



ANALOG input module

IM-583

User's Manual

Ver.1.03



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Ver.1.03

ASTRODESIGN,Inc

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Introduction

Thank you for purchasing the IM-583 ANALOG IN module.

This document describes the functions and operating method of the IM-583, as well as the precautions to observe when using it. Be sure to read this document before using the IM-583 since improper use may result in accidents. After reading, please retain this document in a safe place for future reference.

Safety Precautions

Warning

Avoid contact with foreign substances

- **Do not spill liquid or drop a flammable substance or metal inside the module. Usage under such conditions may result in fire, electrical shock or malfunction.**

Do not disassemble

- **Do not attempt to disassemble this module. To avoid the risk of electrical shock or injury to the user, or malfunction of the module, do not open the case or remove/reinstall the internal board.**

 **Caution****Handling of the module**

- The module consists of precision components; handle it with extreme care.
- To avoid the risk of electrical shock, injury, or malfunction, do not remove or add a module while the power is on.
- When removing the module, be careful to avoid brushing your hand against the connectors.

Avoid mechanical shock and impact

- The module is a precision instrument that may be damaged by mechanical shock and impact. Be extremely careful when transporting the module.
- Do not drop the module.

In case of an abnormality or malfunction

- If an abnormality or malfunction occurs, unplug the power cord and then contact your local dealer or the ASTRODESIGN sales group.

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Edition revision history

Ver.	Date	Page	Item no.	Description
1.00	2005/06/20			Initial edition
1.01	2005/07/06	4	2.2	Concerning restrictions on the input timing data: in <2> incorrect range for horizontal frequency of "15 to 150 kHz" corrected to "15 to 110 kHz."
		4	2.2	Concerning restrictions on the input timing data: the sentence "the horizontal frequency is restricted to 30 kHz or more if the vertical frequency is 45 Hz or less with the G-ON sync signal input" deleted.
		24	6.1	In other sections, "Concerning restrictions when G-ON sync signals are input" added. Input timing data tables: "VESA1200p60A" item deleted.
		29	7.1	In Table 7-1, the sentence "the horizontal frequency is restricted to 30 kHz or more if the vertical frequency is 45 Hz or less with the G-ON sync signal input" deleted. In section on horizontal frequency: Incorrect range of "15 to 150 kHz" corrected to "15 to 110 kHz."
1.02	2005/08/12	9	5.1	Menu configuration: Diagram for VIDEO mode menu changed.
		14	5.1.3	VIDEO mode: Diagram and explanatory text for default screen in VIDEO mode changed.
1.03	2005/08/29	4	2.2	Limitations due to the specifications: <6> maximum value of horizontal active width changed.
		15	5.2.2	Editing the input timing data: maximum value of horizontal active width changed.
		27	7.1	Specifications: Number of display pixels changed.

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About the IM-583

2.1 Overview

The IM-583 is an ANALOG input module that can be installed in the SC-2055 series (2 inputs, 2 outputs). Connectors are provided for one analog component input channel, one analog HS/VS input channel (CS and HS are shared), in which 75 Ω terminal/High-Z can be switched using the slide switch.

2.2 Limitations due to the specifications

The SC-2055 has certain limitations which, when exceeded, may cause the images shown on the output screen to be disturbed.

In cases like this, since restrictions due to characteristics also affect the unit's functions, take the appropriate precautions when using the unit.

(1) Concerning restrictions on the input timing data

Video timing signals meeting all of the conditions 1) to 13) listed below can be input.

- 1) Pixel clock frequency: 13.5 to 165.0 MHz
- 2) Horizontal frequency: 15 to 110 kHz
- 3) Vertical frequency: 24 to 150 kHz
- 4) Horizontal total width: $512 \leq \text{horizontal total width} \leq 4096$ dots
* Horizontal total width \geq horizontal sync + horizontal back porch + horizontal active width
- 5) Vertical total width: $256 \leq \text{vertical total width} \leq 2569$ dots
* Vertical total width \geq vertical sync + vertical back porch + vertical active width
- 6) Horizontal active width: $256 \leq \text{horizontal active width} \leq 2560$ dots
* With progressive system $256 \leq \text{horizontal active width} \leq 1920$ dots
* With interlace system
- 7) Vertical active width: $128 \leq \text{vertical active width} \leq 1580$ dots
* With progressive system $128 \leq \text{vertical active width} \leq 1080$ dots
* With interlace system
- 8) Horizontal blanking period: Horizontal sync + horizontal back porch ≥ 96 dots
- 9) Vertical blanking period: Vertical sync + vertical back porch ≥ 12 lines
- 10) Horizontal sync: $16 \text{ dots (290ns)} \leq \text{horizontal sync}$
- 11) Vertical sync: $2 \text{ lines} \leq \text{vertical sync}$
- 12) Horizontal back porch: $16 \text{ dots (800ns)} \leq \text{horizontal back porch}$
- 13) Vertical back porch: $1 \text{ line} \leq \text{vertical back porch}$

(2) Other restrictions

- When VTR and other poor-quality signals are input, they may not be displayed properly.
- DVD and other copy-protected signals are not supported. If they are input, they may not be displayed properly.
- Horizontal sync signals and vertical sync signals may not be displayed properly depending on their phase statuses.
- If the horizontal total width set in the module differs from the horizontal total width of the input video signals, the images will appear to shake. A similar phenomenon appears when the sampling phase is not appropriate.
- When G-ON sync signals are to be input, they may not be input properly depending on their timing if the horizontal sync signal width is less than 2% of the horizontal period.

3

Names and Functions of Individual Components

3.1 IM-583 rear panel view and component names

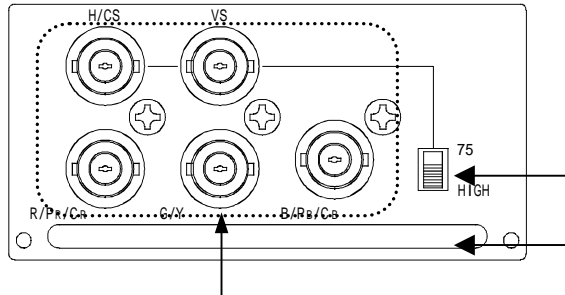


Fig. 3.1 IM-583 Rear Panel View

Table 3.1 Names of Rear Panel Parts

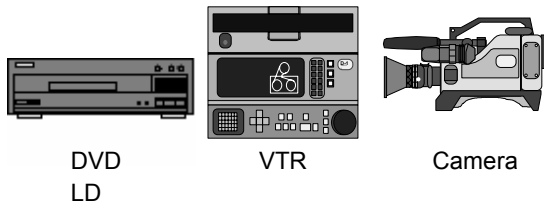
Number	Name	Description	
	PC ANALOG	This is the PC ANALOG input connector (BNC-connector).	
	Input connector	R/Pr/Cr	This is the BNC connector for R/Pr/Cr video input. (75 fixed terminal)
		G/Y	This is the BNC connector for G/Y video input. (75 fixed terminal) This parameter can be used as reference for OnSYNC.
		B/Pb/Cb	This is the BNC connector for B/Pb/Cb video input. (75 fixed terminal)
		H/CS	This is the BNC connector for H/CS synchronising input, in which H is selected if either CS or H/V separate is used.
	V	This is the BNC connector for V synchronising input in which V is selected for H/V separate.	
	Slide switch	This is the H/CS synchronising input that selects 75 terminal/High-Z for VS synchronising input.	
	Handle	This is used when plugging in or unplugging the module.	

