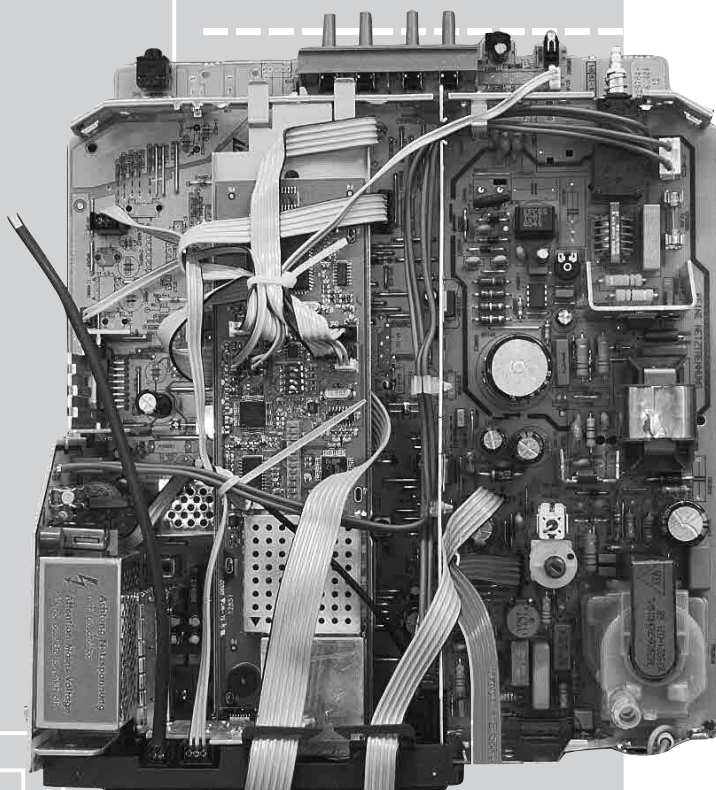


CUC 2003 H

T 55 - 830 Multi/COM

GCL5272 / VNM



Zusätzlich erforderliche Unterlagen für den Komplettservice
Additionally required Service Documents for the Complete Service

Service Manual

**CUC 2003
CUC 2003 H**

Materialnr./Part No.
720100240000

Ergänzung Supplement

1

Materialnr./Part No.
720100240100

Service Manual

**Sicherheit
Safety**

Materialnr./Part No.
720108000000

Service Training

CUC 2000

Materialnr./Part No.
© 720103503500
© 720103503600

Materialnummer/Part Number 720100240200

Änderungen vorbehalten/Subject to alteration • Printed in Germany HD

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Fax:	0180/52318-50

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Materialnummer 720108000000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 720108000000, as well as the respective national deviations.

Für die auf der Titelseite aufgeführten Chassis gilt das Service Manual CUC 2003 / 2003 H.
Diese Ergänzung dokumentiert die Unterschiede bzw. zusätzlichen Bestückungen der Geräte.

Grundlage für den Service sind:

- Service Manual CUC 2003 / 2003 H (Materialnummer 720100240000)
- 1. Ergänzung CUC 2003 / 2003 H (Materialnummer 720100240100)
- Service Manual "Sicherheit" (Materialnummer 720108000000)

The Service Manual CUC 2003 / 2003 H applies to the chassis specified on the front page.
This Manual describes the differences and the additionally fitted components of the TV receivers.

Basic instructions for servicing are given in the:

- Service Manual CUC 2003 / 2003 H (Part number 720100240000)
- 1st Supplement CUC 2003 / 2003 H (Part number 720100240100)
- Service Manual "Safety" (Part number 720108000000)

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Hinweise

Vor dem Öffnen des Gehäuses zuerst den Netzstecker ziehen!

Leitungsverlegung

Bevor Sie die Leitungen und insbesondere die Masseleitungen lösen, muss die Leitungsverlegung zu den einzelnen Baugruppen wie z.B. Chassis, Netzschalterplatte, Bedieneinheit, Bildrohrplatte, Ablenkeinheit, Lautsprecher usw. beachtet werden.

Nach erfolgter Reparatur ist es notwendig, die Leitungsführung wieder in den werkseitigen Zustand zu versetzen um eventuell spätere Ausfälle oder Störungen zu vermeiden.

Netzkabel

Diese Geräte dürfen nur mit dem Original-Netzanschlusskabel mit integrierter Entstördrossel betrieben werden. Dieses Netzkabel verhindert Störungen aus dem Netz und ist Bestandteil der Gerätezulassung. Im Ersatzfall bestellen Sie bitte ausschließlich das Netzkabel laut Ersatzteilliste.

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Notes

Before opening the cabinet disconnect the mains plug!

Wiring

Before disconnecting any leads and especially the earth connecting leads observe the way they are routed to the individual assemblies like the chassis, mains switch panel, keyboard control panel, picture tube panel, deflection unit, loudspeaker and so on.

On completion of the repairs the leads must be laid out as originally fitted at the factory to avoid later failures or disturbances.

Mains cable

The TV receiver must only be operated with an original mains connecting cable with an interference suppressor choke integrated in the mains plug. This mains cable prevents interference from the mains supply and is part of the product approval. For replacement please order exclusively the mains connecting cable specified in the spare parts list.

Modulauflistung – Service Manual mit Ergänzungen

List of Modules – Service Manual with Supplements

Modul Module	Materialnummer Part Number	Service Manual CUC 2003 / 2003 H	2. Ergänzung Supplement 2 CUC 2003 H
		720100240000	720100240200
Ton - Filterplatte Sound Filter Panel	293051290100	Seite / Page 3-30	–
Bildrohrplatte CRT Panel	293050221900	Seite / Page 3-25	–
Netzteil (5V / 0,4A) Mains Section (5V / 0,4A)	293040508400	–	Seite / Page 13
LS-Buchsenplatte LS Socket Board	293051606600	–	Seite / Page 13
COM - Modul COM - Module	295041082400	–	Seite / Page 14

Modulübersicht / Module List

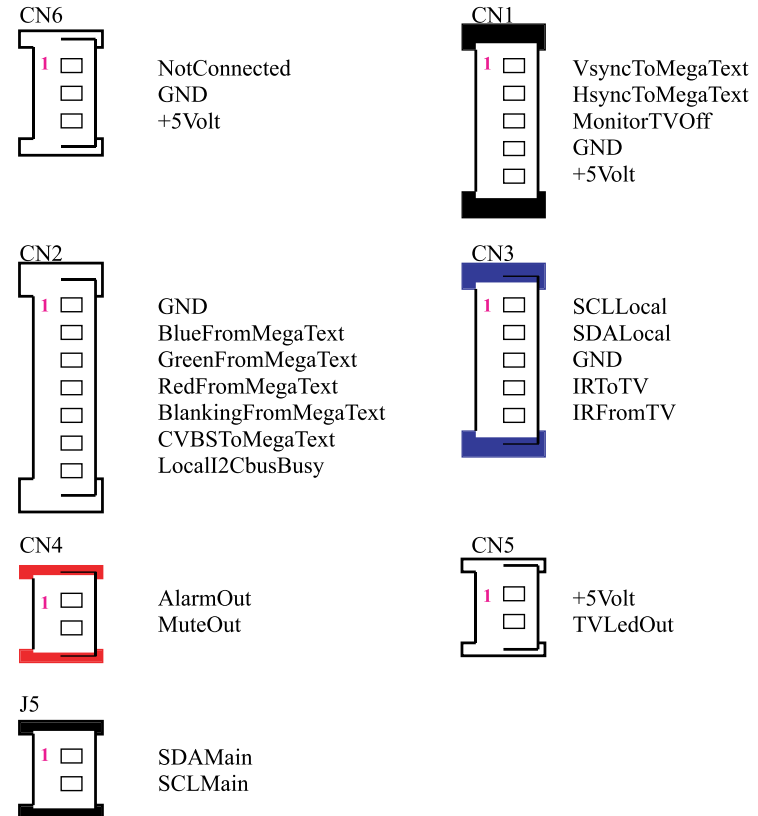
	Materialnummer Part Number	T 55 - 830 Multi/COM
		CUC 2003 H VNM
Bestell-Nr. Order No.		GCL5272
Chassis-Nr. Chassis No.		297040064000 297040065900 297040066000
Tuner	295043010100	•
Ton - Filterplatte Sound Filter Panel	29305 129 0100	•
Bildrohrplatte CRT Panel	293050221900	•
Netzteil (5V / 0,4A) Mains Section (5V / 0,4A)	293040508400	•
LS-Buchsenplatte LS Socket Board	293051606600	•
Fernbedienung TP 800 H Remote Control TP 800 H	296420611900	•
COM - Modul COM - Module	295041082400	•

Technische Daten / Technical Data

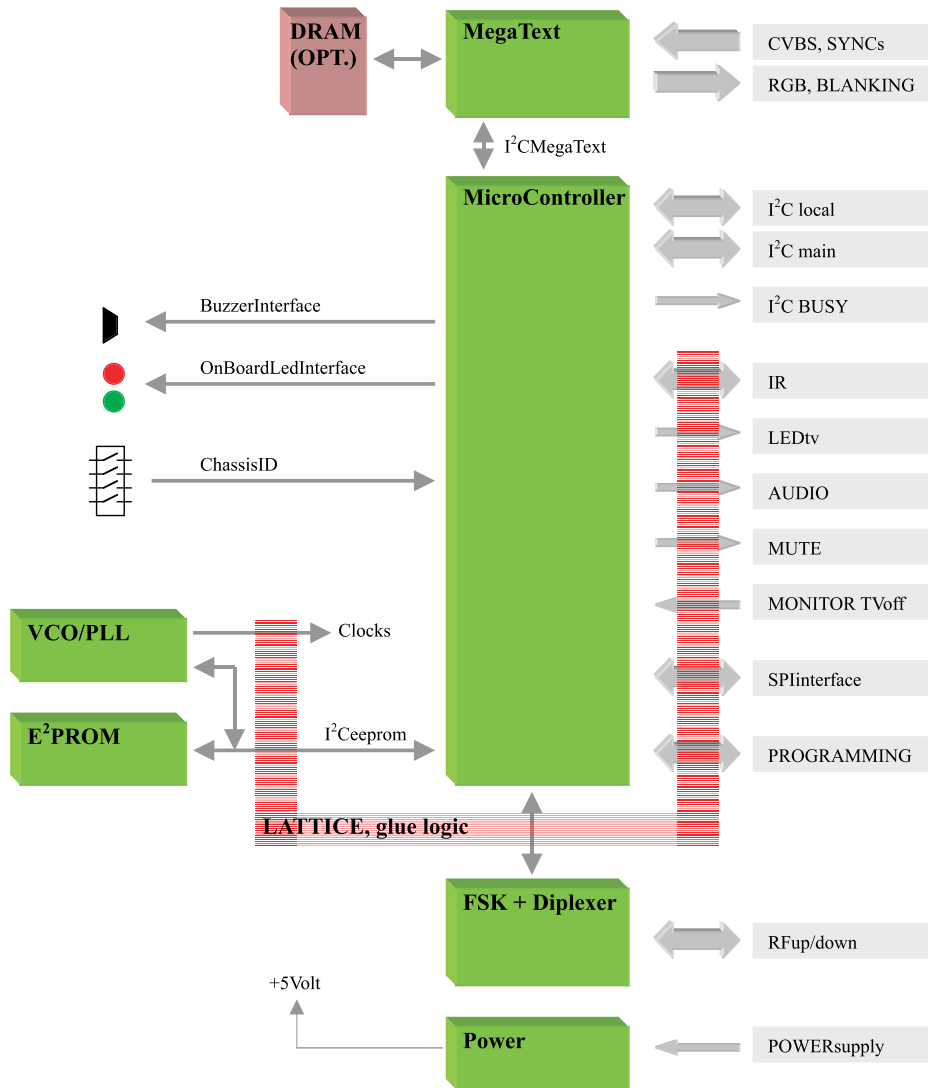
	T 55 – 830 Multi/COM CUC 2003 H VNM
Bildröhre / Picture Tube	
Sichtbares Bild Visible picture	51cm
Bildschirmdiagonale Screen diagonale	55cm (21"), FST Black Line D, small neck
Ablenkwinkel Deflection angle	90°
Bildwechselfrequenz Vertical frequency	50Hz
Elektronik / Electronic	
Programmspeicherplätze Programme positions	99 + 1 AV
Blue stretch,	ja / yes
AV-Auswertung AV evaluation	auf jeden Programmplatz programmierbar programmable for every programme position
Tuner	PLL-Frequenz synthesizer tuning UHF / VHF PLL-frequency synthesizer tuning UHF / VHF
TV-Normen TV-Standards	PAL / SECAM / NTSC 4,43MHz, B/G, L/L', I DK/K'
Videotext Teletext	8 Seiten TOP/FLOF-text, 8 pages TOP/FLOF-text
Musikleistung Music power	Mono 8W
Anschlüsse Front / Connections Front	
Kopfhörer Headphones	Mono 3,5mm Klinke, schaltet eingebauten Lautsprecher ab / Mono 3.5mm jack, switch off inserted Loudspeaker
Anschlüsse Rückwand / Connections Rear Panel	
Euro AV 1(schwarz/black)	FBAS-Ein-/Ausgang, RGB-Eingang S-Video Eingang CCVS in-/output, RGB input, S-Video input
Netzteil / Mains Stage	
Netzspannung (Regelber.) Mains voltage (variable)	230V ±15%
Netzfrequenz Mains frequency	50 / 60Hz
Leistungsaufnahme Power consumption	ca. 65W
Standby	ca. 12W

Diese Beschreibung (COM Modu) gibt es nur in englischer Sprache
This description (COM Modu) exists only in English.

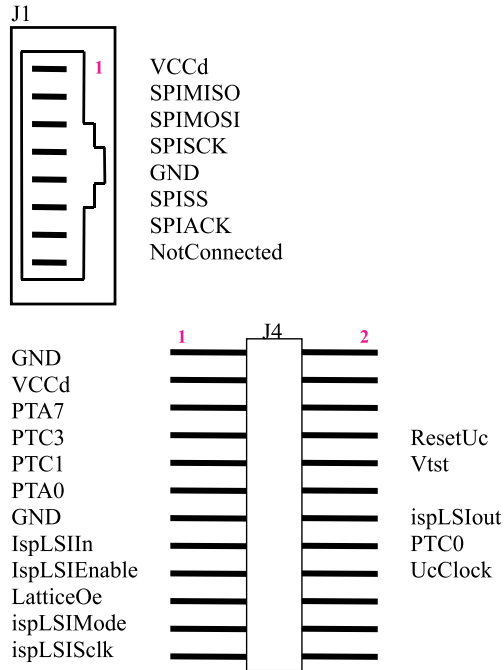
iTV-Card / COM-Card

Connectors

iTV-Card / COM-Card

BlockDiagram

iTV-Card / COM-Card



- CN1: H/V Syncs from TV to MegaText for synchronisation of RGB with the TV
Monitor TVoff state on pin3. This is 0Volt when the TV is Off (by PowerSwitch) and 13.5-14.5Volt on all other states.
- CN2: CVBS from TV to MegaText
Red/Green/Blue/Blanking-signals from MegaText to TV
Monitor Local²C-bus busy status line
- CN3: Access to the Local²C-bus (I²C-bus in the TV)
IR-signal from TV and IR-signal to TV
- CN4: Mute output and Alarm (Sound) output to the TV
- CN5: TV led output
- CN6: Power input from the TV, only +5Volt will be used by the card
- J5: Access to the Main²C-bus in the TV
- J1: RJ45-connector for the PlayStationController
- J4: Connector used for first time programming of the MicroController and the Lattice (PLD)

iTV-Card / COM-Card

Board description**First Time Programming****Overview**

After assembling the card, the MicroController and the Lattice have to be programmed via the J4 connector. The Lattice has to be programmed first because this PLD contains logic necessary for the MicroController to run properly.

