DM-3000B

HD LCD Monitor

Instruction Manual

May 28, 2002
Ver.1.02

ASTRODESIGN, INC.

CONTENTS

INTRODUCTION

Thank you very much for purchasing this model DM-3000B HD LCD monitor. This manual contains details on the operation procedures to be followed when the DM-3000B is used, the checkpoints and precautions to be observed, etc.

Improper handling may result in malfunctioning.

Before using the DM-3000B, please read through these instructions to ensure that you will operate the monitor correctly.

After reading through the manual, keep it in a safe place for future reference.

SAFETY PRECAUTIONS

⚠ WARNING

Concerning the power cord

- Always take hold of the molded part of the plug when disconnecting the power cord.
- Do not use force to bend the power cord or bundle it with other cords for use. This may cause a fire.
- Do not place heavy objects on top of the power cord. This may damage the cord, causing a fire or electrical shock.

Concerning foreign matter

- Do not spill liquids inside the monitor or drop inflammable objects or metal parts into it.
- Operating the monitor under these conditions may cause a fire, electric shocks or malfunctioning.

Concerning disassembly, repair or remodeling

- Do not disassemble, repair or remodel the monitor since it houses some high-voltage parts inside, and exposure to these parts is extremely dangerous as it may result in electric shocks or burns.

⚠ CAUTION

Concerning the power supply

- Use a supply voltage within the range of 10V to 18V for the monitor.
- Do not turn the power back on immediately after having turned it off. Doing so can cause malfunctioning.

Concerning installation

- Ensure that the following conditions for the installation location are satisfied in order to ensure that the monitor will be used properly.
    1) Avoid locations where strong magnetic fields and/or vibration is generated, very dusty locations or locations exposed to water or chemicals.
    2) Avoid locations exposed to direct sunlight and locations susceptible to violent changes in humidity or air temperature.
    3) Do not place heavy objects such as a monitor on top of this unit.
    4) Avoid placing anything directly up against the monitor’s side panels.

Concerning impact

- This is a precision instrument and, as such, subjecting it to impact may cause malfunctioning. Take special care when moving the monitor.

Concerning the liquid crystal panel

- The LCD panel is a high-precision part and, as such, the following care must be taken in its handling.

  1) Wiping the panel's surface with benzine, paint thinners, etc. will cause a deterioration in its quality.
  2) If water (salty water) is left on the display surface, discoloration and staining may result.
  3) Exposing the panel directly to ultraviolet rays for an extended period invites the deflection panel to turn brown, the contrast to drop and other forms of deterioration to develop in the display quality.
  4) Moisture inside the monitor due to condensation, etc. may cause unevenness in the colors.
  5) Due to the nature of liquid crystal, some picture elements may be missing (bright spots or dark spots).
  6) Hitting the surface itself or bumping it into objects may crack the panel, etc.
  7) Do not attempt to disassemble the panel since leaking liquid crystal may make contact with your skin.
  8) If you are exposed to liquid crystal because the tube surface has broken, rinse it off well with soap and water.

Concerning the operation location

- If the monitor is used in normal indoor locations, no special care need be taken. However, installation in the following locations can cause malfunctioning.

  1) Locations with an ambient temperature outside the range of 5 to 40 °C
  2) Locations with an ambient humidity outside the range of 30 to 80% RH (*1)
  3) Locations near an air conditioner or subject to rapid temperature changes or the formation of condensation
  4) Locations exposed to direct sunlight (*1)
  5) Locations exposed to corrosive gases or high concentrations of dust
  6) Locations where strong magnetic fields are generated
  7) Locations which may be splashed with water, oil, chemicals, etc.
  8) Very dusty locations or locations to which vibrations are transmitted from the floor
  9) Unstable locations

  *1: Since the panel's backlight and other parts may be damaged when the surface temperature of the LCD panel exceeds 60 °C, keep the panel away from direct sunlight.

When the screen fails to operate properly

- When a completely black display appears on the screen, proceed to operate RESET to restore the initial status, and then operate LOCK. (For details on the resetting and locking procedures, refer to section 4.2 entitled "Operations and how to use the switches.")
- If the "NO SIGNAL" display appears on the screen even though input signals have been supplied, check the rear panel DIP switch and VSEL (Video Select) settings.

When trouble or malfunctioning has occurred

- In the unlikely event that trouble or malfunctioning should occur, contact your dealer or an Astrodesign sales representative.
- The cost for replacement or repair of the LCD shall be charged regardless of the warranty period.

Concerning this manual

- It is strictly forbidden to copy this manual either in part or in its entirety without permission from Astrodesign.

1) The contents and specifications of this manual are subject to change without notice for the purposes of improving quality.

2) Although this manual has been prepared with painstaking care, the user is asked to contact Astrodesign if any ambiguities, mistakes, omissions or other shortcomings are noticed.

3) The shortcomings in 2) notwithstanding, Astrodesign will not be liable in any way for their effects on the results achieved by operating the monitor.

CHAPTER 1 CONCERNING THE DM-3000B

1.1 Outline of DM-3000B

The DM-3000B is a compact, lightweight and portable HD LCD monitor which is designed for monitoring the pictures being shot during live broadcasts, on location or in studios, etc.

The monitor supports the use of the camera battery as the power supply so that pictures can be checked absolutely anywhere.

A full range of functions is provided including functions for adjusting the brightness, contrast and chroma level as well as functions for displaying the center marker and picture frame.

It support 23 different HDTV video formats and the SD-SDI (480i) format for its input signals.

1.2 Functions of DM-3000B

- 6-inch low-temperature polysilicon LCD panel
- HD and SD-SDI or YPbPr/RGB HD analog input signals supported
  (The simplified mode applies for the RGB input signals. The contrast, brightness and chroma cannot be adjusted in this mode.)
- 24 different video formats supported
- Contrast and chroma adjustment functions
- Cursor display function (center, frame, 4:3, 13:9, 14:9 and 2.4:1)
- Tally signal input for two channels supported
- Input signals and frame rates of 1 and 1/1.001 automatically supported
- CRCC error detection function (during SDI input) for input channels
- Light weight and compact size (3U half-size)
- DC 12V supply power (10 to 18V)
- Camera battery supported
- Standards complied with for analog inputs and format: SMPTE 274M, 296M, BTAS-001B
- Standards for HD-SDI complied with: SMPTE 292M, BTAS-004B (1.485 Gbps SDI input)
- Standard for SD-SDI complied with: SMPTE 259M (270 Mbps SDI input)