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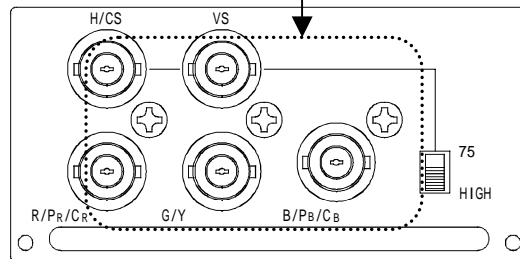
Connecting the Module

4.1 Connecting the input signal

The analog output signals of the VTR, DVD or other device are connected to the INPUT connectors on the IM-583 as shown in the figure below.



From output connectors of
device concerned







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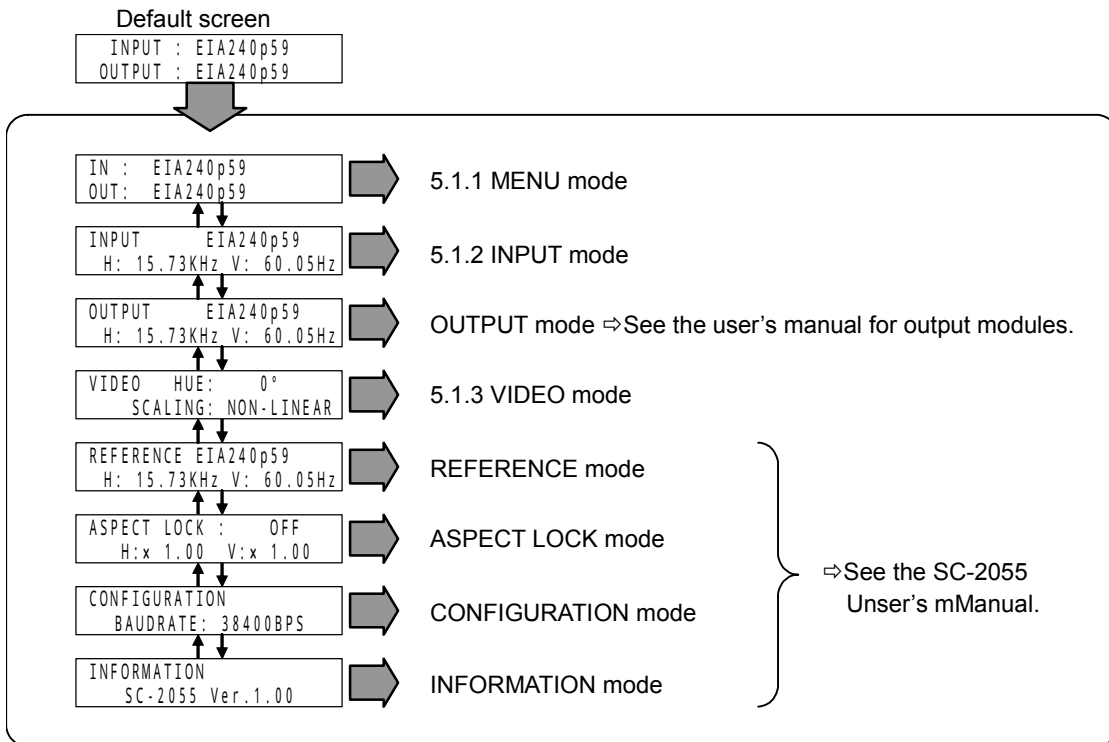
Adjustments and Settings

5.1 Menu structure

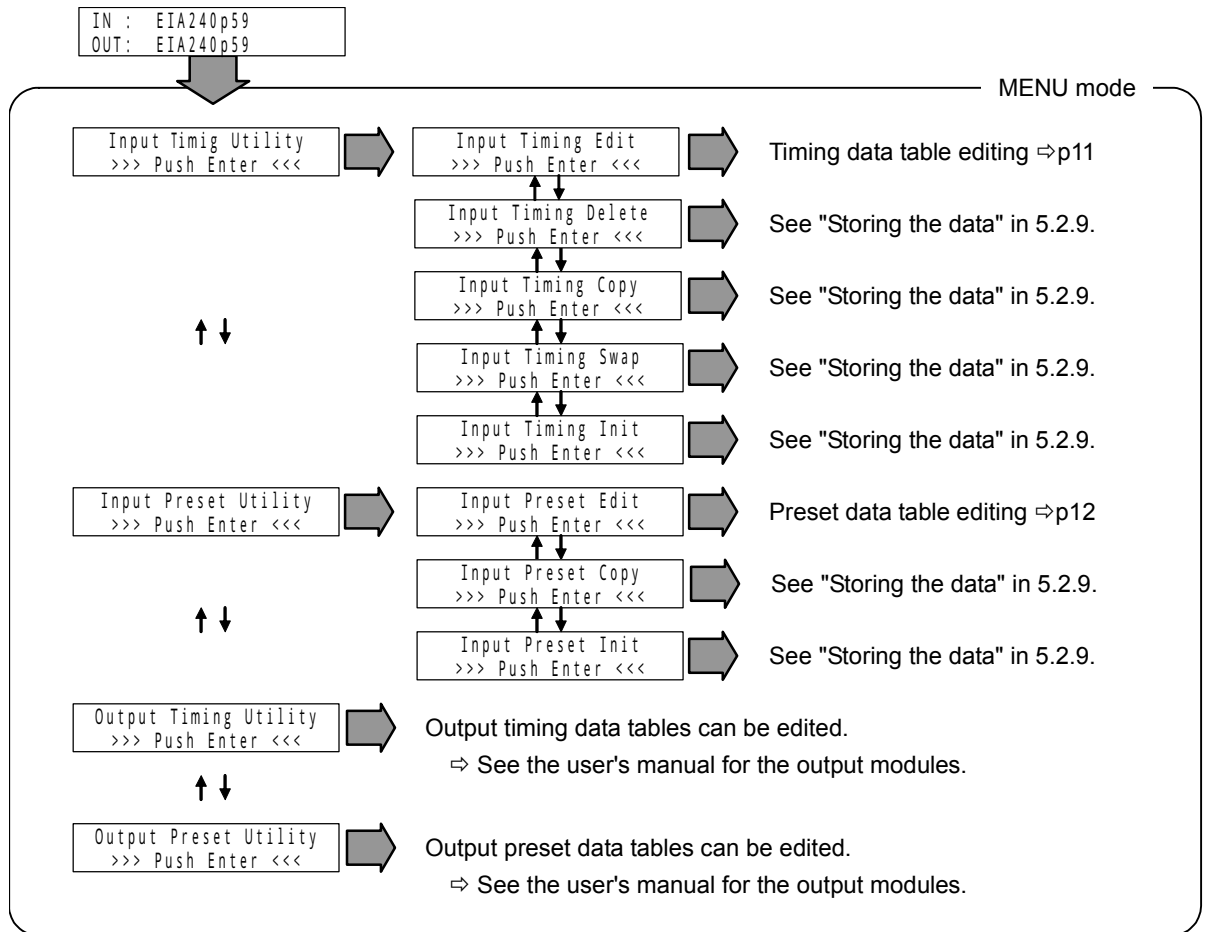
From the default screen, push the rotary encoder to enter the menu structure described below.
For the operation method, see the SC-2055 User's Manual.