Downloading of the Lattice software must be done with an ispDownloadCable and ispDownload-software, available from the Lattice distributor.
The Lattice is only re-programmable by the ispDownload-software+DownloadCable, it isn't in-circuit programmable.

After the Lattice has been programmed, the MicroController can be downloaded with a program which contains the following modules:

1. Test software for the Grundig-factory, and
2. FSK-Bootloader program

The FSK-Bootloader program makes it possible to update (download) new software in the MicroController via the FSK-modem. This means that the card is downloadable while it is working (in field programmable) as long as there is a FSK-connection with the MasterModem.

For mass production, both the Lattice and the MicroController can be purchased pre-programmed from the supplier, so the programming procedure can be skipped and the card is operational immediately after assembly.

Lattice connections

The connections necessary for programming the Lattice are:

IspLSIIn
IspLSIout
IspLSIenable
IspLSISclk
IspLSImode

The ispLSIenable pin is used to select the Lattice and enabling of the other four control-signals (enabling of the programming-protocol). Programming is done by the ispLSImode-pin, used for commands (program, verify), the ispLSISclk-pin, used as the serial clock, the ispLSIIn-pin, used for data to the Lattice and the ispLSIout-pin, used for data from the Lattice (verify, readback). For further instructions, please consult the Lattice data book.

MicroController connections

The connections necessary for downloading the MicroController are:

PTA0
PTA7
PTC0
PTC1
PTC3
Vtst
Ucclock

iTV-Card / COM-Card

LatticeOE
ResetUc

Programming will be done by an 9600Baud serial protocol, where PTA0 is the bidirectional data in/out of the MicroController, and PTA7, PTC0, PTC1, PTC3 are used to select this programming-mode. In this mode the MicroController expects a 9.8304MHz clock, therefore we supply this clock to the card while disabling the onboard MicroController-clock by the LatticeOE pin. The onboard clock is routed through the Lattice with the possibility to TRI-state the output with the LatticeOE line. In normal operation, the LatticeOE-pin won't be used and the onboard clock is always driving the MicroController.

With the ResetUc it is possible to reset the MicroController if this is necessary for the programming-protocol.

iTV-Card / COM-Card

Clock generation

Overview

The onboard clocks can be divided into three parts, the MegaText clock, the DownConverter clock and the clocks for the MicroController + FSK transmission and receiving.

MegaTextClock

All the internal clocks used by the MegaText-chip (U1) are derived from one external XTAL of 20.48MHz (X6), connected directly to the MegaText-chip. From this XTAL, the MegaText will generate a synchronised internal-clock to the external supplied H and V-sync (or CVBS), and uses this clock for the R/G/B and Blanking output-signals. This means that the MegaText output is always synchronised to the TV.

DownConverterClock

The DownConverter (U7, MC13156DW) has one external clock-input (LocalOscillator-input) used to down-convert the incoming signal to 10.7MHz. The XTAL (X4) used for the generation of this LocalOscillator is a 3th overtone 63.3625MHz crystal with a load-capacitance of 32pF. The crystal-circuit of X4, L14, L15, C62, C63, C64, R101, R102 and R149 makes sure that the crystal will run on the 3th-harmonic.

MicroController + FSK-clocks

The clocks for the MicroController and the FSK-part have to be synchronised to make sure that the two FSK-transmission frequencies are in phase, the MicroController is in phase with the FSK-transmission frequencies and that the MicroController-clock is in phase with the extracted FSK-data. Therefore a multiple VCO/PLL-chip (U12, FS6377) is used which will use only one external XTAL (X7, 16MHz) to produce four programmable output clocks.

The programming of the chip will be done by the MicroController via an I²C-bus interface. The four output clocks are:

1. 32MHz, used for the MicroController,
2. 42.8MHz, used to extract the data from the received FSK-signal,
3. 16MHz and
4. 16.125MHz as FSK-transmission frequencies.

All these four clock-signals are routed directly into the PLD, the 16MHz and 16.125MHz for FSK-generation, the 42.8MHz for FSK data extraction and the 32MHz to have the possibility to disable (TRI-state) this clock (see *MicroController connections* section) and to switch the MicroController to the desired clock source.

After PowerUp of the card the VCO/PLL-chip has all his registers in the reset-state, which will mean that all the outputs reflect the incoming clock, in this case 16MHz. At this point there isn't a 32MHz-clock for the MicroController. Therefore the MicroController-clock will be switched after PowerUp into the PLD to 16MHz (the 16MHz-output of the VCO/PLL-chip). The MicroController will then initialize everything including the VCO/PLL-chip. When this chip is programmed the MicroController will select the 32MHz-clock source as his clock by clearing the uClockSwitch-line which will cause the PLD to switch to 32MHz instead of 16MHz.

DownConverter

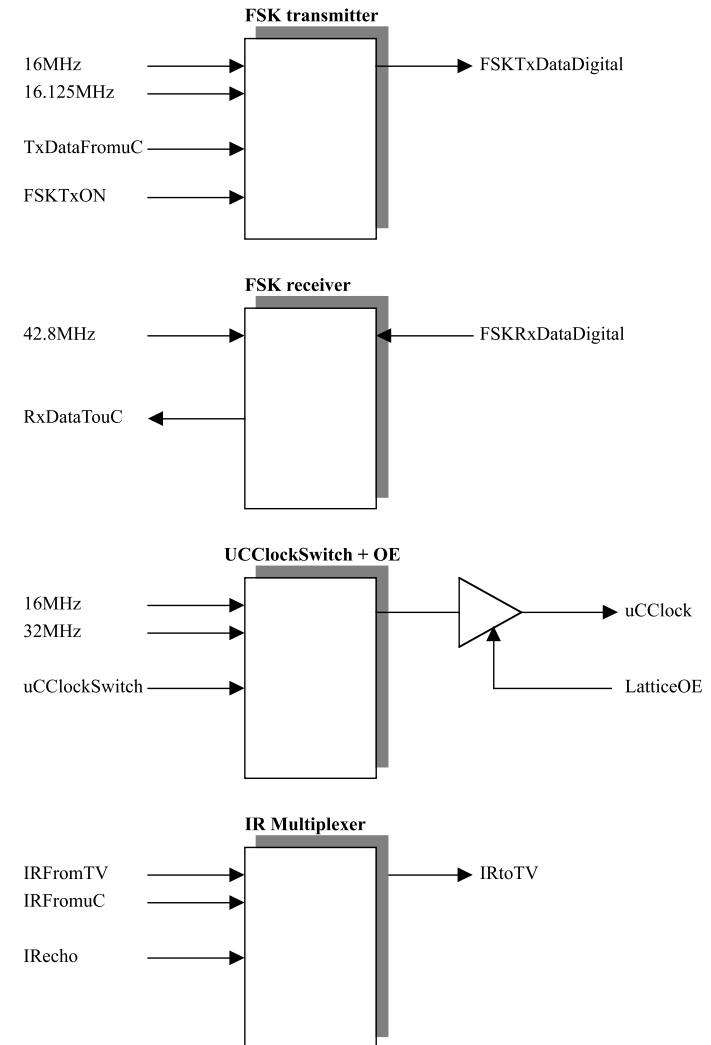
The receiving FSK-frequency is 74/74.125MHz. DownConverting this input with a 63.3625MHz clock will produce two frequencies of 10.6375 and 10.7625. This means that we have a centre frequency of 10.7MHz plus or minus 62.5kHz. This makes it possible to use a common, low-cost ceramic filter of 10.7MHz.

After the downconversion, the signal will pass two 10.7MHz filters before entering the 74HCU04 (U8). Using all 6 stages of the 74HCU04 will produce a nice digital TTL-signal representing the FSK-input. A hysteresis-circuit at the first two stages (R143, 470K) makes sure that noise at the input will be suppressed.

The digital-data with the 10.7MHz centre-frequency will then be routed to the PLD to extract the FSK-signal.

LATTICE PLD

Block diagram



iTV-Card / COM-Card

Switch uControllerClock + TriState

See the *microcontroller connections* in the *first time programming* section for a description of the LatticeOE-pin.

After PowerUp, the 16MHz input is connected to the MicroControllerClock output. After initialising of the VCO/PLL-chip, the MicroController switches the uCClockSwitch-line to select the 32MHz (see *MicroController + FSK-clocks* in the *clock generation* section).

IR

The *IR-interface* in the *microcontroller* section describes the function of the IR multiplexer.

FSK Transmitter

The two frequencies are 16 and 16.125Mhz, both coming from the VCO/PLL-chip and therefore in phase. Depending on the transmitted-data from the MicroControllerUART the FSK digital output of the PLD (Pin31) will be 16 or 16.125MHz. The PLD-logic makes sure that switching from one frequency to the other will be done when the two frequencies are in phase. It is important that the data from the Microcontroller is also synchronised to the two FSK frequencies to avoid loss of data while waiting for the “switch moment” of these two frequencies.

The digital FSK-data will then be buffered, filtered and fed into the diplexer.

FSK Receiver

The FSK-input comes from the 74HCU04 and will be a digital FSK-signal with a centre frequency of 10.7MHz (see *DownConverter* section). The extraction of the data from this FSK-signal will be done in the PLD and uses an 42.8MHz clock (4 times 10.7MHz).

The extracted data is synchronised to the MicroController-clock because that clock comes from the same source as the 42.8MHz (the VCO/PLL-chip). This synchronisation makes sure that there is no data-loss in the MicroControllerUART receiver.

The data from the PLD is routed directly to the MicroController UART input.

iTV-Card / COM-Card

MicroController

Overview

The following list shows all the functions of the MicroController:

1. FSK-Transceiver
2. PlayStationController-Interface
3. I²C-interfaces
4. IR-interface
5. TVled interface
6. OnBoardled interface
7. Buzzer/Audio/Mute-interface
8. ChassisID/HardwareID-interface

FSK-Transceiver

Most of the FSK is already explained in the *PLD* and *DownConverter* sections. The MicroController uses the on-chip UART (pins 9 and 10) as the transceiver of the asynchronous-serial data. The selected baud-rate used for the transmission is 125Kbaud.

With the FSKtx_on line (pin7) it is possible to disable the FSK-transmission, that means that there is no output out of the card into the cable-network.

PlayStationController-Interface

The PlayStationController is connected to the SPI-bus interface. The pins used for this interface are:

1. SPImosi (pin14)
2. SPImiso (pin13)
3. SPIsck (pin15)
4. SPIack (pin6)
5. SPIss (pin4)

The MicroController is the master on the SPI-bus, that means that it supplies the SPIclock and SlaveSelect to the PlayStationController. The PlayStationController will be selected by the assertion of the SlaveSelect-line, the SPIclock will be available and data-access is possible.

I²C-interfaces

The MicroController uses four I²C-interfaces, two onboard and two to access the TV.

The I²C-bus called SDA/SCLeeprom (pin28 and 29) is used to access the onboard serial-E²PROM and to program the VCO/PLL-chip.

A separate I²C-bus is used for the MegaText (pin22 and 23) because the MegaText has the possibility to use a higher speed for the transmission than the normal I²C specification.

The I²C-busses SDA/SCLocal (pin 26 and 27) and SDA/SCMain (pin 2 and 3) are used to communicate with the TV.

The Local-bus will be used for access of the EEPROM's in the TV. Before accessing this bus the LocalI2CbusBusy-line (pin38) must be monitored to be sure that the bus is free.

The Main-bus is directly connected to the MainI²C-bus in the TV.

IR-interface

The InfraRed from the TV is a TTL-level signal and will be buffered first before feeding to the MicroController (pin20) and the PLD (pin19). The IR-signal made by the MicroController (pin18) is fed directly into the PLD (pin20).
The MicroController will be able to control the IR-signal flow with the IRecho-line (pin5). It is possible to echo all the incoming IR-signals from the TV directly back-to the TV (echo-mode), or to send MicroController IR-commands to the TV.

TVled interface

The MicroController has to control the TVled (pin36) which is in front off the TV. The following table shows the different states of the TV-led:

	NormalMode	FactoryMode
TV-OFF (with switch)	OFF	OFF
TV-ON	DIMMED	DIMMED
TV-STANDBY	ON	ON
TV-MESSAGE	FLASHING	-----

The TV-OFF state will be monitored by CN1, pin3. When the TV is off this pin has a voltage of 0Volt, and in all other states there's an unregulated DC-voltage of 13.5-14.5Volt. This signal will be regulated to 4.7Volt by a zener-diode (D9) and fed to the MicroController (pin33).

OnBoardled interface

The two LEDs onboard will reflect the state of FSK-communication. The REDled (pin32) will be used to show if there's a MasterModem in the system (ON), and the green one (pin39) is ON when the card is actually polled by the MasterModem.
This means that when the Redled is ON and the GREENled is OFF that the card is not being polled by the MasterModem.

Buzzer/Audio/Mute-interface

The Buzzer will be controlled by the MicroController (pin19) with a square-wave of a certain frequency. This pin is also connected to CN4, pin1 to give exactly the same signal to the TV.

The Mute-out will be controlled by the MicroController (pin37) with an open-collector output-stage.

ChassisID/HardwareID-interface

With a dipswitch of four contacts (SW1) it's possible to select the chassis-number of the TV. The MicroController reads this information (pins34, 35, 36 and 39) after PowerUp or a Reset. In this way 16 different chassis-numbers can be selected.

In the same way, only with resistors connected to GND instead of a dipswitch it's possible to give the card a hardwareID. Three pins (pins 4, 14 and 15) are reserved for this purpose to give a total number of 8 possible revisions.

MegaText

Overview

In this application, the MegaText-chip (U1, SDA5273) is only used to generate overlay information for all the iTV on-screen menu's. The TeleText decoding is being done by the TV and not by the MegaText-chip. For this OSD-application the SDA5273 is sufficient, but it is also possible to use the more expensive SDA5275 (pin-compatible, iTV-software supports both types).

For future applications the MegaText-chip can decode Level 1.5 and 2.5 TeleText information. For level 1.5-TeleText decoding the SDA5273 can be used, but for full decoding of level 2.5-TeleText the SDA5275 + external DRAM must be used.

Syncs

The MegaText-chip will run in slave-sync-mode, this means that it will follow the incoming Vsync and Hsync-signals from the TV to synchronise the outgoing R/G/B/Blanking signals.

The CVBS-signal supplied by the TV will not be used in this application because there's no need for Video/TeleText-information. Another reason for the use of the separate H/V-syncs is that these syncs are on TTL-level and therefore easy to use instead of separating sync-information by clamping and data-slicing of the incoming CVBS-signal.

Overlay

The overlay will be controlled by the BLANKING-output-pin of the MegaText. This is an OpenDrain-output and displays the RGB-information when BLANKING is high. When BLANKING is low, there's no overlay and the TV's internal source will be displayed on the screen.

Memory

The MegaText has sufficient onboard-memory for the current application. For future applications an external DRAM (U2) can be placed on the PCB. This optional DRAM can have the size of 256K, 1M, 4M or 16Mbit.

Signals

The signals between the TV and the MegaText-chip are:

CVBS (pin10)
VSYNC (pin4)
HSYNC (pin5)
RED (pin61)
GREEN (pin62)
BLUE (pin63)
BLANKING (pin64)

The R/G/B gain and DC-level can be adjusted by the MegaText internal-registers (software-controllable).

iTV-Card / COM-Card

Diplexer + FilterCircuits

Overview

The function of the passive-diplexer is to transmit the FSK-frequency (16 and 16.125MHz), receive all the input-channels and fed them to the TV and to receive the incoming FSK-frequency (74 and 74.125MHz).

