SONY

TRINITRON® COLOR VIDEO MONITOR

BVM-20F1U/20F1E
BVM-20E1U/20E1E
BVM-14F1U/14F1E
BVM-14E1U/14E1E
BVM-14F5U/14F5E
BVM-14E5U/14E5E

Trinitron

OPERATION MANUAL English

1st Edition (Revised 7)

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.

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 SVT, three 16 or 18 AWG wires
Length	Less than 2.5 m (8 ft 3 in)
Rating	Minimum 10 A, 125 V

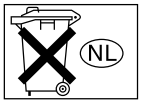
Using this unit at a voltage other than 120V may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

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.

Voor de klanten in Nederland



- Dit apparaat bevat een vast ingebouwde batterij die niet vervangen hoeft te worden tijdens de levensduur van het apparaat.
- Raadpleeg uw leverancier indien de batterij toch vervangen moet worden.
  De batterij mag alleen vervangen worden door vakbekwaam servicepersoneel.
- Gooi de batterij niet weg maar lever deze in als klein chemisch afval (KCA).
- Lever het apparaat aan het einde van de levensduur in voor recycling, de batterij zal dan op correcte wijze verwerkt worden.

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.

For the customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Ensure that your equipment is connected correctly - if you are in any doubt consult a qualified electrician.

For the customers in Europe

This product with the CE marking complies with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.
Compliance with these directives implies conformity to the following European standards:

- EN60950: Product Safety
- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment(s):
E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors) and E4 (controlled EMC environment, ex. TV studio).

Pour les clients européens

Ce produit portant la marque CE est conforme à la fois à la Directive sur la compatibilité électromagnétique (EMC) (89/336/CEE) et à la Directive sur les basses tensions (73/23/CEE) émises par la Commission de la Communauté européenne.
La conformité à ces directives implique la conformité aux normes européennes suivantes:

- EN60950: Sécurité des produits
- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans les environnements électromagnétiques suivants:
E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et E4 (environnement EMC contrôlé ex. studio de télévision).

Für Kunden in Europa

Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt sowohl die EMV-Direktive (89/336/EEC) als auch die Direktive Niederspannung (73/23/EEC) der EG-Kommission.
Die Erfüllung dieser Direktiven bedeutet Konformität für die folgenden Europäischen Normen:

- EN60950: Produktsicherheit
- EN55103-1: Elektromagnetische Interferenz (Emission)
- EN55103-2: Elektromagnetische Empfindlichkeit (Immunität)

Dieses Produkt ist für den Einsatz unter folgenden elektromagnetischen Bedingungen ausgelegt:
E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtbereich im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio).

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Precaution

On safety

- Operate the unit only with a power source as specified in “Specifications” section.
- The nameplate indicating operating voltage, power consumption, etc., is located at the rear.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On cleaning

To keep the unit looking brand-new, periodically clean it with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since they will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

On repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

If you have any questions about this unit, contact your authorized Sony dealer.

On magnetism

- Do not place the unit near any objects or pieces of equipment which generate magnetism, such as magnets, speakers, electric clocks, toys using magnets, health appliances, etc. Magnetism will cause picture bounce, oscillations or picture discoloration.
- Also, the picture may become fuzzy or the colors may not reproduce correctly due to earth magnetism. This depends on direction that the unit is installed. This is not equipment failure. In such a case, simply degauss the unit.

On the CRT

- Dust accumulates on the CRT easily. Clean the CRT when necessary with a soft cloth.
  The surface of the CRT is easily scratched; therefore, do not rub or touch the surface of the CRT unnecessarily since this may result in a scratched picture tube.
- If you touch the surface of the CRT, you may feel a weak electrical shock. This is simply static electricity that is generated on the surface of the CRT. It will not affect the human body.

Overview

The BVM-20F1U/20F1E/20E1U/20E1E, BVM-14F1U/14F1E/14E1U/14E1E and BVM-14F5U/14F5E/14E5U/14E5E Trinitron®1) Color Video Monitors are high-performance 20- and 14-inch color video monitors. They are 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.

Model	Aperture grille pitch	Resolution at the center of the picture
BVM-20F1U/20F1E	0.30 mm	900 TV lines
BVM-20E1U/20E1E	0.25 mm	1000 TV lines
BVM-14F1U/14F1E	0.25 mm	800 TV lines
BVM-14E1U/14E1E	0.22 mm	900 TV lines
BVM-14F5U/14F5E	0.25 mm	800 TV lines
BVM-14E5U/14E5E	0.22 mm	900 TV lines

Separate control unit (BVM-20FIU/20FIE/20EIU/20EIE/14FIU/14FIE/14EIU/14EIE only)

The BVM-20F1U/20F1E/20E1U/20E1E/14F1U/14F1E/14E1U/14E1E are controlled by a separate control unit, such as a BKM-10R/11R Monitor Control Unit. Use of a separate control unit reduces the space needed for the equipment. With the BVM-20F1U/20F1E/20E1U/20E1E, it is also possible to attach the BKM-10R with an optional BKM-32H Monitor Control Unit Attachment Kit.

Controlling monitor groups

Up to 32 monitors can be controlled from this monitor. First, the built-in menu system is used to 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 this monitor 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 this monitor 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-20F1U/20F1E/20E1U/20E1E/14F5U/14F5E/14E5U/14E5E may be fitted with up to four adaptors, and the BVM-14F1U/14F1E/14E1U/14E1E will accept two.

4:3/16:9 dual aspect ratio design

The monitors 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 Caption Vision.
- 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 monitor may be mounted in an EIA-standard 19-inch rack, using an optional BKM-30E20/30E14/31E14 Rack Mount Kit.
- Controllable from the optional BKM-10R/11R Monitor Control Unit. (For details about connection and operation, refer to the BKM10R/11R Operation Manual.

Options

For external control

BKM-10R Monitor Control Unit

External control unit for the BVM-20F1U/20F1E/20E1U/20E1E and BVM-14F1U/14F1E/14E1U/14E1E.

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 BKM-10R/11R or BVM-14F5U/14F5E/14E5U/14E5E.

BKM-14L Auto Setup Probe

This probe allows automatic adjustment of this monitor's color temperature.

For screen

BKM-33H20 Monitor 16:9 Mask

Adapts the BVM-20F1U/20F1E/20E1U/20E1E screen for 16:9 aspect ratio display.

BKM-33H14 Monitor 16:9 Mask

Adapts the BVM-14F1U/14F1E/14E1U/14E1E/14F5U/14F5E/14E5U/14E5E screen for 16:9 aspect ratio display.

For installation

BKM-30E20 Rack Mount Kit

Rack mount kit for mounting the BVM-20F1U/20F1E/20E1U/20E1E in an EIA standard 19-inch rack.

BKM-30E14 Rack Mount Kit

Rack mount kit for mounting the BVM-14F5U/14F5E/14E5U/14E5E in an EIA standard 19-inch rack.

BKM-31E14 Rack Mount Kit

Rack mount kit for mounting the BVM-14F1U/14F1E/14E1U/14E1E in an EIA standard 19-inch rack.

BKM-32H Monitor Control Unit Attachment Kit

Assembly kit for attaching a BKM-10R Monitor Control Unit to the BVM-20F1U/20F1E/20E1U/20E1E monitor.

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-20F1U/20F1E/20E1U/20E1E/14F5U/14F5E/14E5U/14E5E may be fitted with up to four adaptors, and the BVM-14F1U/14F1E/14E1U/14E1E will accept two.

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.

For information about the INPUT CONFIGURATION menu, see "Setting the Input Configuration —INPUT CONFIGURATION Menu" on page 33.

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-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-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.

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.

BKM-48X HD Analog Input Expansion Adaptor

Increases the number of input/output channels. Includes input/output connectors for six analog channels. For each input/output connector, either floating or ground can be selected by the switch inside the board. 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 monitor 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.

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 details of the INPUT CONFIGURATION menu, see "Setting the Input Configuration —INPUT CONFIGURATION Menu" on page 33.

		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	BKM-48X[1] HD Analog Input Expansion Adaptor
Serial digital input	**Component 525/625**	⓪	⓪					○		
	Composite NTSC	○	⓪					○		
	Composite PAL	○	⓪					○		
Analog input	**Composite NTSC**	○	⓪	⓪	○	○	⓪	○	○	○
	Composite PAL	○	⓪	○	⓪	○	⓪	○	○	○
	Composite PAL-M	○	○	○	○	⓪	○	○	○	○
	Composite SECAM	○	○	○	○	○	⓪	○	○	○
	Y/R–Y/B–Y 525/625	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪
	RGB 525/625	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪
	Y/C NTSC			⓪	○	○	⓪		○	○
	Y/C PAL			○	⓪	○	⓪		○	○
	Y/C PAL-M			○	○	⓪	○		○	○
Number of digital inputs		3	3	–	–	–	–	3	–	–
Number of analog input		3	3	6	6	6	6	3	6	6

⓪: Independent input possible

○: Input possible when used with decoder adaptor

1) Equipped with floating/non-floating ground mode selector for hum reduction.

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 installing the input adaptor in an input option slot on the rear of the monitor, or fitting a cover plate to an unused slot, always do such operation in order from the rightmost slot, as shown in Figure 1. If a BKM-20D/21D is already installed, first of all remove it and then do the installing operation in order from the rightmost slot.

When removing a BKM-20D/21D, always loosen all input adaptor screws and then remove in order from the rightmost slot, as shown in Figure 2.

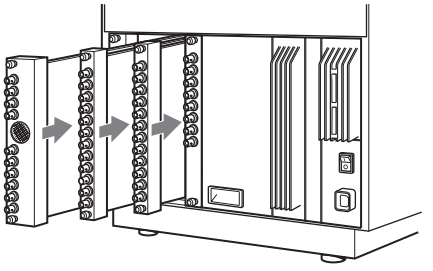


Figure 1

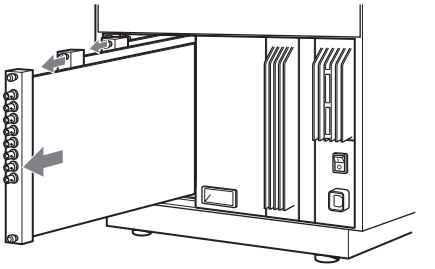


Figure 2

When one of the input option slots on the rear of the monitor has a BKM-20D/21D (optional) installed, if the slot to the right has another adaptor or the analog input connectors board, or a cover plate fitted, as shown in Figure 3, the radiation shield of the BKM-20D/21D may be damaged or detached *(see Figure 4)*. Using the BKM-20D/21D with the radiation shield damaged or detached may result in electromagnetic interference. Always use care about the radiation shield.

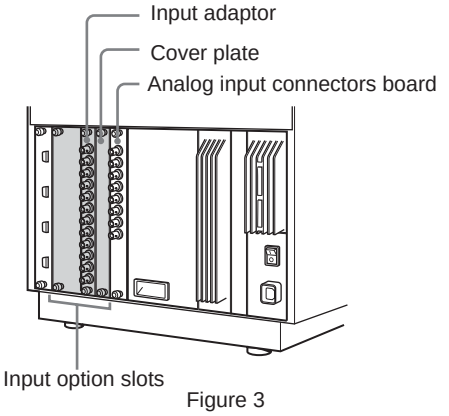


Figure 3

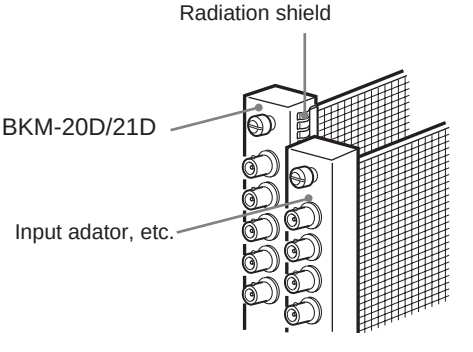
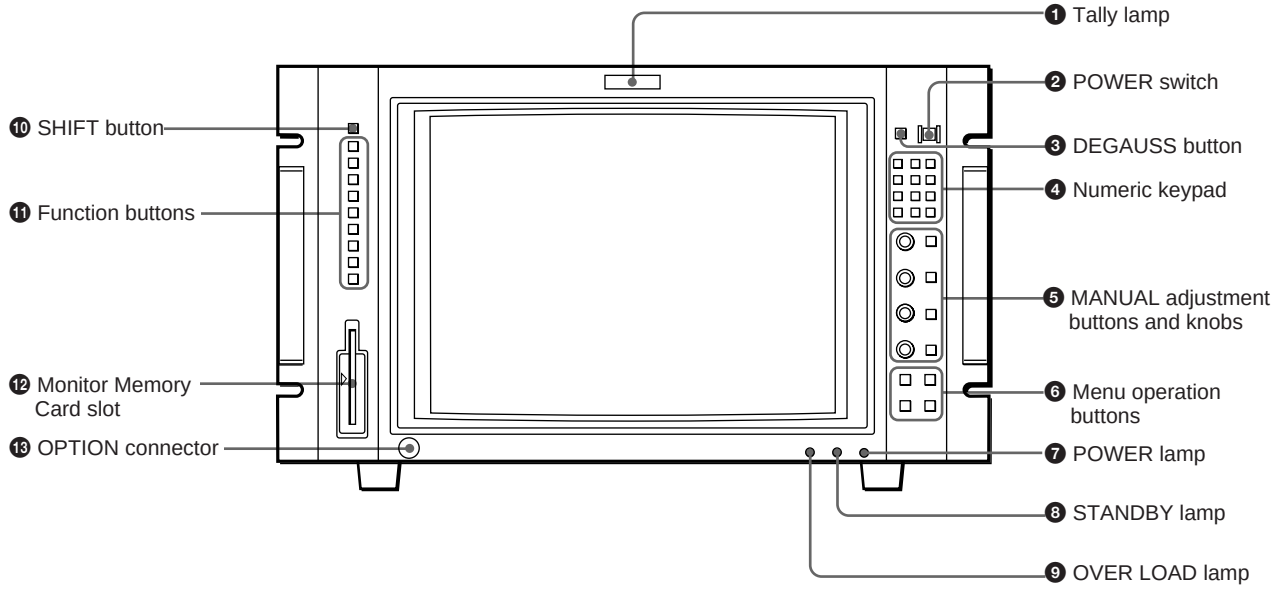


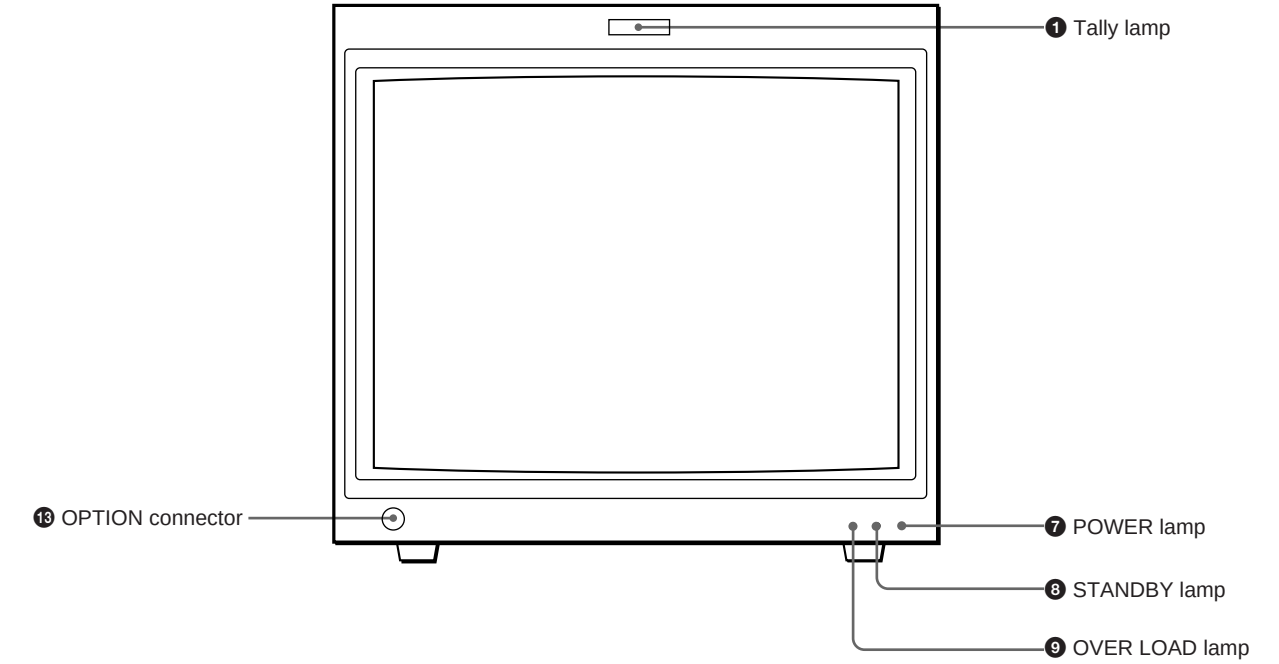
Figure 4

Front Panel

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



BVM-20F1U/20F1E/20E1U/20E1E/14F1U/14F1E/14E1U/14E1E



(Illustration: BVM-20F1U/20F1E/20E1U/20E1E)

This manual explains the location and function of parts and controls using the control panel of the BVM-14F5U/14F5E/14E5U/14E5E. The explanation applies to BVM-20F1U/20F1E/20E1U/20E1E/14F1U/14F1E/14E1U/14E1E with the BKM-10R/11R Monitor Control Unit.