Symbols are defined below.

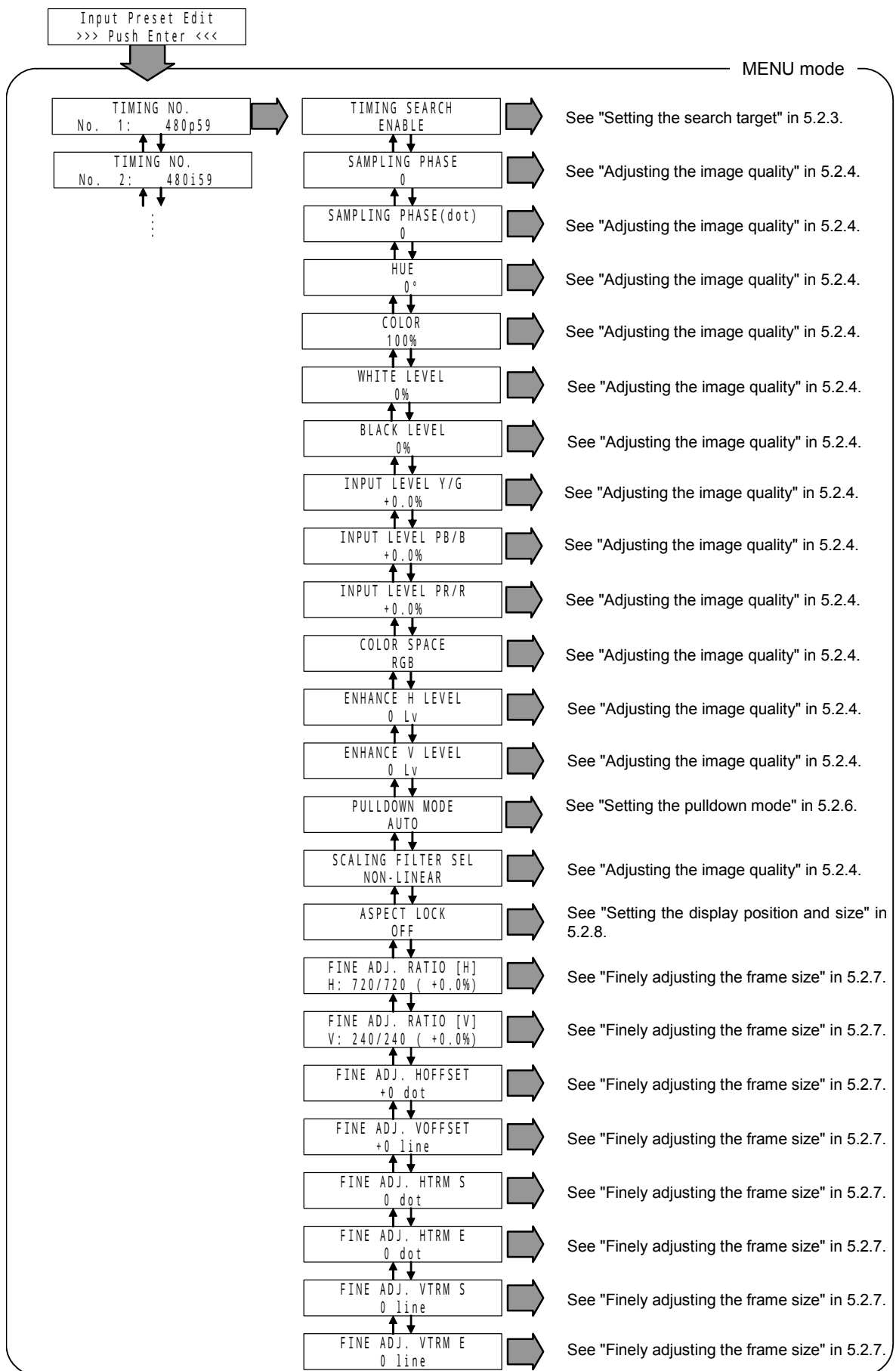
 	PUSH operation
 	Rotate operation



5.1.1 MENU mode

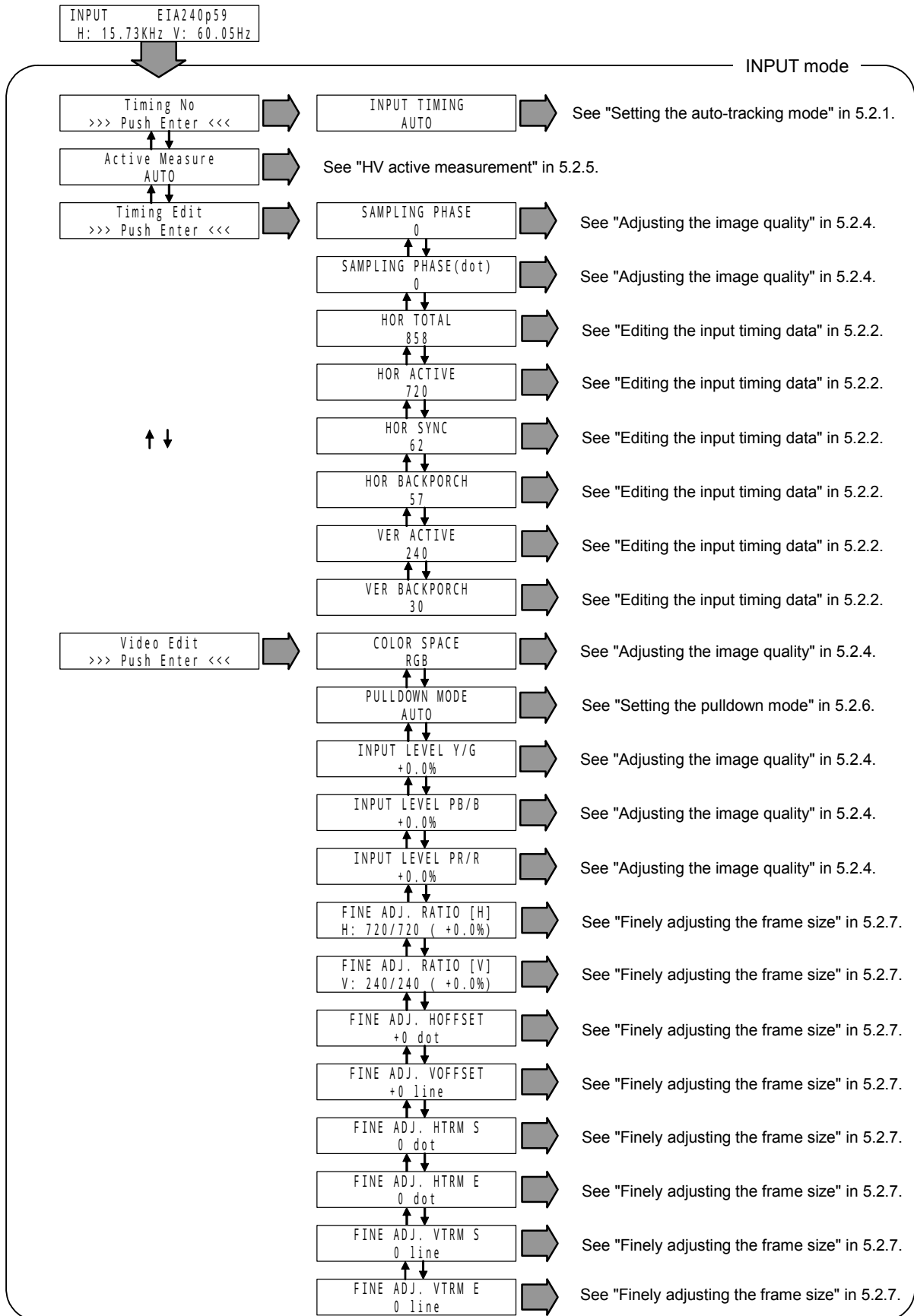


Preset data table editing



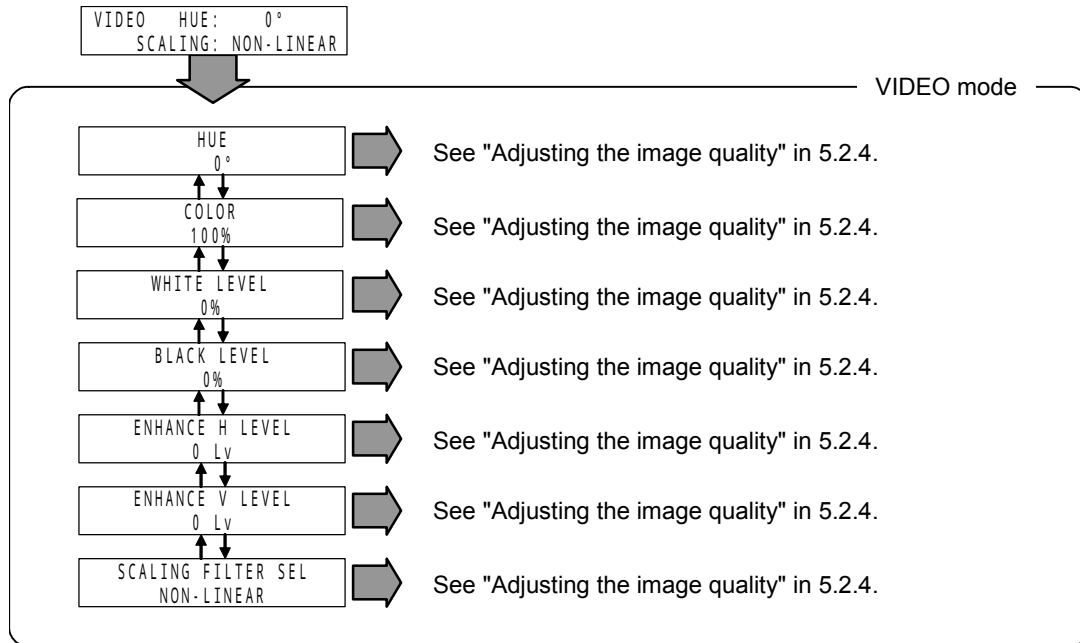
5.1.2 INPUT mode

The default screen of the INPUT mode displays the selected input timing.



5.1.3 VIDEO mode

The default screen of the VIDEO mode displays the pulldown mode and scaling filter settings.



5.2 Setting parameters

5.2.1 Setting the auto-tracking mode

Sets the input timing.

Setting Parameter	Description	Setting Value	Comments
INPUT TIMING	Auto Tracking Mode	AUTO/ Timing name *1	Sets the auto-tracking mode.

*1: The number of timing names that can be selected differs according to the input module type.

5.2.2 Adjusting the image quality

Sets the input timing selected but the standard timing. The numbers are bracketed when the values cannot be set.

Setting parameter	Description	Setting value	Comments
INPUT TIMING NAME	Input timing data name	14 characters	This parameter is used to display the name of the selected input timing data.
PIXEL CLOCK	Pixel clock	13.5 to 165.00 (in 10 kHz increments)	This parameter is used to adjust the pixel clock.
HOR TOTAL	Horizontal total width	512 to 4096 (in 1-dot increments)	This parameter is used to adjust the brightness so that it is made uniform throughout if light and dark vertical stripes have appeared on the screen. *1
HOR SYNC	Horizontal sync width	16 to 2048 (in 1-dot increments)	This parameter is used to adjust the sync width when the image is shifted horizontally on the display. *1
HOR BACKPORCH	Horizontal back porch	16 to 2048 (in 1-dot increments)	This parameter is used to adjust the back porch when the image is shifted horizontally on the display. *1
HOR ACTIVE	Horizontal active width	256 to 2560 (in 1-dot increments) * 3	This parameter is used to adjust the horizontal display period (size). *1
VER TOTAL	Vertical total width	256 to 2560 (in 1-line increments)	This parameter is used to adjust the brightness so that it is made uniform throughout if light and dark horizontal stripes have appeared on the screen. *2
VER SYNC	Vertical sync width	2 to 64 (in 1-line increments)	This parameter is used to adjust the sync width when the image is shifted vertically on the display.
VER BACKPORCH	Vertical back porch	1 to 1024 (in 1-line increments)	This parameter is used to adjust the back porch when the image is shifted vertically on the display.
VER ACTIVE	Vertical active width	128 to 1580 (in 1-line increments) *4	This parameter is used to adjust the vertical display period (size).
SCAN TYPE	Scanning system	Progressive, interlace or segment frame	This parameter is used to select the scanning system.

