China TV Test Pattern Library

VT-8500-0004

Instruction Manual

Ver.1.01

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VT-8500-0004

Instruction Manual

2007.1

Ver.1.01

ASTRODESIGN,Inc

Contents

Revision History

Ver.	Date	Page	Item number	Contents
1.00	2006/12/21			First edition
1.01	2006/12/04	p3 ~ 6	2.1 ~ 2.2	Changed the execution format to the group data

Before Using

Introduction

Thank you very much for purchasing the TV evaluation pattern card VT-8500-0004.
This document describes the pattern types in VT-8500-0004, as well as the list of program data corresponding to these patterns. Please have a look at them before using.
Further, ensure that it is stored safely for future reference.

Safety Precautions

Inappropriate handling may lead to accidents. So please read the following description before using, and use correctly.

For Your Safety

- **Do not spill liquids or drop inflammable objects or metal parts into it. This may cause the accidents.**
- **Avoid any impacts on it. Take special care as this may cause malfunctioning.**
- **Read the VG handling instructions while connecting VT-8500-0004 to VG, and connect it correctly. If it is not connected correctly, it may cause malfunctioning of VT-8500-0004 and deletion of data.**
- **Read the VG handling instructions before detaching VT-8500-0004 from VG, and detach it correctly. If the correct procedure of detaching is not executed, it may cause malfunctioning of VT-8500-0004 and deletion of data.**
- **In case of any malfunctioning or defects, contact the delivery agent or the Astrodesign Production Department.**

Structure of This Document

This document is the instruction manual of VT-8500-0004. Data list and notes are described in the following structure. Read this document and operate the functions correctly.

Introduction

The safety precautions, structure of this document and the packaging contents of the product are described here.

1. VT-8500-0004

The outline of VT-8500-0004 is described here.

2. Product Specifications

The VT-8500-0004 data is described here.

3. Monoscope Pattern Description

The specifications of monoscope patterns are described here.

4. Terminology

The terminology used in this document is described here.

Packaging Contents

The following items have been provided with this product. Be sure to use only the accessories provided with this product since use of other accessories may cause malfunctioning.

■ Standard items

- VT-8500-0004 memory card
- VT-8500-0004 Instructions manual (this document): 1 copy

■ Accessories

- Adapter used exclusively for VT-8500-0004 memory card

Licensing

Description of license for usage rights of Astrodesign Company Ltd., customers and VT-8500-0004 is given below.

1. Definition
 (1) “Program” implies entire computer programs and data included in VT-8500-0004.
 (2) The program or the manual is referred to as “Product”.

2. License for usage rights
 Customers can use one such product for one computer. However, development of one copy is also possible only for the saving purpose.

3. Copyright
 The copyrights of this product are held by the Astrodesign Company Ltd. who is the developer.

4. Prohibitions
 (1) On submission, loan or reuse rights of the whole or part of this product (hereafter “this product” includes the backup copy) to any third party.
 (2) On any modifications in this product.

5. Breach of Agreement
 In case of breach of any clause in this agreement by the customers, the Astrodesign Company Ltd. can terminate the usage rights of this product.

6. Limited responsibilities and liabilities
 (1) Customers are responsible for the selection, installation, usage and usage result of this product for acquiring the result expected by them.
 (2) Developers and sales agents are not directly or indirectly responsible in any circumstances for the effect on the result of using this product.

7. Others
 This product may be revised without any prior notice.

1 VT-8500-0004

1.1. Outline

VT-8500-0004 is the VG test pattern library for FPD TV evaluation.

1.2. Characteristics

(1) Monoscope(Resolution Test) pattern with different type of HD and SD format available.

(2) Program data can be executed on VG as it is.

1.3. License key

In order to display VT-8500-0004 test patterns, its license key is required to input in VG main unit. *If no license, error message “Not Pattern License” is called.

2 Product Specifications

2.1. Group Data

Note

While using VT-8500-0004 program data with VG, execute it in group mode.

Group data is set as follows.
(1) It is divided into Group No. according to each timing data.
(2) The executed pattern data, except monoscope, is considered as the similar pattern data.
*** User option pattern "Black & White Window" in SD differs from that in HD.**

2.1.1. Set Timing Data

Group No., resolutions of the set timing and V frequency are shown below.

Group No.	No. of display dots (HxV)	Vertical frequency (Hz)	Int / prog	Timing data name	etc
s1	712x484	59.940	Int	NTSC (*p3)	NTSC
2	720x483	59.940	Int	NTSC PROG	NTSC PROG
3	702x574	50.000	Prog	PAL (*p2)	PAL
4	720x576	50.000	Prog	PAL PROG	PAL PROG
5	720x480	59.940	Prog	EIA720x480p@59.94	480p
6	1280x720	59.939	Prog	EIA1280x720p@59.94	720p
7	1920x1080	59.939	Int	EIA1920x1080i@59.94	1080i
8	1920x1080	59.939	Prog	EIA1920x1080p@59.94	1080p
9	1440x480 *R	59.940	Int	EIA1440x480i@59.94	HDMI Color Difference Output
10	1440x480 *R	60.002	Int	EIA1440x480i@60	HDMI Color Difference Output
11	720x480	59.940	Prog	EIA720x480p@59.94	HDMI Color Difference Output
12	720x480	60.000	Prog	EIA720x480p@60	HDMI Color Difference Output
13	1440x576 *R	50.000	Int	EIA1440x576i@50	HDMI Color Difference Output
14	720x576	50.000	Prog	EIA720x576p@50	HDMI Color Difference Output
15	1280x720	59.939	Prog	EIA1280x720p@59.94	HDMI Color Difference Output
16	1280x720	60.000	Prog	EIA1280x720p@60	HDMI Color Difference Output
17	1920x1080	50.000	Int	EIA1920x1080i@50	HDMI Color Difference Output
18	1920x1080	59.939	Int	EIA1920x1080i@59.94	HDMI Color Difference Output
19	1920x1080	60.000	Int	EIA1920x1080i@60	HDMI Color Difference Output
20	1920x1080	50.000	Prog	EIA1920x1080p@50	HDMI Color Difference Output
21	1920x1080	59.939	Prog	EIA1920x1080p@59.94	HDMI Color Difference Output
22	1920x1080	60.000	Prog	EIA1920x1080p@60	HDMI Color Difference Output
23	1440x480 *R	59.940	Int	EIA1440x480i@59.94	HDMI RGB output
24	1440x480 *R	60.002	Int	EIA1440x480i@60	HDMI RGB output
25	720x480	59.940	Prog	EIA720x480p@59.94	HDMI RGB output
26	720x480	60.000	Prog	EIA720x480p@60	HDMI RGB output
27	1440x576 *R	50.000	Int	EIA1440x576i@50	HDMI RGB output
28	720x576	50.000	Prog	EIA720x576p@50	HDMI RGB output

29	1280x720	59.939	Prog	EIA1280x720p@59.94	HDMI RGB output
30	1280x720	60.000	Prog	EIA1280x720p@60	HDMI RGB output
31	1920x1080	50.000	Int	EIA1920x1080i@50	HDMI RGB output
32	1920x1080	59.939	Int	EIA1920x1080i@59.94	HDMI RGB output
33	1920x1080	60.000	Int	EIA1920x1080i@60	HDMI RGB output
34	1920x1080	50.000	Prog	EIA1920x1080p@50	HDMI RGB output
35	1920x1080	59.939	Prog	EIA1920x1080p@59.94	HDMI RGB output
36	1920x1080	60.000	Prog	EIA1920x1080p@60	HDMI RGB output

*R: Repetition = 2 In VG-849/A/B/C and 859/A/B/C, Repetition settings are valid and H Disp becomes 1440.