❶ Tally lamp

With factory settings, the Tally lamp lights when pins No. 8 and No. 9 of the REMOTE 2 connector on the rear panel are shorted. By changing the setting in the REMOTE menu, different pins on the remote connector can be used to control the tally lamp.

For details of the REMOTE menu, see "Assigning the Remote Control Functions —REMOTE Menu" on page 38.

❷ POWER switch

Press to turn on/off the monitor. By setting with the ADDRESS menu, it is possible to turn on/off the power of the specified monitors only, or of all monitors at the same time.

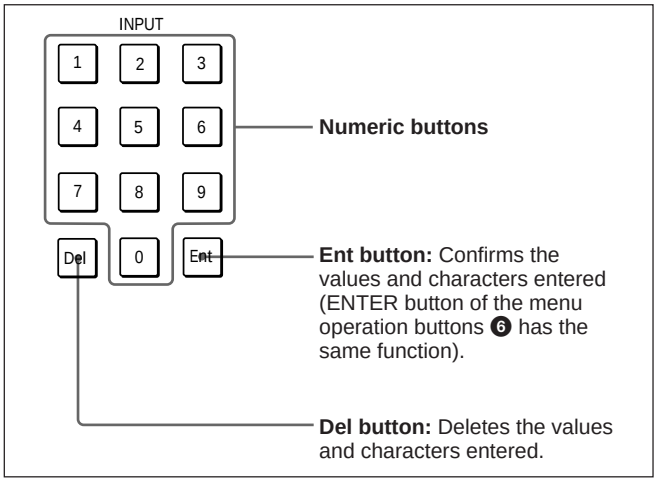
For details of the ADDRESS menu, see "Selecting the Monitor to Control - ADDRESS Menu" on page 54.

❸ DEGAUSS button

Press to degauss the CRT (every time the monitor is turned on, the CRT is degaussed automatically). To degauss again, wait for more than five minutes.

❹ Numeric keypad

Use to designate the channel number for the input signal to be monitored, or to enter the setting values with the menus.



Channel number entry method:

(In the explanation below, x represents any digit between 1 and 9, and y represents any digit between 0 and 9.)

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

❺ MANUAL adjustment buttons and knobs

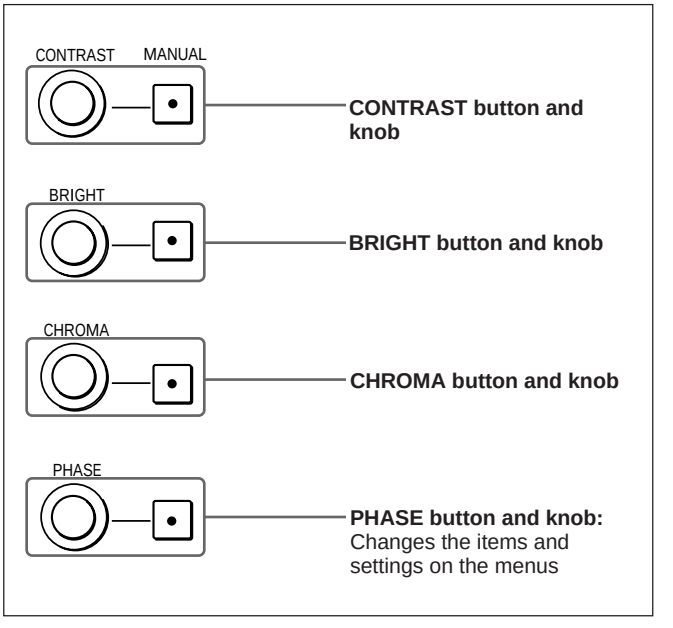
Each press of one of these buttons turns the button's green LED on or off. When the corresponding button is on (lit), it is possible to manually adjust the contrast, brightness, chroma and phase by turning the corresponding knobs. They are also used to enter the setting values with the menus. It is possible to set the preset value for each adjusting item with the CONTROL PRESET ADJ menu.

For details of the CONTROL PRESET ADJ menu, see "Preset Adjustment of the Picture Level Control Knobs - CONTROL PRESET ADJ menu" on page 25.

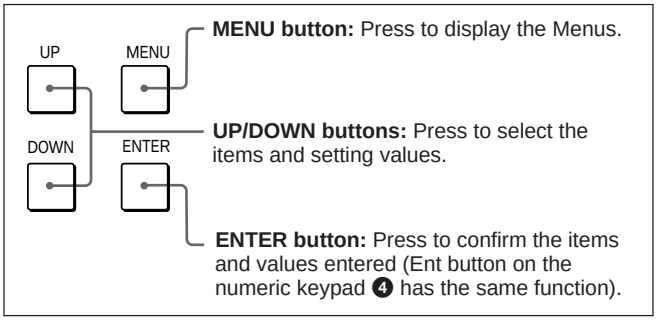
Notes

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.



❻ Menu operation buttons



For details of menu operation, see "Basic Menu Operations" on page 22.

❼ POWER lamp

Lights when the monitor is put into operation mode from standby mode (see STANDBY lamp ❽) by pressing the POWER switch ❷.

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, then will light).
- The monitor is changed from operation mode to standby mode by external control.

❾ OVER LOAD lamp

Lights to warn of CRT overload.

⑩ SHIFT button

Press to select one of the two functions designated to the function buttons ⑪.

Each time the SHIFT button is pressed, the LED turns on (SHIFT ON: lit in orange) and off (SHIFT OFF: lit in green).

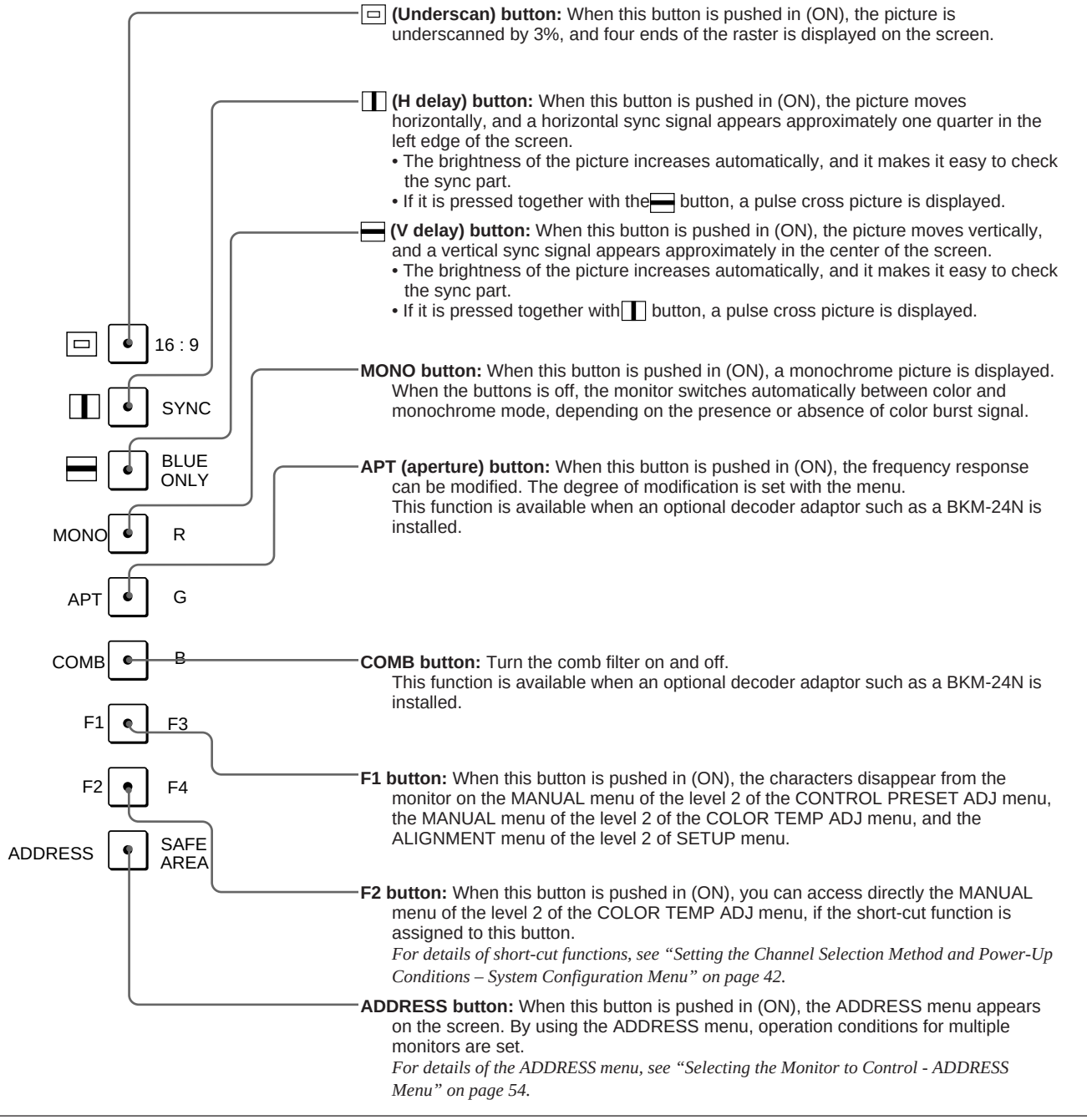
SHIFT OFF: The functions indicated on the left side of the function buttons can be used.

SHIFT ON: The functions indicated on the right side of the function buttons can be used.

⑪ Function buttons

Change the operation conditions for the monitor. Each time the button is pressed, the LED turns on and turns off, and the operation conditions are changed. Each button has two functions. Select one of the two functions by pressing the SHIFT button ⑩. When the SHIFT button is set to ON, the LED lights in orange, and when the SHIFT button is set to OFF, the LED of each button lights in green.

SHIFT OFF (LEDs of function buttons in green)



(Underscan) button: When this button is pushed in (ON), the picture is underscanned by 3%, and four ends of the raster is displayed on the screen.

(H delay) button: When this button is pushed in (ON), the picture moves horizontally, and a horizontal sync signal appears approximately one quarter in the left edge of the screen.
- The brightness of the picture increases automatically, and it makes it easy to check the sync part.
- If it is pressed together with the button, a pulse cross picture is displayed.

(V delay) button: When this button is pushed in (ON), the picture moves vertically, and a vertical sync signal appears approximately in the center of the screen.
- The brightness of the picture increases automatically, and it makes it easy to check the sync part.
- If it is pressed together with button, a pulse cross picture is displayed.

MONO button: When this button is pushed in (ON), a monochrome picture is displayed. When the buttons is off, the monitor switches automatically between color and monochrome mode, depending on the presence or absence of color burst signal.

APT (aperture) button: When this button is pushed in (ON), the frequency response can be modified. The degree of modification is set with the menu.
This function is available when an optional decoder adaptor such as a BKM-24N is installed.

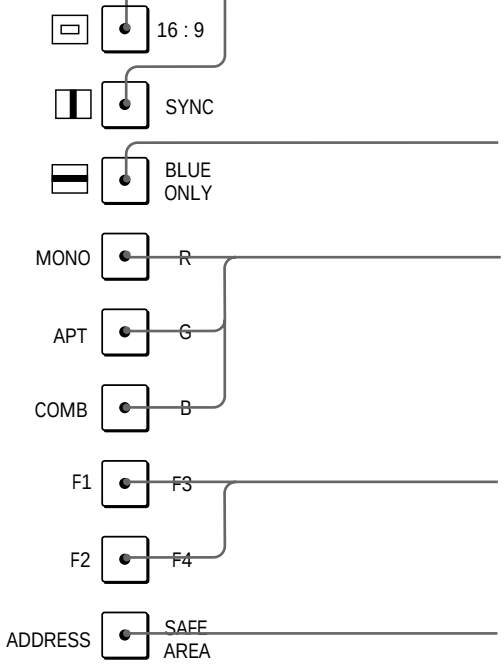
COMB button: Turn the comb filter on and off.
This function is available when an optional decoder adaptor such as a BKM-24N is installed.

F1 button: When this button is pushed in (ON), the characters disappear from the monitor on the MANUAL menu of the level 2 of the CONTROL PRESET ADJ menu, the MANUAL menu of the level 2 of the COLOR TEMP ADJ menu, and the ALIGNMENT menu of the level 2 of SETUP menu.

F2 button: When this button is pushed in (ON), you can access directly the MANUAL menu of the level 2 of the COLOR TEMP ADJ menu, if the short-cut function is assigned to this button.
For details of short-cut functions, see "Setting the Channel Selection Method and Power-Up Conditions – System Configuration Menu" on page 42.

ADDRESS button: When this button is pushed in (ON), the ADDRESS menu appears on the screen. By using the ADDRESS menu, operation conditions for multiple monitors are set.
For details of the ADDRESS menu, see "Selecting the Monitor to Control - ADDRESS Menu" on page 54.

SHIFT ON (LEDs of function buttons in orange)



16:9 button: When this button is pushed in (ON), the aspect ratio changes to 16:9, and when set to OFF, the aspect ratio changes to 4:3.

SYNC button: When this button is pushed in (ON), the monitor synchronizes to the sync signal input to the SYNC connectors on the rear panel (EXT SYNC). When set to OFF, it synchronizes to the sync signal included in the signals being monitored (INT SYNC).

Notes

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

BLUE ONLY button: When this button is pushed in (ON), red and green signals are cut, and only the blue signal is displayed as a monochrome picture. It makes it easy to adjust CHROMA and to check VTR noise.

R/G/B buttons: When these buttons are pushed in (ON), R(red), G(green), and B(blue) beams are cut respectively.

F3/F4 buttons: For future expansion.

SAFE AREA button: When this button is pushed in (ON), a safe area is displayed on the screen.

Note

When EXT SYNC is selected, the safe area display possibly may not be shown in the correct position.

⑫ Monitor Memory Card slot

Insert the BKM-12Y Monitor Memory Card (optional).

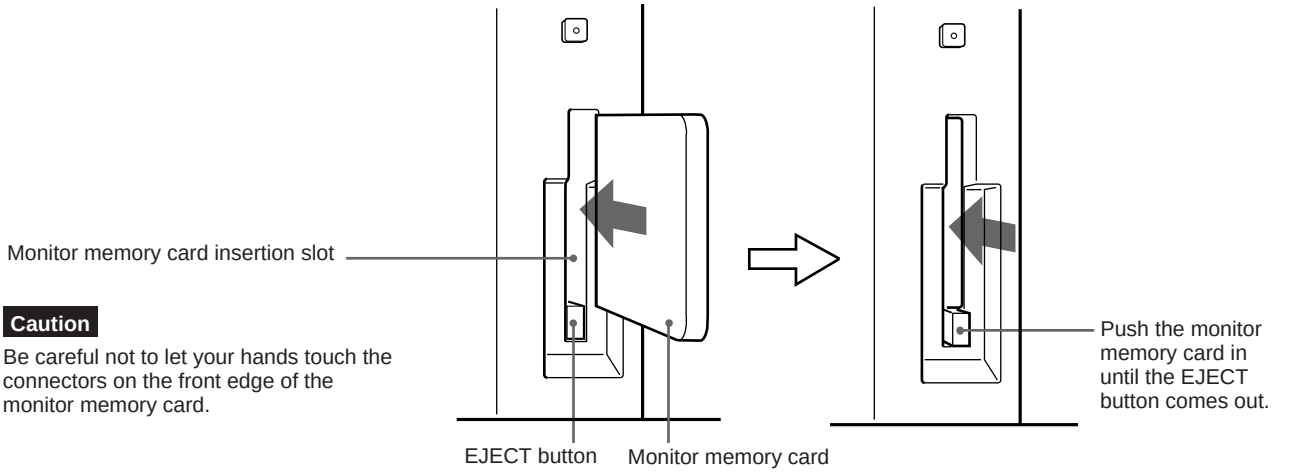
For details of operations on monitor memory card data, see "Monitor Memory Card Data Operations — MEMORY CARD menu" on page 51.