One part of the diplexer is the low-pass filter formed by L2, L3, C19 and C89. This part and the FSK-transmission filter in front makes sure that only the FSK-transmission frequencies will be transmitted onto the cable-network.

The receiver-side of the diplexer is a high-pass filter formed by L1, L4, L22, L23, L24, C17, C18, C20, C87, C88, C90, C91 and C92. This filter makes sure that everything below 45MHz will be suppressed and not feeded to the TV or FSK-receiver including the FSK-transmit frequencies.

The FSK-receiver frequencies will be "tapped" just before the output to the TV by a TAP. The band-pass filter and input-network in front of the down-converter-chip makes sure that only the 74MHz and 74.125MHz will be received, and that there's a perfect impedance-match to the chip for these frequencies.

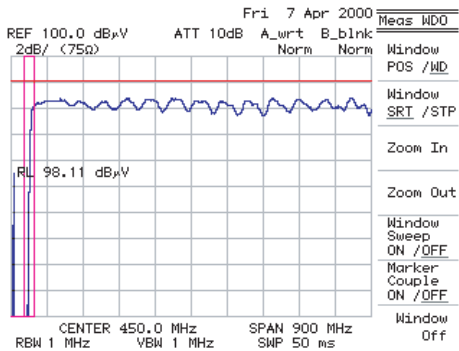
Attenuation networks

The FSK-output is set to 90dB $\approx$ V typical by two attenuator networks (called T-network). The first one consists of R109, R110 and R111 and has an attenuation of -17dB, and the second one with R96, R97 and R98 of -3dB. The total amount of attenuation is -20dB.

A pi-network (R144, R145 and R146) is directly placed after the TAP to be sure that the TAP always sees 75Ohm for all frequencies. The attenuation is as low as possible, -2dB.

Diplexer Characteristics

- Diplexer-loss <2.5dB
- High-pass filter 45MHz - >900MHz
- Gain-flatness >900MHz



iTV-Card / COM-Card

Specifications

Electrical Characteristics

- Supply voltage 5V DC
- Supply current 400mA typical

Input/Output Levels

- RGB signals 1V_{pp}
- CVBS signal 1V_{pp}
- IR signals TTL
- I2C signal TTL

- RGB output impedance 270 Ω

Memory

- Memory 20Kbyte FLASH
8Kbyte E_PROM
- Optional 256K, 1M, 4M or 16Mbit DRAM for MegaText

Data Modem

- Communication Asynchron, 125Kbaud, Half-duplex
- Receive frequency 74MHz/74.125MHz
- Receive level >40dB μ V
- Transmit frequency 16MHz/16.125MHz
- Transmit level 90dB μ V typical
- Modulation FSK (Frequency Shift Keying)

Card Configuration

- On each card, two parameters can be configured:
- 1. TvSetId (4 hexadecimal digits), defining the card number
 - 2. RcuLevel (1 digit), defining the RCU level that the card will respond to.

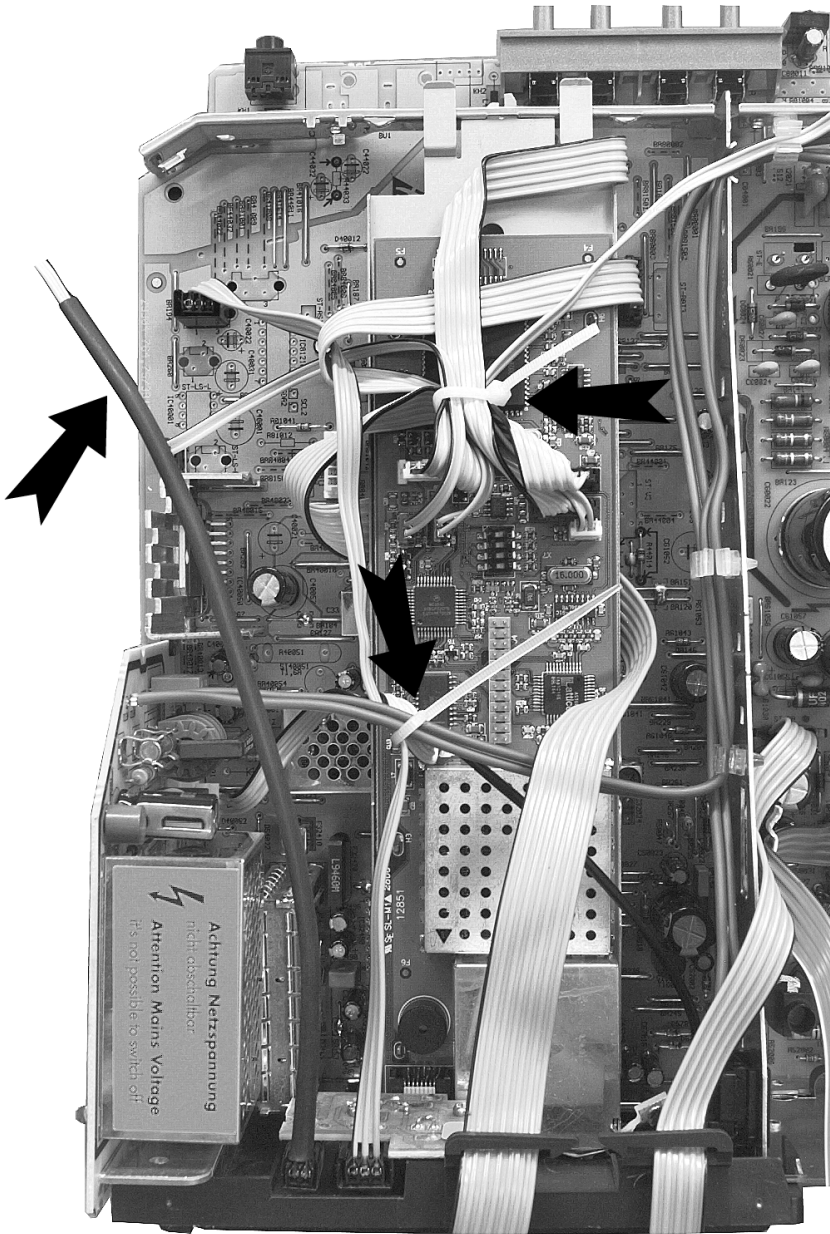
In order to configure the card, a RCU level 6 (engineering remote controller) is needed; pressing TvInfo on a RcuLevel 6 remote controller will bring up the configuration menu where these parameters can be programmed and stored into the E²PROM on the card. Whenever the card is in factory mode, the configuration window will be presented upon power-up automatically.

Upon power-up, the iTV-card is in one of 9 possible states:

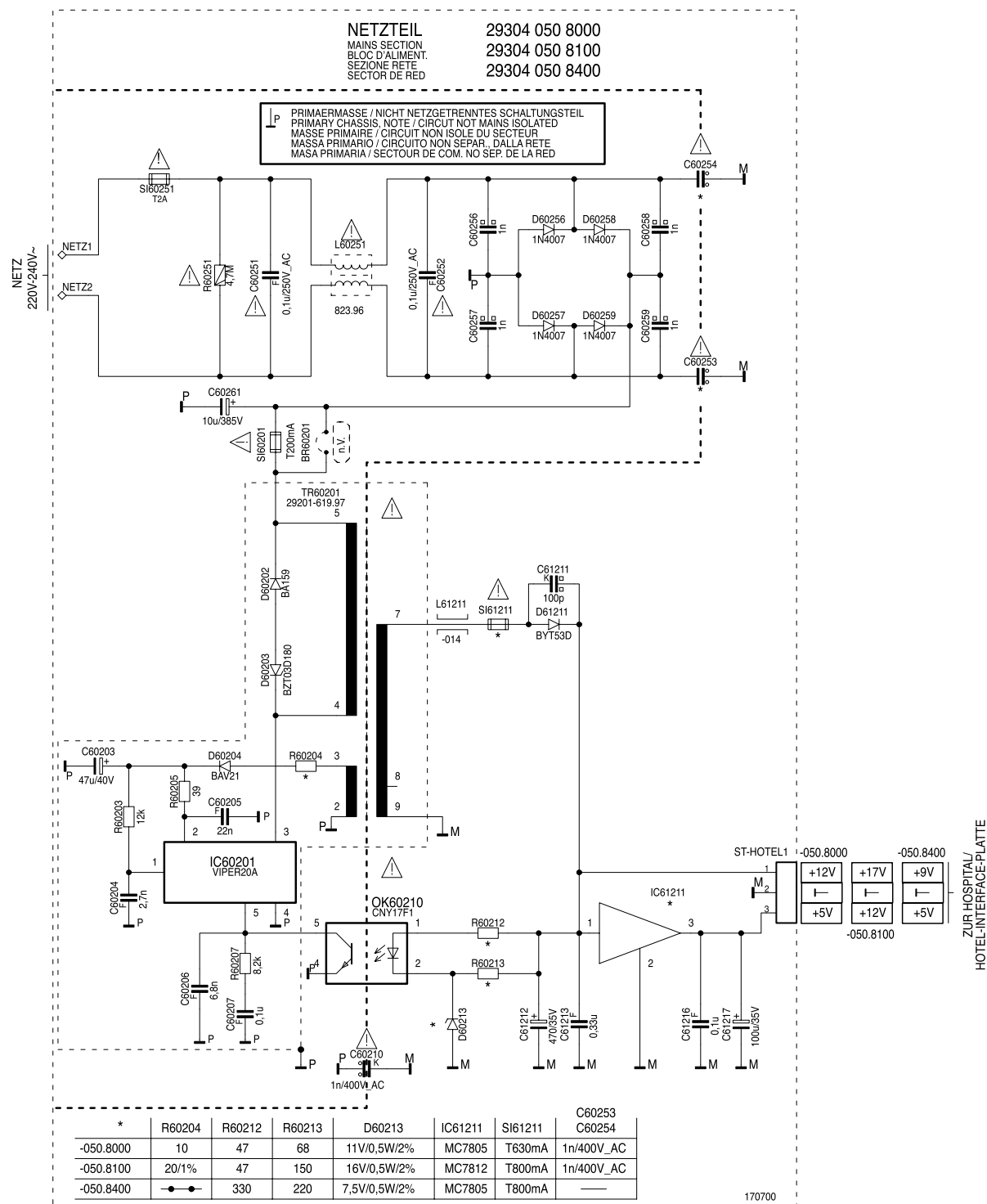
State	Description	Exception
0	Only sensitive to RCU level 0 messages Rest ignored	RcuLevel6+TvInfo All RcuLevel7 keys
1	Only sensitive to RCU level 1 messages Rest ignored	RcuLevel6+TvInfo All RcuLevel7 keys
2	Only sensitive to RCU level 2 messages Rest ignored	RcuLevel6+TvInfo All RcuLevel7 keys
3	Only sensitive to RCU level 3 messages Rest ignored	RcuLevel6+TvInfo All RcuLevel7 keys
4	Only sensitive to RCU level 4 messages Rest ignored	RcuLevel6+TvInfo All RcuLevel7 keys
5	Only sensitive to RCU level 5 messages Rest ignored	RcuLevel6+TvInfo All RcuLevel7 keys
6	Only sensitive to RCU level 6 messages Rest ignored	RcuLevel6+TvInfo All RcuLevel7 keys
7	Only sensitive to RCU level 7 messages Rest ignored	RcuLevel6+TvInfo All RcuLevel7 keys
Factory Mode	All keys passed unaltered to TV	RcuLevel6+TvInfo

Kabelverlegung nach VDE / Wiring according to VDE

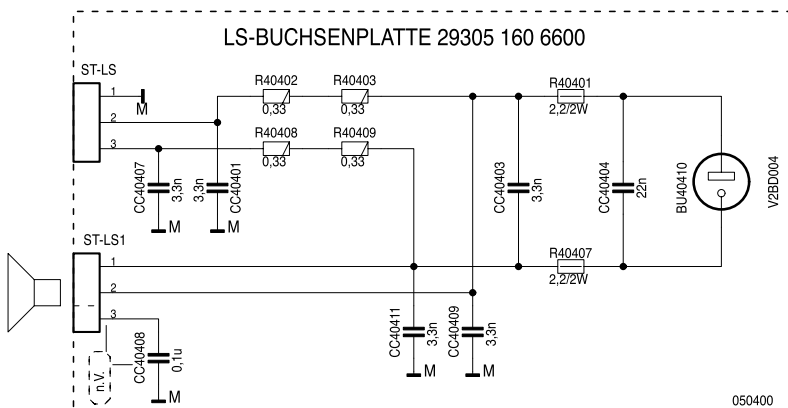
Achtung! Nach einer Reparatur auf korrekte Leitungsverlegung mit Kabelbinder achten.
Warning! After a repair always pay attention to a correct wiring using the cable clamps.