*3: Ternary synchronizing signal output.

*pN: Color-difference Table No = N.

2.1.2. Set Pattern Data

Output pattern data is shown below. The order of the output pattern data is identical.

No.	Pattern data	etc
1	Color bar	Color bar pattern
2	White betta	Window pattern
3	Black betta	Window pattern
4	8 Gray-Scale	User option pattern
5	White Window	User option pattern
6	Black Window	User option pattern
7	Black&White Window	User option pattern
8	Red betta	Window pattern
9	Green betta	Window pattern
10	Blue betta	Window pattern
11	Monoscope	BMP pattern
12	Checker	User option pattern
13	White&Cross	User option pattern

2.2. Program Data

Program data set in VT-8500-0004 is as follows

Program No.	Horizontal frequency (KHz)	Vertical frequency (Hz)	Dot clock frequency (MHz)	No. of display dots (HxV)	Int / prog	Timing data name	etc
1	15.734	59.940	13.500	712x484	Int	NTSC (*p3)	NTSC
2	15.625	50.000	13.500	702x574	Int	NTSC PROG	PAL
3	31.469	59.940	27.000	720x483	Prog	PAL (*p2)	NTSC PROG
4	31.250	50.000	27.000	720x576	Prog	PAL PROG	PAL PROG
5	31.469	59.940	27.000	720x480	Prog	EIA720x480p@59.94	480p
6	44.955	59.939	74.175	1280x720	Prog	EIA1280x720p@59.94	720p
7	33.716	59.939	74.175	1920x1080	Int	EIA1920x1080i@59.94	1080i
8	67.432	59.939	148.350	1920x1080	Prog	EIA1920x1080p@59.94	1080p
9	15.734	59.940	27.000	1440x480 *R	Int	EIA1440x480i@59.94	HDMI Color-difference output
10	15.751	60.002	27.027	1440x480 *R	Int	EIA1440x480i@60	HDMI Color-difference output
11	31.469	59.940	27.000	720x480	Prog	EIA720x480p@59.94	HDMI Color-difference output
12	31.500	60.000	27.027	720x480	Prog	EIA720x480p@60	HDMI Color-difference output
13	15.625	50.000	27.000	1440x576 *R	Int	EIA1440x576i@50	HDMI Color-difference output
14	31.250	50.000	27.000	720x576	Prog	EIA720x576p@50	HDMI Color-difference output
15	44.955	59.939	74.175	1280x720	Prog	EIA1280x720p@59.94	HDMI Color-difference output
16	45.000	60.000	74.250	1280x720	Prog	EIA1280x720p@60	HDMI Color-difference output
17	28.125	50.000	74.250	1920x1080	Int	EIA1920x1080i@50	HDMI Color-difference output
18	33.716	59.939	74.175	1920x1080	Int	EIA1920x1080i@59.94	HDMI Color-difference output
19	33.750	60.000	74.250	1920x1080	Int	EIA1920x1080i@60	HDMI Color-difference output
20	56.250	50.000	148.500	1920x1080	Prog	EIA1920x1080p@50	HDMI Color-difference output
21	67.432	59.939	148.350	1920x1080	Prog	EIA1920x1080p@59.94	HDMI Color-difference output
22	67.500	60.000	148.500	1920x1080	Prog	EIA1920x1080p@60	HDMI Color-difference output
23	15.734	59.940	27.000	1440x480 *R	Int	EIA1440x480i@59.94	HDMI RGB Output
24	15.751	60.002	27.027	1440x480 *R	Int	EIA1440x480i@60	HDMI RGB Output
25	31.469	59.940	27.000	720x480	Prog	EIA720x480p@59.94	HDMI RGB Output
26	31.500	60.000	27.027	720x480	Prog	EIA720x480p@60	HDMI RGB Output
27	15.625	50.000	27.000	1440x576 *R	Int	EIA1440x576i@50	HDMI RGB Output
28	31.250	50.000	27.000	720x576	Prog	EIA720x576p@50	HDMI RGB Output
29	44.955	59.939	74.175	1280x720	Prog	EIA1280x720p@59.94	HDMI RGB Output
30	45.000	60.000	74.250	1280x720	Prog	EIA1280x720p@60	HDMI RGB Output
31	28.125	50.000	74.250	1920x1080	Int	EIA1920x1080i@50	HDMI RGB Output
32	33.716	59.939	74.175	1920x1080	Int	EIA1920x1080i@59.94	HDMI RGB Output
33	33.750	60.000	74.250	1920x1080	Int	EIA1920x1080i@60	HDMI RGB Output
34	56.250	50.000	148.500	1920x1080	Prog	EIA1920x1080p@50	HDMI RGB Output
35	67.432	59.939	148.350	1920x1080	Prog	EIA1920x1080p@59.94	HDMI RGB Output
36	67.500	60.000	148.500	1920x1080	Prog	EIA1920x1080p@60	HDMI RGB Output

*R: Repetition = 2 In VG-849/A/B/C and 859/A/B/C, Repetition settings are valid and H Disp changes to 1440.

*3: Ternary synchronizing signal output.

*pN: Color-difference Table No = N.

Note

Program No. 9-36 are created with respect to the HDMI output. Therefore, the output priorities for VG-849, 859 and other VG modules are different.

Program No.	VG-849/859	VG-848,858,835,835-A,857
9, 10	HDMI Color-difference output *Outputs other than these are set to OFF	Color-difference output
11,12	HDMI Color-difference output	Color-difference output
13	HDMI Color-difference output *Outputs other than these are set to OFF	Color-difference output
14-16	HDMI Color-difference output	Color-difference output
17-19	HDMI Color-difference output *Outputs other than these are set to OFF	Color-difference output
20-22	HDMI Color-difference output	Color-difference output
23, 24	HDMI RGB output *Outputs other than these are OFF	RGB output
25, 26	HDMI RGB output	RGB output
27	HDMI RGB output *Outputs other than these are set to OFF	RGB output
28-30	HDMI RGB output	RGB output
31-33	HDMI RGB output *Outputs other than these are set to OFF	RGB output
34-36	HDMI RGB output	RGB output