Proceed as illustrated to insert and eject the BKM-12Y Monitor Memory Card.

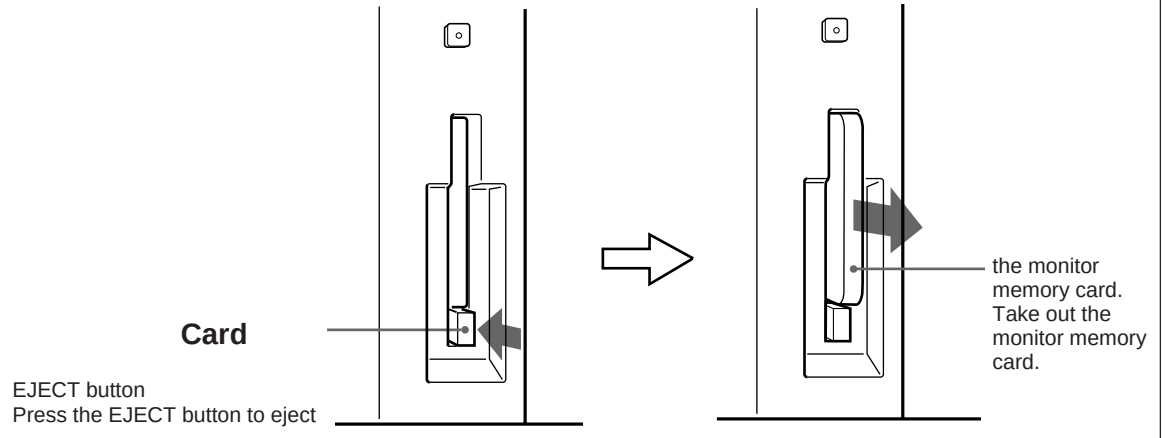
Notes

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

To insert the BKM-12Y Monitor Memory Card



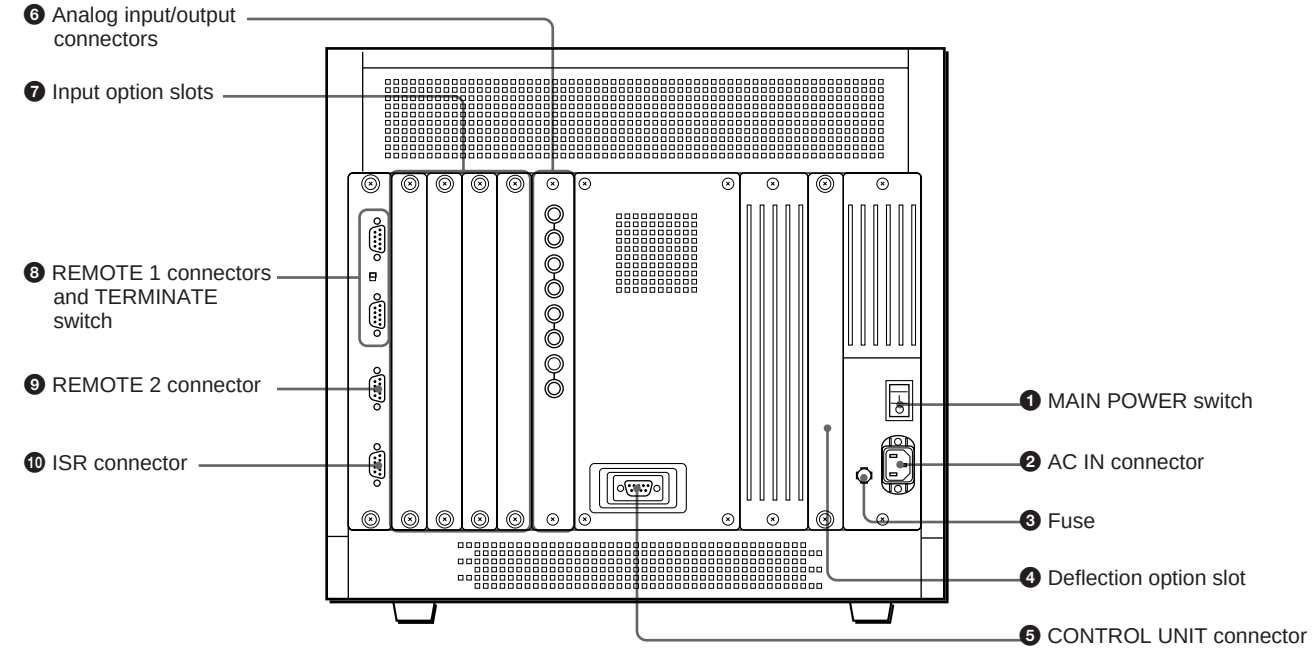
To eject the BKM-12Y Monitor Memory



⑬ OPTION connector

Used to connect the BKM-11R Monitor Control Unit or BKM-14L Auto Setup Probe.

Rear Panel



(Illustration: BVM-20F1U/20F1E/20E1U/20E1E)

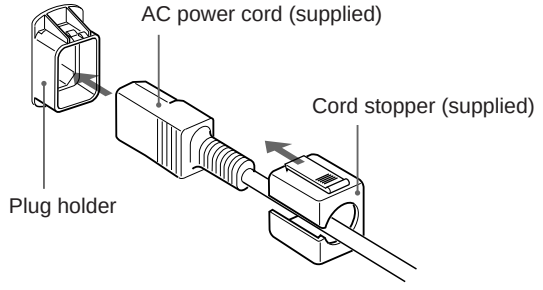
❶ MAIN POWER switch

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 details of the SYSTEM CONFIGURATION menu, see "Setting the Channel Selection Method and Power-Up Conditions —SYSTEM CONFIGURATION Menu" on page 42.

❷ AC IN connector (3-pin)

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



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 T4AH fuse.

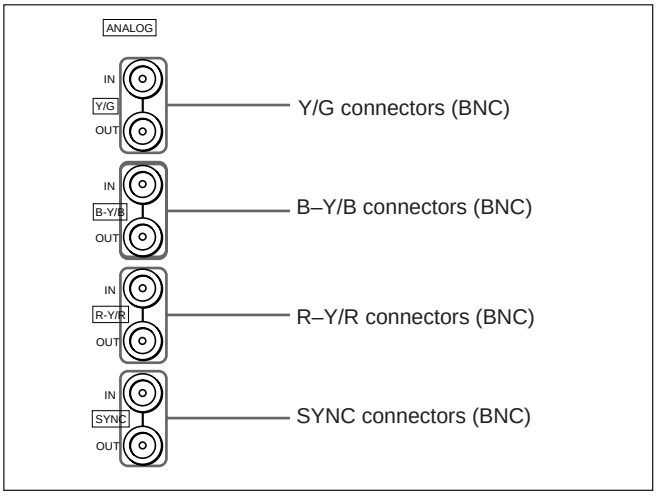
❹ Deflection option slot

Slot for future expansion.

❺ CONTROL UNIT connector (female, D-sub 9-pin)(not provided on BVM-14F5U/14F5E/14E5U/14E5E)

Connects a monitor control unit such as the BKM-10R using a straight cable with D-sub 9-pin plugs such as an RCC-5G (not supplied).

❻ Analog input/output connectors



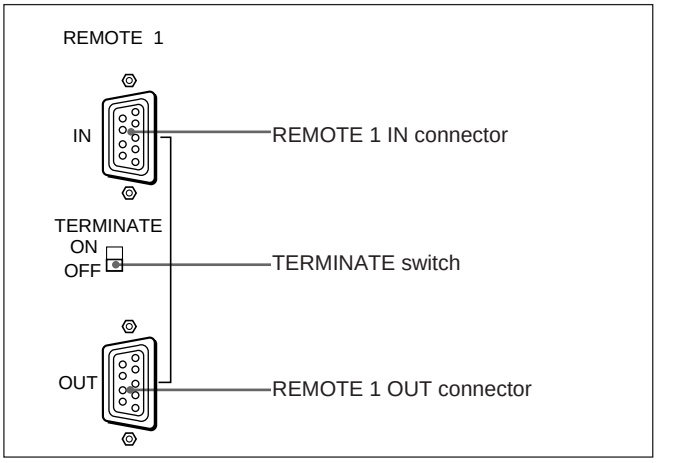
RGB signals, component signals (Y, R–Y, and B–Y), or composite sync signals can be fed in the IN connectors. The type of signal applied to each connector is set with the INPUT CONFIGURATION menu. The OUT connectors are used for loop-through output of the input signal. When not using loop-through, connect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

For details of the INPUT CONFIGURATION menu, see "Setting the Input Configuration—INPUT CONFIGURATION menu" on page 33.

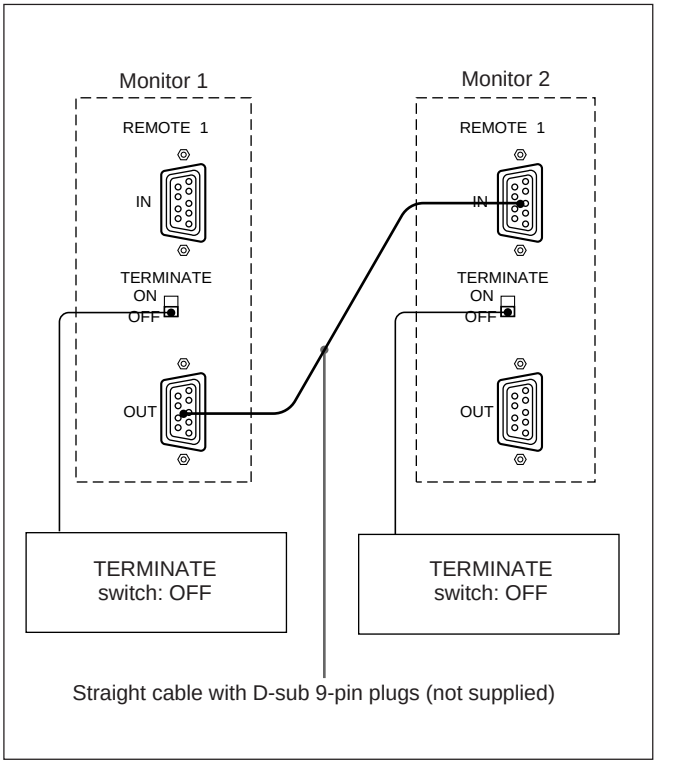
❼ Input option slots

The BVM-20F1U/20F1E/20E1U/20E1E/14F5U/14F5E/14E5U/14E5E may be fitted with up to four adaptors, and the BVM-14F1U/14F1E/14E1U/14E1E will accept two.

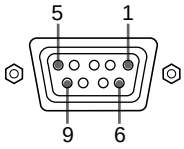
❽ REMOTE 1 connectors (female, D-sub 9-pin), and TERMINATE switch



These are RS-485 serial interface connectors, used for connecting two or more BVM/HDM-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.



❾ REMOTE 2 connector (female, D-sub 9-pin)
Forms a pararell switch and controls the monitor 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 details of 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.

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

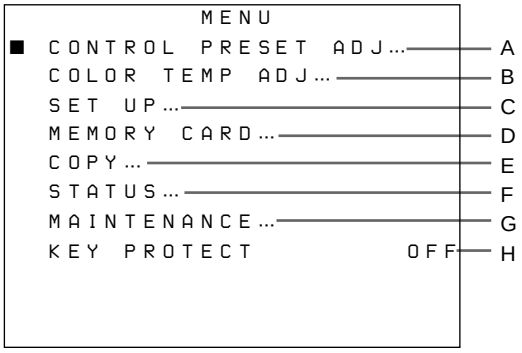
Menu Structure

The various functions and operating conditions of the monitor can be set with on-screen menus. Each menu consists of several levels of subsidiary menus or lists of settings. An overview of the menu system is shown in “Menu Directories” on page 21, and the details of the structure of each menu is shown at the top of the explanation of the menu.

Displaying Menus

To display menus, press the MENU button.

A list of menus, called “the main menu”, is displayed on the monitor screen.



Main menu

When you select a menu from the main menu, a list of items for the selected menu is displayed on the screen. The display of this list is called “the level 1 display” of the selected menu.
The adjustments and settings which can be made with the respective menus are outlined in the table below.

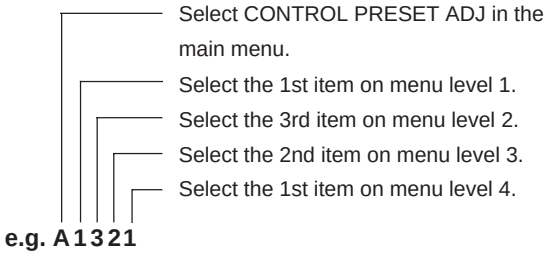
Note

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

Display of the main menu level		Functions
A	CONTROL PRESET ADJ menu	Sets the preset values for the input signal contrast, brightness, chroma, and phase.
B	COLOR TEMP ADJ menu	Sets the color temperature.
C	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.
D	MEMORY CARD menu	Operates on data in the memory card.
E	COPY menu	Copies set-up data from other connected monitors.
F	STATUS menu	Displays the information about the monitor or options installed in the monitor.
G	MAINTENANCE menu	Menu for maintenance (typically not used).
H	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.

About menu numbers

In this manual, menu numbers are used to classify the menus and show the route that you follow to reach any particular menu.
A menu number consists of a letter (alphabetical character) followed by one or more digits. The letter identifies the menu group (see the preceding page), and the digits indicate selections to be made on the respective menu levels.
For example, the menu number A1321 shows that you can reach the menu by making selections on the respective menu levels as follows.



Note

The menu numbers are merely for convenience of explanation. They do not appear on the screen of your monitor.

ADDRESS Menu

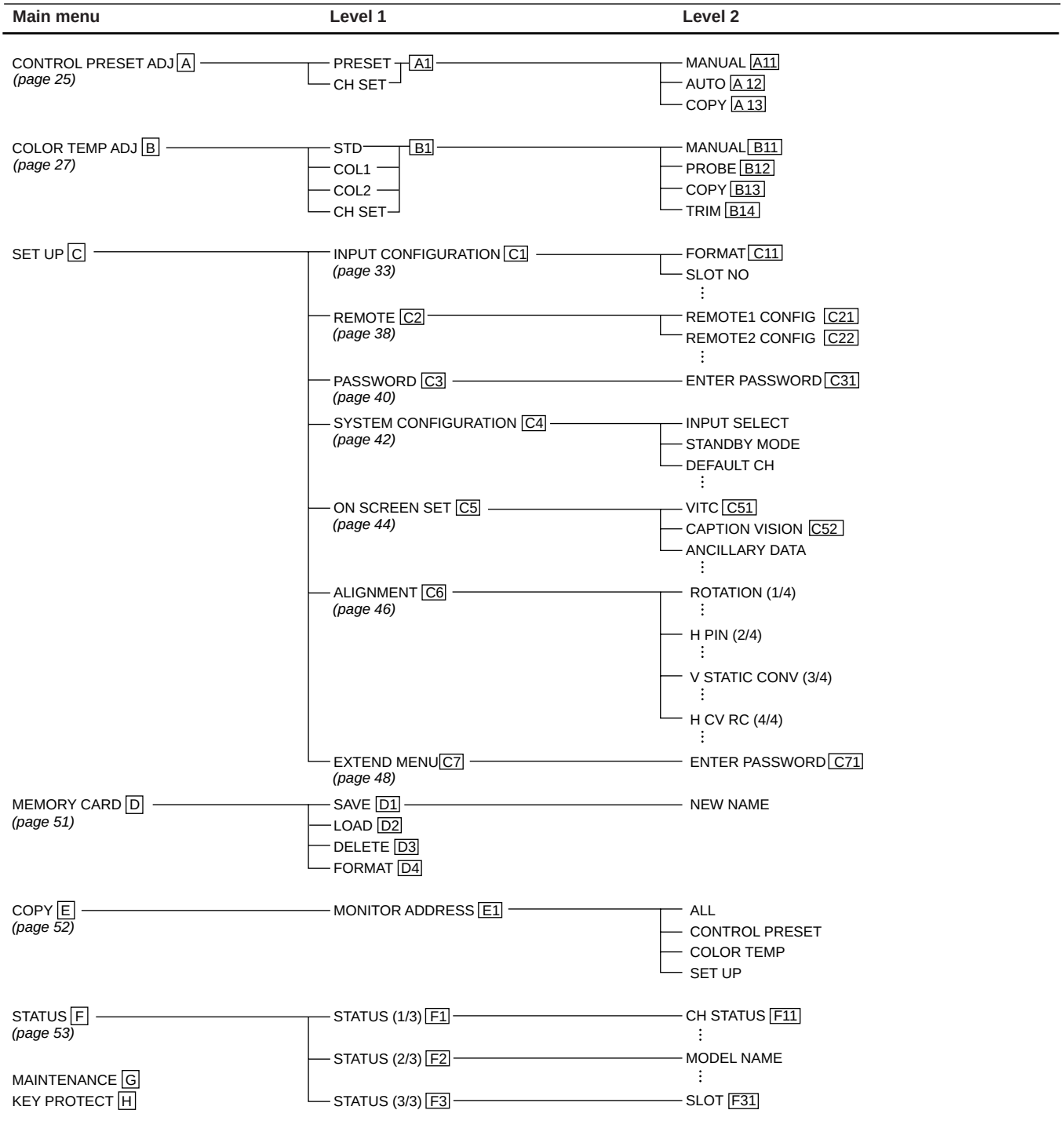
In addition to the menus listed in the table, the ADDRESS menu is provided. This ADDRESS menu is used to select the monitor or the monitor group, so that when several monitors are connected together via serial remote ports, the control panel can select which monitor to control.
To display or exit the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

For details of the ADDRESS menu, see "Selecting the Monitor to Control —ADDRESS Menu" on page 54.