Baustein Netzteil / Module Mains Unit 293040508400

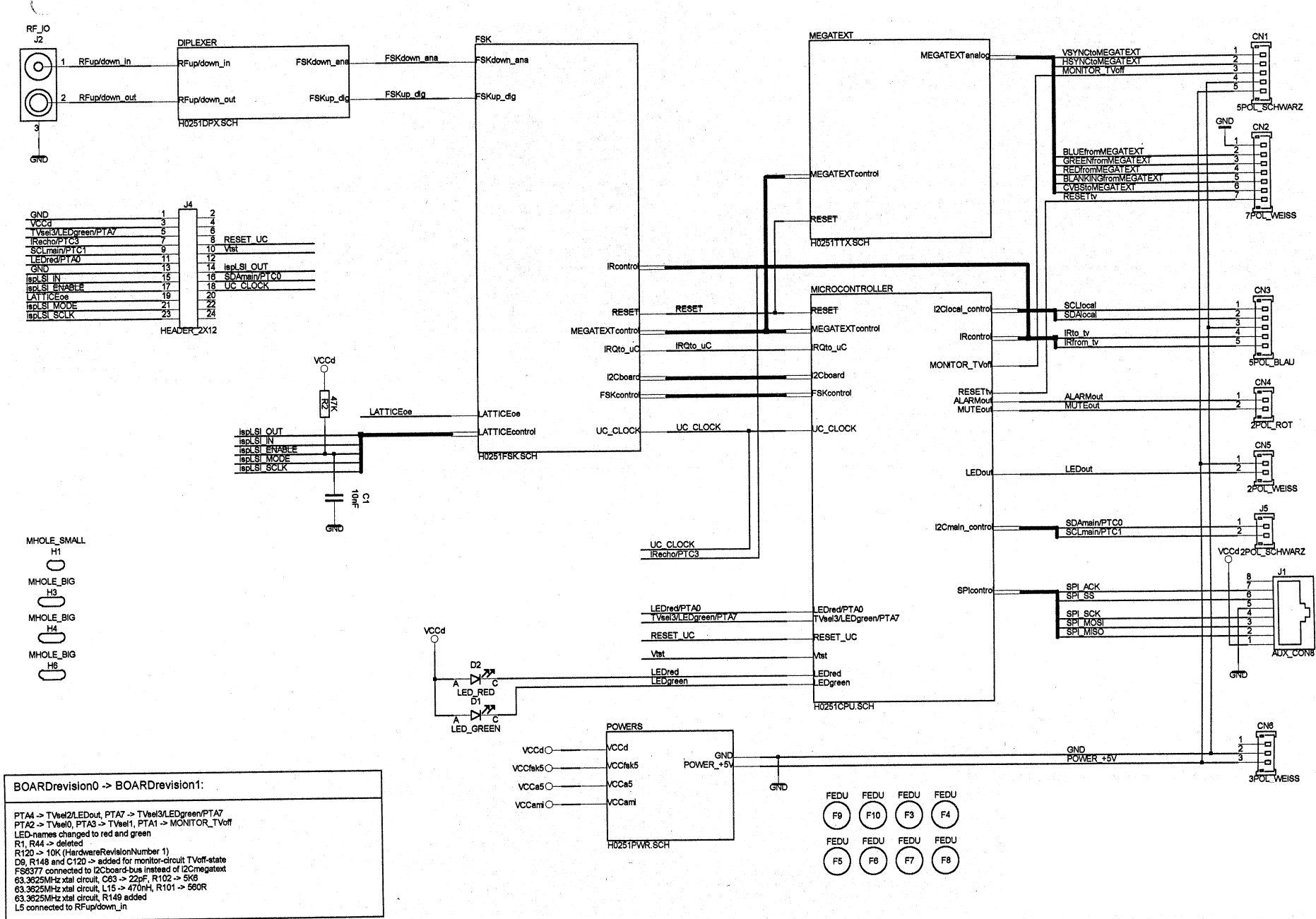


LS-Buchsenplatte / LS Socket Board 293051606600

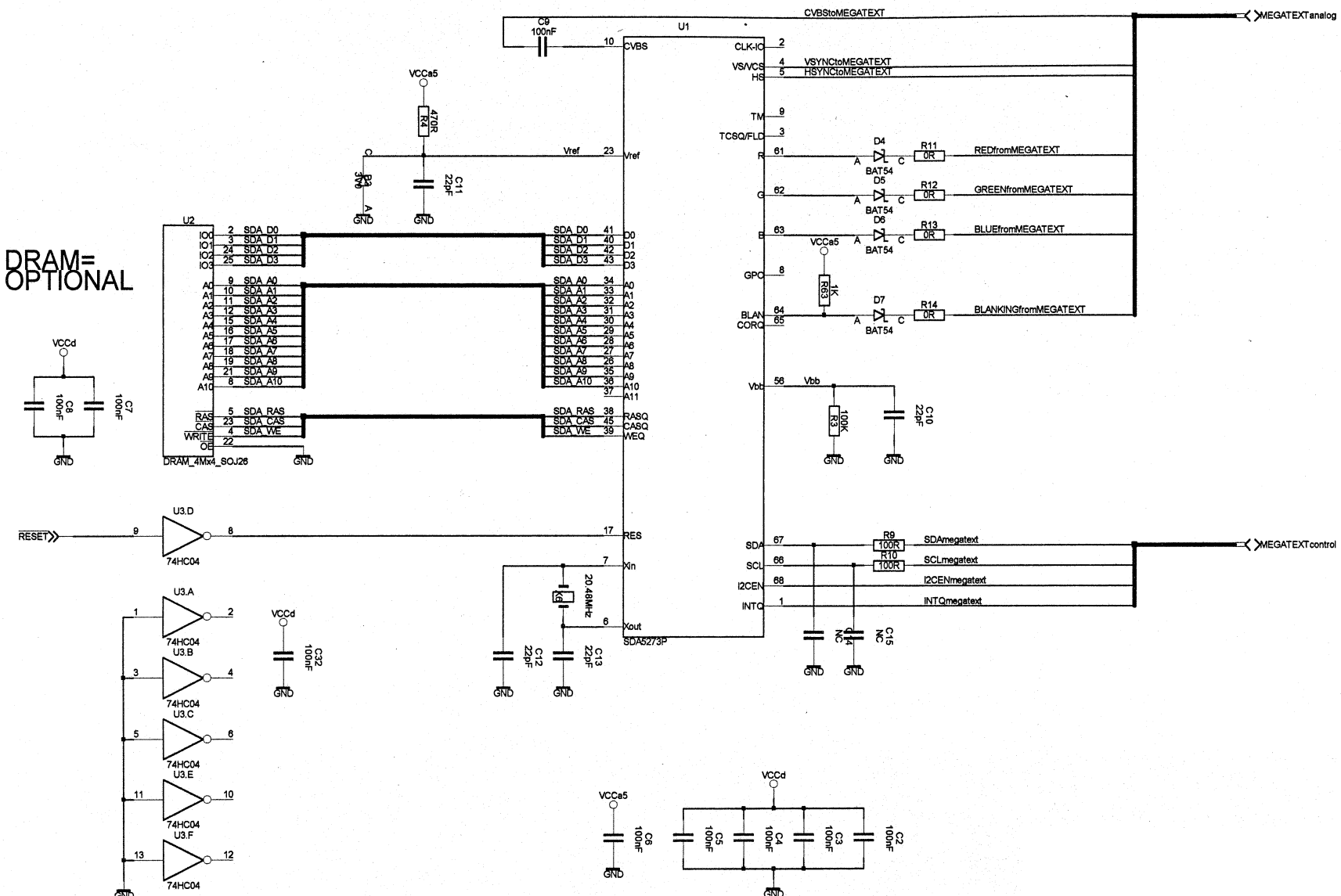


COM Modul / COM Module 295041082400

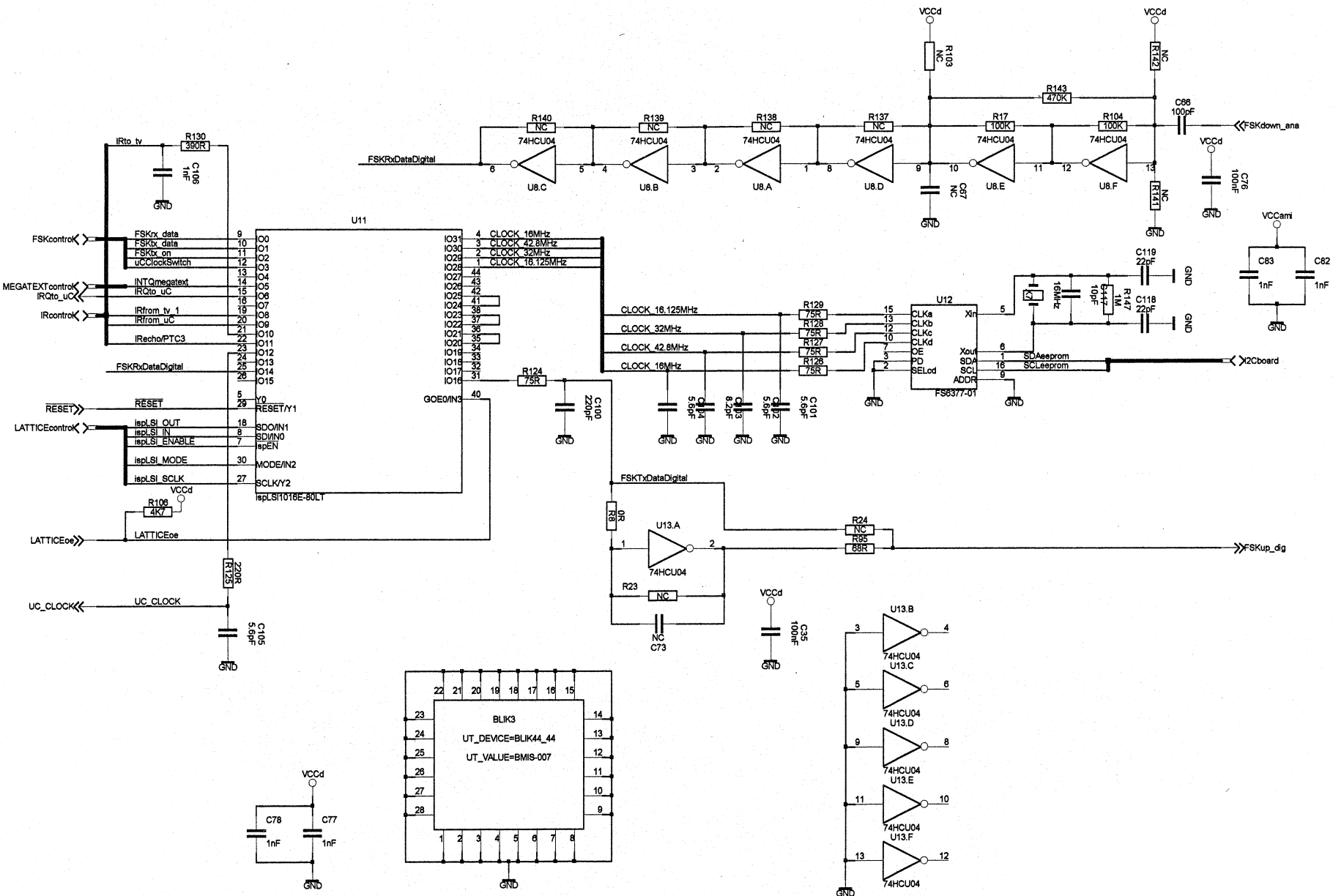
Blockschaltplan / Block Circuit Diagram



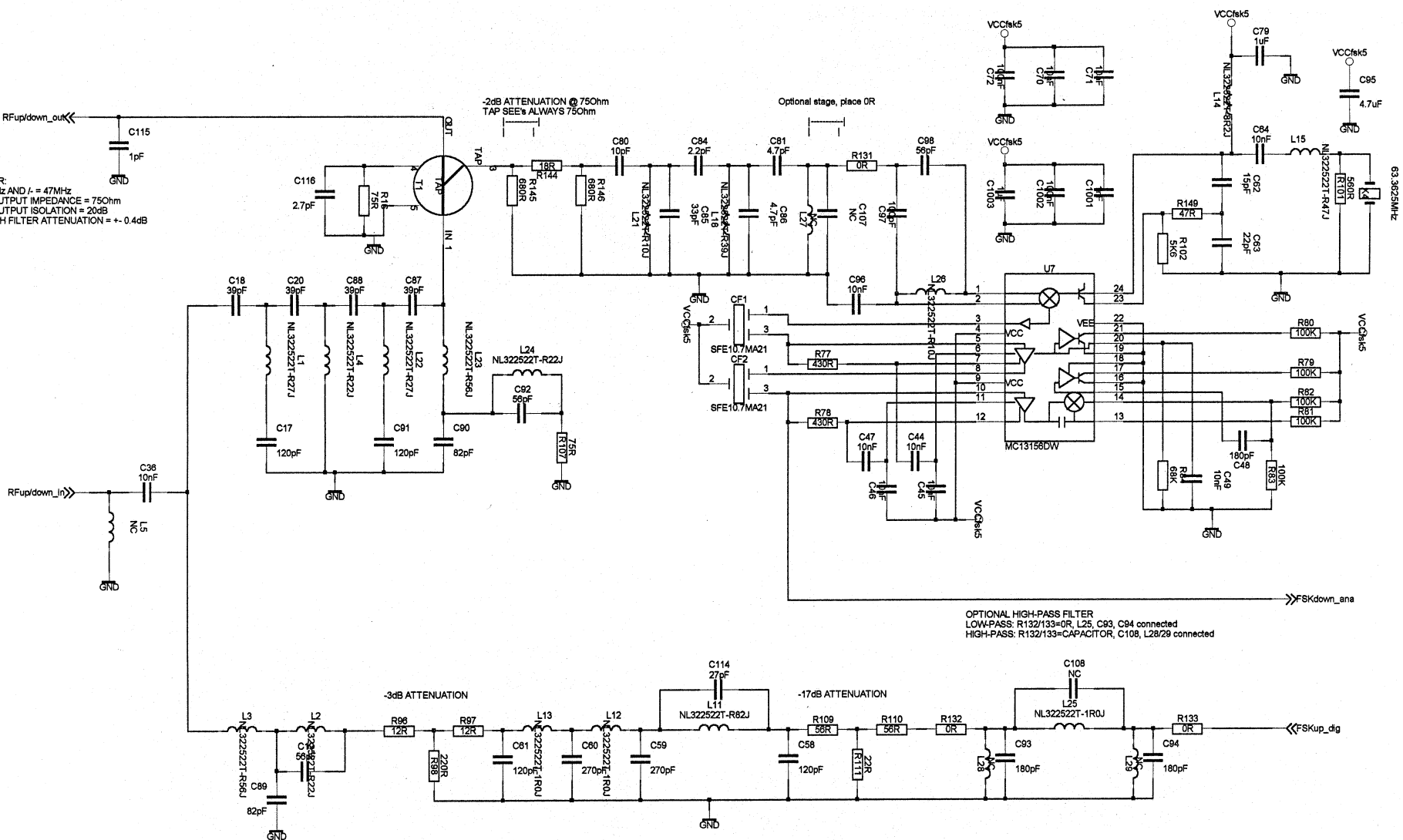
Mega Text

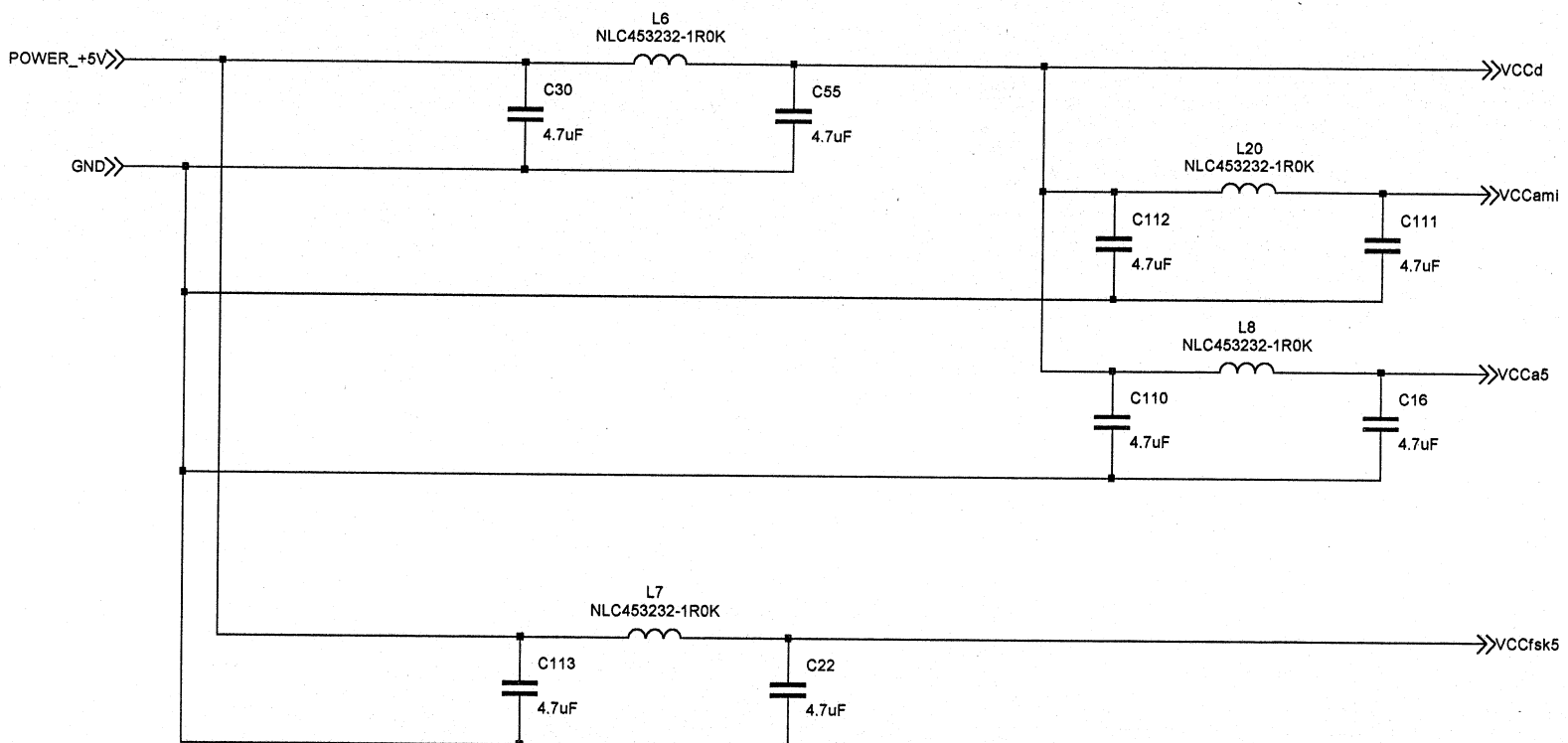


Modulator FSK

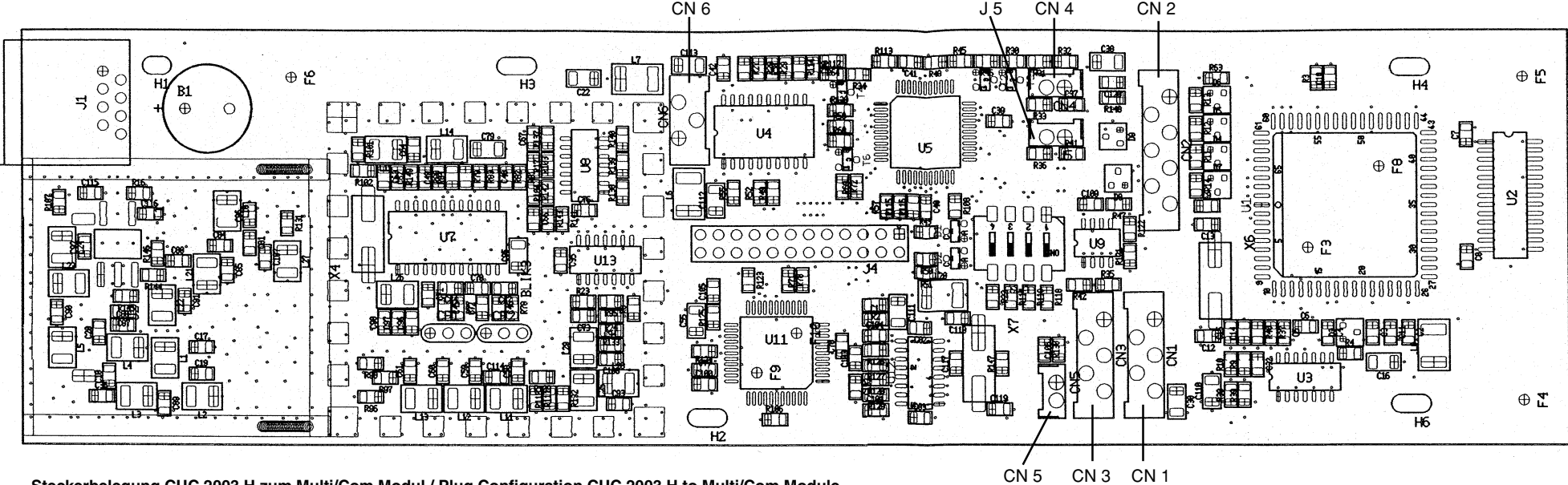


Diplexer-Schaltung / Diplexer circuit



Stromversorgung / Power circuit

Leiterplatte Multi/Com / Multi/Com PCB
Materialnummer / Part Number 295041082400



Steckerbelegung CUC 2003 H zum Multi/Com Modul / Plug Configuration CUC 2003 H to Multi/Com Module

Stecker auf Multi/Com Modul Plugs on Multi/Com Module	Farbe Stecker Colour of Plug	Signal Signal	Stecker Chassis Chassis Plug	Lage der Stecker im TV Gerät Position of Plugs TV Set	Materialnummer der Kabel Part Number of Cable
CN 1	schwarz / black	V Sync H Sync + M / +14V Masse / Ground + 5 V / ASIS	ST-ASIS 1, Pin 1 ST-ASIS 1, Pin 2 ST-ASIS 1, Pin 3 ST-ASIS 1, Pin 4 ST-ASIS 1, Pin 5	1. Ergänzung Supplement 1 Seite / Page 17	29210 805 2200
CN 2	weiß / white	Masse / Ground B G R RGB-Schaltspannung RGB switching voltage FBAS Text / CCVS text BUS Reset	ST-ASIS 2, Pin 1 ST-ASIS 2, Pin 2 ST-ASIS 2, Pin 3 ST-ASIS 2, Pin 4 ST-ASIS 2, Pin 5 ST-ASIS 2, Pin 6 ST-ASIS 2, Pin 7	1. Ergänzung Supplement 1 Seite / Page 20	29210 807 0100
CN 3	blau / blue	Clock Data Masse / Ground IR Ausgang / IR out IR Eingang / IR in	ST-ASIS 3, Pin 1 ST-ASIS 3, Pin 2 ST-ASIS 3, Pin 3 ST-ASIS 3, Pin 4 ST-ASIS 3, Pin 5	1. Ergänzung Supplement 1 Seite / Page 17	29210 805 8200
CN 4	rot / red	NF NF Stumm / NF Mute	ST-ASIS 4, Pin 1 ST-ASIS 4, Pin 2	1. Ergänzung Supplement 1 Seite / Page 23	29210 802 4200
CN 5	weiß / white		ST-M-LED, Pin 1 ST-M-LED, Pin 2	1. Ergänzung Supplement 1 Seite / Page 18	29210 802 0200
CN 6	weiß / white	nicht belegt / not used Masse / Ground + 5V	Standby Netzteil Pin 1 / Standby Power Supply Pin 1 Standby Netzteil Pin 2 / Standby Power Supply Pin 2 Standby Netzteil Pin 3 / Standby Power Supply Pin 3	2. Ergänzung Supplement 2 Seite / Page 13	29210 803 0200
J 5	schwarz / black	Hotel Reset	ST Hosp 1, Pin 2	1. Ergänzung Supplement 1 Seite / Page 17	29210 895 1101

Ersatzteilliste Spare Parts List

ERSETZT AUSGABE 5/2000
SUBSTITUTE EDITION 5/2000

1 / 2001

GRUNDIG

TV

T 55-830 MULTI/COM

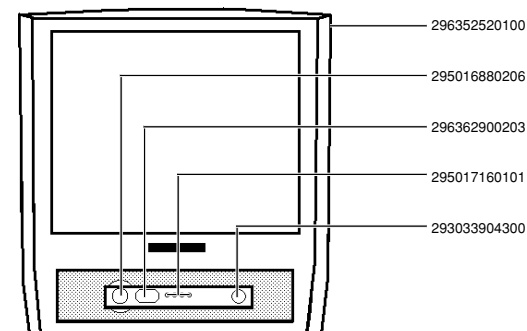
MATERIAL-NR. / PART NO.: 921945587200 BESTELL-NR. / ORDER NO.: GCL5272 AGANA-GRAU/AGANA GREY
VERSION NR./VERSION NO.: VNM

POS. NR. POS. NO.	ABB. FIG.	MATERIAL-NR. PART NUMBER	ANZ. QTY.	BEZEICHNUNG D	DESCRIPTION GB
		921945587200		T 55-830 MULTI/COM AGANA-GRAU KEIN E-TEIL	T 55-830 MULTI/COM AGANA GREY NO SPARE PART
0200.000		296352520100		GEH-VORDERTEIL DRUCK KPL	CABINET FRONT PART PRINT CPL
0201.000		191160083300		LAUTSPRECHER	SPEAKER
0216.000		295017160101		TASTENSATZ PROGRAMM/LAUTSTAERKE	KEYS SET PROGRAMME/VOLUME
0218.000		295016880206		NETZTASTENKNOPF	KEY POWER
0219.000		296284170101		DRUCKFEDER NETZTASTENKNOPF	PRESSURE SPRING KEY POWER
0230.000		296362900203		INFRA-FENSTER	INFRA WINDOW
0240.000		293033904300		KOPFHÖRERBUCHSE 3,5mm M.SCHALTER	HEADPHONE SOCKET 3,5mm W. SWITCH
0300.000		296362850102		GEH-RUECKTEIL OFB	CABINET REAR PART SURFACE TREATED
0320.000		291102176302		TYPENAUFKLEBER VNM	TYPE LABEL SELF ADHESIVE VNM
0700.000	△	092461287508		ENTMAGNETISIERUNGSSPULE	COIL DEGAUSSING
1100.000	△	830002051100		BILDROHR A51 EER131X28 SAMSUNG	PICT. TUBE A51 EER131X28 SAMSUNG
1100.000	△	830002051300		BILDROHR A51 EER 33X78 SAMSUNG	PICT. TUBE A51 EER33X78 SAMSUNG
1100.000	△	830002065500		BILDROHR A51 EAL155X01 PHILIPS	PICT. TUBE A51 EAL155X01 PHILIPS
1100.000	△	830002058300		BILDROHR A51 EFS83X191 VIDEOCOLOR	PICT. TUBE A51 EFS83X191 VIDEOCOLOR
1200.000	△	292013600111		ANODENKAPPE M.HOCHSPANNUNGSKABEL	ANODE CAP W.HIGH VOLTAGE CABLE