1.3 Outline of DM-3000B functions

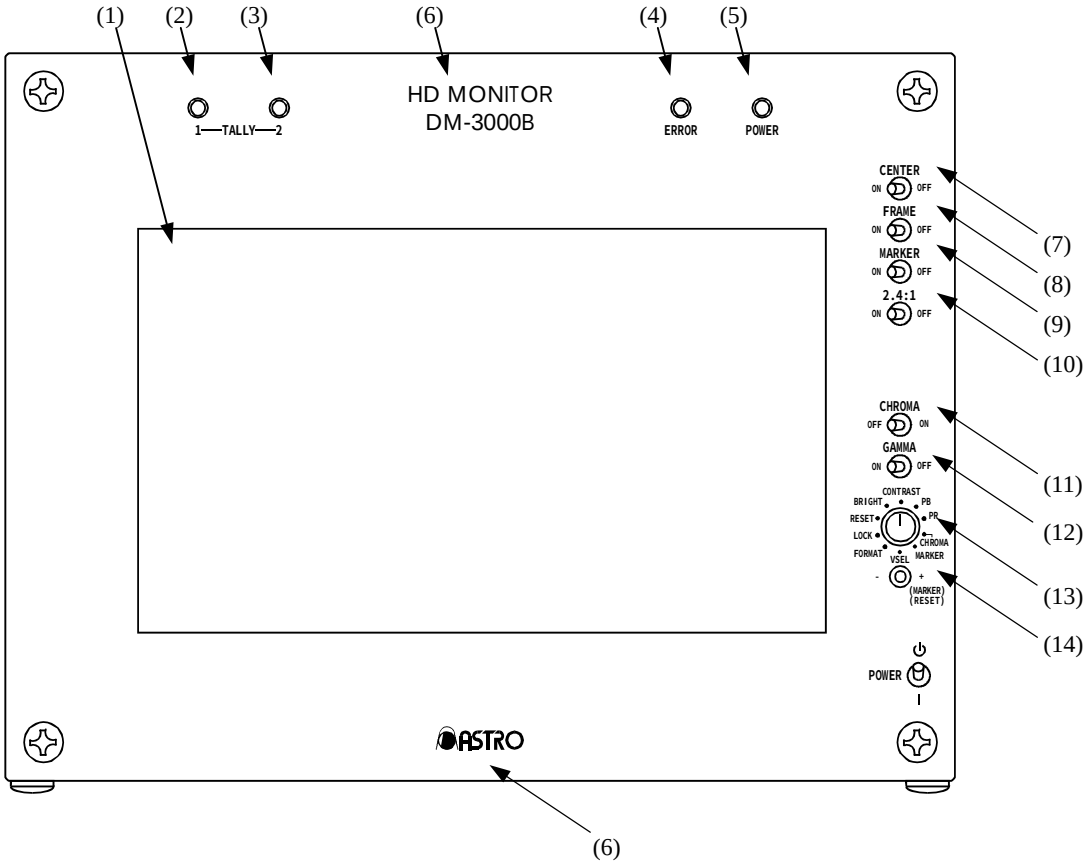
- The monitor’s connectors include the SDI input, monitor output and HDTV analog input (YPbPr/RGB) connectors.
- As the SDI signals, use the signals complying with SMPTE 292M and 259M standard.
- As the analog input signals, use the YPbPr or RGB signals (Y or G On Sync) complying with BTAS-001B standard.
- When there are no input signals, a black screen is output. In addition, the “NO SIGNAL” display appears on the screen.
- The POWER LED (green) comes on when the power is turned on.
- When no input signals are supplied or when an error occurs in the input signals, the ERROR LED (red) comes on.
- The CHROMA and GAMMA functions and the various markers can be operated simply by flipping the corresponding switches on the front panel to ON or OFF.

- To adjust the CONTRAST or other level, align the control switch with the level concerned, and hold down the “+” side or “-“ side of the +/- switch.
- The maximum adjustment is ±7% for the BRIGHT, and ±100% for CONTRAST, Pb, Pr and CHROMA.
- The red and green LEDs can be made to light at the top of the screen by inputting the external contact type of TALLY signals.

CHAPTER 2 PARTS AND THEIR FUNCTIONS

2.1 DM-3000B front panel view and parts

DM-3000B front panel view



Front panel parts and their functions

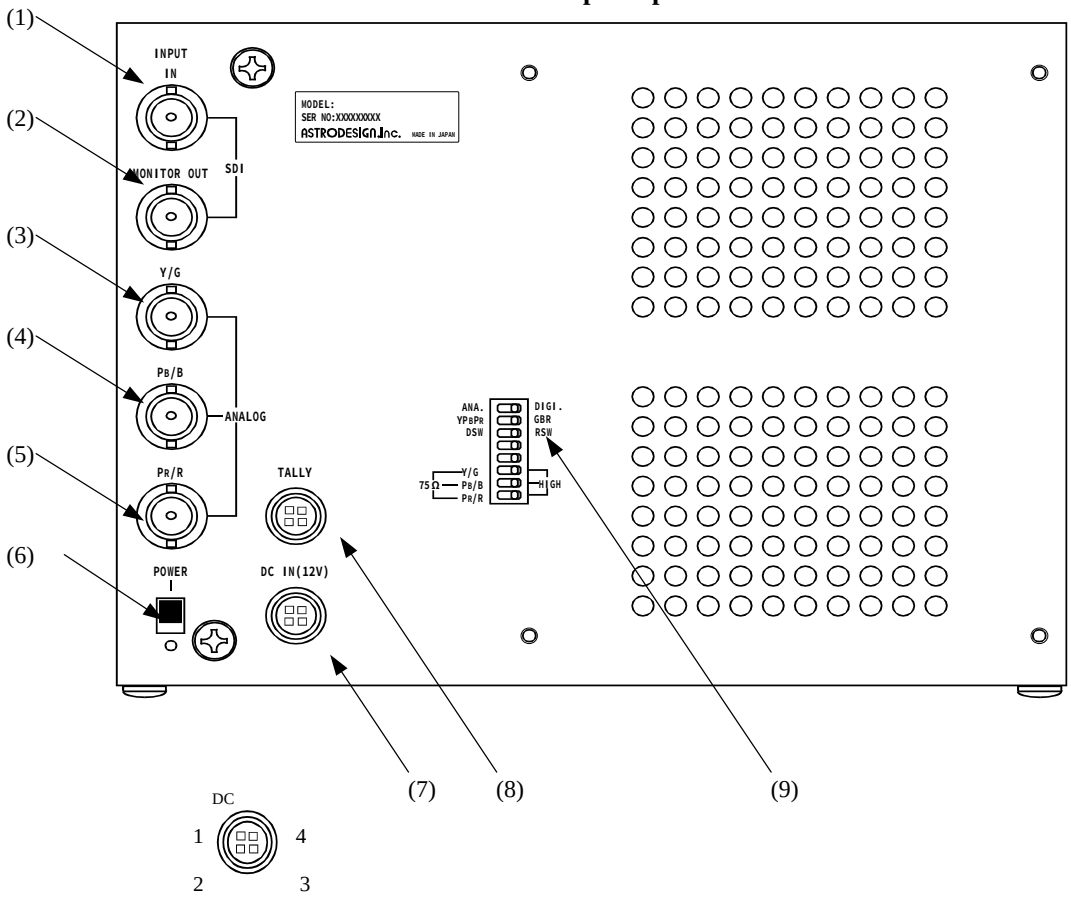
No.	Part	Description of function
(1)	Liquid crystal display	For displaying the pictures
(2)	TALLY 1	Tally lamp (red): controlled by rear panel R tally connector (tally: contact type)
(3)	TALLY 2	Tally lamp (green): controlled by rear panel G tally connector (tally: contact type)
(4)	ERROR LED	Error lamp (red): comes on when there are no input signals or when an error has occurred.
(5)	POWER LED	Power lamp (green): comes on when the power is supplied.
(6)	3/8" screw holes	Screw holes for anchoring the monitor (used to anchor the monitor to a tripod, arm, etc.).
(7)	CENTER(*1)	For setting the center marker to ON or OFF.
(8)	FRAME(*1)	For setting the 16:9 frame and 16:9 (90%) display to ON or OFF.
(9)	MAKER (*1)	For setting the 4:3, 13:9 and 14:9 area markers to ON or OFF.
(10)	2.4:1 (*1)	For setting the 2.4:1 area marker to ON or OFF.
(11)	CHROMA switch	For setting CHROMA to ON or OFF.
(12)	GAMMA switch	For setting the luminance level compensation to ON or OFF.
(13)	Adjustment mode switch (*2)	For selecting the screen display adjustment using the +/- switch.
(14)	+/- switch	For adjusting the levels displayed on the screen set by the adjustment mode dial switch.