Menu Directories

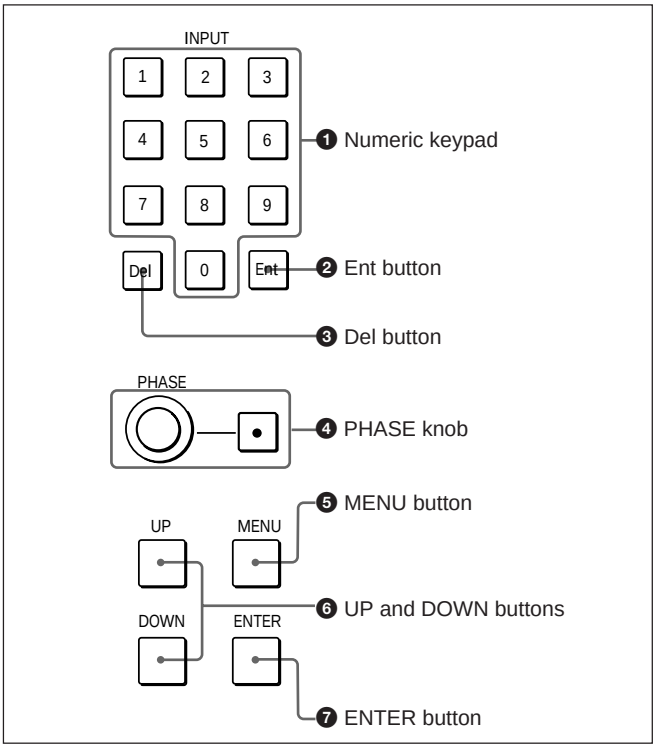
The menu system for the BVM-series monitors covered by this manual is largely divided into eight menus (or eight menu groups), which are arranged in the main menu. Each of the eight menus consists of many items (subsidiary menus and settings) arranged on several menu levels.

The diagram below shows part of the structure of the menu system from the main menu down to level 2. For the structure of each menu, see the page whose number is shown in ( ).



Menu Operation Buttons

The menus are operated using the menu operation buttons on the front panel.



The functions of the menu operation buttons are described below.

Button	Function
❺MENU button	Displays the main menu or brings you back to an upper menu level. (When on the main menu, switches back to the normal picture display.)
❻UP button	Moves the cursor upward. In setting mode, increases the setting and adjustment values.
❻DOWN button	Moves the cursor downward. In setting mode, decreases the setting and adjustment values.
❹PHASE knob	By turning this knob clockwise, the cursor moves upward. In setting mode, increases the setting and adjustment values (same function as UP button). By turning this knob counterclockwise, the cursor moves downward. In setting mode, decreases the setting and adjustment values (same function as DOWN button).
❷Ent button ❼ENTER button	Confirms the current selection of menu item/setting.
❸Del button	Deletes the values and characters entered.
❶Numeric keypad	Enters numerical values.

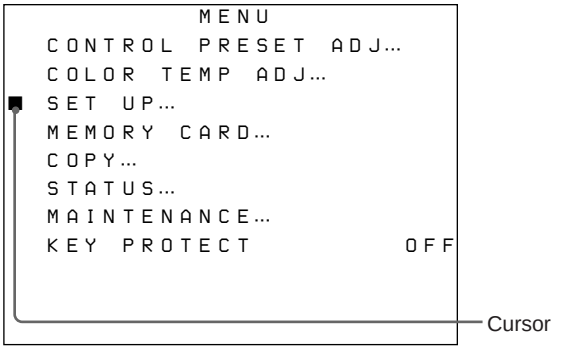
Menu Operation

This section describes how to display the desired menu (or reach the desired menu level) and how to make adjustments and settings you wish.

To display the desired menu, proceed as follows.

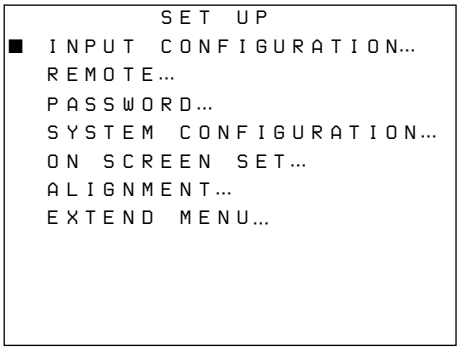
1 Press the MENU button ❺.
The main menu is displayed.

2 Using the UP and DOWN buttons ❻ or PHASE knob ❹, move the cursor to the desired item. (Example: select the SET UP menu by pressing the DOWN button.)



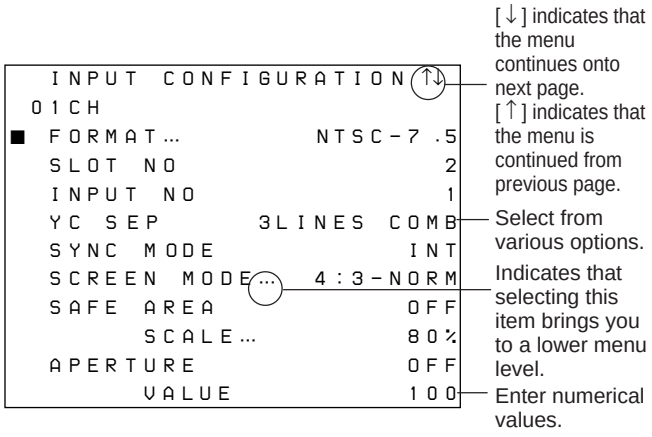
Main menu

3 Press the ENTER button ❼.
The level 1 display of the selected menu appears.



4 Repeat steps **2** and **3** until the desired menu is displayed.

On how to make adjustments and settings on the menu thus displayed, see the following descriptions.



To abort menu operation

Press the MENU button. The screen display switches back to that of the upper menu level, or to the normal picture display.
The setting or adjustment being performed is canceled, and data loading or saving is aborted.

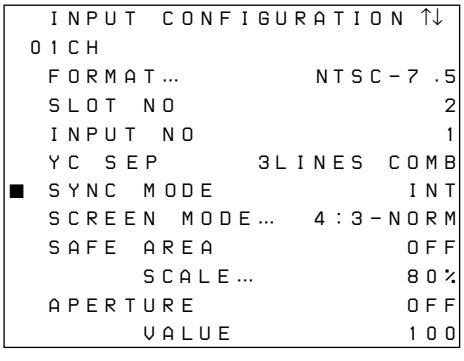
If "NG" or "ERROR" appears during menu operation

Press the MENU button. This brings you back to the initial display of the current menu.

Choosing one of two or more selections

Selecting in yellow text

1 Using the UP and DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button.
The selected item is displayed in yellow text, which indicates that the monitor is now in setting mode for that item.

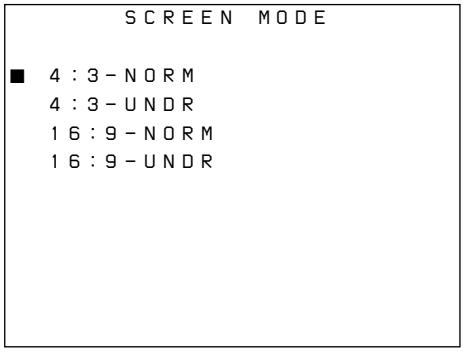


2 Using the UP and DOWN buttons or PHASE knob, change the setting.

3 Press the ENTER or Ent button.
The setting is confirmed (the item is displayed in white text again).

Selecting from a setting list

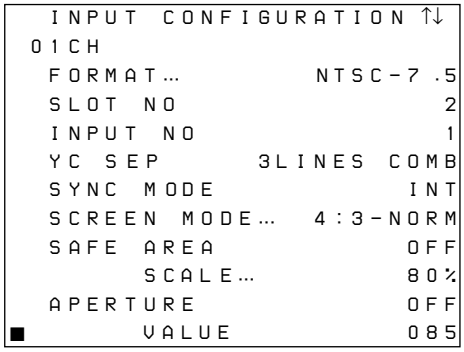
1 Using the UP and DOWN buttons or PHASE knob, move the cursor to the desired item in the setting list.



2 Press the ENTER button.
The setting is confirmed, and the screen display returns to that of the upper menu level.

Entering a numerical value

1 Using the UP and DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button.
The selected item is displayed in yellow text, which indicates that the monitor is now in setting mode for that item.



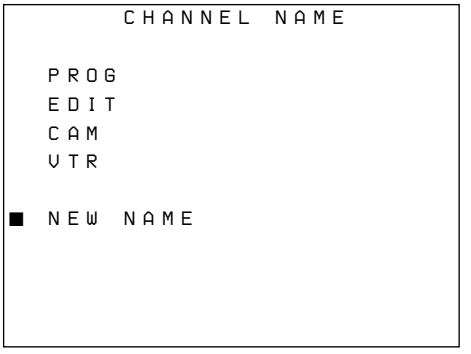
(Continued)

2 Set the value in one of the following three ways:
- Enter the value using the numeric keypad
- Select the value using the UP and DOWN buttons
- Select the value using the PHASE knob

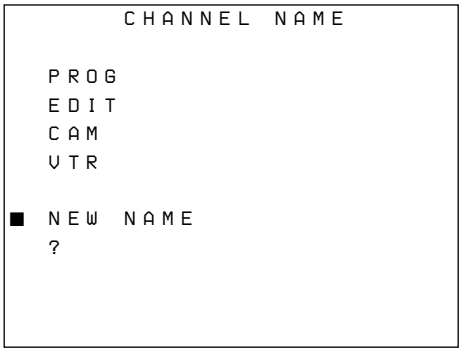
3 Press the ENTER button.
The setting is confirmed (the item is displayed in white text again).

Entering characters

1 Display the setting menu and set the cursor to NEW NAME using the UP and DOWN buttons or PHASE knob.



2 Press the ENTER button.
"?" is displayed in yellow. The "?" indicates the position where character input is possible.

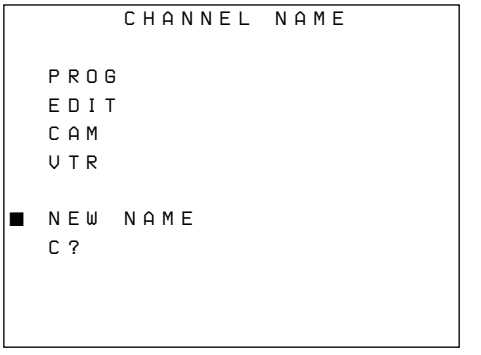


3 Select the character you wish to enter using the UP and DOWN buttons or PHASE knob. When you press the UP button, or turn the PHASE knob clockwise, characters and symbols appear one by one in the order shown below.

A, B, ...Y, Z, 0, 1, ...8, 9, (,), :, ;, ., -, +, /, &, CH, (space), ?

If you press the DOWN button or turn the PHASE knob counterclockwise, the characters and symbols appear in the reverse order.

4 Press the ENTER button.
The selected character is entered.



5 Repeat steps **3** and **4** until all the desired characters are entered, then press the ENTER button.
The entered characters are confirmed, and the screen display returns to that of the upper menu level.

To correct the entered character

Press the Del button on the numeric keypad. The character on the left side of the "?" (in yellow) is deleted. Now you can enter the correct character.

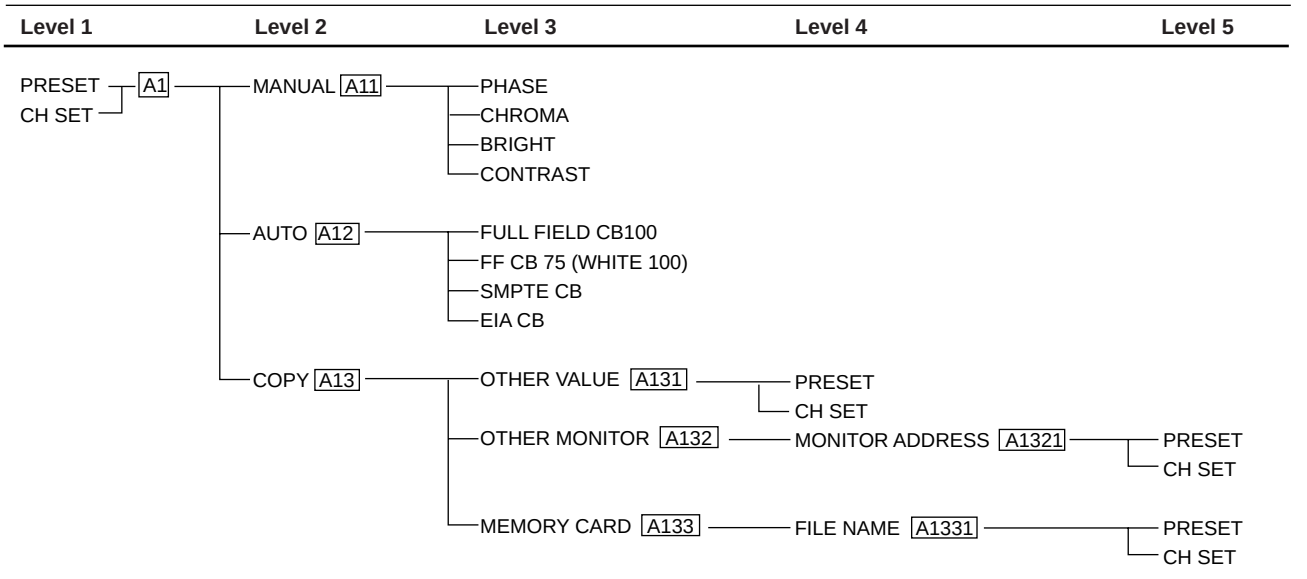
Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ Menu

Overview

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 of the CONTROL PRESET ADJ Menu [A]



Constituent Menus of the CONTROL PRESET ADJ Menu

This section describes the functions of the constituent menus of the CONTROL PRESET ADJ menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

[A] CONTROL PRESET ADJ menu
Select either PRESET or CH SET. ⇨ [A1]
PRESET...: Set common values.
CH SET...: Set values for each individual channel.

[A1] PRESET/CH SET menu
Select the setting method.
MANUAL...: Set with the MANUAL knobs. ⇨ [A11]
AUTO...: Set by automatic adjustment. ⇨ [A12]
COPY...: Copy data from elsewhere. ⇨ [A13]

A11 **MANUAL menu**
Adjust values by turning the PHASE, CHROMA, BRIGHT, and/or CONTRAST knobs. After the adjustment, press the ENTER button to confirm the adjusted values.
PHASE: xxxx
CHROMA: xxxx
BRIGHT: xxxx
CONTRAST: xxxx

When you want to erase characters from the screen while adjusting manually
Press the F1 button. The characters disappear. To display the characters again, press the F1 button again.