*1: Set this parameter in 2-dot increments if the input pixel clock frequency is higher than 74.25 MHz.

*2: Set this parameter in odd-numbered increments when the interlace system is used.

*3: The vertical total width setting range is 256 to 1920 dots when the interlace system is used.

*4: The vertical active width setting range is 128 to 1080 dots when the interlace system is used.

5.2.3 Setting the search target

The parameter in this section is used to set whether the item is to be targeted by the search during auto-tracking.

Setting parameter	Description	Comments
TIMING SEARCH	ENABLE	Targeted by auto-tracking searches.
	DISABLE	Not targeted by auto-tracking searches.

5.2.4 Adjusting the image quality

The parameters in this section are used for the settings related to image quality adjustments and image displays.

Setting parameter	Description	Setting value	Comments
SAMPLING PHASE	Sampling phase setting	-15 to +15	This parameter is used to adjust the sampling phase.
SAMPLING PHASE(dot)	Sampling phase (dot) setting	-8 to +8	This parameter is used to adjust the sampling phase (in dots).
HUE	Hue adjustment	-180 to +180 degrees (in 1-degree increments)	This parameter is used to adjust the hue.
COLOR	Color adjustment	0 to 150% (in 1% increments)	This parameter is used to adjust the color contrast.
WHITE LEVEL	White level adjustment	-30 to +30% (in 1% increments)	This parameter is used to adjust the white areas (white level) of the entire screen.
BLACK LEVEL	Black level adjustment	-30 to +30% (in 1% increments)	This parameter is used to adjust the reference level (black level) of the brightness on the entire screen.
INPUT LEVEL Y/G	Input video level (Y/G) adjustment	-30 to +30% (in 0.1% increments)	This parameter is used to adjust the input video level.
INPUT LEVEL PB/B	Input video level (PB/B) adjustment	-30 to +30% (in 0.1% increments)	This parameter is used to adjust the input video level.
INPUT LEVEL PR/R	Input video level (PR/R) adjustment	-30 to +30% (in 0.1% increments)	This parameter is used to adjust the input video level.
COLOR SPACE	Color space system setting	RGB/SDTV/HDTV/HDTV1035	This parameter is used to set the color space system.
ENHANCE H LEVEL	Enhanced H setting	Level 0 to 15	This parameter is used to control the frequency characteristics of the images to adjust the enhancement of the frame.
ENHANCE V LEVEL	Enhanced V setting	Level 0 to 15	This parameter is used to control the frequency characteristics of the images to adjust the enhancement of the frame.
SCALING FILTER SEL	Scaling filter selection	PIXEL/LINEAR/ NON-LINEAR	This parameter is used to set the scaling filter.

5.2.5 HV active measurement

Depending on the video source of the signals which are input (in the case of dark images, for instance), the measurements may not be conducted properly, and the images may appear enlarged and/or their edges may be cut off. In cases like this, the HV active measurement procedure is available as an adjustment function. This procedure is a function for re-measuring the effective display period to enable easy adjustment of frame shift.

Setting parameter	Description	Setting value	Comments
ACTIVE MEASURE	HV active measurement	AUTO / 16:9 / 9:5 / 5:4 / 5:3 / 5:2 / 4:3 / 3:2 / 3:1	This parameter is used to conduct the HV active measurement at the moment when the rotary encoder is pressed at "Yes."

5.2.6 Setting the pulldown mode

Automatically identifies 24/30 frame video data such as video signals from film and computer graphic sources.

Setting Parameter	Setting Value	Comments
PULLDOWN MODE	AUTO	Automatically identifies which pulldown mode (VIDEO, 22PULLDOWN or 32PULLDOWN) is appropriate for the video source.
	VIDEO	This mode converts a normal interlaced motion picture video signal into a progressive signal.
	22PULLDOWN	For a still image video source, such as a source that reproduces a 1 frame image with even and odd fields, this mode automatically detects and displays a 2-2, 2-2 pulldown pattern from the flow of images on the screen.
	32PULLDOWN	For the video source of a motion picture signal (24 frames per second) converted to a video signal (60 fields per second), this mode automatically detects and displays a 2-3, 2-3, 2-3 pulldown pattern from the flow of images on the screen.

Note

When using 22PULLDOWN or 32PULLDOWN, the video signals may be disturbed if the setting does not match the interpolation pattern of the input video source. In a case like this, use VIDEO instead.

5.2.7 Fine adjustment of the frame size

Finely adjusts the size of the image to be displayed.

Setting Parameter	Description	Setting Value	Comments
FINE ADJ. RATIO [H]	Zoom ratio [H]	±30% of H ACTIVE at input timing	Adjusts the zoom ratio with the horizontal active width. *1
FINE ADJ. RATIO [V]	Zoom ratio [V]	±30% of V ACTIVE at input timing	Adjusts the zoom ratio with the vertical active width. *1
FINE ADJ. H OFFSET	Offset [H]	-127 to +127	Sets the horizontal offset.
FINE ADJ. V OFFSET	Offset [V]	-31 to +31	Sets the vertical offset.
FINE ADJ. H TRM S	H trimming Start position	0 to 128	Sets the horizontal trimming start position. *2
FINE ADJ. H TRM E	H trimming End position	0 to 128	Sets the horizontal trimming end position. *2
FINE ADJ. V TRM S	V trimming Start position	0 to 32	Sets the vertical trimming start position. *3
FINE ADJ. V TRM E	V trimming End position	0 to 32	Sets the vertical trimming end position. *3

*1: MIN and MAX values differ according to the input timing.

*2: If the input timing scanning method is progressive and the pixel clock is ≤74.25MHz, settings are in 1-dot increments. In all other cases, settings are in 2-dot increments.

*3: If the input timing scanning method is progressive, settings are in 1-line increments. If the input timing scanning method is interlace or segment-frame, settings are in 2-line increments.

5.2.8 Setting the display position and size

Changes the image display size and specifies the display position.