2.3. Image Data

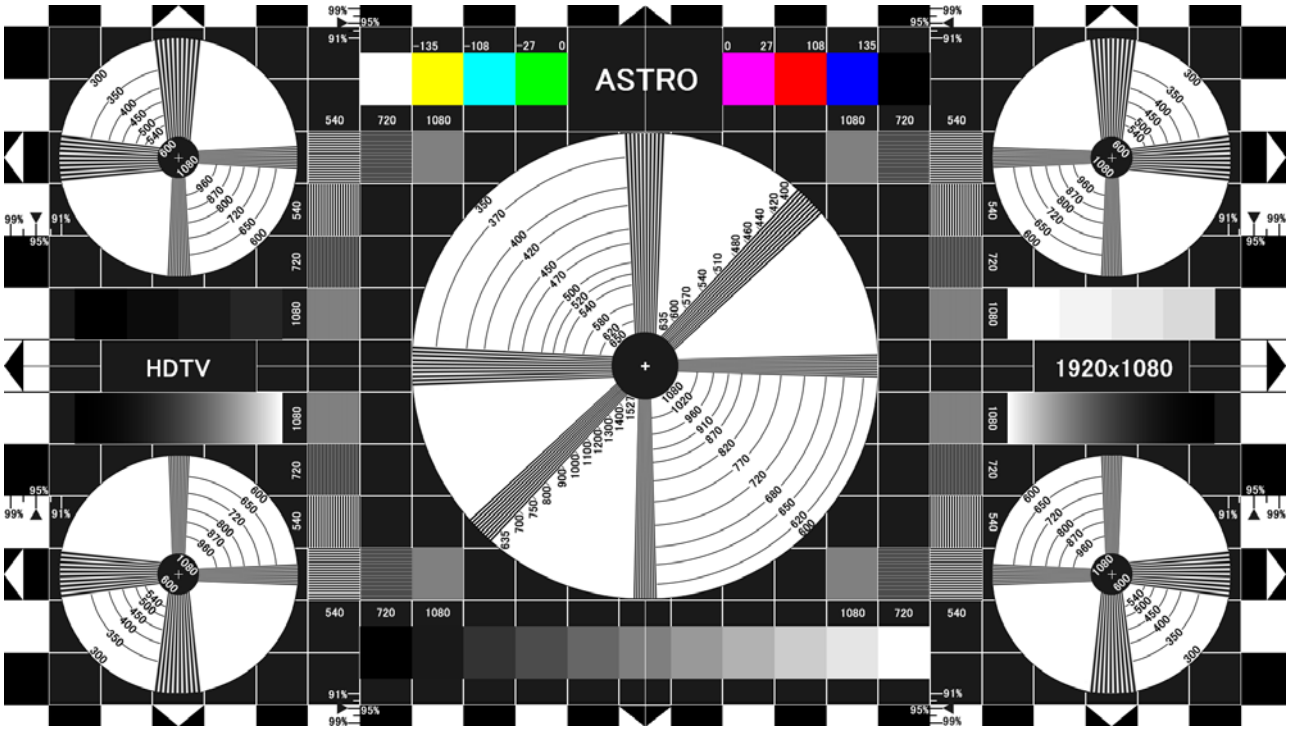
BMP image data set in VT-8500-0004 is as follows.

2.3.1. Data List

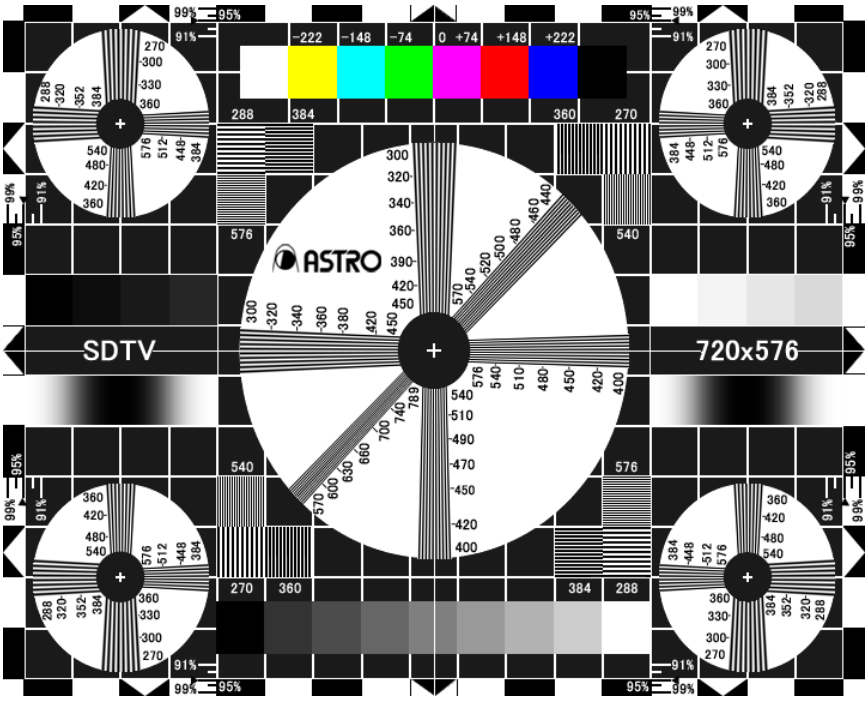
No.	Option Code	Size	Aspect ratio	Name	Remarks
1	80	712x484	4:3	Mono_712x484	
2	81	720x483	4:3	Mono_720x483	
3	82	720x480	4:3	Mono_720x480	
4	83	702x574	4:3	Mono_702x574	
5	84	720x576	4:3	Mono_720x576	
6	85	704x480	4:3	Mono_704x480	
7	86	1280x720	16:9	Mono_1280x720	
8	87	1920x1080	16:9	Mono_1920x1080	

2.3.2. Monoscope

Image of monoscope pattern is set in Vt-8500-0004 as given below.



1920x1080



720x576

2.4. User Option Pattern

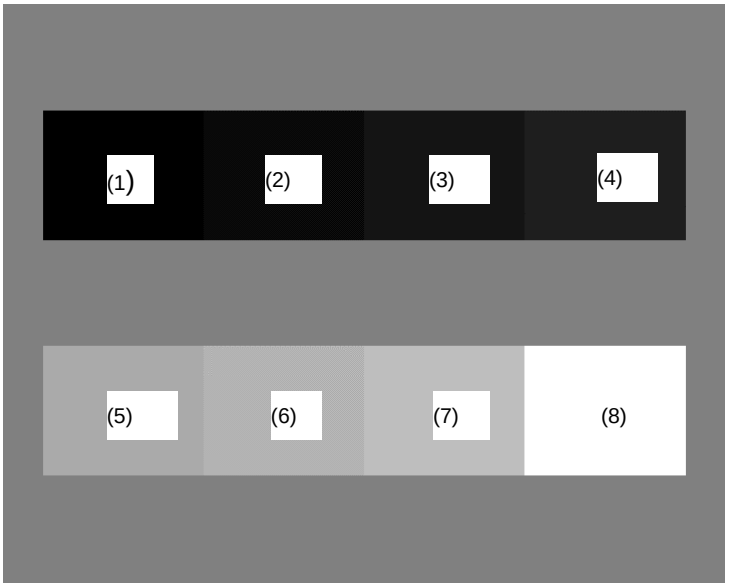
User Option Pattern data is set in VT-8500-0004 as given below.

2.4.1. Data List

No.	Option Code	Name	Remarks
1	40	8Gray-Scale	
2	41	White-Window	
3	42	Black-Window	
4	43	Black & White Window (SD)	
5	44	Black & White Window (HD)	
6	45	White & Cross	
7	46	Checker	

2.4.1.1 8 Gray-Scale (Option Code 40)

Image of 8-level Gray-Scale is set in VT-8500-0004 as given below.



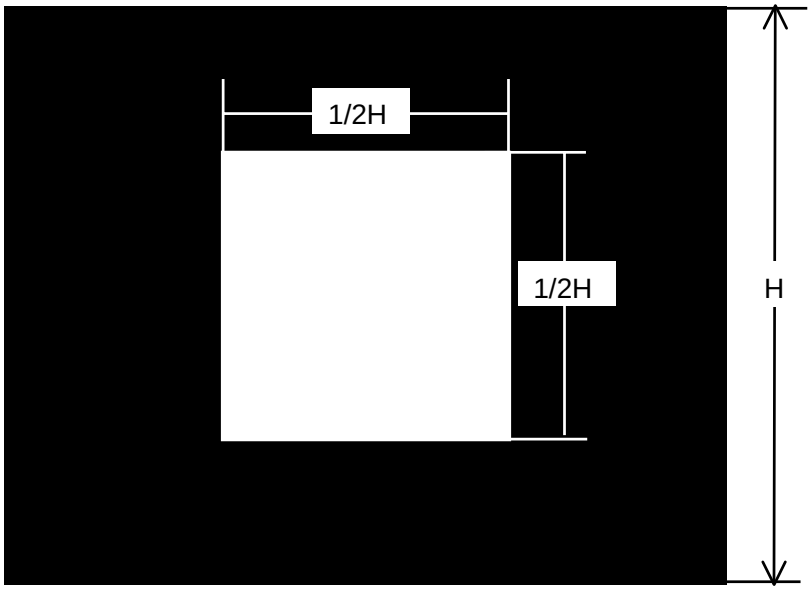
Brightness:

From upper left side (1) 0%, (2) 5%, (3) 10%, (4) 15%

From lower left side (5) 85%, (6) 90%, (7) 95%, (8) 100%

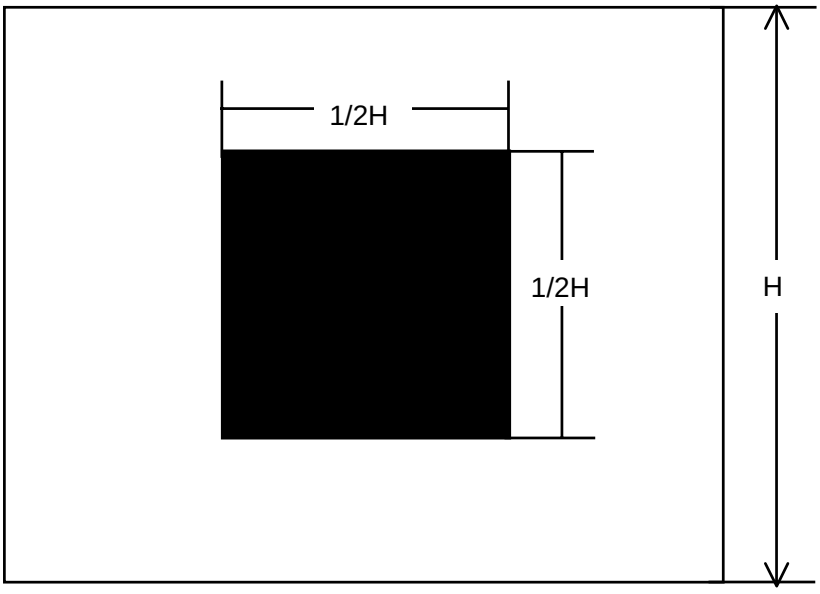
2.4.1.2. White Window (Option Code 41)

Image of White Window is set in VT-8500-0004 as given below.



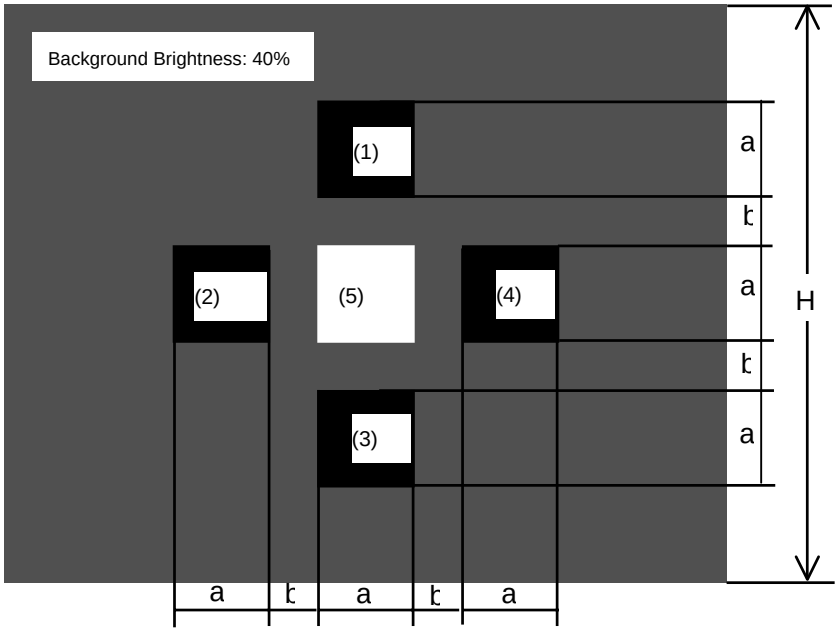
2.4.1.3. Black Window (Option Code 42)

Image of Black Window is set in VT-8500-0004 as given below.



2.4.1.4. Black & White Window (SD) (Option Code 43)

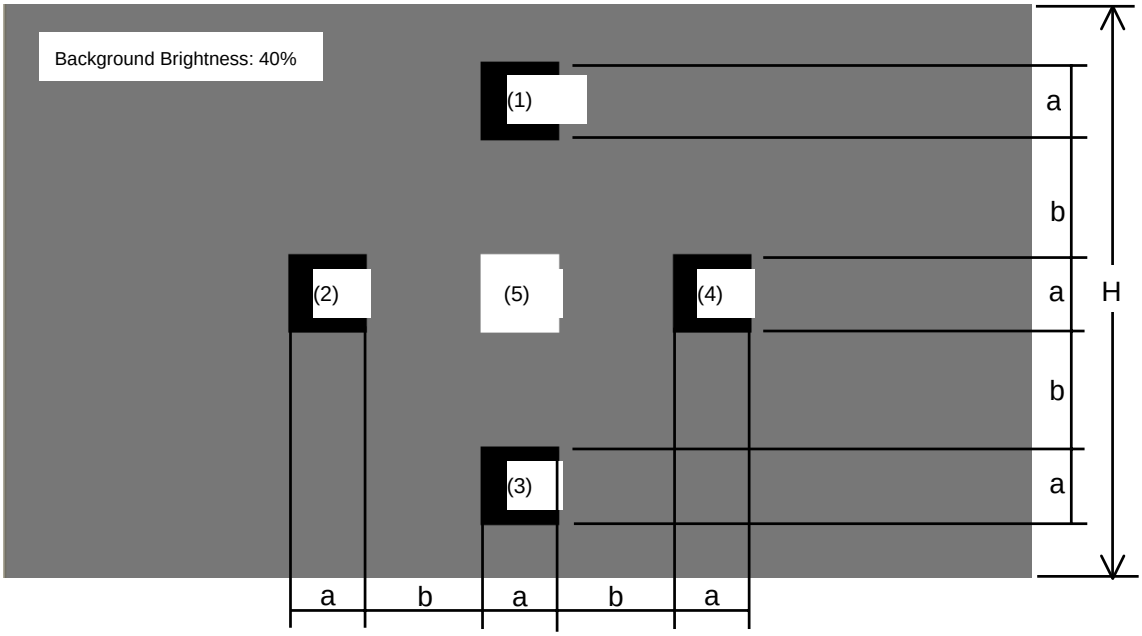
Image of Black & White Window is set in VT-8500-0004 as given below.



a=1/6H, b=1/12H
Brightness of Black windows (1), (2), (3) and (4) is 0%, brightness of White window (5) is 100%