To reset the setting to the default
Press the corresponding MANUAL button. The adjusted value is reset to 1000 (default).

A12 **AUTO menu**
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

Note
When you execute the AUTO menu, SYNC button should be set to OFF (INT SYNC). EXT SYNC will cause an error abortion of auto adjustment procedure.

A13 **COPY menu**
Select the source to be copied from.
OTHER VALUE...: Copy data from another channel or from PRESET setting. ⇨ A131
OTHER MONITOR...: Copy data from another monitor. ⇨ A132
MEMORY CARD...: Copy data from a memory card. ⇨ A133

A131 **OTHER VALUE menu**
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 and DOWN buttons or PHASE knob is possible without pressing the MENU button.)

A132 **OTHER MONITOR menu**
Input the address of the monitor from which the data will be copied. ⇨ A1321
MONITOR ADDRESS: Input the address.

A1321 **MONITOR ADDRESS menu**
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 and DOWN buttons or PHASE knob is possible without pressing the MENU button.)

A133 **MEMORY CARD menu**
Select the file name. ⇨ A1331
FILE NAME: Select the file name.

A1331 **FILE NAME menu**
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 and DOWN buttons or PHASE knob is possible without pressing the MENU button.)

Adjusting the Color Temperature — COLOR TEMP ADJ Menu

Overview

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.

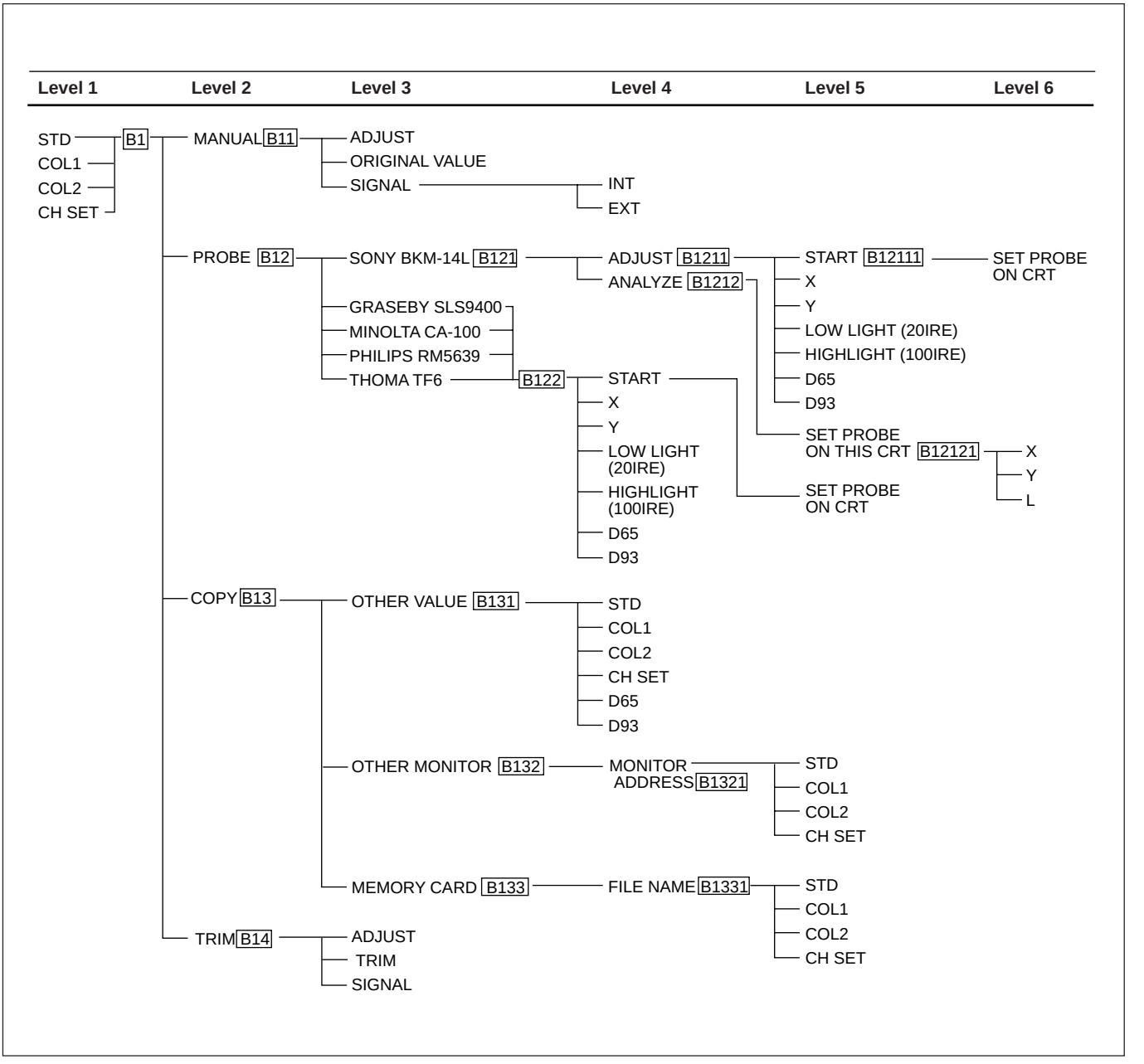
(2) Automatic adjustment using a probe
You can use the following probes for automatic adjustment of color temperature. Except for the Sony BKM-14L, a cable is required to connect the probe to the monitor.

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

For details of the required cables, see page 60.

(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 of the COLOR TEMP ADJ Menu B



Constituent Menus of the COLOR TEMP ADJ Menu

This section describes the functions of the constituent menus of the COLOR TEMP ADJ menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

B COLOR TEMP ADJ menu

Select STD, COL1, COL2, or CH SET. ⇨ B1

STD: Use common data (factory setting: D65).

COL1: Use common data (factory setting: D93).

COL2: Use common data (factory setting: D56/D65[1]).

CH SET: Use data for each individual channel (factory setting: D65). Use the numeric keypad to select the desired channel.

B1 STD/COL1/COL2/CH SET menu

Select the adjustment method.

MANUAL...: Set with the MANUAL knob. ⇨ B11

PROBE...: Set using a probe. ⇨ B12

COPY...: Copy data from elsewhere. ⇨ B13

TRIM...: Perform fine adjustments after setting the color temperature. ⇨ B14

B11 MANUAL menu

Set the following data necessary to perform knob adjustment and select **ADJUST**.

ADJUST...: Adjust the gain and bias. To shift between gain adjustment and bias adjustment, press the UP or DOWN button. Use the appropriate knob for each adjustment as described below. After the adjustment, press the ENTER button to confirm the adjusted values.

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.)

To reset RED/GREEN/BLUE to the value before adjustment

When you are adjusting the gain or bias using the MANUAL adjustment knobs, you can reset the setting to the one before adjustment by pressing the corresponding MANUAL button.

To reset all the settings at the same time, press the PHASE button.

Note

You cannot reset the setting after you press the ENTER button.

ORIGINAL VALUE...: Set the initial value.

STD: Use common data (factory setting: D65).

COL1: Use common data (factory setting: D93).

COL2: Use common data (factory setting: D56/D65[1]).

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.

1) D56: BVM-20F1U/20E1U/14F1U/14E1U/14F5U/14E5U
D65: BVM-20F1E/20E1E/14F1E/14E1E/14F5E/14E5E

To access the MANUAL menu directly
When the F2 button is assigned as the short-cut key to the MANUAL menu, you can directly access the MANUAL menu that corresponds to the color temperature setting set to the image on the screen.

For details of how to assign the short-cut key, see "Setting the Power-Up Conditions - SYSTEM CONFIGURATION Menu" on page 42.

B12 **PROBE menu**
Select the probe for color temperature adjustment.
SONY BKM-14L...: Use the BKM-14L. ⇨ B121
GRASEBY SLS 9400...: Use the SLS 9400. ⇨ B122
MINOLTA CA-100...: Use the CA-100. ⇨ B122
PHILIPS PM 5639...: Use the PM 5639. ⇨ B122
THOMA TF6...: Use the TF6. ⇨ B122
- 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.

B121 **SONY BKM-14L menu**
Select the BKM-14L operation.
ADJUST...: Perform automatic color temperature adjustment. ⇨ B1211
ANALYZE: Display readout values on the screen. ⇨ B1212

B1211 **ADJUST menu**
To start adjustment, proceed as follows.
When you use the previously adjusted values for adjustment, you can make start adjustment by selecting START without perform operations step (1) and step (2).
(1) Select either D65 or D93.
Rather than selecting D65 or D93, you may instead enter the values of the CIE 1931 color system x and y coordinates.
(2) Enter values for LOWLIGHT and HIGHLIGHT.
(3) Select START.

START: Start adjustment. ⇨ B12111
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.
D65: Use D65 setting.
D93: Use D93 setting.

B12111 **START menu**
The following message appears. Perform operation according to the message to start 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.

B1212 **ANALYZE menu**
The following message appears. Perform operation according to the message to enable the BKM-14L to read the color system and luminance value.
SET PROBE ON THIS CRT
PRESS ENTER
Attach the BKM-14L to the center of the monitor screen and press Enter. ⇨ B12121
Once the calibration has been carried out, you can use the probe to analyze the monitor's performance.

B12121 **ANALYZE menu**
Display color temperature and luminance readout values from the BKM-14L at the bottom of the screen.
X: xxxx: Display the color temperature x coordinate value.
Y: xxxx: Display the color temperature y coordinate value.
L: xxxx: Display the luminance value.

B122 **GRASEBY/MINOLTA/PHILIPS/THOMA menu**
The contents and function of this menu are the same as those of the ADJUST menu B1211 .

B13 **COPY menu**
Select the source to be copied from.
OTHER VALUE...: Copy data from another channel or from common data. ⇨ B131
OTHER MONITOR...: Copy data from another monitor. ⇨ B132
MEMORY CARD...: Copy data from a memory card. ⇨ B133

B131 **OTHER VALUE menu:**

Select one of the following. ⇨ **Copy is carried out.**

STD: Copy common data (factory setting: D65).

COL1: Copy common data (factory setting: D93).

COL2: Copy common data (factory setting: D56/D65[1)]).

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 and 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.

B132 **OTHER MONITOR menu**

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. ⇨ B1321

B1321 **MONITOR ADDRESS menu**

Select STD, COL1,COL2, or CH SET. ⇨ **Copy is carried out.**

STD: Copy common data (factory setting: D65).

COL1: Copy common data (factory setting: D93).

COL2: Copy common data (factory setting: D56/D65[1)]).

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 and DOWN buttons or PHASE knob is possible without pressing the MENU button.)

B133 **MEMORY CARD menu**

Select the file name. ⇨ B1331

B1331 **FILE NAME menu**

Select STD, COL1, COL2,or CH SET of the memory card data. ⇨ **Copy is carried out.**

STD: Copy common data (factory setting: D65).

COL1: Copy common data (factory setting: D93).

COL2: Copy common data (factory setting: D56/D65[1)]).

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 and DOWN buttons or PHASE knob is possible without pressing the MENU button.)

B14 **TRIM menu**

Trim the original setting by selecting ADJUST.

ADJUST: Adjust the gain and bias. To shift between gain adjustment and bias adjustment, press UP/DOWN buttons. Use appropriate knobs in each adjustment as described below. After the adjustment, press the ENTER button to confirm the adjusted values.

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.)

To reset RED/GREEN/BLUE to the value before adjustment

When you are adjusting the gain or bias using the MANUAL adjustment knobs, you can reset the setting to the one before adjustment by pressing the corresponding MANUAL button.

To reset all of settings at the same time, press the PHASE button.

1) D56: BVM-20F1U/20E1U/14F1U/14E1U/14F5U/14E5U
D65: BVM-20F1E/20E1E/14F1E/14E1E/14F5E/14E5E

TRIM: Select whether to add the fine adjustment to the original setting (gain and bias set in MANUAL menu [B1]).

APPLY: Adds the fine adjustment to the original setting.

When APPLY is selected, "XX/TRIM" (XX: the selected color temperature among STD, COL1 or COL2) appears on the left top on the COLOR TEMP ADJ menu.

NOT APPLY: Reset the setting to the original setting (gain and bias set in MANUAL menu [B1]).

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.

Note

Even if NOT APPLY of the TRIM item is selected, pressing the ENTER button to confirm the adjusted values results in that APPLY will be selected.

Setting the Input Configuration — INPUT CONFIGURATION Menu

Overview

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.

091: PLUGE signal (Picture Line Up Generating Equipment)
092: 20% gray signal
093: 100% white signal
094: five-step gray scale signal
095: cross hatch signal
096: cross hatch signal
097: dot signal
098: cross hatch signal
099: 0% black signal

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/48X 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

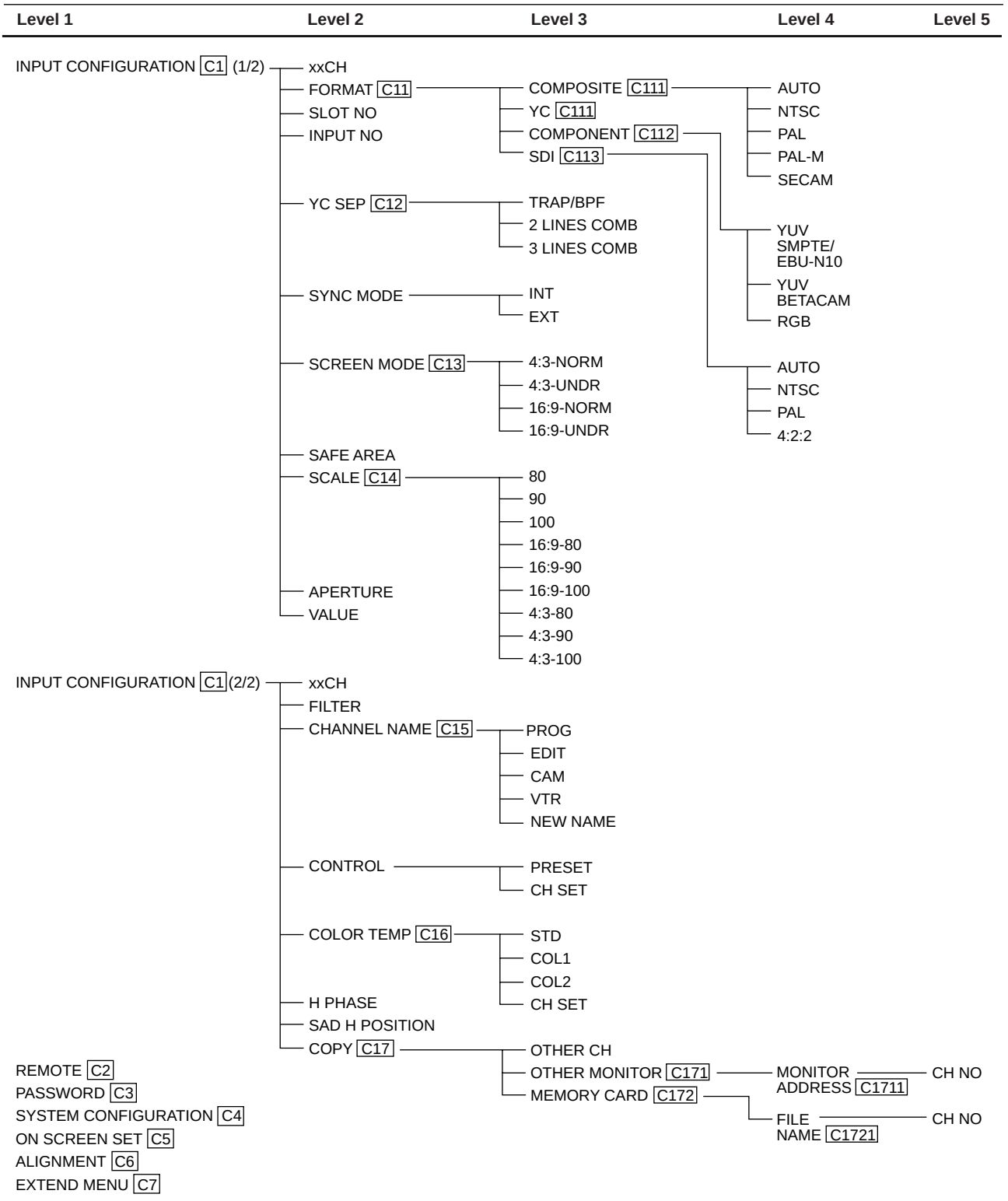
Assigning Y/C signals

It is possible to assign any Y/C signals to the input connectors of the BKM-24N/25P/26M/27T/28X/48X 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 of the SET UP Menu C / INPUT CONFIGURATION Menu C1



Constituent Menus of the SET UP / INPUT CONFIGURATION Menu

This section describes the functions of the constituent menus of the SET UP/INPUT CONFIGURATION menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

C1 (1/2) 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. ⇨ C11

SLOT NO: Enter the slot number.