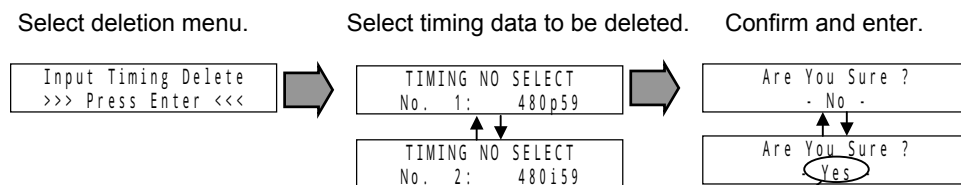
Parameter	Description	Setting Value	Comments
ASPECT LOCK	Aspect setting	OFF/V JUST/ ARIB 13:9/ARIB 14:9/ ARIB 15:9/H JUST	Sets the image frame size.

5.2.9 Storing the data

The parameters in this section enable data to be copied, swapped, initialized or deleted.

Setting parameter	Description	Comments
Input Timing Delete	Timing data deletion	This parameter is used to delete the input timing data. However, the timing data which has been specified by the auto-tracking mode setting cannot be deleted.
Input Timing Copy	Timing data copying	This parameter is used to copy input timing data into empty tables. Data cannot be copied if it involves overwriting already existing data in a table.
Input Timing Swap	Timing data swapping	This parameter is used to swap the input timing data.
Input Timing Init	Timing data initialization	This parameter is used to initialize the input timing data to the factory data.

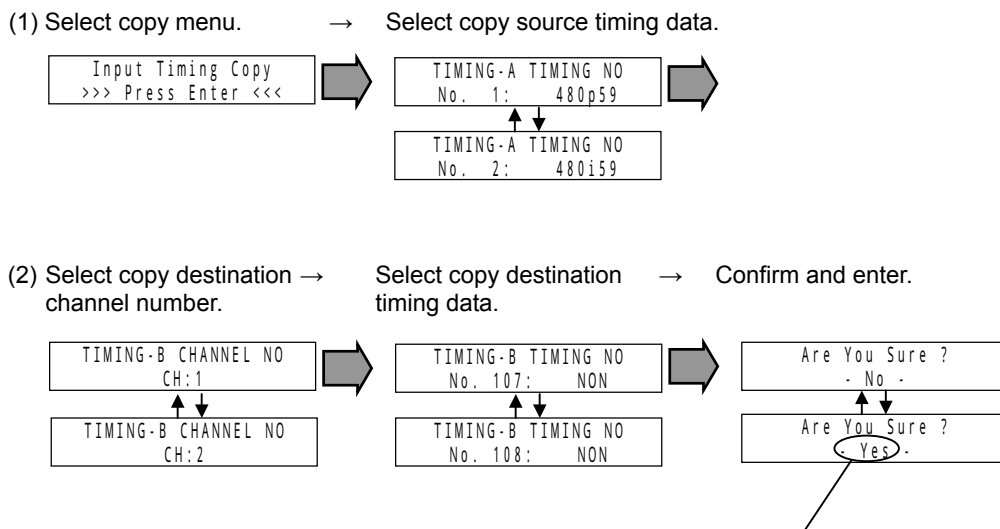
Example: Deleting timing data



When the rotary encoder is pressed at "Yes," the data is deleted.
⇒ See "MENU mode" in 5.1.1 on page 10.

Example: Copying timing data

In this example, the TIMING-A timing data is copied to the TIMING-B timing data.

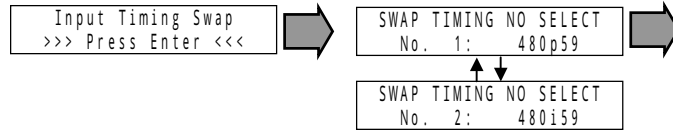


When the rotary encoder is pressed at "Yes," the data is copied.
⇒ See "MENU mode" in 5.1.1 on page 10.

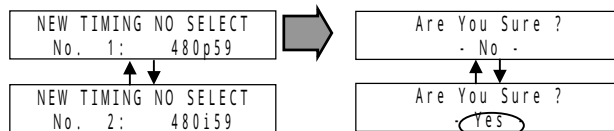
Example: Swapping timing data

In this example, the SWAP timing data is replaced with the NEW timing data.

(1) Select swapping menu. → Select timing data which will replace existing data.



(2) Select timing data to be replaced. → Confirm and enter.



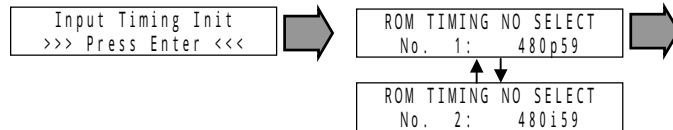
When the rotary encoder is pressed at "Yes," the data is swapped.

⇒

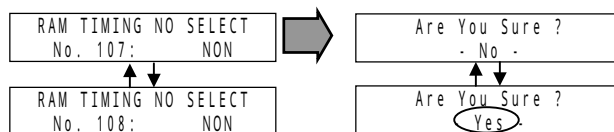
Example: Initializing timing data

In this example, the RAM timing data is initialized by the ROM timing data.

(1) Select initialization menu. → Select factory timing data.



(2) Select operation timing data. → Confirm and enter.



When the rotary encoder is pressed at "Yes," the data is initialized.

⇒ See "MENU mode" in 5.1.1 on page 10.

Setting parameter	Description	Comments
Input Preset Copy	Preset data copy	This parameter is used to copy preset data into empty tables. Data cannot be copied if it involves overwriting already existing data in a table.
Input Preset Init	Preset data initialization	This parameter is used to initialize the preset data to the factory data.

Example: Copying preset data

(1) Select copy menu.

Input Preset Copy
>>> Press Enter <<<



Select copy source preset data.

PRESET-A TIMING NO
No. 1: 480p59



PRESET-A TIMING NO
No. 2: 480i59

(2) Select copy destination channel.



Select copy destination preset data.



Confirm and enter.

TIMING-B CHANNEL NO
CH:1



TIMING-B TIMING NO
No. 107: NON



Are You Sure ?
- No -

PRESET-B CHANNEL NO
CH:1



PRESET-B TIMING NO
No. 1: 480p59



Are You Sure ?
- No -

PRESET-B CHANNEL NO
CH:2



PRESET-B TIMING NO
No. 2: 480i59



Are You Sure ?
Yes

When the rotary encoder is pressed at "Yes," the data is copied.

⇒ See "MENU mode" in 5.1.1 on page 10.