*1: When the 1035 format is used, bear in mind that the levels set for the 1080 format will apply for the CENTER, FRAME and 2.4:1 marker displays.
*2: For a description of the adjustment mode dial switch, refer to section 4.2 entitled "Operations and how to use the switches" in Chapter 4.

2.2 DM-3000B rear panel view and parts

DM-3000B rear panel view

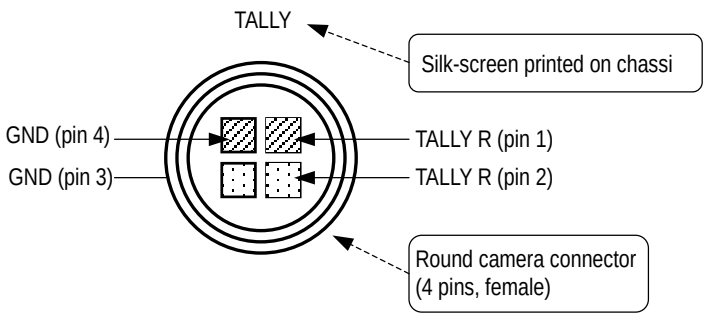
Names of rear panel parts



DC IN (12V) pin numbers

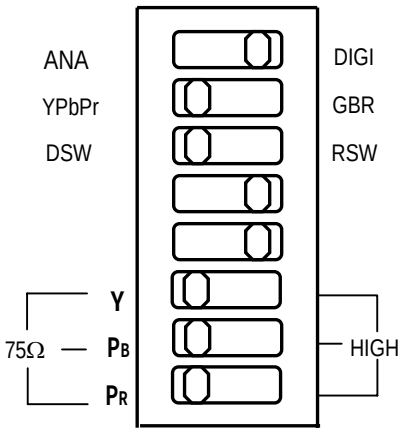
No.	Part	Description of function
(1)	SDI IN	HDTV SDI, SD-TV SDI signal input connector.
(2)	SDI MONITOR OUT	Output connector for the simplified monitoring of the input signals.
(3)	ANALOG Y/G	HDTV analog Y/G signal input connector; synchronized by the Y/G signal in the case of analog inputs.
(4)	ANALOG Pb/B	HDTV analog Pb/B signal input connector.
(5)	ANALOG Pr/R	HDTV analog Pr/R signal input connector.
(6)	POWER	For turning the power ON or OFF.
(7)	Power connector	Round camera connector 4-pin male, 12V input socket (GND: pin 1; 12V: pin 4).
(8)	TALLY connector (*3)	Round camera connector 4-pin female (TALLY1 (red): pins 1 to 4; TALLY2 (green): pins 2, 3).
(9)	Input setting switch (*4)	Change the settings to suit the input signals (SDI or analog).

***3 Concerning the TALLY connector (no.8)**



(1) To cause TALLY1 (red) to come on, short-circuit ▨.
(2) To cause TALLY2 (green) to come on, short-circuit ⁘.

*4 Input setting switch (No.9)



Name	Setting	
	Left	Right
ANA-DIGI	Analog input	Digital input
YPBPR-RGB	YPbPR	RGB
DSW-RSW	Video switching at rear panel	Video switching at front panel
---------- (*A)	Not used	Not used
---------- (*A)	Not used	Not used
75Ω_Y/G-HIGH	75-ohm termination	No termination
75Ω_PB/B-HIGH	75-ohm termination	No termination
75Ω_PR/R-HIGH	75-ohm termination	No termination

(*A) Whether left or right is selected, the function remains the same.

Initial setting diagram

* As shown in the initial setting diagram, the initial switch settings are as follows starting with the top switch first: right (DIGI), left (YPBPR), left (DSW), right (-), right (-), left (75 ohms Y), left (75 ohms PB), and left (75 ohms PR).
* Set the ANA/DIGI switch to the left position (ANA) when HD analog signals are input; and set the YPBPR/RGB switch to the left position (YPBPR) when YPBPR signals are input, and set it to the right position (RGB) when RGB signals are input. (RGB is the simplified mode in which the contrast, brightness and chroma cannot be adjusted.)
* At the DSW setting, the signals (ANA/DIGI, YPbPr/RGB) set by the DIP switches are used. At the RSW setting, the signals set by the dial switch on the front panel are used. (Refer to VSEL in section 4.2 entitled “Operations and how to use the switches.”)
* If the DIP switch settings are to be changed, do so before turning on the power to the monitor. Malfunctioning may occur when the positions of these switches are changed while the power is on.

CHAPTER 3 CONNECTIONS

3.1 Connections

DM-3000B HD LCD monitor is connected as described below.

(1) Connecting the power supply

Connect the power supply to the round camera connector (no. 7 in rear panel view). This connector has 4 pins: pin 1 (GND), pin 4 (DC input) and pins 2 and 3 (not connected). Either the accessory cable (4-pin round camera connector/Cannon connector conversion cable) or the optional (*) DC input cable (DM-3000A-09) is available for the power socket. Check the cable end configuration prior to use.

(2) Connecting the input signals

To input SDI signals, use the SDI connector with a BNC coaxial cable for the connection. “INPUT” is the input connector for the SDI signals, and “MONITOR OUT” is the output connector for monitoring the input SDI signals. Supply serial signals complying with the BTAS-004B standard for the HD-SDI input signals. Supply serial signals complying with the SMPTE 259M (270 Mbps) standard for the SD-SDI input signals. Use a coaxial cable (equivalent to 5C-FB) which can handle the 1.5 GHz band for the HD-SDI signals.

To input HDTV analog signals, input the YPbPr (or RGB) signals to the ANALOG connectors. Supply YPbPr (or RGB) signals complying with the BTAS-001B standard for the HDTV analog input signals.

Synchronization is provided by the Y (or G) signal.

* RGB is the simplified mode in which the contrast, brightness and chroma cannot be adjusted.

(3) Settings

Perform the front and rear panel switch settings in accordance with the operating environment.

