0294	AC3 Audio	$	393.51	0.91	Sky News HD
662	0x0296	AC3 Audio	$	393.46	0.91	Sky 3D
192	0x00C0	ECM/EMM	-	311.92	0.72	N/A
96	0x0060	?	-	286.93	0.66	N/A
17	0x0011	SDT	-	269.98	0.63	N/A
642	0x0282	MPEG Audio	$	196.76	0.46	Sky 3D
52	0x0034	?	-	189.54	0.44	N/A
2305	0x0901	Private Sections	-	167.34	0.39	N/A
89	0x0059	?	-	89.63	0.21	N/A
85	0x0055	?	-	59.01	0.14	N/A
259	0x0103	PMT	-	42.98	0.10	Sky Arts 1 HD
258	0x0102	PMT	-	42.98	0.10	Sky News HD
2308	0x0904	Teletext	-	37.57	0.09	Sky News HD
18	0x0012	EIT	-	27.23	0.06	N/A
1034	0x040A	Private Sections	-	24.99	0.06	N/A
261	0x0105	PMT	-	21.49	0.05	Sky 3D
0	0x0000	PAT	-	21.49	0.05	N/A
257	0x0101	PMT	-	21.44	0.05	Sky 3D
1033	0x0409	Private Sections	-	17.99	0.04	N/A
1030	0x0406	Private Sections	-	17.77	0.04	N/A
1283	0x0503	ECM/EMM	-	15.09	0.03	Sky 3D
1282	0x0502	ECM/EMM	-	15.09	0.03	Sky Arts 1 HD
1280	0x0500	ECM/EMM	-	15.09	0.03	Sky News HD
1032	0x0408	Private Sections	-	10.94	0.03	N/A
80	0x0050	?	-	7.22	0.02	N/A
1	0x0001	CAT	-	1.53	0.00	N/A
16	0x0010	NIT	-	1.42	0.00	N/A
20	0x0014	TOT	-	0.11	0.00	N/A

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Duration: 30 Sec, File Size: 176 MB **ts.TELE-satellite.com/DVB-S2/028/ASTRA-12460H-1111.ts**
Transponderstream Technical Service File Download for Clients Only
Duration: 5 Min, File Size: 1647 MB **www.transponderstream.com/DVB-S2/028/ASTRA-12460H-1111.ts**

43°E TURKSAT

DVB S2 **43°E**

Network Name TURKSAT | Recording Thomas Haring
Transmitter TURKSAT 12.015H | Remark 3D red/cyan

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	25053.62	59.27	N/A
145	0x0091	MPEG2 Video	-	4123.12	9.75	TMB TV
135	0x0087	MPEG2 Video	-	3639.89	8.61	BENGUTURK TV
175	0x00AF	MPEG2 Video	-	2871.66	6.79	3D TEST
155	0x009B	MPEG2 Video	-	2677.05	6.33	KARADENIZTURK
115	0x0073	MPEG2 Video	-	1464.90	3.47	TURKSAT TANITIM
118	0x0076	Teletext	-	301.28	0.71	TURKSAT TANITIM
176	0x00B0	MPEG Audio	-	263.38	0.62	3D TEST
156	0x009C	MPEG Audio	-	262.56	0.62	KARADENIZTURK
146	0x0092	MPEG Audio	-	262.51	0.62	TMB TV
210	0x00D2	SSU	-	248.64	0.59	SUNNY DATA
277	0x0115	SSU	-	224.13	0.53	EAST BEAM S&W UPDATE
136	0x0088	MPEG Audio	-	209.06	0.49	BENGUTURK TV
116	0x0074	MPEG Audio	-	198.75	0.47	TURKSAT TANITIM
297	0x0129	SSU	-	130.94	0.31	ICT OAD 1
287	0x011F	Private PES	-	128.10	0.30	SKYTECH DATA
18	0x0012	EIT	-	30.15	0.07	N/A
170	0x00AA	PMT	-	15.07	0.04	3D TEST
140	0x008C	PMT	-	15.07	0.04	TMB TV
130	0x0082	PMT	-	15.07	0.04	BENGUTURK TV
120	0x0078	PMT	-	15.07	0.04	BASKENT AB TV
1	0x0001	CAT	-	15.07	0.04	N/A
0	0x0000	PAT	-	15.07	0.04	N/A
777	0x0309	PMT	-	15.03	0.04	SUNNY DATA
290	0x0122	PMT	-	15.03	0.04	ICT OAD 1
280	0x0118	PMT	-	15.03	0.04	SKYTECH DATA
270	0x010E	PMT	-	15.03	0.04	EAST BEAM S&W UPDATE
150	0x0096	PMT	-	15.03	0.04	KARADENIZTURK
110	0x006E	PMT	-	15.03	0.04	TURKSAT TANITIM
17	0x0011	SDT	-	3.08	0.01	N/A
16	0x0010	NIT	-	0.34	0.00	N/A
20	0x0014	TOT	-	0.05	0.00	N/A

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Duration: 5 Min, File Size: 1588 MB **www.transponderstream.com/DVB-S2/043/TURKSAT-12015H-1109.ts**



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288°E (72°W) AMC 6

DVB S2

288°E

Network Name Arsat
Transmitter AMC 6 12.020V
Recording Juan Carlos Duarte
Remark Mobile TV

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	15195.79	20.87	N/A
1296	0x0510	H.264 Video	$	9519.19	13.07	TV Pública
400	0x0190	H.264 Video	-	3306.41	4.54	Incaa TV
368	0x0170	H.264 Video	-	3306.41	4.54	Paka Paka
352	0x0160	H.264 Video	$	3306.41	4.54	Gol TV
304	0x0130	H.264 Video	-	3306.41	4.54	Encuentro
288	0x0120	H.264 Video	-	3306.41	4.54	Tecnopolis
384	0x0180	H.264 Video	$	3306.34	4.54	TaTeTi
416	0x01A0	H.264 Video	$	2805.68	3.85	Vivra
448	0x01C0	H.264 Video	$	2805.48	3.85	Video Exito
464	0x01D0	H.264 Video	$	2654.89	3.65	G360
496	0x01F0	H.264 Video	$	2654.82	3.65	Construir
320	0x0140	H.264 Video	$	2654.76	3.65	C5N
272	0x0110	H.264 Video	$	2654.76	3.65	CN 23
43	0x002B	H.264 Video	$	2654.62	3.65	Telesur
432	0x01B0	H.264 Video	$	2103.79	2.89	Suri TV
480	0x01E0	H.264 Video	-	2103.72	2.89	Turismo
70	0x0046	H.264 Video	-	293.61	0.40	Encuentro Móvil
49	0x0031	H.264 Video	$	293.34	0.40	CN 23 Móvil
74	0x004A	H.264 Video	$	293.28	0.40	Gol TV Móvil
72	0x0048	H.264 Video	-	293.07	0.40	TV Pública Móvil
18	0x0012	EIT	-	253.84	0.35	N/A
236	0x00EC	PCR	-	100.21	0.14	_Service 4094
235	0x00EB	PCR	-	100.21	0.14	_Service 4093
417	0x01A1	AAC Audio	$	72.26	0.10	Vivra
497	0x01F1	AAC Audio	$	71.72	0.10	Construir
45	0x002D	AAC Audio	$	71.24	0.10	Telesur
482	0x01E2	AAC Audio	-	70.70	0.10	Turismo
466	0x01D2	AAC Audio	$	70.57	0.10	G360
434	0x01B2	AAC Audio	$	70.57	0.10	Suri TV
58	0x003A	AAC Audio	-	70.57	0.10	Incaa TV
55	0x0037	AAC Audio	$	70.57	0.10	Gol TV
56	0x0038	AAC Audio	-	70.50	0.10	Paka Paka
34	0x0022	AAC Audio	-	70.50	0.10	Tecnopolis
450	0x01C2	AAC Audio	$	70.36	0.10	Video Exito
59	0x003B	AAC Audio	$	70.30	0.10	Vivra
53	0x0035	AAC Audio	$	70.30	0.10	C5N
52	0x0034	AAC Audio	$	70.30	0.10	CN 23
40	0x0028	AAC Audio	-	70.30	0.10	Encuentro
54	0x0036	AAC Audio	$	70.16	0.10	Telesur
60	0x003C	AAC Audio	$	70.09	0.10	TV Pública
57	0x0039	AAC Audio	$	69.96	0.10	TaTeTi
498	0x01F2	AAC Audio	$	69.82	0.10	Construir
289	0x0121	AAC Audio	-	69.76	0.10	Tecnopolis
353	0x0161	AAC Audio	$	69.55	0.10	Gol TV
305	0x0131	AAC Audio	-	69.35	0.10	Encuentro
321	0x0141	AAC Audio	$	69.28	0.10	C5N
273	0x0111	AAC Audio	$	69.15	0.09	CN 23
369	0x0171	AAC Audio	-	68.95	0.09	Paka Paka
385	0x0181	AAC Audio	$	68.81	0.09	TaTeTi
1297	0x0511	AAC Audio	$	68.61	0.09	TV Pública
387	0x0183	AAC Audio	$	40.25	0.06	Radio Nacional
355	0x0163	AAC Audio	$	40.11	0.06	Radio 961
339	0x0153	AAC Audio	$	40.04	0.05	Radio 951
307	0x0133	AAC Audio	$	40.04	0.05	Radio 931
51	0x0033	AAC Audio	$	36.74	0.05	Radio 911
433	0x01B1	AAC Audio	$	35.59	0.05	Suri TV
465	0x01D1	AAC Audio	$	35.52	0.05	G360
481	0x01E1	AAC Audio	-	35.39	0.05	Turismo
449	0x01C1	AAC Audio	$	35.39	0.05	Video Exito
403	0x0193	AAC Audio	$	35.32	0.05	Radio 991
401	0x0191	AAC Audio	-	35.32	0.05	Incaa TV
371	0x0173	AAC Audio	$	35.32	0.05	Radio 971
323	0x0143	AAC Audio	$	35.32	0.05	Radio 941
75	0x004B	AAC Audio	$	35.32	0.05	Gol TV Móvil
73	0x0049	AAC Audio	-	35.32	0.05	TV Pública Móvil
71	0x0047	AAC Audio	-	35.32	0.05	Encuentro Móvil
48	0x0030	AAC Audio	$	35.32	0.05	Radio 921
35	0x0023	AAC Audio	$	35.32	0.05	CN 23 Móvil
32	0x0020	AAC Audio	$	35.32	0.05	Radio 910
1	0x0001	CAT	-	25.12	0.03	N/A
0	0x0000	PAT	-	25.05	0.03	N/A
4094	0x0FFE	PMT	-	24.31	0.03	_Service 4094
4093	0x0FFD	PMT	-	24.31	0.03	_Service 4093
2362	0x093A	PMT	-	24.31	0.03	Radio 931
1306	0x051A	PMT	-	24.31	0.03	TV Pública
426	0x01AA	PMT	-	24.31	0.03	Vivra
410	0x019A	PMT	-	24.31	0.03	Incaa TV
394	0x018A	PMT	-	24.31	0.03	TaTeTi
378	0x017A	PMT	-	24.31	0.03	Paka Paka
362	0x016A	PMT	-	24.31	0.03	Gol TV
330	0x014A	PMT	-	24.31	0.03	C5N
314	0x013A	PMT	-	24.31	0.03	Encuentro
298	0x012A	PMT	-	24.31	0.03	Tecnopolis
282	0x011A	PMT	-	24.31	0.03	CN 23
69	0x0045	PMT	-	24.31	0.03	Turismo
67	0x0043	PMT	-	24.31	0.03	Construir
66	0x0042	PMT	-	24.31	0.03	Video Exito
65	0x0041	PMT	-	24.31	0.03	G360
64	0x0040	PMT	-	24.31	0.03	Suri TV
63	0x003F	PMT	-	24.31	0.03	Gol TV Móvil
62	0x003E	PMT	-	24.31	0.03	TV Pública Móvil
61	0x003D	PMT	-	24.31	0.03	Encuentro Móvil
50	0x0032	PMT	-	24.31	0.03	Radio 911
47	0x002F	PMT	-	24.31	0.03	Radio 921
46	0x002E	PMT	-	24.31	0.03	Radio 910
44	0x002C	PMT	-	24.31	0.03	Radio 991
42	0x002A	PMT	-	24.31	0.03	Radio Nacional
41	0x0029	PMT	-	24.31	0.03	Telesur
39	0x0027	PMT	-	24.31	0.03	Radio 971
38	0x0026	PMT	-	24.31	0.03	CN 23 Móvil
37	0x0025	PMT	-	24.31	0.03	Radio 961
36	0x0024	PMT	-	24.31	0.03	Radio 951
33	0x0021	PMT	-	24.31	0.03	Radio 941
17	0x0011	SDT	-	11.07	0.02	N/A
1329	0x0531	ECM/EMM	-	5.06	0.01	Video Exito
1313	0x0521	ECM/EMM	-	5.06	0.01	CN 23 Móvil
1409	0x0581	ECM/EMM	-	5.00	0.01	TV Pública
1376	0x0560	ECM/EMM	-	5.00	0.01	Radio 910
1369	0x0559	ECM/EMM	-	5.00	0.01	Radio 991
1368	0x0558	ECM/EMM	-	5.00	0.01	Radio Nacional
1367	0x0557	ECM/EMM	-	5.00	0.01	Radio 971
1366	0x0556	ECM/EMM	-	5.00	0.01	Radio 961
1365	0x0555	ECM/EMM	-	5.00	0.01	Radio 951
1364	0x0554	ECM/EMM	-	5.00	0.01	Radio 941
1363	0x0553	ECM/EMM	-	5.00	0.01	Radio 931
1362	0x0552	ECM/EMM	-	5.00	0.01	Radio 921
1361	0x0551	ECM/EMM	-	5.00	0.01	Radio 911
1332	0x0534	ECM/EMM	-	5.00	0.01	Construir
1330	0x0532	ECM/EMM	-	5.00	0.01	G360
1328	0x0530	ECM/EMM	-	5.00	0.01	Suri TV
1314	0x0522	ECM/EMM	-	5.00	0.01	Gol TV Móvil
1298	0x0512	ECM/EMM	-	5.00	0.01	Vivra
1288	0x0508	ECM/EMM	-	5.00	0.01	TaTeTi
1286	0x0506	ECM/EMM	-	5.00	0.01	Gol TV
1285	0x0505	ECM/EMM	-	5.00	0.01	Telesur
1284	0x0504	ECM/EMM	-	5.00	0.01	C5N
1281	0x0501	ECM/EMM	-	5.00	0.01	CN 23
16	0x0010	NIT	-	3.98	0.01	N/A
1537	0x0601	ECM/EMM	-	1.69	0.00	N/A
20	0x0014	TOT	-	1.55	0.00	N/A

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299°E AMAZONAS

DVB S2

299°E

Network Name AMZ-2
Transmitter AMAZONAS 10.728V
Recording Juan Carlos Duarte
Remark HD

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
2024	0x07E8	H.264 Video	$	6751.80	11.60	A&E HD
2019	0x07E3	H.264 Video	$	6477.40	11.13	MAX HD
2021	0x07E5	H.264 Video	$	6434.07	11.06	Sony HD
2025	0x07E9	H.264 Video	$	5812.80	9.99	Space HD
2627	0x0A43	H.264 Video	$	5649.14	9.71	AXN HD
2624	0x0A40	H.264 Video	$	5649.07	9.71	Warner Channel HD
2020	0x07E4	H.264 Video	$	5509.12	9.47	TNT HD
2022	0x07E6	H.264 Video	$	4541.13	7.80	Cinema Golden HD
2023	0x07E7	H.264 Video	$	4018.42	6.91	History Channel HD
8191	0x1FFF	Null Packets	-	1976.25	3.40	N/A
287	0x011F	ECM/EMM	-	557.72	0.96	N/A
3640	0x0E38	AC3 Audio	$	423.86	0.73	AXN HD
3618	0x0E22	AC3 Audio	$	423.86	0.73	Warner Channel HD
3025	0x0BD1	AC3 Audio	$	423.86	0.73	Space HD
3024	0x0BD0	AC3 Audio	$	423.86	0.73	A&E HD
3023	0x0BCF	AC3 Audio	$	423.86	0.73	History Channel HD
3020	0x0BCC	AC3 Audio	$	423.86	0.73	TNT HD
3021	0x0BCD	AC3 Audio	$	423.79	0.73	Sony HD
3019	0x0BCB	AC3 Audio	$	423.79	0.73	MAX HD
18	0x0012	EIT	-	248.16	0.43	N/A
286	0x011E	ECM/EMM	-	199.63	0.34	N/A
3022	0x0BCE	MPEG Audio	$	198.74	0.34	Cinema Golden HD
288	0x0120	ECM/EMM	-	157.34	0.27	N/A
17	0x0011	SDT	-	148.79	0.26	N/A
16	0x0010	NIT	-	20.59	0.04	N/A
4658	0x1232	ECM/EMM	-	15.09	0.03	AXN HD
4657	0x1231	ECM/EMM	-	15.09	0.03	AXN HD
4623	0x120F	ECM/EMM	-	15.09	0.03	Warner Channel HD
4622	0x120E	ECM/EMM	-	15.09	0.03	Warner Channel HD
4032	0x0FC0	ECM/EMM	-	15.09	0.03	Space HD
4030	0x0FBE	ECM/EMM	-	15.09	0.03	Space HD
4028	0x0FBC	ECM/EMM	-	15.09	0.03	A&E HD
4026	0x0FBA	ECM/EMM	-	15.09	0.03	A&E HD
4024	0x0FB8	ECM/EMM	-	15.09	0.03	History Channel HD
4022	0x0FB6	ECM/EMM	-	15.09	0.03	History Channel HD
4020	0x0FB4	ECM/EMM	-	15.09	0.03	Cinema Golden HD
4016	0x0FB0	ECM/EMM	-	15.09	0.03	Cinema Golden HD
4014	0x0FAE	ECM/EMM	-	15.09	0.03	Sony HD
4012	0x0FAC	ECM/EMM	-	15.09	0.03	Sony HD
4011	0x0FAB	ECM/EMM	-	15.09	0.03	TNT HD
4010	0x0FAA	ECM/EMM	-	15.09	0.03	TNT HD
1022	0x03FE	PMT	-	15.09	0.03	Space HD
1006	0x03EE	PMT	-	15.09	0.03	History Channel HD
1005	0x03ED	PMT	-	15.09	0.03	Cinema Golden HD
1003	0x03EB	PMT	-	15.09	0.03	TNT HD
4068	0x0FE4	ECM/EMM	-	15.01	0.03	MAX HD
4067	0x0FE3	ECM/EMM	-	15.01	0.03	MAX HD
1627	0x065B	PMT	-	15.01	0.03	AXN HD
1624	0x0658	PMT	-	15.01	0.03	Warner Channel HD
1007	0x03EF	PMT	-	15.01	0.03	A&E HD
1004	0x03EC	PMT	-	15.01	0.03	Sony HD
1002	0x03EA	PMT	-	15.01	0.03	MAX HD
0	0x0000	PAT	-	15.01	0.03	N/A
1	0x0001	CAT	-	14.86	0.03	N/A
292	0x0124	ECM/EMM	-	1.04	0.00	N/A
291	0x0123	ECM/EMM	-	1.04	0.00	N/A
290	0x0122	ECM/EMM	-	1.04	0.00	N/A
289	0x0121	ECM/EMM	-	1.04	0.00	N/A
20	0x0014	TOT	-	1.04	0.00	N/A

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Duration: 3 Min, File Size: 314 MB **www.transponderstream.com/DVB-S2/299/AMAZONAS-10728V-1110.ts**

DVB S2

299°E

Network Name AMZ-2 Recording Juan Carlos Duarte
Transmitter AMAZONAS 10.808H Remark HD

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
7324	0x1C9C	H.264 Video	$	5643.15	9.71	Nat Geo Wild HD
2761	0x0AC9	H.264 Video	$	5643.15	9.71	RCN HD
2753	0x0AC1	H.264 Video	$	5643.15	9.71	Fox - Nat Geo HD
2752	0x0AC0	H.264 Video	$	5643.15	9.71	Discovery Theater HD
2751	0x0ABF	H.264 Video	$	5643.15	9.71	Rush HD
2759	0x0AC7	H.264 Video	$	5642.99	9.71	Fox Sports HD
2755	0x0AC3	H.264 Video	$	5642.99	9.71	MTV LIVE HD
2241	0x08C1	H.264 Video	$	5642.99	9.71	UNIVERSAL CHANNEL HD
2757	0x0AC5	H.264 Video	$	5639.17	9.70	Movie City HD
8191	0x1FFF	Null Packets	-	1987.31	3.42	N/A
287	0x011F	ECM/EMM	-	507.86	0.87	N/A
3753	0x0EA9	AC3 Audio	$	470.54	0.81	Fox - Nat Geo HD
3241	0x0CA9	AC3 Audio	$	470.37	0.81	UNIVERSAL CHANNEL HD
7344	0x1CB0	AC3 Audio	$	423.44	0.73	Nat Geo Wild HD
3757	0x0EAD	AC3 Audio	$	423.44	0.73	Movie City HD
3755	0x0EAB	AC3 Audio	$	423.44	0.73	MTV LIVE HD
3752	0x0EA8	AC3 Audio	$	423.44	0.73	Discovery Theater HD
3751	0x0EA7	AC3 Audio	$	423.27	0.73	Rush HD
3759	0x0EAF	MPEG Audio	$	394.24	0.68	Fox Sports HD
18	0x0012	EIT	-	247.13	0.43	N/A
286	0x011E	ECM/EMM	-	206.16	0.35	N/A
3761	0x0EB1	MPEG Audio	$	198.70	0.34	RCN HD
17	0x0011	SDT	-	148.77	0.26	N/A
288	0x0120	ECM/EMM	-	127.54	0.22	N/A
16	0x0010	NIT	-	20.23	0.03	N/A
7304	0x1C88	PMT	-	15.09	0.03	Nat Geo Wild HD
4759	0x1297	ECM/EMM	-	15.09	0.03	Fox Sports HD
4757	0x1295	ECM/EMM	-	15.09	0.03	Movie City HD
4753	0x1291	ECM/EMM	-	15.09	0.03	Fox - Nat Geo HD
4752	0x1290	ECM/EMM	-	15.09	0.03	Discovery Theater HD
4691	0x1253	ECM/EMM	-	15.09	0.03	Fox Sports HD
4689	0x1251	ECM/EMM	-	15.09	0.03	Movie City HD
4688	0x1250	ECM/EMM	-	15.09	0.03	MTV LIVE HD
4687	0x124F	ECM/EMM	-	15.09	0.03	Fox - Nat Geo HD
4685	0x124D	ECM/EMM	-	15.09	0.03	Rush HD
4345	0x10F9	ECM/EMM	-	15.09	0.03	UNIVERSAL CHANNEL HD
4343	0x10F7	ECM/EMM	-	15.09	0.03	UNIVERSAL CHANNEL HD
1761	0x06E1	PMT	-	15.09	0.03	RCN HD
1759	0x06DF	PMT	-	15.09	0.03	Fox Sports HD
1757	0x06DD	PMT	-	15.09	0.03	Movie City HD
1755	0x06DB	PMT	-	15.09	0.03	MTV LIVE HD
1753	0x06D9	PMT	-	15.09	0.03	Fox - Nat Geo HD
1752	0x06D8	PMT	-	15.09	0.03	Discovery Theater HD
1751	0x06D7	PMT	-	15.09	0.03	Rush HD
1241	0x04D9	PMT	-	15.09	0.03	UNIVERSAL CHANNEL HD
0	0x0000	PAT	-	15.09	0.03	N/A
4761	0x1299	ECM/EMM	-	14.93	0.03	RCN HD
4758	0x1296	ECM/EMM	-	14.93	0.03	Nat Geo Wild HD
4755	0x1293	ECM/EMM	-	14.93	0.03	MTV LIVE HD
4751	0x128F	ECM/EMM	-	14.93	0.03	Rush HD
4692	0x1254	ECM/EMM	-	14.93	0.03	RCN HD
4690	0x1252	ECM/EMM	-	14.93	0.03	Nat Geo Wild HD
4686	0x124E	ECM/EMM	-	14.93	0.03	Discovery Theater HD
1	0x0001	CAT	-	14.76	0.03	N/A
292	0x0124	ECM/EMM	-	1.00	0.00	N/A
291	0x0123	ECM/EMM	-	1.00	0.00	N/A
290	0x0122	ECM/EMM	-	1.00	0.00	N/A
289	0x0121	ECM/EMM	-	1.00	0.00	N/A
20	0x0014	TOT	-	1.00	0.00	N/A

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330°E (30°W) HISPASAT

DVB S2

330°E

Network Name IVG Default Network Recording Juan Carlos Duarte
Transmitter HISPASAT 11.910V Remark H.264

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
102	0x0066	H.264 Video	$	2089.27	16.30	Eventos2
904	0x0388	H.264 Video	$	1417.45	11.06	Rut
901	0x0385	H.264 Video	$	1417.38	11.06	Canal 12
1309	0x051D	H.264 Video	$	1373.95	10.72	Eventos
506	0x01FA	H.264 Video	-	1373.90	10.72	Canal 5
502	0x01F6	H.264 Video	$	1373.88	10.72	Canal 4
1302	0x0516	H.264 Video	-	1373.86	10.72	TVCiudad
8191	0x1FFF	Null Packets	-	798.61	6.23	N/A
908	0x038C	MPEG Audio	-	100.30	0.78	Radio_Cero
1310	0x051E	MPEG Audio	$	100.29	0.78	Eventos
1306	0x051A	MPEG Audio	-	100.29	0.78	Zoe
1303	0x0517	MPEG Audio	-	100.29	0.78	TVCiudad
909	0x038D	MPEG Audio	-	100.29	0.78	Radio_Cero
905	0x0389	MPEG Audio	$	100.29	0.78	Rut
902	0x0386	MPEG Audio	$	100.29	0.78	Canal 12
510	0x01FE	MPEG Audio	-	100.29	0.78	CX20
507	0x01FB	MPEG Audio	-	100.28	0.78	Canal 5
503	0x01F7	MPEG Audio	$	100.28	0.78	Canal 4
103	0x0067	MPEG Audio	$	100.28	0.78	Eventos2
1308	0x051C	PCR	-	42.98	0.34	N/A
1305	0x0519	PCR	-	42.98	0.34	N/A
1301	0x0515	PCR	-	42.98	0.34	N/A
907	0x038B	PCR	-	42.98	0.34	N/A
509	0x01FD	PCR	-	42.98	0.34	N/A
505	0x01F9	PCR	-	42.98	0.34	N/A
501	0x01F5	PCR	-	42.98	0.34	N/A
101	0x0065	PCR	-	42.98	0.34	N/A
18	0x0012	EIT	-	30.08	0.23	N/A
17	0x0011	SDT	-	6.02	0.05	N/A
7510	0x1D56	ECM/EMM	-	5.09	0.04	Eventos2
7509	0x1D55	ECM/EMM	-	5.09	0.04	Eventos2
7502	0x1D4E	ECM/EMM	-	5.09	0.04	Eventos
7500	0x1D4C	ECM/EMM	-	5.09	0.04	Eventos
7508	0x1D54	ECM/EMM	-	5.08	0.04	Rut
7507	0x1D53	ECM/EMM	-	5.08	0.04	Rut
7506	0x1D52	ECM/EMM	-	5.08	0.04	Canal 12
7505	0x1D51	ECM/EMM	-	5.08	0.04	Canal 12
7504	0x1D50	ECM/EMM	-	5.08	0.04	Canal 4
7503	0x1D4F	ECM/EMM	-	5.08	0.04	Canal 4
508	0x01FC	PMT	-	5.02	0.04	CX20
504	0x01F8	PMT	-	5.02	0.04	Canal 5
500	0x01F4	PMT	-	5.02	0.04	Canal 4
1307	0x051B	PMT	-	5.01	0.04	Eventos
1304	0x0518	PMT	-	5.01	0.04	Zoe
1300	0x0514	PMT	-	5.01	0.04	TVCiudad
906	0x038A	PMT	-	5.01	0.04	Radio_Cero
903	0x0387	PMT	-	5.01	0.04	Rut
900	0x0384	PMT	-	5.01	0.04	Canal 12
100	0x0064	PMT	-	5.01	0.04	Eventos2
0	0x0000	PAT	-	5.01	0.04	N/A
7903	0x1EDF	ECM/EMM	-	4.83	0.04	N/A
16	0x0010	NIT	-	3.01	0.02	N/A
1	0x0001	CAT	-	3.01	0.02	N/A
7902	0x1EDE	ECM/EMM	-	0.14	0.00	N/A
20	0x0014	TOT	-	0.10	0.00	N/A