6

Timing Table List

6.1 Input timing table

No	Format	Clock (MHz)	Htotal (dot)	Hactive (dot)	Hsync (dot)	Hbp (dot)	Vtotal (line)	Vactive (line)	Vsync (line)	Vbp (line)	Scan
1	480p59	27.00	858	720	63	59	525	483	6	30	Progressive
2	480i59	13.50	858	720	63	59	525	483	6	30	Interlace
3	576p50	27.00	864	720	63	69	625	576	5	39	Progressive
4	576i50	13.50	864	720	63	69	625	576	5	39	Interlace
5	720p25	74.25	3960	1280	40	260	750	720	5	20	Progressive
6	720p29	74.18	3300	1280	40	260	750	720	5	20	Progressive
7	720p30	74.25	3300	1280	40	260	750	720	5	20	Progressive
8	720p50	74.25	1980	1280	40	260	750	720	5	20	Progressive
9	720p59	74.18	1650	1280	40	260	750	720	5	20	Progressive
10	720p60	74.25	1650	1280	40	260	750	720	5	20	Progressive
11	1035i59	74.18	2200	1920	44	192	1125	1035	10	69	Interlace
12	1035i60	74.25	2200	1920	44	192	1125	1035	10	69	Interlace
13	1080p23	74.18	2750	1920	44	192	1125	1080	5	36	Progressive
14	1080sF23	74.18	2750	1920	44	192	1125	1080	10	30	Progressive(sF)
15	1080p24	74.25	2750	1920	44	192	1125	1080	5	36	Progressive
16	1080sF24	74.25	2750	1920	44	192	1125	1080	10	30	Progressive(sF)
17	1080p25	74.25	2640	1920	44	192	1125	1080	5	36	Progressive
18	1080sF25	74.25	2640	1920	44	192	1125	1080	10	30	Progressive(sF)
19	1080p29	74.18	2200	1920	44	192	1125	1080	5	36	Progressive
20	1080sF29	74.18	2200	1920	44	192	1125	1080	10	30	Progressive(sF)
21	1080p30	74.25	2200	1920	44	192	1125	1080	5	36	Progressive
22	1080sF30	74.25	2200	1920	44	192	1125	1080	10	30	Progressive(sF)
23	1080p50	148.50	2640	1920	44	192	1125	1080	5	36	Progressive
24	1080i50	74.25	2640	1920	44	192	1125	1080	10	30	Interlace
25	1080p59	148.35	2200	1920	44	192	1125	1080	5	36	Progressive
26	1080i59	74.18	2200	1920	44	192	1125	1080	10	30	Interlace
27	1080p60	148.50	2200	1920	44	192	1125	1080	5	36	Progressive
28	1080i60	74.25	2200	1920	44	192	1125	1080	10	30	Interlace
29	EIA240p59	13.50	858	720	62	57	262	240	3	15	Progressive
30	EIA240p59A	13.50	858	720	62	57	263	240	3	15	Progressive
31	EIA240pW59	13.50	858	720	62	57	262	240	3	15	Progressive
32	EIA240pW59A	13.50	858	720	62	57	263	240	3	15	Progressive
33	EIA240p60	13.51	858	720	62	57	262	240	3	15	Progressive
34	EIA240p60A	13.51	858	720	62	57	263	240	3	15	Progressive
35	EIA240pW60	13.51	858	720	62	57	262	240	3	15	Progressive
36	EIA240pW60A	13.51	858	720	62	57	263	240	3	15	Progressive
37	EIA288p50	13.50	864	720	63	69	312	288	3	19	Progressive
38	EIA288p50A	13.50	864	720	63	69	313	288	3	19	Progressive
39	EIA288p50B	13.50	864	720	63	69	314	288	3	19	Progressive
40	EIA288pW50	13.50	864	720	63	69	312	288	3	19	Progressive

No	Format	Clock (MHz)	Htotal (dot)	Hactive (dot)	Hsync (dot)	Hbp (dot)	Vtotal (line)	Vactive (line)	Vsync (line)	Vbp (line)	Scan
41	EIA288pW50A	13.50	864	720	63	69	313	288	3	19	Progressive
42	EIA288pW50B	13.50	864	720	63	69	314	288	3	19	Progressive
43	EIA480p59	27.00	858	720	62	60	525	480	6	30	Progressive
44	EIA480p59A	25.17	800	640	96	48	525	480	2	33	Progressive
45	EIA480pW59	27.00	858	720	62	60	525	480	6	30	Progressive
46	EIA480i59	13.50	858	720	62	57	525	480	6	30	Interlace
47	EIA480iW59	13.50	858	720	62	57	525	480	6	30	Interlace
48	EIA480p60	27.02	858	720	62	60	525	480	6	30	Progressive
49	EIA480p60A	25.20	800	640	96	48	525	480	2	33	Progressive
50	EIA480pW60	27.02	858	720	62	60	525	480	6	30	Progressive
51	EIA480i60	13.51	858	720	62	57	525	480	6	30	Interlace
52	EIA480iW60	13.51	858	720	62	57	525	480	6	30	Interlace
53	EIA576p50	27.00	864	720	64	68	625	576	5	39	Progressive
54	EIA576pW50	27.00	864	720	64	68	625	576	5	39	Progressive
55	EIA576i50	13.50	864	720	63	69	625	576	5	39	Interlace
56	EIA576iW50	13.50	864	720	63	69	625	576	5	39	Interlace
57	EIA720p50	74.25	1980	1280	40	220	750	720	5	20	Progressive
58	EIA720p59	74.17	1650	1280	40	220	750	720	5	20	Progressive
59	EIA720p60	74.25	1650	1280	40	220	750	720	5	20	Progressive
60	EIA1080p23	74.17	2750	1920	44	148	1125	1080	5	36	Progressive
61	EIA1080p24	74.25	2750	1920	44	148	1125	1080	5	36	Progressive
62	EIA1080p25	74.25	2640	1920	44	148	1125	1080	5	36	Progressive
63	EIA1080p29	74.17	2200	1920	44	148	1125	1080	5	36	Progressive
64	EIA1080p30	74.25	2200	1920	44	148	1125	1080	5	36	Progressive
65	EIA1080p50	148.50	2640	1920	44	148	1125	1080	5	36	Progressive
66	EIA1080i50	74.25	2640	1920	44	148	1125	1080	10	30	Interlace
67	EIA1080p59	148.35	2200	1920	44	148	1125	1080	5	36	Progressive
68	EIA1080i59	74.17	2200	1920	44	148	1125	1080	10	30	Interlace
69	EIA1080p60	148.50	2200	1920	44	148	1125	1080	5	36	Progressive
70	EIA1080i60	74.25	2200	1920	44	148	1125	1080	10	30	Interlace
71	VESA350p85	31.50	832	640	64	96	445	350	3	60	Progressive
72	VESA400p85	31.50	832	640	64	96	445	400	3	41	Progressive
73	VESA400p85A	35.50	936	720	72	108	446	400	3	42	Progressive
74	VESA480p60	25.17	800	640	96	48	525	480	2	33	Progressive
75	VESA480p60A	33.75	1088	848	112	112	517	480	8	23	Progressive
76	VESA480p72	31.50	832	640	40	128	520	480	3	28	Progressive
77	VESA480p75	31.50	840	640	64	120	500	480	3	16	Progressive
78	VESA480p85	36.00	832	640	56	80	509	480	3	25	Progressive
79	VESA600p56	36.00	1024	800	72	128	625	600	2	22	Progressive
80	VESA600p60	40.00	1056	800	128	88	628	600	4	23	Progressive
81	VESA600p72	50.00	1040	800	120	64	666	600	6	23	Progressive
82	VESA600p75	49.50	1056	800	80	160	625	600	3	21	Progressive
83	VESA600p85	56.25	1048	800	64	152	631	600	3	27	Progressive
84	VESA768i43	44.90	1264	1024	176	56	817	768	4	20	Interlace
85	VESA768p60	65.00	1344	1024	136	160	806	768	6	29	Progressive
86	VESA768p70	75.00	1328	1024	136	144	806	768	6	29	Progressive