INPUT NO: Enter the input connector number.

YC SEP...: Select a Y/C separation filter. ⇨ C12

SYNC MODE: Select the sync signal.

INT: Use an internal sync signal.

EXT: Use an external sync signal.

SCREEN MODE...: Select the scan size. ⇨ C13

SAFE AREA: Choose whether or not to display the safe area (OFF or ON).

SCALE...: Select the safe area size. ⇨ C14

APERTURE: Choose whether or not to use aperture adjustment (OFF or ON).

VALUE: Enter the aperture adjustment value (0 to 200).

C1 (2/2) 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. ⇨ C15

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. ⇨ C16

H PHASE: Set the horizontal picture position (–128 to +127).[1)]

SAD H POSITION: Adjust the horizontal display position of the safety area (–128 to +127). [1)]

COPY...: Select a method for copying data from elsewhere. ⇨ C17

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

C11 FORMAT menu

Select the signal format.

COMPOSITE...: Composite signal. ⇨ C111

YC...: Y/C signal. ⇨ C111

COMPONENT...: Component or RGB signal. ⇨ C112

SDI...: Serial digital signal. ⇨ C113

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).

C111 **COMPOSITE menu**

Select the format of a composite or Y/C signal.

AUTO: The format of the input signal is detected and switched automatically.
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.

NTSC: SETUP 7.5 or 0.

PAL: S (simple) or D (delay).

PAL-M: S (simple) or D (delay).

SECAM

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).

C112 **COMPONENT menu**

Select the component signal format, or RGB.

YUV SMPTE/EBU-N10

YUV BETACAM: SETUP 7.5 or 0

RGB

C113 **SDI menu**

Select the format of the serial digital signal.

AUTO: The format of the input signal is detected and switched automatically.
- 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.

NTSC: SETUP 7.5 or 0

PAL: S (simpe) or D (delay)

4:2:2

C12 **YC SEP menu**

Select a Y/C separation filter.

TRAP/BPF: Select TRAP/BPF filter.

2 LINES COMB: Select 2 LINES COMB filter.

3 LINES COMB: Select 3 LINES COMB filter.

C13 **SCREEN MODE menu**

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.

C14 **SCALE menu**

Select the setting for each items of SAFE AREA setting list.

80: Displays a 80% safe area in 4:3 screen.

90: Displays a 90% safe area in 4:3 screen.

100: Displays an 100% safe area in 4:3 screen.

16:9-80: Displays a 80% of 16:9 aspect ratio safe area in 4:3 screen.

16:9-90: Displays a 90% s16:9 aspect ratio safe area in 4:3 screen.

16:9-100: Displays an 100% 16:9 aspect ratio safe area in 4:3 screen.

4:3-80: Displays a 80% 4:3 aspect ratio safe area in 16:9 screen.

4:3-90: Displays a 90% 4:3 aspect ratio safe area in 16:9 screen.

4:3-100: Displays an 100% 4:3 aspect ratio safe area in 16:9 screen.

C15 **CHANNEL NAME menu**

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 (C1, 2/2).)

C16 **COLOR TEMP menu**

Select STD, COL1, COL2, or CH SET.

STD: Use common data (factory setting: D65).

COL1: Use common data (factory setting: D93).

COL2: Use common data (factory setting: D56/D65[1)]).

CH SET: Use data for the current channel (factory setting: D65).

C17 **COPY menu**

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. ⇨ C171

MEMORY CARD...: Copy data from a memory card. ⇨ C172

C171 **OTHER MONITOR menu**

Enter the address of the monitor from which to copy data.

MONITOR ADDRESS: Enter the address of the monitor from which to copy data. ⇨ C1711

C1711 **MONITOR ADDRESS menu**

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.)

C172 **MEMORY CARD menu**

Select the file name. ⇨ C1721

C1721 **MEMORY CARD menu**

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.)

1) D56: BVM-20F1U/20E1U/14F1U/14E1U/14F5U/14E5U
D65: BVM-20F1E/20E1E/14F1E/14E1E/14F5E/14E5E

Assigning the Remote Control Functions — REMOTE Menu

Overview

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 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 BKM-10R/11R 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

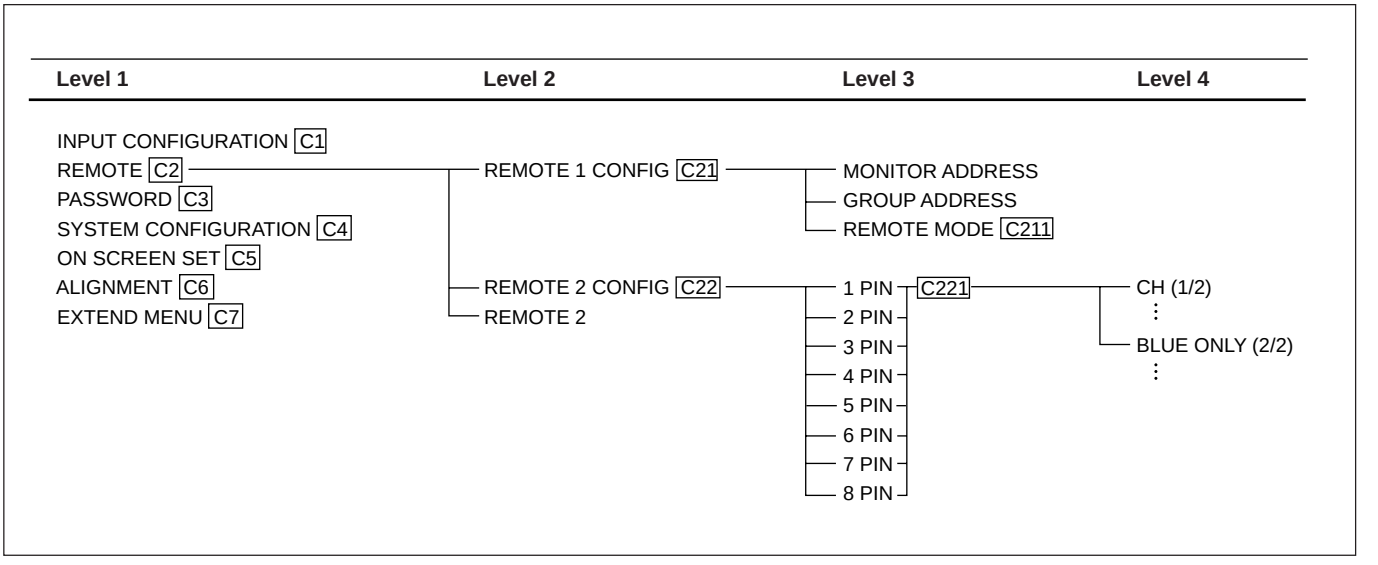
The BKM-10R/11R or HDM-14E5U, BVM-14E5U/14E5E/14F5U/14F5E/14G5U/14G5E/14G5A are able to control up to 32 monitors connected via serial remote connector (using the REMOTE 1 connector). By giving each monitor a monitor address and group number, it is possible to control just a specific monitor or monitor 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.

For details of the ADDRESS menu, see "Selecting the Monitor to Control —ADDRESS Menu" on page 55.

Note

The address number must differ from one monitor to another. If two or more monitors have the same address number, an operation error occurs.

Structure of the SET UP Menu C / INPUT REMOTE Menu C2



Constituent Menus of the SET UP / REMOTE Menu

This section describes the functions of the constituent menus of the SET UP/REMOTE menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

C2 **REMOTE menu**

Select the type of remote control.

REMOTE 1 CONFIG...: Set the address and group number of the monitor controlled via the REMOTE 1 (serial remote control) connector. ⇨ C21

REMOTE 2 CONFIG...: Set the pin assignments for the REMOTE2 (parallel remote control) connector. ⇨ C22

REMOTE 2: Select whether or not parallel remote control will be used (ON or OFF).

C21 **REMOTE 1 CONFIG menu**

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. ⇨ C211

C211 **REMOTE MODE menu**

Select a remote mode according to the type of monitors connected through the REMOTE 1 connector.

When only Sony BVM-xxE/F/G or HDM-xxE 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/G and HDM-xxE series monitor.

C22 **REMOTE 2 CONFIG menu**

Select the REMOTE 2 connector pins for which you want to change the function. The factory settings for each pin are given below. ⇨ C211

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

C221 **(1/2) 1-8 PIN menu (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.

C221 **(2/2) 1-8 PIN menu (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 details of pin connections, see the description of the REMOTE 2 connector on page 17.

Setting the Password — PASSWORD Menu

Overview

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).
A password for a service man can be created with the MAINTENANCE menu.

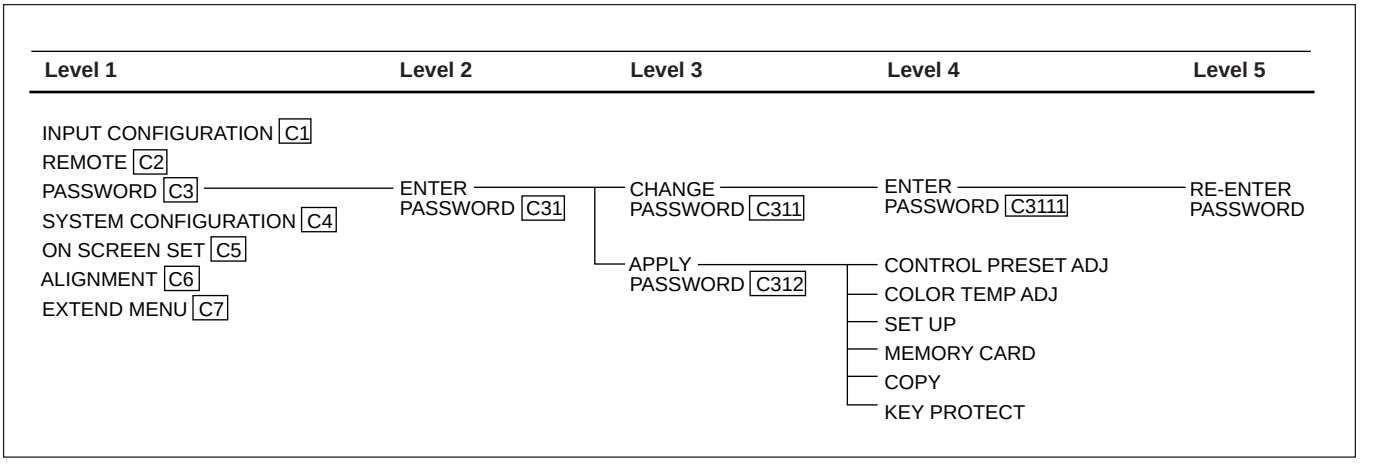
Use of the password

The message “ENTER PASSWORD” is displayed when an attempt is made to select a menu item for which the password has been applied. Then, enter the password using numeric keypad.

If the password is not entered correctly

If an incorrect password is entered, the display returns to the menu of the previous level.

Structure of the SET UP menu C / PASSWORD menu C3



Constituent Menus of the SET UP / PASSWORD Menu

This section describes the functions of the constituent menus of the SET UP/PASSWORD menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

C3 **PASSWORD menu**
Enter the password for the PASSWORD menu.
ENTER PASSWORD: Enter the password (factory setting: 9999). ⇨ C31

C31 **PASSWORD menu**
Choose what action to perform with the password.
CHANGE PASSWORD...: Change the password. ⇨ C311
APPLY PASSWORD...: Assign the password to a menu item. ⇨ C312

C311 **CHANGE PASSWORD menu**
Change the password.
ENTER NEW PASSWORD: Enter a password. ⇨ C3111

C3111 **ENTER PASSWORD menu**

Create a new 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 C31.**

C312 **APPLY PASSWORD menu**

Choose whether or not to apply the password to each menu.

CONTROL PRESET ADJ: Select YES or NO.
CONTROL TEMP ADJ: Select YES or NO.
SET UP: Select YES or NO.
MEMORY CARD: Select YES or NO.
COPY: Select YES or NO.
KEY PROTECT: Select YES or NO.

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

Overview

The SYSTEM CONFIGURATION menu is used for the following settings:

(1) Channel number entry method
Select a method to enter channel numbers using the ten-key pad, from two options.

(2) Power-up condition
This menu sets the condition of the monitor when the MAIN POWER switch on the rear panel is switched on.

(3) Power-up input channel
Specify the channel to be selected automatically when the power is turned on.

(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)

(8) Holding the current contrast/brightness setting after white balance adjustment

(9) Making a shortcut to a white balance adjustment menu
Make the F2 key a shortcut key to display the COLOR TEMP ADJ MANUAL menu. This allows you to jump directly to the MANUAL menu display corresponding to the color temperature setting (STD/COL 1/COL 2) for the currently displayed image.

Structure of the SET UP Menu C / SYSTEM CONFIGURATION Menu C4

Level 1	Level 2
INPUT CONFIGURATION C1	
REMOTE C2	
PASSWORD C3	
SYSTEM CONFIGURATION C4	INPUT SELECT
	STANDBY MODE
	DEFAULT CH
	DEGAUSS DELAY
	AFC TIME
	RESIDUAL SC SW
	ACC SW
	CONT/BRT HOLD
	COL TEMP SHORT-CUT
ON SCREEN SET C5	
ALIGNMENT C6	
EXTEND MENU C7	

Constituent Menus of the SET UP / SYSTEM CONFIGURATION Menu

This section describes the functions of the constituent menus of the SET UP/SYSTEM CONFIGURATION menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

C4 SYSTEM CONFIGURATION menu

Set each of the various items.

INPUT SELECT: Select the channel number entry method (DIRECT or 10KEY).
(In the explanation below, x and y represent any digit between 1 and 9.)

DIRECT mode: To select channel x, press the x button. To select channel xy (a two-digit channel number), press the 0, x, and y buttons in this order.

10KEY mode: To select channel x, press the x button, then the ENTER button. To select channel xy (a two-digit channel number), press the x, y, and ENTER button in this order.

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.

STANDBY MODE: Select the power-up condition when the MAIN POWER switch is turned on (OFF or ON).

ON: Standby mode

OFF: Operation mode

DEFAULT CH: Select the power-up input channel (LAST or CH xx).

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.

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 (SLOW or FAST).

RESIDUAL SC SW: Switch the residual switch (OFF or ON).

ACC SW: Switch the ACC switch (OFF or ON).

CONT/BRT HOLD: Select the contrast and brightness settings to the center or adjusted value after adjusting the white balance or auto adjustment of CONTROL PRESET (OFF or ON).

ON: The contrast and brightness are set to the value before adjusting.

OFF: The contrast and brightness are set to the center value (1000) after adjusting.

COL TEMP SHORT-CUT: Assign the shortcut function to the MANUAL menu of the COLOR TEMP ADJ menu to F2 key (OFF or ON).

ON: Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.

OFF: Do not assign the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.