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359°E THOR 5

DVB S2

359°E

Network Name Telenor Recording Thomas Haring
Transmitter THOR 5 11.785H Remark 3D tests encrypted

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
516	0x0204	H.264 Video	$	13846.91	20.65	TV 2 3D
515	0x0203	H.264 Video	$	12305.98	18.35	ESPN America HD
512	0x0200	H.264 Video	$	12038.82	17.95	Nat Geo HD
513	0x0201	H.264 Video	$	11995.69	17.89	Nat Geo Wild HD
514	0x0202	H.264 Video	$	9947.94	14.83	MTV Live HD
8191	0x1FFF	Null Packets	-	3428.83	5.11	N/A
641	0x0281	AC3 Audio	$	462.09	0.69	Nat Geo HD
48	0x0030	ECM/EMM	-	413.14	0.62	N/A
18	0x0012	EIT	-	401.25	0.60	N/A
657	0x0291	AC3 Audio	-	400.75	0.60	TV 2 3D
648	0x0288	AC3 Audio	$	400.75	0.60	MTV Live HD
656	0x0290	MPEG Audio	$	267.17	0.40	TV 2 3D
652	0x028C	MPEG Audio	$	263.20	0.39	ESPN America HD
644	0x0284	MPEG Audio	$	229.99	0.34	Nat Geo Wild HD
640	0x0280	MPEG Audio	$	201.12	0.30	Nat Geo HD
17	0x0011	SDT	-	25.03	0.04	N/A
610	0x0262	DVB Subtitles	-	15.49	0.02	Nat Geo HD
612	0x0264	DVB Subtitles	-	15.24	0.02	Nat Geo HD
272	0x0110	PMT	-	15.12	0.02	MTV Live HD
271	0x010F	PMT	-	15.12	0.02	Nat Geo Wild HD
270	0x010E	PMT	-	15.12	0.02	Nat Geo HD
260	0x0104	PMT	-	15.12	0.02	MTV Live HD
259	0x0103	PMT	-	15.12	0.02	ESPN America HD
258	0x0102	PMT	-	15.12	0.02	ESPN America HD
257	0x0101	PMT	-	15.12	0.02	Nat Geo Wild HD
256	0x0100	PMT	-	15.12	0.02	Nat Geo HD
104	0x0068	ECM/EMM	-	15.12	0.02	TV 2 3D
103	0x0067	ECM/EMM	-	15.12	0.02	ESPN America HD
101	0x0065	ECM/EMM	-	15.12	0.02	Nat Geo Wild HD
96	0x0060	ECM/EMM	-	15.12	0.02	ESPN America HD
87	0x0057	ECM/EMM	-	15.12	0.02	ESPN America HD
85	0x0055	ECM/EMM	-	15.12	0.02	Nat Geo Wild HD
77	0x004D	ECM/EMM	-	15.12	0.02	ESPN America HD
75	0x004B	ECM/EMM	-	15.12	0.02	Nat Geo Wild HD
261	0x0105	PMT	-	14.99	0.02	TV 2 3D
184	0x00B8	ECM/EMM	-	14.99	0.02	Nat Geo HD
174	0x00AE	ECM/EMM	-	14.99	0.02	Nat Geo HD
102	0x0066	ECM/EMM	-	14.99	0.02	MTV Live HD
100	0x0064	ECM/EMM	-	14.99	0.02	Nat Geo HD
1	0x0001	CAT	-	14.99	0.02	N/A
0	0x0000	PAT	-	14.99	0.02	N/A
611	0x0263	DVB Subtitles	-	13.63	0.02	Nat Geo HD
16	0x0010	NIT	-	12.89	0.02	N/A
95	0x005F	ECM/EMM	-	5.08	0.01	Nat Geo Wild HD
94	0x005E	ECM/EMM	-	5.08	0.01	Nat Geo HD
97	0x0061	ECM/EMM	-	4.96	0.01	ESPN America HD
616	0x0268	DVB Subtitles	-	2.97	0.00	Nat Geo Wild HD
615	0x0267	DVB Subtitles	-	2.97	0.00	Nat Geo Wild HD
614	0x0266	DVB Subtitles	-	2.97	0.00	Nat Geo Wild HD
20	0x0014	TOT	-	2.97	0.00	N/A

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DVB-T terrestrial

AT Austria

DVB T **AT**

Network Name ORS DVB-T WN Recording Thomas Haring
Transmitter Vienna Channel 24

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
1020	0x03FC	MPEG2 Video	-	4736.71	31.72	ORF2 W
1010	0x03F2	MPEG2 Video	-	3687.03	24.69	ORF1
1040	0x0410	MPEG2 Video	-	2891.25	19.36	ATV
8191	0x1FFF	Null Packets	-	898.46	6.02	N/A
1013	0x03F5	AC3 Audio	-	460.59	3.08	ORF1
1023	0x03FF	AC3 Audio	-	460.45	3.08	ORF2 W
1025	0x0401	Teletext	-	300.87	2.01	ORF2 W
1045	0x0415	Teletext	-	300.82	2.01	ATV
1015	0x03F7	Teletext	-	300.82	2.01	ORF1
1041	0x0411	MPEG Audio	-	175.56	1.18	ATV
1021	0x03FD	MPEG Audio	-	175.51	1.18	ORF2 W
1011	0x03F3	MPEG Audio	-	175.51	1.18	ORF1
18	0x0012	EIT	-	167.95	1.12	N/A
1014	0x03F6	Private PES	-	37.65	0.25	ORF1
1046	0x0416	Private PES	-	37.60	0.25	ATV
1024	0x0400	Private PES	-	37.60	0.25	ORF2 W
104	0x0068	PMT	-	18.82	0.13	ATV
103	0x0067	PMT	-	18.82	0.13	ORF2 N
102	0x0066	PMT	-	18.82	0.13	ORF2 W
101	0x0065	PMT	-	18.82	0.13	ORF1
1	0x0001	CAT	-	3.76	0.03	N/A
0	0x0000	PAT	-	3.76	0.03	N/A
17	0x0011	SDT	-	2.85	0.02	N/A
21	0x0015	Network Sync	-	2.47	0.02	N/A
16	0x0010	NIT	-	0.19	0.00	N/A
20	0x0014	TOT	-	0.10	0.00	N/A

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DVB T **AT**

Network Name ORS DVB-T T2 Recording Thomas Haring
Transmitter Vienna Channel 34 *Remark* Radio

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
1060	0x0424	MPEG2 Video	-	3262.60	19.64	ORF Sport Plus
1064	0x0428	MPEG2 Video	-	3196.39	19.24	ServusTV
1055	0x041F	MPEG2 Video	-	3188.06	19.19	3SAT
1050	0x041A	MPEG2 Video	-	3079.65	18.54	PULS 4
8191	0x1FFF	Null Packets	-	1477.70	8.90	N/A
1052	0x041C	Teletext	-	301.26	1.81	PULS 4
1058	0x0422	Teletext	-	301.18	1.81	3SAT
1068	0x042C	Teletext	-	263.67	1.59	ServusTV
1067	0x042B	MPEG Audio	-	175.78	1.06	ServusTV
1066	0x042A	MPEG Audio	-	175.78	1.06	ServusTV
1051	0x041B	MPEG Audio	-	175.69	1.06	PULS 4
1061	0x0425	MPEG Audio	-	175.61	1.06	ORF Sport Plus
1057	0x0421	MPEG Audio	-	175.61	1.06	3SAT
1056	0x0420	MPEG Audio	-	175.53	1.06	3SAT
1111	0x0457	MPEG Audio	-	138.02	0.83	Radio Maria
18	0x0012	EIT	-	132.66	0.80	N/A
1069	0x042D	Private PES	-	37.68	0.23	ORF Sport Plus
1059	0x0423	Private PES	-	37.68	0.23	3SAT
1169	0x0491	Private PES	-	37.60	0.23	ServusTV
153	0x0099	PMT	-	18.88	0.11	ServusTV
152	0x0098	PMT	-	18.88	0.11	ORF Sport Plus
151	0x0097	PMT	-	18.88	0.11	3SAT
150	0x0096	PMT	-	18.88	0.11	PULS 4
111	0x006F	PMT	-	18.88	0.11	Radio Maria
0	0x0000	PAT	-	3.71	0.02	N/A
21	0x0015	Network Sync	-	2.80	0.02	N/A
17	0x0011	SDT	-	1.98	0.01	N/A
16	0x0010	NIT	-	0.25	0.00	N/A
20	0x0014	TOT	-	0.16	0.00	N/A

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CH Switzerland

DVB T **CH**

Network Name 5 Recording TELE-satellite
Transmitter Zurich Channel 34

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
161	0x00A1	MPEG2 Video	-	4162.72	25.44	RTS Un
167	0x00A7	MPEG2 Video	-	2761.15	16.87	SF info
163	0x00A3	MPEG2 Video	-	2193.02	13.40	SF zwei
162	0x00A2	MPEG2 Video	-	2144.79	13.11	RSI LA 1
160	0x00A0	MPEG2 Video	-	2023.30	12.36	SF 1
18	0x0012	EIT	-	269.77	1.65	N/A
53	0x0035	Teletext	-	264.41	1.62	SF info
41	0x0029	Teletext	-	264.41	1.62	SF zwei
38	0x0026	Teletext	-	264.41	1.62	RSI LA 1
35	0x0023	Teletext	-	264.41	1.62	RTS Un
32	0x0020	Teletext	-	264.41	1.62	SF 1
102	0x0066	MPEG Audio	-	204.56	1.25	SF info
92	0x005C	MPEG Audio	-	204.56	1.25	SF zwei
88	0x0058	MPEG Audio	-	204.56	1.25	RSI LA 1
84	0x0054	MPEG Audio	-	204.56	1.25	RTS Un
80	0x0050	MPEG Audio	-	204.56	1.25	SF 1
93	0x005D	MPEG Audio	-	86.65	0.53	SF zwei
89	0x0059	MPEG Audio	-	86.65	0.53	RSI LA 1
85	0x0055	MPEG Audio	-	86.65	0.53	RTS Un
81	0x0051	MPEG Audio	-	86.65	0.53	SF 1
103	0x0067	MPEG Audio	-	86.35	0.53	SF info
16	0x0010	NIT	-	3.57	0.02	N/A
407	0x0197	PMT	-	3.28	0.02	SF info
403	0x0193	PMT	-	3.28	0.02	SF zwei
402	0x0192	PMT	-	3.28	0.02	RSI LA 1
401	0x0191	PMT	-	3.28	0.02	RTS Un
400	0x0190	PMT	-	3.28	0.02	SF 1
1	0x0001	CAT	-	2.98	0.02	N/A
0	0x0000	PAT	-	2.98	0.02	N/A
21	0x0015	Network Sync	-	2.68	0.02	N/A
17	0x0011	SDT	-	2.38	0.01	N/A

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CN China

DVB T **CN**

Network Name SZTVM Recording TELE-satellite
Transmitter Shenzhen Channel 52 *Remark* DVB Tests

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
161	0x00A1	MPEG2 Video	-	2348.05	29.76	SZTVM02
308	0x0134	MPEG2 Video	-	2235.69	28.33	SZTVM01
163	0x00A3	MPEG2 Video	-	1397.22	17.71	SZTVM04
162	0x00A2	MPEG2 Video	-	1309.02	16.59	SZTVM03
84	0x0054	MPEG Audio	-	104.46	1.32	SZTVM02
88	0x0058	MPEG Audio	-	104.43	1.32	SZTVM03
256	0x0100	MPEG Audio	-	104.40	1.32	SZTVM01
92	0x005C	MPEG Audio	-	104.40	1.32	SZTVM04
67	0x0043	PMT	-	22.54	0.29	SZTVM04
66	0x0042	PMT	-	22.54	0.29	SZTVM03
65	0x0041	PMT	-	22.54	0.29	SZTVM02
33	0x0021	PMT	-	22.54	0.29	Data
32	0x0020	PMT	-	22.54	0.29	SZTVM01
17	0x0011	SDT	-	22.54	0.29	N/A
16	0x0010	NIT	-	22.54	0.29	N/A
0	0x0000	PAT	-	22.54	0.29	N/A
21	0x0015	Network Sync	-	2.48	0.03	N/A
20	0x0014	TOT	-	0.34	0.00	N/A

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DE Germany

DVB T **DE**

Network Name MEDIA BROADCAST Recording TELE-satellite
Transmitter Munich Channel 34

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
545	0x0221	MPEG2 Video	-	2886.92	22.26	VOX
337	0x0151	MPEG2 Video	-	2648.43	20.42	RTL Television
353	0x0161	MPEG2 Video	-	2554.82	19.70	RTL2
433	0x01B1	MPEG2 Video	-	2396.65	18.48	Super RTL
18	0x0012	EIT	-	358.83	2.77	N/A
343	0x0157	Teletext	-	300.84	2.32	RTL Television
551	0x0227	Teletext	-	300.81	2.32	VOX
439	0x01B7	Teletext	-	300.81	2.32	Super RTL
359	0x0167	Teletext	-	300.81	2.32	RTL2
546	0x0222	MPEG Audio	-	203.69	1.57	VOX
434	0x01B2	MPEG Audio	-	203.69	1.57	Super RTL
354	0x0162	MPEG Audio	-	203.68	1.57	RTL2
338	0x0152	MPEG Audio	-	200.96	1.55	RTL Television
344	0x0158	DVB Subtitles	-	68.89	0.53	RTL Television
432	0x01B0	PMT	-	5.47	0.04	Super RTL
336	0x0150	PMT	-	5.47	0.04	RTL Television
544	0x0220	PMT	-	5.46	0.04	VOX
352	0x0160	PMT	-	5.46	0.04	RTL2
1	0x0001	CAT	-	5.46	0.04	N/A
0	0x0000	PAT	-	5.46	0.04	N/A
21	0x0015	Network Sync	-	2.47	0.02	N/A
72	0x0048	Private Sections	-	1.54	0.01	N/A
17	0x0011	SDT	-	0.76	0.01	N/A
16	0x0010	NIT	-	0.17	0.00	N/A
20	0x0014	TOT	-	0.11	0.00	N/A

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Transponderstream Technical Service File Download for Clients Only
Duration: 5 Min, File Size: 497 MB **www.transponderstream.com/DVB-T/DE/Munich-Ch34-1109.ts**

DVB T **DE**

Network Name ZDF Recording TELE-satellite
Transmitter Munich Channel 35

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
561	0x0231	MPEG2 Video	-	3123.36	24.72	3sat
545	0x0221	MPEG2 Video	-	2819.02	22.31	ZDF
577	0x0241	MPEG2 Video	-	2332.20	18.46	ZDFinfo
593	0x0251	MPEG2 Video	-	2184.34	17.29	neo/KI.KA
18	0x0012	EIT	-	372.19	2.95	N/A
599	0x0257	Teletext	-	263.21	2.08	neo/KI.KA
567	0x0237	Teletext	-	263.21	2.08	3sat
551	0x0227	Teletext	-	263.21	2.08	ZDF
594	0x0252	MPEG Audio	-	201.93	1.60	neo/KI.KA
562	0x0232	MPEG Audio	-	201.93	1.60	3sat
546	0x0222	MPEG Audio	-	201.93	1.60	ZDF
578	0x0242	MPEG Audio	-	135.76	1.07	ZDFinfo
547	0x0223	MPEG Audio	-	101.84	0.81	ZDF
563	0x0233	MPEG Audio	-	101.82	0.81	3sat
1	0x0001	CAT	-	15.84	0.13	N/A
0	0x0000	PAT	-	15.83	0.13	N/A
555	0x022B	Private Sections	-	10.00	0.08	N/A
576	0x0240	PMT	-	5.48	0.04	ZDFinfo
544	0x0220	PMT	-	5.48	0.04	ZDF
592	0x0250	PMT	-	5.46	0.04	neo/KI.KA
560	0x0230	PMT	-	5.46	0.04	3sat
21	0x0015	Network Sync	-	2.46	0.02	N/A
16	0x0010	NIT	-	0.95	0.01	N/A
17	0x0011	SDT	-	0.84	0.01	N/A
20	0x0014	TOT	-	0.22	0.00	N/A

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DVB T **DE**

Network Name MEDIA BROADCAST Recording TELE-satellite
Transmitter Munich Channel 48

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
225	0x00E1	MPEG2 Video	-	3492.50	26.63	N24
305	0x0131	MPEG2 Video	-	2590.09	19.75	ProSieben
385	0x0181	MPEG2 Video	-	2496.26	19.03	SAT.1
161	0x00A1	MPEG2 Video	-	2386.04	18.19	kabel eins
231	0x00E7	Teletext	-	263.21	2.01	N24
391	0x0187	Teletext	-	263.18	2.01	SAT.1
311	0x0137	Teletext	-	263.18	2.01	ProSieben
167	0x00A7	Teletext	-	263.18	2.01	kabel eins
18	0x0012	EIT	-	260.26	1.98	N/A
162	0x00A2	MPEG Audio	-	198.46	1.51	kabel eins
386	0x0182	MPEG Audio	-	198.43	1.51	SAT.1
306	0x0132	MPEG Audio	-	198.43	1.51	ProSieben
226	0x00E2	MPEG Audio	-	198.43	1.51	N24
384	0x0180	PMT	-	5.46	0.04	SAT.1
304	0x0130	PMT	-	5.46	0.04	ProSieben
224	0x00E0	PMT	-	5.46	0.04	N24
160	0x00A0	PMT	-	5.46	0.04	kabel eins
0	0x0000	PAT	-	5.46	0.04	N/A
312	0x0138	Private Sections	-	5.01	0.04	N/A
168	0x00A8	Private Sections	-	5.01	0.04	N/A
1	0x0001	CAT	-	3.16	0.02	N/A
21	0x0015	Network Sync	-	2.47	0.02	N/A
20	0x0014	TOT	-	0.95	0.01	N/A
17	0x0011	SDT	-	0.80	0.01	N/A
16	0x0010	NIT	-	0.17	0.00	N/A

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DVB T **DE**

Network Name MEDIA BROADCAST Recording TELE-satellite
Transmitter Munich Channel 52

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
145	0x0091	MPEG2 Video	-	3990.04	30.76	HSE24
2177	0x0881	MPEG2 Video	-	3263.79	25.16	München TV
465	0x01D1	MPEG2 Video	-	1973.47	15.21	Bibel TV
593	0x0251	MPEG2 Video	-	1662.92	12.82	Channel 21/Euronews
599	0x0257	Teletext	-	300.86	2.32	Channel 21/Euronews
471	0x01D7	Teletext	-	263.25	2.03	Bibel TV
2183	0x0887	Teletext	-	263.23	2.03	München TV
594	0x0252	MPEG Audio	-	203.68	1.57	Channel 21/Euronews
466	0x01D2	MPEG Audio	-	203.68	1.57	Bibel TV
146	0x0092	MPEG Audio	-	198.49	1.53	HSE24
2178	0x0882	MPEG Audio	-	197.96	1.53	München TV
151	0x0097	Teletext	-	188.04	1.45	HSE24
18	0x0012	EIT	-	147.98	1.14	N/A
474	0x01DA	Data	-	51.85	0.40	Bibel TV
0	0x0000	PAT	-	20.04	0.15	N/A
473	0x01D9	Data	-	6.01	0.05	Bibel TV
2176	0x0880	PMT	-	5.47	0.04	München TV
592	0x0250	PMT	-	5.47	0.04	Channel 21/Euronews
464	0x01D0	PMT	-	5.47	0.04	Bibel TV
144	0x0090	PMT	-	5.47	0.04	HSE24
1	0x0001	CAT	-	5.47	0.04	N/A
472	0x01D8	Data	-	4.99	0.04	Bibel TV
21	0x0015	Network Sync	-	2.45	0.02	N/A
17	0x0011	SDT	-	0.84	0.01	N/A
16	0x0010	NIT	-	0.15	0.00	N/A
20	0x0014	TOT	-	0.10	0.00	N/A

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DVB T **DE**

Network Name ARD BAYERN Recording TELE-satellite
Transmitter Munich Channel 54

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
513	0x0201	MPEG2 Video	-	3445.16	27.19	Das Erste
49	0x0031	MPEG2 Video	-	2844.51	22.45	Phoenix
33	0x0021	MPEG2 Video	-	2038.59	16.09	arte
97	0x0061	MPEG2 Video	-	1889.14	14.91	EinsPlus
18	0x0012	EIT	-	305.67	2.41	N/A
516	0x0204	Teletext	-	263.25	2.08	Das Erste
100	0x0064	Teletext	-	263.25	2.08	EinsPlus
52	0x0034	Teletext	-	263.25	2.08	Phoenix
36	0x0024	Teletext	-	263.25	2.08	arte
514	0x0202	MPEG Audio	-	203.71	1.61	Das Erste
98	0x0062	MPEG Audio	-	203.71	1.61	EinsPlus
50	0x0032	MPEG Audio	-	203.71	1.61	Phoenix
35	0x0023	MPEG Audio	-	203.71	1.61	arte
34	0x0022	MPEG Audio	-	203.71	1.61	arte
44	0x002C	Private Sections	-	9.29	0.07	N/A
512	0x0200	PMT	-	8.59	0.07	Das Erste
96	0x0060	PMT	-	8.59	0.07	EinsPlus
48	0x0030	PMT	-	8.59	0.07	Phoenix
32	0x0020	PMT	-	8.59	0.07	arte
524	0x020C	Private Sections	-	7.74	0.06	N/A
108	0x006C	Private Sections	-	6.10	0.05	N/A
0	0x0000	PAT	-	5.47	0.04	N/A
1	0x0001	CAT	-	3.17	0.03	N/A
20	0x0014	TOT	-	3.02	0.02	N/A
21	0x0015	Network Sync	-	2.45	0.02	N/A
60	0x003C	Private Sections	-	1.55	0.01	N/A
16	0x0010	NIT	-	0.95	0.01	N/A
17	0x0011	SDT	-	0.80	0.01	N/A

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DVB T **DE**

Network Name BR Recording TELE-satellite
Transmitter Munich Channel 56

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
561	0x0231	MPEG2 Video	-	3171.05	24.88	BR-alpha
65	0x0041	MPEG2 Video	-	2720.55	21.35	EinsExtra
545	0x0221	MPEG2 Video	-	2370.25	18.60	Bayerisches FS Süd
3601	0x0E11	MPEG2 Video	-	2345.96	18.41	SWR Fernsehen
18	0x0012	EIT	-	299.95	2.35	N/A
3604	0x0E14	Teletext	-	263.17	2.06	SWR Fernsehen
564	0x0234	Teletext	-	263.17	2.06	BR-alpha
548	0x0224	Teletext	-	263.17	2.06	Bayerisches FS Süd
3602	0x0E12	MPEG Audio	-	203.66	1.60	SWR Fernsehen
546	0x0222	MPEG Audio	-	203.66	1.60	Bayerisches FS Süd
562	0x0232	MPEG Audio	-	203.63	1.60	BR-alpha
66	0x0042	MPEG Audio	-	203.63	1.60	EinsExtra
549	0x0225	MPEG Audio	-	133.16	1.04	Bayerisches FS Süd
555	0x022B	Private Data	-	26.98	0.21	Bayerisches FS Süd
560	0x0230	PMT	-	8.61	0.07	BR-alpha
544	0x0220	PMT	-	8.61	0.07	Bayerisches FS Süd
64	0x0040	PMT	-	8.61	0.07	EinsExtra
3600	0x0E10	PMT	-	8.58	0.07	SWR Fernsehen
76	0x004C	Private Sections	-	7.66	0.06	N/A
3612	0x0E1C	Private Sections	-	6.25	0.05	N/A
0	0x0000	PAT	-	5.48	0.04	N/A
1	0x0001	CAT	-	3.15	0.02	N/A
556	0x022C	Private Sections	-	3.12	0.02	N/A
572	0x023C	Private Sections	-	3.06	0.02	N/A
554	0x022A	Private Data	-	3.03	0.02	Bayerisches FS Süd
20	0x0014	TOT	-	3.00	0.02	N/A
21	0x0015	Network Sync	-	2.48	0.02	N/A
17	0x0011	SDT	-	0.86	0.01	N/A
16	0x0010	NIT	-	0.74	0.01	N/A

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HU Hungary

DVB T **IL**

Network Name DTT Hungary Recording TELE-satellite
Transmitter Budapest Channel 38 *Remark* Radio

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
1011	0x03F3	H.264 Video	-	6650.33	29.96	m2 HD
1001	0x03E9	H.264 Video	-	5549.83	25.00	m1 HD
1211	0x04BB	H.264 Video	-	5450.87	24.55	Duna 2 HD
1201	0x04B1	H.264 Video	-	1573.21	7.09	Duna
18	0x0012	EIT	-	521.11	2.35	N/A
1014	0x03F6	AC3 Audio	-	423.03	1.91	m2 HD
1004	0x03EC	AC3 Audio	-	423.03	1.91	m1 HD
1214	0x04BE	AC3 Audio	-	423.00	1.91	Duna 2 HD
1003	0x03EB	Teletext	-	225.63	1.02	m1 HD
1212	0x04BC	MPEG Audio	-	132.33	0.60	Duna 2 HD
1202	0x04B2	MPEG Audio	-	132.30	0.60	Duna
1012	0x03F4	MPEG Audio	-	132.30	0.60	m2 HD
1002	0x03EA	MPEG Audio	-	132.30	0.60	m1 HD
1312	0x0520	AAC Audio	-	102.69	0.46	MR2 Petofi Radio
1322	0x052A	AAC Audio	-	102.64	0.46	MR3 Bartok Radio
1302	0x0516	AAC Audio	-	69.21	0.31	MR1 Kossuth Radio
1	0x0001	CAT	-	15.06	0.07	N/A
1320	0x0528	PMT	-	15.03	0.07	MR3 Bartok Radio
1310	0x051E	PMT	-	15.03	0.07	MR2 Petofi Radio
1300	0x0514	PMT	-	15.03	0.07	MR1 Kossuth Radio
1210	0x04BA	PMT	-	15.03	0.07	Duna 2 HD
1200	0x04B0	PMT	-	15.03	0.07	Duna
1010	0x03F2	PMT	-	15.03	0.07	m2 HD
1000	0x03E8	PMT	-	15.03	0.07	m1 HD
0	0x0000	PAT	-	15.03	0.07	N/A
1700	0x06A4	PMT	-	15.00	0.07	DataService_A
17	0x0011	SDT	-	3.00	0.01	N/A
21	0x0015	Network Sync	-	2.46	0.01	N/A
16	0x0010	NIT	-	0.93	0.00	N/A
20	0x0014	TOT	-	0.28	0.00	N/A

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DVB T IL

Network Name DTT Hungary Recording TELE-satellite
Transmitter Budapest Channel 55 *Remark* encrypted