* An “optional” accessory is an item which is purchased separately.Refer to the section on “Optional accessories” under Chapter 6.

CHAPTER 4 OPERATION

4.1 Operating procedure

First, check that the connections have been performed properly.

After checking the connections, turn on the DM-3000B's power using the POWER switch on its rear panel. The power lamp (green) comes on, and the input picture is displayed.

If the green power lamp fails to come on, check whether the POWER switch on the front panel is at the ON position.

If the green power lamp still fails to come on, check the connections again.

For a simplified monitoring of the SDI input signals, monitor them at the MONITOR OUT connector.

The analog input signals will not appear as pictures on the screen unless the Y (or G) On Sync signal is present. Check the BTAS-001 standard for their levels, etc.

When there are no input signals, the ERROR LED (red) comes on, a black screen is displayed, and "NO SIGNAL" appears on the screen.

If HD-SDI signals have been input, the ERROR LED (red) will come on when a CRC error has occurred as well.

If the "NO SIGNAL" display appears on the screen even though input signals have been supplied, check the settings of the rear panel switches.

4.2 Operations and how to use the switches

[Setting the toggle switches]

- Markers

  - CENTER: When this switch is set to ON, the center marker appears.

  - FRAME: When this switch is set to ON, the frame marker appears as a solid line, and the 90% area marker appears as a dotted line.

  - MARKER: When this switch is set to ON, the 4:3, 13:9 or 14:9 area marker appears. Set the dial switch to MARKER before switching to 4:3, 13:9 or 14:9.

    For details, refer to the MARKER section of the "Setting the adjustment functions" below.

  - 2.4:1: When this switch is set to ON, the 2.4:1 area marker appears.

  * The markers support video areas of 1920 x 1080 or 1280 x 720.

- CHROMA

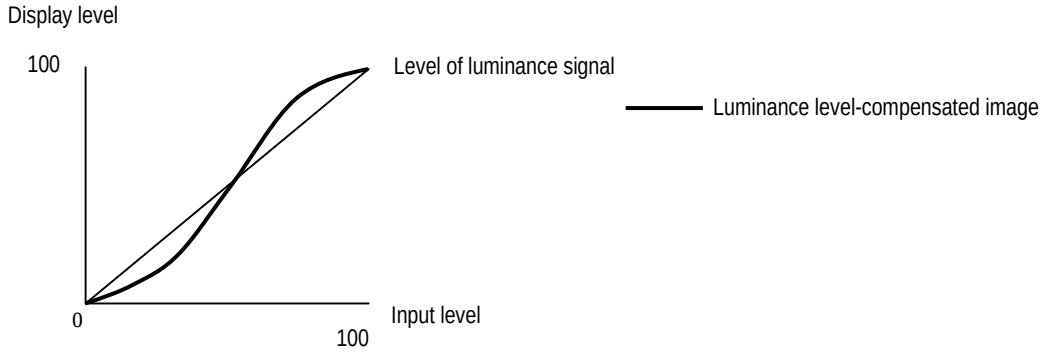
  When this switch is set to ON, the images appear in full color, when it is set to OFF, they appear in black and white.

  (Black-and-white images cannot be set when the unit is used in the analog RGB mode.)

- GAMMA

  When this switch is set to ON, luminance level-compensated images appear. When the brightness level is compensated, images with distinct light and dark sections are displayed.

* When the DM-3000B is used for camera adjustments, for example, set the GAMMA switch to OFF.



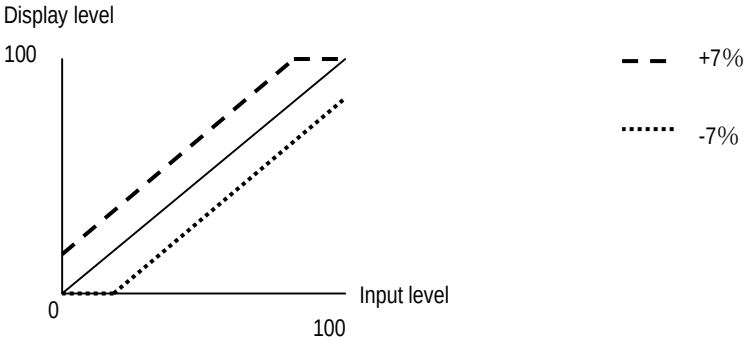
[Setting the adjustment functions]

- BRIGHT

  This setting cannot be performed when the unit is used in the analog RGB mode.

  Align the dial switch with BRIGHT.

  The level of the luminance signal can now be set by holding down the “+” or “-“ side of the +/- switch. (Variable range: +7% to -7%)

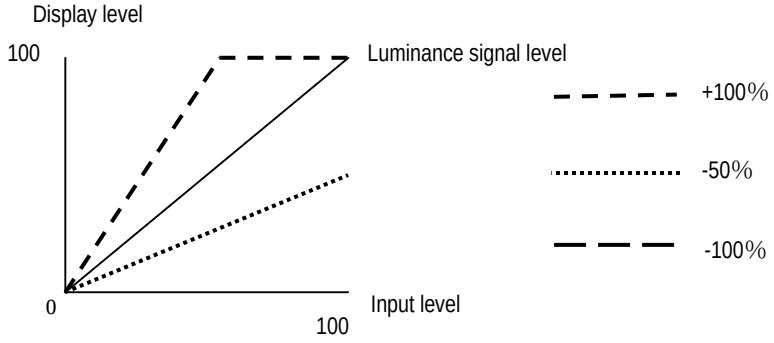


- CONTRAST

  This setting cannot be performed when the unit is used in the analog RGB mode.

  Align the dial switch with CONTRAST.

  The level of the luminance signal can now be set by holding down the “+” or “-“ side of the +/- switch. (Variable range: +100% to -100%)



-PB, PR or CHROMA

This setting cannot be performed when the unit is used in the analog RGB mode.

Align the dial switch with PB, PR or CHROMA.

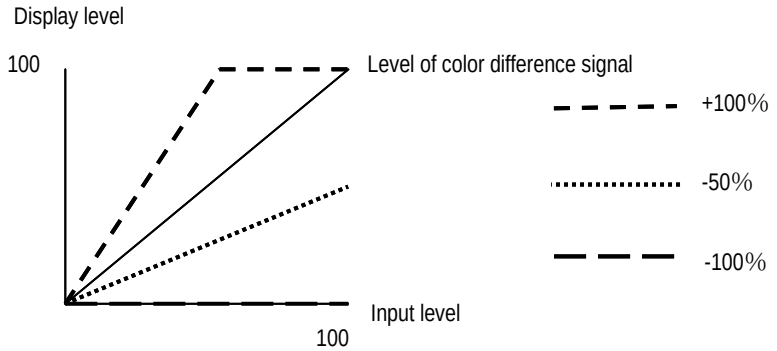
The level of the color difference signal can now be set by holding down the “+” or “-“ side of the +/- switch. (Variable range: +100% to -100%)

The Pb level and Pr level are set separately for PB and PR.

The Pb level and Pr level are set simultaneously for CHROMA.

Note 1: If the CHROMA setting is performed after either the Pb level or Pr level has been set separately for PB or PR, the previous PB and PR settings will be lost, and the new CHROMA setting information will be adopted. Similarly, if CHROMA is to be adjusted again after the power was switched off, the information on the settings performed so far will be lost so that the settings must be performed again from the default settings.

To store the Pb level and Pr level in the memory for an extended period, it is recommended that the user store the separate settings for PB and PR in the memory.



Note 2: A bar appears at the bottom right of the screen for 3 seconds when the BRIGHT, CONTRAST, PB, PR or CHROMA value has been changed. This is a 128-step display. Under the initial factory settings, the bar value is 64. When the “+” side of the +/- switch is pressed, the bar lengthens; conversely, when the “-“ side is pressed, it shortens.

- MARKER

Align the dial switch with MARKER, and set the MARKER toggle switch to ON. When the “+” side of the +/- switch is pressed once in this state, the marker displayed by MARKER will advance by one from the 4:3 marker to the 13:9 marker to the 14:9 marker and back to the 4:3 marker, in this order.

As soon as the marker setting is changed, the bar at the bottom right of the screen appears for 3 seconds.

Refer to the table below for the correlation between the bar display and markers.

Bar display	Marker
	4:3
	13:9
	14:9

Note 3: The marker setting will also change when the “+” side of the +/- switch is pressed while the dial switch is aligned with MARKER and while the MARKER toggle switch is at OFF (which is while no marker lines are displayed on the screen). When the marker has changed, the bar at the bottom right of the screen will appear.

- RESET

  Align the dial switch with RESET.

  When the “+” side of the +/- switch is pressed four times in this state, the BRIGHT, CONTRAST, PB, PR, CHROMA and MARKER settings are reset to the initial factory settings.

  The bar at the bottom right of the screen is displayed when the +/- switch is pressed. Each time the “+” side of the switch is pressed, one section of the bar is filled with white. Resetting occurs when the entire bar becomes white.

- LOCK

  Align the dial switch with LOCK.

  When the “+” or “-“ side of the +/- switch is pressed once in this state, the BRIGHT, CONTRAST, PB, PR and MARKER settings are saved inside the DM-3000B.

  When the “+” or “-“ side of the +/- switch is pressed once, the bar at the bottom right of the screen is displayed.

  The saving of the settings is complete when the whole bar is filled with white.

- FORMAT

  When the dial switch is aligned with FORMAT, the input format is displayed at the top right of the screen. (Note 4)

  The CRC error count is also displayed at this time.

  (To reset the count, set the dial switch to reset.)

  Note 4: The 59.94i format is indicated as “59i,” the 29.97p format as “29p,” the 23.98sF format as “23sF,” and the 23.98p format as “23p.”
  Similarly, the 1080/30sF format is indicated as “1080/60i,” and the 1080/29.97sF format as “1080/59i.”

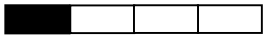
- VSEL

  Set the rear panel DIP switches to RSW, and align the front panel dial switch with VSEL. The input signals supported are changed in the following sequence by pressing the “+” side of the +/- switch once in this state:

  SDI signals => YPbPr analog signals => RGB analog signals => SDI signals

  As soon as the VSEL setting is changed, the bar at the bottom right of the screen appears for 3 seconds.

  Refer to the table on the next page for the correlation between the bar display and input signals.

Bar display	Input signal
	YPbPr analog signals
	RGB analog signals
	SDI signals
	DSW selected using rear panel DIP switches

* When DSW has been selected using the rear panel DIP switches, the input signals selected by the DIP switches are selected. (Refer to the input setting switches in Section 2.2 entitled “DM-3000B rear panel view and names of rear panel parts.”

4.3 Installing and anchoring the monitor

This monitor has 3/8” screws on both its top and bottom. Use them to secure the monitor to a camera tripod or arm, etc. To mount the monitor in a rack, use the optional (*) brackets.

* An “optional” accessory is an item which is purchased separately.

Refer to the section on “Optional accessories” under Chapter 6.

CHAPTER 5 MAIN SPECIFICATIONS

5.1 Input formats

The following input formats are automatically scanned.

*6	Format		Frame Rate	Active Line per Frame	Total Line per Frame	Line Frequency	Samples per Active Line	Samples per Total Line	Scanning ※7
(1)	1035/60i	1035/59.94i	30/1.001 Hz	1035	1125	33.72 kHz	1920	2200	i
		1035/60i	30 Hz	1035	1125	33.75 kHz	1920	2200	i
(1) (2)	1080/60I	1080/59.94i 1080/29.97sF	30/1.001 Hz	1080	1125	33.72 kHz	1920	2200	i sF
(1) (2)		1080/60i 1080/30sF	30 Hz	1080	1125	33.75 kHz	1920	2200	i sF
(2)	1080/30p	1080/29.97p	30/1.001 Hz	1080	1125	33.72 kHz	1920	2200	p
		1080/30p	30 Hz	1080	1125	33.75 kHz	1920	2200	p
(2)	1080/25sF (1080/50i)	1080/25sF 1080/50i	25 Hz	1080	1125	28.13 kHz	1920	2640	sF i
(2)	1080/25p	1080/25p	25 Hz	1080	1125	28.13 kHz	1920	2640	p
(2)	1080/24sF	1080/23.98sF	24/1.001 Hz	1080	1125	26.97 kHz	1920	2750	sF
		1080/24sF	24 Hz	1080	1125	27.00 kHz	1920	2750	sF
(2)	1080/24p	1080/23.98p	24/1.001 Hz	1080	1125	26.97 kHz	1920	2750	p
		1080/24p	24 Hz	1080	1125	27.00 kHz	1920	2750	p
(3)	720/60p	720/59.94p	60/1.001 Hz	720	750	44.96 kHz	1280	1650	p
		720/60p	60 Hz	720	750	45.00 kHz	1280	1650	p
(3)	720/50p	720/50p	50 Hz	720	750	36.00 kHz	1280	1980	p
(3)	720/30p	720/29.97p	30/1.001 Hz	720	750	22.48 kHz	1280	3300	p
		720/30p	30 Hz	720	750	22.50 kHz	1280	3300	p
(3)	720/25p	720/25p	25 Hz	720	750	18.75 kHz	1280	3960	p
(3)	720/24p	720/23.98p	24/1.001 Hz	720	750	17.98 kHz	1280	4125	p
		720/24p	24 Hz	720	750	18.00 kHz	1280	4125	p
(4)	525/60i	525/59.94i	59.94Hz	487	525	15.73 kHz	720	858	i

*6 Standard
(1) BTAS-001B/2B/4B standards complied with
(2) SMPTE 274M standard complied with
(3) SMPTE 296M standard complied with
(4) SMPTE 259M standard complied with

*7 Symbols denoting type of scanning
i = Interlace
sF = Segmented Frame
p = Progressive

5.2 Input signal systems

SDI input specifications	Specification	
SDI input	HD	BTAS-004B or SMPTE 292M standard complied with; NRZI SDI signals
	SD	SMPTE 259M standard complied with; NRZI SDI signals
	Field frequency: Automatic scanning of 60 and 59.94 (Hz) frequencies, etc. Automatic scanning of input format	
	Monitor output connector provided	

Analog input specifications	Specification
HDTV YpbPr (or RGB) input	BTAS-001B, SMPTE 274M and SMPTE 296M standards complied with
	Field frequency: Automatic scanning of each of two frequencies such as 60 and 59.94 (Hz) Automatic scanning of input format
	Y On Sync (or G On Sync) used for synchronization

5.3 Display system

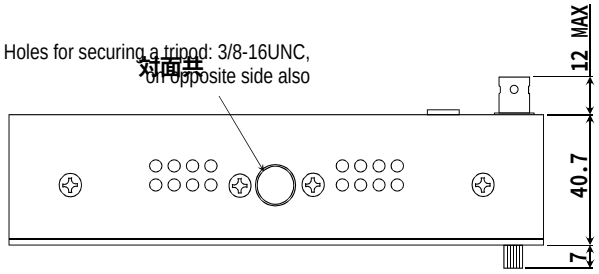
Display system	Specification
Liquid crystal	Low-temperature polysilicon TFT liquid crystal
Screen size	6" (approx. 12.5 × 7.5 cm^2)
Resolution	HD-TV: 960(H) × 540(V) Pixels, SD-TV: 720(H) × 487(V) Pixels
Pixel pitch	202 PPI (Pixels Per Inch)

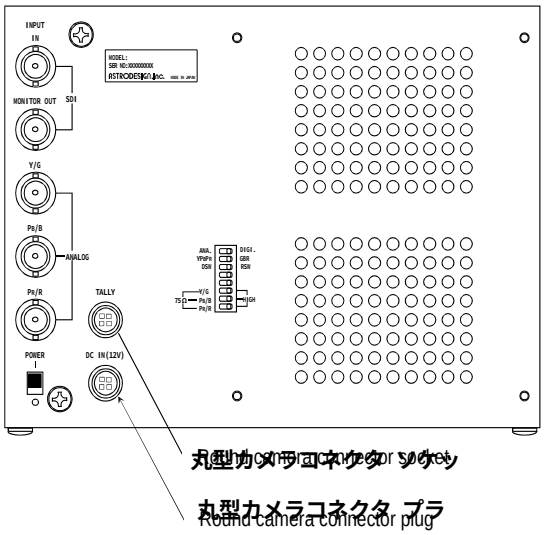
5.4 General specifications

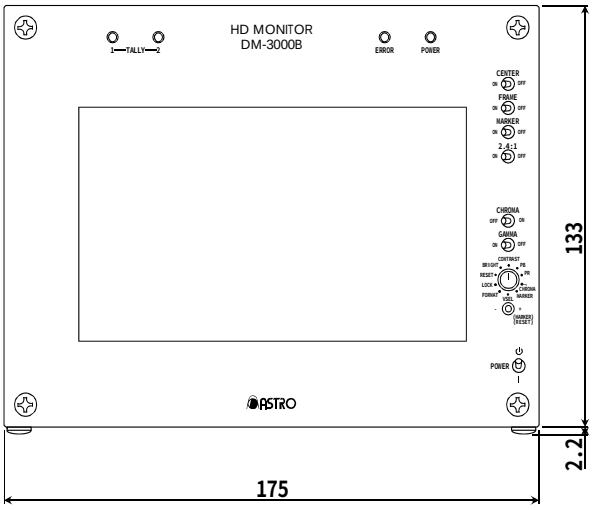
DM-3000B operating environment and ratings

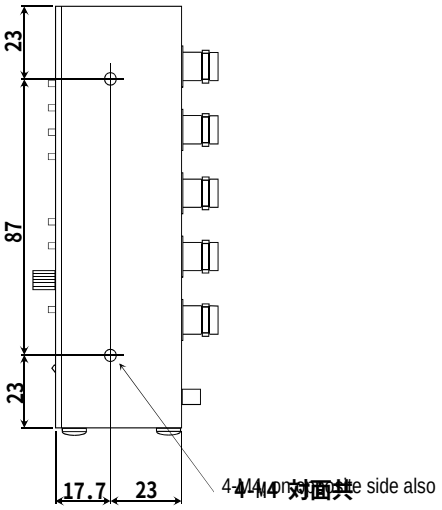
Operating temperature range	5 to 40°C
Operating humidity range	30 to 80% RH (no condensation)
Rated voltage	DC10 to 18V
Power consumption	14 W
Service life	Average 10,000 hours (LCD backlighting)
Dimensions	175(W) × 133(H) × 40.7 (D) mm (excluding protrusions)
Weight	Approx. 0.9 kg

5.5 Outline drawings









5.6 Accessories supplied

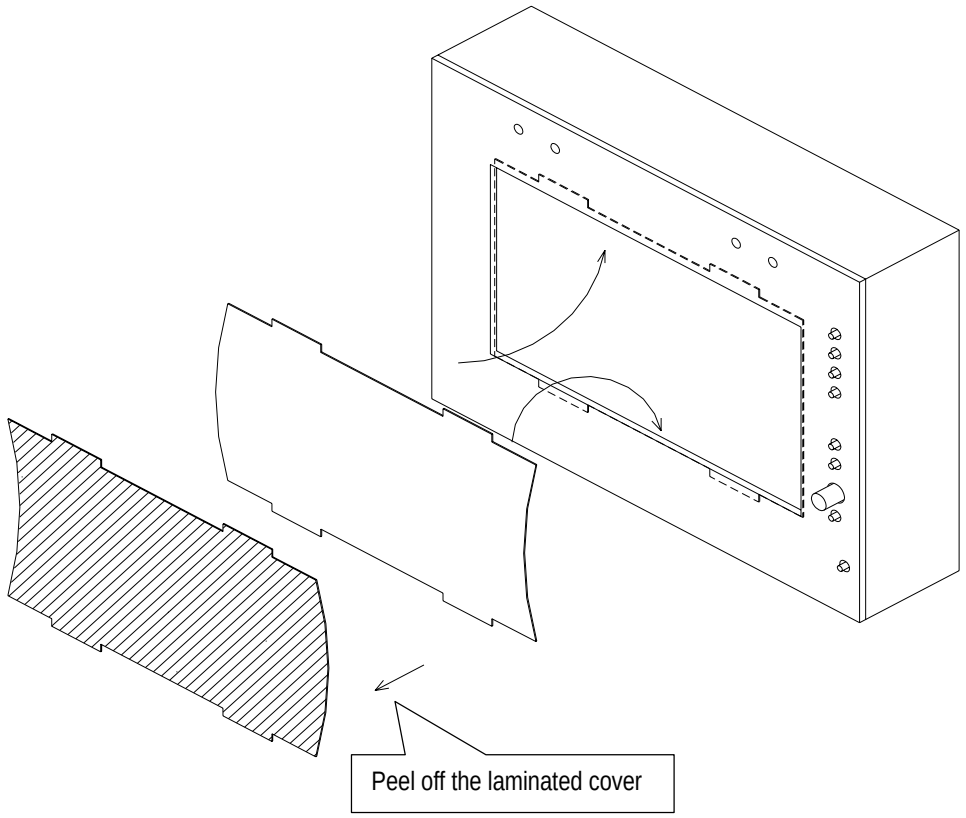
DM-3000B instruction manual	1 copy
Round camera connector/ Cannon connector conversion cable	1 pc
1/4 conversion screw (*8)	2 pcs
M4 screw (*9)	4 pcs
LCD protection sheet	1 sheet

*8: The 1/4 conversion screws are adapters which adjust the 3/8" screws of the German standard to the 1/4" screws which conform to the international standard.

*9: The M4 screws are used to attach the rack-mounting brackets.

DM-3000B Optional Accessory: LCD protective film attachment procedure

- How to attach the LCD protection sheet.
  1. Peel off the laminated film of the LCD protection sheet.
  2. Insert the LCD protection sheet at the top and bottom of the DM-3000B front panel.



CHAPTER 6 OPTIONAL ACCESSORIES

The DM-3000B comes with rack-mounting brackets, cables and other optional accessories for the LCD unit (main unit). New optional accessories are released from time to time: for the latest information, contact your dealer or an Astrodesign sales representative.

Product	Model name	Description
DM-3000B (main unit)	DM-3000B	Main unit (liquid crystal display unit)
AC/DC adapter	DM-3000A-03	
Single rack-mounting brackets	DM-3000A-04	
Double rack-mounting brackets	DM-3000A-05	
Anton Bauer battery adapter	DM-3000A-06	
Carrying case	DM-3000A-07	
Light-shielding hood	DM-3000A-08	
DC input cable	DM-3000A-09	DC input cable, 4-pin round camera connector type
Battery adapter for V mount	DM-3000A-10	
LCD protection panel	DM-3000A-12	

DM-3000A-03 AC/DC adapter, Data sheet

1. Introduction

This AC/DC adapter accepts a 100V or 240V AC voltage and outputs a 12V DC voltage.

2. Operation

The DM-3000-03 output is delivered from a Cannon connector.

In order to supply power to the DM-3000B, connect the conversion cable attached to the DM-3000B main unit to this connector.

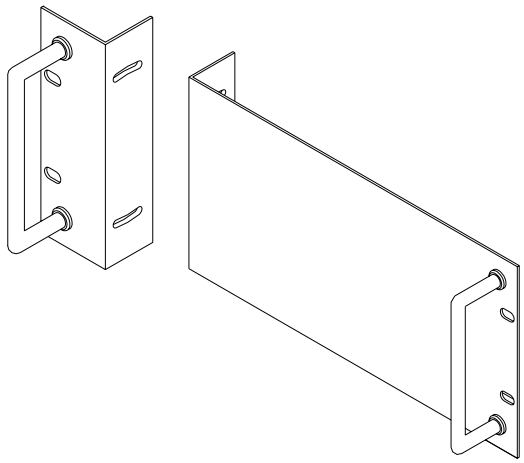
3. Specifications

Rated output voltage	V	12 ± 5%
Rated output current	A	3.0
Maximum output power	W	36
Input voltage	VAC	Rating: 100 to 240
Input frequency	Hz	Rating: 50 or 60
Efficiency	%	70(MIN)
Ambient operating temperature	°C	0 to +40
Ambient operating humidity	%RH	10 to 90
Ambient storage temperature	°C	-10 to +70
Ambient storage humidity	%RH	5 to 95
Output plug polarities	Pin 1	GND
	Pin 2	NC
	Pin 3	NC
	Pin 4	POWER

DM-3000A-04 Single Rack-Mounting Brackets, Handling instructions

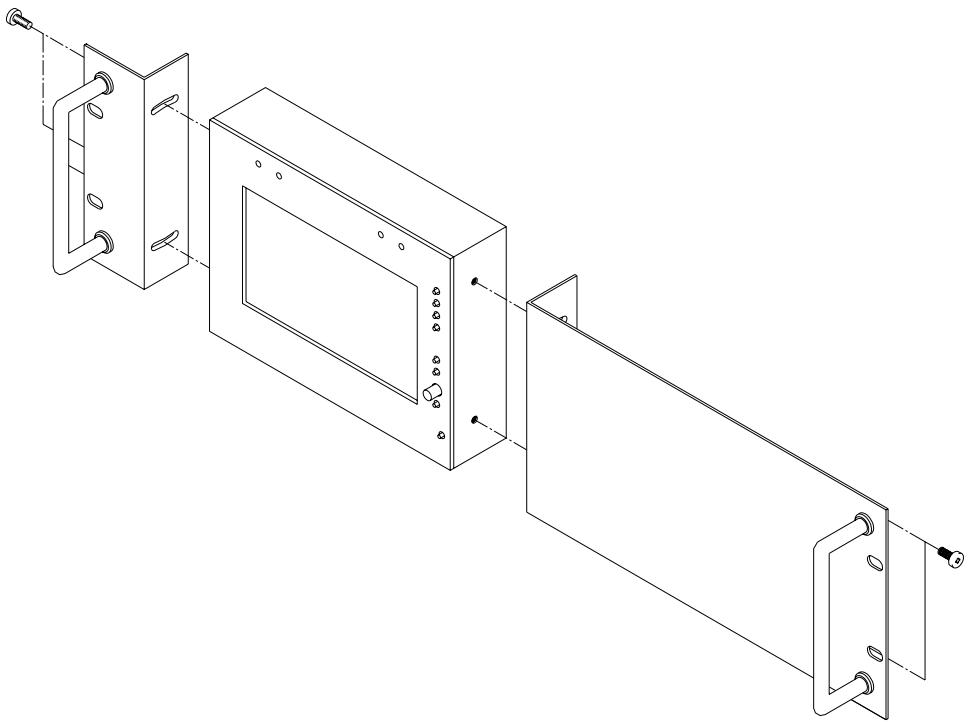
1. Names of parts

<1> Mounting brackets <2> Single mounting brackets



2. Mounting procedure

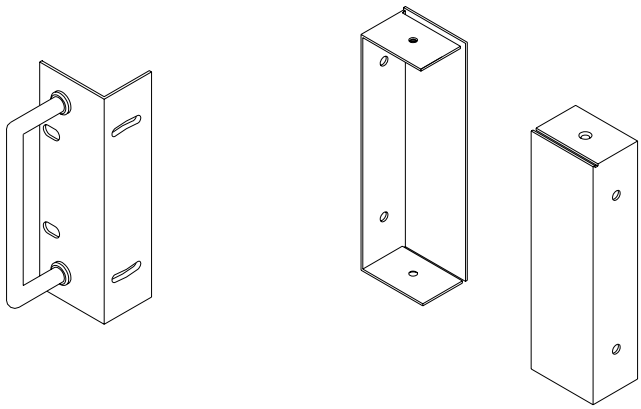
Use the M4 binding-head screws to mount the mounting brackets.



DM-3000A-05 Double Rack-Mounting Brackets, Handling instructions

1. Names of parts

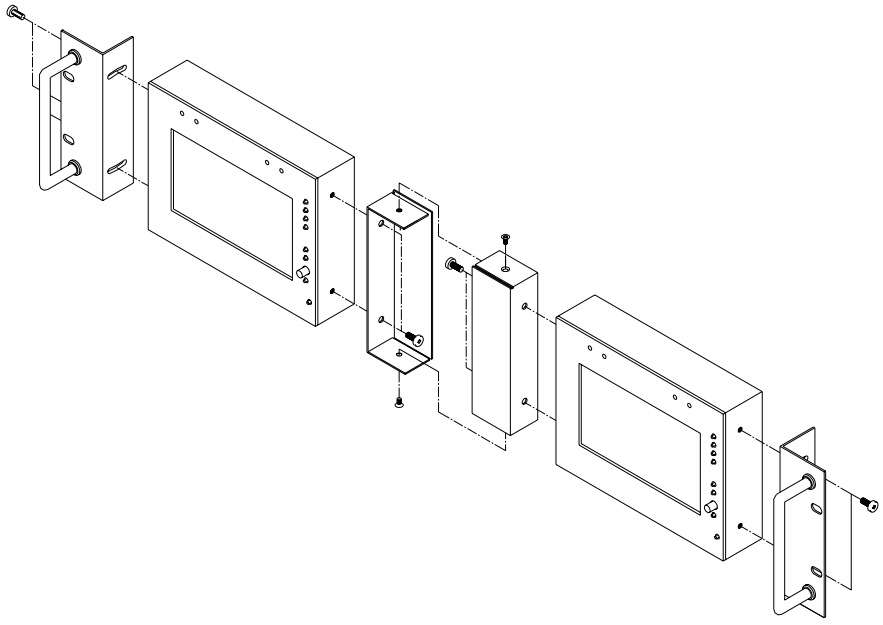
<1> Mounting brackets x 2 <2> Connector mounting brackets x 2
<3> M3 pan-head screws x 2



2. Mounting procedure

Use the M4 binding-head screws to mount the mounting brackets.

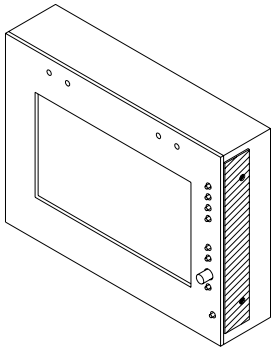
After having mounted the connecting brackets on the two monitors with one of the brackets right side up and the other upside down, use the M3 pan-head screws provided to anchor them from the top and from the bottom.



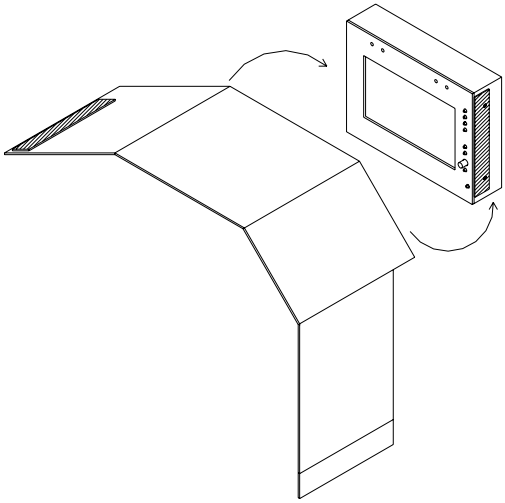
DM-3000A-08 Light-Shielding Hood, Handling instructions

Mounting method

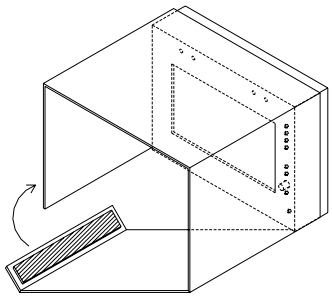
1. Adhere the strips of Velcro tape packed with the hood onto both sides of the product.



2. Mount the light-shielding hood onto the product.



3. Close the bottom of the light-shielding hood and secure it using the Velcro tape.

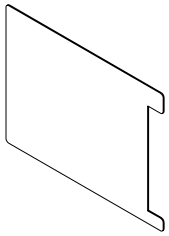


DM-3000A-12 Protection Panel, Handling instructions

Names of parts

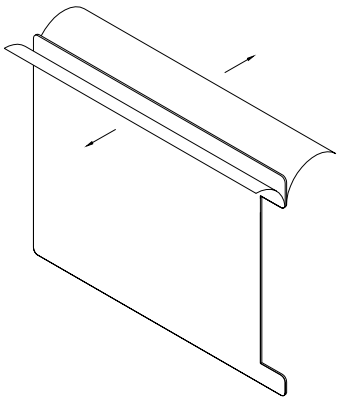
<1> Protection panel

<2> 4 pairs of Velcro tape strips

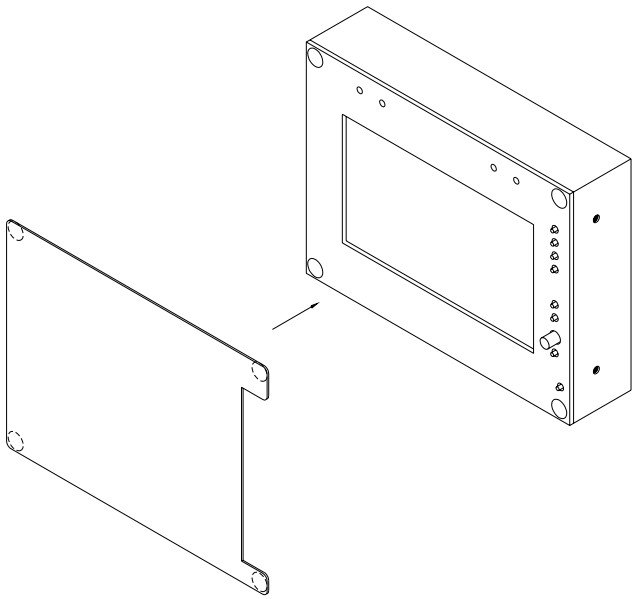


Mounting method

1) Peel of the sheets on both sides of the protection panel.



2) Adhere each pair of Velcro tape strips opposite one another on the protection panel and product. Secure the protection panel to the product.



NOTICE

- An incorrectly collated manual or a manual with missing pages will be replaced.
- All copyrights pertaining to this product are the property of Astrodesign, Inc.
- This manual may not be copied in whole or in part without written permission.
- The contents of this manual are subject to change without prior notice.
- The manufacturer will not be liable for any outcome of incorrect operation.
- The products and product names mentioned in this manual are the trademarks and registered trademarks of the companies concerned.
- All inquiries concerning this product should be addressed to your dealer or to the manufacturer at the contact numbers given below.

ASTRODESIGN, INC.

Head Office Sales Division
2-6-17 Haramachi, Meguro-ku, Tokyo, Japan 152-0011
Tel: +81 (0)3-5720-5838/ Fax: +81 (0)3-5720-6353

ASTRO SYSTEMS, INC.

425 S. Victory Blvd., Suite A, Burbank. CA 91502
Phone: 818-848-7722/http://www.astro-systems.com