2.4.1.5. Black & White Window (HD) (Option Code 44)

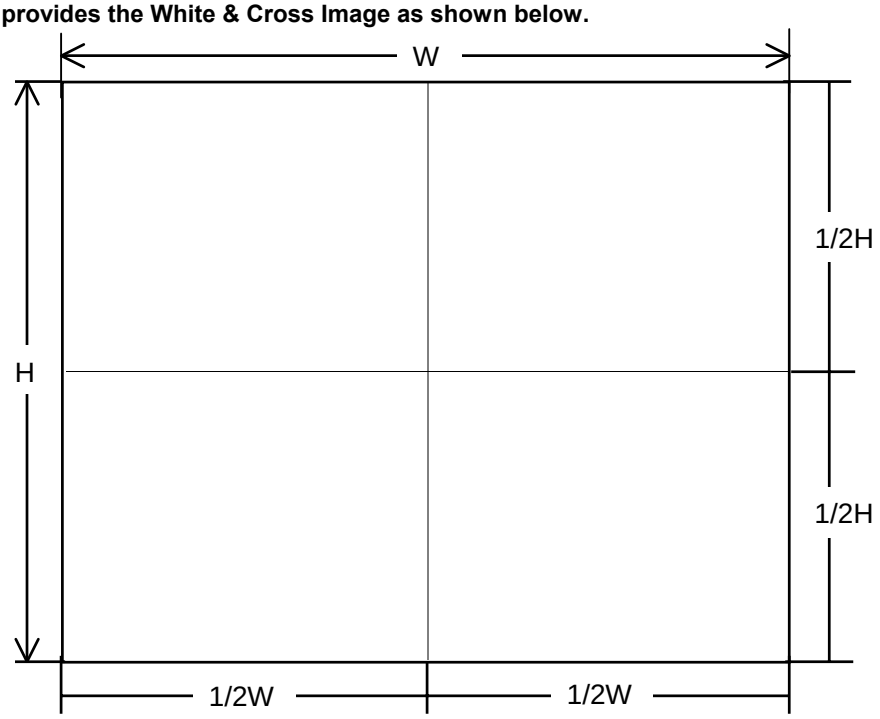
Image of Black & White Window is set in VT-8500-0004 as given below.



a=2/15H, b=1/5H
Brightness of Black windows (1), (2), (3) and (4) is 0%, brightness of White window (5) is 100%

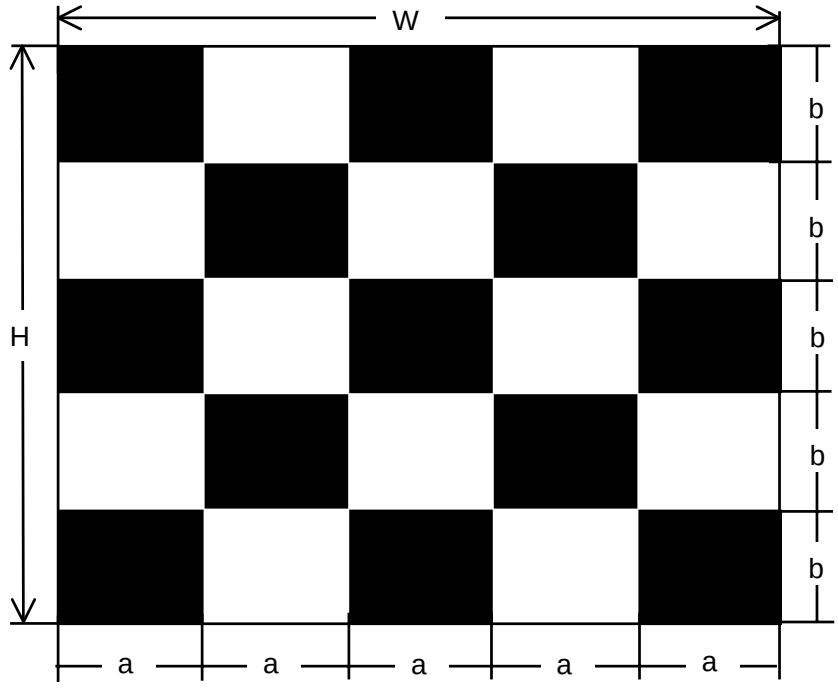
2.4.1.6. White & Cross (Option Code 45)

VT-8500-0004 provides the White & Cross Image as shown below.



2.4.1.7. Checker (Option Code 46)

VT-8500-0004 provides the Black & White Checkered Image as shown below.



a=1/5W, b=1/5H

3 Monoscope Pattern Description

3.1. HD Monoscope (16:9 1920x1080i)

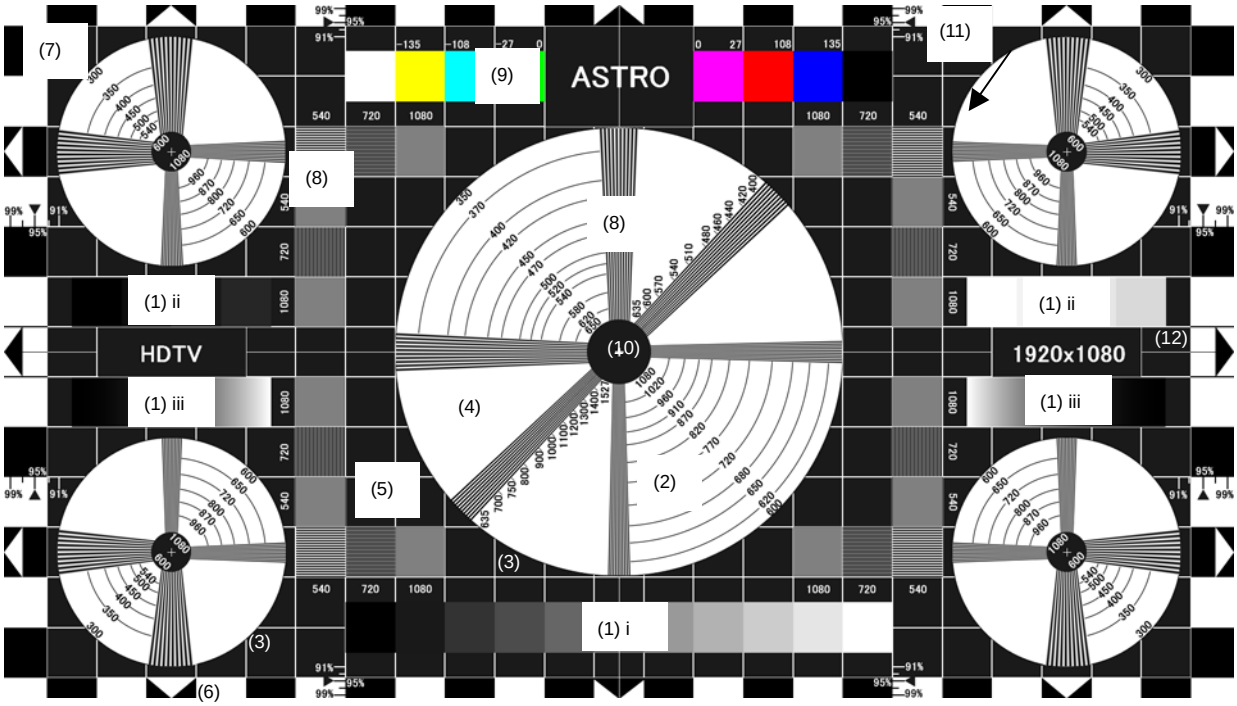


Fig. 3-1 HD Monoscope (16:9)

No.	Items	Description
(1)	Contrast and lamp	Evaluates the contrast and the brightness. i Contrast. 11. 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100% from the left side ii Contrast 8. 0%, 5%, 10%, 15% from left of left side. 100%, 95%, 90%, 85% from left of right side. iii ϒ lamp (ϒ=2.5)
(2)	Arc signal	Evaluates the interlacing. Arc radius is set according to the number of TV, and the spacing is different.
(3)	Circle signal	Evaluates the deflection of linearity and the shading. Center: Approximately 64.7% of vertical effective area of the picture Outer 4 circles: Approximately 33.1% of vertical effective area of the picture
(4)	Circle background	100% White
(5)	Background	10% White
(6)	Frame	Evaluates the full screen. Horizontal frame: 6% of vertical effective area of the picture Vertical frame: 7% of horizontal effective area of the picture
(7)	Grid signal	Evaluates the deflection of linearity and the focus. Horizontal : 22, Vertical: 12
(8)	Wedge signal Streak signal	Wedge signal: Evaluates the resolution. Streak signal: Evaluates streaking, focus and interlacing. * Refer to Figure 3-1.
(9)	Color bar	Evaluates the color tone and color saturation. White, yellow, cyan, green, magenta, red, blue, black from the left side
(10)	“+” mark	Center focus check