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
3101	0x0C1D	H.264 Video	$	2741.44	13.19	Sport1
3111	0x0C27	H.264 Video	$	2155.15	10.37	Sport2
3011	0x0BC3	H.264 Video	$	1848.13	8.89	VIASAT3
3081	0x0C09	H.264 Video	$	1840.69	8.85	Spektrum
3071	0x0BFF	H.264 Video	$	1551.18	7.46	Cartoon Network
3091	0x0C13	H.264 Video	$	1432.28	6.89	History
3021	0x0BCD	H.264 Video	$	1342.33	6.46	Prizma TV
3051	0x0BEB	H.264 Video	$	1268.70	6.10	Comedy Central
3001	0x0BB9	H.264 Video	$	1190.26	5.72	PRO4
3061	0x0BF5	H.264 Video	$	1174.81	5.65	Minimax
3031	0x0BD7	H.264 Video	$	1169.10	5.62	Muzsika TV
3041	0x0BE1	H.264 Video	$	910.12	4.38	Universal Channel
18	0x0012	EIT	-	514.37	2.47	N/A
3121	0x0C31	H.264 Video	$	223.99	1.08	Dorcel TV
5000	0x1388	ECM/EMM	-	81.50	0.39	N/A
3094	0x0C16	AAC Audio	$	68.09	0.33	History
3032	0x0BD8	AAC Audio	$	68.00	0.33	Muzsika TV
3002	0x0BBA	AAC Audio	$	68.00	0.33	PRO4
3112	0x0C28	AAC Audio	$	67.94	0.33	Sport2
3082	0x0C0A	AAC Audio	$	67.94	0.33	Spektrum
3052	0x0BEC	AAC Audio	$	67.94	0.33	Comedy Central
3092	0x0C14	AAC Audio	$	67.92	0.33	History
3042	0x0BE2	AAC Audio	$	67.92	0.33	Universal Channel
3074	0x0C02	AAC Audio	$	67.83	0.33	Cartoon Network
3022	0x0BCE	AAC Audio	$	67.83	0.33	Prizma TV
3062	0x0BF6	AAC Audio	$	67.80	0.33	Minimax
3012	0x0BC4	AAC Audio	$	67.80	0.33	VIASAT3
3102	0x0C1E	AAC Audio	$	67.77	0.33	Sport1
3072	0x0C00	AAC Audio	$	67.74	0.33	Cartoon Network
3044	0x0BE4	AAC Audio	$	67.71	0.33	Universal Channel
3122	0x0C32	AAC Audio	$	35.24	0.17	Dorcel TV
3700	0x0E74	PMT	-	15.05	0.07	DataService_B
3129	0x0C39	ECM/EMM	-	15.05	0.07	Dorcel TV
3120	0x0C30	PMT	-	15.05	0.07	Dorcel TV
3110	0x0C26	PMT	-	15.05	0.07	Sport2
3100	0x0C1C	PMT	-	15.05	0.07	Sport1
3090	0x0C12	PMT	-	15.05	0.07	History
3080	0x0C08	PMT	-	15.05	0.07	Spektrum
3070	0x0BFE	PMT	-	15.05	0.07	Cartoon Network
3060	0x0BF4	PMT	-	15.05	0.07	Minimax
3050	0x0BEA	PMT	-	15.05	0.07	Comedy Central
3040	0x0BE0	PMT	-	15.05	0.07	Universal Channel
3030	0x0BD6	PMT	-	15.05	0.07	Muzsika TV
3020	0x0BCC	PMT	-	15.05	0.07	Prizma TV
3010	0x0BC2	PMT	-	15.05	0.07	VIASAT3
3009	0x0BC1	ECM/EMM	-	15.05	0.07	PRO4
3000	0x0BB8	PMT	-	15.05	0.07	PRO4
0	0x0000	PAT	-	15.05	0.07	N/A
3019	0x0BCB	ECM/EMM	-	15.03	0.07	VIASAT3
1	0x0001	CAT	-	15.03	0.07	N/A
17	0x0011	SDT	-	4.50	0.02	N/A
21	0x0015	Network Sync	-	2.45	0.01	N/A
16	0x0010	NIT	-	0.87	0.00	N/A
20	0x0014	TOT	-	0.29	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only
Duration: 30 Sec, File Size: 84 MB **ts.TELE-satellite.com/DVB-T/HU/Budapest-Ch55-1112.ts**
Transponderstream Technical Service File Download for Clients Only
Duration: 5 Min, File Size: 795 MB **www.transponderstream.com/DVB-T/HU/Budapest-Ch55-1112.ts**

DVB T IL

Network Name DTT Hungary Recording TELE-satellite
Transmitter Budapest Channel 62

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
2131	0x0853	H.264 Video	-	2016.78	9.09	Euronews Teszt
2061	0x080D	H.264 Video	$	1826.25	8.23	Disney Channel
2121	0x0849	H.264 Video	$	1611.13	7.26	Sportklub
2011	0x07DB	H.264 Video	-	1552.19	7.00	TV2
2001	0x07D1	H.264 Video	-	1552.19	7.00	RTL Klub
2021	0x07E5	H.264 Video	$	1393.41	6.28	Cool
2101	0x0835	H.264 Video	$	1375.96	6.20	ATV
2081	0x0821	H.264 Video	$	1212.13	5.46	FEM3
2041	0x07F9	H.264 Video	$	1158.78	5.22	HBO
2031	0x07EF	H.264 Video	$	1092.65	4.93	Film+
2111	0x083F	H.264 Video	$	919.30	4.14	HirTV
2051	0x0803	H.264 Video	$	905.75	4.08	National Geographic
2071	0x0817	H.264 Video	$	804.19	3.63	AXN
18	0x0012	EIT	-	531.62	2.40	N/A
2141	0x085D	H.264 Video	-	530.07	2.39	Info csatorna
2046	0x07FE	AC3 Audio	$	422.53	1.90	HBO
2013	0x07DD	Teletext	-	300.79	1.36	TV2
2003	0x07D3	Teletext	-	225.63	1.02	RTL Klub
2091	0x082B	H.264 Video	$	224.02	1.01	Private Spice
2113	0x0841	Teletext	$	188.02	0.85	HirTV
2103	0x0837	Teletext	$	188.02	0.85	ATV
2043	0x07FB	Teletext	$	112.77	0.51	HBO
2042	0x07FA	AAC Audio	$	101.37	0.46	HBO
2044	0x07FC	AAC Audio	$	101.26	0.46	HBO
5000	0x1388	ECM/EMM	-	83.40	0.38	N/A
2202	0x089A	AAC Audio	-	69.27	0.31	Info csatorna
2102	0x0836	AAC Audio	$	68.10	0.31	ATV
2122	0x084A	AAC Audio	$	67.99	0.31	Sportklub
2132	0x0854	AAC Audio	-	67.96	0.31	Euronews Teszt
2082	0x0822	AAC Audio	$	67.96	0.31	FEM3
2074	0x081A	AAC Audio	$	67.91	0.31	AXN
2136	0x0858	AAC Audio	-	67.85	0.31	Euronews Teszt
2134	0x0856	AAC Audio	-	67.85	0.31	Euronews Teszt
2112	0x0840	AAC Audio	$	67.85	0.31	HirTV
2032	0x07F0	AAC Audio	$	67.85	0.31	Film+
2022	0x07E6	AAC Audio	$	67.85	0.31	Cool
2012	0x07DC	AAC Audio	-	67.85	0.31	TV2
2002	0x07D2	AAC Audio	-	67.85	0.31	RTL Klub
2072	0x0818	AAC Audio	$	67.80	0.31	AXN
2064	0x0810	AAC Audio	$	67.75	0.31	Disney Channel
2062	0x080E	AAC Audio	$	67.75	0.31	Disney Channel
2054	0x0806	AAC Audio	$	67.55	0.30	National Geographic
2052	0x0804	AAC Audio	$	67.55	0.30	National Geographic
2092	0x082C	AAC Audio	$	66.11	0.30	Private Spice
1	0x0001	CAT	-	15.05	0.07	N/A
2700	0x0A8C	PMT	-	15.03	0.07	DataService_C
2200	0x0898	PMT	-	15.03	0.07	Neo FM
2140	0x085C	PMT	-	15.03	0.07	Info csatorna
2130	0x0852	PMT	-	15.03	0.07	Euronews Teszt
2129	0x0851	ECM/EMM	-	15.03	0.07	Sportklub
2120	0x0848	PMT	-	15.03	0.07	Sportklub
2110	0x083E	PMT	-	15.03	0.07	HirTV
2109	0x083D	ECM/EMM	-	15.03	0.07	ATV
2100	0x0834	PMT	-	15.03	0.07	ATV
2099	0x0833	ECM/EMM	-	15.03	0.07	Private Spice
2090	0x082A	PMT	-	15.03	0.07	Private Spice
2089	0x0829	ECM/EMM	-	15.03	0.07	FEM3
2080	0x0820	PMT	-	15.03	0.07	FEM3
2079	0x081F	ECM/EMM	-	15.03	0.07	AXN
2070	0x0816	PMT	-	15.03	0.07	AXN
2069	0x0815	ECM/EMM	-	15.03	0.07	Disney Channel
2060	0x080C	PMT	-	15.03	0.07	Disney Channel
2059	0x080B	ECM/EMM	-	15.03	0.07	National Geographic
2050	0x0802	PMT	-	15.03	0.07	National Geographic
2049	0x0801	ECM/EMM	-	15.03	0.07	HBO
2040	0x07F8	PMT	-	15.03	0.07	HBO
2039	0x07F7	ECM/EMM	-	15.03	0.07	Film+
2030	0x07EE	PMT	-	15.03	0.07	Film+
2029	0x07ED	ECM/EMM	-	15.03	0.07	Cool
2020	0x07E4	PMT	-	15.03	0.07	Cool
2010	0x07DA	PMT	-	15.03	0.07	TV2
2000	0x07D0	PMT	-	15.03	0.07	RTL Klub
0	0x0000	PAT	-	15.03	0.07	N/A
2119	0x0847	ECM/EMM	-	15.00	0.07	HirTV
17	0x0011	SDT	-	6.00	0.03	N/A
2075	0x081B	DVB Subtitles	$	3.03	0.01	AXN
21	0x0015	Network Sync	-	2.45	0.01	N/A
16	0x0010	NIT	-	0.90	0.00	N/A
20	0x0014	TOT	-	0.33	0.00	N/A

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Duration: 30 Sec, File Size: 89 MB **ts.TELE-satellite.com/DVB-T/HU/Budapest-Ch62-1112.ts**
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Duration: 5 Min, File Size: 848 MB **www.transponderstream.com/DVB-T/HU/Budapest-Ch62-1112.ts**

IL Israel

DVB T IL

Network Name Harashut Hashnia Recording Benjamin Ganor
Transmitter Eilat Channel 29

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
2561	0x0A01	H.264 Video	-	3044.07	22.93	Ch 1
2657	0x0A61	H.264 Video	-	3039.96	22.89	Ch 33
2625	0x0A41	H.264 Video	-	2889.05	21.76	Ch 10
2593	0x0A21	H.264 Video	-	2295.87	17.29	Ch 2
2689	0x0A81	H.264 Video	-	1062.76	8.00	Ch 99
8191	0x1FFF	Null Packets	-	261.74	1.97	N/A
18	0x0012	EIT	-	160.12	1.21	N/A
2658	0x0A62	AAC Audio	-	53.19	0.40	Ch 33
2594	0x0A22	AAC Audio	-	53.12	0.40	Ch 2
2562	0x0A02	AAC Audio	-	53.09	0.40	Ch 1
2626	0x0A42	AAC Audio	-	53.04	0.40	Ch 10
2690	0x0A82	AAC Audio	-	52.89	0.40	Ch 99
94	0x005E	PCR	-	45.13	0.34	N/A
2817	0x0B01	AAC Audio	-	36.66	0.28	R01
2993	0x0BB1	AAC Audio	-	36.57	0.28	R12
0	0x0000	PAT	-	30.09	0.23	N/A
2992	0x0BB0	PMT	-	10.04	0.08	R12
2816	0x0B00	PMT	-	10.04	0.08	R01
2688	0x0A80	PMT	-	10.04	0.08	Ch 99
2624	0x0A40	PMT	-	10.04	0.08	Ch 10
2592	0x0A20	PMT	-	10.04	0.08	Ch 2
2560	0x0A00	PMT	-	10.04	0.08	Ch 1
2656	0x0A60	PMT	-	10.03	0.08	Ch 33
2608	0x0A30	DVB Subtitles	-	9.23	0.07	Ch 2
17	0x0011	SDT	-	6.05	0.05	N/A
2610	0x0A32	DVB Subtitles	-	3.58	0.03	Ch 2
2609	0x0A31	DVB Subtitles	-	3.58	0.03	Ch 2
2642	0x0A52	DVB Subtitles	-	3.15	0.02	Ch 10
2641	0x0A51	DVB Subtitles	-	3.15	0.02	Ch 10
2640	0x0A50	DVB Subtitles	-	3.15	0.02	Ch 10
20	0x0014	TOT	-	3.03	0.02	N/A
16	0x0010	NIT	-	3.03	0.02	N/A
21	0x0015	Network Sync	-	2.48	0.02	N/A

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DZ Algeria

DVB T **DZ**

Network Name 2 Recording Morsli Hallam

Transmitter Sidi Bel-Abbes Channel 43

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
3001	0x0BB9	MPEG2 Video	-	5122.17	24.32	PROGRAMME_NATIONAL
2001	0x07D1	MPEG2 Video	-	3383.41	16.06	CANAL_ALGERIE
4001	0x0FA1	MPEG2 Video	-	3076.67	14.61	Canal 6-Feed
6001	0x1771	MPEG2 Video	-	2872.38	13.64	TV_4
5001	0x1389	MPEG2 Video	-	2872.33	13.64	TV_5
1001	0x03E9	MPEG2 Video	-	2872.01	13.63	A3
6002	0x1772	MPEG Audio	-	132.45	0.63	TV_4
5002	0x138A	MPEG Audio	-	132.45	0.63	TV_5
2002	0x07D2	MPEG Audio	-	132.45	0.63	CANAL_ALGERIE
1002	0x03EA	MPEG Audio	-	132.45	0.63	A3
4002	0x0FA2	MPEG Audio	-	132.40	0.63	Canal 6-Feed
3002	0x0BBA	MPEG Audio	-	132.40	0.63	PROGRAMME_NATIONAL
18	0x0012	EIT	-	8.70	0.04	N/A
1	0x0001	CAT	-	7.57	0.04	N/A
6000	0x1770	PMT	-	7.52	0.04	TV_4
5000	0x1388	PMT	-	7.52	0.04	TV_5
4000	0x0FA0	PMT	-	7.52	0.04	Canal 6-Feed
3000	0x0BB8	PMT	-	7.52	0.04	PROGRAMME_NATIONAL
2000	0x07D0	PMT	-	7.52	0.04	CANAL_ALGERIE
1000	0x03E8	PMT	-	7.52	0.04	A3
0	0x0000	PAT	-	7.52	0.04	N/A
17	0x0011	SDT	-	1.50	0.01	N/A
16	0x0010	NIT	-	0.32	0.00	N/A

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Duration: 30 Sec, File Size: 32 MB **ts.TELE-satellite.com/DVB-T/DZ/SidiBelAbbes-Ch43-1206.ts**

NL The Netherlands

DVB T **NL**

Network Name Digitenne Recording TELE-satellite

Transmitter Amsterdam Channel 27 *Remark* Radio

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
4041	0x0FC9	MPEG2 Video	-	2682.41	22.44	TV Drenthe tijdelijk
4011	0x0FAB	MPEG2 Video	$	2552.21	21.36	Nickelodeon/TeenNick
4031	0x0FBF	MPEG2 Video	$	2484.09	20.79	SLAM!TV
4021	0x0FB5	MPEG2 Video	$	1918.51	16.05	13th Street
4043	0x0FCB	Teletext	-	297.96	2.49	TV Drenthe tijdelijk
4013	0x0FAD	Teletext	$	223.62	1.87	Nickelodeon/TeenNick
4012	0x0FAC	MPEG Audio	$	166.37	1.39	Nickelodeon/TeenNick
4122	0x101A	MPEG Audio	$	166.18	1.39	BBC Radio 2
4032	0x0FC0	MPEG Audio	$	166.11	1.39	SLAM!TV
4022	0x0FB6	MPEG Audio	$	166.11	1.39	13th Street
4142	0x102E	MPEG Audio	$	165.98	1.39	BBC Radio 4
4132	0x1024	MPEG Audio	$	165.91	1.39	BBC Radio 3
4042	0x0FCA	MPEG Audio	-	165.78	1.39	TV Drenthe tijdelijk
4112	0x1010	MPEG Audio	$	165.58	1.39	BBC Radio 1
182	0x00B6	ECM/EMM	-	98.73	0.83	N/A
18	0x0012	EIT	-	83.55	0.70	N/A
20	0x0014	TOT	-	20.01	0.17	N/A
4139	0x102B	ECM/EMM	-	15.17	0.13	BBC Radio 3
4119	0x1017	ECM/EMM	-	15.17	0.13	BBC Radio 1
4039	0x0FC7	ECM/EMM	-	15.17	0.13	SLAM!TV
4029	0x0FBD	ECM/EMM	-	15.17	0.13	13th Street
4019	0x0FB3	ECM/EMM	-	15.17	0.13	Nickelodeon/TeenNick
4149	0x1035	ECM/EMM	-	15.11	0.13	BBC Radio 4
4129	0x1021	ECM/EMM	-	15.11	0.13	BBC Radio 2
4140	0x102C	PMT	-	15.04	0.13	BBC Radio 4
4130	0x1022	PMT	-	15.04	0.13	BBC Radio 3
4120	0x1018	PMT	-	15.04	0.13	BBC Radio 2
4110	0x100E	PMT	-	15.04	0.13	BBC Radio 1
4040	0x0FC8	PMT	-	15.04	0.13	TV Drenthe tijdelijk
4030	0x0FBE	PMT	-	15.04	0.13	SLAM!TV
4020	0x0FB4	PMT	-	15.04	0.13	13th Street
4010	0x0FAA	PMT	-	15.04	0.13	Nickelodeon/TeenNick
1	0x0001	CAT	-	15.04	0.13	N/A
0	0x0000	PAT	-	14.91	0.12	N/A
21	0x0015	Network Sync	-	2.45	0.02	N/A
16	0x0010	NIT	-	1.66	0.01	N/A
17	0x0011	SDT	-	1.46	0.01	N/A

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Duration: 30 Sec, File Size: 32 MB **ts.TELE-satellite.com/DVB-T/NL/Amsterdam-Ch27-1109.ts**

PL Poland

DVB T **PL**

Network Name TP EmiTel Recording Jacek Pawlowski

Transmitter Poznan Channel 46

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	3521.45	14.15	N/A
802	0x0322	H.264 Video	-	3277.97	13.17	Polsat Sport News
202	0x00CA	H.264 Video	-	2936.74	11.80	TVN
502	0x01F6	H.264 Video	-	2563.76	10.30	TVN Siedem
102	0x0066	H.264 Video	-	2154.60	8.65	Polsat
302	0x012E	H.264 Video	-	2149.47	8.63	TV4
702	0x02BE	H.264 Video	-	1817.12	7.30	TV6
402	0x0192	H.264 Video	-	1563.09	6.28	TV Puls
602	0x025A	H.264 Video	-	819.43	3.29	PULS 2
18	0x0012	EIT	-	571.33	2.30	N/A
204	0x00CC	AC3 Audio	-	459.22	1.84	TVN
504	0x01F8	AC3 Audio	-	393.62	1.58	TVN Siedem
305	0x0131	Teletext	-	225.72	0.91	TV4
205	0x00CD	Teletext	-	225.71	0.91	TVN
105	0x0069	Teletext	-	225.71	0.91	Polsat
505	0x01F9	Teletext	-	225.69	0.91	TVN Siedem
803	0x0323	MPEG Audio	-	196.82	0.79	Polsat Sport News
403	0x0193	MPEG Audio	-	196.82	0.79	TV Puls
303	0x012F	MPEG Audio	-	196.82	0.79	TV4
703	0x02BF	MPEG Audio	-	196.80	0.79	TV6
603	0x025B	MPEG Audio	-	196.80	0.79	PULS 2
503	0x01F7	MPEG Audio	-	196.80	0.79	TVN Siedem
203	0x00CB	MPEG Audio	-	196.80	0.79	TVN
103	0x0067	MPEG Audio	-	196.80	0.79	Polsat
106	0x006A	DVB Subtitles	-	38.60	0.16	Polsat
701	0x02BD	PMT	-	14.95	0.06	TV6
601	0x0259	PMT	-	14.95	0.06	PULS 2
801	0x0321	PMT	-	14.93	0.06	Polsat Sport News
501	0x01F5	PMT	-	14.93	0.06	TVN Siedem
401	0x0191	PMT	-	14.93	0.06	TV Puls
301	0x012D	PMT	-	14.93	0.06	TV4
201	0x00C9	PMT	-	14.93	0.06	TVN
101	0x0065	PMT	-	14.93	0.06	Polsat
0	0x0000	PAT	-	14.93	0.06	N/A
506	0x01FA	DVB Subtitles	-	3.78	0.02	TVN Siedem
206	0x00CE	DVB Subtitles	-	3.78	0.02	TVN
17	0x0011	SDT	-	3.02	0.01	N/A
20	0x0014	TOT	-	3.01	0.01	N/A
21	0x0015	Network Sync	-	2.46	0.01	N/A
16	0x0010	NIT	-	0.19	0.00	N/A

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PT Portugal

DVB T

PT

Network Name 1101 Recording Vitor Martins Augusto

Transmitter Porto Channel 56

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
8191	0x1FFF	Null Packets	-	6271.02	31.43	N/A
512	0x0200	H.264 Video	-	4723.41	23.67	RTP 2
256	0x0100	H.264 Video	-	2495.07	12.50	RTP 1
1024	0x0400	H.264 Video	-	2373.95	11.90	TVI
768	0x0300	H.264 Video	-	1935.72	9.70	SIC
3840	0x0F00	H.264 Video	-	501.31	2.51	HD
35	0x0023	Teletext	-	263.93	1.32	TVI
34	0x0022	Teletext	-	226.16	1.13	SIC
18	0x0012	EIT	-	218.33	1.09	N/A
33	0x0021	Teletext	-	188.40	0.94	RTP 2
32	0x0020	Teletext	-	188.40	0.94	RTP 1
513	0x0201	AAC Audio	-	104.14	0.52	RTP 2
1025	0x0401	AAC Audio	-	103.89	0.52	TVI
257	0x0101	AAC Audio	-	103.81	0.52	RTP 1
769	0x0301	AAC Audio	-	103.48	0.52	SIC
0	0x0000	PAT	-	25.07	0.13	N/A
3856	0x0F10	PMT	-	24.32	0.12	HD
1040	0x0410	PMT	-	24.32	0.12	TVI
784	0x0310	PMT	-	24.32	0.12	SIC
528	0x0210	PMT	-	24.32	0.12	RTP 2
272	0x0110	PMT	-	24.32	0.12	RTP 1
20	0x0014	TOT	-	2.64	0.01	N/A
21	0x0015	Network Sync	-	2.47	0.01	N/A
16	0x0010	NIT	-	1.15	0.01	N/A
17	0x0011	SDT	-	0.74	0.00	N/A

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Duration: 1 Min Sec, File Size: 144 MB **ts.TELE-satellite.com/DVB-T/PT/Porto-Ch56-1109.ts**

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QA Qatar

DVB T

QA

Network Name Nilesat101 Recording TELE-satellite

Transmitter Doha Channel 25 *Remark* retransmit from satellite

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
1009	0x03F1	MPEG2 Video	-	2845.80	89.92	Qatar1
1010	0x03F2	MPEG Audio	-	263.42	8.32	Qatar1
17	0x0011	SDT	-	23.08	0.73	N/A
108	0x006C	PMT	-	15.05	0.48	Qatar1
0	0x0000	PAT	-	15.05	0.48	N/A
1	0x0001	CAT	-	1.50	0.05	N/A
16	0x0010	NIT	-	0.89	0.03	N/A
20	0x0014	TOT	-	0.11	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

Duration: 30 Sec, File Size: 12 MB **ts.TELE-satellite.com/DVB-T/QA/Doha-Ch25-1110.ts**

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Duration: 5 Min, File Size: 118 MB **www.transponderstream.com/DVB-T/QA/Doha-Ch25-1110.ts**

UK United Kingdom

DVB T

UK

Network Name London. Recording TELE-satellite

Transmitter London Channel 29 *Remark* MHEG

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
601	0x0259	MPEG2 Video	-	2076.92	11.59	ITV4
201	0x00C9	MPEG2 Video	-	2055.00	11.46	VIVA
101	0x0065	MPEG2 Video	-	2023.19	11.29	4Music
2101	0x0835	MPEG2 Video	-	1988.94	11.10	Russia Today
301	0x012D	MPEG2 Video	-	1769.96	9.87	Yesterday
701	0x02BD	MPEG2 Video	-	1746.56	9.74	Film4
2391	0x0957	MPEG2 Video	-	1653.11	9.22	QVC Beauty
501	0x01F5	MPEG2 Video	-	1556.10	8.68	Ideal World
18	0x0012	EIT	-	428.38	2.39	N/A
3010	0x0BC2	MHEG	-	208.33	1.16	Sky Text
702	0x02BE	MPEG Audio	-	137.96	0.77	Film4
2392	0x0958	MPEG Audio	-	137.94	0.77	QVC Beauty
2102	0x0836	MPEG Audio	-	137.94	0.77	Russia Today
602	0x025A	MPEG Audio	-	137.94	0.77	ITV4
502	0x01F6	MPEG Audio	-	137.94	0.77	Ideal World
302	0x012E	MPEG Audio	-	137.94	0.77	Yesterday
202	0x00CA	MPEG Audio	-	137.94	0.77	VIVA
102	0x0066	MPEG Audio	-	137.94	0.77	4Music
1901	0x076D	MPEG Audio	-	135.86	0.76	Q
1801	0x0709	MPEG Audio	-	135.86	0.76	Magic
1101	0x044D	MPEG Audio	-	135.86	0.76	Kiss
1201	0x04B1	MPEG Audio	-	94.07	0.52	heat
1501	0x05DD	MPEG Audio	-	94.04	0.52	Smash Hits!
1701	0x06A5	MPEG Audio	-	94.02	0.52	The Hits Radio
1301	0x0515	MPEG Audio	-	94.02	0.52	Kerrang!
1401	0x0579	MPEG Audio	-	70.00	0.39	SMOOTH RADIO
1601	0x0641	MPEG Audio	-	69.98	0.39	Premier Radio
105	0x0069	MHEG	-	47.64	0.27	4Music
3022	0x0BCE	Data	-	15.44	0.09	Channel Zero
3021	0x0BCD	Data	-	12.38	0.07	Channel Zero
2346	0x092A	MHEG	-	10.18	0.06	ADULT Babestn
303	0x012F	DVB Subtitles	-	9.17	0.05	Yesterday
103	0x0067	DVB Subtitles	-	8.51	0.05	4Music
2376	0x0948	MHEG	-	7.77	0.04	Al Jazeera Eng
1042	0x0412	PMT	-	7.55	0.04	QVC Beauty
1030	0x0406	PMT	-	7.55	0.04	Smash Hits!
1017	0x03F9	PMT	-	7.55	0.04	ADULT smileTV2
1041	0x0411	PMT	-	7.52	0.04	Channel Zero
1040	0x0410	PMT	-	7.52	0.04	Premier Radio
1039	0x040F	PMT	-	7.52	0.04	Sky Text
1037	0x040D	PMT	-	7.52	0.04	ITV4
1035	0x040B	PMT	-	7.52	0.04	Rocks & Co 1
1033	0x0409	PMT	-	7.52	0.04	Al Jazeera Eng
1032	0x0408	PMT	-	7.52	0.04	ADULT Section
1029	0x0405	PMT	-	7.52	0.04	Q
1028	0x0404	PMT	-	7.52	0.04	Magic
1027	0x0403	PMT	-	7.52	0.04	The Hits Radio
1024	0x0400	PMT	-	7.52	0.04	SMOOTH RADIO
1023	0x03FF	PMT	-	7.52	0.04	Kerrang!
1022	0x03FE	PMT	-	7.52	0.04	heat
1021	0x03FD	PMT	-	7.52	0.04	Kiss
1018	0x03FA	PMT	-	7.52	0.04	ADULT Section
1016	0x03F8	PMT	-	7.52	0.04	Russia Today
1008	0x03F0	PMT	-	7.52	0.04	Film4
1005	0x03ED	PMT	-	7.52	0.04	Ideal World
1003	0x03EB	PMT	-	7.52	0.04	Yesterday
1002	0x03EA	PMT	-	7.52	0.04	VIVA
1001	0x03E9	PMT	-	7.52	0.04	4Music
0	0x0000	PAT	-	7.52	0.04	N/A
1036	0x040C	PMT	-	6.88	0.04	ADULT Babestn
17	0x0011	SDT	-	6.51	0.04	N/A
2336	0x0920	MHEG	-	5.77	0.03	Rocks & Co 1
1802	0x070A	MHEG	-	5.77	0.03	Magic
1602	0x0642	MHEG	-	5.77	0.03	Premier Radio
1402	0x057A	MHEG	-	5.77	0.03	SMOOTH RADIO
1202	0x04B2	MHEG	-	5.77	0.03	heat
1102	0x044E	MHEG	-	5.77	0.03	Kiss
516	0x0204	MHEG	-	5.77	0.03	ADULT smileTV2
603	0x025B	DVB Subtitles	-	5.40	0.03	ITV4
2116	0x0844	MHEG	-	5.01	0.03	ADULT Section
1902	0x076E	MHEG	-	5.01	0.03	Q
1702	0x06A6	MHEG	-	5.01	0.03	The Hits Radio
1302	0x0516	MHEG	-	5.01	0.03	Kerrang!
1502	0x05DE	MHEG	-	4.51	0.03	Smash Hits!
3012	0x0BC4	Data	-	3.01	0.02	Sky Text
20	0x0014	TOT	-	3.01	0.02	N/A
3020	0x0BCC	Data	-	1.18	0.01	Channel Zero
16	0x0010	NIT	-	1.18	0.01	N/A
3023	0x0BCF	Data	-	0.20	0.00	Channel Zero