2100.000	△	829099131600		NETZKABEL KPL MIT ENTSTOERDROSSEL	POWER CABLE CPL W.INTERFERENCE COIL
2200.000		293033532400		KOAXVERBINDUNG	COAX CONNECTION
2300.000	△	293050221900		BILDROHRPLATTE	PICTURE TUBE BOARD
2400.000		296420611900	X	TP 800 H FERNBEDIENUNG	TP 800 H REMOTE CONTROL
		219459410100		BEDIENUNGSANLEITUNG D/GB	OPERATING INSTRUCTION D/GB
				AUFSTELLER	PUTTING
		219459410300		BEDIENUNGSANLEITUNG GB/TR	OPERATING INSTRUCTION GB/TR
				AUFSTELLER	PUTTING
		219459410200		BEDIENUNGSANLEITUNG FR/I	OPERATING INSTRUCTION FR/I
				AUFSTELLER	PUTTING
		720100240000		SERVICE MANUAL D/GB	SERVICE MANUAL D/GB
		720100240100		SERVICE MANUAL D/GB 1.ERGAENZUNG	SERVICE MANUAL D/GB 1ST SUPPLEMENT
		720100240200		SERVICE MANUAL D/GB 2.ERGAENZUNG	SERVICE MANUAL D/GB 2ND SUPPLEMENT
		296560040600		MONTAGEZUBEHOER F.BILDROHR	MOUNTING ACCESSORIES F.PICT.TUBE
				KEIN E-TEIL	NO SPARE PART
		297040064000	X	CHASSIS-FS-MONO PHILIPS-BR	CHASSIS TV MONO PHILIPS-PT
				CUC 2003/INL/MULTI/COM	CUC 2003/INL/MULTI/COM
				KEIN E-TEIL	NO SPARE PART
		297040065900	X	CHASSIS-FS-MONO VIDEOCOLOR-BR	CHASSIS TV MONO VIDEOCOLOR-PT
				CUC 2003/INL/MULTI/COM	CUC 2003/INL/MULTI/COM
				KEIN E-TEIL	NO SPARE PART
		297040066000	X	CHASSIS-FS-MONO SAMSUNG-BR	CHASSIS TV MONO SAMSUNG-PT
				CUC 2003/INL/MULTI/COM	CUC 2003/INL/MULTI/COM
				KEIN E-TEIL	NO SPARE PART

X = SIEHE GESONDERTE E-LISTE

X = SEE SEPARATE PARTS LIST

T 55-830 MULTI/COM



POS. NR. MATERIAL-NR. BEZEICHNUNG
POS. NO. PART NUMBER DESCRIPTION

POS. NR. MATERIAL-NR. BEZEICHNUNG
POS. NO. PART NUMBER DESCRIPTION

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Mat.-Nummer 720108000000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 720108000000, as well as the respective national deviations.

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

Ersatzteilliste
Spare Parts List

4 / 2000

CHASSIS-FS-MONO CUC 2003 INL/MULTI/COM
CHASSIS TV MONO CUC 2003 INL/MULTI/COM

MATERIAL-NR. / PART NO.: 29704 006 4000

POS. NR. POS. NO.	ABB. FIG.	MATERIAL-NR. PART NUMBER	ANZ. QTY.	BEZEICHNUNG (D)	DESCRIPTION (GB)
		29704 006 4000		CHASSIS-FS-MONO CUC 2003 INL/MULTI/COM KEIN E-TEIL	CHASSIS TV MONO CUC 2003 INL/MULTI/COM NO SPARE PART
0100.000		29504 301 0100		TUNER-GLOBAL (PLL)	TUNER-GLOBAL (PLL)
0209.000		29700 643 2501		ABDECKUNG MULTI/COM	COVER MULTI/COM
0247.000		29303 119 0602		EURO-AV BUCHSENLEISTE 21-POL	EURO-AV SOCKET STRIP 21 P
0300.000		29504 108 2400		COM-MODUL (COMBINER/MODEM/MEGA.TEXT)	COM-MODULE (COMBINER/MODEM/MEGA.TEXT)
0400.000		29304 050 8400		NETZTEIL 5V/0,4A GRUNDIG	POWER SUPPLY 5V/0.4A GRUNDIG
0710.000		29305 129 0100	X	TON FILTERPLATTE	SOUND FILTER BOARD
0950.000		29305 160 6600		LS-BUCHSENPLATTE KEIN E-TEIL	SPEAKER SOCKET BOARD NO SPARE PART
0955.000		09622 435 0200		LAUTSPRECHERBUCHSE SCHWARZ R	SPEAKER SOCKET BLACK R
1000.000	△	09621 113 0206	4	SICHERUNGSHALTER SI60251/62501	FUSE HOLDER SI60251/62501
1311.000		29703 357 1100		TASTSCHALTER PROGRAMM+	KEY SWITCH PROGRAMME+
1312.000		29703 357 1100		TASTSCHALTER PROGRAMM-	KEY SWITCH PROGRAMME-
1313.000		29703 357 1100		TASTSCHALTER LAUTSTÄRKE+	KEY SWITCH VOLUME+
1314.000		29703 357 1100		TASTSCHALTER LAUTSTÄRKE-	KEY SWITCH VOLUME-
1383.000		29303 390 4300		KOPFHOERERBUCHSE 3,5 M.SCHALTER	HEADPHONE SOCKET 3.5 WITH SWITCH
2000.000	△	29703 291 2105		NETZSCHALTER O.WISCHER	POWER SWITCH W/O WIPER
WW.	△	29703 291 3100		NETZSCHALTER O.WISCHER 4A	POWER SWITCH W/O WIPER 4A
2200.000	△	29303 399 5100		NETZ EINBAUGERAETESTECKER	APPLIANCE COUPLER W.CABLE
2410.000		29303 153 0200		MONTAGECLIP IC40050	MOUNTING CLIP IC40050
2410.000		29303 153 0208	2	MONTAGECLIP IC50010/T53001	MOUNTING CLIP IC50010/T53001
2430.000		29303 153 1208		MONTAGECLIP IC61211	MOUNTING CLIP IC61211
2440.000		29303 153 1600		MONTAGECLIP T60020	MOUNTING CLIP T60020
2440.000		29303 153 1605	2	MONTAGECLIP IC61040/61060	MOUNTING CLIP IC61040/61060
2470.000		29303 156 2000	3	FOLIE WAERMELEITEND IC61040/61060/T60020	FOIL HEAT CONDUCTING IC61040/61060/T60020