		“+” at the center is the geometric center of monoscope pattern.
(11)	Scale mark	Evaluates the overscanning. Overscanning scale mark: Describes 4% spacing “91%, 95%, 99%” of half of the effective area of the picture.
(12)	Triangular mark	Center focus check

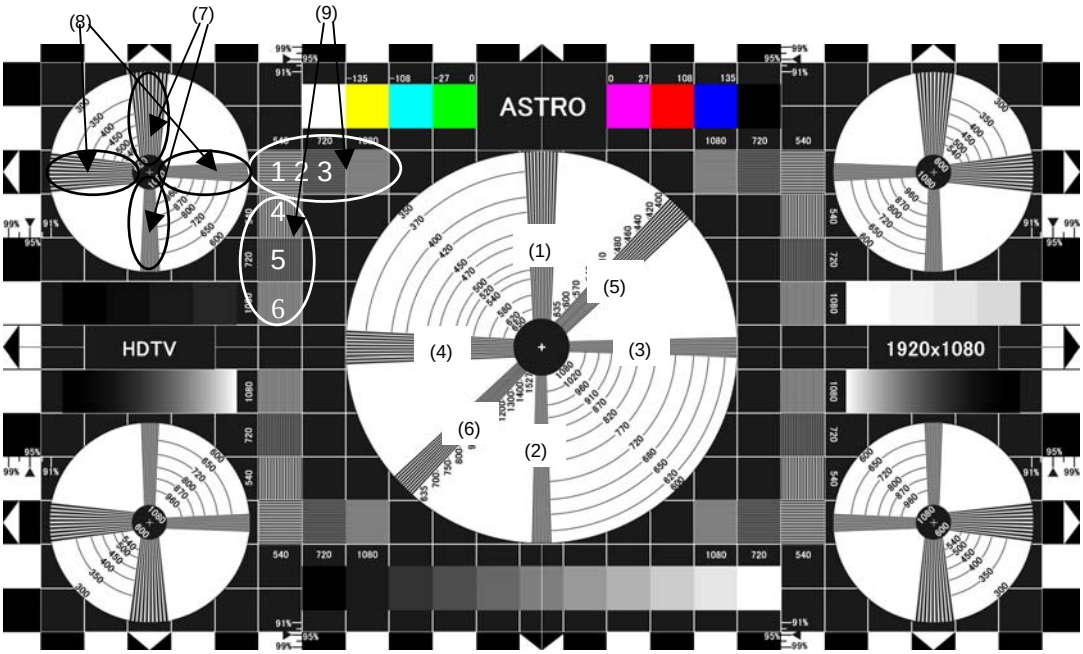


Fig. 3-1 Positions of wedge and streak signals

No.	Position	Angle	Number of wedge	Resolution (TV)
(1)	Vertical to center	90°	10	650~350
(2)	Vertical to center	270°	10	1080~600
(3)	Horizontal to center	0°	10	1080~600
(4)	Horizontal to center	180°	10	650~350
(5)	Diagonal to center	45°	10	635~400
(6)	Diagonal to center	225°	10	1527~635
(7)	4 small outer circles Vertical direction	90°	10	540~300
		270°	10	960~600
(8)	4 small outer circles Horizontal direction	0°	10	540~300
		180°	10	960~600
(9)	Central circumference	1.	* Refer to Figure 3-1-1	
		2.	* Refer to Figure 3-1-2	
		3.	* Refer to Figure 3-1-3	
		4.	* Refer to Figure 3-1-4	
		5.	* Refer to Figure 3-1-5	
		6.	* Refer to Figure 3-1-6	

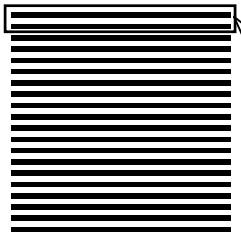
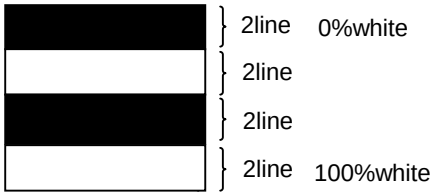


Fig.3-1-1 1. Horizontal 20 lines



It is the repetition of the horizontal lines with 2 lines each between 0% White and 100% White. The number 540 given above indicates that 20 lines with 2 lines each are clearly visible only when displayed in 1920x1080 timing.

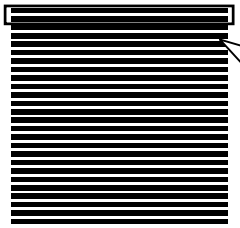
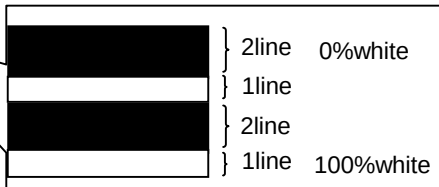


Fig.3-1-2. 2 Horizontal 26 lines



It is a repetition of horizontal lines with 2lines of 0% White and 1 line of.2 line. The number 720 given above indicates that 26 lines with 2 black lines and 1 white line each are clearly visible only when displayed in 1920x1080 timing.

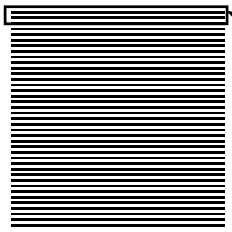
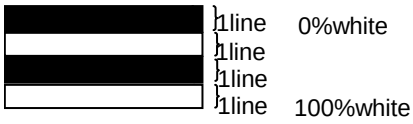


Fig.3-1-3 3. Horizontal 39 lines



It is a repetition of the horizontal lines with 1 line each between 0% White and 100% white. The number 1080 given above indicates that 39 lines with1 line each are clearly visible only when displayed in 1920x1080 timing.

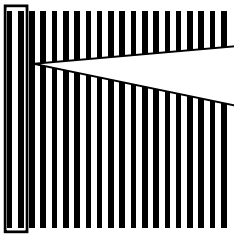
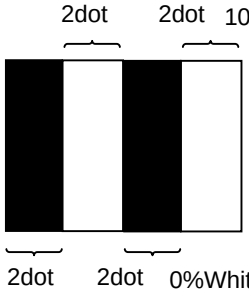


Fig.3-1-4 4. Vertical 20 lines



It is a repetition of the vertical lines with 2 dots each between 0% White and 100% White.
The number 540 shown horizontally indicates that 20 lines with 2 dots each are clearly visible only when displayed in 1920x1080 timing.

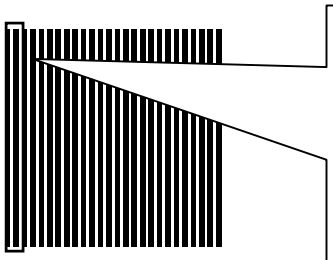
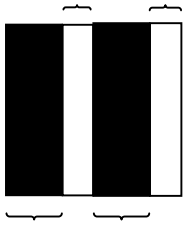


Fig.3-1-5 5. Vertical 26 lines



It is a repetition of the vertical lines with 2 dots of 0% White and 1 dot of 100% White.
The number 720 shown horizontally indicates that 26 lines with 2 black dots and 1 white dot each are clearly visible only when displayed in 1920x1080 timing.