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

Duration: 1 Min, File Size: 130 MB **ts.TELE-satellite.com/DVB-T/UK/London-Ch29-1107.ts**

DVB T **UK**

Network Name London. Recording TELE-satellite
Transmitter London Channel 32 *Remark* MHEG

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
521	0x0209	MPEG2 Video	-	2767.19	11.65	Challenge
6273	0x1881	MPEG2 Video	-	2602.78	10.96	bid tv
6689	0x1A21	MPEG2 Video	-	2225.50	9.37	5 USA
5381	0x1505	DVB Subtitles	$	1898.58	8.00	TOPUP Anytime1
6049	0x17A1	MPEG2 Video	-	1886.30	7.94	QVC
6737	0x1A51	MPEG2 Video	$	1812.19	7.63	TOPUP Anytime3
6596	0x19C4	MPEG2 Video	-	1753.07	7.38	5*
6833	0x1AB1	MPEG2 Video	-	1699.69	7.16	CITV
6929	0x1B11	MPEG2 Video	-	1628.73	6.86	QUEST
6881	0x1AE1	MPEG2 Video	-	1470.72	6.19	ITV3
18	0x0012	EIT	-	623.79	2.63	N/A
6361	0x18D9	Data	-	250.07	1.05	Teletext Hols
6056	0x17A8	MHEG	-	249.14	1.05	QVC
7084	0x1BAC	DVB Subtitles	$	135.81	0.57	TOPUP Anytime1
6738	0x1A52	MPEG Audio	$	135.81	0.57	TOPUP Anytime3
6674	0x1A12	MPEG Audio	-	135.81	0.57	5*
6274	0x1882	MPEG Audio	-	135.81	0.57	bid tv
6114	0x17E2	MPEG Audio	-	135.81	0.57	Capital FM
6098	0x17D2	MPEG Audio	-	135.81	0.57	Heart
6082	0x17C2	MPEG Audio	-	135.81	0.57	Absolute Radio
6050	0x17A2	MPEG Audio	-	135.81	0.57	QVC
6930	0x1B12	MPEG Audio	-	135.79	0.57	QUEST
6882	0x1AE2	MPEG Audio	-	135.79	0.57	ITV3
6834	0x1AB2	MPEG Audio	-	135.79	0.57	CITV
6690	0x1A22	MPEG Audio	-	135.79	0.57	5 USA
659	0x0293	MPEG Audio	-	135.79	0.57	Challenge
6883	0x1AE3	MPEG Audio	-	73.13	0.31	ITV3
6835	0x1AB3	MPEG Audio	-	73.13	0.31	CITV
6691	0x1A23	MPEG Audio	-	73.13	0.31	5 USA
6675	0x1A13	MPEG Audio	-	73.11	0.31	5*
669	0x029D	MPEG Audio	-	73.11	0.31	Challenge

6904	0x1AF8	MHEG	-	57.10	0.24	1-2-1 Dating
7089	0x1BB1	Data	-	49.23	0.21	Television X
6354	0x18D2	MPEG Audio	-	41.80	0.18	Teletext Hols
7076	0x1BA4	Audio	-	41.78	0.18	N/A
4147	0x1033	ECM/EMM	-	39.66	0.17	N/A
6522	0x197A	Data	-	34.98	0.15	bid tv
7068	0x1B9C	MHEG	-	33.84	0.14	Home
7081	0x1BA9	Private PES	-	28.99	0.12	TOPUP Anytime2
6908	0x1AFC	MHEG	-	24.95	0.11	MOBILIZER
6521	0x1979	Data	-	24.00	0.10	bid tv
2870	0x0B36	ECM/EMM	-	22.58	0.10	TOPUP Anytime3
2868	0x0B34	ECM/EMM	-	22.58	0.10	TOPUP Anytime1
0	0x0000	PAT	-	15.03	0.06	N/A
6886	0x1AE6	DVB Subtitles	-	14.49	0.06	ITV3
7074	0x1BA2	MHEG	-	10.01	0.04	ESPN
4150	0x1036	ECM/EMM	-	10.01	0.04	N/A
6480	0x1950	MHEG	-	8.31	0.03	Television X
395	0x018B	PMT	-	7.53	0.03	Challenge
392	0x0188	PMT	-	7.53	0.03	Capital FM
391	0x0187	PMT	-	7.53	0.03	Heart
390	0x0186	PMT	-	7.53	0.03	Absolute Radio
388	0x0184	PMT	-	7.53	0.03	ITV2 +1
387	0x0183	PMT	-	7.53	0.03	ADULT Filth
385	0x0181	PMT	-	7.53	0.03	ADULT Section
382	0x017E	PMT	-	7.53	0.03	Gems TV
290	0x0122	PMT	-	7.53	0.03	TOPUP Anytime3
284	0x011C	PMT	-	7.53	0.03	ESPN
279	0x0117	PMT	-	7.53	0.03	5 USA
276	0x0114	PMT	-	7.53	0.03	G.O.L.D.
275	0x0113	PMT	-	7.53	0.03	5*
270	0x010E	PMT	-	7.53	0.03	Home
268	0x010C	PMT	-	7.53	0.03	Teletext Hols

265	0x0109	PMT	-	7.53	0.03	QUEST
264	0x0108	PMT	-	7.53	0.03	1-2-1 Dating
263	0x0107	PMT	-	7.53	0.03	MOBILIZER
260	0x0104	PMT	-	7.53	0.03	CITV
259	0x0103	PMT	-	7.53	0.03	QVC
386	0x0182	PMT	-	7.50	0.03	ADULT Section
381	0x017D	PMT	-	7.50	0.03	ADULT redhotTV
289	0x0121	PMT	-	7.50	0.03	TOPUP Anytime2
288	0x0120	PMT	-	7.50	0.03	TOPUP Anytime1
277	0x0115	PMT	-	7.50	0.03	ITV3
274	0x0112	PMT	-	7.50	0.03	Television X
261	0x0105	PMT	-	7.50	0.03	bid tv
17	0x0011	SDT	-	6.55	0.03	N/A
6640	0x19F0	MHEG	-	4.99	0.02	Gems TV
6609	0x19D1	MHEG	-	4.99	0.02	ADULT Filth
6608	0x19D0	MHEG	-	4.99	0.02	ADULT redhotTV
6544	0x1990	MHEG	-	4.99	0.02	ITV2 +1
6520	0x1978	Data	-	4.99	0.02	bid tv
6456	0x1938	MHEG	-	4.99	0.02	ADULT Section
6120	0x17E8	MHEG	-	4.99	0.02	Capital FM
6104	0x17D8	MHEG	-	4.99	0.02	Heart
6088	0x17C8	MHEG	-	4.99	0.02	Absolute Radio
1	0x0001	CAT	-	4.99	0.02	N/A
6360	0x18D8	MHEG	-	3.02	0.01	Teletext Hols
20	0x0014	TOT	-	3.02	0.01	N/A
16	0x0010	NIT	-	1.17	0.00	N/A
6694	0x1A26	DVB Subtitles	-	0.54	0.00	5 USA
6678	0x1A16	DVB Subtitles	-	0.54	0.00	5*
6838	0x1AB6	DVB Subtitles	-	0.32	0.00	CITV
6934	0x1B16	DVB Subtitles	-	0.29	0.00	QUEST

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

Duration: 1 Min, File Size: 174 MB **ts.TELE-satellite.com/DVB-T2/UK/London-Ch32-1107.ts**

DVB T **UK**

Network Name London. Recording TELE-satellite
Transmitter London Channel 34 *Remark* MHEG

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
201	0x00C9	MPEG2 Video	-	2282.31	12.71	Pick TV+1
2401	0x0961	MPEG2 Video	-	1956.14	10.89	Gems TV
2111	0x083F	MPEG2 Video	-	1903.22	10.60	Dave ja vu
301	0x012D	MPEG2 Video	-	1891.21	10.53	Pick TV
401	0x0191	MPEG2 Video	-	1761.39	9.81	Dave
101	0x0065	MPEG2 Video	-	1652.49	9.20	Sky News
611	0x0263	MPEG2 Video	-	1649.21	9.18	price-drop tv
501	0x01F5	MPEG2 Video	-	1451.25	8.08	E4+1
2301	0x08FD	MPEG2 Video	-	1374.76	7.65	Create & Craft
18	0x0012	EIT	-	455.47	2.54	N/A
2112	0x0840	MPEG Audio	-	137.94	0.77	Dave ja vu
612	0x0264	MPEG Audio	-	137.94	0.77	price-drop tv
502	0x01F6	MPEG Audio	-	137.94	0.77	E4+1
402	0x0192	MPEG Audio	-	137.94	0.77	Dave
202	0x00CA	MPEG Audio	-	137.94	0.77	Pick TV+1
102	0x0066	MPEG Audio	-	137.94	0.77	Sky News
2402	0x0962	MPEG Audio	-	137.92	0.77	Gems TV
2302	0x08FE	MPEG Audio	-	137.92	0.77	Create & Craft
302	0x012E	MPEG Audio	-	137.92	0.77	Pick TV

1101	0x044D	MPEG Audio	-	69.98	0.39	talkSPORT
103	0x0067	DVB Subtitles	-	27.00	0.15	Sky News
503	0x01F7	DVB Subtitles	-	11.98	0.07	E4+1
204	0x00CC	DVB Subtitles	-	10.06	0.06	Pick TV+1
3013	0x0BC5	MHEG	-	10.01	0.06	Sky News
2113	0x0841	DVB Subtitles	-	9.35	0.05	Dave ja vu
724	0x02D4	PMT	-	7.53	0.04	Create & Craft
723	0x02D3	PMT	-	7.53	0.04	Daystar
722	0x02D2	PMT	-	7.53	0.04	ADULT PARTY
721	0x02D1	PMT	-	7.53	0.04	CNN
719	0x02CF	PMT	-	7.53	0.04	Pick TV+1
715	0x02CB	PMT	-	7.53	0.04	COMMUNITY
711	0x02C7	PMT	-	7.53	0.04	Dave ja vu
707	0x02C3	PMT	-	7.53	0.04	price-drop tv
706	0x02C2	PMT	-	7.53	0.04	talkSPORT
705	0x02C1	PMT	-	7.53	0.04	E4+1
704	0x02C0	PMT	-	7.53	0.04	Dave
703	0x02BF	PMT	-	7.53	0.04	Pick TV
701	0x02BD	PMT	-	7.53	0.04	Sky News
0	0x0000	PAT	-	7.53	0.04	N/A

725	0x02D5	PMT	-	7.51	0.04	Gems TV
720	0x02D0	PMT	-	7.51	0.04	ADULT Blue
716	0x02CC	PMT	-	7.51	0.04	ADULT smileTV3
713	0x02C9	PMT	-	7.51	0.04	Big Deal
710	0x02C6	PMT	-	7.51	0.04	ADULT Babestn2
17	0x0011	SDT	-	5.93	0.03	N/A
2156	0x086C	MHEG	-	5.76	0.03	Daystar
2146	0x0862	MHEG	-	5.76	0.03	ADULT Blue
2126	0x084E	MHEG	-	5.76	0.03	Big Deal
626	0x0272	MHEG	-	5.76	0.03	COMMUNITY
606	0x025E	MHEG	-	5.76	0.03	ADULT smileTV3
426	0x01AA	MHEG	-	5.76	0.03	ADULT Babestn2
2206	0x089E	MHEG	-	5.52	0.03	CNN
416	0x01A0	MHEG	-	5.52	0.03	ADULT PARTY
1102	0x044E	MHEG	-	4.52	0.03	talkSPORT
20	0x0014	TOT	-	3.01	0.02	N/A
16	0x0010	NIT	-	1.29	0.01	N/A
403	0x0193	DVB Subtitles	-	0.58	0.00	Dave

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

Duration: 1 Min, File Size: 138 MB **ts.TELE-satellite.com/DVB-T/UK/London-Ch34-1107.ts**



DVB T UK

Network Name London. Recording TELE-satellite

Transmitter London Channel 67

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
2401	0x0961	MPEG2 Video	$	3246.36	13.71	Sky Sports 1
2501	0x09C5	MPEG2 Video	$	2796.63	11.81	Sky Sports 2
601	0x0259	MPEG2 Video	-	2375.20	10.03	ITV4
701	0x02BD	MPEG2 Video	-	1947.39	8.22	Film4
2101	0x0835	MPEG2 Video	-	1820.30	7.68	Russia Today
101	0x0065	MPEG2 Video	-	1753.24	7.40	4Music
301	0x012D	MPEG2 Video	-	1700.80	7.18	Yesterday
501	0x01F5	MPEG2 Video	-	1659.45	7.01	Ideal World
2391	0x0957	MPEG2 Video	-	1600.37	6.76	QVC Beauty
201	0x00C9	MPEG2 Video	-	1477.78	6.24	VIVA
18	0x0012	EIT	-	465.92	1.97	N/A
2502	0x09C6	MPEG Audio	$	137.41	0.58	Sky Sports 2
2102	0x0836	MPEG Audio	-	137.41	0.58	Russia Today
602	0x025A	MPEG Audio	-	137.34	0.58	ITV4
202	0x00CA	MPEG Audio	-	137.31	0.58	VIVA
502	0x01F6	MPEG Audio	-	137.29	0.58	Ideal World
302	0x012E	MPEG Audio	-	137.29	0.58	Yesterday
102	0x0066	MPEG Audio	-	137.26	0.58	4Music
2392	0x0958	MPEG Audio	-	137.12	0.58	QVC Beauty
702	0x02BE	MPEG Audio	-	137.12	0.58	Film4
2402	0x0962	MPEG Audio	$	137.09	0.58	Sky Sports 1
1901	0x076D	MPEG Audio	-	135.25	0.57	Q
1801	0x0709	MPEG Audio	-	135.20	0.57	Magic
1101	0x044D	MPEG Audio	-	135.08	0.57	Kiss
1201	0x04B1	MPEG Audio	-	93.65	0.40	heat
1301	0x0515	MPEG Audio	-	93.60	0.40	Kerrang!
1701	0x06A5	MPEG Audio	-	93.50	0.39	The Hits Radio
1501	0x05DD	MPEG Audio	-	93.47	0.39	Smash Hits!
1401	0x0579	MPEG Audio	-	69.71	0.29	SMOOTH RADIO
1601	0x0641	MPEG Audio	-	69.66	0.29	Premier Radio
105	0x0069	MHEG	-	47.38	0.20	4Music
5000	0x1388	ECM/EMM	-	46.52	0.20	N/A
3022	0x0BCE	Data	-	15.41	0.07	Channel Zero
2527	0x09DF	ECM/EMM	-	15.14	0.06	Sky Sports 2
2517	0x09D5	ECM/EMM	-	15.11	0.06	Sky Sports 2
2507	0x09CB	ECM/EMM	-	15.11	0.06	Sky Sports 2
2427	0x097B	ECM/EMM	-	15.06	0.06	Sky Sports 1
2417	0x0971	ECM/EMM	-	15.06	0.06	Sky Sports 1
2407	0x0967	ECM/EMM	-	15.06	0.06	Sky Sports 1
2503	0x09C7	DVB Subtitles	-	14.45	0.06	Sky Sports 2
3021	0x0BCD	Data	-	12.95	0.05	Channel Zero
2346	0x092A	MHEG	-	10.10	0.04	ADULT Babestn
603	0x025B	DVB Subtitles	-	10.03	0.04	ITV4
2376	0x0948	MHEG	-	7.74	0.03	Al Jazeera Eng
1023	0x03FF	PMT	-	7.52	0.03	Kerrang!
1042	0x0412	PMT	-	7.49	0.03	QVC Beauty
1041	0x0411	PMT	-	7.49	0.03	Channel Zero
1040	0x0410	PMT	-	7.49	0.03	Premier Radio
1037	0x040D	PMT	-	7.49	0.03	ITV4
1035	0x040B	PMT	-	7.49	0.03	Rocks & Co 1
1032	0x0408	PMT	-	7.49	0.03	ADULT Section
1030	0x0406	PMT	-	7.49	0.03	Smash Hits!
1029	0x0405	PMT	-	7.49	0.03	Q
1028	0x0404	PMT	-	7.49	0.03	Magic
1027	0x0403	PMT	-	7.49	0.03	The Hits Radio
1022	0x03FE	PMT	-	7.49	0.03	heat
1018	0x03FA	PMT	-	7.49	0.03	ADULT Section
1017	0x03F9	PMT	-	7.49	0.03	ADULT smileTV2
1016	0x03F8	PMT	-	7.49	0.03	Russia Today
1011	0x03F3	PMT	-	7.49	0.03	Sky Sports 2
1008	0x03F0	PMT	-	7.49	0.03	Film4
1005	0x03ED	PMT	-	7.49	0.03	Ideal World
1003	0x03EB	PMT	-	7.49	0.03	Yesterday
1001	0x03E9	PMT	-	7.49	0.03	4Music
0	0x0000	PAT	-	7.49	0.03	N/A
1024	0x0400	PMT	-	7.47	0.03	SMOOTH RADIO
1010	0x03F2	PMT	-	7.47	0.03	Sky Sports 1
1033	0x0409	PMT	-	7.45	0.03	Al Jazeera Eng
1021	0x03FD	PMT	-	7.45	0.03	Kiss
1002	0x03EA	PMT	-	7.45	0.03	VIVA
17	0x0011	SDT	-	6.93	0.03	N/A
1036	0x040C	PMT	-	6.83	0.03	ADULT Babestn
2403	0x0963	DVB Subtitles	-	6.76	0.03	Sky Sports 1
203	0x00CB	DVB Subtitles	-	6.19	0.03	VIVA
2336	0x0920	MHEG	-	5.75	0.02	Rocks & Co 1
1802	0x070A	MHEG	-	5.73	0.02	Magic
1602	0x0642	MHEG	-	5.73	0.02	Premier Radio
1102	0x044E	MHEG	-	5.73	0.02	Kiss
1202	0x04B2	MHEG	-	5.70	0.02	heat
1402	0x057A	MHEG	-	5.68	0.02	SMOOTH RADIO
516	0x0204	MHEG	-	5.68	0.02	ADULT smileTV2
1902	0x076E	MHEG	-	4.99	0.02	Q
1702	0x06A6	MHEG	-	4.99	0.02	The Hits Radio
1	0x0001	CAT	-	4.96	0.02	N/A
2116	0x0844	MHEG	-	4.94	0.02	ADULT Section
1302	0x0516	MHEG	-	4.94	0.02	Kerrang!
6502	0x1966	MHEG	-	4.52	0.02	Smash Hits!
20	0x0014	TOT	-	3.00	0.01	N/A
16	0x0010	NIT	-	1.33	0.01	N/A
3020	0x0BCC	Data	-	1.23	0.01	Channel Zero
303	0x012F	DVB Subtitles	-	0.54	0.00	Yesterday
3023	0x0BCF	Data	-	0.20	0.00	Channel Zero

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DVB T UK

Network Name South West Recording Andy Middleton

Transmitter Plymouth Channel 45

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
401	0x0191	MPEG2 Video	-	4592.51	19.41	CBeebies
201	0x00C9	MPEG2 Video	-	3345.78	14.14	BBC TWO
301	0x012D	MPEG2 Video	-	3293.92	13.92	CBBC Channel
101	0x0065	MPEG2 Video	-	2859.14	12.08	BBC ONE
501	0x01F5	MPEG2 Video	-	1292.64	5.46	BBC NEWS
901	0x0385	MPEG2 Video	-	1191.96	5.04	301
7201	0x1C21	MHEG	-	1051.03	4.44	BBC ONE
601	0x0259	MPEG2 Video	-	966.19	4.08	BBC Parliament
18	0x0012	EIT	-	661.89	2.80	N/A
302	0x012E	MPEG Audio	-	263.49	1.11	CBBC Channel
202	0x00CA	MPEG Audio	-	263.49	1.11	BBC TWO
102	0x0066	MPEG Audio	-	263.49	1.11	BBC ONE
402	0x0192	MPEG Audio	-	263.45	1.11	CBeebies
1302	0x0516	MPEG Audio	-	200.76	0.85	BBC Radio 4
1202	0x04B2	MPEG Audio	-	200.76	0.85	BBC Radio 3
1102	0x044E	MPEG Audio	-	200.72	0.85	BBC Radio 2
1002	0x03EA	MPEG Audio	-	200.72	0.85	BBC Radio 1
951	0x03B7	MPEG Audio	-	198.69	0.84	301
1802	0x070A	MPEG Audio	-	167.28	0.71	BBC R1X
1702	0x06A6	MPEG Audio	-	167.28	0.71	BBC Radio 4 Ex
1602	0x0642	MPEG Audio	-	167.28	0.71	BBC 6 Music
7203	0x1C23	Data	-	150.19	0.63	BBC ONE
7202	0x1C22	Data	-	150.15	0.63	BBC ONE
1902	0x076E	MPEG Audio	-	135.91	0.57	BBC Asian Net.
952	0x03B8	MPEG Audio	-	132.46	0.56	301
602	0x025A	MPEG Audio	-	132.46	0.56	BBC Parliament
502	0x01F6	MPEG Audio	-	132.41	0.56	BBC NEWS
2002	0x07D2	MPEG Audio	-	101.97	0.43	BBC World Sv.
1502	0x05DE	MPEG Audio	-	101.97	0.43	BBC R5SX
1402	0x057A	MPEG Audio	-	101.92	0.43	BBC R5L
7204	0x1C24	Data	-	100.08	0.42	BBC ONE
7205	0x1C25	Data	-	81.06	0.34	BBC ONE
306	0x0132	MPEG Audio	-	69.68	0.29	CBBC Channel
505	0x01F9	DVB Subtitles	-	23.95	0.10	BBC NEWS
2700	0x0A8C	PMT	-	15.06	0.06	BBC Red Button
2000	0x07D0	PMT	-	15.06	0.06	BBC World Sv.
1900	0x076C	PMT	-	15.06	0.06	BBC Asian Net.
1800	0x0708	PMT	-	15.06	0.06	BBC R1X
1700	0x06A4	PMT	-	15.06	0.06	BBC Radio 4 Ex
1500	0x05DC	PMT	-	15.06	0.06	BBC R5SX
1400	0x0578	PMT	-	15.06	0.06	BBC R5L
1300	0x0514	PMT	-	15.06	0.06	BBC Radio 4
1200	0x04B0	PMT	-	15.06	0.06	BBC Radio 3
1100	0x044C	PMT	-	15.06	0.06	BBC Radio 2
1000	0x03E8	PMT	-	15.06	0.06	BBC Radio 1
900	0x0384	PMT	-	15.06	0.06	301
700	0x02BC	PMT	-	15.06	0.06	CBBC Channel
600	0x0258	PMT	-	15.06	0.06	BBC Parliament
300	0x012C	PMT	-	15.06	0.06	BBC THREE
200	0x00C8	PMT	-	15.06	0.06	BBC TWO
100	0x0064	PMT	-	15.06	0.06	BBC ONE
0	0x0000	PAT	-	15.06	0.06	N/A
1600	0x0640	PMT	-	15.01	0.06	BBC 6 Music
800	0x0320	PMT	-	15.01	0.06	CBeebies
500	0x01F4	PMT	-	15.01	0.06	BBC NEWS
400	0x0190	PMT	-	15.01	0.06	BBC FOUR
105	0x0069	DVB Subtitles	-	12.57	0.05	BBC ONE
205	0x00CD	DVB Subtitles	-	11.33	0.05	BBC TWO
405	0x0195	DVB Subtitles	-	10.92	0.05	CBeebies
305	0x0131	DVB Subtitles	-	10.09	0.04	CBBC Channel
17	0x0011	SDT	-	6.91	0.03	N/A
410	0x019A	Data	-	3.04	0.01	BBC FOUR
311	0x0137	MHEG	-	3.04	0.01	BBC THREE
110	0x006E	MHEG	-	3.04	0.01	BBC ONE
20	0x0014	TOT	-	3.04	0.01	N/A
910	0x038E	MHEG	-	2.99	0.01	301
811	0x032B	Data	-	2.99	0.01	CBeebies
810	0x032A	MHEG	-	2.99	0.01	CBeebies
711	0x02C7	Data	-	2.99	0.01	CBBC Channel
710	0x02C6	MHEG	-	2.99	0.01	CBBC Channel
610	0x0262	MHEG	-	2.99	0.01	BBC Parliament
510	0x01FE	MHEG	-	2.99	0.01	BBC NEWS
411	0x019B	MHEG	-	2.99	0.01	BBC FOUR
310	0x0136	Data	-	2.99	0.01	BBC THREE
210	0x00D2	MHEG	-	2.99	0.01	BBC TWO
605	0x025D	DVB Subtitles	-	2.81	0.01	BBC Parliament
450	0x01C2	Private Sections	-	1.20	0.01	N/A
350	0x015E	Private Sections	-	1.20	0.01	N/A
250	0x00FA	Private Sections	-	1.20	0.01	N/A
150	0x0096	Private Sections	-	1.20	0.01	N/A
16	0x0010	NIT	-	1.11	0.00	N/A
2010	0x07DA	MHEG	-	0.51	0.00	BBC World Sv.
1910	0x0776	MHEG	-	0.51	0.00	BBC Asian Net.
1810	0x0712	MHEG	-	0.51	0.00	BBC R1X
1710	0x06AE	MHEG	-	0.51	0.00	BBC Radio 4 Ex
1610	0x064A	MHEG	-	0.51	0.00	BBC 6 Music
1510	0x05E6	MHEG	-	0.51	0.00	BBC R5SX
1410	0x0582	MHEG	-	0.51	0.00	BBC R5L
1310	0x051E	MHEG	-	0.51	0.00	BBC Radio 4
1210	0x04BA	MHEG	-	0.51	0.00	BBC Radio 3
1110	0x0456	MHEG	-	0.51	0.00	BBC Radio 2
1010	0x03F2	MHEG	-	0.51	0.00	BBC Radio 1