No	Format	Clock (MHz)	Htotal (dot)	Hactive (dot)	Hsync (dot)	Hbp (dot)	Vtotal (line)	Vactive (line)	Vsync (line)	Vbp (line)	Scan
87	VESA768p75	78.75	1312	1024	96	176	800	768	3	28	Progressive
88	VESA768p85	94.50	1376	1024	96	208	808	768	3	36	Progressive
89	VESA768pW60	68.25	1440	1280	32	80	790	768	7	12	Progressive
90	VESA768pW60A	79.50	1664	1280	128	192	798	768	7	20	Progressive
91	VESA768pW60B	85.50	1792	1360	112	256	795	768	6	18	Progressive
92	VESA768pW75	102.25	1696	1280	128	208	805	768	7	27	Progressive
93	VESA768pW85	117.50	1712	1280	136	216	809	768	7	31	Progressive
94	VESA864p75	108.00	1600	1152	128	256	900	864	3	32	Progressive
95	VESA960p60	108.00	1800	1280	112	312	1000	960	3	36	Progressive
96	VESA960p85	148.50	1728	1280	160	224	1011	960	3	47	Progressive
97	VESA1024p60	108.00	1688	1280	112	248	1066	1024	3	38	Progressive
98	VESA1024p75	135.00	1688	1280	144	248	1066	1024	3	38	Progressive
99	VESA1024p85	157.50	1728	1280	160	224	1072	1024	3	44	Progressive
100	VESA1050p60	101.00	1560	1400	32	80	1080	1050	1	23	Progressive
101	VESA1050p60A	121.75	1864	1400	144	232	1089	1050	1	32	Progressive
102	VESA1050p75	156.00	1896	1400	144	248	1099	1050	1	42	Progressive
103	VESA1200p60	162.00	2160	1600	192	304	1250	1200	3	46	Progressive

7

Main Specifications

7.1 Specifications

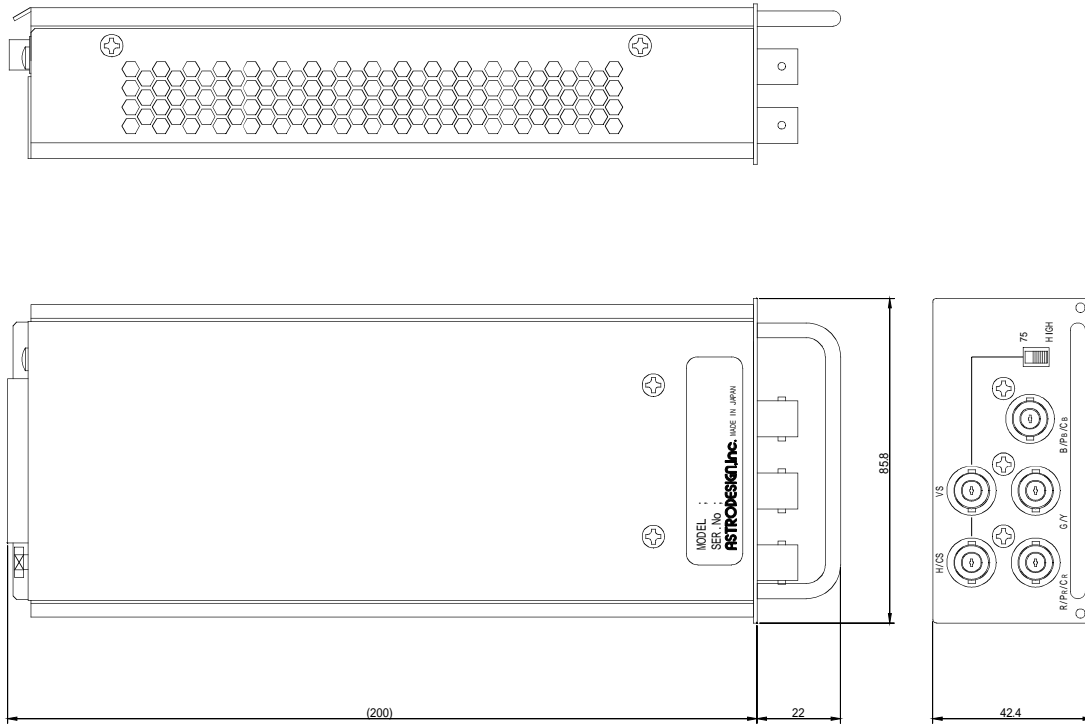
Table 7.1 IM-583 Specifications

Item		Specifications
Scanning system		Progressive, interlace
A/D conversion frequency		13.5 to 165 MHz (max. 74.25 MHz for interlace) *
Horizontal frequency		15 to 110 kHz
Vertical frequency		24 to 150 Hz (differs depending on resolution of input/output) *
Video signals	Color format	Analog RGB Analog YPbPr/YCbCr
	Image data resolution	8 bits
	Video level	0.7 Vp-p/75-ohm termination
	Number of pixels displayed	Max. 2560 x 1580 (progressive system) Max. 1920 x 1080 (interlace system)
	Number of channels	1 system (BNC connector)
	Through-out	None
	Termination switching	75-ohm termination (fixed)
Sync signals	G-ON	0.3 Vp-p/75-ohm termination HDTV tri-level sync
	CS	0.3 to 4.0 Vp-p/75-ohm termination (positive/negative polarity) TTL level (positive/negative polarity) HDTV tri-level sync
	HS/VS	0.3 to 4.0 Vp-p/75-ohm termination (positive/negative polarity) TTL level (positive/negative polarity)
	Number of channels	1 system (BNC connector)
	Through-out	None
	Termination switching	Slide switch (75 ohms/high impedance)

7.2 Accessory

User's Manual	1 copy
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7.3 Outline Drawing



Notes:

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