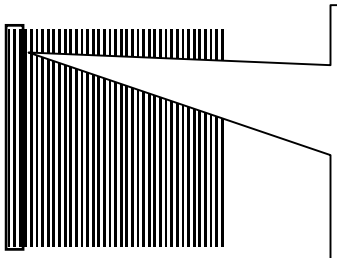
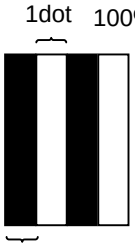


Fig.3-1-6 6. Vertical 39 lines



It is a repetition of vertical lines with 1 dot each of 0% White and 100% White.
The number 1080 shown horizontally indicates that 39 lines with 1 dot each are clearly visible only when displayed in 1920x1080 timing.

3.2. SD Monoscope (4:3 720x576i)

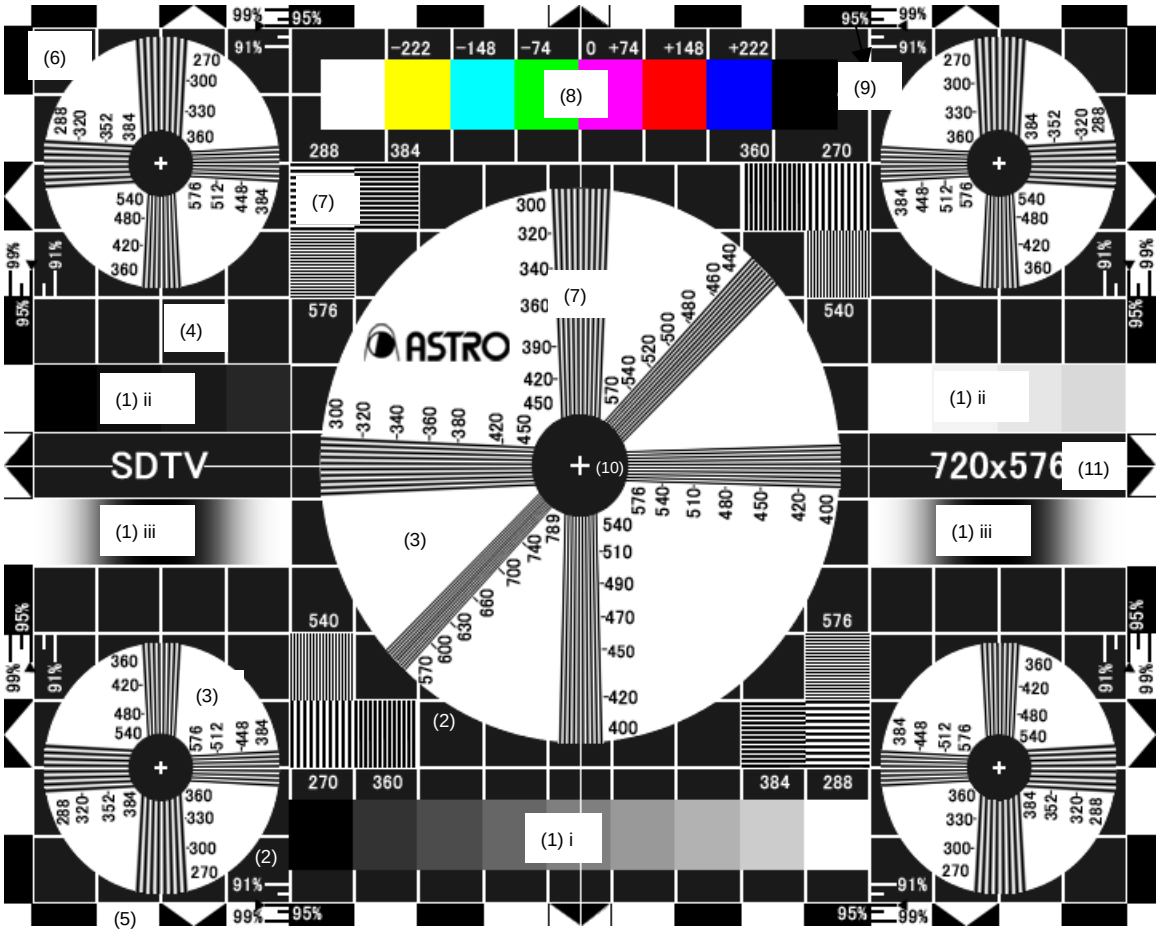


Fig. 3-3 SD Monoscope (4:3)

No.	Items	Details
(1)	Contrast, lamp	Evaluates the contrast and the brightness. i Contrast 9. 0%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 100% from the left side ii Contrast 8. 0%, 5%, 10%, 15% from left of the left side. 100%, 95%, 90%, 85% from right of the left side. iii ϒ lamp (ϒ =2.5)
(2)	Circle signal	Evaluates the deflection of linearity and the shading. Middle circle: Approximately 59% of vertical effective area of the picture. Outer 4 circles: Approximately 26.8% of vertical available picture area
(3)	Circle background	100% White
(4)	Background	10% White
(5)	Frame	Evaluates the full screen. Horizontal frame: 5% of vertical effective area of the picture Vertical frame: 5% of horizontal effective area of the picture
(6)	Grid signal	Evaluates the deflection of linearity and the focus. Horizontal: 17, vertical: 13
(7)	Kusabi signal Streak signal	Kusabi signal: Evaluates the resolution. Bar signal: Evaluates streaking, focus and interlacing. * Refer to Fig. 3-4
(8)	Color bar	Evaluates tone and color saturation.

		White, Yellow, Cyan, Green, Magenta, Red, Blue and Black from left.
(9)	Scale mark	Evaluates Overscan. Overscanning scale mark: Describes 4% spacing “91%, 95%, 99%” of half of the effective area of the picture.
(10)	“+” mark	Center focus check. ”＋” displayed at the center is the geometric center of monoscope pattern.
(11)	Triangular mark	Center focus check.

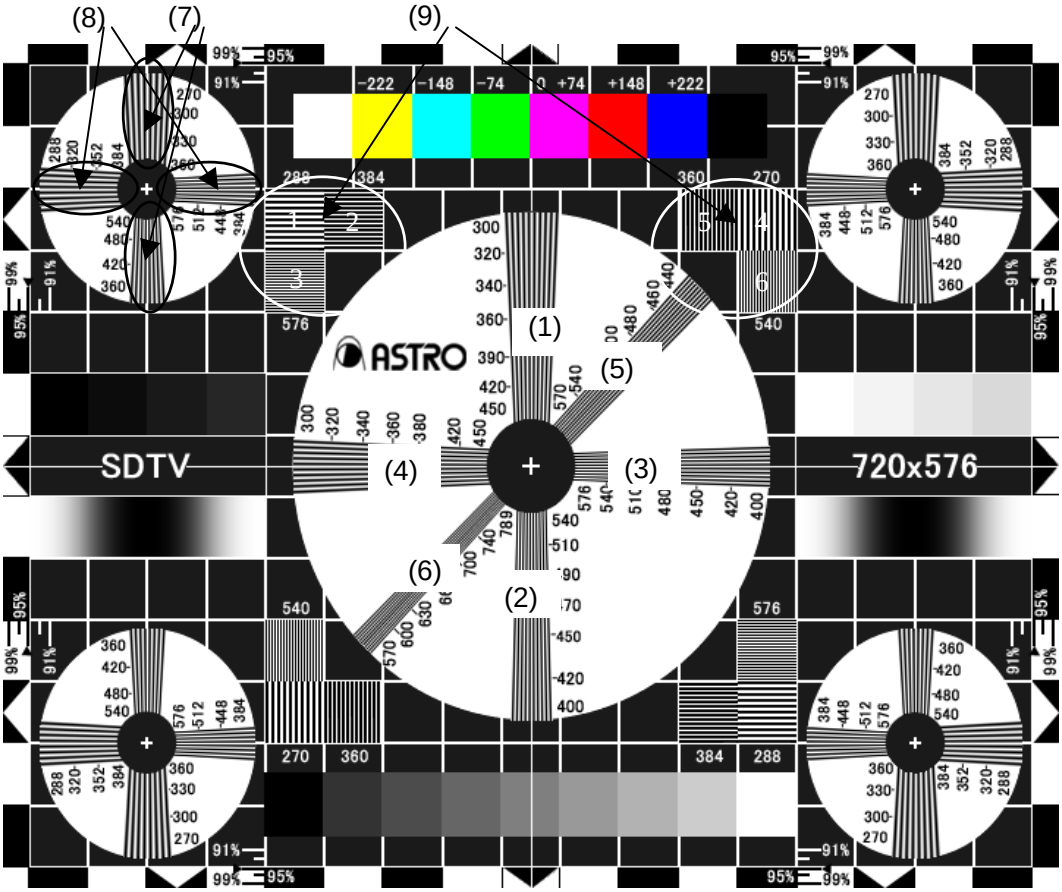
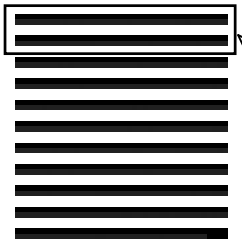
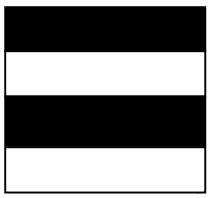