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DVB T — UK

Network Name: South West Recording: Andy Middleton
Transmitter: Plymouth Channel 49

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
520	0x0208	MPEG2 Video	-	3711.36	17.22	ITV1
560	0x0230	MPEG2 Video	-	2938.76	13.63	Channel 4
580	0x0244	MPEG2 Video	-	2793.78	12.96	Channel 4+1
540	0x021C	MPEG2 Video	-	1989.43	9.23	Channel 5
590	0x024E	MPEG2 Video	-	1925.85	8.93	More 4
570	0x023A	MPEG2 Video	-	1908.40	8.85	E4
600	0x0258	MPEG2 Video	-	1822.36	8.45	ITV1 +1
530	0x0212	MPEG2 Video	-	1622.99	7.53	ITV2
18	0x0012	EIT	-	496.01	2.30	N/A
581	0x0245	MPEG Audio	-	201.04	0.93	Channel 4+1
571	0x023B	MPEG Audio	-	201.04	0.93	E4
561	0x0231	MPEG Audio	-	201.04	0.93	Channel 4
591	0x024F	MPEG Audio	-	200.95	0.93	More 4
531	0x0213	MPEG Audio	-	199.00	0.92	ITV2
601	0x0259	MPEG Audio	-	198.91	0.92	ITV1 +1
541	0x021D	MPEG Audio	-	198.91	0.92	Channel 5
521	0x0209	MPEG Audio	-	198.81	0.92	ITV1
2362	0x093A	Data	-	94.21	0.44	ITV1
2361	0x0939	Data	-	72.12	0.33	ITV1
602	0x025A	MPEG Audio	-	69.80	0.32	ITV1 +1
542	0x021E	MPEG Audio	-	69.80	0.32	Channel 5
532	0x0214	MPEG Audio	-	69.80	0.32	ITV2
522	0x020A	MPEG Audio	-	69.80	0.32	ITV1
2367	0x093F	Data	-	57.92	0.27	Rabbit
305	0x0131	PMT	-	15.87	0.07	Channel 4+1
290	0x0122	PMT	-	15.87	0.07	ITV1 +1
288	0x0120	PMT	-	15.87	0.07	Gay Rabbit
274	0x0112	PMT	-	15.87	0.07	Rabbit
270	0x010E	PMT	-	15.87	0.07	More 4
1	0x0001	CAT	-	15.87	0.07	N/A
0	0x0000	PAT	-	15.87	0.07	N/A
304	0x0130	PMT	-	15.78	0.07	E4
300	0x012C	PMT	-	15.78	0.07	Channel 4
289	0x0121	PMT	-	15.78	0.07	Channel 5
258	0x0102	PMT	-	15.78	0.07	ITV2
256	0x0100	PMT	-	15.78	0.07	ITV1
573	0x023D	DVB Subtitles	-	10.58	0.05	E4
603	0x025B	DVB Subtitles	-	6.22	0.03	ITV1 +1
17	0x0011	SDT	-	4.18	0.02	N/A
2363	0x093B	MHEG	-	3.06	0.01	Channel 4
2360	0x0938	MHEG	-	3.06	0.01	Gay Rabbit
2169	0x0879	MHEG	-	3.06	0.01	Rabbit
21	0x0015	Network Sync	-	3.06	0.01	N/A
2168	0x0878	MHEG	-	2.97	0.01	ITV1 +1
2167	0x0877	MHEG	-	2.97	0.01	E4
2164	0x0874	MHEG	-	2.97	0.01	Channel 5
2162	0x0872	MHEG	-	2.97	0.01	ITV2
2161	0x0871	MHEG	-	2.97	0.01	ITV1
20	0x0014	TOT	-	2.97	0.01	N/A
523	0x020B	DVB Subtitles	-	2.23	0.01	ITV1
16	0x0010	NIT	-	1.49	0.01	N/A
533	0x0215	DVB Subtitles	-	1.30	0.01	ITV2
543	0x021F	DVB Subtitles	-	0.37	0.00	Channel 5
3004	0x0BBC	Data	-	0.09	0.00	E4

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DVB-T2 terrestrial

AT Austria

DVB T2 — AT

Network Name: ORS Recording: Thomas Haring
Transmitter: Vienna Channel 60 *Remark* MPEG4

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
210	0x00D2	H.264 Video	-	5910.71	24.08	ORF2 HD
220	0x00DC	H.264 Video	-	5159.69	21.02	ServusTV HD
200	0x00C8	H.264 Video	-	4937.20	20.11	ORF1 HD
8191	0x1FFF	Null Packets	-	4732.38	19.28	N/A
223	0x00DF	AC3 Audio	-	460.84	1.88	ServusTV HD
213	0x00D5	AC3 Audio	-	460.79	1.88	ORF2 HD
203	0x00CB	AC3 Audio	-	460.79	1.88	ORF1 HD
18	0x0012	EIT	-	312.67	1.27	N/A
215	0x00D7	Teletext	-	300.96	1.23	ORF2 HD
205	0x00CD	Teletext	-	300.96	1.23	ORF1 HD
202	0x00CA	MPEG Audio	-	167.22	0.68	ORF1 HD
201	0x00C9	MPEG Audio	-	167.22	0.68	ORF1 HD
2130	0x0852	MPEG Audio	-	167.17	0.68	FM4
2110	0x083E	MPEG Audio	-	167.17	0.68	OE1
221	0x00DD	MPEG Audio	-	167.17	0.68	ServusTV HD
212	0x00D4	MPEG Audio	-	167.17	0.68	ORF2 HD
211	0x00D3	MPEG Audio	-	167.17	0.68	ORF2 HD
32	0x0020	AAC Audio	-	71.38	0.29	HITRADIO OE3
2013	0x07DD	PMT	-	30.13	0.12	FM4
2012	0x07DC	PMT	-	30.13	0.12	HITRADIO OE3
2011	0x07DB	PMT	-	30.13	0.12	OE1
2003	0x07D3	PMT	-	30.13	0.12	ServusTV HD
2002	0x07D2	PMT	-	30.13	0.12	ORF2 HD
2001	0x07D1	PMT	-	30.13	0.12	ORF1 HD
0	0x0000	PAT	-	30.13	0.12	N/A
17	0x0011	SDT	-	30.08	0.12	N/A
16	0x0010	NIT	-	30.08	0.12	N/A
33	0x0021	Private Sections	-	0.98	0.00	N/A

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DE Germany

DVB T2 — DE

Network Name: BR T2 Recording: TELE-satellite
Transmitter: Munich Channel 50

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
737	0x02E1	H.264 Video	-	11775.17	44.90	Das Erste HD
8191	0x1FFF	Null Packets	-	7397.66	28.21	N/A
753	0x02F1	MPEG2 Video	-	2504.57	9.55	Das Erste
721	0x02D1	MPEG2 Video	-	1668.03	6.36	Bayerisches FS Süd
739	0x02E3	AC3 Audio	-	470.09	1.79	Das Erste HD
2172	0x087C	Data	-	400.03	1.53	Das Erste HD
18	0x0012	EIT	-	353.00	1.35	N/A
738	0x02E2	MPEG Audio	-	266.39	1.02	Das Erste HD
756	0x02F4	Teletext	-	263.25	1.00	Das Erste
740	0x02E4	Teletext	-	263.25	1.00	Das Erste HD
724	0x02D4	Teletext	-	263.25	1.00	Bayerisches FS Süd
754	0x02F2	MPEG Audio	-	203.70	0.78	Das Erste
722	0x02D2	MPEG Audio	-	203.70	0.78	Bayerisches FS Süd
725	0x02D5	MPEG Audio	-	133.22	0.51	Bayerisches FS Süd
555	0x022B	Private Data	-	27.01	0.10	Bayerisches FS Süd
6070	0x17B6	Private Sections	-	9.99	0.04	N/A
6031	0x178F	DVB Subtitles	-	3.75	0.01	Das Erste HD
720	0x02D0	PMT	-	3.19	0.01	Bayerisches FS Süd
1	0x0001	CAT	-	3.19	0.01	N/A
0	0x0000	PAT	-	3.19	0.01	N/A
752	0x02F0	PMT	-	3.14	0.01	Das Erste
736	0x02E0	PMT	-	3.14	0.01	Das Erste HD
20	0x0014	TOT	-	3.00	0.01	N/A
17	0x0011	SDT	-	0.80	0.00	N/A
16	0x0010	NIT	-	0.75	0.00	N/A

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UK United Kingdom

DVB T2 UK

Network Name West Midlands Recording TELE-satellite

Transmitter Birmingham Channel 40

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
6601	0x19C9	H.264 Video	-	10724.36	35.90	BBC One HD
101	0x0065	H.264 Video	-	5581.81	18.69	BBC HD
301	0x012D	H.264 Video	-	5324.88	17.83	Channel 4 HD
201	0x00C9	H.264 Video	-	5320.10	17.81	ITV1 HD
6701	0x1A2D	H.264 Video	-	1048.92	3.51	301 HD
6602	0x19CA	AAC Audio	-	361.08	1.21	BBC One HD
18	0x0012	EIT	-	335.12	1.12	N/A
302	0x012E	AAC Audio	-	161.44	0.54	Channel 4 HD
202	0x00CA	AAC Audio	-	157.26	0.53	ITV1 HD
102	0x0066	AAC Audio	-	157.26	0.53	BBC HD
6702	0x1A2E	AAC Audio	-	142.04	0.48	301 HD
111	0x006F	Data	-	100.86	0.34	BBC HD
130	0x0082	SSU	-	100.57	0.34	BBC HD
6606	0x19CE	AAC Audio	-	42.67	0.14	BBC One HD
306	0x0132	AAC Audio	-	42.67	0.14	Channel 4 HD
206	0x00CE	AAC Audio	-	42.67	0.14	ITV1 HD
106	0x006A	AAC Audio	-	42.67	0.14	BBC HD
6910	0x1AFE	MHEG	-	25.37	0.08	The Space
205	0x00CD	DVB Subtitles	-	16.11	0.05	ITV1 HD
6700	0x1A2C	PMT	-	15.22	0.05	301 HD
6600	0x19C8	PMT	-	15.22	0.05	BBC One HD
300	0x012C	PMT	-	15.22	0.05	Channel 4 HD
200	0x00C8	PMT	-	15.22	0.05	ITV1 HD
100	0x0064	PMT	-	15.22	0.05	BBC HD
0	0x0000	PAT	-	15.22	0.05	N/A
6900	0x1AF4	PMT	-	14.92	0.05	The Space
305	0x0131	DVB Subtitles	-	13.13	0.04	Channel 4 HD
6605	0x19CD	DVB Subtitles	-	5.97	0.02	BBC One HD
17	0x0011	SDT	-	4.77	0.02	N/A
110	0x006E	MHEG	-	2.98	0.01	BBC HD
105	0x0069	DVB Subtitles	-	2.98	0.01	BBC HD
20	0x0014	TOT	-	2.98	0.01	N/A
6650	0x19FA	Private Sections	-	1.49	0.00	N/A
150	0x0096	Private Sections	-	1.49	0.00	N/A
16	0x0010	NIT	-	0.60	0.00	N/A

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DVB T2 UK

Network Name Cambs & Beds. Recording TELE-satellite

Transmitter London Channel 21

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
101	0x0065	H.264 Video	-	11166.93	30.41	BBC HD
6601	0x19C9	H.264 Video	-	9005.26	24.52	BBC One HD
201	0x00C9	H.264 Video	-	7652.08	20.84	ITV1 HD
301	0x012D	H.264 Video	-	7298.90	19.88	Channel 4 HD
102	0x0066	AAC Audio	-	358.66	0.98	BBC HD
18	0x0012	EIT	-	294.15	0.80	N/A
202	0x00CA	AAC Audio	-	157.27	0.43	ITV1 HD
6602	0x19CA	AAC Audio	-	156.01	0.42	BBC One HD
302	0x012E	AAC Audio	-	156.01	0.42	Channel 4 HD
106	0x006A	AAC Audio	-	70.63	0.19	BBC HD
6606	0x19CE	AAC Audio	-	70.58	0.19	BBC One HD
206	0x00CE	AAC Audio	-	70.58	0.19	ITV1 HD
306	0x0132	AAC Audio	-	70.53	0.19	Channel 4 HD
6605	0x19CD	DVB Subtitles	-	49.85	0.14	BBC One HD
205	0x00CD	DVB Subtitles	-	31.26	0.09	ITV1 HD
305	0x0131	DVB Subtitles	-	20.53	0.06	Channel 4 HD
6600	0x19C8	PMT	-	15.05	0.04	BBC One HD
300	0x012C	PMT	-	15.05	0.04	Channel 4 HD
200	0x00C8	PMT	-	15.05	0.04	ITV1 HD
100	0x0064	PMT	-	15.05	0.04	BBC HD
0	0x0000	PAT	-	15.05	0.04	N/A
17	0x0011	SDT	-	4.56	0.01	N/A
105	0x0069	DVB Subtitles	-	3.01	0.01	BBC HD
20	0x0014	TOT	-	3.01	0.01	N/A
16	0x0010	NIT	-	1.60	0.00	N/A
6650	0x19FA	Private Sections	-	1.31	0.00	N/A
150	0x0096	Private Sections	-	1.31	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

Duration: 30 Sec, File Size: 135 MB **ts.TELE-satellite.com/DVB-T2/UK/London-Ch21-1107.ts**

Transponderstream Technical Service File Download for Clients Only

Duration: 5 Min, File Size: 945 MB **www.transponderstream.com/DVB-T2/UK/London-Ch21-1107.ts**

DVB T2 UK

Network Name South West Recording Andy Middleton

Transmitter Plymouth Channel 42

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
101	0x0065	H.264 Video	-	13880.81	37.17	BBC HD
201	0x00C9	H.264 Video	-	9917.67	26.56	ITV1 HD
6601	0x19C9	H.264 Video	-	6352.93	17.01	BBC One HD
301	0x012D	H.264 Video	-	5728.66	15.34	Channel 4 HD
18	0x0012	EIT	-	297.85	0.80	N/A
102	0x0066	AAC Audio	-	157.67	0.42	BBC HD
6602	0x19CA	AAC Audio	-	157.55	0.42	BBC One HD
202	0x00CA	AAC Audio	-	154.58	0.41	ITV1 HD
302	0x012E	AAC Audio	-	153.21	0.41	Channel 4 HD
130	0x0082	SSU	-	100.43	0.27	BBC HD
306	0x0132	AAC Audio	-	70.84	0.19	Channel 4 HD
106	0x006A	AAC Audio	-	70.84	0.19	BBC HD
6606	0x19CE	AAC Audio	-	70.72	0.19	BBC One HD
206	0x00CE	AAC Audio	-	70.61	0.19	ITV1 HD
105	0x0069	DVB Subtitles	-	27.99	0.07	BBC HD
6605	0x19CD	DVB Subtitles	-	27.42	0.07	BBC One HD
6600	0x19C8	PMT	-	15.08	0.04	BBC One HD
300	0x012C	PMT	-	15.08	0.04	Channel 4 HD
200	0x00C8	PMT	-	15.08	0.04	ITV1 HD
100	0x0064	PMT	-	15.08	0.04	BBC HD
0	0x0000	PAT	-	15.08	0.04	N/A
205	0x00CD	DVB Subtitles	-	7.20	0.02	ITV1 HD
305	0x0131	DVB Subtitles	-	5.60	0.01	Channel 4 HD
17	0x0011	SDT	-	4.23	0.01	N/A
20	0x0014	TOT	-	2.97	0.01	N/A
16	0x0010	NIT	-	1.60	0.00	N/A
6650	0x19FA	Private Sections	-	1.37	0.00	N/A
150	0x0096	Private Sections	-	1.37	0.00	N/A

TELE-satellite Technical Service File Download for TELE-satellite Cooperation Partners Only

Duration: 30 Sec, File Size: 172 MB **ts.TELE-satellite.com/DVB-T2/UK/Plymouth-Ch42-1109.ts**

Transponderstream Technical Service File Download for Clients Only

Duration: 5 Min, File Size: 1393 MB **www.transponderstream.com/DVB-T2/UK/Plymouth-Ch42-1109.ts**



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RU Russia

DVB T2 RU

Network Name 10 Recording TELE-satellite
Transmitter Moscow Channel 32 *Remark* encrypted

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
45	0x002D	H.264 Video	$	1180.04	12.52	HTB
39	0x0027	H.264 Video	$	1075.78	11.41	5 kanal S-Pb
42	0x002A	H.264 Video	$	1068.33	11.34	1-kanal
54	0x0036	H.264 Video	$	1063.86	11.29	Russia-24
36	0x0024	H.264 Video	$	1010.61	10.72	Russia-2
62	0x003E	H.264 Video	$	916.40	9.72	Sport-2
59	0x003B	H.264 Video	$	810.65	8.60	Karusel
33	0x0021	H.264 Video	$	571.59	6.06	Russia-1
48	0x0030	H.264 Video	$	427.48	4.54	Russia-K
61	0x003D	MPEG Audio	$	105.01	1.11	Sport-2
41	0x0029	MPEG Audio	$	105.01	1.11	1-kanal
38	0x0026	MPEG Audio	$	105.01	1.11	5 kanal S-Pb
32	0x0020	MPEG Audio	$	105.01	1.11	Russia-1
58	0x003A	MPEG Audio	$	104.64	1.11	Karusel
50	0x0032	MPEG Audio	$	104.64	1.11	Russia-24
44	0x002C	MPEG Audio	$	104.64	1.11	HTB
47	0x002F	MPEG Audio	$	104.26	1.11	Russia-K
35	0x0023	MPEG Audio	$	104.26	1.11	Russia-2
17	0x0011	SDT	-	25.32	0.27	N/A
1	0x0001	CAT	-	25.32	0.27	N/A
0	0x0000	PAT	-	25.32	0.27	N/A
60	0x003C	PMT	-	23.46	0.25	Karusel
49	0x0031	PMT	-	23.46	0.25	Russia-K
46	0x002E	PMT	-	23.46	0.25	HTB
43	0x002B	PMT	-	23.46	0.25	1-kanal
40	0x0028	PMT	-	23.46	0.25	5 kanal S-Pb
37	0x0025	PMT	-	23.46	0.25	Russia-2
34	0x0022	PMT	-	23.46	0.25	Russia-1
16	0x0010	NIT	-	23.46	0.25	N/A
63	0x003F	PMT	-	23.09	0.24	Sport-2
57	0x0039	PMT	-	23.09	0.24	Russia-24
110	0x006E	ECM/EMM	-	5.21	0.06	Sport-2
109	0x006D	ECM/EMM	-	5.21	0.06	Karusel
108	0x006C	ECM/EMM	-	5.21	0.06	Russia-24
56	0x0038	ECM/EMM	-	5.21	0.06	Russia-2
55	0x0037	ECM/EMM	-	5.21	0.06	5 kanal S-Pb
53	0x0035	ECM/EMM	-	5.21	0.06	Russia-K
52	0x0034	ECM/EMM	-	5.21	0.06	Russia-1
1360	0x0550	ECM/EMM	-	4.84	0.05	1-kanal
51	0x0033	ECM/EMM	-	4.84	0.05	HTB
20	0x0014	TOT	-	1.49	0.02	N/A

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Duration: 30 Sec, File Size: 75 MB **ts.TELE-satellite.com/DVB-T2/RU/Moscow-Ch32-1203.ts**
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Duration: 5 Min, File Size: 335 MB **www.transponderstream.com/DVB-T2/RU/Moscow-Ch32-1203.ts**

DVB T2 RU

Network Name 1 Recording TELE-satellite
Transmitter Moscow Channel 34

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
802	0x0322	H.264 Video	-	2149.29	11.21	Карусель
302	0x012E	H.264 Video	-	2148.10	11.21	Россия 2
702	0x02BE	H.264 Video	-	2146.91	11.20	Россия 24
402	0x0192	H.264 Video	-	2146.02	11.20	HTB
202	0x00CA	H.264 Video	-	2145.42	11.19	Россия 1
102	0x0066	H.264 Video	-	2145.42	11.19	Первый канал
602	0x025A	H.264 Video	-	2144.53	11.19	Россия К
502	0x01F6	H.264 Video	-	2144.53	11.19	Пятый канал
1102	0x044E	MPEG Audio	-	137.51	0.72	Радио Россия
1002	0x03EA	MPEG Audio	-	137.51	0.72	Маяк
902	0x0386	MPEG Audio	-	137.51	0.72	Вести FM
803	0x0323	MPEG Audio	-	132.45	0.69	Карусель
703	0x02BF	MPEG Audio	-	132.45	0.69	Россия 24
603	0x025B	MPEG Audio	-	132.45	0.69	Россия К
503	0x01F7	MPEG Audio	-	132.45	0.69	Пятый канал
403	0x0193	MPEG Audio	-	132.45	0.69	HTB
303	0x012F	MPEG Audio	-	132.45	0.69	Россия 2
203	0x00CB	MPEG Audio	-	132.45	0.69	Россия 1
103	0x0067	MPEG Audio	-	132.45	0.69	Первый канал
604	0x025C	Teletext	-	75.90	0.40	Россия К
204	0x00CC	Teletext	-	75.60	0.39	Россия 1
104	0x0068	Teletext	-	75.60	0.39	Первый канал
18	0x0012	EIT	-	52.09	0.27	N/A
1	0x0001	CAT	-	25.30	0.13	N/A
0	0x0000	PAT	-	25.30	0.13	N/A
17	0x0011	SDT	-	25.00	0.13	N/A
1101	0x044D	PMT	-	15.18	0.08	Радио Россия
1001	0x03E9	PMT	-	15.18	0.08	Маяк
701	0x02BD	PMT	-	15.18	0.08	Россия 24
601	0x0259	PMT	-	15.18	0.08	Россия К
501	0x01F5	PMT	-	15.18	0.08	Пятый канал
401	0x0191	PMT	-	15.18	0.08	HTB
901	0x0385	PMT	-	14.88	0.08	Вести FM
801	0x0321	PMT	-	14.88	0.08	Карусель
301	0x012D	PMT	-	14.88	0.08	Россия 2
201	0x00C9	PMT	-	14.88	0.08	Россия 1
101	0x0065	PMT	-	14.88	0.08	Первый канал
20	0x0014	TOT	-	2.98	0.02	N/A

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Duration: 5 Min, File Size: 725 MB **www.transponderstream.com/DVB-T2/RU/Moscow-Ch34-1203.ts**

ISDB-TB terrestrial

BR Brasil

ISDB-TB BR

Network Name Rede Record Recording TELE-satellite
Transmitter Sao Paulo Channel 20 *Remark* 1Seg (Mobile TV), HD

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
273	0x0111	H.264 Video	-	15304.88	83.69	Record HD
8191	0x1FFF	Null Packets	-	1303.08	7.13	N/A
641	0x0281	H.264 Video	-	307.79	1.68	Record 1Seg
3000	0x0BB8	?	-	201.55	1.10	N/A
3106	0x0C22	?	-	200.06	1.09	N/A
3104	0x0C20	?	-	200.06	1.09	N/A
3102	0x0C1E	?	-	200.06	1.09	N/A
276	0x0114	AAC Audio	-	104.10	0.57	Record HD
274	0x0112	AAC Audio	-	104.10	0.57	Record HD
275	0x0113	AAC Audio	-	103.95	0.57	Record HD
643	0x0283	AAC Audio	-	65.84	0.36	Record 1Seg
18	0x0012	EIT	-	60.01	0.33	N/A
768	0x0300	PCR	-	39.51	0.22	N/A
257	0x0101	PMT	-	30.10	0.16	Record HD
908	0x038C	Data	-	20.01	0.11	Record 1Seg
0	0x0000	PAT	-	15.05	0.08	N/A
8136	0x1FC8	PMT	-	7.52	0.04	Record 1Seg
512	0x0200	PCR	-	7.52	0.04	N/A
39	0x0027	?	-	6.02	0.03	N/A
288	0x0120	Private PES	-	1.50	0.01	Record HD
36	0x0024	?	-	1.50	0.01	N/A
16	0x0010	NIT	-	1.50	0.01	N/A
656	0x0290	Private PES	-	1.50	0.01	Record 1Seg
17	0x0011	SDT	-	1.00	0.01	N/A
20	0x0014	TOT	-	0.30	0.00	N/A
508	0x01FC	Private Sections	-	0.15	0.00	N/A

Transponderstream Technical Service File Download for Clients Only
Duration: 5 Min, File Size: 945 MB **www.transponderstream.com/ISDB-TB/BR/SaoPaulo-Ch19-1108.ts**

ISDB-TB BR

Network Name BAND
Transmitter Sao Paulo Channel 23
Recording
Remark 1Seg (Mobile TV), HD
TELE-satellite

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
259	0x0103	H.264 Video	-	10554.91	85.61	BAND HDTV
8191	0x1FFF	Null Packets	-	1071.43	8.69	N/A
273	0x0111	H.264 Video	-	305.29	2.48	BAND 1SEG
256	0x0100	AAC Audio	-	111.87	0.91	BAND HDTV
257	0x0101	AAC Audio	-	105.71	0.86	BAND HDTV
18	0x0012	EIT	-	49.96	0.41	N/A
511	0x01FF	PCR	-	41.65	0.34	N/A
274	0x0112	AAC Audio	-	35.83	0.29	BAND 1SEG
32	0x0020	PMT	-	15.83	0.13	BAND HDTV
0	0x0000	PAT	-	15.82	0.13	N/A
512	0x0200	PCR	-	7.52	0.06	N/A
8136	0x1FC8	PMT	-	3.96	0.03	BAND 1SEG
39	0x0027	?	-	3.00	0.02	N/A
107	0x006B	Private PES	-	2.14	0.02	BAND HDTV
36	0x0024	?	-	1.58	0.01	N/A
16	0x0010	NIT	-	1.58	0.01	N/A
17	0x0011	SDT	-	0.80	0.01	N/A
20	0x0014	TOT	-	0.32	0.00	N/A

Transponderstream Technical Service File Download for Clients Only

Duration: 5 Min, File Size: 502 MB **www.transponderstream.com/ISDB-TB/BR/SaoPaulo-Ch22-1108.ts**

ISDB-TB BR

Network Name Rede TV!
Transmitter Sao Paulo Channel 29
Recording
Remark 3D (side-by-side)
TELE-satellite

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
273	0x0111	H.264 Video	-	7102.65	64.56	Rede TV! HD
289	0x0121	H.264 Video	-	2154.51	19.58	Rede TV! 3D
8191	0x1FFF	Null Packets	-	980.45	8.91	N/A
529	0x0211	H.264 Video	-	324.42	2.95	Rede TV! 1Seg
290	0x0122	AAC Audio	-	84.67	0.77	Rede TV! 3D
275	0x0113	AAC Audio	-	80.15	0.73	Rede TV! HD
274	0x0112	AAC Audio	-	79.89	0.73	Rede TV! HD
530	0x0212	AAC Audio	-	66.63	0.61	Rede TV! 1Seg
18	0x0012	EIT	-	28.50	0.26	N/A
512	0x0200	PCR	-	27.57	0.25	N/A
768	0x0300	PCR	-	16.37	0.15	N/A
256	0x0100	PCR	-	16.33	0.15	N/A
258	0x0102	PMT	-	8.94	0.08	Rede TV! 3D
0	0x0000	PAT	-	8.94	0.08	N/A
257	0x0101	PMT	-	8.88	0.08	Rede TV! HD
8136	0x1FC8	PMT	-	3.00	0.03	Rede TV! 1Seg
39	0x0027	?	-	3.00	0.03	N/A
533	0x0215	Private PES	-	1.84	0.02	Rede TV! 1Seg
36	0x0024	?	-	1.48	0.01	N/A
16	0x0010	NIT	-	1.48	0.01	N/A
278	0x0116	Private PES	-	1.07	0.01	Rede TV! HD
17	0x0011	SDT	-	0.74	0.01	N/A
20	0x0014	TOT	-	0.29	0.00	N/A