X = SIEHE GESONDERTE E-LISTE
WW. = WAHLWEISEX = SEE SEPARATE PARTS LIST
WW. = OPTIONAL

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION	POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
C 40057	84151 661 0600	ELKO 1000UF 20% 16V	C 60254	△ 86600 982 3400	SI-KERKO B-SS 1000PF 20%
C 53002	85159 111 1400	FOKO KF #35 9000PF 3,5% 1500V	C 60261	84520 971 3500	ELKO #35 10UF 385V
C 54011	86500 670 4600	KERKO HV C 100PF 20% 1KV	C 61036	86500 670 4600	KERKO HV C 100PF 20% 1KV
C 54012	84529 961 8700	ELKO 1000UF 20% 35V	C 61056	86500 670 4600	KERKO HV C 100PF 20% 1KV
C 54031	86500 670 4600	KERKO HV C 100PF 20% 1KV	C 61211	86500 670 4600	KERKO HV C 100PF 20% 1KV
C 60001	86500 811 2500	KERKO HV C 1000PF 20% 1KV	C 62021	86600 982 3400	SI-KERKO B-SS 1000PF 20%
C 60009	85159 116 0500	FOKO FKP1 220PF 5% 2000V	C 62022	86600 982 3400	SI-KERKO B-SS 1000PF 20%
C 60023	86500 811 2500	KERKO HV C 1000PF 20% 1KV	C 62048	△ 86600 982 3400	SI-KERKO B-SS 1000PF 20%
C 60024	86500 811 2500	KERKO HV C 1000PF 20% 1KV	C 62501	△ 85117 930 3300	FOKO MP3 0,22UF 20% 250VW
C 60026	86500 811 2500	KERKO HV C 1000PF 20% 1KV			
C 60027	86500 811 2500	KERKO HV C 1000PF 20% 1KV	CD 32201	83094 015 9200	SMD DIODE BA592/ BA78
C 60210	△ 86600 982 3400	SI-KERKO B-SS 1000PF 20%	CD 32411	83094 015 9200	SMD DIODE BA592/ BA78
C 60251	△ 85117 930 1800	MP3 0,1UF 20% 250VW	CD 32421	83094 015 9200	SMD DIODE BA592/ BA78
C 60252	△ 85117 930 1800	MP3 0,1UF 20% 250VW	CD 32460	83094 015 9200	SMD DIODE BA592/ BA78
C 60253	△ 86600 982 3400	SI-KERKO B-SS 1000PF 20%	CD 32465	83094 015 9200	SMD DIODE BA592/ BA78

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION	POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
CD 32475	83094 015 9200	SMD DIODE BA592/ BA78	D 60006	83095 168 5400	DIODE BYT 54 M
CIC32410	83058 140 9400	SMD IC MC14094BD	D 60007	83095 168 5400	DIODE BYT 54 M
CT 32105	83010 058 1700	SMD-TRANS.BC 817-25	D 60012	83092 000 2100	DIODE BAV21
CT 32111	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60022	83092 151 2700	DIODE 1 N 4007
CT 32119	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60024	83092 151 2700	DIODE 1 N 4007
CT 32122	83010 038 5800	SMD TRANS BC858B/ BC857B	D 60026	83092 151 2700	DIODE 1 N 4007
CT 32123	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60027	83092 151 2700	DIODE 1 N 4007
CT 32124	83010 038 5800	SMD TRANS BC858B/ BC857B	D 60037	83092 000 2100	DIODE BAV21
CT 32132	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60202	83092 011 5900	DIODE BA159
CT 32201	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60203	83096 631 8000	Z-DIODE BZT03D180
CT 32205	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60204	83092 000 2100	DIODE BAV21
CT 32435	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60213	83097 200 7400	Z DIODE 7,5 B 0,5W
CT 32440	83010 038 5800	SMD TRANS BC858B/ BC857B	D 60256	83092 151 2700	DIODE 1 N 4007
CT 32455	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60257	83092 151 2700	DIODE 1 N 4007
CT 32460	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60258	83092 151 2700	DIODE 1 N 4007
CT 32465	83010 048 4800	SMD TRANS BC848B/ BC847B	D 60259	83092 151 2700	DIODE 1 N 4007
CT 32470	83010 048 4800	SMD TRANS BC848B/ BC847B	D 61016	△ 83095 171 7800	DIODE BYW178/ FUF54
CT 32475	83010 048 4800	SMD TRANS BC848B/ BC847B	D 61036	83095 171 0800	DIODE BYT108-400
CT 32480	83010 048 4800	SMD TRANS BC848B/ BC847B	D 61056	△ 83095 171 7200	DIODE BYW172D/ FUF5
CT 32501	83010 048 4800	SMD TRANS BC848B/ BC847B	D 61211	83095 167 5500	DIODE BYT 53 D
CT 34031	83010 038 5800	SMD TRANS BC858B/ BC857B	D 81054	83092 150 4500	DIODE 1N4148
CT 40065	83010 048 4800	SMD TRANS BC848B/ BC847B	D 81123	83092 150 4500	DIODE 1N4148
CT 43244	83010 038 5800	SMD TRANS BC858B/ BC857B	D 85001	83099 661 0000	LE-DIODE TLDR4100
CT 43246	83010 048 4800	SMD TRANS BC848B/ BC847B	F 32101	81411 124 0500	FILTER 7X7 405 SIGN 112405
CT 46004	83010 048 4800	SMD TRANS BC848B/ BC847B	F 32109	86027 550 4200	CER.TRAP 42
CT 46009	83010 048 4800	SMD TRANS BC848B/ BC847B	F 32121	81411 113 6000	FILTER 7X7 360 SIGN 111360
CT 52260	83010 038 5800	SMD TRANS BC858B/ BC857B	F 32410	81405 313 5100	SPULE 7X7 351 FARBE 718
CT 54020	83010 038 5800	SMD TRANS BC858B/ BC857B	F 32412	83190 034 5100	OFWFILE K3451K
CT 57005	83010 048 4800	SMD TRANS BC848B/ BC847B	F 32420	83190 094 6000	OFW L 9460
CT 57020	83010 038 5800	SMD TRANS BC858B/ BC857B	F 32430	83190 095 5400	OFWFILE K9554
CT 57021	83010 038 5800	SMD TRANS BC858B/ BC857B	F 32493	81405 353 5200	SPULE 7X7 #352 SIGN535352
CT 57112	83010 038 5800	SMD TRANS BC858B/ BC857B			35MHZ 0,8UH
CT 57113	83010 038 5800	SMD TRANS BC858B/ BC857B	IC 32490	83053 344 8800	IC U4488
CT 57124	83010 048 4800	SMD TRANS BC848B/ BC847B	IC 32520	83050 050 5300	IC HEF4053BP
CT 61043	83010 048 4800	SMD TRANS BC848B/ BC847B	IC 34015	83053 388 4100	IC TDA8842N251
CT 81058	83010 058 0800	SMD TRANS BC808-25/BC807-	IC 40050	83053 372 6600	IC TDA7266M MULTI1
CT 81065	83010 038 5800	SMD TRANS BC858B/ BC857B	IC 50010	83053 383 5600	IC TDA8356N6 (TDA8356N5)
CT 81070	83010 038 5800	SMD TRANS BC858B/ BC857B	IC 60010	83053 546 0500	IC TDA4605/3
CT 81075	83010 038 5800	SMD TRANS BC858B/ BC857B	IC 60201	83055 800 2000	IC VIPER20A/022Y
CT 81120	83010 038 5800	SMD TRANS BC858B/ BC857B	IC 61040	83052 043 1700	IC LM317T
CT 81125	83010 038 5800	SMD TRANS BC858B/ BC857B	IC 61060	83052 057 0300	IC MC7805CT
D 40012	83092 150 4500	DIODE 1N4148	IC 61211	83052 057 0300	IC MC7805CT
D 40060	83092 150 4500	DIODE 1N4148	IC 80000	83052 100 6500	IC MC33164P-5RP/ TS831-51Z
D 40061	83092 150 4500	DIODE 1N4148	IC 80010	83053 675 3000	IC TFMS5300 STEHEND
D 40062	83092 150 4500	DIODE 1N4148	IC 81050	83051 551 9100	IC SDA5257-2-G411
D 40063	83097 200 7100	Z DIODE 7,5 C 0,5W	IC 81050	29798 201 0100	IC SDA545X OTP PROG.KPL
D 40065	83092 150 4500	DIODE 1N4148	IC 82005	83051 240 0800	IC M24C08B1/ M24C08-BN6
D 43055	83092 150 4500	DIODE 1N4148	L 31043	81405 264 4000	DR ST 0411-GRP 8,2UH 10%
D 43056	83092 150 4500	DIODE 1N4148	L 32108	81405 264 5800	DR 0309 2,7UH 5% ST
D 43071	83092 150 4500	DIODE 1N4148	L 32109	81405 264 4400	DR ST 0309-GRP 10UH 5%
D 43072	83092 150 4500	DIODE 1N4148	L 32201	81405 269 4400	DR N-GR 4,7MH 5%
D 43073	83092 150 4500	DIODE 1N4148	L 41011	81049 820 1400	DAEMPF-PERLE 433003038102
D 50022	83092 000 2100	DIODE BAV21			DAMPING BEAD
D 50023	83092 150 2000	DIODE 1 N 4004	L 53003	81049 820 5600	FERRITPERLE HF70 BTL 3,5X
D 50026	83097 205 1000	Z DIODE 51 C 0,5W			FERRITE BEAD
D 50027	83091 985 4200	DIODE BAT42/43/BAT85/86 A	L 53011	81405 052 4900	DR A AX-GA 10UH 10%
D 52001	83092 150 4500	DIODE 1N4148	L 53021	29203 114 9500	LINEARITÄTSREGLER
D 53003	83092 010 0500	DIODE BA157			LINEARITY-CONTROL
D 54001	△ 83092 042 6800	DIODE BYV16/ BYV96E	L 53074	09246 838 5100	ZB-SPULE / COIL
D 54011	83092 010 0500	DIODE BA157	L 60006	81049 820 5700	FERRITPERLE 3,6UH 5720500
D 54021	83097 200 3600	Z DIODE 3,6 C 0,5W			FERRITE BEAD
D 54022	83097 071 3500	Z DIODE 33 B 0,5W	L 60251	△ 29500 823 9600	FUNKENTSTÖERDROSSEL
D 54031	83092 010 0500	DIODE BA157			INTERFERENCE CHOKE
D 57011	83092 150 4500	DIODE 1N4148	L 61038	81049 820 0300	FERRITPERLE BL02RN2-R62
D 57013	83092 150 4500	DIODE 1N4148			FERRITE BEAD
D 57023	83092 150 4500	DIODE 1N4148	L 61211	81049 820 1400	DAEMPF-PERLE 433003038102
D 57122	83092 150 4500	DIODE 1N4148			DAMPING BEAD

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

POS. NR.	MATERIAL-NR.	BEZEICHNUNG
POS. NO.	PART NUMBER	DESCRIPTION

L 62501	△ 29500 826 9700	FUNKENTSTOERDROSSEL INTERFERENCE CHOKE
L 81061	81049 820 5100	FERRITPERLE HF55 BTL 3,5X FERRITE BEAD

OK 60210	△ 83060 000 1200	OPTOKOPLER CNY17F1 OPTOCOUPLER
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Q 34043	83821 360 0400	QUARZ #136 2A 4,433619MHZ 20PF
Q 80001	83822 460 9600	QUARZ 6,0 MHZ Q 270/2A

R 40053	△ 87011 190 0900	KSW SI B 2,2 OHM 5%
R 50023	△ 87003 290 3700	KSW NB 0207 33 OHM 5%
R 50046	△ 87004 292 0600	KSW NB 0207 1,6 OHM 2%
R 50047	△ 87004 292 0700	KSW NB 0207 1,8 OHM 2%
R 52004	△ 87055 210 5300	MOW 0411 150 OHM 5%
R 53002	△ 87004 290 9700	KSW NB 0207 10 KOHM 5%
R 53011	△ 87053 212 2100	MOW 0411 6,8 OHM 5%
R 53016	△ 87301 894 2500	DRW 9 10 OHM 10% 214-3
R 53021	△ 87055 210 7100	MOW 0411 820 OHM 5%
R 53033	△ 87053 210 0400	MOW 0411 1,5 OHM 5%
R 53074	△ 87053 690 7100	MOW 0617 820 OHM 5%
R 54001	△ 87053 290 2500	MOW 0411 10 OHM 5%
R 54006	△ 87350 032 0100	DRW 0,75W 1 OHM 10%
R 54031	△ 87003 290 2300	KSW NB 0207 8,2 OHM 5%
R 60001	87650 443 2500	MSW 0414 150 KOHM 2%
R 60002	87650 441 4100	MSW 0411 680 KOHM 5%
R 60003	87650 441 4100	MSW 0411 680 KOHM 5%
R 60007	87650 443 2100	MSW 0414 100 KOHM 2%
R 60008	△ 87055 611 0500	MOW 0617 22 KOHM 5%
R 60009	△ 87055 611 0500	MOW 0617 22 KOHM 5%
R 60016	△ 87055 610 4300	MOW 0617 56 OHM 5%
R 60021	83110 050 1700	NTC 4,7 OHM 30% S237/S234
R 60029	△ 87055 611 1700	MOW 0617 68 KOHM 5%
R 60037	87900 500 3700	ESTR.SK10-A 1,5 KOHM LIN/VARR.
R 60251	△ 87650 491 6100	MSW SI 0414 4,7 MOHM VDE
R 61018	△ 87001 471 2900	KSW 0411 220 KOHM 5%
R 62049	△ 87650 491 6100	MSW SI 0414 4,7 MOHM VDE
R 62505	△ 83112 000 1600	PTC DUO T2S1-A80-A10

SI 52001	△ 83156 090 2600	SI LOET T160MA 250V
SI 60201	△ 83156 100 2600	LOET-SI-GR 200 MA/T
SI 60251	△ 83156 200 0300	SI 5X20 T2A L 250V
SI 61211	△ 83156 162 0500	SI LOET T800MA 250V
SI 62501	△ 83156 170 0600	SI 5X20 T2,5A L 250V

T 00665	83028 050 4000	TRANS.IRF BC 40
T 52001	83032 856 3700	TRANS.BC 637
T 53001	83029 000 2000	TRANS S2055N/ BU508DF

TR 52001	09246 868 0400	TRAFO TREIBER DRIVER TRANSFORMATOR
TR 53010	△ 29221 031 6800	TRAFO DIODEN-SPLIT KPL (90) DIODE SPLIT TRANSFORMATOR
TR 60201	△ 29201 619 9700	SPERRWANDLERTRAFO KPL
TR 61000	△ 29201 521 9700	SPERRWANDLERTRAFO B.O.-TYPE CONVERTER TRANSFORMER

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Mat.-Nummer 72010 800 0000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010 800 0000, as well as the respective national deviations.