Fig. 3-4 Positions of wedge and streak signals (4:3)

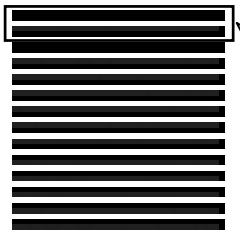
Number	Position	Angle	Number of wedge	Resolution (TV)
(1)	Vertical to center	90°	10	450~300
(2)	Vertical to center	270°	10	540~400
(3)	Horizontal to center	0°	10	576~400
(4)	Horizontal to center	180°	10	450~300
(5)	Diagonal to center	43.2°	10	570~440
(6)	Diagonal to center	223.2°	10	789~570
(7)	4 outer small circles Vertical direction	90°	8	360~270
		270°	8	540~360
(8)	4 outer small circles Horizontal direction	0°	8	576~384
		180°	8	384~288
(9)	Central circumference	1.	*Refer to Fig.3-4-1	
		2.	*Refer to Fig.3-4-2	
		3.	*Refer to Fig.3-4-3	
		4.	*Refer to Fig.3-4-4	
		5.	*Refer to Fig.3-4-5	
		6.	*Refer to Fig.3-4-6	





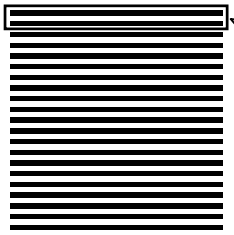
It is the repetition of horizontal lines with 2line each between 0% White and 100% White. The number 288 given above indicates that 11 lines with 2line each are clearly visible only when displayed in 720x576 timing.

Fig.3-4-1 1. Horizontal 11 lines



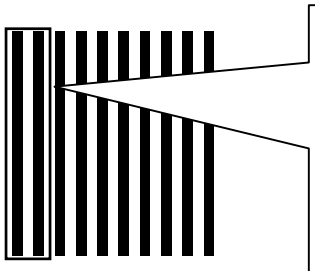
It is the repetition of horizontal lines with 2line of 0% White and 1line of 100% White. The number 384 given above indicates that 14 lines with 2 black lines and 1 white line each are clearly visible only when displayed in 720x576 timing.

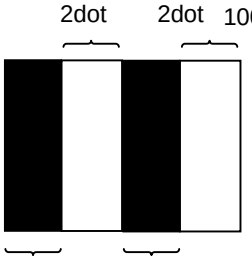
Fig.3-4-2 2. Horizontal 14 lines



It is the repetition of horizontal lines with 1line each between 0% White and 100% White. The number 576 given below indicates that 21 lines with 1line each are clearly visible only when displayed in 720x576 timing.

Fig.3-4-3 3. Horizontal 21 lines





It is the repetition of vertical lines with 2dot each of 0% White and 100% White. The number 270 given below indicates that 10 lines with 2dot each are clearly visible only when displayed in 720x576 timing.

Fig.3-4-4 4.Vertical 10 lines

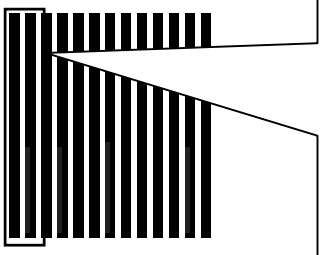
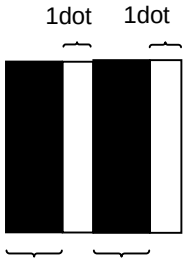


Fig.3-4-5 5.vertical 13 lines



It is the repetition of vertical lines of 2dots of 0% White and 1dot of 100% White. The number 360 given below indicates that 13 lines with 2 black dots and 1 white dot each are clearly visible only when displayed in 720x576 timing.

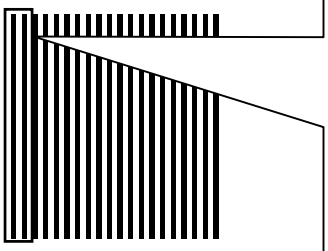
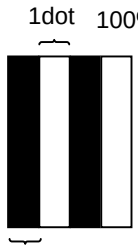


Fig.3-4-6 6.Vertical 20 lines



It is the repetition of vertical lines 1dot of 0% White and 100% White. The number 540 given above indicates that 20 lines with 1dot each are clearly visible only when displayed in 720x576 timing.

4 Terminology

The keywords used in this document are given below.

Aspect ratio

It is the horizontal to vertical ratio of screen or image.

Interlace

Interlaced scanning. It is a scanning method that scanning processes is executed twice. Initially, the first appeared blur image is scanned (field scan), and complete scanning (1 frame) is done during the second scanning of remaining image elements. The frequency bandwidth can be reduced to half that of the sequential scanning of frames, and blinking or movement of the image changes to smooth operation.

Overscan

Scans the electron beam that strikes the camera tube or picture tube, with a size larger than the specified size

Gradation

It is the scale of levels from black to white.

Shading

Phenomenon of changing the equally illuminated object into uneven objects, due to contrast deformation of wide range of screens

Streaking

Phenomenon of overshooting the screen and creation of black or white tag on the right side of one part of the highlighted portion.

Monoscope

Resolution chart pattern.

It is used to verify total evaluation, resolution, focus, linearity, gradation, streaking, screen size and screen position.

VT-8500-0004 Instruction Manual

NOTICE

- An incorrectly collated manual or a manual with missing pages will be replaced.
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- The contents of this manual are subject to change without prior notice due to improvements.
- The manufacturer will not be liable for any effects caused by incorrect operation.
- All inquiries concerning this product should be addressed to your dealer or to the manufacturer at the contact numbers given below.
- The products and product names mentioned in this manual are the trademarks and registered trademarks of the companies concerned.

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ASTRODESIGN, Inc.
URL http://www.astrodesign.co.jp
Sales and Marketing Devision
TEL: +81 3-5720-5300 FAX: +81 3-5720-6353
2-6-17, Haramachi, Meguro-ku, Tokyo 152-0011 Japan