Transponderstream Technical Service File Download for Clients Only

Duration: 5 Min, File Size: 602 MB **www.transponderstream.com/ISDB-TB/BR/SaoPaulo-Ch28-1108.ts**

ISDB-TB BR

Network Name Rede Vida
Transmitter Sao Paulo Channel 39
Recording
Remark 1Seg, HD
TELE-satellite

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
501	0x01F5	H.264 Video	-	9661.50	92.77	Rede Vida HD
500	0x01F4	H.264 Video	-	273.41	2.63	Rede Vida 1Seg
511	0x01FF	AAC Audio	-	133.21	1.28	Rede Vida HD
510	0x01FE	AAC Audio	-	70.60	0.68	Rede Vida 1Seg
513	0x0201	AAC Audio	-	52.93	0.51	Rede Vida HD
18	0x0012	EIT	-	50.06	0.48	N/A
521	0x0209	PCR	-	39.52	0.38	N/A
0	0x0000	PAT	-	37.65	0.36	N/A
8191	0x1FFF	Null Packets	-	35.45	0.34	N/A
520	0x0208	PCR	-	34.63	0.33	N/A
80	0x0050	PMT	-	7.57	0.07	Rede Vida HD
8136	0x1FC8	PMT	-	7.52	0.07	Rede Vida 1Seg
39	0x0027	?	-	2.97	0.03	N/A
531	0x0213	Private PES	-	1.53	0.01	Rede Vida HD
36	0x0024	?	-	1.53	0.01	N/A
530	0x0212	Private PES	-	1.48	0.01	Rede Vida 1Seg
17	0x0011	SDT	-	1.48	0.01	N/A
16	0x0010	NIT	-	1.48	0.01	N/A
20	0x0014	TOT	-	0.34	0.00	N/A

Transponderstream Technical Service File Download for Clients Only

Duration: 5 Min, File Size: 418 MB **www.transponderstream.com/ISDB-TB/BR/SaoPaulo-Ch38-1108.ts**

ISDB-TB BR

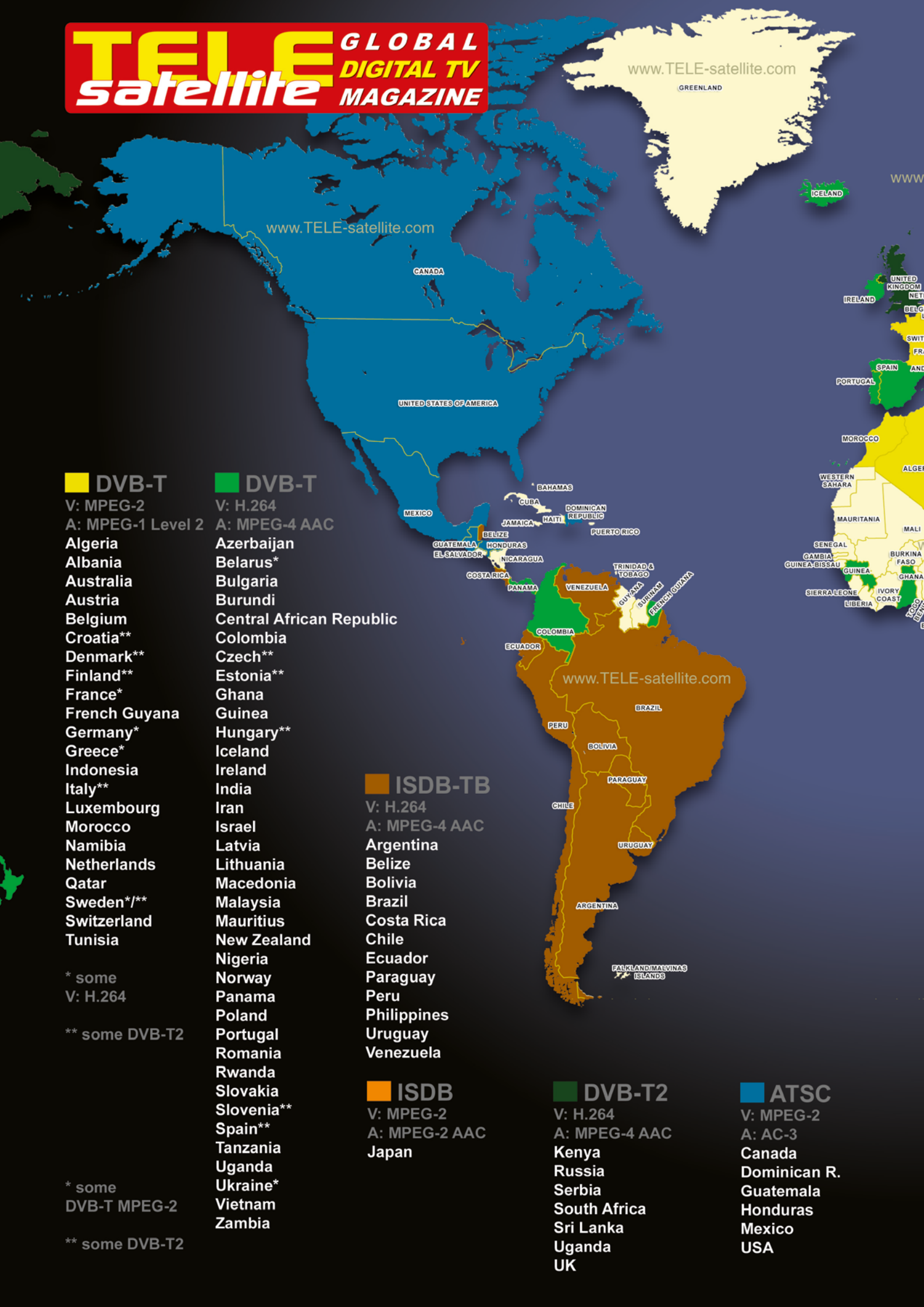
Network Name TV Aparecida
Transmitter Sao Paulo Channel 41
Recording
Remark 1Seg, HD
TELE-satellite

PID	Hex PID	Stream Type	Encrypted	kbps	%	Service Name
101	0x0065	H.264 Video	-	10251.25	83.04	TV Aparecida HD
8191	0x1FFF	Null Packets	-	1532.18	12.41	N/A
1001	0x03E9	H.264 Video	-	268.73	2.18	TV Aparecida 1SEG
1002	0x03EA	AAC Audio	-	70.73	0.57	TV Aparecida 1SEG
102	0x0066	AAC Audio	-	66.83	0.54	TV Aparecida HD
100	0x0064	PCR	-	60.18	0.49	N/A
1000	0x03E8	PCR	-	34.61	0.28	N/A
8136	0x1FC8	PMT	-	18.81	0.15	TV Aparecida 1SEG
99	0x0063	PMT	-	18.81	0.15	TV Aparecida HD
0	0x0000	PAT	-	18.81	0.15	N/A
1	0x0001	CAT	-	1.88	0.02	N/A
17	0x0011	SDT	-	0.95	0.01	N/A
20	0x0014	TOT	-	0.29	0.00	N/A
16	0x0010	NIT	-	0.20	0.00	N/A
36	0x0024	?	-	0.09	0.00	N/A

Transponderstream Technical Service File Download for Clients Only

Duration: 5 Min, File Size: 340 MB **www.transponderstream.com/ISDB-TB/BR/SaoPaulo-Ch40-1108.ts**





DVB-T
V: MPEG-2
A: MPEG-1 Level 2

Algeria
Albania
Australia
Austria
Belgium
Croatia**
Denmark**
Finland**
France*
French Guyana
Germany*
Greece*
Indonesia
Italy**
Luxembourg
Morocco
Namibia
Netherlands
Qatar
Sweden*/**
Switzerland
Tunisia

* some
V: H.264

** some DVB-T2

DVB-T
V: H.264
A: MPEG-4 AAC

Azerbaijan
Belarus*
Bulgaria
Burundi
Central African Republic
Colombia
Czech**
Estonia**
Ghana
Guinea
Hungary**
Iceland
Ireland
India
Iran
Israel
Latvia
Lithuania
Macedonia
Malaysia
Mauritius
New Zealand
Nigeria
Norway
Panama
Poland
Portugal
Romania
Rwanda
Slovakia
Slovenia**
Spain**
Tanzania
Uganda
Ukraine*
Vietnam
Zambia

* some
DVB-T MPEG-2

** some DVB-T2

ISDB-TB
V: H.264
A: MPEG-4 AAC

Argentina
Belize
Bolivia
Brazil
Costa Rica
Chile
Ecuador
Paraguay
Peru
Philippines
Uruguay
Venezuela

ISDB
V: MPEG-2
A: MPEG-2 AAC

Japan

DVB-T2
V: H.264
A: MPEG-4 AAC

Kenya
Russia
Serbia
South Africa
Sri Lanka
Uganda
UK

ATSC
V: MPEG-2
A: AC-3

Canada
Dominican R.
Guatemala
Honduras
Mexico
USA



Digital Terrestrial Television of the World

Dominant System per Country

DTMB
V: H.264
A: MPEG-4 AAC
China*
HongKong

* some
V: MPEG2

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30 Years Ago

Satellite News 1982:

The future 4th TV Channel from France will be transmitted via the DTH satellite TDF1, which will be parked at orbital position 19°. The terrestrial stations in France, which are now transmitting TF1 in the VHF band will then re-transmit the 4th channel in SECAM color. In July 1982 the main contract for building the DTH satellite TDF1 and TV-SAT-1 have been signed. They are expected to be operational in spring 1985.

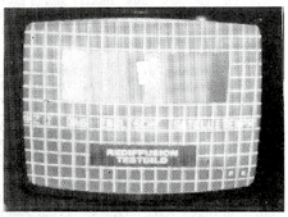
Switzerland: In a surprise move the Swiss government refused the concession to build the Swiss TelSat DTH. This delays the start of this satellite to at least 1986. Regardless of this the English language program from OTS-2 and the Russian language program from GORIZONT are being fed into the Swiss cable tv network of Rediffusion. Both channels are listed in Swiss tv guide magazines.

Eindrücke von der fera

Nicht ganz so groß und aufwendig wie die Berliner Funkausstellung (TAV-4) aber immer noch beeindruckend: die jährlich abgehaltene größte schweizer FEernseh und RAdio Ausstellung in Oerlikon, einem Industrievorort von Zürich.

Gezeigt wurden auf der fera hauptsächlich Geräte der Unterhaltungselektronik. Eine Überraschung die vielen ausgestellten Stereo-Fernsehgeräte: obwohl das schweizer Fernsehen gar keine Stereosendungen ausstrahlt, sind schon etwa die Hälfte aller in der Schweiz verkauften Großfernseher Stereogeräte. Ausgenützt werden können die Geräte aber durchaus: das ZDF ist in vielen Teilen des Landes direkt und im Inneren auch oft über die vielen Kabelnetze zu empfangen.

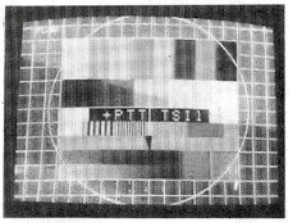




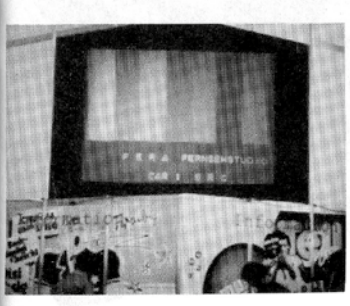
Unter letzteren hat sich die in Zürich beheimatete Kabelgesellschaft "Rediffusion" einen Namen gemacht: auf der fera wurde das von OTS empfangene englische Satellitenprogramm als regulärer Bestandteil des Rediffusion-Angebots gezeigt.

Trotz eifriger Sucher konnte eine funktionsfähige Satellitenempfangsstelle aber nicht ausfindig gemacht werden. Lediglich autronic stellte einen nicht betriebsbereiten Parabolspiegel aus. Eine andere, amerikanische Firma bot Prospekte ebenfalls der "Ersten" privaten Satelliten-TV-Empfangs-anlage an, was allerdings Fragen auftauchen ließ, wieviele "Erste" Empfangs-Anlagen es noch geben wird... Immer noch blieb unklar, ob nun endlich eine serienmäßig herstellbare Weiche zur Aufteilung der Zirkularpolarisation entwickelt ist - erst dann ist Sat-TV in greifbare Nähe gerückt.

So nebenbei konnte noch die momentan grassierende ID-Einblenderei fotografiert werden: Nicht nur die RAI und die anderen italienischen Sender, nicht nur das ZDF rechts oben und seit neuestem die ARD links oben, nein, auch das italienischsprachige schweizer Fernsehen TSI blendet sein Zeichen "rtsi" in die Ecken ein:



etwa alle 15 sec springt die Einblendung nacheinander in alle vier Ecken. Wahrlich, ein unschätzbares Hilfsmittel beim Fernseh-DX! Der Berichterstatter schlägt vor, noch zusätzlich den Sender und den Kanal einzublenden, am besten auch noch gleich die Uhrzeit und das Datum...



fera 1982

Interessant die vom Rundfunk okkupierte Halle 3: auf der einen Seite probte das Fernsehen mit Laiendarstellern, auf der anderen Hallenseite produzierte das neue dritte Programm der Westschweiz sein französischsprachiges Stereo-Pop-Programm "Coleur 3" live.



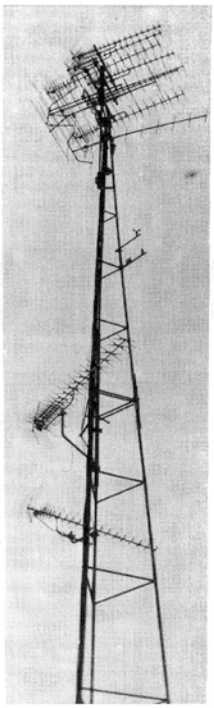
Live-Produktion des "Coleur 3" Programms, das während der fera ausnahmsweise über den Sender Ütliberg auf 100.6 MHz ausgestrahlt wurde (regulär auf 100.7 MHz über La Dole). Für die Messebesucher wurden viele der Musiktitel simultan über Video gezeigt - daher die TV-Geräte im Hintergrund.

Dazwischen gab's Stände der SRG und Post. Die vielen Aufkleber von/für Programme der SRG (mehr als zehn verschiedene konnten gezählt werden) ließen den Berichterstatter stutzen: hat die SRG es seit neuestem nötig, für ihr Programm zu werben? Offenbar - in weiser Voraussicht auf das kommende private Lokalradio und evtl Fernsehen beginnt die SRG schon jetzt mit Imagebildung.

DX - Anlagen - Vorstellung

Unseren Lesern mittlerweile wohlbekannt durch seine immer wieder überraschenden Super-TV-DX-Empfänge, stellt sich der gut deutsch sprechende Holländer Rijn Muntjewerff hier selbst vor:

Ich bin 49 Jahre alt, verheiratet und habe zwei Söhne mit 20 und 24 Jahren. Von Beruf bin ich Haus- und Automakler. TV-DX mache ich schon seit 1961. Damals sah ich eines Tages unerwartet auf Kanal E-2 einen Stierkampf: direkt aus Madrid vom spanischen Fernsehen TVE. Das war wunderbar und beeindruckend. An den folgenden Tagen waren damals Sender von RTP, RAI, JRT, TSS, YLE und viele andere zu sehen.



Das traf mich alles wie ein Bienenstich - und der Stich hält heute noch an!

Am Anfang benutzte ich zum DXen nur die sowieso schon vorhandene und fest installierte Kanal E-4 3-Element-Antenne, eigentlich für den holländischen Sender Lopik gedacht.

Erst später kamen besondere Mehrelement-Antennen hinzu, z.B. die "Tewea"-Antennen, die übrigens heute noch fabriziert werden. Auch für UHF schaffte ich mir Antennen an, damals u.a. die Hirschmann Fesa 718UN60, die es heute noch gibt.

Später, als die Technik fortschritt, konnte ich auch Verstärker installieren, vor allem von Polytron und Schrader; Polytron wegen seiner niedrigen Rauschzahl und Schrader hat Verstärker im Angebot, die kanalweise fernabgestimst werden können.

1970 war es soweit und ich konnte den auf den Fotos erkennbaren 22,5m hohen Antennenmast im Garten aufstellen. Auf diesem sind heute 11 Antennen angebracht, auf dem Hausdach sind noch weitere drei Antennen installiert.

Auf dem Mast sind von oben nach unten die folgenden Antennen montiert:

Zwillingsantenne Fuba XC91E
dto. Fuba XC91C
dto. Fuba XC91A

WISI FX24
WISI FS15 vertikal
Fuba UKA-9

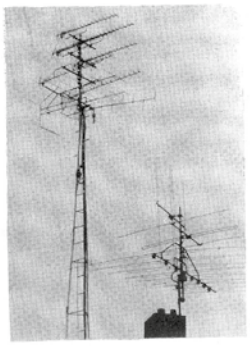
Das Alles auf dem Rotor Ham-2/CDE. Weiter unten auf dem Mast Hirschmann K39-45 und eine Prüfantenne.

Auf dem Hausdach befinden sich:

9-Element Breitband (Logperiodical) 40-90 MHz Antenne
3-Element Kanal E-4 Antenne
3-Element Kanal E-3 Antennen vertikal
alles auf dem Stolle 2010 Rotor mit Stützlager.

Im Empfangs-"Studio" stehen mir folgende Geräte zur Verfügung:

Mehrnormen-TV-Gerät Philips 23TX371A
Farbfernsehgerät von Philips
Aufwärtskonverter Band-1 bis 3 auf UHF
HiFi-Empfänger REVOX A76, A77, A78
Videogerät Philips N1502
und ein 70cm Konverter mit Ausgang auf Kanal E-3/4



Rijn Muntjewerffs Empfangsanlage, oben die Antennen (rechts auf dem Haus, links auf eigenem Mast) und unten die Empfangsgeräte und Antennenumschalter/filter.

Mit diesen Geräten und Antennen konnte ich schon einiges empfangen, darunter viele Erstempfänge, über die TAV auch schon berichtet hat: Kanada auf Kanal A-2, Zimbabwe auf E-2, YENED (Griechenland) auf E-3, Australien auf Kanal O, TSS-Frunze (Taschkent), Marokko auf E-4, Algerien auf E-5, RTVE auf Band-III-Kanälen (tropo), über Meteor-Scatter u.a. YLE auf E-9. Dann Libanon auf E-2 und E-4, Nigeria auf E-3, Ghana auf E-2, Jordanien auf E-3. Und dann natürlich vor kurzem Brasilien auf A-2!



Auch Amateur-TV beobachte ich. Mein weitester Empfang war am 28.11.79 die Station F1AJD aus Frankreich; Entfernung etwa 1000km, die Sendeleistung war lediglich 100W.

Insgesamt habe ich bis heute etwa 1100 Fernsehsender aus 45 Länder und 4 Kontinenten sowie über 200 ATV-Stationen aus 4 Länder empfangen. Und ich schaue weiter fern, vielleicht schaffe ich es, noch den 5. Kontinent zu empfangen...

Die Anlage ist von: Rijn Muntjewerff * Hobrederweg 25 * NL-1462 LJ Beemster

Satelliten - Fernsehen

Redakteur: Rainer Bärmann
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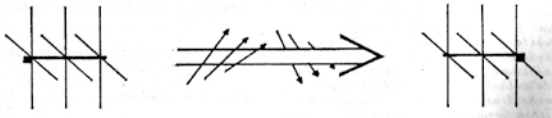
(Fortsetzung aus TAV-8/9)

Die unterschiedliche Polarisation der Übertragungsstrecke vom Satellit zur Empfangsstelle hat entscheidende Bedeutung für den Empfang mehrerer TV-Satelliten.

In Fachzeitschriften wird der eine Satellit mit rechtsdrehend polarisierender Senderichtung vorgestellt, ein anderer Satellit mit linksdrehender Polarisiationsrichtung.

Bei umgekehrter Polarisation werden gewöhnlich Feldstärkeverluste von bis zu 20 dB gegenüber der richtigen Polarisierung gemessen und die Feldstärke des störenden Satelliten wird vom Nutzsatelliten verdrängt.

Daraus eröffnet sich für uns TV-DXer ein Problem: wir können Satelliten mit der falschen Polarisierung kaum empfangen, ohne den Erreger zu wechseln, obwohl wir in der Strahlrichtung liegen. Für diese Möglichkeit wird an einer Parabolspiegelantenne mit umschaltbarer Polarisationsrichtung gearbeitet, die wechselseitigen Betrieb zuläßt.



Linksdrehend polarisierte Schwingung , verdeutlicht mit zwei Kreuzyagi - Antennen .

Sich auf eine Drehrichtung zu einigen, hätte wenig Sinn, denn viele Frequenzen werden mehrfach ausgenutzt, da der anders polarisierte Nachbarsatellit mit schwächerer Feldstärke auf dem Nachbarkanal einfällt. Somit können Satelliten in mitteleuropäischer Orbitalposition 19 West auf sich überlappenden Kanälen betrieben werden.

Die Umsetzung der TV- und Rundfunksignale zwischen 11,7 und 12,5 GHz übernimmt unmittelbar hinter der Parabolantenne ein Konverter mit sehr geringem Eigenrauschen. Am Ausgang des Konverters liegt ein 800MHz breites Frequenzband an, in dem bis zu 40 TV-Programme Platz haben. Diese Zwischenfrequenz von 950 bis 1750 MHz läßt sich noch mit wenig Verlusten

von der Außen- zur Innenbaugruppe transportieren. Die Innenbaugruppe, die möglichst nahe an bisherigen Verstärkern auf dem Dachboden montiert ist, verarbeitet die eingehenden TV-Signale zu Bild+Ton und die digital eintreffenden Rundfunksignale in hörbare Töne, die von üblichen Geräten wiedergegeben werden können.

Die Übertragung der TV-Kanäle geschieht in Frequenzmodulation; die Remodulation erfolgt in der PAL-Norm B/G auf UHF und VHF, gleichzeitig ist es möglich, das Video-Signal mit Ton 1 und Ton 2 direkt über die AV-Buchse in den TV-Apparat einzuspeisen.

Grundsätzlich ist in Einzel- und Gemeinschaftsempfangsstellen zu unterscheiden. Bei einer Einzelempfangsstelle wird vom Teilnehmer der Mischoszillator mittels einer Fernsteuerung umgeschaltet, es werden somit etliche Frequenzumsetzer eingespart.

Die Gemeinschaftsantenne muß jedoch alle angebotenen Sat-TV-Programme gleichzeitig liefern und benötigt dazu für jeden Kanal den entsprechenden Umsetzer. Der Preis schlüsselfertiger Sat-TV-Anlagen wird auch nach seriemäßiger Fertigung wohl kaum auf unter DM 2000.- zu veranschlagen sein.

Sat - TV aktuell :

Das künftige französische 4.TV-Programm wird vom Direktempfangssatelliten TDF1 gespeist werden, der in der Orbitposition 19° geparkt ist. Dies bisherigen etwa 60 VHF-Sender von TF1 werden das Programm dann in SECAM abstrahlen.

Im Juli wurde der Hauptvertrag zur Fertigung der beiden Direktempfangssatelliten TDF1 und TV-Sat-1 unterzeichnet. Die Bereitstellung wurde auf Frühjahr 1985 vereinbart.

Satelliten-Programm

Vorschau vom 6. bis 12. September. Das englische Satelliten-Programm kann in einigen Gebieten des Rediffusion-Netzes empfangen werden.

Montag, 6. September

20.00 Skyways (12)
Spannende Geschichten auf einem Flughafen
20.45 Big League Soccer (2)
Serie über die englische Fussball-Elite
21.45 The mas maker
Mit Marcel Marceau

Schweiz: Überraschenderweise wurde die Konzession zum Bau des schweizerischen TelSat vom Schweizer Bundesrat verweigert. Der TV-Satellit wird somit kaum vor dem Frühjahr 1988 in Probebetrieb gehen. Davon unberührt wird das englische (von OTS-2) und seit kurzem auch das russische (von Gorizont) TV-Programm in Kabelnetze der Rediffusion eingespeist und erscheint in schweizer Fernsehzeitschriften mit fester Programmankündigung.



20 Years Ago



The signal of ASTRA are so high within the center beam that even with this extreme little offset dish with 35 x 39 cm diameter a perfect reception is possible. The little antenna can be mounted on the car roof. The receiver delivered together with the antenna is equipped for 12 Volt car battery operation.



GERÄTE VORSTELLUNG

Miniatur-Offsetantenne für einwandfreien ASTRA-Empfang

Mini Sat

Ach, wie erinnern wir uns an die Zeiten, als ein ASTRA-Empfang mit 60 cm Schüsseln als unmöglich angesehen wurde. Denn die Experten hatten als unterste Grenze 90 cm ausgerechnet. Und jetzt kommt die Firma AURA e.c., im Vertrieb der Satelliten-Farm und der Firma EchoDec, mit einer Miniaturschüssel mit 35 x 39 cm Reflektorgröße auf den Markt. Wie soll denn das überhaupt funktionieren und mehr als nur himmlischen Schnee auf dem irdischen Schirm produzieren?

Selbst Befürworter kleiner Schüsseln raten von den Miniaturdingern ab, ist doch eine vernünftige Satellitentrennung hier technisch gar nicht mehr möglich.

Empfang

Natürlich haben die Experten recht, denn sie haben immer recht, weil sie alles mit Zahlen belegen können. Wir gehen den umgekehrten Weg und schließen das kleine Ding ganz einfach an und schauen, was dabei herauskommt.

Und siehe da, der ASTRA-Empfang klappt einwandfrei. Bei exakter Mitteneinstellung sind "Drop-Outs" (Fischchen) nicht mehr zu sehen. Erst bei starkem Regen, wenn also die Strecke vom Satelliten zur Empfangsantenne stärker bedämpft wird, tauchen zaghaft die ersten Drop-Outs auf. Und zwar je nach ASTRA-Sendebeam unterschiedlich; genaueres erzählen die Ausleuchtzonen der verschiedenen Beams.

Selbstverständlich verfügt eine solch kleine Antenne nicht über riesige Empfangsreserven, kommt jedoch nahe an die Empfangsleistung einer 60-cm-Antenne.

Zielgruppe

Diese kleine Einschränkung ist aber keine, wenn die Zielgruppe für diese Anlage eingegrenzt bzw. festgelegt wird: angesprochen werden die Camper im Inland, die bei ihrem Urlaub aufs Fernsehvergnügen nicht verzichten wollen. Oder Besitzer von Wochenendhäusern, die sich mit dieser Antenne und relativ GEZ-sicher die Bundesliga ins Grüne holen. Nicht zu vergessen Südfenster- und Balkonbesitzer, deren Hauseingentümer die Aufstellung von Antennen verbieten. Die



Satellitenempfang während der Fahrt? Nein, lieber nicht, aber im Stand dient das Fahrzeugblech als idealer Befestigungsgrund.

TELE-satellit 9/92

26

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Einige Receiver aber bieten nur wenige Kanäle von einem einzigen Satelliten. Holen Sie sich jetzt ALLE Sender von ALLEN Satelliten mit einem Monterey Multi-Satellitenreceiver von Chaparral Communications. Zwei aussergewöhnliche Modelle sind nun erhältlich; der preisgekrönte **Monterey 20*** und der neue **Monterey 40**, der mit einem hervorragenden Anzeigedisplay ausgestattet ist.

Monterey macht es Ihnen leicht.
Monterey Receiver sind kinderleicht zu bedienen. Sie wählen ganz einfach den Namen des gewünschten Kanals aus dem anwenderfreundlichen Bildschirmmenü aus und alles andere macht der Receiver von selbst. Er positioniert die Antenne und stellt den Kanal automatisch ein. Sogar den Decoder aktivierter, falls nötig. Sie geniessen die grösstmögliche Auswahl an Satellitenprogrammen mit geringstem Aufwand.