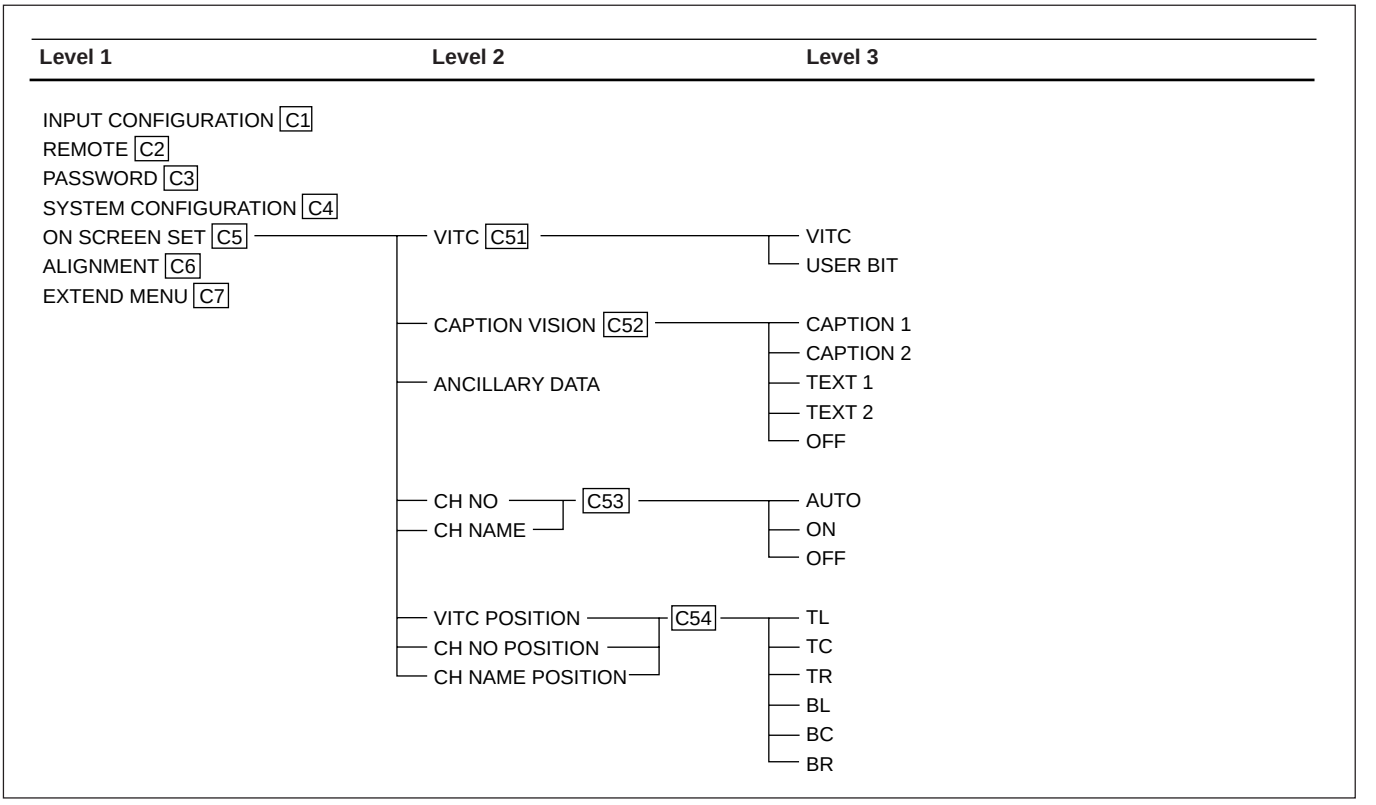
Setting the Screen Display — ON SCREEN SET Menu

Overview

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 as follows.

(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

Structure of the SET UP Menu C / ON SCREEN SET Menu C5



Constituent Menus of the SET UP / ON SCREEN SET Menu

This section describes the functions of the constituent menus of the SET UP/ON SCREEN SET menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

C5 **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. ⇨ C51

CAPTION VISION...: Select whether or not to display the caption, and select the display mode. ⇨ C52

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. ⇨ C53

CH NAME...: Select the display mode of the channel name. ⇨ C53
VITC POSITION...: Select the display position for the VITC data. ⇨ C54
CH NO POSITION...: Select the display position for the channel number. ⇨ C54
CH NAME POSITION...: Select the display position for the channel name. ⇨ C54

C51 **VITC menu**

Select whether or not to display the VITC and user bit.
VITC: OFF or ON
USER BIT: OFF or ON

C52 **CAPTION VISION menu**

Select the caption display mode.
OFF: Not displayed.
CAPTION 1: Displayed in Caption 1 mode.
CAPTION 2: Displayed in Caption 2 mode.
TEXT 1: Displayed in Text 1 mode.
TEXT 2: Displayed in Text 2 mode.

C53 **CH NO or CH NAME menu**

Select the channel number and channel name display mode.
AUTO: Disappear after displayed for a while.
ON: Displayed.
OFF: Not displayed.

C54 **VITC POSITION, CH NO POSITION or CH NAME menu**

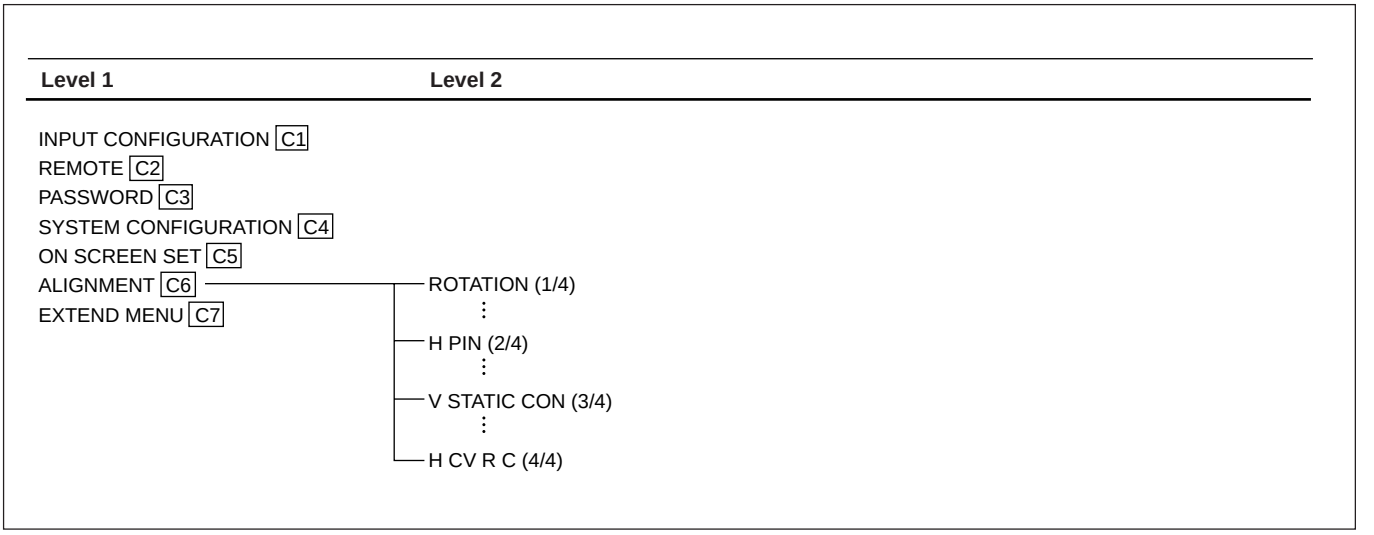
Select the display position.
TL: Top left
TC: Top center
TR: Top right
BL: Bottom left
BC: Bottom center
BR: Bottom right

Convergence Adjustments — ALIGNMENT Menu

Overview

The ALIGNMENT menu is used for adjusting convergence and geometry.

Structure of the SET UP Menu C / ALIGNMENT Menu C6



Constituent Menus of the SET UP / ALIGNMENT Menu

This section describes the functions of the constituent menus of the SET UP/ALIGNMENT menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

C6 (1/4) 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.

SUB CONTRAST: Adjust the center value of the contrast when the image size is changed.
This item cannot be selected when 4:3-NORM is selected in the SCREEN MODE menu.

C6 **(2/4) 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

C6 **(3/4) 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.

C6 **(4/4) 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.

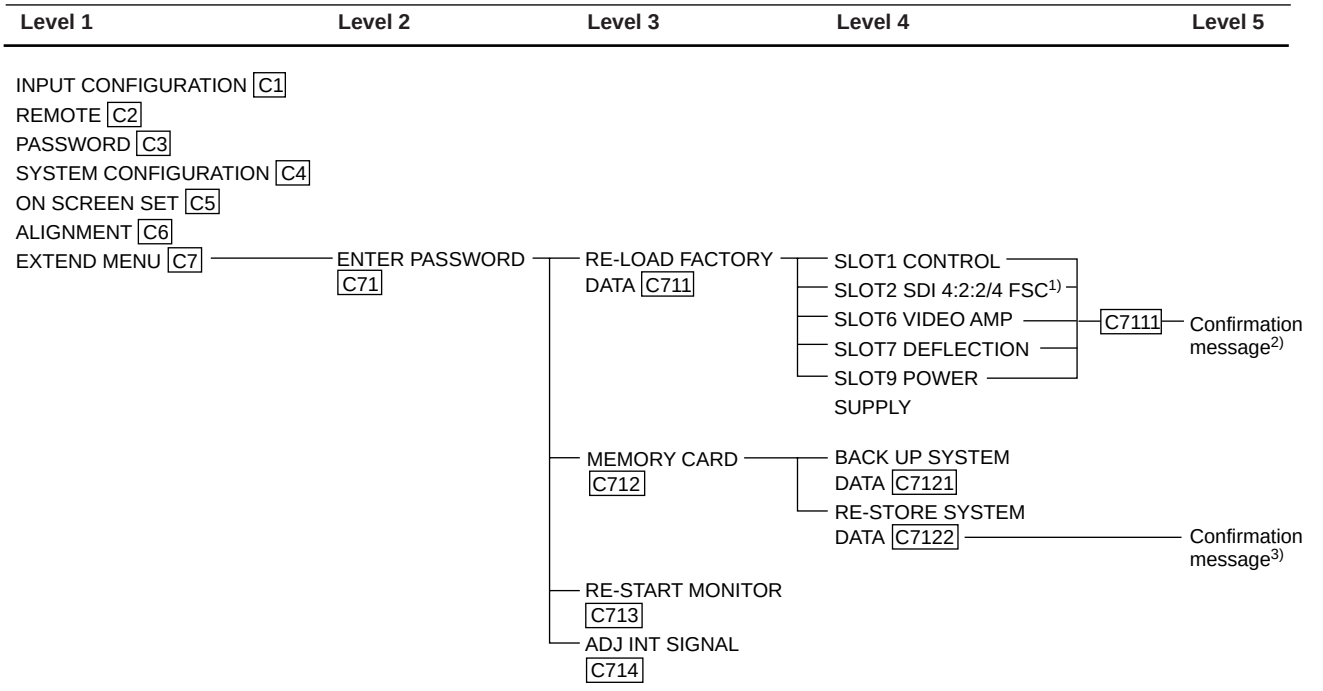
Using Extended Functions — EXTEND MENU

Overview

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 COLOR TEMP ADJ menu [B].

Structure of the SET UP Menu [C] / EXTEND Menu [C7]



1) This is displayed when the BKM-21D is installed in the SLOT 2.
2) A message appears, requiring your confirmation. If you select OK, data is reset and the monitor is automatically turned off and on again. If you select CANCEL, then you will be back in the RE-LOAD FACTORY DATA menu [C711].
3) A message appears, requiring your confirmation. If you select OK, data is read out from the monitor memory card. If you select CANCEL, then you will be back in the MEMORY CARD menu [C712].

Constituent Menus of the SET UP / EXTEND Menu

This section describes the functions of the constituent menus of the SET UP/EXTEND menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

C7 **EXTEND menu**

Enter the password (ENTER PASSWORD C71). When the correct password is entered, the following item appears. Choose the function to execute.

RE-LOAD FACTORY DATA...: Restore factory default data for the board installed in the selected slot. ⇨ C711

MEMORY CARD...: Read and write setting and adjustment data by using the monitor memory card. ⇨ C712

RE-START MONITOR: Restart the monitor. ⇨ C713

ADJ INT SIGNAL: Automatically adjust the SETUP level and 100 IRE level of internal signals. ⇨ C714

C711 **RE-LOAD FACTORY DATA menu**

Select a slot where a board is installed to reload factory default data to the board. ⇨ C7111

Note

You can only select slots 6 and 7. However, when the optional board has been installed, you can also select slot 2.

C7111 **SLOT1 to SLOT9**

The following message appears, requiring your confirmation about data reloading.

DATA RESET TO
ITS FACTORY SETTING
AND MONITOR WILL RESTART
ARE YOU SURE?
OK : ENTER KEY
CANCEL : MENU KEY

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

CANCEL: To cancel, press the MENU button. ⇨ Returns to the RE-LOAD FACTORY DATA menu. (C711)

C712 **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. ⇨ C7121

RE-STORE SYSTEM DATA...: Read the data from the monitor memory card. ⇨ C7122

Notes

- Before a monitor memory card can be used, it must be formatted it with the FORMAT menu (D4).
- System data and memory card data (D) 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.

C7121 **BACK UP SYSTEM DATA menu**

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

C7122 **RE-STORE SYSTEM DATA**
The following message appears, requiring your confirmation about data reloading.

RE-STORE SYSTEM DATA
ALL DATA WILL BE
RESTORED
ARE YOU SURE?
OK : ENTER KEY
CANCEL : MENU KEY

OK: To continue, press the ENTER button. ⇨ Read the data from the monitor memory card and automatically turn the monitor off and on again.
CANCEL: To cancel, press the MENU button. ⇨ Return to the MEMORY CARD menu (C712).

C713 **RE-START MONITOR**
Turn the monitor off and on again automatically.

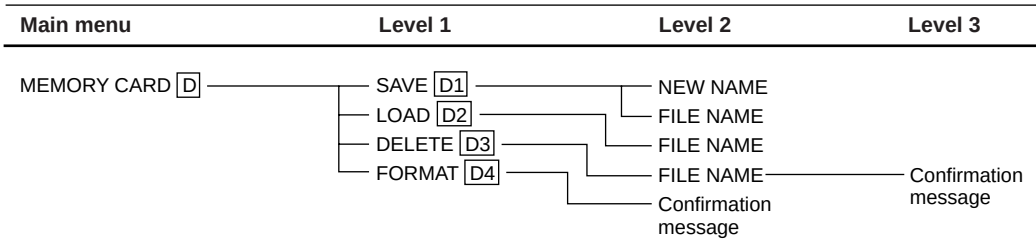
C714 **ADJ INT SIGNAL**
Adjust the SETUP level and 100 IRE level of the internal white signal which is used with the COLOR TEMP ADJ menu B.

Monitor Memory Card Data Operations — MEMORY CARD Menu

Overview

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

Structure of the MEMORY CARD Menu D



Constituent Menus of the MEMORY CARD Menu

This section describes the functions of the constituent menus of the MEMORY CARD menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

D 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. ⇨ D1
LOAD: Read data from a monitor memory card. ⇨ D2
DELETE: Delete a file. ⇨ D3
FORMAT: Format a monitor memory card. ⇨ D4

D1 SAVE menu

Select the name of the file to which to write data,or create a new file name.

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

D2 LOAD menu

Select the name of the file from which to read data.

D3 DELETE menu

Select the name of the file to delete.
The following confirmation message appears.

DELETE THIS FILE?
OK: ENTER KEY
CANCEL: MENU KEY

OK: To continue, press the ENTER button. ⇨ The file is deleted.
CANCEL: To cancel, press the MENU button. ⇨ Return to the MEMORY CARD menu D

D4 FORMAT menu

Confirm the format operation.

ALL FILES WILL BE DELETED!
ARE YOU SURE?
OK: ENTER KEY
CANCEL: MENU KEY

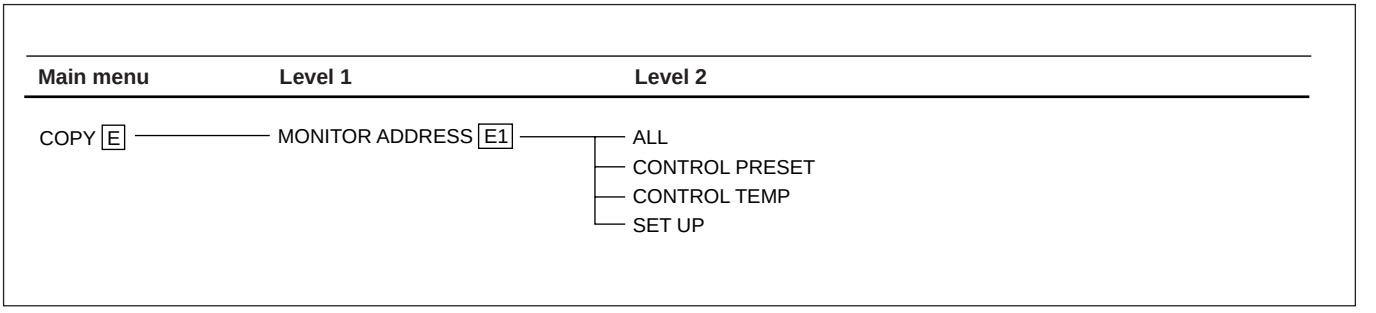
OK: To continue, press the ENTER button. ⇨ The format is performed.
CANCEL: To cancel, press the MENU button. ⇨ Return to the MEMORY CARD menu D.