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

POS. NR.	MATERIAL-NR.	BEZEICHNUNG
POS. NO.	PART NUMBER	DESCRIPTION

Ersatzteilliste Spare Parts List

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CHASSIS-FS-MONO CUC 2003/INL MULTI/COM CHASSIS TV MONO CUC 2003/INL MULTI/COM

MATERIAL-NR. / PART NO.: 297040065900

POS. NR.	ABB.	MATERIAL-NR.	ANZ.	BEZEICHNUNG	DESCRIPTION
POS. NO.	FIG.	PART NUMBER	QTY.		
		297040065900		CHASSIS-FS-MONO CUC 2003/INL/MULTI/COM KEIN E-TEIL	CHASSIS TV MONO CUC 2003/INL/MULTI/COM NO SPARE PART
0100.000		295043010100		TUNER-GLOBAL (PLL)	TUNER-GLOBAL (PLL)
0206.000		297006437500		ABDECKUNG BUCHSEN MONTIERT KPL	COVER SOCKETS MOUNTED CPL
0216.000		297033571100		TASTSCHALTER PROGRAMM +	KEY SWITCH PROGRAMME +
0216.000		297033571100		TASTSCHALTER PROGRAMM -	KEY SWITCH PROGRAMME -
0216.000		297033571100		TASTSCHALTER LAUTSTAERKE +	KEY SWITCH VOLUME +
0216.000		297033571100		TASTSCHALTER LAUTSTAERKE -	KEY SWITCH VOLUME -
0240.000		293033904300		KOPFHÖRERBUCHSE 3,5mm M.SCHALTER	HEADPHONE SOCKET 3,5mm WITH SWITCH
0247.000		293031190602		EURO-AV BUCHSENLEISTE 21-POL SW	EURO-AV SOCKET STRIP 21 PIN BLACK
0300.000		293051290100	X	TON FILTERPLATTE	SOUND FILTER BOARD
0400.000	△	293040508400		NETZTEIL 5V/0,4A	POWER SUPPLY 5V/0.4A
0500.000		295041082400		COM-MODUL KPL	COM-MODULE CPL
0910.000	△	292107030100		FOKUSLEITUNG	FOCUSING CABLE
1000.000		096211130206	4	SICHERUNGSHALTER SI60251/62501	FUSE HOLDER SI60251/62501
2000.000	△	297032912105		NETZSCHALTER O.WISCHER	POWER SWITCH W/O WIPER
WW.	△	297032913100		NETZSCHALTER O.WISCHER 4A	POWER SWITCH W/O WIPER 4A
2200.000	△	293033995100		NETZ EINBAUGERAETESTECKER	APPLIANCE COUPLER
2410.000		293031530200		MONTAGECLIP IC40050	MOUNTING CLIP IC40050
2415.000		293031530208	2	MONTAGECLIP T53001/IC50010	MOUNTING CLIP T53001/IC50010
2430.000		293031531208	3	MONTAGECLIP IC61040/61060/61211	MOUNTING CLIP IC61040/61060/61211
2440.000		293031531600		MONTAGECLIP T60006	MOUNTING CLIP T60006
2470.000		293031562000	4	FOLIE WAERMELEITEND IC61040/ 61060/61211/T60006	FOIL HEAT CONDUCTING IC61040/ 61060/61211/T60006
				X = SIEHE GSONDERTE E-LISTE WW. = WAHLWEISE	X = SEE SEPARATE PARTS LIST WW. = OPTIONAL

POS. NR.	MATERIAL-NR.	BEZEICHNUNG
POS. NO.	PART NUMBER	DESCRIPTION

C 40057	841516610600	ELKO 1000UF 20% 16V
C 53002	851591111400	FOKO KF #35 9000PF 3,5% 1500V
C 54011	865006704600	KERKO HV C 100PF 20% 1KV
C 54012	845299618700	ELKO 1000UF 20% 35V
C 54031	865006704600	KERKO HV C 100PF 20% 1KV
C 60001	865008112500	KERKO HV C 1000PF 20% 1KV
C 60009	851591103800	FOKO FKP1 100PF 10% 1600V
C 60023	865008112500	KERKO HV C 1000PF 20% 1KV
C 60024	865008112500	KERKO HV C 1000PF 20% 1KV
C 60026	865008112500	KERKO HV C 1000PF 20% 1KV
C 60027	865008112500	KERKO HV C 1000PF 20% 1KV
C 60210	△ 866009823400	KERKO SI 1000PF 20% 400V
C 60251	△ 851179301800	MP3 0,1UF 20% 250V
C 60252	△ 851179301800	MP3 0,1UF 20% 250V
C 60256	865008112500	KERKO HV C 1000PF 20% 1KV
C 60257	865008112500	KERKO HV C 1000PF 20% 1KV
C 60258	865008112500	KERKO HV C 1000PF 20% 1KV
C 60259	865008112500	KERKO HV C 1000PF 20% 1KV

POS. NR.	MATERIAL-NR.	BEZEICHNUNG
POS. NO.	PART NUMBER	DESCRIPTION

C 61036	865006704600	KERKO HV C 100PF 20% 1KV
C 61056	865006704600	KERKO HV C 100PF 20% 1KV
C 61211	865006704600	KERKO HV C 100PF 20% 1KV
C 62021	866009823400	KERKO SI 1000PF 20% 400V
C 62022	866009823400	KERKO SI 1000PF 20% 400V
C 62501	△ 851179303300	FOKO MP3 0,22UF 20% 250V
C 81063	814054010400	EMIFIL 0,1 UF -GR
CD 32201	830940159200	SMD DIODE BA591
CD 32411	830940159200	SMD DIODE BA591
CD 32421	830940159200	SMD DIODE BA591
CD 32460	830940159200	SMD DIODE BA591
CD 32465	830940159200	SMD DIODE BA591
CD 32475	830940159200	SMD DIODE BA591

CIC32410	830581409400	SMD IC MC14094BD
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CT 32105	830100581700	SMD-TRANS BC817-25
CT 32111	830100484800	SMD TRANS BC848B/BC847B
CT 32119	830100484800	SMD TRANS BC848B/BC847B

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

GRUNDIG**TV**

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
CT 32122	830100385800	SMD TRANS BC858B/BC857B
CT 32123	830100484800	SMD TRANS BC848B/BC847B
CT 32124	830100385800	SMD TRANS BC858B/BC857B
CT 32132	830100484800	SMD TRANS BC848B/BC847B
CT 32201	830100484800	SMD TRANS BC848B/BC847B
CT 32205	830100484800	SMD TRANS BC848B/BC847B
CT 32435	830100484800	SMD TRANS BC848B/BC847B
CT 32440	830100385800	SMD TRANS BC858B/BC857B
CT 32455	830100484800	SMD TRANS BC848B/BC847B
CT 32460	830100484800	SMD TRANS BC848B/BC847B
CT 32465	830100484800	SMD TRANS BC848B/BC847B
CT 32470	830100484800	SMD TRANS BC848B/BC847B
CT 32475	830100484800	SMD TRANS BC848B/BC847B
CT 32480	830100484800	SMD TRANS BC848B/BC847B
CT 32501	830100484800	SMD TRANS BC848B/BC847B
CT 34031	830100385800	SMD TRANS BC858B/BC857B
CT 40065	830100484800	SMD TRANS BC848B/BC847B
CT 43244	830100385800	SMD TRANS BC858B/BC857B
CT 43246	830100484800	SMD TRANS BC848B/BC847B
CT 46004	830100484800	SMD TRANS BC848B/BC847B
CT 46009	830100484800	SMD TRANS BC848B/BC847B
CT 52260	830100385800	SMD TRANS BC858B/BC857B
CT 54020	830100385800	SMD TRANS BC858B/BC857B
CT 57005	830100484800	SMD TRANS BC848B/BC847B
CT 57020	830100385800	SMD TRANS BC858B/BC857B
CT 57021	830100385800	SMD TRANS BC858B/BC857B
CT 57112	830100385800	SMD TRANS BC858B/BC857B
CT 57113	830100385800	SMD TRANS BC858B/BC857B
CT 57124	830100484800	SMD TRANS BC848B/BC847B
CT 61043	830100484800	SMD TRANS BC848B/BC847B
CT 81058	830100580800	SMD TRANS BC808-25/BC807
CT 81065	830100385800	SMD TRANS BC858B/BC857B
CT 81070	830100385800	SMD TRANS BC858B/BC857B
CT 81075	830100385800	SMD TRANS BC858B/BC857B
CT 81120	830100385800	SMD TRANS BC858B/BC857B
CT 81125	830100385800	SMD TRANS BC858B/BC857B
D 40012	830921504500	DIODE 1N4148
D 40060	830921504500	DIODE 1N4148
D 40061	830921504500	DIODE 1N4148
D 40062	830921504500	DIODE 1N4148
D 40063	830972007100	Z DIODE 7.5C 0,5W
D 40065	830921504500	DIODE 1N4148
D 43055	830921504500	DIODE 1N4148
D 43056	830921504500	DIODE 1N4148
D 43071	830921504500	DIODE 1N4148
D 43072	830921504500	DIODE 1N4148
D 43073	830921504500	DIODE 1N4148
D 50022	830920002100	DIODE BAV21
D 50023	830921502000	DIODE 1N4004
D 50026	830972051000	Z DIODE 51C 0,5W
D 50027	830919854200	DIODE BAT42
D 52001	830921504500	DIODE 1N4148
D 53003	830920100500	DIODE BA157
D 54001	830920426800	DIODE BYV16
D 54011	830920100500	DIODE BA157
D 54021	830972003600	Z DIODE 3,6C 0,5W
D 54022	830972033000	Z-DIODE 30B 0,5W
D 54031	830920100500	DIODE BA157
D 57011	830921504500	DIODE 1N4148
D 57013	830921504500	DIODE 1N4148
D 57023	830921504500	DIODE 1N4148
D 57122	830921504500	DIODE 1N4148
D 60006	830951685400	DIODE BYT54M
D 60007	830951685400	DIODE BYT54M
D 60012	830920002100	DIODE BAV21
D 60022	830921512700	DIODE 1N4007
D 60024	830921512700	DIODE 1N4007
D 60026	830921512700	DIODE 1N4007
D 60027	830921512700	DIODE 1N4007

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
D 60037	830920002100	DIODE BAV21
D 60202	830920115900	DIODE BA159
D 60203	830966318000	Z-DIODE BZT03D180
D 60204	830920002100	DIODE BAV21
D 60213	830972007400	Z DIODE 7.5B 0,5W
D 60256	830921512700	DIODE 1N4007
D 60257	830921512700	DIODE 1N4007
D 60258	830921512700	DIODE 1N4007
D 60259	830921512700	DIODE 1N4007
D 61016	830951717800	DIODE BYW178
D 61036	830951710800	DIODE BYT108-400
D 61056	830951717200	DIODE BYW172D
D 61211	830951675500	DIODE BYT53D
D 81054	830921504500	DIODE 1N4148
D 81123	830921504500	DIODE 1N4148
D 85001	830996610000	LE-DIODE TLDLR4100
F 32101	814111240500	FILTER 7X7 405 SIGN 11240
F 32109	860275504200	CER.TRAP 42
F 32121	814111136000	FILTER 7X7 360 SIGN 11136
F 32410	814053445100	SPULE 7X7 #451 SIGN534451
F 32412	831900345100	QWFFIL K3451K
F 32420	831900946000	OFW L 9460
F 32430	831900955400	QWFFIL K9554
F 32493	814053535200	SPULE 7X7 #352 SIGN535352
IC 32490	830533448800	IC U4488
IC 32520	830500505300	IC HEF4053BP
IC 34015	830533884100	IC TDA8842N2S1
IC 40050	830533726600	IC TDA7266M
IC 50010	830533835600	IC TDA8356N6
IC 60010	830535460500	IC TDA4605/3
IC 60201	830558002000	IC VIPER20A/022Y
IC 61040	830520431700	IC LM317T
IC 61060	830520570600	IC MC7805CT
IC 61211	830520570600	IC MC7805CT
IC 80000	830521006500	IC MC33164P-5RP
IC 80010	830536753000	IC TFMSS300 STEHEND/TSOP
IC 81050	830515519100	IC SDA5257-2-G411
IC 81050	297982010100	IC SDA545X OTP PROG.KPL
IC 82005	830512400800	IC M24C08B1
L 31043	814052644000	DR ST 0411-GRP 8,2UH 10%
L 32108	814052645800	DR 0309 2,7UH 5%
L 32109	814052644400	DR ST 0309-GRP 10UH 5%
L 32201	814052694400	DR N-GR 4,7MH 5%/CHOKE
L 41011	810498201400	DAEMPF-PERLE 433003038102
L 53003	810498205600	FERRITPERLE HF70 BTL 3,5X
L 53011	814050524900	FERRITE BEAD
L 53021	292031149500	DR A AX-GA 10UH 10%/CHOKE
L 53074	092468385100	LINEARITAETSREGLER
L 60006	810498205700	ZB-SPULE/ZB COIL
L 60251	295008239600	FERRITPERLE 3,6UH 5720500
L 61038	810498200300	FERRITE BEAD
L 61211	810498201400	FERRITE BEAD
L 62501	295008269700	DAEMPF-PERLE 433003038102
L 81061	810498205100	DAMPING BEAD
L 81061	810498205100	FUNKENTSTOERDROSSEL
OK 60210	830600001200	INTERFERENCE CHOKE
OK 60210	830600001200	FERRITPERLE HF55 BTL 3,5X
OK 60210	830600001200	FERRITE BEAD
OK 60210	830600001200	OPTOKOPLER CNY17F1
OK 60210	830600001200	OPTO COUPLER

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
Q 34043	838213600400	QUARZ #136 2A 4,433619MHZ
Q 80001	838224609600	QUARZ 6,0 MHZ
R 40053	870111900900	KSW SI B 2,2 OHM 5%
R 50023	870032903700	KSW NB 0207 33 OHM 5%
R 50046	870042920700	KSW NB 0207 1,8 OHM 2%
R 50047	870042920700	KSW NB 0207 1,8 OHM 2%
R 52004	870552105300	MOW 0411 150 OHM 5%
R 53002	870042909700	KSW NB 0207 10 KOHM 5%
R 53009	871033814500	MGW AX 1 MOHM 5%
R 53011	870532122100	MOW 0411 6,8 OHM 5%
R 53016	873018942500	DRW 9 10 OHM 10% 214-3
R 53021	870552107100	MOW 0411 820 OHM 5%
R 53033	870532098400	MOW 0411 0,22 OHM 5%
R 53074	870536907100	MOW 0617 820 OHM 5%
R 54001	870532902500	MOW 0411 10 OHM 5%
R 54006	873500320100	DRW 0,75W 1 OHM 10%
R 54031	870032902300	KSW NB 0207 8,2 OHM 5%
R 60008	870556110500	MOW 0617 22 KOHM 5%
R 60009	870556110500	MOW 0617 22 KOHM 5%
R 60016	870556104300	MOW 0617 56 OHM 5%
R 60021	831100501700	NTC 4,7 OHM 30%
R 60029	870556111700	MOW 0617 68 KOHM 5%
R 60037	879005003700	ESTR.SK10-A 1,5 KOHM LIN
R 60251	876504916100	MSW SI 0414 4,7 MOHM VDE
R 61018	870014712900	KSW 0411 220 KOHM 5%
R 62049	876504916100	MSW SI 0414 4,7 MOHM VDE
R 62505	831120001800	PTC DUO B59709-T60-A110
SI 52001	831560902600	SI LOET T160MA 250V
SI 60201	831561002600	SI LOET 200 MA/T
SI 60251	831562000300	SI 5X20 T2A L 250V
SI 61211	831561620500	SI LOET T800MA 250V
SI 62501	831561700600	SI 5X20 T2,5A L 250V
T 52001	830328563700	TRANS BC637
T 53001	830290002000	TRANS S2055N
T 60006	830280504000	TRANS IRFBC40
TR 52001	092468680400	TRAFO TREIBER
TR 53010	292210316800	TRANSFORMER DRIVER
TR 60201	292016199700	TRAFO DIODEN-SPLIT
TR 61000	292015219700	TRANSFORMER DIODE SPLIT
TR 61000	292015219700	SPERRWANDLERTRAFO
TR 61000	292015219700	293040508400
TR 61000	292015219700	SPERRWANDLERTRAFO
TR 61000	292015219700	B.O.TYPE CONVERTER
TR 61000	292015219700	TRANSFORMER

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Mat.-Nummer 720108000000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 720108000000, as well as the respective national deviations.