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* Von der Zeitschrift "What Satellite" im April 1991 als bester Multi-Satellitenempfänger ausgezeichnet.
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10 Years Ago

TELE-satellite's Editorial 10 Years Ago

Dear Readers!

Does PayTV have a future? If you take a look around you might not think so. One PayTV provider after another seems to be either going out of business or merging with another provider.

I'm actually surprised that so many of these companies have lasted as long as they have. I could never understand why someone should have to pay to watch TV or, for that matter, to listen to the radio, like I enjoy doing. I wouldn't pay to listen to birds sing and a waterfall in the mountains would run its course whether or not I was there to hear it, and I wouldn't pay for that either.

My point is this: TV and radio have naturally evolved to where it is a normal part of our lives. I should not have to pay for this, at least not directly. Indirectly is a different story. I have to buy the satellite equipment consisting of a receiver and a dish.

And I would no doubt also be influenced into buying products that I happened to see in TV ads.

When I think about it a little more, I have determined that I would only pay for something that I can physically hold in my hands. I have no trouble paying for a book or for a magazine like this issue of TELE-satellite. I would even spend money on a DVD or a CD-ROM if these things weren't so expensive.

But for TV? Or to access information in the Internet? No way! This has to be financed in some other way. How? I don't care, that's not my problem.

That there are more than enough freely available TV and radio programs out there proves that it is possible. Of the more than 10,000 programs that SatCoDX has in its lists, 6,000 of them are freely receivable (2000 of these are radio programs). As far as I am concerned, the remaining 4000 channels that want my money can simply disappear, I don't need them. They don't see any of my money anyway.

I suspect that long-running free TV channels will ultimately prevail, even in regions like North America where PayTV is still successful. In a few years one satellite will start transmitting (like ASTRA and HOTBIRD did a few years ago in Europe) freely available programs. Not long after that, those people that are still paying to watch TV will start asking themselves why they are still doing that.

Of course PayTV still has a reason to exist. Many programs (such as sporting events or first run movies) are only carried via PayTV.







NOKIA: Terrestrial PayTV and FTA

The slowly increasing availability of DVB-T receivers can be divided into two categories. There are those units that are designed for use just in Europe without the ability to select the transmission mode (2K/8K) or the Gard Interval (1/4 – 1/32). These receivers could not be used in Australia for example. A DVB-T receiver that could be used nearly anywhere in the world is the 9828 T from Nokia. We say "nearly" because this receiver can't handle NTSC signals.

The 9828 T really doesn't look any different on the outside compared to its satellite receiver brothers from Nokia. The typical front panel includes a display that either shows the current channel or the current programming mode. The buttons for channel selection are found behind a flap. This is where you will also find the slots for use with various CA modules. Yes, even with DVB-T there will eventually be PayTV and Nokia decided to plan ahead by including this feature in their receiver.

On the rear panel the antenna signal is transported via a UHF modulator. Two Scart connectors deliver video and audio to a TV and a VCR. Audio outputs for a stereo system are also provided via a pair of RCA jacks. A third RCA jack provides a digital audio output.

ECHOSTAR: Small but Beautiful

Two things have been successfully introduced into ECHOSTAR's receivers: the unique ECHONAV navigation system and the informative multilingual user manuals. This holds true for every receiver in ECHOSTAR's new product line, including the extremely compact DSB-707 FTA.

It's amazing how it was possible to fit everything into a 25.5 x 20.0 cm (10.0 x 7.9 inch) cabinet. And this at a height of only 4.0 cm (1.6 inches). On the front panel of this tiny receiver is a set of three small buttons that allow control directly on the receiver but not actual receiver programming. Because of its small size, there was no room for a display. There is however an LED that indicates the receiver's status. It gets a little tight on the rear panel since ECHOSTAR wanted to include a looped-through IF input, two Scart connectors, a serial interface and four RCA jacks for video, analog stereo audio and digital audio (!) outputs. And with the little space that was left, ECHOSTAR also managed to fit a modulator.

The inside of the box is also just as feature-rich. It can handle 4000 channels (1300 transponders) and 100 satellites. This suggests that this receiver should be used with a motorized system. In addition to DiSEqC 1.0, it comes with DiSEqC 1.2 just for this purpose.





TELE-satellite Superguide TV 2002

Superguide TV

TVN

HOTBIRD (13.0) *- 11148, H, 6.60 & 7,02 & 7.20; 11178, H, 21100, 3/4; 12211, H, 5632, 3/4; 12573, H, 5632, 3/4*
Language: Polish

CET: UTC+2h

Weekdays

05:35	**Kropka nad I**	Polish
05:50	**Tajemnice Pokalunku** Mexican series	Polish
06:35	**Telesklep** Home Shopping	Polish
07:05	**Brzydula** Colombian soap	Polish
07:50	**Childrens Programmes** Cartoons	Polish
09:30	**Tele Gra** Game show	Polish
10:30	**Telesklep** Home Shopping	Polish
11:50	**Rozmowy w toku** Talk Show	Polish
13:25	**Childrens Programmes** Cartoons	Polish
14:15	**Beverly Hills 90210** US Drama	Polish
15:15	**Millionerzy** Big-money quiz	Polish



16:00	**TVN Fakty** News	Polish
16:15	**Brzydula** Soap	Polish
17:10	**Tajemnice Pokalunku** Argentinian Soap	Polish
18:00	**Rozmowy w toku**	Polish
19:00	**TVN Fakty** News	Polish
19:30	**Kropka nad I**	Polish
19:45	**Sport**	Polish
19:50	**Pogoda**	Polish
20:00	**Entertainment** Top US shows, dubbed	Polish
22:30	**TVN Fakty**	Polish
23:20	**News & Entertainment**	Polish

Weekends

6:00	**Telesklep** Home Shopping	Polish
7:00	**Brzydula** Soap	Polish
7:15	**Childrens programmes**	Polish
11:00	**Droga do gwiazd** Series	Polish
11:30	**Talk shows**	Polish
12:55	**Co za tydzie** Magazine Programme	Polish
13:40	**Animated series** Sun: Game shows	Polish
14:45	**Beverly Hills 90210**	Polish
16:15	**Nauka jazdu**	Polish
17:10	**Series** Sun: Nauka jazdy	Polish
19:00	**TVN Fakty**	Polish
19:30	**Sport** Sun: Millionerzy	Polish
20:00	**Superkino** Major movie (Sun: Big Brother)	Polish
22:15	**Movie**	Polish
0:00	**Comedy**	Polish

DD INDIA

PAS 10 68.5E *4034V 19565 3/4*
PAS 9 58W *11477H 26463 3/4*
Language: Hindi, English and other Indian languages

UTC+5.5h: Delhi time zone

Daily schedule

06:00	**Music programme**	Hindi
06:30	**Fitness programme** with News Hour at 07:00	Hindi
08:00	**Namskar**	Hindi
08:30	**Current affairs** Wed: Update on Kashmir	Multi
09:00	**News and current affairs**	Hindi
09:30	**Series and music programmes**	Multi
10:00	**Music, cinema and series features** with News Headlines	Multi
10:30	**Bollywood and music programmes** Thu: Chart Toppers	Hindi
11:00	**Series and music programmes** with News Headlines	Multi
11:30	**Talak Kyon** Sat: Children's programme	Hindi
12:00	**Antaraal** with News Headlines	Hindi
12:30	**Hello Inspector** Series	Hindi
13:00	**Sanjog** with News Headlines	Hindi
13:30	**Daily soaps** Sun: Ek Zara Si Baat	Hindi
14:00	**Samachar** News	Hindi
14:15	**News**	English
14:30	**Matinee Mazza** Sat: Fashion	Hindi
14:50	**News**	Urdu
15:00	**Film**	Hindi
17:30	**Series**	Hindi
18:00	**Children's programmes** Thu: Khidkayan	Hindi
18:30	**Soaps** Sun: Children's programme	Hindi
19:30	**Soaps and serials** Wed: Mere Humsafar	Hindi
20:00	**News**	English
20:30	**Antaraal** Sat:Aap Beeti	Hindi
21:00	**Maryada** Sat: Surag	Hindi
21:30	**Hello Inspector** Sat: film	Hindi
22:00	**Dahleez**	Hindi
23:30	**Serials and film features**	Hindi
0:00	**News and series** Mon: Mindscapes	Hindi



0:30	**Film** Sat/Sun: Music and serials	Hindi
3:00	**Antaraal** Daily soap	Hindi
3:30	**Soaps**	Hindi
4:00	**Kunti** Sat: Dawat cookery show	Hindi
4:30	**Music features**	Hindi
5:00	**Series and cinema features** Sat: Ujala	Hindi
5:30	**Soaps and documentary**	Hindi

BVN

HOTBIRD (13.0) *- 12303, V, 27500, 3/4;* ***ASTRA (19.2)*** *- 12574, H, 22000, 5/6;* ***NSSK 803 (338.5)*** *- 11892, H, 3400, 3/4; 11892, V, 3400, 3/4*
Language: Dutch

CET: UTC+2h

Weekdays

18:00	**NOS Journaal** Daily news programme	Dutch
18:15	**Tik Tak** Fun for children	Dutch
18:20	**BVN-TV Voor Kinderen** Children's programme	Dutch
18:25	**Het Klokhuis** The Clockhouse	Dutch
18:40	**Information programmes**	Dutch
20:00	**Studio NL** News magazine	Dutch
20:30	**NOS Journaal** News magazine	Dutch
20:55	**Weerbericht** Weather forecast	Dutch
21:00	**Entertainment**	Dutch
22:50	**NOS Sportjournaal** Sports news	Dutch
23:00	**Nova** Current affairs	Dutch
23:45	**Music and chat prg.**	Dutch

Saturday

18:00	**NOS Journaal** Daily news programme	Dutch
18:15	**Hopla** Young children's show	Dutch
18:20	**BVN-TV Voor Kinderen** Children's programmes	Dutch
18:25	**Het Klokhuis** The Clockhouse	Dutch
18:40	**Het Regiojournaal**	Dutch
19:10	**VRT Journaal** News from Flanders	Dutch
19:40	**Diesen in Nesten**	Dutch
20:00	**Studio NL**	Dutch
20:30	**NOS Journaal**	Dutch
20:55	**Weerbericht**	Dutch
21:00	**Entertainment** Mon: Quiz show	Dutch
21:40	**Comedy programmes**	Dutch
22:30	**Information programmes**	Dutch
23:05	**NOS Studio Sport**	Dutch

Sunday

14:30	**De Zevende Dag** Politics, media and culture	Dutch
16:00	**Buitenhof** Talk show	Dutch
16:55	**Pauze** Transmission break	Dutch
17:00	**De Matinee** Music programme	Dutch
18:05	**Hopla** Children's programme	Dutch
18:25	**Series**	Dutch
19:00	**Afrit 9**	Dutch
19:25	**VRT Journaal** New from VRT	Dutch
20:00	**Travel programme**	Dutch
20:30	**Nos Journaal**	Dutch
20:40	**Weerbericht** Weather forecast	Dutch
20:45	**Flikken** Political series	Dutch
21:35	**Het Zwarte Schaap** Discussion programme	Dutch
22:25	**Pauw In Panama**	Dutch
23:05	**NOS Studio Sport** Sports show	Dutch



21:00 **Music shows**
Tue: Show Music Talk



16:00 **Buitenhof**
Talk show

PTA

Thaicom 3 78.5E *3640H 28066 3/4*
Eutelsat Sesat 36E *12561V 3254 2/3*
Hot Bird 3 13E *12111V 27500 3/4*
Language: Armenian, English, Russian

UTC+5h: Yerevan time

Weekdays

09:00	**Hailour** News	Armenian
11:00	**Love Magic** Series	Armenian
11:45	**Science Film**	Armenian
12:40	**Informative programmes** Thu: Cookery	Armenian
13:00	**Hailour** News	Armenian
13:20	**Arts & Culture**	Armenian
14:00	**Music Channel** Music programmes	Armenian
17:00	**Hailour**	Armenian
17:20	**Cartoons**	Armenian
17:45	**Informative prg.**	Armenian
19:00	**Evening Yerevan** Main news broadcast	Armenian
20:00	**From Everywhere**	Armenian
20:10	**Documentary**	Armenian
20:35	**Toon - Toonik** Cartoons for children	Armenian
21:00	**Hailour**	Armenian
22:00	**Documentaries**	Armenian
23:40	**Football Hailour** Football news	Armenian
00:00	**Hailour**	Armenian
00:20	**Film** includes following prg.	Armenian
01:20	**Hailour** News in Russian	Russian
01:25	**Hailour** News in English	English

Saturday

09:00	**Hailour** News	Armenian
09:30	**Fa, Sol, La**	Armenian
10:30	**Documentary**	Armenian
11:00	**Love Magic** Series	Armenian
11:45	**Arts and History**	Armenian
13:30	**TV Library**	Armenian
14:00	**Arevik**	Armenian
14:30	**Religion for Life**	Armenian
15:00	**Heath World**	Armenian
15:20	**Theatre**	Armenian
17:00	**Hailour**	Armenian
17:20	**Religious Cartoon** Illustrated Bible Stories	Armenian
17:45	**Agro-TV** Farming informaion	Armenian
18:10	**Bon Appetite** Cookery	Armenian
18:30	**Evening Yerevan** News	Armenian
20:35	**Cartoons**	Armenian
21:00	**Hailour**	Armenian
21:50	**Entertainment**	Armenian
23:40	**Football Hailour**	Armenian
00:00	**Hailour**	Armenian

Sunday

9:00	**Hailour** News	Armenian
9:20	**Documentary**	Armenian
10:05	**Barev!** Morning magazine	Armenian
11:05	**Cartoons**	Armenian
11:30	**Circus program**	Armenian
11:40	**Chess-64**	Armenian
12:00	**Zinooj**	Armenian
13:00	**Science Film**	Armenian
14:00	**Film**	Armenian
15:20	**Live Together**	Armenian
16:45	**Religious programmes**	Armenian
18:00	**Cartoons**	Armenian
18:10	**Bon Appetite** Cookery	Armenian
19:00	**House of Laugh** Comedy	Armenian
20:00	**Documentaries**	Armenian
22:00	**Agenda** Current affairs	Armenian

AL-MANAR CH.

ARABSAT 2A,3A (26.0) *- 11785, V, 27500, 3/4;* ***TELSTARS (263.0)*** *- 12152, H, 20000, 3/4;* ***NSS806 (319.5)*** *- 3803, R, 25357, 3/4;* ***NSSK, 803 (338.5)*** *- 4055, R, 27500, 3/4*
Language: Arabic

UTC + 3h: Beirut time

Daily Schedule

03:30	**Anbaa & Araa**	Arabic
04:30	**Discussion programmes** Politics and culture	Arabic
06:00	**Documentaries**	Arabic
06:30	**Quraan Al-Karim** Religious programming	Arabic
07:00	**Adiya wa mounajat**	Arabic
07:30	**Morning News**	Arabic
08:00	**Live Lebanon and the world** News magazine	Arabic
9:30	**News Brief**	Arabic
9:45	**Live Lebanon and the world**	Arabic
11:30	**News Brief**	Arabic
11:45	**Oars el sakar**	Arabic
12:30	**News features** Fri: Religion & Life	Arabic
13:30	**News Brief**	Arabic
13:45	**Discussion programmes** Sun: Viewer's phone-in	Arabic
14:30	**English News** Tue: My Municipality (Arabic)	English
15:00	**News & Documentaries**	Arabic
15:30	**Noon News**	Arabic
16:00	**Pictures & Events** Images of news events	Arabic
16:30	**Al-Manar Assaghir** Children's programmes	Arabic
17:30	**News Brief**	Arabic
18:00	**News features** Sat: Sport Talent	Arabic
19:30	**Drama**	Arabic
20:30	**Evening News**	Arabic
21:00	**Documentaries & Education** includes British "Open University" programmes	Arabic
21:30	**News and features** Wed: What else?	Arabic
23:30	**Anbaa & Araa**	Arabic
00:30	**Pictures & Events**	Arabic

ARIRA

HOTBIRD (13.0) *- 12220,*
AMSAT 8 (166.0) *- 3815,*
AMSAT 9 (302.0) *- 3880,*
Languages: Korean or En

UTC + 9h: Seoul

Weekdays

08:50	**Let's Speak Kor**
09:10	**Korean News U**
09:30	**Cartoon Time**
10:00	**Kidsland WoWo**
10:30	**Documentary** Tue: Company Cl
11:00	**Shooting for th** Drama
12:00	**Arirang News**
12:20	**Heart to Heart** English talk show
12:50	**Documentaries** **Entertainment** Fri: Performing A
15:00	**Arirang News** News and weathe
15:20	**Entertainment** Thu: Quiz Champ
16:20	**Marriage Game** Daily soap
16:50	**Geo Korea** Korean natural hi
17:00	**Biz Today** Daily business ne
17:10	**Documentaries** **Entertainment** Mon: Pop music
19:00	**Korean News U**
19:10	**Cartoon Time** Animation for chi
19:40	**Let's Speak Kor** Language course
20:00	**Heart to Heart** Talk show
20:30	**Marriage Game** Daily soap
21:00	**Music shows** Tue: Show Music
21:50	**Modern Eastern**
22:00	**Arirang News**
22:20	**Geo Korea**
22:30	**Documentary** Thu: Now in Kore
23:00	**Shooting for th** Drama. Fri: The Contenders (quiz
00:00	**Korean News U**
00:20	**Documentaries** **Entertainment** Fri: Amazing Cou
01:10	**Music shows** Mon: Pops in Seo

Saturday

08:40	**Let's Speak Kor** Language course
09:00	**Korea This Wee** News review
09:30	**Now in Korea** Cultural news
10:00	**Peninsula Scop** North/South Kore
10:30	**Trading Post** Business news
11:00	**Korean News U**
11:10	**Pops in Seoul** Korea's pop chart
12:00	**Arirang News** News and weathe
12:20	**In Style** Fashion news
12:50	**In Focus** Current affairs de
13:50	**The Contenders**
14:50	**Export Today**
15:00	**Arirang News**
15:20	**Asian Cuisine T** Cookery show
16:10	**Performing arts**
18:00	**Arirang News**
18:10	**Amazing Couple** Comedy
19:00	**In Focus**
20:00	**Cuisine Korea** Korean food
20:30	**Showbiz Extra**
21:00	**Quiz Champion** Quiz for students
22:00	**Arirang News** World and Korea
22:20	**Export Today**
22:30	**Korea This Wee**
23:00	**One of a Kind** Family drama
00:00	**Movie World** A Korean movie

Sunday

09:20	**Asian Cuisine T**
10:10	**Documentary W** Documentaries fr Korean TV
11:00	**Korean News U**
11:10	**In Focus** Current affairs de
12:00	**Peninsula Scop** Current affairs
12:30	**Trading Post**
13:00	**Quiz Champion** Quiz show for stu
14:00	**Showking-M**
14:50	**Korea This Wee** A run-down of th events
15:20	**Cuisine Korea**
16:00	**Sound and Moti** Performing arts
17:00	**Trading Post**
17:30	**Now in Korea** Culture & arts ne
18:00	**Arirang News**
18:10	**Pops in Seoul** The Korean pop c
19:00	**Export Today**
19:10	**Asian Cuisine T**
20:00	**Happy Network** Koreans around t
20:50	**Dynamic Korea**
21:00	**The Contenders** Quiz show
22:00	**Arirang News** World and Korea news and weathe
22:20	**Export Today**
22:30	**More Than Kim** Cookery
23:00	**One of a Kind** Family drama

NG

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CCTV 9

PANAMSAT 7,10 (68.5) - 4090, H, 13240, 3/4; ***ASIASAT 2 (100.5)*** - 12452, H, 13240, 3/4; ***ASIASAT 3S (105.5)*** - 4129, H, 13240, 3/4
Language: English

UTC + 8h: Beijing time

Weekdays

03:30	**Around China**	English
04:00	**News Asia**	English
04:15	**China in the 20th Century**	
04:20	**Music Box**	English/Chinese
04:30	**Documentary**	
05:00	**Headline News**	English
05:15	**After School Chinese**	
05:30	**Center Stage**	English
06:00	**Financial Report**	English
06:15	**Various**	
	Wed: Travelogue	English
06:30	**Dialogue**	English
08:30	**Documentary**	
	China and its people	English
09:00	**Culture Express**	English
09:30	**Center Stage**	English
10:00	**Headline News**	English
10:15	**Various**	
	Thu: Rediscovering China	English
10:30	**Dialogue**	English
11:00	**Financial Report**	English
11:15	**China in the 20th Century**	English
11:20	**Music Box**	English/Chinese
11:30	**Around China**	English
12:00	**CCTV News**	English
12:30	**Documentary**	English
13:00	**CCTV News**	English
13:30	**Center Stage**	English
14:00	**Financial Report**	English
14:15	**After School Chinese**	English
14:30	**Dialogue**	
15:00	**Headline News**	English
15:15	**Various**	
	Mon, Tue, Fri: Kungfu	English
15:30	**Around China**	English
16:00	**Headline News**	English
16:15	**Shanghi Today**	English
16:20	**Music Box**	English/Chinese
16:30	**Documentary**	
17:00	**Healine News**	English
17:15	**After School Chinese**	
	Sun: Travelogue	English
17:30	**Center Stage**	English
18:00	**Financial Report**	English
18:15	**Shanghai Today**	English
18:30	**Dialogue**	
19:00	**World Wide Watch**	English
19:15	**Around China**	English
20:00	**Culture Express**	English
20:15	**Various**	
	Wed: Travelogue	English
20:30	**Documentary**	
21:00	**World Wide Watch**	
	Environmental issues	English
21:30	**Center Stage**	
	Arts and culture	English
22:00	**CCTV News**	English
22:30	**Dialogue**	English
23:00	**Sports Scene**	English
23:15	**China in the 20th Century**	
23:20	**Music Box**	English/Chinese
23:30	**Around China**	English
00:00	**CCTV News**	English
00:30	**Documentary**	English
01:00	**Financial Report**	English
01:15	**After School Chinese**	
01:30	**Center Stage**	English
02:00	**Culture Express/ Sports Scene**	English
02:30	**Dialogue**	
03:00	**Headline News**	English
03:15	**Various**	
	Mon,Tues, Fri: Kungfu	English

Saturday

06:00	**Financial Report**	English
06:15	**Kung Fu**	English
06:30	**Dialogue**	English
07:00	**News Asia**	English
07:15	**China in the 20th Century**	
	Chinese history	English
07:20	**Music Box**	English
07:30	**Around China**	
	Stories from around the country	English
08:00	**News Headlines**	English
08:15	**After School Chinese**	English
08:30	**Documentary**	English
09:00	**Culture Express**	English
09:30	**Center Stage**	English
10:00	**Headline News**	English
10:15	**Kung Fu**	
	Martial arts course	English
10:30	**Dialogue**	English
11:00	**Financial Report**	English
11:15	**China in the 20th Century**	English
11:20	**Music Box**	English
11:30	**Around China**	English
12:00	**CCTV News**	English
12:30	**Documentary**	English
13:00	**CCTV News**	English
13:30	**Center Stage**	English
14:00	**Financial Report**	English
14:15	**After School Chinese**	
	Language course	English
14:30	**China Today**	English
15:00	**Headline News**	English
15:15	**Kung Fu**	English
15:30	**Around China**	English
16:00	**Headline News**	English
16:15	**Shanghi Today**	English
16:20	**Music Box**	English
16:30	**Financial Review**	
	The week's finance news	English
17:00	**Headline News**	English
17:15	**After School Chinese**	English
17:30	**Center Stage**	English
18:00	**Financial Report**	English
18:15	**Shanghai Today**	English
18:30	**China Today**	English
19:00	**World Wide Watch**	English
19:15	**Around China**	English
20:00	**Culture Express**	English
20:15	**Rediscovering China**	
	Changes in China	English
20:30	**Financial Review**	English
21:00	**World Wide Watch**	English
21:30	**Center Stage**	English
22:00	**CCTV News**	English
22:30	**China Today**	English
23:00	**Sports Scene**	English
23:15	**China in the 20th Century**	English
23:20	**Music Box**	English
23:30	**Around China**	English
00:00	**CCTV News**	English
00:30	**Documentary**	English
01:00	**Financial Report**	English
01:15	**After School Chinese**	English
01:30	**Center Stage**	English

AL JAZEERA

HOTBIRD (13.0) - 12111, V, 27500, 3/4; ***ARABSAT 2A,3A (26.0)*** - 4123, R, PAL, 6.60 & 7.50; ***EUROBIRD (25.5)*** - 11585, H, 27500, 2/3
Language: Arabic

UTC

Daily Schedule

01:00	**Today's News**	Arabic
02:00	**Documentary**	Arabic
02:30	**Current affairs**	
	Sun: Week review	Arabic
02:45	**Pictures Talk**	
	News without commentary	Arabic
03:00	**News Bulletin**	Arabic
03:15	**Weather Bulletin**	Arabic
03:20	**Preview**	Arabic
03:30	**News and sports features**	
	Fri: Documentary	Arabic
04:00	**News Bulletin**	Arabic
04:05	**Documentary**	Arabic
04:30	**Sports News**	
	World sports results	Arabic
04:45	**Pictures Talk**	Arabic
05:00	**Al Jazeera This Morning**	
	News magazine	Arabic
06:05	**Debate**	
	Sun: Correspondents	Arabic
07:00	**News Bulletin**	Arabic
07:25	**Current affairs**	Arabic
08:00	**News Bulletin**	Arabic
08:10	**Press Review**	
	Review of Arabic newspapers	Arabic
08:30	**Sports and news features**	
	Fri: Fashion news	Arabic
09:00	**News Bulletin**	Arabic
09:30	**Sports News**	Arabic
09:45	**Weather Bulletin**	Arabic
09:55	**Preview**	Arabic
10:00	**News Bulletin**	Arabic
10:10	**Press Review**	Arabic
10:30	**Sports Minute**	Arabic
10:30	**Paper review**	Arabic
10:35	**Discussion**	
11:00	**News Summary**	Arabic
12:00	**News Summary**	Arabic
12:05	**News features**	
	Thu: Foreign Correspondents	Arabic
13:00	**Al Jazeera Midday**	
	Lunchtime news magazine	Arabic
13:55	**Preview**	Arabic
14:00	**News Bulletin**	Arabic
14:10	**Economic Bulletin**	
	Sat/Sun: Documentary	Arabic
14:25	**Preview**	Arabic
14:30	**Sports Minute**	Arabic
14:45	**Weather Bulletin**	Arabic
14:50	**Pictures Talk**	Arabic
15:00	**News Bulletin**	Arabic
15:30	**Arabic Sports**	
	Sat: Cinema news	Arabic
16:00	**News Summary**	Arabic
16:05	**Documentary**	Arabic
16:30	**Sports Bulletin**	Arabic
16:45	**Economic Bulletin**	
	Sat/Sun: Documentary	Arabic
17:00	**News Bulletin**	Arabic
17:30	**Documentary**	
	Sat: Review of the past week	Arabic
18:00	**News Bulletin**	Arabic
18:30	**Preview**	
	Thurs: Paper review	Arabic
18:35	**Debate**	
	Includes News Summary at 19:00	Arabic
20:00	**Today's Harvest**	
	Main daily news broadcast	Arabic
21:05	**News & Current Affairs**	
	Fri: Al Jazeera Correspondents	Arabic
21:35	**Documentary**	Arabic
22:00	**News Bulletin**	Arabic
22:10	**Economic Bulletin**	
	Sat/Sun: Documentary	Arabic
22:30	**Sports News**	Arabic
22:45	**Weather Bulletin**	Arabic
22:50	**Preview**	Arabic
23:00	**News Bulletin**	Arabic