Monitor-to-Monitor Data Copy — COPY Menu

Overview

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 of the COPY Menu [E]



Constituent Menus of the COPY Menu

This section describes the functions of the constituent menus of the COPY menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

[E] **COPY menu**
Select the copy source monitor.
MONITOR ADDRESS: Enter the address number.
⇨ [E1]

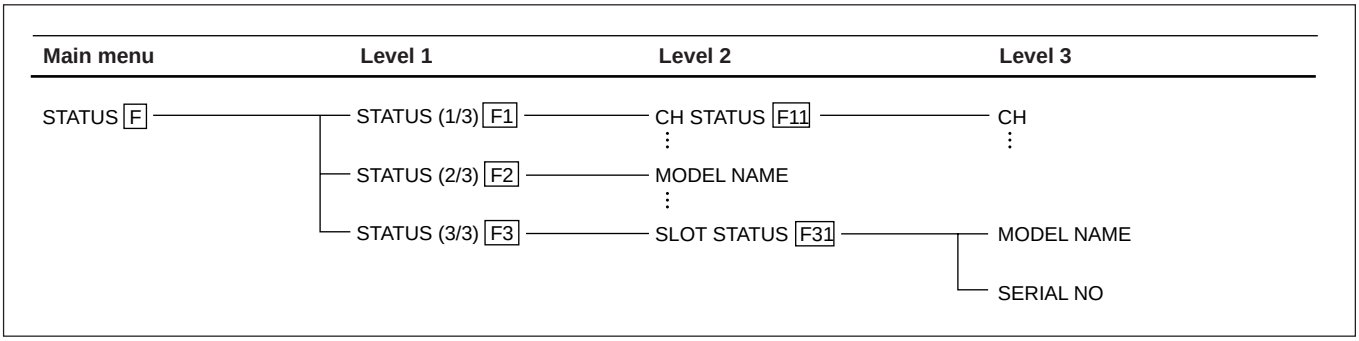
[E1] **MONITOR ADDRESS menu**
Select the data to be copied. ⇨ **Copy is carried out.**
ALL: Copy data for all menu settings.
CONTROL PRESET: Copy the data for the CONTROL PRESET ADJ menu settings.
COLOR TEMP: Copy the data for the COLOR TEMP ADJ menu settings.
SET UP: Copy the data for the SET UP menu settings.

Displaying Information About the Monitor — STATUS Menu

Overview

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 of the STATUS Menu [F]



Constituent Menus of the STATUS Menu

This section describes the functions of the constituent menus of the STATUS menu.

Notes

- The menu numbers (A, B1, C11 and so on) are not displayed on the monitor screen.
  For details of menu numbers, see page 20.
- An arrow (⇨) following the description of an item or setting in each menu indicates another menu which appears or an operation which is executed when you select that menu item or setting. If the description of an item or setting is not followed by an arrow, it indicates that selecting the item or setting finishes the setting operation.

[F] STATUS menu
Select the STATUS menu. ⇨ [F1]

[F1] STATUS menu (1/3)
Specify the channel block to be detected from channel 1 to channel 99.

[F11] CH 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

[F2] 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

[F3] STATUS menu (3/3)
Display the current assignments of options to slots at the rear. (When the BKM-21D is installed in SLOT 2, the display is as shown below. When not, “EMPTY” is displayed as status of SLOT 2.
SLOT 1: CONTROL
SLOT 2: SDI 4:2:2/4FSC
SLOT 3: EMPTY
SLOT 4: EMPTY
SLOT 5: EMPTY
SLOT 6: VIDEO AMP
SLOT 7: DEFLECTION
SLOT 8: EMPTY
SLOT 9: POWER SUPPLY

[F31] SLOT STATUS menu
Select the desired slot. Data about the optional board installation in the selected slot is displayed.
MODEL NAME: Model name of that optional board
SERIAL NO: Serial number of that circuit board

Selecting the Monitor to Control — ADDRESS Menu

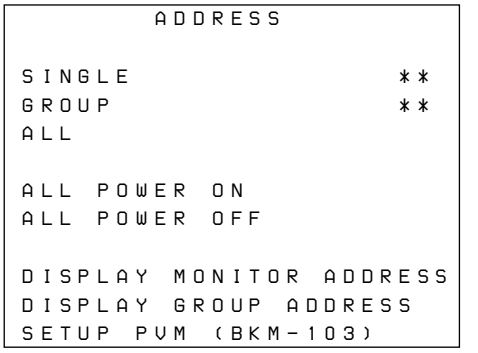
Overview

When multiple monitors are connected by a serial remote connection, 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.

Displaying the ADDRESS Menu

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

By pressing the ENTER button after selecting the item, serial remote operation becomes activated.



ADDRESS Menu

Settings made with the menu items are as follows:

Item	Function
SINGLE	Control only a specified monitor. Enter the monitor address number.
GROUP	Control only a specified monitor group. Enter the group address number.
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 item 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.

Notes

- To remotely control monitors connected in serial, MONITOR ADDRESS or GROUP ADDRESS of monitors should be correctly set in the REMOTE menu.
  For details of the REMOTE menu, see "Assigning the Remote Control Functions – REMOTE Menu" on page 38.
  - In GROUP mode, when the KEY PROTECT function is set to ON, the LED on the pressed function button lights, but it is deactivated. (LED of other monitors in the same group will not light.)
  - In GROUP or ALL mode, the LEDs of the function buttons will not light with controlled from the menu. (LEDs light only when you press the function button.)
  - In GROUP or ALL mode, LEDs of controlled monitor will light as follows.
    In case of SHIFT OFF before remote control operation: LEDs light in green when the SHIFT button is remotely set to OFF.
    In case of SHIFT ON before remote control operation: LEDs light in orange when the SHIFT button is remotely set to ON.
    For details, see "SHIFT button" on page 12.
- In SINGLE mode, when the data is saved or load in or from the memory card, the error message may appear due to data communication error. In such a case, clear the remote mode, then try again.
  It is recommended to save or load data to or from the memory card with the monitor which is free from the remote operation.
- When Sony BVM-xxG series monitors are connected together, select these monitors for each series in SINGLE mode or GROUP mode to remotely control them.

Cancelling the Remote Control Mode

To cancel the remote control mode, press the ADDRESS button.

Exiting the ADDRESS Menu

To exit the ADDRESS menu, press the ADDRESS button or the MENU button.

Short-cut Function in the ADDRESS Menu

When selecting the monitor, short-cut function will enable to select the target monitor without using the items in the ADDRESS menu. The operation procedure is as follows.

To select the monitor in the SINGLE mode

1 Press the ADDRESS button.

2 Press the address number of the target monitor.
Press one digit address number on the numeric keypad when it is from 1 to 9.
Press three digits address number (press 0 button and then press the address number) when it is from 10 to 99.

To select the monitors in the GROUP mode

1 Press the ADDRESS button.

2 Press the F1 button.

3 Press the group number of the target monitor.
Press one digit group address number when it is from 1 to 9.
Press three digits group address number (press 0 button and then press the group number) when it is from 10 to 99.

To select the all monitors in the ALL mode

1 Press the ADDRESS button.

2 Press the F2 button.

Specifications

General

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

CRT
Super fine pitch Trinitron

BVM-20F1U/20F1E/20E1U/20E1E

Aperture grille pitch: 0.3 mm (BVM-20F1U/20F1E) or 0.25 mm (BVM-20E1U/20E1E), 90 degree deflection, 30.6 mm diameter in-line gun.

Effective picture size:
387 × 291 mm (15 1/4 × 11 1/2 inches) (w/h)
483 mm (19 1/8 inches) (diagonal size)

CRT protection: EHT (extremely high tension) protection type

Warm-up time: approx. 30 minutes

Anode voltage: 27 kV with no beam current

Nominal chromaticity coordinates:

SMPTE phosphor (BVM-20F1U/20E1U)

	x	y
R	0.630	0.340
G	0.310	0.595
B	0.155	0.070

Error: less than ±0.005

EBU phosphor (BVM-20F1E/20E1E)

	x	y
R	0.640	0.330
G	0.290	0.600
B	0.150	0.060

Error: less than ±0.005

BVM-14F1U/14F1E/14E1U/14E1E//14F5U/14F5E/14E5U/14E5E

Aperture grille pitch: 0.25 mm (BVM-14F1U/14F1E/14F5U/14F5E) or 0.22 mm (BVM-14E1U/14E1E/14E5U/14E5E), 90-degree deflection, 29.4 mm diameter in-line gun.

Effective picture size:
267 × 200 mm (10 5/8 × 7 7/8 inches) (w/h)
331 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-14F1U/14E1U)

	x	y
R	0.630	0.340
G	0.310	0.595
B	0.155	0.070

EBU phosphor (BVM-14F1E/14E1E)

	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
BVM-20F1U/20F1E/20E1U/20E1E: 120 W
When an optional adaptor is installed: 200 W
BVM-14F1U/14F1E/14E1U/14E1E: 110 W
When an optional adaptor is installed: 145 W
BVM-14F5U/14F5E/14E5U/14E5E: 110 W
When an optional adaptor is installed: 175 W

Peak inrush current
(1) Power ON, current probe method: 55A (240V) (BVM-20F1E/20E1E/14F5E/14E5E/14F1E/14E1E)
(2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 50A (230V) (BVM-20F1E/20E1E), 38A (230V) (BVM-14F5E/14E5E/14F1E/14E1E)

Dimensions

BVM-20F1U/20F1E/20E1U/20E1E:
444 × 414 × 570 mm
(17 1/2 × 16 3/8 × 22 1/2 inches)
(w/h/d)

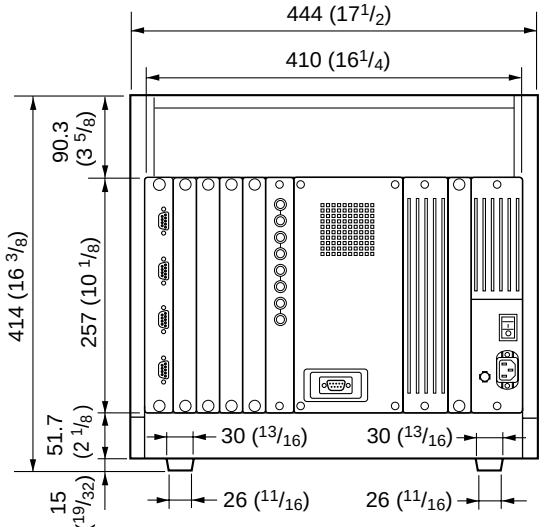
BVM-14F1U/14F1E/14E1U/14E1E:
346 × 280 × 530 mm (13 5/8 × 11 1/8 × 20 7/8 inches)
(w/h/d)

BVM-14F5U/14F5E/14E5U/14E5E:
482 × 280 × 573 mm (19 × 11 1/8 × 22 5/8 inches)
(w/h/d)

Dimensional drawing

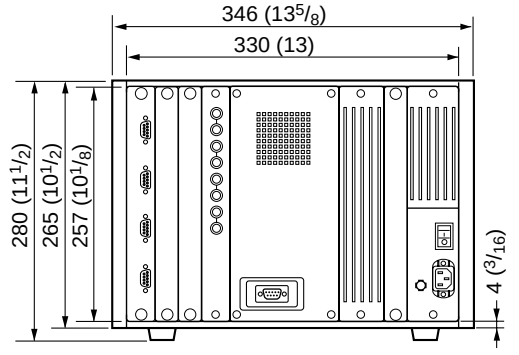
BVM-20F1U/20F1E/20E1U/20E1E

Unit: mm (inches)



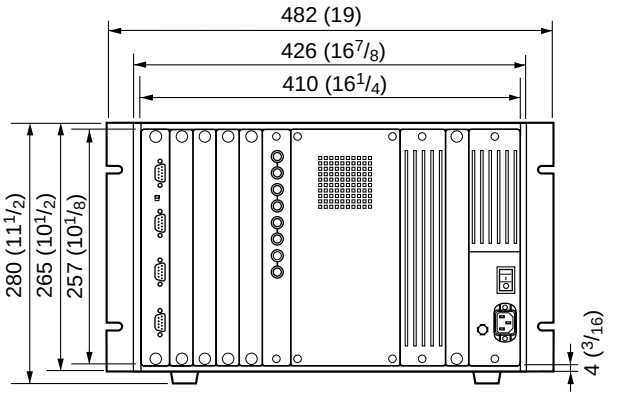
BVM-14F1U/14F1E/14E1U/14E1E

Unit: mm (inches)



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

Unit: mm (inches)



Mass

BVM-20F1U/20F1E/20E1U/20E1E: approx. 37 kg (81 lb 9 oz)

BVM-14F1U/14F1E/14E1U/14E1E: approx. 22 kg (48 lb 8 oz)

BVM-14F5U/14F5E/14E5U/14E5E: 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 (only on BVM-20F1U/20F1E/20E1U/20E1E/14F1U/14F1E/14E1U/14E1E)
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
50 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 0.4 mm (BVM-20F1U/20F1E/20E1U/20E1E)
Less than 0.3 mm (BVM-14F1U/14F1E/14E1U/14E1E/14F5U/14F5E/14E5U/14E5E)
Outer area of the above-mentioned circle:
Less than 0.7 mm (BVM-20F1U/20F1E/20E1U/20E1E)
Less than 0.6 mm (BVM-14F1U/14F1E/14E1U/14E1E/14F5U/14F5E/14E5U/14E5E)
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 (at screen center, 100 cd/m^2 luminescence)
BVM-20F1U/20F1E: 900 TV lines
BVM-20E1U/20E1E: 1000 TV lines
BVM-14F1U/14F1E/14F5U/14F5E: 800 TV lines
BVM-14E1U/14E1E/14E5U/14E5E: 900 TV lines

Operating Conditions

Temperature: 0°C to 35°C (32°C to 95°F)
Optimum temperature
20°C to 30°C (68°F to 86°F)
Humidity: 0% to 90% (no condensation)
Pressure: 700 hPa to 1060 hPa

Storage and transport conditions

Temperature: –10 °C to +40°C (14°F to 104°F)
Humidity: 0% to 90%
Pressure: 700 hPa to 1060 hPa

Accessories Supplied

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

Design and specifications are subject to change without notice.

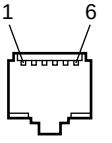
Connection Cable Specifications for Color Temperature Probes

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.

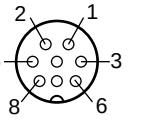
Connection cable for Graseby SLS 9400 probe

Modular connector



Signal	Pin Number
N.C.	1
GND	2
RXD	3
TXD	4
GND	5
N.C.	6

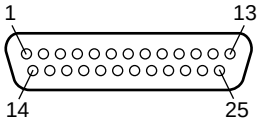
Mini DIN 8-pin connector (male)



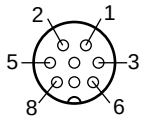
Pin Number	Signal
1	H SYNC
2	V SYNC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD

Connection cable for Minolta CA-100 probe

D-sub 25-pin connector (male)



Mini DIN 8-pin connector (male)

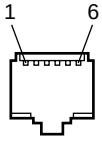


Signal	Pin Number
N.C.	1
TXD	2
RXD	3
RTS	4
CTS	5
N.C.	6
GND	7
N.C.	8–25

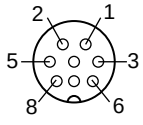
Pin Number	Signal
1	H SYNC
2	V SYNC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD

Connection cable for Philips PM 5639 probe (corresponds to Philips PM 5639/64 cable)

Modular connector



Mini DIN 8-pin connector (male)

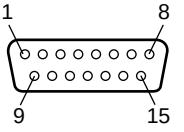


Signal	Pin Number
+5V	1
N.C.	2
RXD	3
TXD	4
N.C.	5
GND	6

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

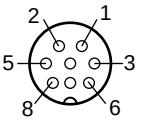
Connection cable for Thoma TF6 probe

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)



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

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BVM-20F1U/20F1E/20E1U/20E1E
BVM-14F1U/14F1E/14E1U/14E1E
BVM-14F5U/14F5E/14E5U/14E5E
(WW, 英)
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