# DM-3005

**HD LCD Picture Monitor**

# Instruction Manual

June 16, 2003

Ver.1.00

**ASTRODESIGN, INC.**

# CONTENTS

# INTRODUCTION

Thank you very much for purchasing this model DM-3005 HD LCD picture monitor. This manual contains details on the operation procedures to be followed when the DM-3005 is used, the checkpoints and precautions to be observed, and so on.

Improper handling may result in malfunctioning. Before using the DM-3005, 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 bunch it up 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, REPAIRS AND REMODELING

- Inside the monitor are some high-voltage parts: since exposure to these parts may result in electric shocks or burns and is extremely dangerous, refrain from disassembling, repairing or remodeling the monitor.

# ⚠ 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 THE LIQUID CRYSTAL PANEL**

- Due to the nature of liquid crystal, some picture elements may be missing (bright spots or dark spots).
- Do not touch any liquid crystal which has leaked from the liquid crystal panel.

  If the liquid crystal panel has been damaged by mistake and the liquid (liquid crystal) inside has leaked out, keep the liquid away from your mouth and skin and do not inhale its odors.

  In the unlikely event that liquid crystal has made contact with your eyes or mouth, use water to rinse it off immediately. If it has come into contact with your skin or clothing, wipe it off immediately with alcohol, and then rinse it off with soap. Leaving it may damage your skin or clothing.
- Exercise care with the glass of a broken liquid crystal panel. If the panel has broken, take care not to cut your hands on the glass shards. If you should touch an area where the glass has broken off, you may injure yourself.
- The LCD panel is a high-precision component 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 will result.
  3) Exposing the panel directly to ultraviolet rays for an extended period invites the deflection panel to turn brown, causing 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) Directly tapping the surface or bumping it into objects may crack the panel, etc.
  6) Do not attempt to disassemble the panel since leaking liquid crystal may make contact with your skin, which is hazardous.

**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 directly on top of this unit.

4) Avoid placing any objects around the monitor.

**CONCERNING THE OPERATION LOCATION**

- Installation in the following locations can cause malfunctioning.

1) Locations with an ambient temperature outside the range of 0 to 40 degrees Celsius (see Note)

2) Locations with an ambient humidity outside the range of 30 to 80% RH

3) Locations in the vicinity of an air conditioner or subject to rapid temperature changes or the formation of condensation

4) Locations exposed to direct sunlight (see Note)

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) Locations to which vibrations are transmitted from the floor

9) Unstable locations

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

**CONCERNING IMPACT**

- This is a precision instrument and, as such, subjecting it to impact may cause malfunctioning. Take special care when moving the monitor.
- Do not drop the monitor.

**WHEN THE MONITOR FAILS TO OPERATE PROPERLY**

- When the image is not displayed properly, check the Color Space (YPbPr/GBR) and format settings.
- If No Signal appears on the screen even though input signals have been supplied, check the input and format settings.
- If the front panel switches should fail to operate, check whether the LOCK switch is at the ON position.

**WHEN TROUBLE OR MALFUNCTIONING OCCURS**

- In the unlikely event that trouble or malfunctioning should occur, contact your dealer or an Astrodesign sales representative.
- With trouble in the LCD panel, the user will be charged for repairs and parts replacement even within one year after delivery.

**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.

# CHAPTER 1 CONCERNING THE DM-3005

The DM-3005 is a compact, lightweight and portable HD LCD picture monitor which is designed for monitoring the pictures being shot during live broadcasts, on location or in studios, etc.

The camera battery is supported as the power supply so that pictures can be checked even in locations where difficulties have been encountered in the past in carrying in equipment.

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

A total of 23 HDTV video formats and two SDTV video formats are supported as the input signals.

## 1.1 OUTLINE OF DM-3005

- 6.4-inch a-Si TFT LCD panel featured
- HD-SDI, SD-SDI or YPbPr/GBR analog input signals (Y or G-on-sync) supported

  (The simplified display mode applies for the GBR HD analog signals.)
- 25 different video formats supported

  Standards supporting HD-SDI: SMPTE 292M, BTA-S004B standards complied with (1.485 Gbps SDI input)

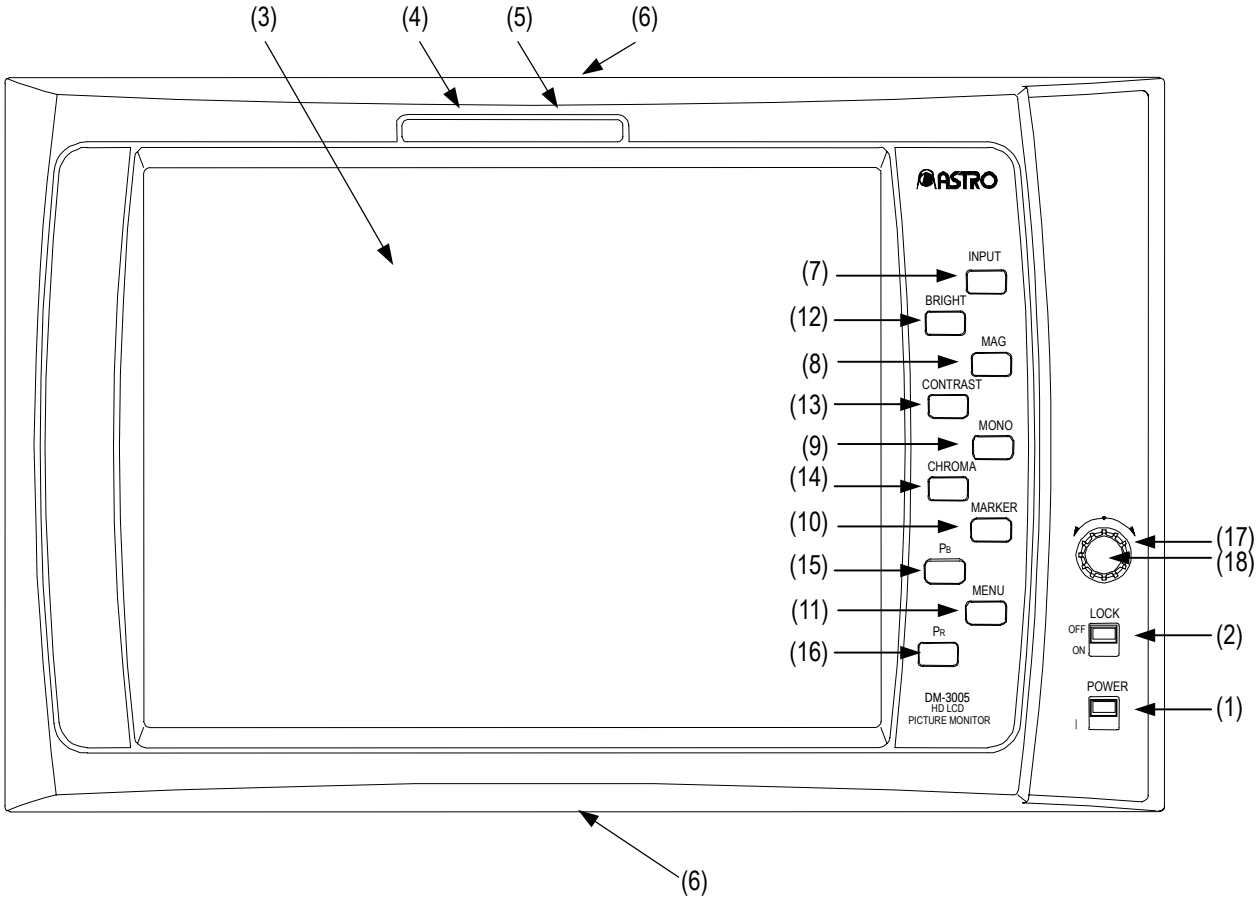
  Standards supporting SD-SDI: SMPTE 259M standard complied with (270 Mbps SDI input)

  Standards for analog input and supported formats: SMPTE 274M, SMPTE 296M, BTA-S001B standards complied with
- SDI IN and SDI MONITOR OUT, HDTV analog input (ANALOG Y/G, ANALOG Pb/B, ANALOG Pr/R) connectors provided
- Brightness, contrast, chroma, filter, monochrome, Y gamma and display magnification functions
- Marker display functions (frame, center, 4:3, 13:9, 14:9, 2.35:1, 1.85:1, 1.66:1)
- Single-action operation of input channels, display magnification, monochrome function, marker display/non-display using the switches on the front panel
- Lighting of red, green LEDs at top of screen by external contact-type tally inputs
- Automatic scanning of input signals possible
- Automatic 1/1.000 and 1/1.001 frame rate scanning, input signal detection functions
- CRC error detection function (during HD-SDI input) for input channels
- Functions for locking the panel switches and storing the setting values
- Light weight and compact size
- DC supply power input (10 to 18V)
- Camera battery supported

# CHAPTER 2 PARTS AND THEIR FUNCTIONS

## 2.1 DM-3005 FRONT PANEL VIEW AND PARTS

**DM-3005 front panel view**

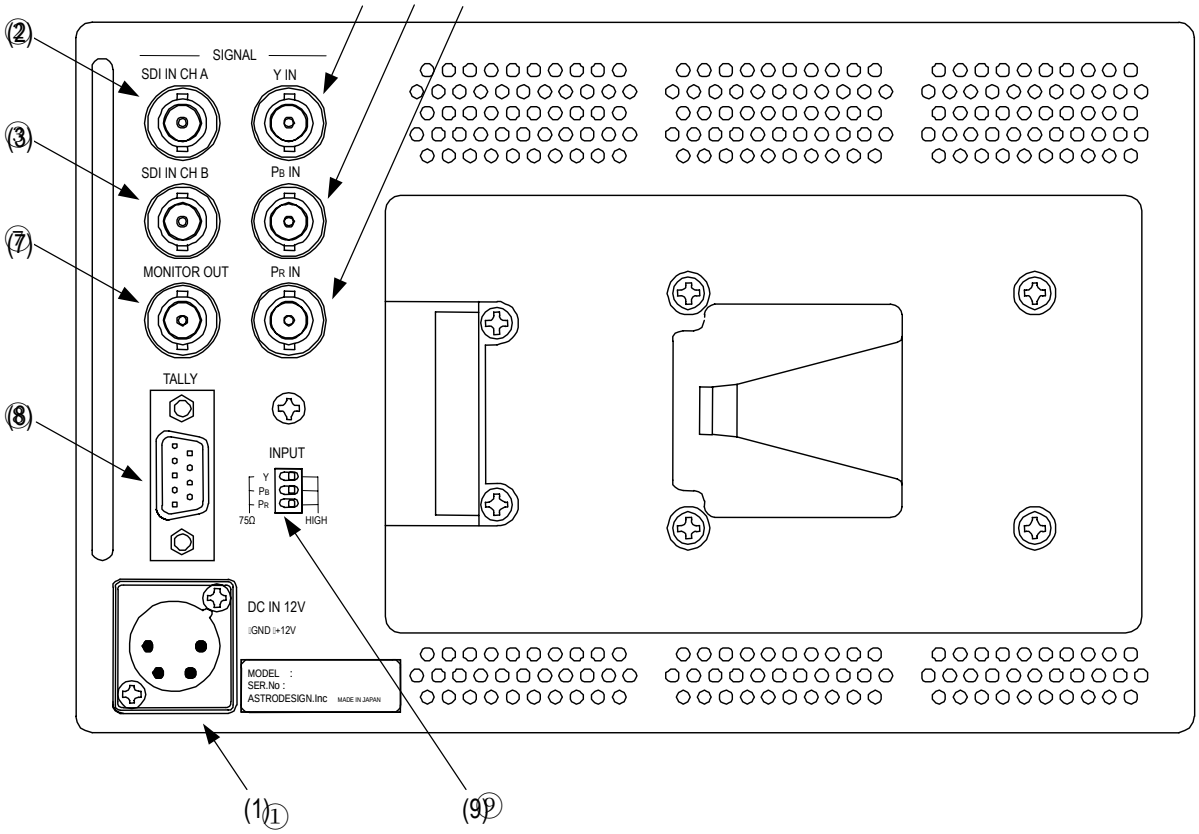


## Front panel parts and their functions

| Number | Part | Description of function |
|---|---|---|
| (1) | Power switch/LED | This switch is used to turn the power ON and OFF. (Its LED lights up green while the power is being supplied.) |
| (2) | LOCK switch/LED | This switch is used to lock the panel switches and save the setting values simultaneously. (Its LED lights up yellow while the panel switches are locked.) |
| (3) | Liquid crystal display | The images appear on this display. |
| (4) | TALLY 1 | Tally lamp (red): this is controlled by the rear panel tally connector (tally: contact type). |
| (5) | TALLY 2 | Tally lamp (green): this is controlled by the rear panel tally connector (tally: contact type). |
| (6) | 1/4-20UNC threaded hole | Threaded hole for a screw to anchor the monitor (used to anchor the monitor to a tripod, arm, etc.). |
| (7) | INPUT switch | This is used to select the SDI A or SDI B.<br>Pressing the switch for 1 second will change the input signals to analog. |
| (8) | MAG switch | This is used to set the display magnification to ON or OFF. |
| (9) | MONO switch | This is used to set the monochrome display to ON or OFF. When it is held down (for more than 1 second), the color setting screen appears. |
| (10) | MARKER switch | This is used to select whether to display the markers or not. |
| (11) | MENU switch | This is used to set the menu screen to ON or OFF. |
| (12) | BRIGHT switch | This enables the brightness to be adjusted. When it is held down (for more than 1 second), the Y gamma can be adjusted. |
| (13) | CONTRAST switch | This enables the contrast to be adjusted. |
| (14) | CHROMA switch | This enables the chroma to be adjusted. |
| (15) | Pb switch | This enables the Pb (Cb) to be adjusted. |
| (16) | Pr switch | This enables the Pr (Cr) to be adjusted. |
| (17) | Rotary encoder | This is used to adjust and select the setting values. |
| (18) | Encoder switch | This is used to adjust and select the setting values. |

## 2.2 DM-3005 REAR PANEL VIEW AND PARTS

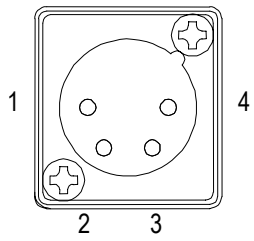
**DM-3005 rear panel view**




**Names of rear panel parts**

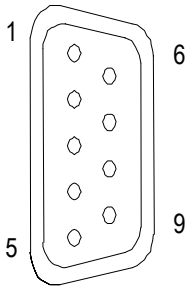
| Number | Part | Description of function |
|---|---|---|
| (1) | Power socket (*1) | Cannon connector, DC power input socket (GND: pin 1; DC IN: pin 4). |
| (2) | SDI IN CH A | HD-SDI, SD-SDI signal input connector. |
| (3) | SDI IN CH B | HD-SDI, SD-SDI signal input connector. |
| (4) | Y IN | HD-analog Y/G signal input connector; synchronization is provided by the Y/G signal in the case of analog inputs. |
| (5) | Pb IN | HD-analog Pb/B signal input connector. |
| (6) | Pr IN | HD-analog Pr/R signal input connector. |
| (7) | MONITOR OUT | Output connector for SDI input signals loop-through out.<br>It outputs SDI A signals when SDI A input is selected.<br>It outputs SDI B signals when SDI B input is selected.<br>It outputs SDI A signals when analog input is selected. |
| (8) | TALLY connector (*2) | D-sub 9-pin (female) |
| (9) | Termination selector switch (*3) | This is used to enable or disable the 75-ohm termination for the analog signals. |

***1: Power socket (no.1)**




| Pin No. | Function |
|---|---|
| 1 | GND |
| 2 | NC |
| 3 | NC |
| 4 | DC IN (10 to 18V) |

***2: TALLY connector (no. 8)**




| Pin No. | Function |
|---|---|
| 1 | GND |
| 2 | TALLY2 (green) |
| 3 | NC (reserved) (Note) |
| 4 | NC (reserved) (Note) |
| 5 | NC (reserved) (Note) |
| 6 | GND |
| 7 | TALLY1 (red) |
| 8 | NC (reserved) (Note) |
| 9 | GND |

When GND and pin 2 are shorted, the tally green lamp lights; when GND and pin 7 are shorted, the tally red lamp lights.

**Note:**
Do not connect anything to the pins marked NC (reserved). Doing so may cause malfunctioning.

***3: Termination selector switch (no. 9)**

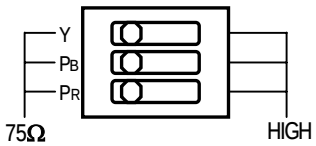



**Figure showing initial setting**

| Switch | Setting | |
|---|---|---|
| | Left | Right |
| Y | Y/G 75-ohm termination | No Y/G termination |
| PB | PB/B 75-ohm termination | No PB/B termination |
| PR | PR/R 75-ohm termination | No PR/R termination |

As shown in the initial setting figure, the initial setting positions starting with the top one first are left (Y/G 75-ohm termination), left (Pb/B 75-ohm termination) and left (Pr/R 75-ohm termination).

# CHAPTER 3 OPERATION

## 3.1 CONNECTIONS

This section describes how to connect the DM-3005.

(1) Connecting the power supply

Connect the Cannon connector of the AC/DC adapter to the DM-3005's power socket (no. 1 in the rear panel figure). Check the shape of the connector and socket before use.

(2) Connecting the input signals

- When SDI signals are to be input

  When SDI signals are to be input, use a BNC coaxial cable to make the connection to the SDI IN connector.

  The SDI IN connector is where the SDI signals are input; MONITOR OUT is an output connector which is used for the simplified monitoring of the SDI input signals.

  Supply serial input signals complying with the BTA S-004B standard as the HD-SDI input signals. Use a coaxial cable (5C-FB or its equivalent) which can handle the 1.5 GHz band.

  Supply serial input signals complying with the SMPTE 259M standard (270 Mbps) as the SD-SDI input signals.

- When analog signals are to be input

  When HD-analog signals are to be input, input the YPbPr (or GBR) signals to the respective analog connectors.

  Input YPbPr (or GBR) signals complying with the BTA S-001B standard as the HD-analog input signals.

  Synchronization is obtained from the Y (or G) signal.

  Only analog signals which meet the HDTV standard may be input.

  **Note**:
  A simplified display is featured for the GBR signals. Contrast, brightness, chroma, monochrome and Y gamma adjustments cannot be performed for these signals.

## 3.2 USAGE

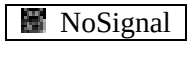
A protective film is attached to the surface of the LCD panel. Peel it off before using the DM-3005.

After checking the connections, turn on the power of the DM-3005 using the POWER switch on the front panel. The POWER LED lights, and images are displayed.

If the POWER LED fails to light, check the connections again.

Conduct the simplified monitoring of the SDI input signals at the MONITOR OUT connector.

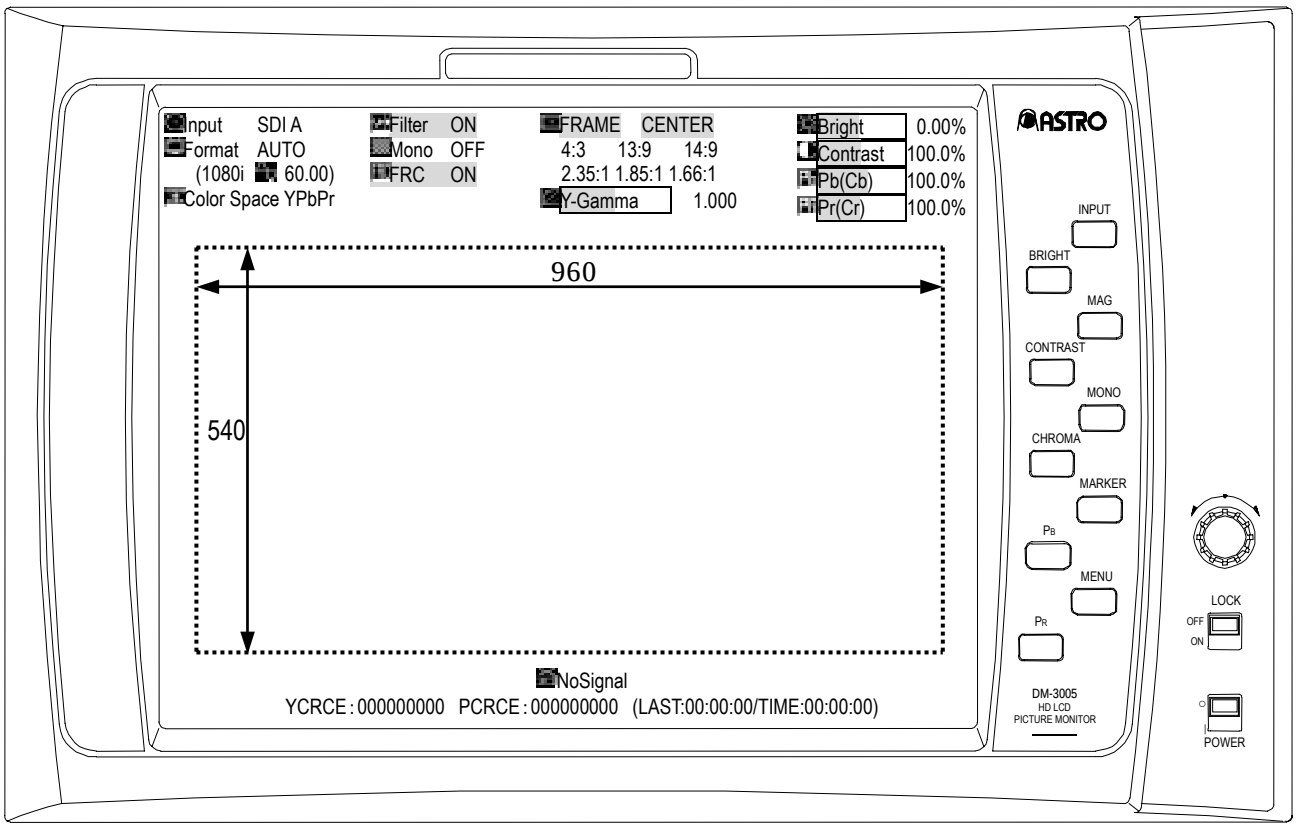
The analog input signals will not appear on the monitor if no sync signals are contained in the Y (or G) signal. Check the ARIB BTA S-001 and other standards for the levels, etc.

If no input signals are supplied, the image area appears all black, and  is displayed on the screen.

## 3.3 OPERATION AND HOW TO USE THE SWITCHES

This section describes the displays which appear on the DM-3005 screen and the setting methods involved.

**Normal screen**




**Note:**
The area enclosed by the dotted lines in the figure is the image area. Normally, its size is 960 x 540 pixels.

This size becomes 720 x 487 pixels when the 525/60i input signal format is used and 720 x 574 pixels when the 625/50i input signal format is used.

**[Description of screen displays]**

- Input

  Displayed here is the input channel (SDI A, SDI B or Analog) which has been selected by the INPUT switch.

- Format

  The selected format is displayed here.

  Indicated within the parentheses on the line below are the input signal format and field (or frame) frequency.

  When analog input has been selected even if 1035 input signals are supplied, these signals will be identified as 1080 signals. If no signals are input (when NoSignal appears on the screen), "*" appears. (For details on formats, refer to Chapter 4.)

  If the format which has been set and the format of the actual input signals differ, Format appears in red.

- Color Space — The color space of the input signals is displayed here.
- Filter — Either filter ON or OFF is displayed here.
- Mono (*1) — Either monochrome ON or OFF is displayed here.
- FRC — Either ON or OFF for 8-bit processing by frame rate control is displayed here.
- (Marker) — Indicated here is a list of the usable markers. The currently selected marker is highlighted.
- Y-Gamma (*1) — The Y gamma setting is displayed here.
- Bright (*1) — The brightness setting is displayed here.
- Contrast (*1) — The contrast setting is displayed here.
- Pb(Cb) (*1) — The Pb (Cb) setting is displayed here.
- Pr(Cr) (*1) — The Pr (Cr) setting is displayed here.
- NoSignal — If the signal which has been set and the actual input signals differ, NoSignal appears in red.
- YCRCE — This is where the Y signal is checked for CRC errors and the number of errors is displayed.

  When an error is found, YCRCE appears in red for one second.

  **Note:** The CRC errors are not counted when SD-SDI signals or analog signals are input. Neither are they counted for one second after the input signals have been changed by the INPUT switch.
- PCRCE — This is where the Pb and Pr signals are checked for CRC errors and the number of errors is displayed.
  When an error is found, PCRCE appears in red for one second.

  **Note:** The CRC errors are not counted when SD-SDI signals or analog signals are input. Neither are they counted for one second after the input signals have been changed by the INPUT switch.
- LAST — The time elapsed since the last error was found is displayed here.
- TIME — The time elapsing after the DM-3005 was started or error count was reset is displayed here.
- Information (*2) — The color of the characters is displayed here.
- Marker (*2) — The color of the markers is displayed here.

*1: N/A appears when GBR is selected for Color Space.

*2: This appears when the MONO switch is held down.

**[Description of switches]**

- INPUT switch — This enables SDI A or SDI B to be selected. Pressing the switch for 1 second changes the input signal to analog.
- MAG switch — This enables the display magnification to be set to ON or OFF. See Section 4.5.

  The INPUT switch and MONO switch operations take effect even during the display magnification. To return to the standard display, press the MAG switch again or press any other switch.

  **Note:** No special image processing is undertaken during the display magnification.
- MONO switch — Monochrome or color can be selected when the MONO switch is pressed. The color setting screen appears when it is held down.
  - MONO — Either monochrome or color is selected. (Refer to *1, P14)
  - Color setting — The colors of the characters and markers are set using the rotary encoder. See Section 3.5.
- MARKER switch — This enables the markers to be set to ON or OFF.

  The markers to be displayed can be set using the rotary encoder and encoder switch when Information is set to ON (see section 3.4).

  **<Types of markers>**

  Frame, center, 4:3, 13:9, 14:9, 2.35:1, 1.85:1, 1.66:1

  **Note**: When the input signal format is 525/60i or 625/50i, the 4:3, 13:9 and 14:9 markers are not displayed. If no signals are input and Auto is selected as the format, the 1080 marker is displayed.
- MENU switch — This enables the menu screen to be turned ON or OFF. See Section 3.4.
- BRIGHT switch — When this switch is pressed, the screen on which to adjust the offset level of the luminance signal appears; when it is held down, the Y gamma adjustment screen appears.
  - BRIGHT — The offset level of the luminance signal can be adjusted using the rotary encoder (*1). See Section 4.4.

    (Variable range: -50.00 to +50.00%)

    When the encoder switch is pressed, the initial value is restored as the brightness value. To exit the brightness adjustment, press the BRIGHT switch again. If markers are displayed at this time, the marker setting status is established.
  - Y GAMMA — The level of the Y gamma can be adjusted using the rotary encoder (*1). (Variable range: 0.500 to 2.000; when 2.000 is exceeded, "Effect" occurs.)

    When the encoder switch is pressed, the initial value is restored as the Y gamma value. To exit the Y gamma adjustment, hold down the BRIGHT switch again. If markers are displayed at this time, the marker setting status is established.

- CONTRAST switch — The level of the luminance signal can be adjusted using the rotary encoder (*1). See Section 4.4.

  (Variable range: 0.0 to 200.0%)

  When the encoder switch is pressed, the initial value is restored as the contrast value. To exit the contrast adjustment, press the CONTRAST switch again. If markers are displayed at this time, the marker setting status is established.

- CHROMA switch — The level of the chrominance signal can be adjusted using the rotary encoder (*1). See Section 4.4.

  (Variable range: 0.0 to 200.0%)

  When the encoder switch is pressed, the initial value is restored as the chroma value. To exit the chroma adjustment, press the CHROMA switch again. If markers are displayed at this time, the marker setting status is established.

- PB switch — The level of the Pb (Cb) signal can be adjusted using the rotary encoder (*1). See Section 4.4.

  (Variable range: 0.0 to 200.0%)

  When the encoder switch is pressed, the initial value is restored as the Pb (Cb) value. To exit the Pb (Cb) adjustment, press the PB switch again. If markers are displayed at this time, the marker setting status is established.

- PR switch — The level of the Pr (Cr) signal can be adjusted using the rotary encoder (*1). See Section 4.4.

  (Variable range: 0.0 to 200.0%)

  When the encoder switch is pressed, the initial value is restored as the Pr (Cr) value. To exit the Pr (Cr) adjustment, press the PR switch again. If markers are displayed at this time, the marker setting status is established.

- LOCK switch — This cancels the operation of all the keys, and the values of the setting items in Section 4.6 are stored in the memory. The values stored at this time are loaded and set when the power is turned on again.

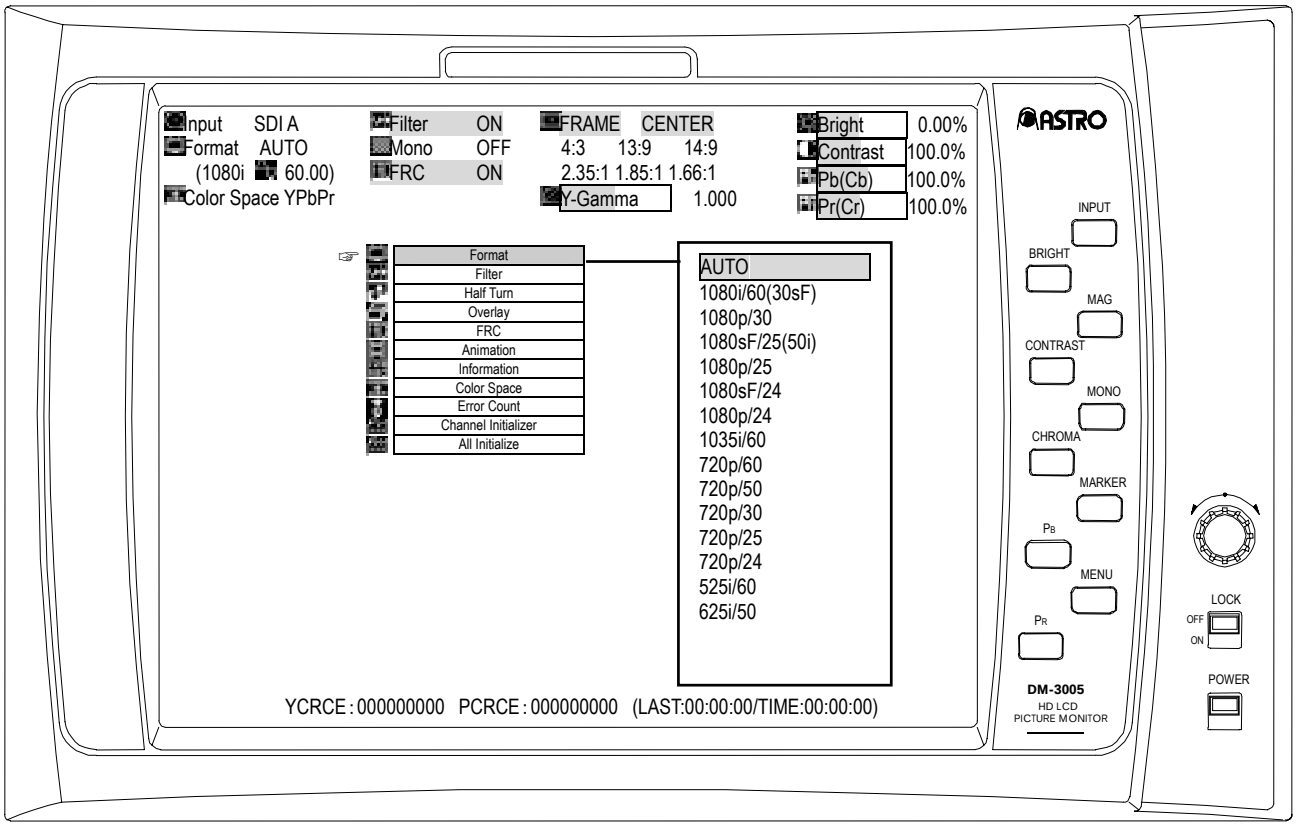
  Do not turn off the power while [ Wait ] is displayed.

*1: This level cannot be set when GBR is selected for [ Color Space ]. It is temporarily set to the initial value.

## 3.4 MENU SCREEN

The items on this screen are selected using the rotary encoder.

**Menu screen**




**Items which can be set on the menu screen**

| Item | Function | Operation |
|---|---|---|
| Format SDI | SDI format selection | Use the rotary encoder to select the format, and then enter the selection using the encoder switch. |
| Format Analog | Analog format selection | Use the rotary encoder to select the format, and then enter the selection using the encoder switch. |
| Filter | Filter | Use the rotary encoder to set the filter to ON or OFF. (When the 525/60i or 625/50i format is used, the ON setting has no effect. If OFF is set when HD standard signals are input, the images are output after simple thinning.) |
| HalfTurn | Turning of screen upside down | Use the encoder switch to select ON or OFF. |
| Overlay | Image display when menu screen is displayed | Use the encoder switch to select ON or OFF. |
| FRC | 8-bit processing using frame rate control | Use the encoder switch to select ON or OFF. (When ON is set, flicker may occur on the screen.) |
| Animation | Icon animation | Use the encoder switch to select ON or OFF. |
| Information | Information | Use the encoder switch to select ON or OFF. (When OFF is set, all displays with the exception of the markers, NoSignal and the menu screen are cleared.) |

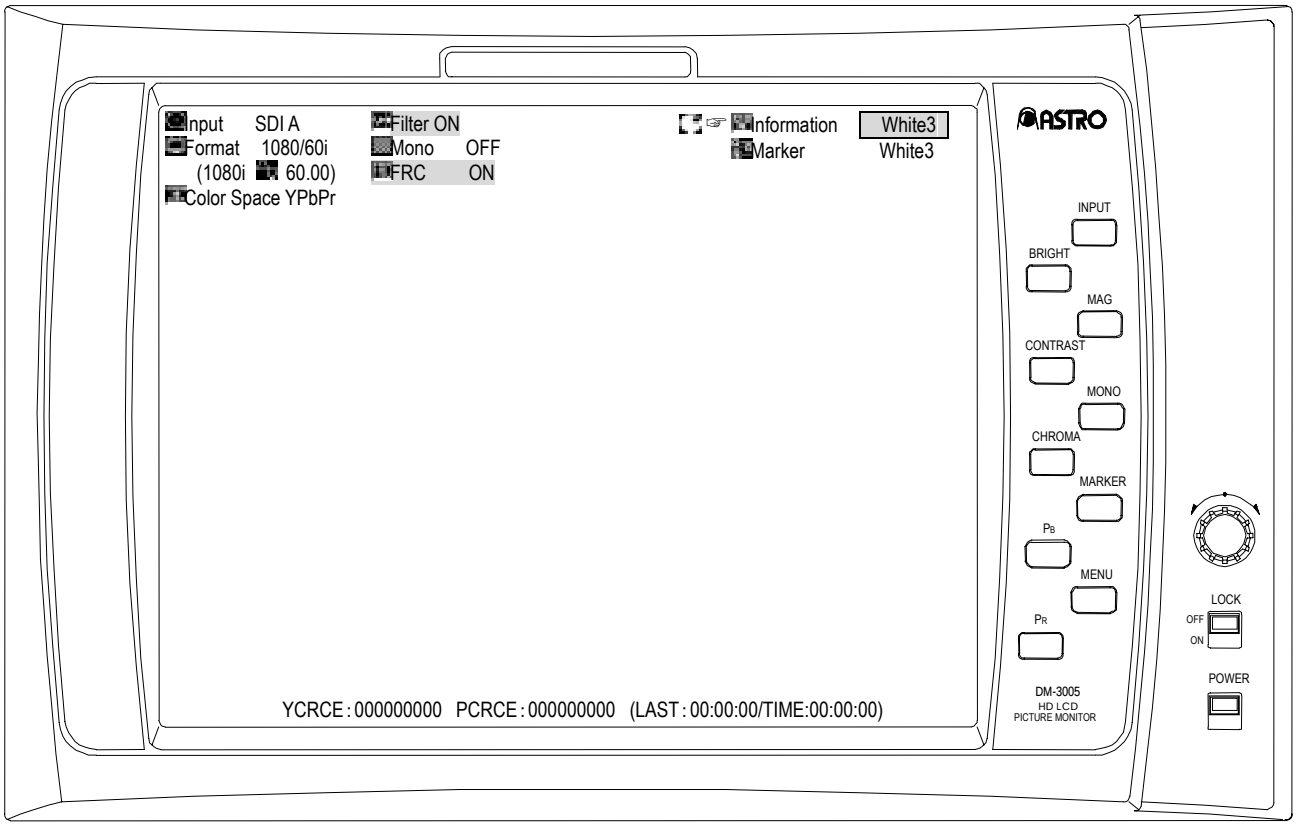
| | | |
|---|---|---|
| Color Space | Color space | Use the encoder switch to select YPbPr or GBR. |

| Item | Function | Operation |
|---|---|---|
| Error Count | CRC error count reset | Use the encoder switch to reset the CRC errors and elapsed time. |
| Channel Initialize | Initialization of settings for currently selected channel | Use the encoder switch to initialize the settings and reset the CRC error count. See Section 4.6. |
| All Initialize | Initialization of settings for all channels | Use the encoder switch to initialize the settings and reset the CRC error count. See Section 4.6. |
| | Exiting from menu screen | The normal screen is restored when the MENU switch is pressed. |

## 3.5 COLOR SETTING SCREEN

On this screen, the items are selected using the rotary encoder and encoder switch.

**Color adjustment screen**



**Items which can be set on the color setting screen**

| Item | Function | Operation |
|---|---|---|
| Information | Character color setting | Use the rotary encoder to select the color of the characters (from among 63 colors) and the encoder switch to return to the selection of the items. |
| Marker | Marker color setting | Use the rotary encoder to select the color of the markers (from among 64 colors) and the encoder switch to return to the selection of the items. |
| | Exiting from color setting screen | The normal screen is restored when the MONO switch is held down. |

## 3.6 INSTALLING AND SECURING THE MONITOR

Provided at the top and bottom of the monitor are 1/4-20UNC threaded holes. Fit screws into these holes to anchor the monitor to a tripod, arm, etc.

Do not attach any items to the DM-3005 other than the optional accessories (see Note), battery and cable. Otherwise, the threaded holes may be damaged.

Use the fixtures available as optional accessories to mount the monitor in a rack.

**Note:** See Chapter 5.

# CHAPTER 4 MAIN SPECIFICATIONS

## 4.1 INPUT FORMATS

| Format | | Frame Rate (Hz) | Active Line per Frame | Total Line Per Frame | Line Frequency (kHz) | Samples per Active Line | Samples per Total Line | Scanning *1 | *2 |
|---|---|---|---|---|---|---|---|---|---|
| 1035/60i | 1035/59.94i | 30/1.001 | 1035 | 1125 | 33.72 | 1920 | 2200 | i | (1) |
| | 1035/60i | 30 | 1035 | 1125 | 33.75 | 1920 | 2200 | i | |
| 1080/60i | 1080/59.94i<br>1080/29.97sF | 30/1.001 | 1080 | 1125 | 33.72 | 1920 | 2200 | i<br>sF | (1)<br>(2) |
| | 1080/60i<br>1080/30sF | 30 | 1080 | 1125 | 33.75 | 1920 | 2200 | i<br>sF | (1)<br>(2) |
| 1080/30p | 1080/29.97p | 30/1.001 | 1080 | 1125 | 33.72 | 1920 | 2200 | p | (2) |
| | 1080/30p | 30 | 1080 | 1125 | 33.75 | 1920 | 2200 | p | |
| 1080/25sF<br>(1080/50i) | 1080/25sF<br>1080/50i | 25 | 1080 | 1125 | 28.13 | 1920 | 2640 | sF<br>i | (2) |
| 1080/25p | 1080/25p | 25 | 1080 | 1125 | 28.13 | 1920 | 2640 | p | (2) |
| 1080/24sF | 1080/23.98sF | 24/1.001 | 1080 | 1125 | 26.97 | 1920 | 2750 | sF | (2) |
| | 1080/24sF | 24 | 1080 | 1125 | 27.00 | 1920 | 2750 | sF | |
| 1080/24p | 1080/23.98p | 24/1.001 | 1080 | 1125 | 26.97 | 1920 | 2750 | p | (2) |
| | 1080/24p | 24 | 1080 | 1125 | 27.00 | 1920 | 2750 | p | |
| 720/60p | 720/59.94p | 60/1.001 | 720 | 750 | 44.96 | 1280 | 1650 | p | (3) |
| | 720/60p | 60 | 720 | 750 | 45.00 | 1280 | 1650 | p | |
| 720/50p | 720/50p | 50 | 720 | 750 | 36.00 | 1280 | 1980 | p | (3) |
| 720/30p | 720/29.97p | 30/1.001 | 720 | 750 | 22.48 | 1280 | 3300 | p | (3) |
| | 720/30p | 30 | 720 | 750 | 22.50 | 1280 | 3300 | p | |
| 720/25p | 720/25p | 25 | 720 | 750 | 18.75 | 1280 | 3960 | p | (3) |
| 720/24p | 720/23.98p | 24/1.001 | 720 | 750 | 17.98 | 1280 | 4125 | p | (3) |
| | 720/24p | 24 | 720 | 750 | 18.00 | 1280 | 4125 | p | |
| 525/60i | 525/59.94i | 60/1.001 | 487 | 525 | 15.73 | 720 | 858 | i | (4) |
| 625/50i | 625/50i | 50 | 576 | 625 | 15.63 | 720 | 864 | i | (4) |

*1: Scanning abbreviations
i = Interlace
sF = Segmented Frame
p = Progressive

*2: Standards
(1) BTA S-001B, 2B, 4B complied with
(2) SMPTE 274M complied with
(3) SMPTE 296M complied with
(4) SMPTE 259M complied with

## 4.2 INPUT SIGNAL SYSTEMS

| SDI input specification | Specification | |
|---|---|---|
| SDI input | HDTV | BTA S-004B and SMPTE 292M standards complied with, NRZI SDI signal |
| | SDTV | SMPTE 259M standard complied with, NRZI SDI signal |
| | Field (frame) frequency, 60.00/59.94 [Hz], etc. automatically scanned<br>Automatic scanning of input format enabled | |

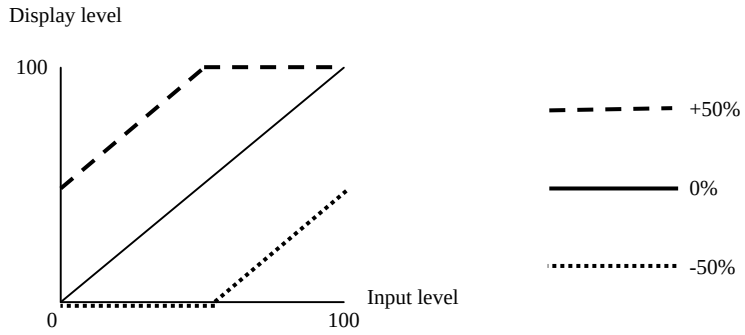
| Analog input specification | Specification |
|---|---|
| HDTV YPbPr (or GBR) input | BTA S-001B, SMPTE 274M and SMPTE 296M standards complied with |
| | Field (frame) frequency, 60.00/59.94 [Hz], etc. automatically scannedAutomatic scanning of input format enabled |
| | Y on Sync (or G on Sync) used for synchronization |

## 4.3 DISPLAY SYSTEM

| Display system | Specification |
|---|---|
| Liquid crystal | a-Si TFT LCD |
| Screen size | 6.4 inch |
| Resolution | 1024 (H) × 768 (V) Pixels |
| Image area | HDTV：960 (H) × 540 (V) Pixels<br>SDTV (525/60i)：720 (H) × 487 (V) Pixels<br>SDTV (625/50i)：720 (H) × 574 (V) Pixels |
| Pixel pitch | 0.126 (W) × 0.126 (H) mm |

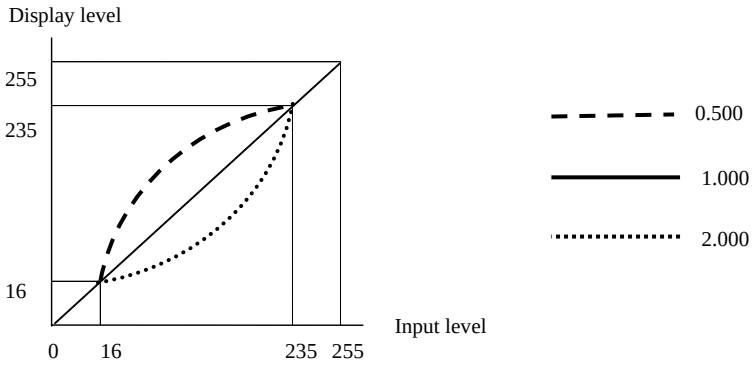
## 4.4 CONCERNING THE ADJUSTMENT VALUES

- Brightness The offset level of the luminance signal can be varied in the range from -50.00 to +50.00%.

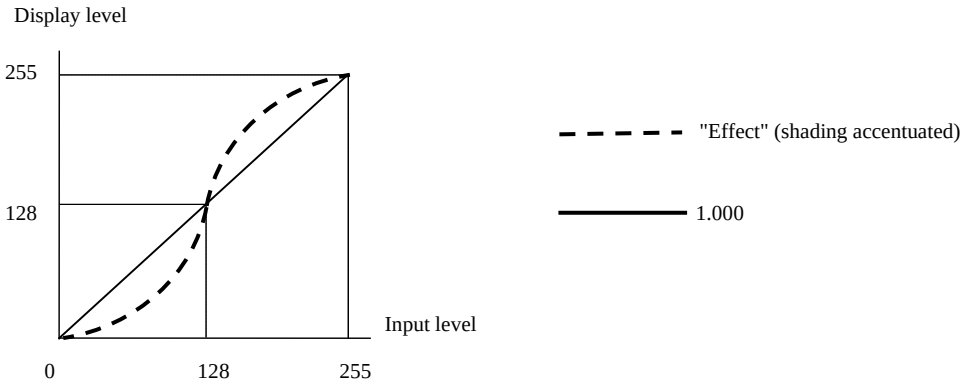



- Y gamma The Y gamma can be corrected in the range from 0.500 to 2.000; when 2.000 is exceeded, "Effect" occurs.

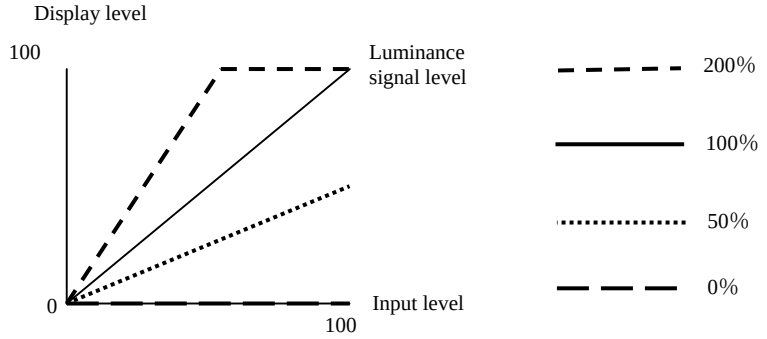
**Y gamma correction**



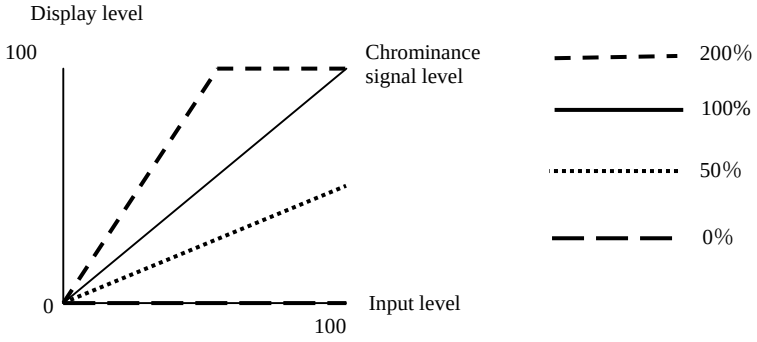

**When "Effect" occurs (shading accentuated)**



- Contrast The level of the luminance signal can be varied in the range from 0.0 to 200.0%.



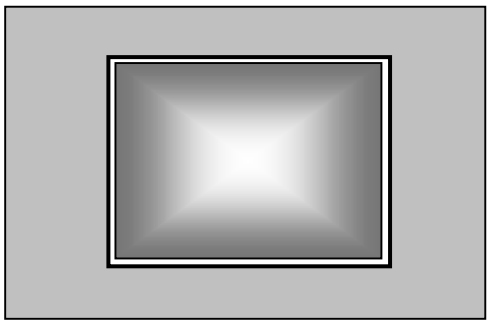

- Chroma, Pb (Cb), Pr (Cr) The level of the chrominance signals can be varied in the range from 0.0 to 200.0%.



## 4.5 MAGNIFICATION FUNCTION

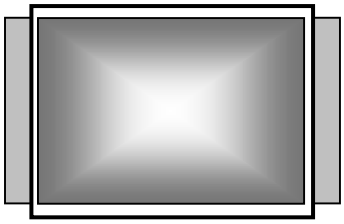
- With a size of 1920 x 1080 pixels

  The image of 1024 x 768 pixels at the center is cut out from the image area and displayed.



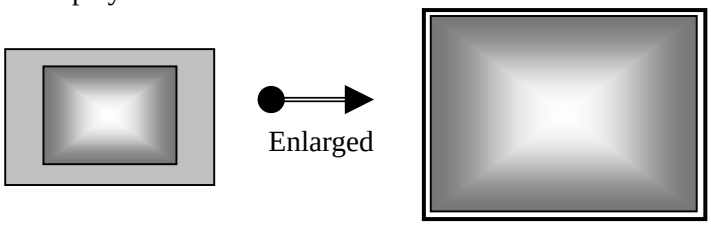
- With a size of 1280 x 720 pixels

  The image of 1024 x 720 pixels at the center is cut out from the image area and displayed.



- With a size of 720 x 487 or 720 x 576 pixels

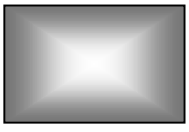
  The image of 512 x 384 pixels at the center is cut out from the image area, enlarged to 1024 x 768 pixels and displayed.




**Note:** Explanation of displays

This is the area in which the image is displayed.

This is the LCD screen.



This is the image which is magnified and displayed.

## 4.6 SETTINGS AT INITIALIZATION

The settings established when the DM-3005 was shipped from the factory or when they have been initialized are listed below.

### 4.6.1 Common setting items

The settings for the following items are common to the SDI A, SDI B and analog channels.

| Setting item | Setting |
|---|---|
| Input | SDI A |
| Display magnification | OFF |
| Marker | OFF (selected marker: frame, center) |
| Half Turn | OFF |
| Overlay | ON |
| Animation | ON |
| Information | ON |

### 4.6.2 Setting items different for each channel

The settings for the following items are set separately for the SDI A, SDI B and analog channels.

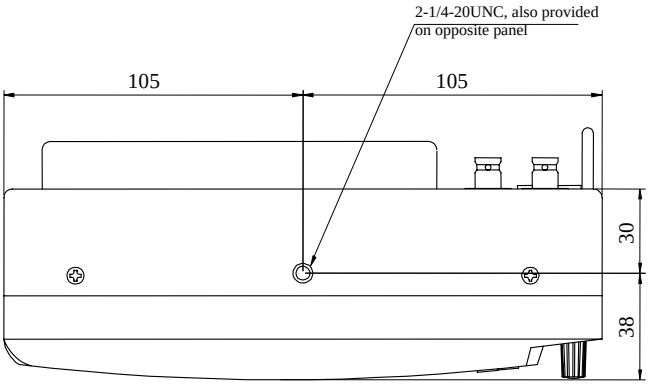
| Setting item | Setting |
|---|---|
| Mono | OFF |
| Bright | 0.00% |
| Contrast | 100.0% |
| Pb(Cb) | 100.0% |
| Pr(Cr) | 100.0% |
| Y Gamma | 1.000 |
| Format | Auto |
| Filter | ON |
| FRC | ON |
| Color Space | YPbPr |
| Information Color | White3 |
| Marker Color | White3 |

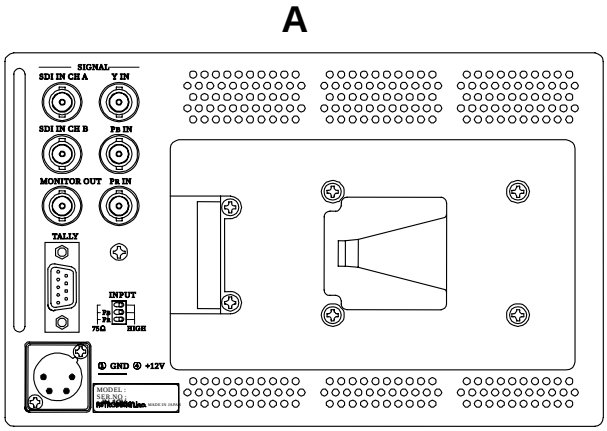
## 4.7 GENERAL SPECIFICATIONS

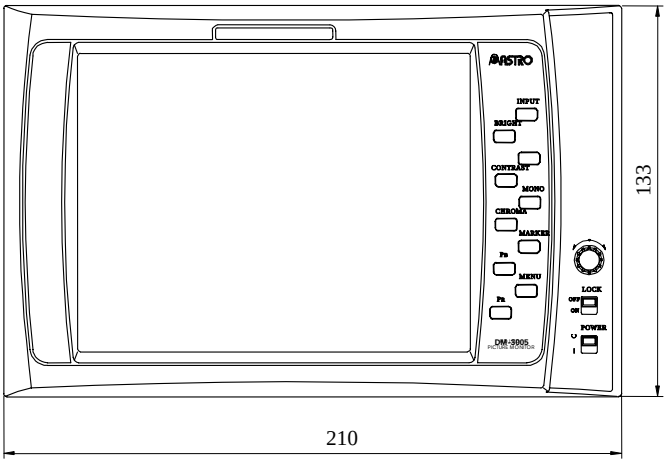
**DM-3005 operating environment and ratings**

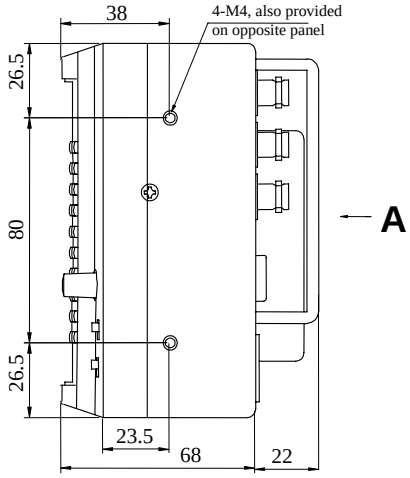
| | |
|---|---|
| Operating temperature | 0 to 40°C |
| Operating humidity | 30 to80%RH (no condensation must be allowed to form) |
| Rated voltage | DC10-18V |
| Power consumption | 18W (when HD-SDI signals are input) |
| Service life | 35,000 hours (LCD backlight) |
| Dimensions | 210 (W) × 133 (H) × 68 (D) mm (excluding protrusions)<br>210 (W) × 133 (H) × 90 (D) mm (including protrusions) |
| Weight | Approx. 1.3 kg |

## 4.8 OUTLINE DRAWINGS



# CHAPTER 5 STANDARD AND OPTIONAL ACCESSORIES

## 5.1 STANDARD ACCESSORIES

| | |
|---|---|
| DM-3005 instruction manual | 1 copy |
| Clear BANPON??? | 4 pcs |
| M4 screws<br>(for attaching rack-mounting fixtures) | 4 pcs |
| AC/DC adapter | 1 pc (*1) |

## 5.2 OPTIONAL ACCESSORIES

Provided for the DM-3005 as the optional accessories of the LCD unit (main unit) are rack-mounting fixtures, etc.

Additional optional accessories are released from time to time: contact an Astro sales representative for the latest information.

For details on the type of monitor in which the battery adapter for an Anton Bauer battery can be installed, contact an Astro sales representative.

| Product | Model name |
|---|---|
| Hard-shell | DM-3005 - 02 |
| AC/DC | DM-3000A - 03 (*1) |
| Single | DM-3005 - 04 |
| Double | DM-3005 - 05 |
| Light-shielding | DM-3005 - 08 |

*1: The AC/DC adapter listed among the optional accessories is equivalent to the one listed in the standard accessories.

# 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 outcome which results from the operation of the product.
- 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.

DM-3005 Instruction Manual No.03005-C01-47-01-0


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