Sunday

06:00	**Financial Report**	English
06:15	**Rediscovering China**	English
06:30	**Dialogue**	English
07:00	**News Asia**	English
07:15	**China in the 20th Century**	English
07:20	**Music Box**	English
07:30	**Around China**	English
08:00	**News Headlines**	English
08:15	**After School Chinese**	English
08:30	**Documentary**	English
09:00	**Culture Express**	English
09:30	**Center Stage**	English
10:00	**Headline News**	English
10:15	**Rediscovering China**	English
10:30	**Dialogue**	English
11:00	**Financial Report**	English
11:15	**China in the 20th Century**	English
11:20	**Music Box**	English
11:30	**Around China**	English
12:00	**CCTV News**	English
12:30	**Documentary**	English
13:00	**CCTV News**	English
13:30	**Center Stage**	English
14:00	**Financial Report**	English
14:15	**After School Chinese**	English
14:30	**China This Week**	
	Weekly news review	English
15:00	**Headline News**	English
15:15	**Kung Fu**	
	Learn the ancient art	English
15:30	**Around China**	English
16:00	**Headline News**	English
16:15	**Shanghi Today**	English
16:20	**Music Box**	English
16:30	**Business Guide**	English
17:00	**Headline News**	English
17:15	**Travelogue**	
	Travel in China	English
17:30	**Center Stage**	English
18:00	**Financial Report**	English
18:15	**Shanghai Today**	English
18:30	**China This Week**	English
19:00	**World Wide Watch**	English
19:15	**Around China**	English

TV7 TUNISIA

HOTBIRD (13.0) - 12149, V, 27500, 3/4; ***ASTRA (19.2)*** - 10788, V, 22000, 5/6; ***ARABSAT (26.0)*** - 12735, V, 27500, 3/4
Languages: Arabic, French

UTC + 1h: Tunis time

Weekdays

06:00	**Coran**	
	Religion	Arabic
06:30	**Enfantines**	
	Childrens programme	Arabic
07:00	**Brise matinale**	Arabic
09:30	**Feuilleton**	Arabic
10:40	**Documentary and debate features**	
	Mon/Tue: Enfantines	Arabic
12:30	**Variétés (part 1)**	Arabic
13:00	**Infos**	
	News	Arabic
13:45	**Variétés (part 2)**	Arabic
15:00	**Info**	Arabic
15:10	**Feuilleton**	
	Thurs: Medicale Clinique televisuelle	Arabic
16:00	**Enfantines**	
	Childrens programme	Arabic
17:55	**Various**	
	Mon/Tue/Wed: Des chiffes et des lettres	Arabic
18:30	**Infos**	Arabic
18:50	**Enfantines**	Arabic
20:00	**Journal du soir**	
	Evening news	French/Arabic
20:45	**News and Entertainment**	
	Tue: Espace de Débat	Arabic
23:45	**Documentary**	Arabic
00:50	**Coran**	
	Weds: 01:45 start	Arabic

Saturday

07:00	**Coran**	
	Religious readings	Arabic
08:15	**Enfantine**	
	Childrens programme	Arabic
10:00	**Télémédecine**	
	Medical programme	Arabic
11:00	**Variété**	Arabic
13:30	**Infos**	Arabic
15:30	**Samedi Sport**	Arabic
16:30	**Feuilleton**	Arabic
17:30	**Infos**	Arabic
18:00	**Comportements**	
	Drama series	Arabic
18:30	**Infos**	Arabic
18:45	**Le Monde de L' Internet**	
	Internet related news	Arabic
20:00	**Journal du soir**	Arabic
20:50	**Feuilleton**	Arabic/French
21:30	**Musika**	Arabic
23:30	**Dern. Infos**	Arabic
23:50	**Film**	Arabic
01:45	**Coran**	
	Religion	Arabic

Sunday

06:00	**Coran**	
	Readings	Arabic
07:00	**Variété**	Arabic
09:30	**Special**	Arabic
10:45	**Variété**	Arabic
12:30	**Soleil du dimanche (part 1)**	Arabic
13:30	**Infos**	Arabic
13:45	**Soleil du dimanche (part 2)**	Arabic
18:30	**Infos**	Arabic
18:45	**Soleil du dimanche (part 3)**	Arabic
19:00	**Journal de soir**	
	Second edition	Arabic
19:25	**Sourire**	Arabic
20:00	**Journal du soir**	Arabic
20:45	**Feuilleton**	Arabic/French
21:30	**Résumé du sport**	
	Sports news and results	Arabic

20:00	**Culture Express**	English
20:15	**Rediscovering China**	English
20:30	**Business Guide**	English
21:00	**World Wide Watch**	
	Environmental news	English
21:30	**Center Stage**	English
22:00	**CCTV News**	English
22:30	**Chine This Week**	English
23:00	**Sports Scene**	English
23:15	**TV Guide**	
	Future programmes on CCTV	English
23:20	**Music Box**	English
23:30	**Around China**	
	Stories and people a cross China	English
00:00	**CCTV News**	English
00:30	**Documentary**	English
01:00	**Financial Report**	English
01:15	**Travelogue**	English
01:30	**Center Stage**	English
02:00	**Culture Express/Sports Scene**	English
02:30	**China This Week**	English
03:00	**Headline News**	English
03:15	**Rediscovering China**	English
03:30	**Around China**	English
04:00	**News Asia**	English
04:15	**TV Guide**	English
04:20	**Music Box**	English
04:30	**Business Guide**	English
05:00	**Headline News**	English
05:15	**Travelogue**	English
05:30	**Center Stage**	English



Thai TV G. N.

HOTBIRD (13.0) - 12673, V, 27500, 3/4; ***Thaicom 2,3 (78.5)*** - 12666, V, 27500, 2/3; 3600, H, 26667, 3/4; ***OPTUS B3 (156.0)*** - 12336, V, 30000, 2/3
Languages: Thai, English

UTC + 7h: Bangkok time

Weekdays

02:50	**Travel programmes**	
	Wed: Boundless Adventure	Thai
03:15	**Cookery**	Thai
03:40	**Entertainment**	
	Tue: Krob Jakkrawan	Thai
04:00	**Entertainment**	
	Fri: 07 Show	Thai
06:00	**Father's Song**	
	Magazine style news show	Thai
06:15	**This Morning**	
	Breakfast show	Thai
07:00	**Baan Lek Tee 5**	
	Broadcast live	Thai
08:50	**Drama**	
	Mon: Pinai Krum	Thai
09:55	**Nation News**	
	News in English	English
10:50	**Entertainment**	
	Thu: Loke Kwang	Thai
11:35	**Entertainment**	
	Tue: Song Loke	Thai
12:00	**Midday News**	Thai
12:30	**Cookery**	
	Wed: Thai Taste	Thai
13:05	**Quiz show**	
	Fri: Music Chart Show	Thai
13:55	**Krong Sathanakarn**	
	Talk show	Thai



14:45	**Here Is Thailand**	Thai
15:35	**News Line**	Thai
16:05	**Soi Buppha Sawan**	Thai
16:40	**Entertainment**	
	Mon: Fan Bhan Tae	Thai
17:40	**This Morning**	Thai
18:35	**Travel programmes**	
	Thu: Sen Tang Phum Panya	Thai
19:00	**Daily News**	
	Events of the day live	Thai
20:15	**Game shows**	
	Wed: Raberd Terd Terng	Thai
21:00	**Entertainment Hotline**	
	Fri: Thai Export	Thai
21:15	**Here Is Thailand**	Thai
22:15	**Baan Lek Tee 5**	Thai
23:50	**Krong Sathanakarn**	Thai

Saturday

00:45	**Nation News Room**	English
01:45	**Ton Rak Dok Ngiew**	
	Drama series	Thai
02:50	**Smiling Thailand**	Thai
03:15	**Menu Shopping**	Thai
03:40	**Dhama Land**	Thai
04:05	**Jo Jai**	Thai
05:15	**ONO Show**	Thai
06:00	**Father's Song**	
	News magazine	Thai
06:50	**Puen Kaew**	Thai
07:15	**Sawasdee**	
	Be My Guest	Thai
07:45	**Wethee Thai**	Thai
08:50	**Ton Rak Dok Ngiew**	
	Drama	Thai
09:55	**Nation News**	English
10:50	**Amazing Thailand**	
	Thai scenery	Thai
11:45	**Sanya Mahachon**	
	Chat show	Thai
12:55	**Sarapan Plaeng**	Thai
13:50	**Thailand Adventure**	
	Travel show	Thai
15:10	**Yud Wela**	
	Game show	Thai
16:00	**Wethee Thai**	Thai
17:05	**Lumphini Kickboxing**	
	Live coverage	Thai
18:55	**Likay Ruam Daw**	Thai
19:15	**Weekend Morning**	Thai
20:00	**Daily News**	Thai
20:40	**Sabai Style Mayura**	Thai
21:05	**Na Na Na Show**	
	Entertainment show	Thai

Sunday

02:35	**Sanya Mahachon**	
	Talk show	Thai
03:45	**Ching Roi Ching Laan**	Thai
05:00	**Na Na Na Show**	Thai
06:00	**Father's Song**	
	News magazine style	Thai
06:50	**Baan Dek Dee**	Thai
07:20	**Taa Wai Man**	Thai
07:50	**Country Express**	Thai
08:50	**Pak Trong Kalaad**	
	Drama	Thai
09:55	**Nation News**	
	News for the nation	English
10:50	**Amazing Thailand**	Thai
11:45	**Thailand: Land of Culture**	
	Travel and culture show	Thai
12:40	**My School**	Thai
13:05	**Concert TV 5**	
	Live music concert	Thai
13:55	**Dad & Son in Kitchen**	Thai
14:45	**TGN Mailbox**	
	Viewer's opinions	Thai
15:15	**Country Express**	Thai
16:05	**Nueng Nai Pra Rajchadamri**	Thai
16:25	**Country Express**	
	Thai country music videos	Thai
17:25	**Wethee Thong**	Thai
18:20	**Concert TV 5**	Thai
19:10	**Beautiful World**	Thai
19:15	**Weekend Morning**	Thai
20:00	**Daily News**	Thai
20:40	**Sabai Style Mayura**	Thai
21:05	**Wonderful Tonight**	Thai
22:00	**Dhama Route**	Thai
22:30	**My School**	Thai
22:55	**Nueng Nai Prarajchadamri**	Thai
23:15	**Amazing Thailand**	
	Pop music and images	Thai

MTV Lebanon

ARABSAT 2A, 3A (26.0) - 11785, V, 27500, 3/4; ***NILESAT 101, 102 (353.0)*** - 12130, V, 27500, 3/4
Language: Arabic

UTC

Monday - Friday

12:00	**Oua Tensa**	Arabic
12:30	**Mini Studio**	
	Children's songs and cartoons	Arabic
13:30	**Tlob Wou Tmana**	Arabic
15:00	**@ MTV**	Arabic
16:00	**Comedy**	
	Thu: Candid Camera	Arabic
17:00	**Aghani Aghani**	
	Pop Videos	Arabic
17:30	**Kel Maylé Aylé**	
	Game show: "Family Feud"	Arabic
18:00	**MTV News**	Arabic
18:30	**Comedy**	
	Mon: SLHCI (political satire)	Arabic
19:00	**Game shows**	
	Fri: Kello Temsil	Arabic



20:00	**Entertainment and sports**	
	Mon: The World's Most	Arabic
21:00	**Entertainment**	Arabic
	Tue: Chouf Halak - variety show	
23:30	**Tlob Wou Tmana**	Arabic

Saturday

12:00	**Oua Tensa**	
12:30	**Mini Studio**	Arabic
13:30	**Tlob Wou Tmana**	
15:00	**@ MTV**	Arabic
16:30	**Aghani Aghani**	
	Arabic pop music	Arabic
17:30	**Kel Maylé Aylé**	
	Game show	Arabic
18:00	**MTV News**	Arabic
18:30	**Ghadan Yawm Akhar**	Arabic
19:30	**Jadal**	
21:00	**American Movie**	
23:30	**Tlob Wou Tmana**	Arabic

Sunday

12:00	**Qadaya Arabiya**	Arabic
12:30	**Mini Studio**	Arabic
13:30	**Tlob Wou Tmana**	Arabic
15:00	**@ MTV**	Arabic
16:30	**Aghani Aghani**	
	Pop videos	Arabic
17:30	**Kel Maylé Aylé**	
	Family Feud	Arabic
18:00	**MTV News**	Arabic
18:30	**Istifaa**	Arabic
20:30	**Maraya**	Arabic
21:30	**Bayrouth Ya Beyrouth**	Arabic
22:30	**Mini Chart Show**	
	Pop music	Arabic

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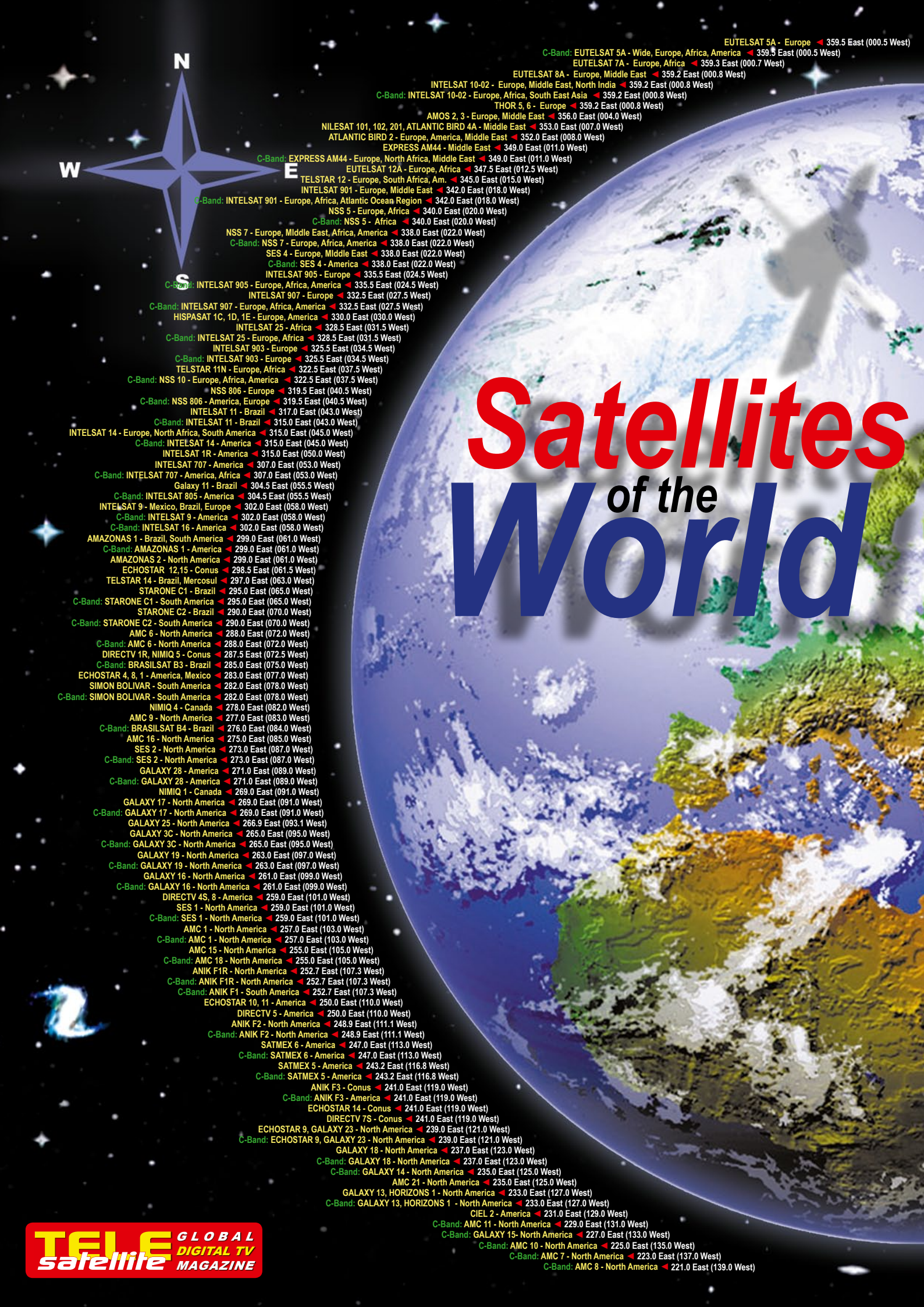
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UTC + 4h: Baghdad time

Daily schedule

00:45	**Press Review**	English
01:00	**News**	
	World and Middle-East news	Arabic
02:00	**News**	Arabic
03:00	**News**	Arabic
03:30	**Documentary**	
	History and current affairs	Arabic
04:00	**News**	English
	Iraq's view of world news	
04:30	**News Feature**	
	Thu: Cities and Civilisations	English
04:45	**Press Review**	
	English-language papers reviewed	English
05:00	**Documentary**	
	Current issues	Arabic
06:00	**News**	Arabic
06:30	**World News**	Arabic
07:00	**Interview**	
	Mid-east politics discussed	Arabic
08:00	**News**	English
08:30	**News feature**	
	Wed: Week Round-Up	English
09:00	**Interview**	Arabic
08:45	**Press Review**	English
10:00	**Current affairs**	Arabic
11:00	**Documentary**	
	Middle-East issues	Arabic
12:00	**News; music**	Arabic
13:00	**News**	
13:15	**Discussion**	Arabic
14:00	**Current affairs**	Arabic
15:00	**World News**	Arabic
16:00	**News**	Arabic
16:15	**Iraqi Drama**	
	Movies and serials	Arabic
19:00	**News; documentary**	Arabic
20:00	**News**	
21:00	**Interview**	Arabic





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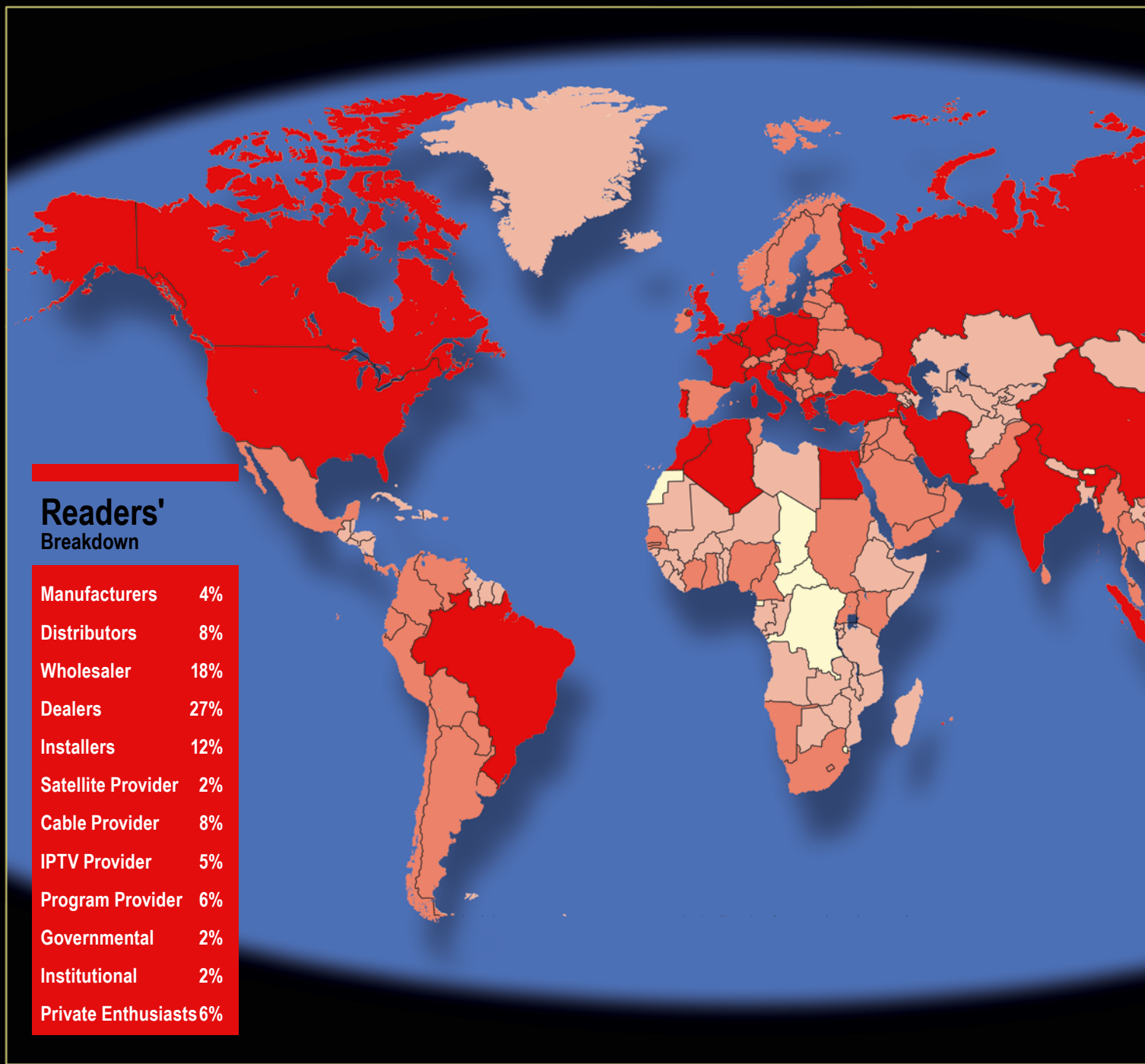
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Total Readership: >350 000 W

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Iran	14120
Italy	13981
UK	12658
Indonesia	10656
China	10418
Netherlands	10078
Turkey	9581
Romania	8645
Algeria	8566
France	8144
Hungary	6056
Poland	5722
India	5552
Belgium	5370
Russia	5310
Morocco	4941
Greece	4675
Czech Republic	4466
Portugal	4416
Egypt	4293
Spain	4187
Bulgaria	4016

Top 25 to 105 Countries
> 175 - 4000 Readers

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Norway	2198
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Chile	1965
Serbia	1917
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Ireland	1504
Denmark	1448
Thailand	1331
Venezuela	1270
Mexico	1149
Finland	1088
Philippines	1034
Colombia	998
Sri Lanka	966
Nigeria	891
Lithuania	872
Lebanon	861
Bosnia and Herzegovina	858
Jordan	848
Syria	838
South Korea	781
Yemen	746
Sudan	738
Libya	723
Macedonia	715
Kenya	605
Japan	603
Peru	592
Cyprus	589
Kuwait	560
Puerto Rico	512
Hong Kong	507
Qatar	486
Albania	475
Panama	475
Moldova	466
Latvia	464
Oman	448
Taiwan	445
Uruguay	445
Ecuador	427
New Zealand	427
Slovenia	398
Senegal	398
Paraguay	389
Luxembourg	381
Georgia	323
Mauritius	320
Ghana	318
Vietnam	307
Estonia	296
Bolivia	293
Bahrain	286
Côte d'Ivoire	280
Belarus	274
Aruba	254
Singapore	248
Bangladesh	232
Dominican Republic	224
Iceland	184
Cameroon	181
Kazakhstan	179
Barbados	178
Uganda	178

Top 106 to 180 Countries
< 175 Readers

Ethiopia	163
Myanmar	158
Montenegro	154
Malta	150
Palestinian Territories	139
Netherlands Antilles	138
Trinidad and Tobago	133
Mali	128
Botswana	117
Brunei	115
Armenia	114
Zimbabwe	107
Costa Rica	106
Niger	106
Tanzania	106
Maldives	102
Malawi	101
Namibia	99
Suriname	96
Afghanistan	94
Azerbaijan	94
Mauritania	94
Madagascar	91
Zambia	85
Martinique	75
Haiti	72
Uzbekistan	70
Gambia	67
Guatemala	66
French Polynesia	66
Angola	61
New Caledonia	61
Congo	59
Honduras	59
Rwanda	58
Burkina Faso	54
French Guiana	51
Nepal	51
Guadeloupe	48
Kyrgyzstan	48
Seychelles	48
Réunion	46
Jamaica	45
Mozambique	45
Djibouti	43
Guyana	43
Cambodia	40
Benin	38
Comoros	38
Tajikistan	37
Gabon	34
Togo	32
Bermuda	29
Greenland	29
Monaco	27
El Salvador	27
Cape Verde	26
Mongolia	26
Dominica	22
Somalia	22
Burundi	21
Turkmenistan	19
Laos	16
Macau	16
Bahamas	14
Fiji	14
Papua New Guinea	14
Belize	13
Nicaragua	13
Cuba	11
Guinea	11
Isle of Man	11
British Virgin Islands	11
U.S. Virgin Islands	11

Source:
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TELE-satellite Deadlines

Issue	**TELE-satellite 09-10/2012**	**TELE-satellite 11-12/2012**	**TELE-satellite 01-02/2013**	**TELE-satellite 03-04/2013**
#	1209	1211	1301	1303
Editorial Deadline	29 June 2012	31 August 2012	2 November 2012	28 December 2012
Advertisement Deadline 广告截止日期	**6 July 2012**	**7 September 2012**	**9 November 2012**	**4 January 2013**
Hardcopies	17 August 2012	19 October 2012	21 December 2012	15 February 2013
Online	31 August 2012	2 November 2012	4 January 2013	1 March 2013

Digital TV Exhibitions

7 - 11 September 2012
IBC 2012
RAI Convention Centre, Amsterdam
The Netherlands
Annual event for professionals engaged in the creation, management and delivery of entertainment and news content
Opening Hours:
7 September: 10:30am - 6:00pm
8 - 10 Sept.: 9:30am - 6:00pm
11 September: 10:30am - 4:00pm
www.ibc.org

19 - 21 September 2012
SAT-DIGI-TV
Warsaw, Poland

25 - 27 September 2012
ECEBE
Budapest, Hungary

6 - 9 October 2012
CeBIT Bilisim Eurasia
Istanbul, Turkey

13 - 16 October 2012
HKTDC Autumn
Hongkong, China

24 - 26 October 2012
CAPER 2012
Buenos Aires, Argentina

17 - 19 October 2012
EEBC 2012
Kiev, Ukraine

17 - 19 October 2012
SCTE Cable-Tec 2012
Orlando, USA

3 - 5 November 2012
SCaT India 2012
South Asia's Largest Tradeshow of the Indian Cable & Satellite Television Industry
World Trade Centre, Cuffe Parade, Mumbai, India
www.scatmag.com/scatindia/

8 - 11 January 2013
2013 International CES
Manufacturers, developers and suppliers of consumer technology hardware, content, technology delivery systems and related products and services
Las Vegas Convention Center, Las Vegas Nevada, USA
Opening Hours:
8 January: 10:00am - 6:00pm
9 - 10 Jan.: 9:00am - 6:00pm
11 January: 9:00am - 4:00pm
www.cesweb.org

16 - 18 January 2013
Convergence India 2013
New Delhi, India

7 - 9 February 2013
CSTB 2013
Key professional media event covering all the cutting-edge formats and trends of TV and telecommunication: digital cable, satellite, free-to-air TV; IPTV; OTT TV; HDTV and 3DTV; mobile TV; TV content; multi-service networks; satellite communications, etc.
IEC "Crocus Expo", Pavilion 1
Moscow, Russia
www.cstb.ru

5 - 9 March 2013
CeBIT 2013
Messegelände Hannover, Germany

19 - 21 March 2013
CABSAT 2013
Premier Broadcast & Satellite Platform in the ME & North Africa
Dubai International Convention and Exhibition Centre, Dubai, UAE
Opening Hours:
19 - 20 March: 10:00am - 6:00pm
21 March: 10:00am - 5:00pm
www.cabsat.com

19 - 21 March 2013
IPTV Forum
London, UK

21 - 23 March 2013
CCBN 2013
China Content Broadcasting Network Exhibition - largest broadcasting technology and equipment expo in the Asia-Pacific region
Beijing International Exhibition Center, Beijing, China
Opening Hours:
21 - 22 March: 9:00am - 5:00pm
23 March: 9:00am - 4:30pm
www.ccbn.tv

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