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

Ersatzteilliste
Spare Parts List

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CHASSIS-FS-MONO CUC 2003/INL/MULTI/COM
CHASSIS TV MONO CUC 2003/INL/MULTI/COM

MATERIAL-NR. / PART NO.: 297040066000

POS. NR. POS. NO.	ABB. FIG.	MATERIAL-NR. PART NUMBER	ANZ. QTY.	BEZEICHNUNG ①	DESCRIPTION ②
		297040066000		CHASSIS-FS-MONO CUC 2003/INL/MULTI/COM KEIN E-TEIL	CHASSIS TV MONO CUC 2003/INL/MULTI/COM NO SPARE PART
0100.000		295043010100		TUNER-GLOBAL (PLL)	TUNER-GLOBAL (PLL)
0206.000		297006437500		ABDECKUNG BUCHSEN MONTIERT KPL	COVER SOCKETS MOUNTED CPL
0216.000		297033571100		TASTSCHALTER PROGRAMM +	KEY SWITCH PROGRAMME +
0216.000		297033571100		TASTSCHALTER PROGRAMM -	KEY SWITCH PROGRAMME -
0216.000		297033571100		TASTSCHALTER LAUTSTÄRKE +	KEY SWITCH VOLUME +
0216.000		297033571100		TASTSCHALTER LAUTSTÄRKE -	KEY SWITCH VOLUME -
0240.000		293033904300		KOPFHÖRERBUCHSE 3,5mm M.SCHALTER	HEADPHONE SOCKET 3,5mm WITH
SWITCH					
0247.000		293031190602		EURO-AV BUCHSENLEISTE 21-POL SW	EURO-AV SOCKET STRIP 21 PIN BLACK
0300.000		293051290100	X	TON FILTERPLATTE	SOUND FILTER BOARD
0400.000	△	293040508400		NETZTEIL 5V/0,4A	POWER SUPPLY 5V/0.4A
0500.000		295041082400		COM-MODUL KPL	COM-MODULE CPL
0910.000	△	292107030100		FOKUSLEITUNG	FOCUSING CABLE
1000.000	△	096211130206	4	SICHERUNGSHALTER SI60251/62501	FUSE HOLDER SI60251/62501
2000.000	△	297032912105		NETZSCHALTER O.WISCHER	POWER SWITCH W/O WIPER
WW.	△	297032913100		NETZSCHALTER O.WISCHER 4A	POWER SWITCH W/O WIPER 4A
2200.000	△	293033995100		NETZ EINBAUGERÄTESTECKER	APPLIANCE COUPLER
2410.000		293031530200		MONTAGECLIP IC40050	MOUNTING CLIP IC40050
2415.000		293031530208	2	MONTAGECLIP T53001/IC50010	MOUNTING CLIP T53001/IC50010
2430.000		293031531208	3	MONTAGECLIP IC61040/61060/61211	MOUNTING CLIP IC61040/61060/61211
2440.000		293031531600		MONTAGECLIP T60006	MOUNTING CLIP T60006
2470.000		293031562000	4	FOLIE WÄRMELEITEND IC61040/ 61060/61211/T60006	FOIL HEAT CONDUCTING IC61040/ 61060/61211/T60006

X = SIEHE GESONDERTE E-LISTE
WW. = WAHLWEISEX = SEE SEPARATE PARTS LIST
WW. = OPTIONAL

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION	POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
C 40057	841516610600	ELKO 1000UF 20% 16V	C 62021	866009823400	KERKO SI 1000PF 20% 400V
C 53002	851591110200	FOKO FKP1/4 8500PF 3,5% 1500V	C 62022	866009823400	KERKO SI 1000PF 20% 400V
C 54011	865006704600	KERKO HV C 100PF 20% 1KV	C 62048	866009823400	KERKO SI 1000PF 20% 400V
C 54012	845299618700	ELKO 1000UF 20% 35V	C 62501	851179303300	FOKO MP3 0,22UF 20% 250VW
C 54031	865006704600	KERKO HV C 100PF 20% 1KV	C 81063	814054010400	EMIFIL 0,1 UF -GR
C 60001	865008112500	KERKO HV C 1000PF 20% 1KV	CD 32201	830940159200	SMD DIODE BA591
C 60009	851591103800	FOKO FKP1 100PF 10% 1600V	CD 32411	830940159200	SMD DIODE BA591
C 60023	865008112500	KERKO HV C 1000PF 20% 1KV	CD 32421	830940159200	SMD DIODE BA591
C 60024	865008112500	KERKO HV C 1000PF 20% 1KV	CD 32460	830940159200	SMD DIODE BA591
C 60026	865008112500	KERKO HV C 1000PF 20% 1KV	CD 32465	830940159200	SMD DIODE BA591
C 60027	865008112500	KERKO HV C 1000PF 20% 1KV	CD 32475	830940159200	SMD DIODE BA591
C 60210	866009823400	KERKO SI 1000PF 20% 400V	CIC32410	830581409400	SMD IC MC14094BD
C 60251	851179301800	MP3 0,1UF 20% 250V	CT 32105	830100581700	SMD-TRANS BC817-25
C 60252	851179301800	MP3 0,1UF 20% 250V	CT 32111	830100484800	SMD TRANS BC848B/BC847B
C 60256	865008112500	KERKO HV C 1000PF 20% 1KV	CT 32119	830100484800	SMD TRANS BC848B/BC847B
C 60257	865008112500	KERKO HV C 1000PF 20% 1KV	CT 32122	830100385800	SMD TRANS BC858B/BC857B
C 60258	865008112500	KERKO HV C 1000PF 20% 1KV	CT 32123	830100484800	SMD TRANS BC848B/BC847B
C 61036	865006704600	KERKO HV C 100PF 20% 1KV	CT 32124	830100385800	SMD TRANS BC858B/BC857B
C 61056	865006704600	KERKO HV C 100PF 20% 1KV			
C 61211	865006704600	KERKO HV C 100PF 20% 1KV			

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

GRUNDIG

TV

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
CT 32132	830100484800	SMD TRANS BC848B/BC847B
CT 32201	830100484800	SMD TRANS BC848B/BC847B
CT 32205	830100484800	SMD TRANS BC848B/BC847B
CT 32435	830100484800	SMD TRANS BC848B/BC847B
CT 32440	830100385800	SMD TRANS BC858B/BC857B
CT 32455	830100484800	SMD TRANS BC848B/BC847B
CT 32460	830100484800	SMD TRANS BC848B/BC847B
CT 32465	830100484800	SMD TRANS BC848B/BC847B
CT 32470	830100484800	SMD TRANS BC848B/BC847B
CT 32475	830100484800	SMD TRANS BC848B/BC847B
CT 32480	830100484800	SMD TRANS BC848B/BC847B
CT 32501	830100484800	SMD TRANS BC848B/BC847B
CT 34031	830100385800	SMD TRANS BC858B/BC857B
CT 40065	830100484800	SMD TRANS BC848B/BC847B
CT 43244	830100385800	SMD TRANS BC858B/BC857B
CT 43246	830100484800	SMD TRANS BC848B/BC847B
CT 46004	830100484800	SMD TRANS BC848B/BC847B
CT 46009	830100484800	SMD TRANS BC848B/BC847B
CT 52260	830100385800	SMD TRANS BC858B/BC857B
CT 54020	830100385800	SMD TRANS BC858B/BC857B
CT 57005	830100484800	SMD TRANS BC848B/BC847B
CT 57020	830100385800	SMD TRANS BC858B/BC857B
CT 57021	830100385800	SMD TRANS BC858B/BC857B
CT 57112	830100385800	SMD TRANS BC858B/BC857B
CT 57113	830100385800	SMD TRANS BC858B/BC857B
CT 57124	830100484800	SMD TRANS BC848B/BC847B
CT 61043	830100484800	SMD TRANS BC848B/BC847B
CT 81058	830100580800	SMD TRANS BC808-25/BC807
CT 81065	830100385800	SMD TRANS BC858B/BC857B
CT 81070	830100385800	SMD TRANS BC858B/BC857B
CT 81075	830100385800	SMD TRANS BC858B/BC857B
CT 81120	830100385800	SMD TRANS BC858B/BC857B
CT 81125	830100385800	SMD TRANS BC858B/BC857B
D 40012	830921504500	DIODE 1N4148
D 40060	830921504500	DIODE 1N4148
D 40061	830921504500	DIODE 1N4148
D 40062	830921504500	DIODE 1N4148
D 40063	830972007100	Z DIODE 7,5C 0,5W
D 40065	830921504500	DIODE 1N4148
D 43055	830921504500	DIODE 1N4148
D 43056	830921504500	DIODE 1N4148
D 43071	830921504500	DIODE 1N4148
D 43072	830921504500	DIODE 1N4148
D 43073	830921504500	DIODE 1N4148
D 50022	830920002100	DIODE BAV21
D 50023	830921502000	DIODE 1N4004
D 50026	830972005100	Z DIODE 51C 0,5W
D 50027	830919854200	DIODE BAT42
D 52001	830921504500	DIODE 1N4148
D 53003	830920100500	DIODE BA157
D 54001	830920426800	DIODE BYV16
D 54011	830920100500	DIODE BA157
D 54021	830972003600	Z DIODE 3,6C 0,5W
D 54022	830972003300	Z-DIODE 30B 0,5W
D 54031	830920100500	DIODE BA157
D 57011	830921504500	DIODE 1N4148
D 57013	830921504500	DIODE 1N4148
D 57023	830921504500	DIODE 1N4148
D 57122	830921504500	DIODE 1N4148
D 60006	830951685400	DIODE BYT54M
D 60007	830951685400	DIODE BYT54M
D 60012	830920002100	DIODE BAV21
D 60022	830921512700	DIODE 1N4007
D 60024	830921512700	DIODE 1N4007
D 60026	830921512700	DIODE 1N4007
D 60027	830921512700	DIODE 1N4007
D 60037	830920002100	DIODE BAV21
D 60202	830920115900	DIODE BA159
D 60203	830966318000	Z-DIODE BZT03D180

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
D 60204	830920002100	DIODE BAV21
D 60213	830972007400	Z DIODE 7,5B 0,5W
D 60256	830921512700	DIODE 1N4007
D 60257	830921512700	DIODE 1N4007
D 60258	830921512700	DIODE 1N4007
D 60259	830921512700	DIODE 1N4007
D 61016	830951717800	DIODE BYW178
D 61036	830951710800	DIODE BYT108-400
D 61056	830951717200	DIODE BYW172D
D 61211	830951675500	DIODE BYT53D
D 81054	830921504500	DIODE 1N4148
D 81123	830921504500	DIODE 1N4148
D 85001	830996610000	LE-DIODE TLDR4100
F 32101	814111240500	FILTER 7X7 405 SIGN 11240
F 32109	860275504200	CER.TRAP 42
F 32121	814111136000	FILTER 7X7 360 SIGN 11136
F 32410	814053445100	SPLULE 7X7 #451 SIGN534451
F 32412	831900345100	OFWFL K3451K
F 32420	831900946000	OFW L 9460
F 32430	831900955400	OFWFL K9554
F 32493	814053535200	SPLULE 7X7 #352 SIGN535352
IC 32490	830533448800	IC U4488
IC 32520	830500505300	IC HEF4053BP
IC 34015	830533884100	IC TDA8842N2S1
IC 40050	830533726600	IC TDA7266M
IC 50010	830533835600	IC TDA8356NE
IC 60010	830535460500	IC TDA4605/3
IC 60201	830558002000	IC VIPER20A
IC 61040	830520431700	IC LM317T
IC 61060	830520570600	IC MC7805CT
IC 61211	830520570600	IC MC7805CT
IC 80000	830521006500	IC MC33164P-5RP
IC 80010	830536753000	IC TFM55300 STEHEND/TSOP
IC 81050	830515519100	IC SDA5257-2-G411
WW.	297982010100	IC SDA545X OTP PROG.KPL
IC 82005	830512400800	IC M24C08B1
L 31043	814052644000	DR ST 0411-GRP 8,2UH 10%
L 32108	814052645800	DR 0309 2,7UH 5%
L 32109	814052644400	DR ST 0309-GRP 10UH 5%
L 32201	814052694400	DR N-GR 4,7MH 5%CHOKE
L 41011	810498201400	DAEMPF-PERLE 433003038102
		DAMPING BEAD
L 53003	810498205600	FERRITPERLE HF70 BTL 3,5X
		FERRITE BEAD
L 53011	814050524900	DR A AX-GA 10UH 10%
		CHOKE
L 53021	292031149500	LINEARITÄTSSREGLER
		LINEARITY CONTROL
L 53074	092468385100	ZB-SPLULE/ZB COIL
L 60006	810498205700	FERRITPERLE 3,6UH 5720500
		FERRITE BEAD
L 60251	295008239600	FUNKENTSTÖRDROSSEL
		INTERFERENCE CHOKE
L 61038	810498200300	FERRITPERLE BL02RN2-R62
		FERRITE BEAD
L 61211	810498201400	DAEMPF-PERLE 433003038102
		DAMPING BEAD
L 62501	295008269700	FUNKENTSTÖRDROSSEL
		INTERFERENCE CHOKE
L 81061	810498205100	FERRITPERLE HF55 BTL 3,5X
		FERRITE BEAD
OK 60210	830600001200	OPTOKOPLER CNY17F1
		OPTO COUPLER
Q 34043	838213600400	QUARZ #136 2A 4,433619MHZ
Q 80001	838224609600	QUARZ 6,0 MHZ

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
R 40053	△ 870111900900	KSW SI B 2,2 OHM 5%
R 50023	△ 870032903700	KSW NB 0207 33 OHM 5%
R 50046	△ 870042920700	KSW NB 0207 1,8 OHM 2%
R 50047	△ 870042920700	KSW NB 0207 1,8 OHM 2%
R 52004	△ 870552105300	MOW 0411 150 OHM 5%
R 53002	△ 870042909700	KSW NB 0207 10 KOHM 5%
R 53009	△ 871033814500	MGW AX 1 MOHM 5%
R 53011	△ 870532122100	MOW 0411 6,8 OHM 5%
R 53016	△ 873018942500	DRW 9 10 OHM 10%
R 53021	△ 870552107100	MOW 0411 820 OHM 5%
R 53033	△ 870532098400	MOW 0411 0,22 OHM 5%
R 53074	△ 870536907100	MOW 0617 820 OHM 5%
R 54001	△ 870532902500	MOW 0411 10 OHM 5%
R 54006	△ 873500320100	DRW 0,75W 1 OHM 10%
R 54031	△ 870032902300	KSW NB 0207 8,2 OHM 5%
R 60008	△ 870556110500	MOW 0617 22 KOHM 5%
R 60009	△ 870556110500	MOW 0617 22 KOHM 5%
R 60016	△ 870556104300	MOW 0617 56 OHM 5%
R 60021	△ 831100501700	NTC 4,7 OHM 30%
R 60029	△ 870556111700	MOW 0617 68 KOHM 5%
R 60037	△ 879005003700	ESTR.SK10-A 1,5 KOHM LIN
R 60251	△ 876504916100	MSW SI 0414 4,7 MOHM VDE
R 61018	△ 870014712900	KSW 0411 220 KOHM 5%
R 62049	△ 876504916100	MSW SI 0414 4,7 MOHM VDE
R 62505	△ 831120001800	PTC DUO B59709-T60-A110
SI 52001	△ 831560902600	SI LOET T160MA 250V
SI 60201	△ 831561002600	SI LOET 200 MA/T
SI 60251	△ 831562000300	SI 5X20 T2A L 250V
SI 61211	△ 831561620500	SI LOET T800MA 250V
SI 62501	△ 831561700600	SI 5X20 T2,5A L 250V
T 00665	830280504000	TRANS IRFBC40
T 52001	830328563700	TRANS BC637
T 53001	830290002000	TRANS S2055N
TR 52001	092468680400	TRAFO TREIBER TRANSFORMER DRIVER
TR 53010	△ 292210316800	TRAFO DIODEN-SPLIT TRANSFORMER DIODE SPLIT
TR 60201	△ 292016199700	SPERRWANDLERTRAFO 293040508400
TR 61000	△ 292015219700	SPERRWANDLERTRAFO B.O.TYPE CONVERTER TRANSFORMER

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
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Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Mat.-Nummer 720108000000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 720108000000, as well as the respective national deviations.

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION