# SONY

## TRINITRON® COLOR VIDEO MONITOR

# BVM-14F5U/14F5E
# BVM-14E5U/14E5E

**HR Trinitron**

OPERATION MANUAL    English

1st Edition (Revised 1)
Serial No. 2000001 and Higher

## WARNING

**To prevent fire or shock hazard, do not expose the unit to rain or moisture.**

**To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.**

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## AVERTISSEMENT

Afin d'éviter tout risque d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'écarter tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

## WARNUNG

Um Feuergefahr und die Gefahr eines elektrischen Schlages zu vermeiden, darf das Gerät weder Regen noch Feuchtigkeit ausgesetzt werden.

Um einen elektrischen Schlag zu vermeiden, darf das Gehäuse nicht geöffnet werden. Überlassen Sie Wartungsarbeiten stets nur einem Fachmann.

## ADVERTENCIA

Para evitar incendios o el riesgo de electrocución, no exponga la unidad a la lluvia ni a la humedad.

Para evitar descargas eléctricas, no abra la unidad. En caso de avería, solicite los servicios de personal cualificado.

## ATTENZIONE

Per evitare incendi o cortocircuiti, l'apparecchio non deve essere esposto alla pioggia o all'umidità.

Per evitare scosse elettriche, non aprite l'apparecchio. Per le riparazioni rivolgetevi solo a personale qualificato.

**CAUTION:**
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

**ATTENTION**
Il y a un risque d'explosion si la pile est mal insérée. Remplacer la pile uniquement par une pile de même type ou de type équivalent recommandé par le fabricant. Jeter les piles usées conformément aux instructions du fabricant.

**VORSICHT:**
Es besteht Explosionsgefahr, wenn die Batterie inkorrekt eingelegt wird.
Es darf nur eine identische oder eine vom Hersteller empfohlene Batterie des gleichen Typs eingesetzt werden. Entladene Batterien sind nach den Anweisungen des Herstellers zu entsorgen.

**PRECAUCION**
Peligro de explosión en caso de haberse instalado incorrectamente la betería.
Cambie sólo por una del mismo tipo o especificaciones equivalentes, de entre las recomendadas por el fabricante. Las baterías viejas se deben eliminar siguiendo las instrucciones del fabricante.

**ATTENZIONE:**
Pericolo di esplosione se la pila viene sostituita scorrettamente.
Sostituirla solo con un'altra uguale o di un tipo equivalente consigliato dal fabbricante. Gettare via le pile usate secondo le istruzioni del fabbricante.

**Note**
The socket-outlet should be installed near the equipment and be easily accessible.

**Remarque**
La prise doit être près de l'appareil et facile d'accès.

**Hinweis**
Zur Trennung vom Netz ist der Netzstecker aus der Steckdose zu ziehen, welche sich in der Nähe des Gerätes befinden muß und leicht zugänglich sein soll.

**Nota**
La toma mural debe estar instalada cerca del equipo y debe accederse a ésta con facilidad.

**Nota**
La presa di corrente deve essere situata vicino all'apparecchio e deve essere facilmente accessibile.

WARNING: THIS WARNING IS APPLICABLE FOR USA ONLY.

If used in USA, use the UL LISTED power cord specified below.
DO NOT USE ANY OTHER POWER CORD.

| | |
|---|---|
| Plug Cap | Parallel blade with ground pin (NEMA 5-15P Configuration) |
| Cord | Type SJT, three 16 or 18 AWG wires |
| Length | Less than 2.5 m (8 ft 3 in) |
| Rating | Minimum 10 A, 125 V |

Using this unit at a voltage other than 120V may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

**For customers in the USA**
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

**For customers in Canada**
This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

**Pour les utilisateurs au Canada**
Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

**Für Kunden in Deutschland**
Dieses Produkt kann im kommerziellen und in begrenztem Maße auch im industriellen Bereich eingesetzt werden. Dies ist eine Einrichtung, welche die Funk-Entstörung nach Klasse B besitzt.

**Voor de klanten in Nederland**

Bij dit produkt zijn batterijen geleverd. Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

• Dit apparaat bevat een Li-ion batterij voor memory back-up.
• De batterij voor memory back-up is vastgesoldeerd op de BC printplaat BAT1.
• Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat bij einde levensduur afdankt.
• Gooi de batterij niet weg, maar lever hem in als KCA.

**Note**
Be sure to use the supplied power cord for this monitor, or this monitor may not conform with the FCC Rules or EEC Directive 89/336/EEC.

**Remarque**
Utiliser le cordon d'alimentation fourni pour ce moniteur, sinon il pourrait ne pas être conforme aux règles FCC ou à la directive CEE 89/336/EEC.

**Hinweis**
Dieser Monitor darf ausschließlich mit dem mitgelieferten Netzkabel betrieben werden, weil anderenfalls der Monitor nicht mehr die FCC-Vorschriften oder die EG-Richtlinie 89/336/EWG erfüllt.

**Nota**
Utilice sin falta el cable eléctrico que viene con este monitor; de lo contrario el monitor puede no cumplir con los reglamentos de la FCC o de la directiva 89/336/EEC de la Comunidad Europea.

**Nota**
Assicurarsi di usare il cavo di alimentazione in dotazione per questo monitor, altrimenti il monitor può non essere conforme alle norme FCC o alla Direttiva CEE/89/336.

# Table of Contents

# Overview

The BVM-14F5U/14F5E/14E5U/14E5E Trinitron®[1] Color Video Monitor is a high-performance 14-inch color video monitor.  This monitor is suitable for television stations or video production houses, where precise image reproduction is required.

    1) Trinitron® is a registered trademark of Sony Corporation.

## Features

### High resolution picture tube
The HR Trinitron picture tube produces a clear, high resolution image.

  **Aperture grill pitch:**  14F5U/14F5E 0.25 mm
                                 14E5U/14E5E 0.22 mm
  **Resolution at the center of the picture:**
                          14F5U/14F5E 800 TV lines
                          14E5U/14E5E 900 TV Lines

### Controlling monitor groups
Up to 32 monitors can be controlled from the BVM-14F5U/14F5E/14E5U/14E5E. First, using the monitor menus, assign a monitor address number to each monitor, divide the monitors into groups, and assign a group number to each group. Then you can use the BVM-14F5U/14F5E/14E5U/14E5E to control individual monitors or monitor groups simply by entering monitor address or group numbers. You can also execute the same operation on all connected monitors, or use the BVM-14F5U/14F5E/14E5U/14E5E to put all connected monitors into the same setup and adjustment state.

### Setup and adjustment with the monitor memory card
You can use an optional BKM-12Y Monitor Memory Card to save and load monitor setup and adjustment data. If your system includes more than one monitor, you can use the monitor memory cards to exchange data between monitors. This makes it easy to put all monitors in your system into the same setup and adjustment state.

### Standard auto alignment system
Decoder chroma and phase adjustment, as well as color temperature control, may be performed with the auto alignment system.  This makes it possible to coordinate settings among multiple monitors.

### Expandable input capability
The input connector configuration may be easily modified by simply sliding optional decoder adaptors or input expansion adaptors into input option slots at the rear of the monitor.  The BVM-14F5U/14F5E/14E5U/14E5E may be fitted with up to four adaptors.

### 4:3/16:9 dual aspect ratio design
The BVM-14F5U/14F5E/14E5U/14E5E can be changed to either 4:3 or 16:9 aspect ratio with just a simple switching operation. The screen can be also changed to 4:3 or 16:9 display by the replacement of a mask (no tools required).

### Stable color temperature
The internal beam current feedback circuit maintains a constant color temperature over long periods of time.

### Blue-only mode convenient for monitoring noise
All three CRT cathodes can be driven with a blue signal, producing a monochrome display.  This mode is convenient for chroma and phase adjustment, and for monitoring VTR noise.

### Menu operation
The monitor's various functions and operating conditions can be set with on-screen menus.

### Other features
- Compatible with the ISR (Interactive Status Reporting) system.
- Has both RS-485 serial remote and relay contact parallel remote control connectors.
- Built-in safe area display and test signal generator for crosshatch, 100% white signal, 20% gray signal, gray scale, and PLUGE (Picture Line Up Generating Equipment).
- Built-in VITC (Vertical Interval Time Code) reader.
- Built-in Closed Caption decoder.
- Pulse cross function for simultaneous checking of the horizontal and vertical synchronization signals.  VITS (Vertical Interval Test Signal) checking is also possible.
- Auto and manual degaussing.
- Built-in CRT protection circuit.
- The BVM-14F5U/14F5E/14E5U/14E5E may be mounted in an EIA-standard 19-inch rack, using an optional BKM-30E14 Rack Mount Kit..
- Controllable from the optional BKM-11R Monitor Control Unit. (For details about connection and operation, refer to the BKM-11R Operation Manual).

## Options

### For External Control

#### BKM-11R Monitor Control Unit
A controller for this monitor and other BVM-series video monitors, allowing you to control multiple monitors from one control unit.

#### BKM-12Y Monitor Memory Card
Memory cards which can be read and written by the BVM-14F5U/14F5E/14E5U/14E5E.

#### BKM-14L Auto Setup Probe
This probe allows automatic adjustment of this monitor's color temperature.

### For Screen

#### BKM-33H14 Monitor 16:9 Mask
Adapts the BVM-14F5U/14F5E/14E5U/14E5E screen for 16:9 aspect ratio display.

### For Installation

#### BKM-30E14 Rack Mount Kit
Rack mount kit for mounting the BVM-14F5U/14F5E/14E5U/14E5E in an EIA standard 19-inch rack.

### Decoder and Input Expansion Adaptors

The input connector panel is configured by sliding optional decoder adaptors and/or input expansion adaptors into input option slots at the rear of the monitor. The BVM-14F5U/14F5E/14E5U/14E5E may be fitted with up to four adaptors.

**Note**

When installing the adaptors, be sure to perform the necessary input signal setup with the INPUT CONFIGURATION menu. If the setup is not performed, the adaptors may not function correctly.

#### BKM-20D SDI 4:2:2 Decoder Adaptor
Includes decoders for serial digital component signals (525/625). Input/output connectors for three serial digital channels (component inputs only) and three analog channels. The input signal type for each connector is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

#### BKM-21D SDI Multi Decoder Adaptor
Includes decoders for serial digital signals (525/625 component and NTSC/PAL composite) and analog composite signals (NTSC and PAL). Input/output connectors for three serial digital channels and three analog channels are equipped. The input signal type for each connector is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

#### BKM-24N NTSC Decoder Adaptor
Includes a decoder for analog composite NTSC signals and input/output connectors for six analog channels. The input signal type for each connector is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

#### BKM-25P PAL Decoder Adaptor
Includes a decoder for analog composite PAL signals and input/output connectors for six analog channels. The input signal type for each connector is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

#### BKM-26M PAL-M Decoder Adaptor
Includes a decoder for analog composite PAL-M signals and input/output connectors for six analog channels. The input signal type for each connector is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

#### BKM-27T Tri-Standard Decoder Adaptor
Includes decoders for analog composite NTSC, PAL, and SECAM signals and input/output connectors for six analog channels. The input signal type for each connector is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

# Overview

**BKM-22X SDI Input Expansion Adaptor**

Used with decoder adaptors, increases the number of input/output channels. Includes input/output connectors for three serial digital channels and three analog channels. The input signal type for each connector is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

**BKM-28X Analog Input Expansion Adaptor**

Used with decoder adaptors, increases the number of input/output channels. Includes input/output connectors for six analog channels. The input signal type for each connector is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

## Connector Panel Configuration

The BVM-14F5U/14F5E/14E5U/14E5E comes standard with connectors for one channel of Y/R–Y/B–Y or RGB. By adding optional decoder adaptors and/or input expansion adaptors, the input/output connector panel can be assembled in a wide variety of configurations.
The signals that each of the adaptors' connectors supports are given in the table below. The type of signal to be applied to each input/output connector is set with the INPUT CONFIGURATION menu.

When the type of input signal determines, each connector of the installed adaptors is connected with the decoder for the corresponding signal over an internal bus. Therefore, if one decoder adaptor for a signal is installed, the signal input from any connector of the installed adaptors can be decoded.

**Notes**
- Only one BKM-22X board can be installed in the monitor together with either the BKM-20D or the BKM-21D.
- The BKM-20D, BKM-21D, and BKM-22X can not provide proper active-through outputs if a signal whose format is not selected in the INPUT CONFIGURATION menu is input. (If AUTO is selected, input a signal which has the same format with the signal monitored last.)

*For information about the INPUT CONFIGURATION menu, see "Setting the Input Configuration —INPUT CONFIGURATION Menu" on page 32.*

| | | Adaptor name | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | BKM-20D SDI 4:2:2 Decoder Adaptor | BKM-21D SDI Multi Decoder Adaptor | BKM-24N NTSC Decoder Adaptor | BKM-25P PAL Decoder Adaptor | BKM-26M PAL-M Decoder Adaptor | BKM-27T Tri-Standard Decoder Adaptor | BKM-22X SDI Input Expansion Adaptor | BKM-28X Analog Input Expansion Adaptor |
| Serial digital input | Component 525/625 | ◎ | ◎ | | | | | ○ | |
| | Composite NTSC | ○ | ◎ | | | | | ○ | |
| | Composite PAL | ○ | ◎ | | | | | ○ | |
| Analog input | Composite NTSC | ○ | ◎ | ◎ | ○ | ○ | ◎ | ○ | ○ |
| | Composite PAL | ○ | ◎ | ○ | ◎ | ○ | ◎ | ○ | ○ |
| | Composite PAL-M | ○ | ○ | ○ | ○ | ◎ | ○ | ○ | ○ |
| | Composite SECAM | ○ | ○ | ○ | ○ | ○ | ◎ | ○ | ○ |
| | Y/R–Y/B–Y 525/625 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| | RGB 525/625 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| | Y/C NTSC | | | ◎ | ○ | ○ | ◎ | | ○ |
| | Y/C PAL | | | ○ | ◎ | ○ | ◎ | | ○ |
| | Y/C PAL-M | | | ○ | ○ | ◎ | ○ | | ○ |
| Number of digital inputs | | 3 | 3 | – | – | – | – | 3 | – |
| Number of analog input | | 3 | 3 | 6 | 6 | 6 | 6 | 3 | 6 |

◎: Independent input possible          ○: Input possible when used with decoder adaptor

# Overview

## Decoder Adaptor Priority

The table on the right shows which decoder adaptor will be selected preferentially when more than one decoder adaptor which can accept the NTSC or PAL signal format have been installed in the monitor.

For example, when a BKM-24N and a BKM-27T are installed and an NTSC signal is selected, the NTSC signal connected to the BKM-24N's input connectors and the NTSC signal connected to the BKM-27T's input connectors are both processed by the decoder on the BKM-24N.

| Input signal type and format | | Decoder adaptor | | | |
|---|---|---|---|---|---|
| | | BKM-24N | BKM-25P | BKM-27T | BKM-21D |
| Composite signal | NTSC | 1 | | 3 | 2 |
| | PAL | | 1 | 3 | 2 |
| Y/C signal | NTSC | 1 | | 2 | |
| | PAL | | 1 | 2 | |

Numbers in the table show priority.

## Note on using the BKM-20D/21D

When one of the input option slots on the rear of the monitor has a BKM-20D/21D SDI Decoder Adaptor (option) installed, if the slot to the right has another adaptor or the analog input connectors board installed, or a cover plate fitted (see Fig. 1), the radiation shield (see Fig. 2) of the BKM-20D/21D may be damaged or detached.



Fig.1
Input adaptor
Cover plate
Input option slots
Analog input connectors board

Fig. 2
Radiation shield
BKM-20D/21D
Input adaptor, etc
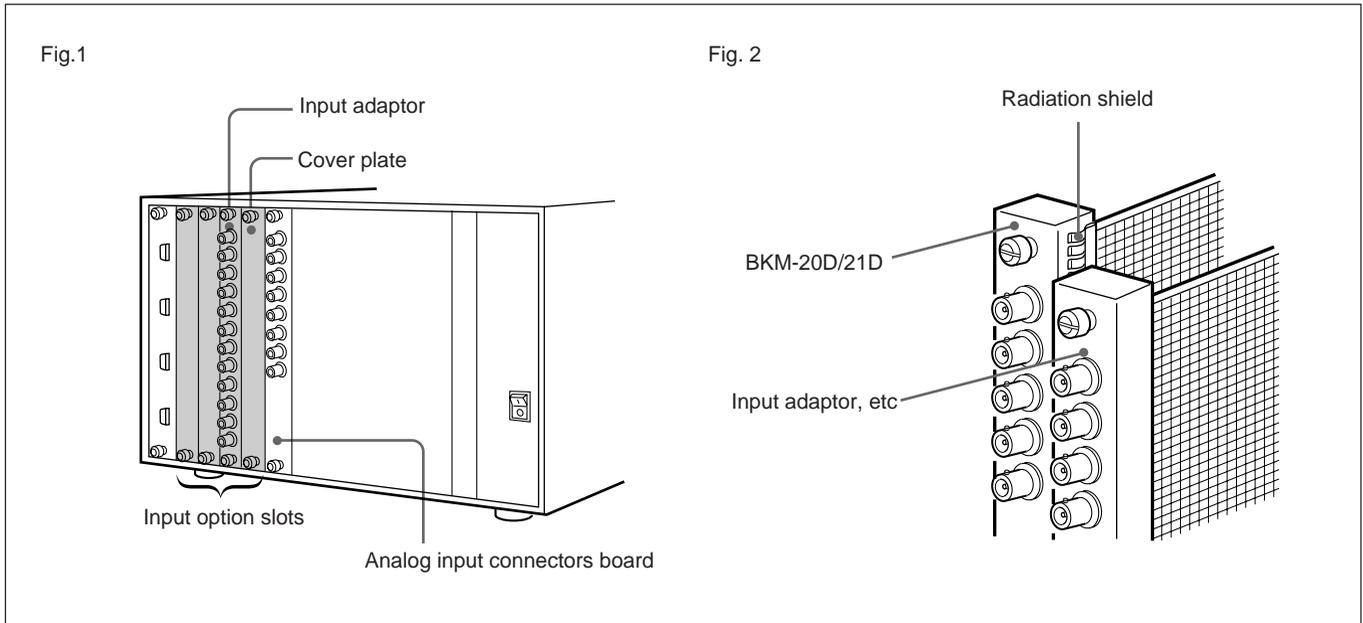
When installing adaptors, moving the analog input connectors board, or fitting a cover plate over an unused slot, always **fit the BKM-20D/21D as the last step of the operation**. If a BKM-20D/21D is already installed, remove it temporarily while carrying out the other operations, then reinstall it last.

# Location and Function of Parts

## Front Panel



- **①** Tally lamp
- **②** POWER switch
- **③** DEGAUSS button
- **④** Numeric keypad
- **⑤** MANUAL adjustment buttons and knobs
- **⑥** Menu operation buttons
- **⑦** POWER lamp
- **⑧** STANDBY lamp
- **⑨** OVER LOAD lamp
- **⑩** SHIFT button
- **⑪** Function buttons
- **⑫** Monitor memory card insertion slot
- **⑬** OPTION connector
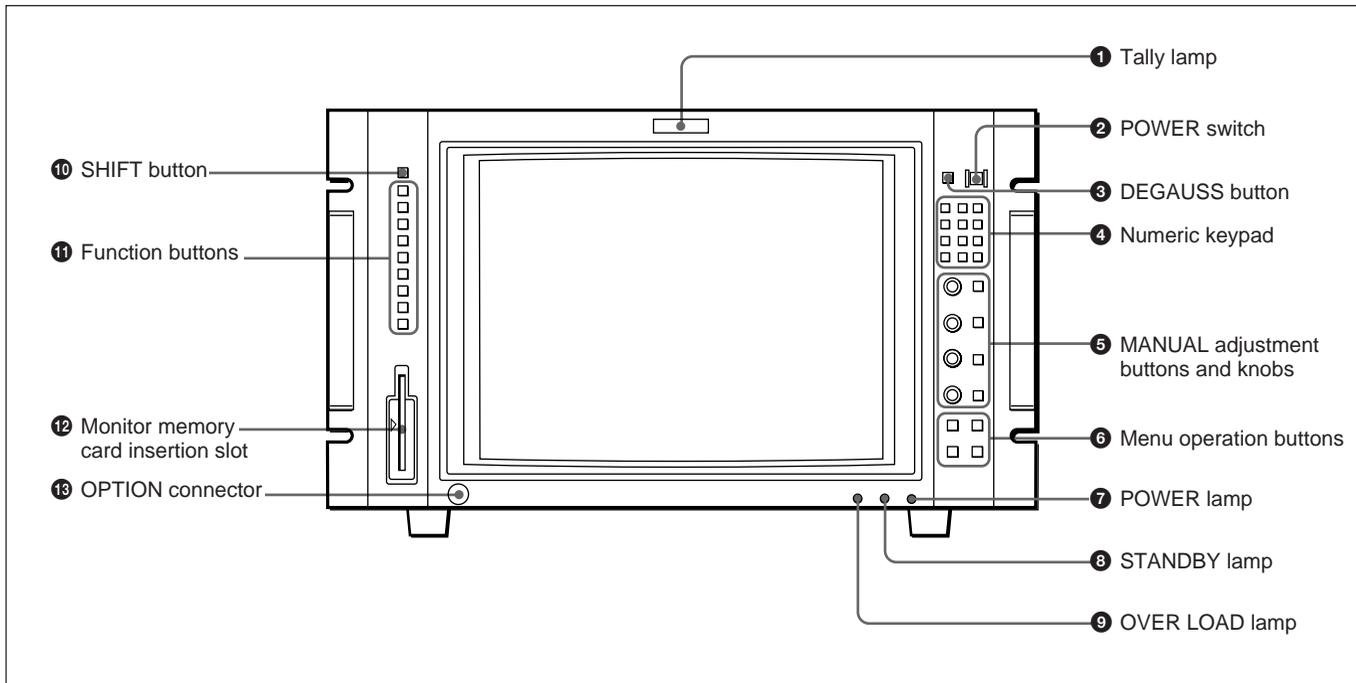
### ❶ Tally lamp

With factory settings, the Tally lamp lights when pins No. 3 and No. 8 of the REMOTE 2 connector on the rear panel are connected. By changing the setting in the REMOTE menu, different pins on the remote connector can be used to control the tally lamp.

*For information about the REMOTE menu, see "Assigning the Remote Control Functions —REMOTE Menu" on page 38.*

### ❷ POWER switch

Press to power the BVM-14F5U/14F5E/14E5U/14E5E on or off. If your system includes more than one monitor, you can use the ADDRESS menu to power a selected monitor on or off, or to power all monitors on or off at once.

*For more information about the ADDRESS menu, see "Selecting the Monitor to Control —ADDRESS Menu" on page 59.*

### ❸ DEGAUSS button

Press to manually degauss the monitor CRT. When degaussing repeatedly, wait for 5 minutes before pressing the button again. (The monitor CRT is degaussed automatically each time the power is turned on.)

### ❹ Numeric keypad

Use the numeric keypad to enter menu settings and channel numbers for signals that you want to input to the monitor.



**0 to 9 buttons**

**Ent (enter) button:** Confirms a number or character (the same function with the ENTER button of the Menu operation buttons ❻).

**Del (delete) button:** Deletes a number or character entered .
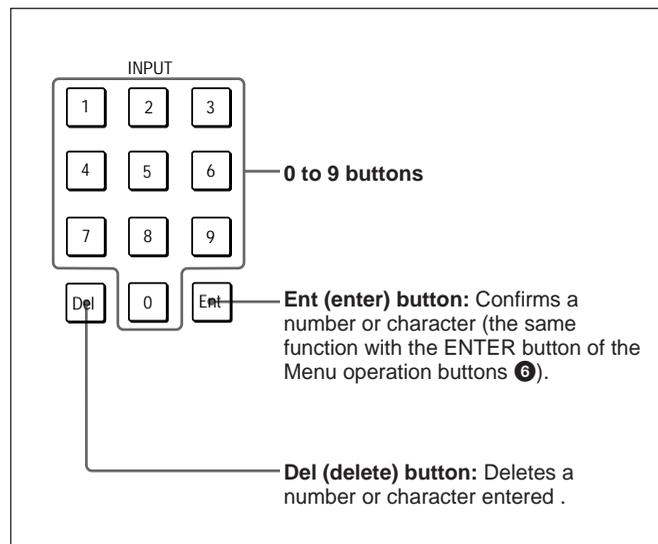
**❺ MANUAL adjustment buttons and knobs**

Each press of one of these buttons turns the button's green LED on or off. When the corresponding button is on (lit), you can rotate the knobs to adjust the picture's contrast, brightness (black level), chroma, and phase. These buttons are also used to enter adjustment values from the menus.

You can use the CONTROL PRESET ADJ menu to set preset values for each adjustment item.

*For more information about the CONTROL PRESET ADJ menu, See "Preset Adjustment of the Picture Level Control Knobs —CONTROL PRESET ADJ Menu" on page 22.*

**Note**

When using the composite SECAM, composite PAL D, component or SDI (component or composite serial digital interface) format, note the following.
- The signal phase cannot be adjusted.
- The phase and chroma of RGB signals cannot be adjusted.

CONTRAST | MANUAL — CONTRAST adjustment button and knob

BRIGHT — BRIGHT adjustment button and knob

CHROMA — CHROMA adjustment button and knob

PHASE — PHASE adjustment button and knob

**❻ Menu operation buttons**

UP    MENU

DOWN    ENTER

**MENU button:** Press to display monitor menus.

**UP, DOWN buttons:** Press to select menu items and item settings.

**ENTER button:** Press to confirm settings (the same function with the Ent button of the numeric keypad ❹).
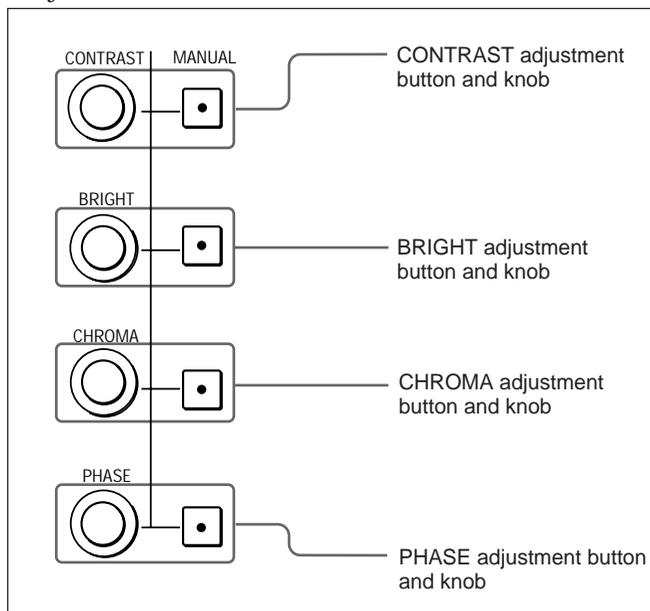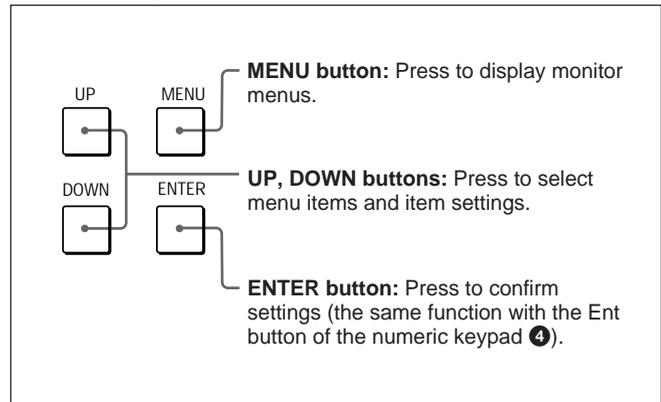
*For more information about using monitor menus, see "Basic Menu Operations" on page 15.*

**❼ POWER lamp**

Lights when the POWER switch ❷ is pressed to put the BVM-14F5U/14F5E/14E5U/14E5E in standby mode *(see ❽ STANDBY lamp)* into operation mode.

**Note**

When the STANDBY lamp ❽ is blinking, the monitor cannot be put into operation mode (internal data initialization is taking place). Wait until the STANDBY lamp ❽ is steadily lit.

**❽ STANDBY lamp**

Lights when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:
- The MAIN POWER switch (on the rear panel) is turned on (the STANDBY lamp will blink for a few moments after the switch is turned on).
- The BVM-14F5U/14F5E/14E5U/14E5E is changed from operation mode to standby mode by external control.

**❾ OVER LOAD lamp**

Lights to warn of CRT overload.

**❿ SHIFT button**

Each of the Function buttons ⓫ has a Shift On function as well as a Shift Off function. Press this button to select Shift On or Shift Off functions. Each time you press this button, its orange LED lights (Shift On) or goes out (Shift Off).

  **Shift On:** Use the function indicated on the right of the Function button.
  **Shift Off:** Use the function indicated on the left of the Function button.

**⓫ Function buttons**
Use these buttons to control the operation of the monitor.
Each of these buttons has a Shift On function, indicated below the button, as well as a Shift Off function, indicated above the button. Press the SHIFT button ❿ to select the desired function.

Each time you press one of these buttons, its LED lights or goes out and the function of the button selected with the SHIFT button ❿ is turned on or off. The LED color change whether you select Shift Off functions or Shift On functions.
   **For Shift Off functions:** Green LED
   **For Shift On functions:** Orange LED

## Shift Off functions (green LED)

**▭ (underscan):** Turn the button on for underscanning. The display size is reduced by approximately 3%, so that the four corners of the raster are visible.

**▯▮ (horizontal delay):** Turn the button on to observe the horizontal sync near the left quarter of the screen.
• Picture brightness is adjusted automatically for easy observation.
• Press the button together with the ▬ button to observe a pulse cross.

**▬ (vertical delay):** Turn the button on to observe the vertical sync signal. The picture is shifted vertically and the vertical signal is displayed near the center of the screen.
• Picture brightness is adjusted automatically for easy observation.
• Press the button together with the ▯▮ button to observe a pulse cross.

**MONO (monochrome):** Turn the button on to display color pictures in monochrome. When the button is off, the monitor switches automatically between color and monochrome mode, depending on the presence or absence of color burst signal.

**APT (aperture):** Turn the button on to perform aperture correction of frequency characteristics. Use the monitor menu to select the amount of correction.
This function is available when an optional decoder adaptor such as a BKM-24N is installed.

**COMB (comb filter):** Turn the comb filter on and off.
This function is available when an optional decoder adaptor such as a BKM-24N is installed.

Buttons (top to bottom):
▭ — 16 : 9
▯▮ — SYNC
▬ — BLUE ONLY
MONO — R
APT — G
COMB — B
F1 — F3
F2 — F4
ADDRESS — SAFE AREA

**F1 and F2:** These buttons are reserved for future use.

**ADDRESS:** Turn the button on to display the ADDRESS menu on the monitor screen. You can use the ADDRESS menu to set operating parameters for several monitors.

*For more information about the ADDRESS menu, see "Selecting the Monitor to Control —ADDRESS Menu" on page 59.*

# Location and Function of Parts

## Shift On functions (Orange LED)

**16:9:** Turn to the button on to select a 16:9 aspect ratio. The aspect ration is 3:4 when the button is off.

**SYNC:** Turn the button on to synchronize with the sync signal input to the SYNC connector on the rear panel (EXT SYNC). When the button is off, the sync signal included in the video signal is used (INT SYNC).

**Notes**
- When selecting INT SYNC, use component or YC signals including a sync signal on the Y signal, and use RGB signals including a sync signal on the G signal.
- To monitor serial digital signals, select INT SYNC.

16 : 9

SYNC

BLUE ONLY

**BLUE ONLY:** Turn the button on to turn the red and green signals off. The blue signal is displayed as an apparent monochrome picture. This facilitates chroma and phase adjustments and observation of VTR noise.

MONO — R

APT — G

COMB — B

**R, G, and B:** Turn the button on to turn the R (red), G (green), and B (blue) beams off.

F1 — F3

F2 — F4

**F3 and F4:** These buttons are reserved for future use.

ADDRESS — SAFE AREA

**SAFE AREA (safe area):** Turn the button on to display the safe area.

**⑫ Monitor memory card insertion slot**
Insert an optional BKM-12Y Monitor Memory Card.

**⑬ OPTION connector**
Connector for future expansion.

## Rear Panel



- ❺ Analog input connectors
- ❻ Input option slots
- ❼ REMOTE 1 connectors and TERMINATE switch
- ❽ REMOTE 2 connector
- ❾ ISR connector
- ❶ MAIN POWER switch
- ❷ AC IN connector
- ❸ Fuse
- ❹ Deflection option slot

### ❶ MAIN POWER switch

When turned on, the monitor enters standby mode.  By a setting in the SYSTEM CONFIGURATION menu, the monitor can also be set to enter operation mode when the MAIN POWER switch is turned on.

*For information about the SYSTEM CONFIGURATION menu, see "Setting the Channel Selection Method and Power-Up Conditions —SYSTEM CONFIGURATION Menu" on page 43.*

### ❷ AC IN connector (3-pin)

Connects the monitor to an AC power source, via the supplied AC power cord.



AC power cord (supplied)

Plug holder

Cord stopper (supplied)

Attach the cord stopper to the AC power cord, and connect it to the plug holder so that the cord does not come loose.
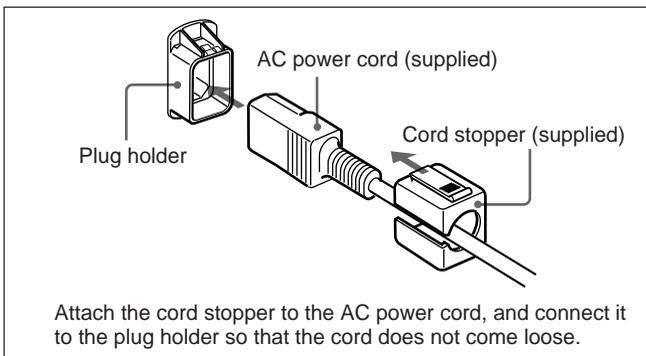
### ❸ Fuse

Use a 4 A fuse for 100 to 120 V AC or a T 3.15 AH fuse for 220 to 240 V AC.

### ❹ Deflection option slot

Slot for future expansion.

### ❺ Analog input connectors



- Y/G connectors (BNC)
- B–Y/B connectors (BNC)
- R–Y/R connectors (BNC)
- SYNC connectors (BNC)
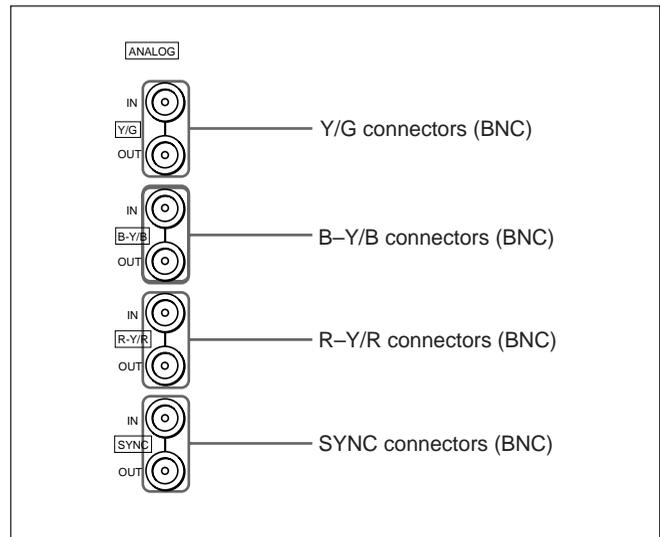
RGB signals, component signals (Y, R–Y, and B–Y), or composite sync signals can be fed in the IN connectors.  The type of signal applied to each connector is set with the INPUT CONFIGURATION menu.  The OUT connectors are used for loop-through output of the input signal.  When not using loop-through, connect a 75-ohm terminator (not supplied) to the OUT connectors.

*For information about the INPUT CONFIGURATION menu, See "Setting the Input Configuration—INPUT CONFIGURATION Menu" on page 32.*

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**❻ Input option slots**
The BVM-14F5U/14F5E/14E5U/14E5E may be fitted with up to four adaptors.

**❼ REMOTE 1 connectors (female, D-sub 9-pin), and TERMINATE switch**
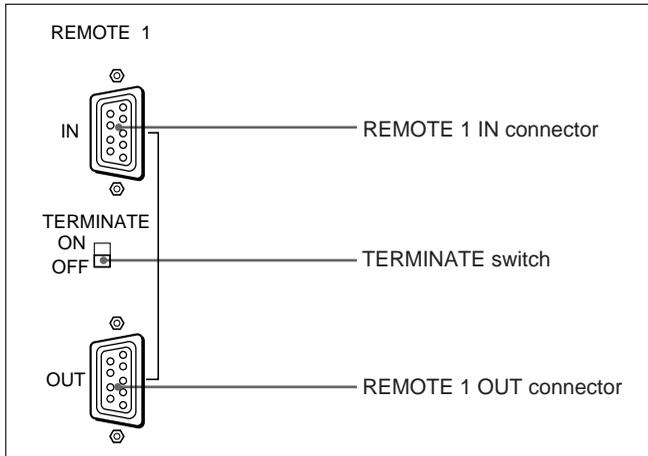


These are RS-485 serial interface connectors, used for connecting two or more BVM-series monitors.
The IN and OUT connectors form a loop-through connection. Set the TERMINATE switch to OFF.
Connect two monitors using a straight cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as shown in the figure.
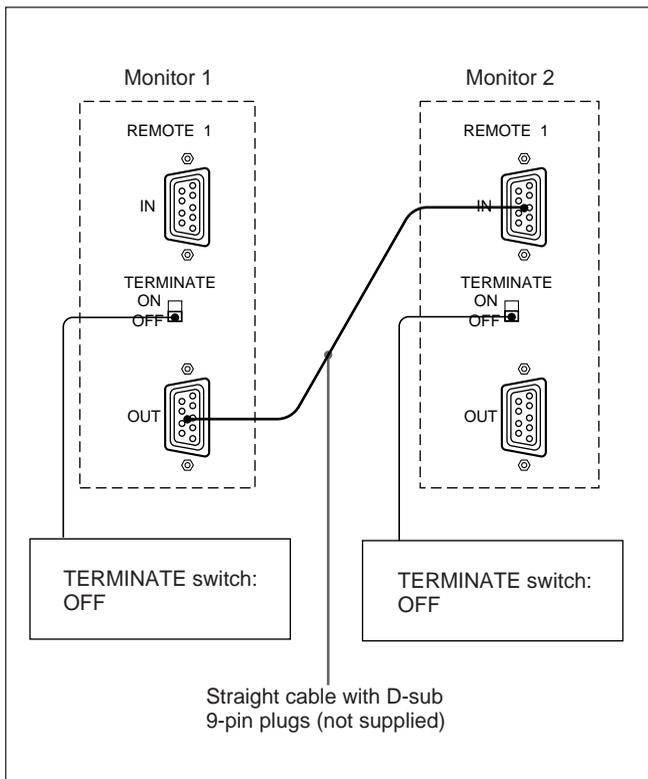


**❽ REMOTE 2 connectors (female, D-sub 9-pin)**
Forms a pararell switch and controls the BVM-14F5U/14F5E/14E5U/14E5E externally. The pin arrangement and factory setting function assigned to each pin are given below.
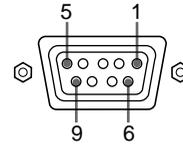


| Pin number | Function |
|---|---|
| 1 | Set input signal channel 1 (numeric keypad function) |
| 2 | Set input signal channel 2 (numeric keypad function) |
| 3 | Select sync signal (SYNC button function) |
| 4 | Set the screen to monochrome, or set for automatic switching based on the input signal (MONO button function) |
| 5 | Safe area on/off (SAFE AREA button function) |
| 6, 7 | Undefined |
| 8 | Tally lamp on/off |
| 9 | Ground |

All pin function assignments can be changed with the REMOTE menu.

*For information about the REMOTE menu, see "Assigning the Remote Control Functions —REMOTE Menu" on page 38.*

To switch each function between on and off or between enable and disable, change pin connections in the following way.
**On or enabled:** Short each pin and pin 9 together.
**Off or disabled:** Leave each pin open.

**❾ ISR (Interactive Status Reporting) connector (female, D-sub 9-pin)**
Connect to the ISR system.

# Guidance for Basic Monitor Operations

The following table shows how to use a control panel, connectors and menus to perform basic monitor operations.

| Operations | Control panel and connectors | Menus |
|---|---|---|
| Selecting signals to be monitored | Specify the channel number with 0 to 9 buttons of the numeric keypad.<br>1 to 90: channel numbers for external input signals<br>91 to 95: channel numbers for signals from the internal test signal generator<br>91: PLUGE (Picture Line UP Generating Equipment)<br>92: 20% gray signal<br>93: 100% white signal<br>94: five-step gray scale<br>95: crosshatch | • INPUT CONFIGURATION menu *(see page 32)*<br>• SYSTEM CONFIGURATION menu *(see page 43)* |
| Remote control | • REMOTE 1 connector<br>• REMOTE 2 connector<br>*See page 12 for details.* | • REMOTE menu *(see page 38)*<br>• ADDRESS menu *(see page 59)* |
| Adjusting the screen and signals | • Function buttons<br>*See page 9 for details.*<br>• MANUAL adjustment buttons and knobs<br>*See page 8 for details.* | • CONTROL PRESET ADJ menu *(see page 22)*<br>• COLOR TEMP ADJ menu *(see page 25)*<br>• ALIGNMENT menu *(see page 48)*<br>• ON SCREEN SET menu *(see page 45)*<br>• KEY PROTECT menu *(see page 15)* |
| Data transfer | • REMOTE 1 connector<br>*See page 12 for details.*<br>• Monitor memory card<br>*See page 14 for details.* | • MEMORY CARD menu *(see page 54)*<br>• COPY menu *(see page 56)* |
| Menu operations | • Menu operation buttons<br>*See page 8 for details.*<br>• ADDRESS button of the function buttons<br>*See page 9 for details.* | • Basic menu operations *(see page 15)*<br>• PASSWORD menu *(see page 41)* |

# Inserting and Ejecting the Monitor Memory Card

Proceed as follows to insert and eject an optional BKM-12Y Monitor Memory Card.

*For information about using a monitor memory card to save and load monitor data, see "Monitor Memory Card Data Operations —MEMORY CARD Menu" on page 54.*

## Inserting the Monitor Memory Card



Monitor memory card insertion slot

Push the monitor memory card in until the EJECT button comes out.

EJECT button    Monitor memory card

Be careful not to let your hands touch the connectors on the front edge of the monitor memory card.
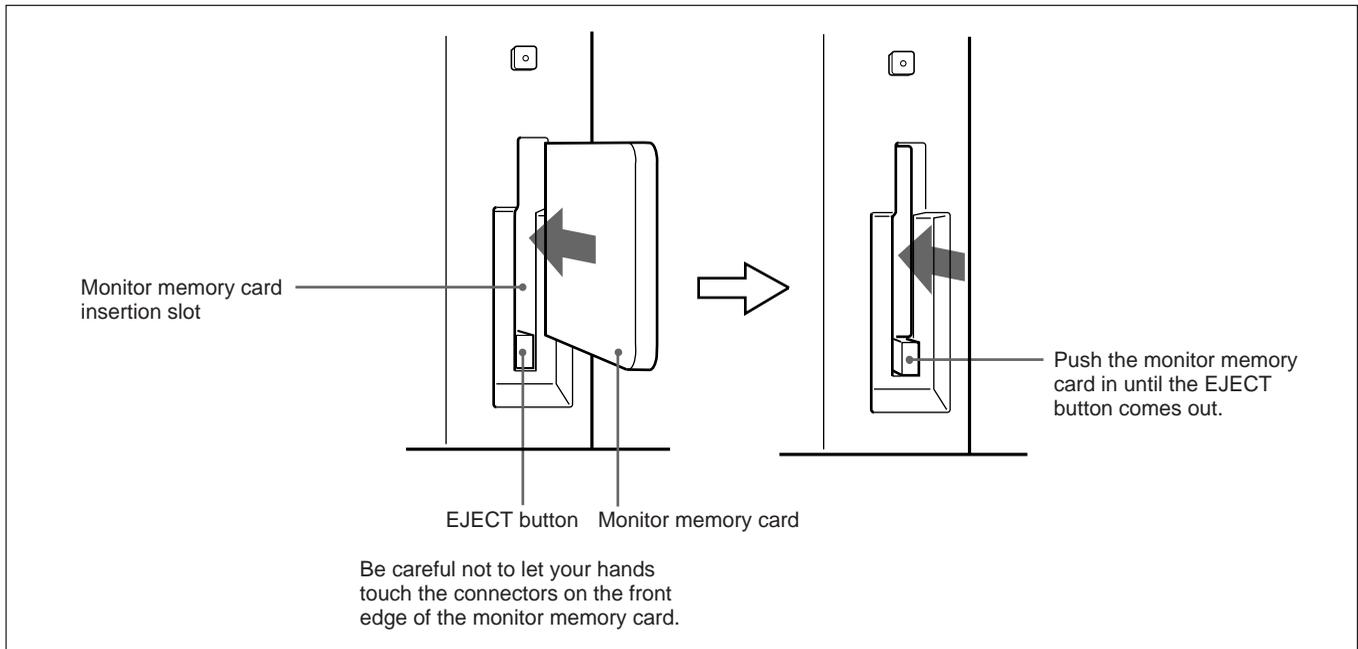
## Ejecting the Monitor Memory Card

**Note**

Do not eject the monitor memory card while data is being saved or loaded.



Take out the monitor memory card.

EJECT button

Press the EJECT button to eject the monitor memory card.

14
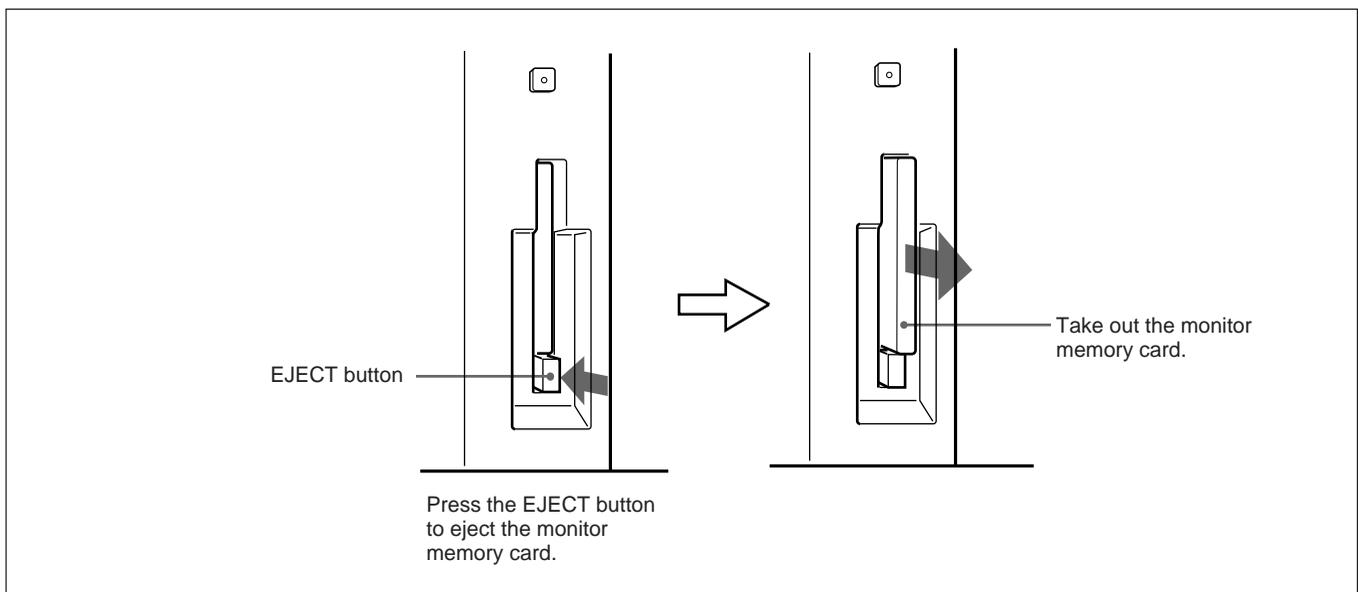
# Basic Menu Operations

The various functions and operating conditions of the BVM-14F5U/14F5E/14E5U/14E5E can be set with on-screen menus.

## Displaying the Menus

Press the MENU button.

The menu list is displayed on the screen.

```
              M E N U
■  CONTROL  PRESET  ADJ…
   COLOR  TEMP  ADJ…
   SET  UP…
   MEMORY  CARD…
   COPY…
   STATUS…
   MAINTENANCE…
   KEY  PROTECT        OFF
```
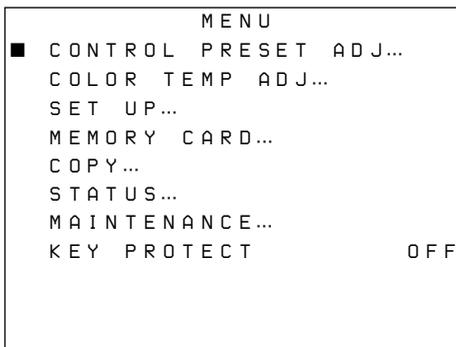
Menu list

Choose the menu for the adjustment or setup you wish to perform.  The adjustments and settings which can be made with the menus are described below.

**CONTROL PRESET ADJ menu:**  Sets the preset values for the input signal contrast, brightness, chroma, and phase.

**COLOR TEMP ADJ menu:**  Sets the color temperature.

**SET UP menus:**  A menu group for performing monitor setup, consisting of the following.

 **INPUT CONFIGURATION menu:**  Sets the input channel.

 **REMOTE menu:**  Sets the remote control functionality.

 **PASSWORD menu:**  Sets passwords for menus.

 **SYSTEM CONFIGURATION menu:**  Sets the input channel selection method and power-up conditions.

 **ON SCREEN SET menu:**  Sets data about the screen display.

 **ALIGNMENT menu:**  Used to adjust the screen convergence and geometry.

**EXTEND MENU:**  Used to back up the monitor data and re-load the factory data from the installed board.

**MEMORY CARD menu:**  Operates on data in the memory card.

**COPY menu:**  Copies set-up data from other connected monitors.

**STATUS menu:**  Displays the information about the monitor or options installed in the monitor.

**MAINTENANCE menu:**  Menu for maintenance (typically not used).

**KEY PROTECT:** When set to ON, function buttons on the control unit (with the exception of menu operation buttons) will be disable.  When set to OFF, key protection is removed.

### Note

On this monitor, menu settings displayed in blue cannot be changed.

## To Exit the Menus

Press the MENU button repeatedly until the menu disappears.

## ADDRESS Menu

The ADDRESS menu is used to select the monitor or the monitor group, so that when several monitors are connected together via serial remort ports, the control panel can select which monitor to control.
To display or exit the ADDRESS menu, press the ADDRESS button.  The method of choosing menu items and changing settings is the same as with the other menus.

## Basic Menu Operations

### Selecting the Menu

**1** Using the UP or DOWN button, move the cursor to the desired item. (Example: move the cursor with the DOWN button to SET UP.)

```
          M E N U
  C O N T R O L   P R E S E T   A D J …
  C O L O R   T E M P   A D J …
■ S E T   U P …
  M E M O R Y   C A R D …
  C O P Y …
  S T A T U S …
  M A I N T E N A N C E …
  K E Y   P R O T E C T          O F F
```
                                    └── Cursor
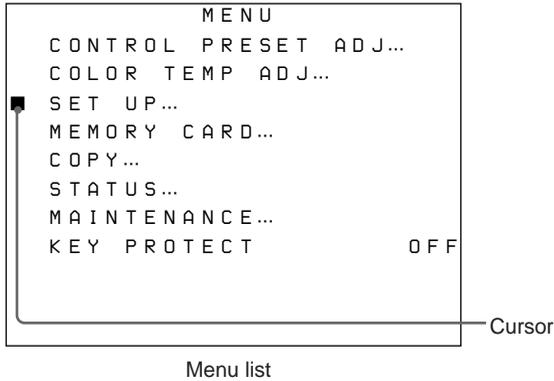
Menu list

**2** Press the ENTER button.

The SET UP menu list is displayed.

```
          S E T   U P
■ I N P U T   C O N F I G U R A T I O N …
  R E M O T E …
  P A S S W O R D …
  S Y S T E M   C O N F I G U R A T I O N …
  O N   S C R E E N   S E T …
  A L I G N M E N T …
  E X T E N D   M E N U …
```

SET UP menu list
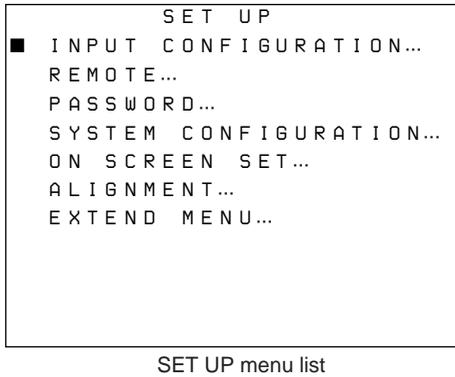
**3** Using the UP or DOWN button, move the cursor to the desired item. (Example: select the INPUT CONFIGURATION menu.)

```
          S E T   U P
■ I N P U T   C O N F I G U R A T I O N …
  R E M O T E …
  P A S S W O R D …
  S Y S T E M   C O N F I G U R A T I O N …
  O N   S C R E E N   S E T …
  A L I G N M E N T …
  E X T E N D   M E N U …
```
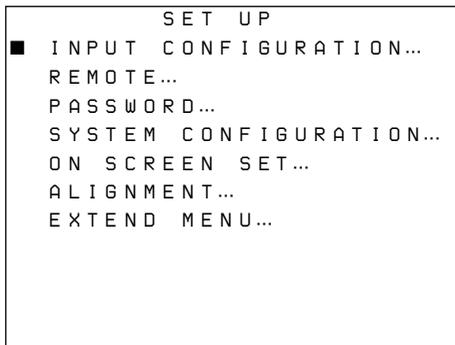
**4** Press the ENTER button.

The INPUT CONFIGURATION menu is displayed.

```
  I N P U T   C O N F I G U R A T I O N   ↓
  0 1 C H
■ F O R M A T …           N T S C – 7 . 5
  S L O T   N O                       2
  I N P U T   N O                     1
  Y C   S E P …       3 L I N E S   C O M B
  S Y N C   M O D E                 I N T
  S C R E E N   M O D E …   4 : 3 – N O R M
  S A F E   A R E A                 O F F
  S A F E   A R E A   S C A L E …   8 0 %
  A P E R T U R E                   O F F
  A P E R T U R E   V A L U E       1 0 0
```

INPUT CONFIGURATION menu
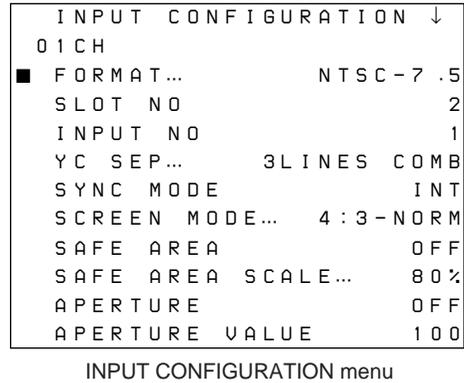
The " ↓" to the right of the menu title indicates that the menu continues onto another page. Items which are followed by "..." have sub-lists for settings.

## Changing the Settings

The setting procedure differs with different menu items. There are four different types of settings:
(1) Choosing one of two or more selections on a current setting list (items without "..." mark)
(2) Choosing one of two or more selections using sub-setting list (items with "..." mark)
(3) Entering a numerical value
(4) Entering characters

### Aborting menu operation
The setting or adjustment being performed is canceled, and data loading or saving is aborted.

### If "NG" or "ERROR" appears during menu operation
Press the MENU button to continue the operation.

### Choosing One of Two or More Selections about Items without "..." Mark

Example: changing the SYNC MODE setting in the INPUT CONFIGURATION menu

**1** Move the cursor to the SYNC MODE line in the INPUT CONFIGURATION menu.

```
  INPUT  CONFIGURATION  ↓
 01CH
  FORMAT…           NTSC-7 .5
  SLOT  NO                  2
  INPUT  NO                 1
  YC  SEP…      3LINES  COMB
■ SYNC  MODE            INT
  SCREEN  MODE…   4:3-NORM
  SAFE  AREA            OFF
  SAFE  AREA  SCALE…    80%
  APERTURE             OFF
  APERTURE  VALUE       100
```
INPUT CONFIGURATION menu

**2** Press the ENTER button.

INT is displayed in yellow text.

**3** By pressing either the UP or DOWN button, INT changes to EXT.

```
  INPUT  CONFIGURATION  ↓
 01CH
  FORMAT…           NTSC-7 .5
  SLOT  NO                  2
  INPUT  NO                 1
  YC  SEP…      3LINES  COMB
■ SYNC  MODE            EXT
  SCREEN  MODE…   4:3-NORM
  SAFE  AREA            OFF
  SAFE  AREA  SCALE…    80%
  APERTURE             OFF
  APERTURE  VALUE       100
```

Each time the UP or DOWN button is pressed, the value switches between INT and EXT.

**4** When EXT is displayed, press the ENTER button.

The SYNC MODE is set to EXT. (EXT is again displayed in white text.)

### Choosing One of Two or More Selections about Items with "..." Mark

Example: changing the SCREEN MODE setting in the INPUT CONFIGURATION menu

**1** Move the cursor to the SCREEN MODE line in the INPUT CONFIGURATION menu.

```
  INPUT  CONFIGURATION  ↓
 01CH
  FORMAT…           NTSC-7 .5
  SLOT  NO                  2
  INPUT  NO                 1
  YC  SEP…      3LINES  COMB
  SYNC  MODE            INT
■ SCREEN  MODE…   4:3-NORM
  SAFE  AREA            OFF
  SAFE  AREA  SCALE…    80%
  APERTURE             OFF
  APERTURE  VALUE       100
```
INPUT CONFIGURATION menu

*(continued)*

**2** Press the ENTER button.

The SCREEN MODE setting list is displayed.

```
          SCREEN   MODE

■   4 : 3 - N O R M
    4 : 3 - U N D R
    1 6 : 9 - N O R M
    1 6 : 9 - U N D R
```

SCREEN MODE setting list

**3** By pressing either UP and DOWN buttons, move the cursor to 16:9 - NORM.

```
          SCREEN   MODE

    4 : 3 - N O R M
    4 : 3 - U N D R
■   1 6 : 9 - N O R M
    1 6 : 9 - U N D R
```

**4** Press the ENTER button.

The display returns to the INPUT CONFIGURATION menu, and shows SCREEN MODE as the 16:9 - NORM setting.

```
    I N P U T   C O N F I G U R A T I O N   ↓
  0 1 C H
    F O R M A T …            N T S C - 7 . 5
    S L O T   N O                         2
    I N P U T   N O                       1
    Y C   S E P …        3 L I N E S   C O M B
    S Y N C   M O D E                   I N T
■   S C R E E N   M O D E …     1 6 : 9 - N O R M
    S A F E   A R E A                   O F F
    S A F E   A R E A   S C A L E …      8 0 %
    A P E R T U R E                    O F F
    A P E R T U R E   V A L U E          1 0 0
```

## Entering a Numerical Value

Example: changing the APERTURE VALUE setting in the INPUT CONFIGURATION menu to 85

The numeric keypad, UP and DOWN buttons, or PHASE knob can be used to enter numerical values.

**1** Move the cursor to the APERTURE VALUE line in the INPUT CONFIGURATION menu.

```
    I N P U T   C O N F I G U R A T I O N   ↓
  0 1 C H
    F O R M A T …            N T S C - 7 . 5
    S L O T   N O                         2
    I N P U T   N O                       1
    Y C   S E P …        3 L I N E S   C O M B
    S Y N C   M O D E                   I N T
    S C R E E N   M O D E …     4 : 3 - N O R M
    S A F E   A R E A                   O F F
    S A F E   A R E A   S C A L E …      8 0 %
    A P E R T U R E                    O F F
■   A P E R T U R E   V A L U E          1 0 0
```

INPUT CONFIGURATION menu

**2** Press the ENTER button.

All characters in the selected line are displayed in yellow, indicating that it can now be modified.

**3** There are three ways to set the value:
  • Using the numeric keypad, enter "8" and "5", and press the ENTER button.
  • Press the DOWN button to change the value to "85".
  • Turn the PHASE knob counterclockwise to change the value to "85".

**4** Press the ENTER button.

The APERTURE VALUE is set to 85. (The value is again displayed in white text.)

```
    I N P U T   C O N F I G U R A T I O N   ↓
  0 1 C H
    F O R M A T …            N T S C - 7 . 5
    S L O T   N O                         2
    I N P U T   N O                       1
    Y C   S E P …        3 L I N E S   C O M B
    S Y N C   M O D E                   I N T
    S C R E E N   M O D E …     4 : 3 - N O R M
    S A F E   A R E A                   O F F
    S A F E   A R E A   S C A L E …      8 0 %
    A P E R T U R E                    O F F
■   A P E R T U R E   V A L U E          0 8 5
```

## Entering Characters

Example: changing the CHANNEL NAME setting in the INPUT CONFIGURATION menu to CAM2

The PHASE knob or UP and DOWN buttons are used to enter characters.

**1** Move the cursor to the CHANNEL NAME line in the INPUT CONFIGURATION menu (2/2).

```
  INPUT  CONFIGURATION  ↑
 01CH
  FILTER               OFF
■ CHANNEL  NAME…        CAM
  CONTROL            PRESET
  COLOR  TEMP…          STD
  H  PHASE             100
  SAD  H  POSITION     000

  COPY…


```

INPUT CONFIGURATION menu (2/2)

**2** Press the ENTER button.

The CHANNEL NAME setting list is displayed.

```
        CHANNEL  NAME

  PROG
  EDIT
■ CAM
  VTR

  NEW  NAME



```

CHANNEL NAME setting list

**3** Using the UP or DOWN button, move the cursor to the NEW NAME line.

```
        CHANNEL  NAME

  PROG
  EDIT
  CAM
  VTR

■ NEW  NAME



```

**4** Press the ENTER button.

The "?" is displayed on the last line of the list (in yellow).

```
        CHANNEL  NAME

  PROG
  EDIT
  CAM
  VTR

■ NEW  NAME
  ?


```

"?" indicates the position where character input is possible.

**5** Press the UP or DOWN buttons, or turn the PHASE knob, until "C" is displayed.

When the UP button is pressed, the display will cycle through letters, numbers, and symbols, in the following order. When the DOWN button is pressed, the display will cycle in the opposite order.
A, B, ..., Y, Z, 0, 1, ..., 8, 9, (, ), :, ;, ., −. +, /, &, CH, ⌴ (space), ?

Press the ENTER button.

```
        CHANNEL  NAME

  PROG
  EDIT
  CAM
  VTR

■ NEW  NAME
  C ?


```

*(continued)*

**6** As in steps **4** and **5**, use the UP or DOWN button or the PHASE knob to select "A", and press the ENTER button.

"CA" (white) "?" (yellow) is displayed.

```
        CHANNEL  NAME

   PROG
   EDIT
   CAM
   VTR

■  NEW  NAME
   CA?
```

**7** As in steps **4** and **5**, use the UP or DOWN button or the PHASE knob to enter "M" and "2".

"CAM2" (white) "?" (yellow) is displayed.
20 characters can be entered as a channel name.

```
        CHANNEL  NAME

   PROG
   EDIT
   CAM
   VTR

■  NEW  NAME
   CAM2?
```

Check the entered name, and if it is correct, go on to step **8**.

**To correct the entered text**
Example: change "CAM2" to "CAM-2"

**7-1)** Press the Del button of the numeric keypad to delete "2".

```
        CHANNEL  NAME

   PROG
   EDIT
   CAM
   VTR

■  NEW  NAME
   CAM?
```

**7-2)** Enter "-" and "2".

```
        CHANNEL  NAME

   PROG
   EDIT
   CAM
   VTR

■  NEW  NAME
   CAM-2?
```

Check the modified text, and if it is correct, go on to step **8**.

**8** Press the ENTER button.

The INPUT CONFIGURATION menu appears, and the CHANNEL NAME is set to the name you entered (up to six characters from the head of the name are displayed).

```
   INPUT  CONFIGURATION  ↑
   01CH
    FILTER              OFF
■  CHANNEL  NAME…      CAM2
    CONTROL           PRESET
    COLOR  TEMP…         STD
    H  PHASE            100
    SAD  H  POSITION    000

    COPY…
```

**Using default names**

Example: copy "CAM" and change it to "CAM2"

**1** Using the UP or DOWN button, move the cursor to "CAM".

```
           CHANNEL   NAME

     PROG
     EDIT
  ■  CAM
     VTR

     NEW   NAME
```

**2** Press the ENTER button.

"CAM" (white)  "?" (yellow) is displayed on the bottom line of the screen.

```
           CHANNEL   NAME

     PROG
     EDIT
     CAM
     VTR

  ■  NEW   NAME
     CAM?
```

**3** Using the UP or DOWN button or PHASE knob, enter "2".

```
           CHANNEL   NAME

     PROG
     EDIT
     CAM
     VTR

  ■  NEW   NAME
     CAM2?
```

**4** Press the ENTER button.

The INPUT CONFIGURATION menu appears, and the CHANNEL NAME is set to "CAM2".

```
   INPUT  CONFIGURATION  ↑
  01CH
    FILTER              OFF
 ■  CHANNEL  NAME...    CAM2
    CONTROL           PRESET
    COLOR  TEMP...       STD
    H  PHASE             100
    SAD  H  POSITION     000

    COPY...
```

# Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ Menu

The preliminary adjustment of contrast, brightness, chroma, and phase are carried out with the CONTROL PRESET ADJ menu to set the preset values to the knobs for the above-mentioned adjustments.  Preset values can be set either commonly to all channels or separately for individual channels.
Preset values can be set in the following ways:
(1) Adjustment with the MANUAL knobs

(2) Automatic adjustment (An external color bar signal is necessary.)
(3) Copying data from other channels, common data, other BVM-series monitors that have been connected via the serial remote connector, or from data stored in monitor memory cards
(4) Restoring factory settings.

## Structure and Usage of the CONTROL PRESET ADJ Menu

This section explains the setting lists displayed in the menu. .

### How to read the setting lists
• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
• The arrow mark ($\Rightarrow$) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select CONTROL PRESET ADJ from the menu list.

```
CONTROL PRESET ADJ... ⇨ 100
COLOR TEMP ADJ...
SET UP...
MEMORY CARD...
COPY...
STATUS...
MAINTENANCE...
KEY PROTECT        OFF
```
Menu list

**100** **CONTROL PRESET ADJ menu:** Select either PRESET or CH SET. $\Rightarrow$ **101**

**PRESET...:** Set common values.
**CH SET...:** Set values for each individual channel.

**101** **CONTROL PRESET ADJ (PRESET/xxCH):** Select the setting method.

**MANUAL...:** Set with the MANUAL knobs. $\Rightarrow$ **110**
**AUTO...:** Set by automatic adjustment. $\Rightarrow$ **120**
**COPY...:** Copy data from elsewhere. $\Rightarrow$ **130**

**110** **MANUAL (PRESET/xxCH):** Adjust values by turning the PHASE, CHROMA, BRIGHT, and/or CONTRAST knobs.

> **PHASE:** xxxx
> **CHROMA:** xxxx
> **BRIGHT:** xxxx
> **CONTRAST:** xxxx

**120** **AUTO (PRESET/xxCH):** Select the color bar signal to be used for automatic adjustment.
⇨ **Adjustment is carried out.**

> **FULL FIELD CB 100:** 100% full-field color bar
> **FF CB 75 (WHITE 100):** 75% full-field color bar (with 100% white signal)
> **SMPTE CB:** SMPTE standard color bar
> **EIA CB:** EIA standard color bar

**130** **COPY (PRESET/xxCH):** Select the source to be copied from.

> **OTHER VALUE...:** Copy data from another channel or from PRESET setting. ⇨ **131**
> **OTHER MONITOR...:** Copy data from another monitor. ⇨ **133**
> **MEMORY CARD...:** Copy data from a memory card. ⇨ **136**

**131** **OTHER VALUE (PRESET/xxCH):** Choose either PRESET or CH SET.
⇨ **Copy is carried out.**

> **PRESET:** Copy common data.
> **CH SET:** Copy data set for another channel. Input the number of the channel from which the data will be copied.
> When the input channel number is deleted with the Del button. the number "1" appears instead. Restore the previous setting by pressing the MENU button, then re-enter the channel number. (Setting with the UP/DOWN buttons or PHASE knob is possible without pressing the MENU button.)

**133** **OTHER MONITOR (PRESET/xxCH):** Input the address of the monitor from which the data will be copied. ⇨ **134**

> **MONITOR ADDRESS:** Input the address.

**134** **OTHER MONITOR (PRESET/xxCH):** Choose either PRESET or CH SET.
⇨ **Copy is carried out.**

> **PRESET:** Copy common data.
> **CH SET:** Copy data set for another channel. Input the number of the channel from which the data will be copied.
> When the input channel number is deleted with the Del button. the number "1" appears instead. Restore the previous setting by pressing the MENU button, then re-enter the channel number. (Setting with the UP/DOWN buttons or PHASE knob is possible without pressing the MENU button.)

**136** **MEMORY CARD (PRESET/xxCH):** Select the file name. ⇨ **137**

> **FILE NAME:** Select the file name.

**137** **FILE NAME (PRESET/xxCH):** Choose either PRESET or CH SET.
⇨ **Copy is carried out.**

---

**PRESET:** Copy common data.
**CH SET:** Copy data set for another channel.  Input the number of the channel from which the data will be copied.
When the input channel number is deleted with the Del button. the number "1" appears instead. Restore the previous setting by pressing the MENU button, then re-enter the channel number. (Setting with the UP/DOWN buttons or PHASE knob is possible without pressing the MENU button.)

---

# Adjusting the Color Temperature — COLOR TEMP ADJ Menu

The color temperature is adjusted with the COLOR TEMP ADJ menu.  The color temperature can be set either commonly to all channels or individually for each channel.

 The adjusted value can then be used as an original value.

Color temperature adjustment can be made in the following three ways:

### (1) Knob adjustment
Adjust the color temperature with the bias and gain knobs.

### (2) Automatic adjustment using a probe
You can use the following probes for automatic adjustment of color temperature. Except for the Sony BKM-14L, a cable is required to connect the probe to the monitor.

| Manufacturer | Probe Model Name |
| --- | --- |
| SONY | BKM-14L (no cable required) |
| MINOLTA | CA-100 |
| GRASEBY | SLS 9400 |
| PHILIPS | PM 5639 |
| THOMA | TF6 |

*For more information about the required cables, see page 29.*

### (3) Copying other data
Copying data from other channels, common data, other BVM-series monitors that have been connected via the serial remote connector, or from data stored in monitor memory cards

## Structure and Usage of the COLOR TEMP ADJ Menu

This section explains the setting lists displayed in the menu. .

### How to read the setting lists
• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
• The arrow mark ($\Rightarrow$) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting.  When there is no arrow mark, you can make the setting using a single list.

Select COLOR TEMP ADJ from the main menu list.

```
CONTROL PRESET ADJ...
COLOR TEMP ADJ... ⇨ 200
SET UP...
MEMORY CARD...
COPY...
STATUS...
MAINTENANCE...
KEY PROTECT        OFF
```
Menu list

**200** **COLOR TEMP ADJ menu:** Select STD, COL1, COL2, or CH SET. ⇨ **201**

**STD:** Use common data (factory setting: D65).
**COL1:** Use common data (factory setting: D65).
**COL2:** Use common data (factory setting: D93).
**CH SET:** Use data for each individual channel (factory setting: D65). Use the numeric keypad to select the desired channel.

**201** **COLOR TEMP ADJ (STD/COL1/COL2/xxCH):** Select the adjustment method.

**MANUAL...:** Set with the MANUAL knob. ⇨ **210**
**PROBE...:** Set using a probe. ⇨ **220**
**COPY...:** Copy data from elsewhere. ⇨ **260**
**RESTORE FACTORY SET:** Return values to their factory settings.
**TRIM...:** Perform fine adjustments after setting the color temperature. ⇨ **280**

**210** **MANUAL (STD/COL1/COL2/xxCH):** Set the following data necessary to perform knob adjustment and select **ADJUST**.

**ORIGINAL VALUE...:** Set the initial value. ⇨ **211**
**SIGNAL:** Select the white signal to be used for adjustment.
  **INT:** Use an internal signal. Simultaneously with the adjustment of the gain and bias, the 100 IRE and 20 IRE signals are automatically switched.
  **EXT:** Use an external input signal. When adjusting the gain and bias, input the proper signal.
**ADJUST...:** Perform the adjustment with following knobs. ⇨ **212**
  **RED:** CONTRAST knob (Adjust the R gain or bias with the CONTRAST knob.)
  **GREEN:** BRIGHT knob (Adjust the G gain or bias with the BRIGHT knob.)
  **BLUE:** CHROMA knob (Adjust the B gain or bias with the CHROMA knob.)
  **LUMINANCE:** PHASE knob (Adjust luminance with the PHASE knob.)

**211** **ORIGINAL VALUE:** Select STD, COL1, COL2, or CH SET. ⇨ **210**

**STD:** Use common data (factory setting: D65).
**COL1:** Use common data (factory setting: D65).
**COL2:** Use common data (factory setting: D93).

**212** **ADJUST (STD/COL1/COL2/xxCH) (1/2):** Adjust the gain with the proper knob.

**GAIN     R:xxxx   G:xxxx   B:xxxx**

**212** **ADJUST (STD/COL1/COL2/xxCH) (2/2):** Adjust the bias with the proper knob.

**BIAS     R:xxxx    G:xxxx    B:xxxx**

**220** **PROBE (STD/COL1/COL2/xxCH):** Select the probe for color temperature adjustment.

| | |
|---|---|
| **SONY** | **BKM-14L...:** Use the BKM-14L. ⇨ **230** |
| **GRASEBY** | **SLS 9400...:** Use the SLS 9400. ⇨ **241** |
| **MINOLTA** | **CA-100...:** Use the CA-100. ⇨ **241** |
| **PHILIPS** | **PM 5639...:** Use the PM 5639. ⇨ **241** |
| **THOMA** | **TF6...:** Use the TF6. ⇨ **241** |

• If you cannot execute an ADJUST or ANALYZE menu operation when using the Sony BKM-14L probe, try again after disconnecting and reconnecting the probe.
• When using the Thoma TF6 probe, set the TF6 PRINT menu to off.

**241** **PROBE (STD/COL1/COL2/xxCH):** Select the probe. Select either D65 or D93, and enter values for LOWLIGHT and HIGHLIGHT.  Rather than selecting D65 or D93, you may instead enter the values of the CIE 1931 color system x and y coordinates.

**D65:** Use D65.
**D93:** Use D93.
**X:** Enter the x coordinate.
**Y:** Enter the y coordinate.
**LOW LIGHT (20IRE):** Enter the brightness ($cd/m^2$) for low light.
**HIGH LIGHT (100IRE):** Enter the brightness ($cd/m^2$) for high light.
**START:** Start adjustment. ⇨ **242**

**242** **COLOR TEMP ADJ (STD/COL1/COL2/xxCH):** Perform adjustment.

**SET PROBE ON CRT**
**PRESS ENTER**
Adjustment starts when the probe is placed against the center of the screen and the ENTER button is pressed.

**260** **COPY (STD/COL1/COL2/xxCH):** Select the source to be copied from.

**OTHER VALUE...:** Copy data from another channel or from common data. ⇨ **261**
**OTHER MONITOR...:** Copy data from another monitor. ⇨ **263**
**MEMORY CARD...:** Copy data from a memory card. ⇨ **266**

**261** **OTHER VALUE (STD/COL1/COL2/xxCH):**  Select STD, COL1,COL2, or CH SET. ⇨ **Copy is carried out.**

**STD:** Copy common data (factory setting: D65).
**COL1:** Copy common data (factory setting: D65).
**COL2:** Copy common data (factory setting: D93).
**CH SET:** Copy data from a particular channel (factory setting: D65).  Enter the number of the channel from which the data will be copied.
   When the input channel number is deleted with the Del button. the number "1" appears instead. Restore the previous setting by pressing the MENU button, then re-enter the channel number. (Setting with the UP/DOWN buttons or PHASE knob is possible without pressing the MENU button.)
**D65:** Copy the color temperature of D65.
**D93:** Copy the color temperature of D93.

**263** **OTHER MONITOR (STD/COL1/COL2/xxCH):** Input the address of the monitor from which the data will be copied.

> **MONITOR ADDRESS:** Input the address of the monitor from which the data will be copied. ⇨ **264**

**264** **OTHER MONITOR (STD/COL1/COL2/xxCH):** Select STD, COL1,COL2, or CH SET. ⇨ **Copy is carried out.**

> **STD:** Copy common data (factory setting: D65).
> **COL1:** Copy common data (factory setting: D65).
> **COL2:** Copy common data (factory setting: D93).
> **CH SET:** Copy data from a particular channel (factory setting: D65). Enter the number of the channel from which the data will be copied.
> When the input channel number is deleted with the Del button. the number "1" appears instead. Restore the previous setting by pressing the MENU button, then re-enter the channel number. (Setting with the UP/DOWN buttons or PHASE knob is possible without pressing the MENU button.)

**266** **MEMORY CARD (STD/COL1/COL2/xxCH):** Select the file name. ⇨ **267**

**267** **FILE NAME (STD/COL1/COL2/xxCH):** Select STD, COL1, COL2,or CH SET. ⇨ **Copy is carried out.**

> **STD:** Copy common data (factory setting: D65).
> **COL1:** Copy common data (factory setting: D65).
> **COL2:** Copy common data (factory setting: D93).
> **CH SET:** Copy data from a particular channel (factory setting: D65). Enter the number of the channel from which the data will be copied.
> When the input channel number is deleted with the Del button. the number "1" appears instead. Restore the previous setting by pressing the MENU button, then re-enter the channel number. (Setting with the UP/DOWN buttons or PHASE knob is possible without pressing the MENU button.)

**280** **TRIM (STD/COL1/COL2/xxCH):** After setting the necessary items, select **ADJUST**.

> **APPLY/NOT APPLY:** Select whether to add the fine adjustment to the original setting (APPLY) or not (NOT APPLY)
> **SIGNAL:** Select the white signal to be used for adjustment.
> **INT:** Use an internal signal. Simultaneously with the adjustment of the gain and bias, the 100 IRE and 20 IRE signals are automatically switched.
> **EXT:** Use an external input signal. When adjusting the gain and bias, input the proper signal.
> **ADJUST...:** Perform the adjustment with following knobs: ⇨ **282**
> **RED:** CONTRAST knob (Adjust the R gain or bias with the CONTRAST knob.)
> **GREEN:** BRIGHT knob (Adjust the G gain or bias with the BRIGHT knob.)
> **BLUE:** CHROMA knob (Adjust the B gain or bias with the CHROMA knob.)
> **LUMINANCE:** PHASE knob (Adjust luminance with the PHASE knob.)

**282** **ADJUST (STD/COL1/COL2/xxCH) (1/2):** Adjust the gain with the proper knob.

| GAIN | R:xxxx | G:xxxx | B:xxxx |
|------|--------|--------|--------|

**282** **ADJUST (STD/COL1/COL2/xxCH) (2/2):** Adjust the bias with the proper knob.

| BIAS | R:xxxx | G:xxxx | B:xxxx |
|------|--------|--------|--------|

## Connection Cable Specifications for Color Temperature Probes

Special cables are required to connect color temperature probes other than the Sony BKM-14L to the monitor.

The following diagrams show specifications and pin assignments for the required cables.

### Connection cable for Minolta CA-100 probe

D-sub 25-pin connector (male)

Mini DIN 8-pin connector (male)
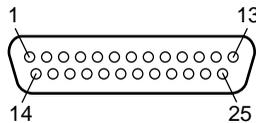


| Signal | Pin Number |
|--------|-----------|
| N.C. | 1 |
| TXD | 2 |
| RXD | 3 |
| RTS | 4 |
| CTS | 5 |
| N.C. | 6 |
| GND | 7 |
| N.C. | 8-25 |

| Signal | Pin Number |
|--------|-----------|
| 1 | H SYNC |
| 2 | V SYNC |
| 3 | RTS |
| 4 | GND |
| 5 | N.C. |
| 6 | TXD |
| 7 | +5V |
| 8 | RXD |
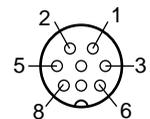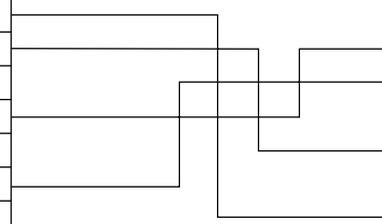
# Adjusting the Color Temperature — COLOR TEMP ADJ Menu

## Connection cable for Graseby SLS 9400 probe

Modular connector

Mini DIN 8-pin connector (male)
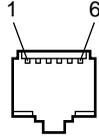
| Signal | Pin Number |
|--------|------------|
| N.C. | 1 |
| GND | 2 |
| RXD | 3 |
| TXD | 4 |
| GND | 5 |
| N.C. | 6 |

| Signal | Pin Number |
|--------|------------|
| 1 | H SYNC |
| 2 | V SYNC |
| 3 | RTS |
| 4 | GND |
| 5 | N.C. |
| 6 | TXD |
| 7 | +5V |
| 8 | RXD |
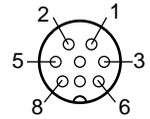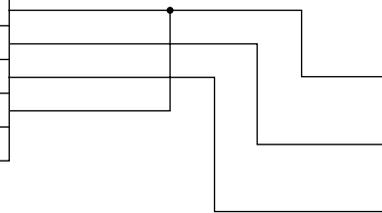
## Connection cable for Philips PM 5639 probe (corresponds to Philips PM 5639/64 cable)

Modular connector

Mini DIN 8-pin connector (male)
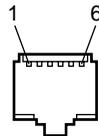
| Signal | Pin Number |
|--------|------------|
| +5V | 1 |
| N.C. | 2 |
| RXD | 3 |
| TXD | 4 |
| N.C. | 5 |
| GND | 6 |

| Signal | Pin Number |
|--------|------------|
| 1 | H SYNC |
| 2 | V SYNC |
| 3 | RTS |
| 4 | GND |
| 5 | N.C. |
| 6 | TXD |
| 7 | +5V |
| 8 | RXD |

30
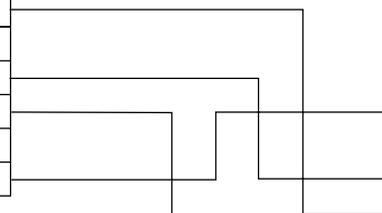
## Connection cable for Thoma TF6 probe

D-sub 15-pin connector (female)
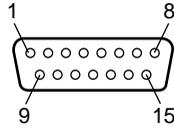


| Signal | Pin Number |
|--------|------------|
| N.C.   | 1          |
| RXD    | 2          |
| TXD    | 3          |
| N.C.   | 4          |
| N.C.   | 5          |
| N.C.   | 6          |
| GND    | 7          |
| N.C.   | 8-15       |

Mini DIN 8-pin connector (male)
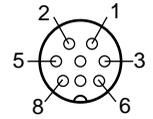


| Signal | Pin Number |
|--------|------------|
| 1      | H SYNC     |
| 2      | V SYNC     |
| 3      | RTS        |
| 4      | GND        |
| 5      | N.C.       |
| 6      | TXD        |
| 7      | +5V        |
| 8      | RXD        |
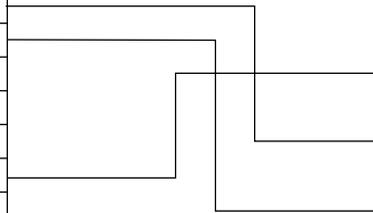
# Setting the Input Configuration — INPUT CONFIGURATION Menu

Data pertaining to the input signals are set with the INPUT CONFIGURATION menu.
When a channel number (1 to 90) is entered with the numeric keypad, it is then possible to set which input connector on the rear panel will be assigned to that channel number, and select the type of signal that will be connected. The channel numbers from 91 to 99 are assigned to internal signals.

## Assigning Slot and Connector Numbers

Set which input connector on which slot will be assigned to the current channel. The slots are numbered from the left, as seen when facing the rear panel, with the REMOTE connectors slot being number 1, the input option slots numbers 2 to 5, and the analog input connectors slot being number 6. The connectors are numbered 1 to 6 (from the top) for the slot.

## Assigning the Signal Type and Format

The signal type and format which can be assigned to each channel number vary, depending on what adaptors are installed in the rear panel.

### Assigning serial digital signals
It is possible to assign serial digital signals to the serial digital input connectors on the BKM-20D/21D/22X adaptors. However, at least one BKM-21D which includes the decoder for serial digital signals or BKM-20D which includes the decoder for serial digital component signals must be installed.

### Assigning analog composite signals
It is possible to assign any composite signal to the analog signal input connectors of the BKM-20D/21D/22X, and any of the connectors of the BKM-24N/25P/26M/27T/28X adaptors. However, at least one of the following decoder adaptors must be installed:
**To assign NTSC signals:** BKM-21D/24N/27T
**To assign PAL signals:** BKM-21D/25P/27T
**To assign PAL-M signals:** BKM-26M
**To assign SECAM signals:** BKM-27T

### Assigning Y/C signals
It is possible to assign any Y/C signals to the input connectors of the BKM-24N/25P/26M/27T/28X adaptors. However, at least one of the following decoder adaptors must be installed:
**To assign NTSC signals:** BKM-24N/27T
**To assign PAL signals:** BKM-25P/27T
**To assign PAL-M signals:** BKM-26M

### Assigning analog component or RGB signals
Analog component and RGB signals can be assigned to any input connectors except the serial digital signal input connectors on the BKM-20D/21D/22X.

## Structure and Usage of the INPUT CONFIGURATION Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.

• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)

• The arrow mark (⟹) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select SET UP from the main menu list.

```
CONTROL PRESET ADJ...
COLOR TEMP ADJ...
SET UP... ⟹ 300
MEMORY CARD...
COPY...
STATUS...
MAINTENANCE...
KEY PROTECT        OFF
```
Menu list

**300** **SET UP menu list:** Choose the menu for setting the desired items.

**INPUT CONFIGURATION menu:** Set the input signal configuration ⟹ **301**

REMOTE menu
PASSWORD menu
SYSTEM CONFIGURATION menu
ON SCREEN SET menu
ALIGNMENT menu
EXTEND MENU

**301** **INPUT CONFIGURATION menu (1/2):** Set input signal data for each channel.

**xxCH:** Current channel is indicated. Enter a channel number with the numeric keypad if changing the channel.  The settings below will be stored as information about the signal to be connected to this channel.
**FORMAT...:** Select the input signal type. ⇨ **310**
**SLOT NO:** Enter the slot number.
**INPUT NO:** Enter the input connector number.
**YC SEP...:** Select a Y/C separation filter. ⇨ **315**
**SYNC MODE:** Select the sync signal.
  **INT:** Use an internal sync signal.
  **EXT:** Use an external sync signal.
**SCREEN MODE...:** Select the scan size. ⇨ **320**
**SAFE AREA:** Choose whether or not to display the safe area (OFF or ON).
**SAFE AREA SCALE...:** Select the safe area size. ⇨ **322**
**APERTURE:** Choose whether or not to use aperture adjustment (OFF or ON).
**APERTURE VALUE:** Enter the aperture adjustment value (0 to 200).

**301** **INPUT CONFIGURATION menu (2/2):** Set input signal data for each channel.

**xxCH:** Current channel is indicated. Enter a channel number with the numeric keypad if changing the channel.  The settings below will be stored as information about the signal to be connected to this channel.
**FILTER:** Switch the filter operation (OFF or ON) when the monochrome display is selected.
**CHANNEL NAME...:** Give the channel a name. ⇨ **326**
**CONTROL:** Select whether to use local ("CH SET") or common ("PRESET") values for contrast, brightness, chroma, and phase.
  **PRESET:** Use common data.
  **CH SET:** Use values set for each channel.
**COLOR TEMP...:** Set the color temperature. ⇨ **328**
**H PHASE:** Set the horizontal picture position (–127 to +128).[1]
**SAD H POSITION:** Adjust the horizontal display position of the safety area (–127 to +128). [1]
**COPY...:** Select a method for copying data from elsewhere. ⇨ **330**

1) The monitor will not operate correctly if values above or below the allowable range are entered.

**310** **FORMAT (xxCH):** Select the signal format.

**Note**

If there is no input connector or decoder corresponding to a format, that format will not be selectable (the cursor will skip over that item).

**COMPOSITE...:** Composite signal. ⇨ **311**
**YC...:** Y/C signal. ⇨ **311**
**COMPONENT...:** Component or RGB signal. ⇨ **312**
**SDI...:** Serial digital signal. ⇨ **313**

**311** **COMPOSITE (xxCH):** Select the format of a composite or Y/C signal.

**Notes**

• Even when selecting AUTO, also select the NTSC, PAL, or PAL-M format.
• If there is no input connector or decoder corresponding to a format, that format will not be selectable (the cursor will skip over that entry).
• When the BKM-21D is attached, changing the signal format of a channel from SDI to COMPOSITE AUTO may prevent proper display of the picture. In this case, set the format to NTSC or PAL first, then change to AUTO.
• When inputting the PAL-M YC signal to a channel with the BKM-26M attached, setting the signal format to YC AUTO may prevent proper display of the picture. Set the format to PAL-M (S or D).

---

**AUTO:** The format of the input signal is detected and switched automatically.[2]
**NTSC:** SETUP 7.5 or 0.
**PAL:** S (simple) or D (delay).
**PAL-M:** S (simple) or D (delay).
**SECAM**

---

2) It will take a few seconds to detect the format of an input signal when AUTO is selected. It is recommended that a particular format be selected if it is determined.

**312** **COMPONENT (xxCH):** Select the component signal format, or RGB.

---

**YUV SMPTE/EBU-N10**
**YUV BETACAM:** SETUP 7.5 or 0.
**RGB**

---

**313** **SDI (xxCH):** Select the format of the serial digital signal.

---

**AUTO:** The format of the input signal is detected and switched automatically.[1]
**NTSC:** SETUP 7.5 or 0
**PAL:** S (simpe) or D (delay)
**4:2:2**

---

1) • It will take a few seconds to detect the format of an input signal when AUTO is selected. It is recommended that a particular format be selected if it is determined.
   • If the serial digital signal is not properly displayed at SDI AUTO mode, re-enter the channel number.

**315** **YC SEP (xxCH):** Select a Y/C separation filter.

---

**TRAP/BPF**
**2 LINES COMB**
**3 LINES COMB**

---

**320** **SCREEN MODE (xxCH):** Select the scan size.

---

**4:3-NORM:** Overscanned 4:3 aspect ratio.
**4:3-UNDR:** Underscanned 4:3 aspect ratio.
**16:9-NORM:** Overscanned 16:9 aspect ratio.
**16:9-UNDR:** Underscanned 16:9 aspect ratio.

---

**322** SAFE AREA (xxCH): Select the type of screen. ⇨ **323**

> **4:3 OR 16:9:** Display the screen and safe area in 4:3 or 16:9 aspect ratio.
> **16:9 IN 4:3:** Display a 16:9 aspect ratio safe area in a 4:3 aspect ratio screen.
> **4:3 IN 16:9:** Display a 4:3 aspect ratio safe area in a 16:9 aspect ratio screen.

> **323** 4:3 OR 16:9 (xxCH): Select the size of the safe area.

> > **80%**
> > **90%**
> > **100%**

**326** CHANNEL NAME (xxCH): Give the channel a name. Select a preset name, or enter a new one.

> **PROG:** Program signal.
> **EDIT:** Signal from an editor.
> **CAM:** Camera signal.
> **VTR:** Signal from a VTR.
> **NEW NAME:** Enter a new name. (Up to 20 characters can be entered and up to six characters from the head of the name are displayed in the INPUT CONFIGURATION menu (301, 2/2).)

**328** COLOR TEMP (xxCH): Select STD, COL1, COL2, or CH SET.

> **STD:** Use common data (factory setting: D65).
> **COL1:** Use common data (factory setting: D65).
> **COL2:** Use common data (factory setting: D93).
> **CH SET:** Use data for the current channel (factory setting: D65).

**330** COPY (xxCH): Select the source to be copied from.

> **OTHER CH:** Copy data from another channel. Enter the channel number.
> When the input channel number is deleted with the Del button. the number "1" appears instead. Restore the previous setting by pressing the MENU button, then re-enter the channel number. (Setting with the UP/DOWN buttons or PHASE knob is possible without pressing the MENU button.)
> **OTHER MONITOR...:** Copy data from another monitor. ⇨ **332**
> **MEMORY CARD...:** Copy data from a memory card. ⇨ **334**

> **332** OTHER MONITOR (xxCH): Enter the address of the monitor from which to copy data.

> > **MONITOR ADDRESS:** Enter the address of the monitor from which to copy data. ⇨ **333**

> > **333** OTHER MONITOR (xxCH): Select which channel of the chosen monitor from which to copy data. ⇨ **Copy is carried out.**

> > > **CH NO:** Enter the channel number.
> > > When the input channel number is deleted with the Del button. the number "1" appears instead. Restore the previous setting by pressing the MENU button, then re-enter the channel number. (Setting with the UP/DOWN buttons or PHASE knob is possible without pressing the MENU button.)

**334** **MEMORY CARD (xxCH):** Select the file name. ⇨ **335**

**335** **MEMORY CARD (xxCH):** Select which channel of the chosen file from which to copy data. ⇨ **Copy is carried out.**

---

**CH NO:** Enter the channel number.
When the input channel number is deleted with the Del button. the number "1" appears instead. Restore the previous setting by pressing the MENU button, then re-enter the channel number. (Setting with the UP/DOWN buttons or PHASE knob is possible without pressing the MENU button.)

---

# Assigning the Remote Control Functions — REMOTE Menu

The remote control functions are set with the REMOTE menu. With this monitor, both serial remote control (REMOTE 1) and parallel remote control (REMOTE 2) are possible. It is possible to simultaneously use the control panel, REMOTE 1, and REMOTE 2 for control, but commands from REMOTE 2 have priority. Therefore, it is impossible for the control panel or REMOTE 1 to change items set by REMOTE 2.

There is no priority order between commands from REMOTE 1 and the control panel; it is possible to set APERTURE to ON from REMOTE 1 and then set it to OFF with a control panel operation.

## About Monitor Address and Group Numbers

The BVM-14F5U/14F5E/14E5U/14E5E is able to control up to 32 monitors connected via serial remote connector (using the REMOTE 1 connector). By giving each monitor a monitor address and group number, it is possible to control just a specific monitor or monitor group.

With the REMOTE menu, each monitor can be set with a monitor address and group number, between 1 and 99. The ADDRESS menu is used to select a particular monitor or group by entering a monitor number or group number.

## Structure and Usage of the REMOTE Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.

• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)

• The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select SET UP from the menu list.

| |
|---|
| **CONTROL PRESET ADJ...** |
| **COLOR TEMP ADJ...** |
| **SET UP... ⇨ 300** |
| **MEMORY CARD...** |
| **COPY...** |
| **STATUS...** |
| **MAINTENANCE...** |
| **KEY PROTECT       OFF** |

Menu list

**300** **SET UP menu list:** Choose the menu for setting the desired items.

| |
|---|
| **INPUT CONFIGURATION menu** |
| **REMOTE menu:** Set the remote control functionality ⇨ **340** |
| **PASSWORD menu** |
| **SYSTEM CONFIGURATION menu** |
| **ON SCREEN SET menu** |
| **ALIGNMENT menu** |
| **EXTEND MENU** |

**340** **REMOTE menu:** Select the type of remote control.

**REMOTE 2:** Select whether or not parallel remote control will be used (ON or OFF).
**REMOTE 2 CONFIG...:** Set the pin assignments for the REMOTE2 (parallel remote control)
     connector. ⇨ **341**
**REMOTE 1 CONFIG...:** Set the address and group number of the monitor controlled via the
     REMOTE 1 (serial remote control) connector. ⇨ **343**

**341** **REMOTE 2 CONFIG:** Select the REMOTE 2 connector pins for which you want to
    change the function.  The factory settings for each pin are given below. ⇨ **342**

**1 PIN...:** CH01
**2 PIN...:** CH02
**3 PIN...:** EXT SYNC
**4 PIN...:** MONO
**5 PIN...:** SAFE AREA
**6 PIN...:** unused
**7 PIN...:** unused
**8 PIN...:** TALLY

**342** **1-8 PIN (1/2):** Assign a function to the selected pin.

**CH:** Select a channel number. Enter the desired channel number with the numeric keypad.
**----:** Set to unused.
**UNDERSCAN:** Set underscan on or off.
**16:9:** Set a 16:9 aspect ratio on or off.
**H DELAY:** Set the horizontal sync display on or off.
**V DELAY:** Set the vertical sync display on or off.
**EXT SYNC:** Set the synchronization to external sync signals enabled or disabled.
**COMB:** Set the comb filter on or off.
**APERTURE:** Set the correction of frequency characteristics enabled or disabled.
**MONO:** Set monochrome display on or off.

**342** **1-8 PIN (2/2):** Assign a function to the selected pin.

> **BLUE ONLY:** Set the blue signal pictures display (monochrome) on or off.
> **R OFF:** Set cutting red beams enabled or disabled.
> **G OFF:** Set cutting green beams enabled or disabled.
> **B OFF:** Set cutting blue beams enabled or disabled.
> **VITC ON:** Set the VITC display on or off.
> **SAFE AREA ON:** Set the safe area display on or off.
> **CAPTION VISION:** Set the caption vision on or off.
> **TALLY ON:** Set tally signals on or off.
> **DEGAUSS ON:** Set degaussing on or off.
> **POWER OFF:** Set the monitor power on or off.

*For information about pin connections, see the description of the REMOTE 2 connector in "Location and Function of Parts" on page12.*

**343** **REMOTE 1 CONFIG:** Set the monitor address, group address and remote mode of the monitor.

> **MONITOR ADDRESS:** Enter a number.
> **GROUP ADDRESS:** Enter a number.
> **REMOTE MODE:** Select the remote mode. ⇨ **344**

**344** **REMOTE MODE:** Select a remote mode according to the type of monitors connected through the REMOTE1 connector.
When only Sony BVM-xxE/F series monitors are connected, set REMOTE MODE to 0.
When a Sony BVM-xx11/16 series monitor or a Sony PVM monitor (with BKM-103 Serial Remote Interface Kit installed) is connected, set REMOTE MODE to 1 and enter a number over 64 as the MONITOR ADDRESS for each connected Sony BVM-xxE/F series monitor.

# Setting the Password — PASSWORD Menu

A four-digit password can be specified and applied to desired menu options to prohibit the menu settings from being changed without permission. The password is set with the PASSWORD menu.
A password is always assigned to the PASSWORD menu (factory setting: 9999). When a new password is created, it is automatically applied to the PASSWORD menu.

**If the password is not entered correctly**
If an incorrect password is entered, or if nothing is entered within about five seconds from when the message is displayed, the message "INCORRECT ENTRY" is displayed, and the menus disappear from the screen.

## Use of the Password

The message "PLEASE ENTER PASSWORD" is displayed when an attempt is made to select a menu item for which the password has been applied. The correct password must be entered with the numeric keypad within about five seconds.

## Structure and Usage of the PASSWORD Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists
• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
• The arrow mark ($\Rightarrow$) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select SET UP from the menu list.

**CONTROL PRESET ADJ...**
**COLOR TEMP ADJ...**
**SET UP... $\Rightarrow$ 300**
**MEMORY CARD...**
**COPY...**
**STATUS...**
**MAINTENANCE...**
**KEY PROTECT          OFF**

Menu list

## Setting the Password — PASSWORD Menu

**300** SET UP menu list: Choose the menu for setting the desired items.

---

**INPUT CONFIGURATION menu**
**REMOTE menu**
**PASSWORD menu:** Set the password ⇨ **400**
**SYSTEM CONFIGURATION menu**
**ON SCREEN SET menu**
**ALIGNMENT menu**

---

**400** PASSWORD menu: Enter the password for the PASSWORD menu.

---

**ENTER PASSWORD:** Enter the password (factory setting: 9999). ⇨ **401**

---

**401** PASSWORD: Choose what action to perform with the password.

---

**CHANGE PASSWORD...:** Change the password. ⇨ **402**
**APPLY PASSWORD...:** Assign the password to a menu item. ⇨ **404**

---

**402** ENTER NEW PASSWORD: Crate a new password.

---

**ENTER NEW PASSWORD:** Enter a password. ⇨ **403**

---

**403** CHANGE PASSWORD: Change the password.

---

**RE-ENTER PASSWORD**
**TO CONFIRM**
Enter the new password again and press the ENTER button. ⇨ **The password is
recorded.**
To change it, press the MENU button. ⇨ **Return to the PASSWORD (401).**

---

**404** APPLY PASSWORD: Choose whether or not to apply the password to each menu.

---

**CONTROL PRESET ADJ:** YES or NO.
**CONTROL TEMP ADJ:** YES or NO.
**SET UP:** YES or NO.
**MEMORY CARD:** YES or NO.
**COPY:** YES or NO.

---

# Setting the Channel Selection Method and Power-Up Conditions — SYSTEM CONFIGURATION Menu

The SYSTEM CONFIGURATION menu is used for the following settings:

## (1) Channel number entry method

The two ways in which the ten-key pad can be used to enter channel numbers are as follows:
(In the explanation below, x and y represent any digit between 1 and 9.)

**DIRECT mode:** When selecting a number from 1 to 9, press the x button to display channel x. When selecting a number from 10 to 99, press the 0, x, and y buttons to display channel xy (a two-digit channel number).

**10KEY mode:** When the x button is pressed followed by the ENTER button, the monitor displays channel x. When the x button is pressed, followed by the y and ENTER buttons, the monitor displays channel xy (a two-digit channel number). This mode is selected at the shipping.

When multiple monitors are connected by a serial remote connection, this setting will be common to all the monitors. It is not possible to change the setting for individual monitors.

## (2) Power-up condition

This menu sets the condition of the monitor when the main power switch on the rear panel is switched on.
**ON:** Standby mode
**OFF:** Operation mode

## (3) Power-up input channel

**LAST:** Set the channel to the channel that was selected at the time the power was last turned off.
**CH xx:** Set the channel to a specific channel number.

## (4) Time from power-up until degauss

If several monitors are turned on at the same time and all start degaussing at the same time, there will be a very large current draw on the power supply for a few moments. To prevent this, the delay time between power-up and degaussing can be set for each monitor independently.

## (5) AFC time constant

## (6) Residual subcarrier detection (when using the BKM-24N/25P)

It is possible to detect residual subcarrier signals from phase change by setting the adaptor's residual subcarrier switch on.

## (7) Auto chroma control (ACC) (when using the BKM-27T)

# Setting the Channel Selection Method and Power-Up Conditions — SYSTEM CONFIGURATION Menu

## Structure and Usage of the SYSTEM CONFIGURATION Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists
• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
• The arrow mark (⟹) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select SET UP from the menu list.

| |
|---|
| **CONTROL PRESET ADJ...** |
| **COLOR TEMP ADJ...** |
| **SET UP...** ⟹ **300** |
| **MEMORY CARD...** |
| **COPY...** |
| **STATUS...** |
| **MAINTENANCE...** |
| **KEY PROTECT       OFF** |

Menu list

**300** **SET UP menu list:** Choose the menu for setting the desired items.

| |
|---|
| **INPUT CONFIGURATION menu** |
| **REMOTE menu** |
| **PASSWORD menu** |
| **SYSTEM CONFIGURATION menu:** Set the channel selection method and power-up conditions. ⟹ **500** |
| **ON SCREEN SET menu** |
| **ALIGNMENT menu** |

**500** **SYSTEM CONFIGURATION menu:** Set each of the various items.

**INPUT SELECT:** Select the channel number selection method (DIRECT or 10KEY).
**STANDBY MODE:** Select the power-up condition (OFF or ON).
**DEFAULT CH:** Select the power-up input channel (LAST or CH xx).
**DEGAUSS DELAY:** Set the time between power-up and the beginning of degaussing.  Enter the desired time (in seconds).
**AFC TIME:** Select the AFC time constant (0.5 or 2 ms).
**RESIDUAL SC SW:** Switch the residual switch (OFF or ON).
**ACC SW:** Switch the ACC switch (OFF or ON).

# Setting the Screen Display — ON SCREEN SET Menu

The ON SCREEN SET menu is used to select the type of information that will be displayed on the screen and how that information will be displayed.  The types of information that can be set are given below.

**(1) The VITC or user bit from the input signal**

**(2) Caption vision**

**(3) SDI signal ancillary data blanking (when using the BKM-20D/21D)**

**(4) Channel number and name**

# Setting the Screen Display — ON SCREEN SET Menu

## Structure and Usage of the ON SCREEN SET Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists
• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
• The arrow mark ($\Rightarrow$) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select SET UP from the menu list.

| |
|---|
| **CONTROL PRESET ADJ...** |
| **COLOR TEMP ADJ...** |
| **SET UP...** $\Rightarrow$ **300** |
| **MEMORY CARD...** |
| **COPY...** |
| **STATUS...** |
| **MAINTENANCE...** |
| **KEY PROTECT         OFF** |

Menu list

**300** **SET UP menu list:** Choose the menu for setting the desired items.

| |
|---|
| **INPUT CONFIGURATION menu** |
| **REMOTE menu** |
| **PASSWORD menu** |
| **SYSTEM CONFIGURATION menu** |
| **ON SCREEN SET menu:** Set the screen display $\Rightarrow$ **600** |
| **ALIGNMENT menu** |
| **EXTEND MENU** |

46

**600** **ON SCREEN SET menu:** Select items to be displayed on the screen.

**VITC...:** Select whether or not to display the VITC or user bit data contained in the input signal. ⇒ **601**

**CAPTION VISION...:** Select whether or not to display the caption, and select the display mode. ⇒ **620**

**ANCILLARY DATA:** Select whether or not to display the ancillary data in the serial digital signal (OFF or ON).

**CH NO...:** Select the display mode of the channel number. ⇒ **625**

**CH NAME...:** Select the display mode of the channel name. ⇒ **625**

**VITC POSITION...:** Select the display position for the VITC data. ⇒ **630**

**CH NO POSITION...:** Select the display position for the channel number. ⇒ **630**

**CH NAME POSITION...:** Select the display position for the channel name. ⇒ **630**

**601** **VITC:** Select whether or not to display the VITC and/or user bit.

**VITC:** OFF or ON
**USER BIT:** OFF or ON

**620** **CAPTION VISION:** Select the caption display mode.

**CAPTION 1**
**CAPTION 2**
**TEXT 1**
**TEXT 2**
**OFF**

**625** **CH NO or CH NAME:** Select the channel number and channel name display mode.

**AUTO:** Disappear after displayed for a while.
**ON:** Displayed.
**OFF:** Not displayed.

**630** **POSITION:** Select the display position.

**TL:** Top left
**TC:** Top center
**TR:** Top right
**BL:** Bottom left
**BC:** Bottom center
**BR:** Bottom right

The ALIGNMENT menu is used for adjusting convergence and geometry.

## Structure and Usage of the ALIGNMENT Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists
• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
• The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select SET UP from the menu list.

| |
|---|
| **CONTROL PRESET ADJ...** |
| **COLOR TEMP ADJ...** |
| **SET UP... ⇨ 300** |
| **MEMORY CARD...** |
| **COPY...** |
| **STATUS...** |
| **MAINTENANCE...** |
| **KEY PROTECT        OFF** |

Menu list

**300**  **SET UP menu list:** Choose the menu for setting the desired items.

| |
|---|
| **INPUT CONFIGURATION menu** |
| **REMOTE menu** |
| **PASSWORD menu** |
| **SYSTEM CONFIGURATION menu** |
| **ON SCREEN SET menu** |
| **ALIGNMENT menu:** Perform convergence and geometry adjustment ⇨ **700** |
| **EXTEND MENU** |

**700** **ALIGNMENT menu (1/4):** Adjust each item with the UP and DOWN buttons or PHASE knob.

**ROTATION:** Compensates for the screen rotation which occurs when the monitor is installed facing north or south.
**H PHASE:** Adjust the horizontal picture position.
**V CENTER:** Adjust the vertical picture position.
**H SIZE:** Adjust the width of the picture.
**V SIZE:** Adjust the height of the picture.
**V LIN AMP:** Adjust the vertical linearity of the picture.
**V LIN BAL:** Adjust the balance of the vertical linearity of the picture.
**VITS BLK:** Adjust vertical blanking so that VITS signals are not visible in the upper part of the screen.

**700** **ALIGNMENT menu (2/4):** Adjust each item with the UP and DOWN buttons or PHASE knob.

**H PIN:** Correct side pincushion distortion.
**H PIN BAL:** Correct the balance of side pincushion distortion.
**H CORNER PIN:** Correct pincushion distortion at the corner of the picture.
**H CENTER PIN:** Correct center bow distortion.
**H MID PIN:** Correct pincushion distortion at the middle of the picture.
**H KEY:** Correct trapezoid distortion.
**H KEY BAL:** Correct the balance of trapezoid distortion.
**H LIN:** Correct horizontal linearity.
**H LIN BAL:** Correct the balance of horizontal linearity.Monitor Memory Card Data Operations

**700** **ALIGNMENT menu (3/4):** Adjust each item with the UP and DOWN buttons or PHASE knob.

**V STATIC CONV:** Adjust vertical static convergence.
**V CONV TOP:** Adjust vertical convergence at the top of the screen.
**V CONV BOT:** Adjust vertical convergence at the bottom of the screen.
**H STATIC CONV:** Adjust horizontal static convergence.
**H CONV C T:** Adjust horizontal convergence at the top of the screen.
**H CONV C B:** Adjust horizontal convergence at the bottom of the screen.
**H CV C M T:** Adjust horizontal convergence at the middle between the top and the center of the screen.
**H CV C M B:** Adjust horizontal convergence at the middle between the bottom and the center of the screen.

**700** **ALIGNMENT menu (4/4):** Adjust each item with the UP and DOWN buttons or PHASE knob.

**H CV R C:** Adjust horizontal convergence at the center right of the screen.
**H CV R T:** Adjust horizontal convergence at the top right of the screen.
**H CV R B:** Adjust horizontal convergence at the bottom right of the screen.
**H CV R M T:** Adjust horizontal convergence at the middle right between the top and the center of the screen.
**H CV R M B:** Adjust horizontal convergence at the middle right between the bottom and the center of the screen.
**H CV L C:** Adjust horizontal convergence at the center left of the screen.
**H CV L T:** Adjust horizontal convergence at the top left of the screen.
**H CV L B:** Adjust horizontal convergence at the bottom left of the screen.
**H CV L M T:** Adjust horizontal convergence at the middle left between the top and the center of the screen.
**H CV L M B:** Adjust horizontal convergence at the middle left between the bottom and the center of the screen.

# Using Extended Functions — EXTEND MENU

The following 4 functions can be executed with the EXTEND menu.

(1) Restore factory default data for installed boards.
(2) Write monitor setting and adjustment data to the BKM-12Y monitor memory card or read setting and adjustment data from the card.
(3) Restart the monitor.
(4) Automatically adjust the setup level and 100 IRE level of the internal white signal which is used in the ADJUST COLOR TEMP menu (200).

## Structure and Usage of the EXTEND Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists
• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
• The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select SETUP from the menu list.

```
          MENU
CONTROL PRESET ADJ...
COLOR TEMP ADJ...
SET UP... ⇨ 300
MEMORY CARD...
COPY...
STATUS...
MAINTENANCE...
KEY PROTECT...OFF
```
Menu list

**300** SETUP menu: Choose the item to set up from the menu.

```
INPUT CONFIGURATION menu
REMOTE menu
PASSWORD menu
SYSTEM CONFIGURATION menu
ON SCREEN SET menu
ALIGNMENT menu
EXTEND MENU: Open the EXTEND MENU. ⇨ 750
```

**750** **EXTEND MENU:** Choose the function to execute with the UP and DOWN buttons or PHASE knob.

---

**RE-LOAD FACTORY DATA...:** Restore factory default data for the board installed in the selected slot. ⇨ **760**

**MEMORY CARD...:** Read and write setting and adjustment data by using the monitor memory card. ⇨ **770**

**RE-START MONITOR:** Restart the monitor. ⇨ **780**

**ADJ INT SIGNAL SETUP:** Automatically adjust the SETUP level and 100 IRE level of internal signals. ⇨ **790**

---

**760** **RE-LOAD FACTORY DATA menu:** Select a slot where a board is installed to reload factory default data to the board.

---

**SLOT1 CONTROL**
**SLOT2 EMPTY**
**SLOT3 EMPTY**
**SLOT4 EMPTY**
**SLOT5 EMPTY**
**SLOT6 VIDEO AMP**
**SLOT7 DEFLECTION**
**SLOT8 EMPTY**
**SLOT9 POWER SUPPLY**

---

**761** **MEMORY CARD menu:** Confirm the data reload operation.

---

**DATA RESET TO**
 **ITS FACTORY SETTING**
**AND MONITOR WILL RESTART**

**ARE YOU SURE?**

  **OK: ENTER KEY**
  **CANCEL: MENU KEY**

---

To continue, press the ENTER button. ⇨ Reset the data and automatically turn the monitor off and on again.

To cancel, press the MENU button. ⇨ Return to the RE-LOAD FACTORY DATA menu. (**760**)

**770** **MEMORY CARD menu:** Insert the monitor memory card into the MEMORY CARD slot and select the operation to perform.

---

**BACK UP SYSTEM DATA...:** Write the data to the monitor memory card. ⇨ **771**
**RE-STORE SYSTEM DATA...:** Read the data from the monitor memory card. ⇨ **772**

---

- Before a monitor memory card can be used, it must be formatted it with the FORMAT menu (**805**).
- System data and memory card data (**800**) cannot be stored on the same memory card. To store memory card data, use another memory card.
- The BKM-12Y monitor memory card has a capacity of 256 Kbytes. It can store either system data for up to 8 monitors or 38 files of memory card data.

**771** **BACK UP SYSTEM DATA:** While the system is writing the data, a "–" mark blinks at the top right of the menu. (It takes some time to save the data.)

```
BACK UP SYSTEM DATA
IN PROGRESS...SYSTEM
```

**772** **RE-STORE SYSTEM DATA:** Confirm the data restore operation.

```
RE-STORE SYSTEM DATA

ALL DATA WILL BE
          RESTORED
ARE YOU SURE?

        OK: ENTER KEY
        CANCEL: MENU KEY
```

To continue, press the ENTER button. ⇒ Read the data from the monitor memory card. ⇒ **773**

To cancel, press the MENU button. ⇒ Return to the BACK UP SYSTEM DATA menu (**771**).

**773** **RE-STORE SYSTEM DATA:** While the system is reading the data, a "–" mark blinks at the top right of the menu. (It takes some time to load the data.)

```
RE-STORE SYSTEM DATA
IN PROGRESS...SYSTEM
```

**780** **RE-START MONITOR:** Turn the monitor off and on again automatically.

**790** **ADJ INT SIGNAL:** Adjust the SETUP level and 100 IRE level of the internal white signal which is used with the COLOR TEMP ADJ menu (**200**).

# Monitor Memory Card Data Operations — MEMORY CARD Menu

Operations on monitor memory card data are performed with the MEMORY CARD menu.

*For information on handling a monitor memory card, see "Inserting and Ejecting the Monitor Memory Card" on page 14.*

## Structure and Usage of the MEMORY CARD Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists
• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
• The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select MEMORY CARD from the menu list.

```
CONTROL PRESET ADJ...
COLOR TEMP ADJ...
SET UP...
MEMORY CARD... ⇨ 800
COPY...
STATUS...
MAINTENANCE...
KEY PROTECT        OFF
```
Menu list

**800** **MEMORY CARD menu:** Select the operation to perform. (It takes some time to load and save the data.)

> **SAVE:** Write data to a monitor memory card. ⇨ **801**
> **LOAD:** Read data from a monitor memory card. ⇨ **803**
> **FORMAT:** Format a monitor memory card. ⇨ **805**

**801** **SAVE:** Select the name of the file to which to write data, or create a new file name. ⇨ **802**

> **NEW NAME:** Enter a new name (max. 20 characters).

**802** SELECTED OR CREATED FILE NAME: Confirm the data write.

> **OVERWRITE THIS FILE?**
> **OK: ENTER KEY**
> **CANCEL: MENU KEY**
> To overwrite the file, press ENTER. ⇨ **The data write is performed.**
> To cancel the write, press MENU. ⇨ **Return to the SAVE (801).**

**803** LOAD: Select the name of the file from which to read data. ⇨ **804**

**804** SELECTED FILE NAME: Select the data to read.

> **ALL:** Read data for all menu settings.
> **CONTROL PRESET:** Read the data for the CONTROL PRESET ADJ menu settings.
> **COLOR TEMP:** Read the data for the COLOR TEMP ADJ menu settings.
> **SET UP:** Read the data for the SET UP menu settings.

**805** FORMAT: Confirm the format operation.

> **ALL FILES WILL BE DELETED!**
> **ARE YOU SURE?**
> **OK: ENTER KEY**
> **CANCEL: MENU KEY**
> To continue, press the ENTER button. ⇨ **The format is performed.**
> To cancel, press the MENU button. ⇨ **Return to the MEMORY CARD menu (800).**

When multiple monitors are connected via their serial remote ports, data can be shared between the monitors by data copy.  The data copy from one monitor to another is accomplished with the COPY menu.

## Structure and Usage of the COPY Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists
• For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
• Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
• The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select COPY from the menu list.

| |
|---|
| **CONTROL PRESET ADJ...** |
| **COLOR TEMP ADJ...** |
| **SET UP...** |
| **MEMORY CARD...** |
| **COPY... ⇨ 850** |
| **STATUS...** |
| **MAINTENANCE...** |
| **KEY PROTECT      OFF** |

Menu list

**850** **COPY menu:** Select the copy source monitor.

> **MONITOR ADDRESS:** Enter the address number. ⇨ **851**

**851** **COPY:** Select the data to be copied. ⇨ **Copy is carried out.**

> **ALL:** Copy data for all menu settings.
> **CONTROL PRESET:** Copy the data for the CONTROL PRESET ADJ menu settings.
> **COLOR TEMP:** Copy the data for the COLOR TEMP menu settings.
> **SET UP:** Copy the data for the SET UP menu settings.

# Displaying Information About the Monitor — STATUS Menu

The STATUS menu is used to view general data about the monitor and information about signals assigned to the slots in the rear panel.

## Structure and Usage of the STATUS Menu

This section explains the setting lists displayed in the menu.

**How to read the setting lists**
- For purposes of explanation, each setting list is preceded by a 3-digit number. These numbers are not displayed on the screen.
- Setting lists are indented to indicate their position in the tree structure of the menu. (When list YYY is found under list XXX, it is indented to the right of list XXX.)
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, you can make the setting using a single list.

Select STATUS from the menu list.

| |
|---|
| **CONTROL PRESET ADJ...** |
| **COLOR TEMP ADJ...** |
| **SET UP...** |
| **MEMORY CARD...** |
| **COPY...** |
| **STATUS... ⇨ 900** |
| **MAINTENANCE...** |
| **KEY PROTECT         OFF** |

Menu list

**900** **STATUS menu (1/3):** Data about the current channel is displayed.

> **CH:** channel number
> **SL:** slot number
> **IN:** input connector number
> **FORMAT:** format of the input signal
> **NAME:** channel name

**900** **STATUS menu (2/3):** Data about the monitor is displayed.

> **MODEL NAME:** model name
> **SERIAL NO:** serial number
> **OPERATION TIME:** operation time (in hours)
> **SOFTWARE VERSION:** software version

**900** **STATUS menu (3/3):** Data about circuit boards fitted into the respective slots in the rear panel is displayed.

| |
|---|
| **SLOT1** |
| **SLOT2** |
| **SLOT3** |
| **SLOT4** |
| **SLOT5** |
| **SLOT6** |
| **SLOT7** |
| **SLOT8** |
| **SLOT9** |

# Selecting the Monitor to Control — ADDRESS Menu

When multiple monitors are connected by a serial remote connection, they can be controlled with a BVM-14F5U/14F5E/14E5U/14E5E.  The ADDRESS menu is used to choose whether one particular monitor or monitor group will be controlled, or whether operations are to be performed on all monitors together.

## Structure and Usage of the ADDRESS Menu

Press the ADDRESS button.

The ADDRESS button lights, and the ADDRESS menu is displayed on the screen.

```
              A D D R E S S

S I N G L E                        * *
G R O U P                          * *
A L L

A L L   P O W E R   O N
A L L   P O W E R   O F F

D I S P L A Y   M O N I T O R   A D D R E S S
D I S P L A Y   G R O U P   A D D R E S S
S E T U P   P V M   ( B K M – 1 0 3 )
```
ADDRESS Menu

Settings made with the menu items are as follows:

**SINGLE:** Control only a specified monitor. Enter the monitor address.
**GROUP:** Control only a specified monitor group. Enter the group address.
**ALL:** Control all monitors.
**ALL POWER ON:** Turn all connected monitors on.
**ALL POWER OFF:** Turn all connected monitors off.
**DISPLAY MONITOR ADDRESS:** When this item is selected, each connected monitor displays its monitor address on its screen.
**DISPLAY GROUP ADDRESS:** When this menu is selected, each connected monitor displays its group address on its screen.
**SET UP PVM (BKM-103):** Transfer the INPUT CONFIG settings of a BVM monitor to a PVM monitor. The BKM-103 Serial Remote Interface Kit must be installed in the PVM monitor, and the monitor address of the PVM monitor must be selected using the SINGLE menu item.

### Note

In SINGLE mode, the monitor can be controlled by only one control unit at one time.

**To cancel the remote control mode**
When the ADDRESS button's green LED is turned on, the monitor is in remote control mode. (Menu and panel operation is for another monitor or monitor group except the ADDRESS button operation.) To return to normal mode, press the ADDRESS button.

**To exit the ADDRESS menu**
Press the ADDRESS button or the MENU button.

# Specifications

## General

System
525 lines, 60 fields per second interlaced
625 lines, 50 fields per second interlaced

CRT
Super fine pitch Trinitron
Aperture grille pitch:
0.25 mm (BVM-14F5U/14F5E) or 0.22 mm (BVM-14E5U/14E5E), 90-degree deflection, 29.4 mm diameter in-line gun.
Effective picture size:
$268 \times 201$ mm ($10\,^5/_8 \times 8$ inches) (w/h)
332 mm ($13\,^1/_8$ inches) (diagonal size)
CRT protection: EHT (extremely high tension) protectiontype
Warm-up time: approx. 30 minutes
Anode voltage: 25 kV with no beam current
Nominal chromaticity coordinates:

SMPTE phosphor (BVM-14F5U)

|   | x | y |
|---|------|------|
| R | 0.630 | 0.340 |
| G | 0.310 | 0.595 |
| B | 0.155 | 0.070 |

EBU phosphor (BVM-14F5E)

|   | x | y |
|---|------|------|
| R | 0.640 | 0.330 |
| G | 0.290 | 0.600 |
| B | 0.150 | 0.060 |

Power requirements
100 to 240 V AC, 10%, 50/60 Hz
Power consumption
110 W
Dimensions
$482 \times 280 \times 530$ mm
($19 \times 11\,^1/_8 \times 20\,^7/_8$ inches) (w/h/d)
Mass
Approx. 25 kg (55 lb 1 oz)

## Input/output Connectors

Video input
BNC type, 3 (with three loop-through outputs)
R/G/B: 1 Vp-p ±6 dB, positive, high impedance
Y: 1 Vp-p ±6 dB, positive, high impedance
R–Y/B–Y: 0.7 Vp-p ±6 dB, positive, high impedance

Sync input
BNC type, 1 (with loop-through output)
Composite sync: 0.3 to 8 Vp-p, negative, high impedance

Return loss
More than 46 dB (7 MHz, with 75-ohm termination)

Remote control
OPTION
Mini-DIN 8-pin, 1
CONTROL UNIT
D-sub 9-pin, 1
REMOTE 1
D-sub 9-pin, 1 (with loop-through output), RS-485 serial interface
REMOTE 2
D-sub 9-pin, 1 (with loop-through output)
ISR
D-sub 9-pin, 1

## Video Signal

Differential gain
Less than 2% (for luminance from 0 to 100 cd/m$^2$)
Differential phase
Less than 2° (for luminance from 0 to 100 cd/m$^2$)
Frequency response
100 Hz to 10 MHz, ±1 dB
DC restoration
Back porch type
Black level: fluctuation less than 1% for 10 to 90% APL input signal variation.

## Synchronization

AFC time Constant   0.5 ms (fast mode)
                    2 ms (normal mode)
Line pull range/line hold range
                    Greater than ±500 Hz (with 0.5 ms
                    AFC time constant)
Vertical blanking time
                    Normal: less than 1 ms.
                    Underscan: less than 0.8 ms
Horizontal blanking time
                    Less than 10 μs

## Picture Performance

Normal scan        5% overscan of CRT effective
                   screen area (adjustable range
                   greater than ±15%)
Underscan          3% underscan of CRT effective
                   screen area (adjustable range
                   greater than ±15%)
Linearity          Within a central area bounded by a
                   circle with a diameter equal to the
                   picture height, less than 0.5% of
                   the picture height, and outside the
                   same area, about 1% of the
                   picture height
Color temperature
                   D65, D93 (adjustable to other color
                   temperatures)
Convergence error
                   Within a central area bounded by a
                   circle with a diameter equal to the
                   picture height: less than 0.3 mm
                   Outer area of the above-mentioned
                   circle: less than 0.6 mm
Standard luminescence
                   $100 \ cd/m^2$ (at standard 1 Vp-p
                   100% white signal)
Raster size stability
                   Less than 1% of picture height (at
                   $100 \ cd/m^2$ peak luminescence, 10
                   to 90% APL)
Scan delay         Horizontal: Approx. $^1/_4$ line
                   Vertical: Approx. $^1/_2$ field
Resolution         BVM-14F5U/14F5E:
                   800 TV lines (at screen center,
                   $100 \ cd/m^2$ luminescence)
                   BVM-14E5U/14E5E:
                   900 TV lines (at screen center,
                   $100 \ cd/m^2$ luminescence)

## Environmental Conditions

Operating temperature
                   0°C to 40°C (32°C to 104°F)
Optimum operating temperature
                   20°C to 30°C (68°F to 86°F)
Operating humidity
                   0% to 90% (no condensation)

## Accessories Supplied

AC power cord (1)
Cord stopper (1)
Tally plate (1)
Operation manual (1)
Fuse (2)

Design and specifications are subject to change
without notice.