

SONY[®]

TRINITRON[®] COLOR VIDEO MONITOR

BVM-D20F1U/D20F1E/D20F1A

BVM-D24E1WU/D24E1WE/D24E1WA

BVM-D32E1WU/D32E1WE/D32E1WA



Multiformat

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 batería.

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.

Apparaten ma kun tilkoples jordet stikkontakt

Apparaten må kun tilkoples jordet stikkontakt

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 Length	Type SVT, three 16 or 18 AWG wires 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 the customers in USA (BVM-D20F1U, BVM-D24E1WU, BVM-D32E1WU)

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

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

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

For the customers in Canada (BVM-D20F1U, BVM-D24E1WU, BVM-D32E1WU)

This Class A digital apparatus complies with Canadian ICES-003.

Pour les utilisateurs au Canada (BVM-D20F1U, BVM-D24E1WU, BVM-D32E1WU)

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

For the customers in Europe (BVM-D20F1E/D20F1A, BVM-D24E1WE/D24E1WA, BVM-D32E1WE/D32E1WA)

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 (BVM-D20F1E/D20F1A, BVM-D24E1WE/D24E1WA, BVM-D32E1WE/D32E1WA)

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 (BVM-D20F1E/D20F1A, BVM-D24E1WE/D24E1WA, BVM-D32E1WE/D32E1WA)

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 (Stadtgebiet im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio)

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

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 United Kingdom (BVM-D20F1E/D20F1A, BVM-D24E1WE/D24E1WA, BVM-D32E1WE/D32E1WA)

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 \perp 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.

ATTENTION - When the product is installed in a rack:

a) Elevated operating ambient temperature

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacture's maximum rated ambient temperature (T_{mra}: 0°C to 35°C (32°F to 95°F)).

b) Reduced air flow

Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

c) Mechanical loading

Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

d) Circuit overloading

Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

e) Reliable earthing

Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

f) Gap keeping

Upper and lower gap of rack-mounted equipment should be kept 44 mm (1 3/4 inches).

Achtung - bei Installation des Geräts in einem Gestell:

a) Erhöhte Umgebungstemperatur bei Betrieb

Wird das Gerät in einem geschlossenen Gestell oder einem Gestell mit mehreren anderen Geräten installiert, kann die Umgebungstemperatur um das Gestell höher sein als die normale Umgebungstemperatur im Raum. Achten Sie daher bitte besonders darauf, das Gerät in einer Umgebung zu installieren, in der die Temperatur nicht über die vom Hersteller angegebene Umgebungstemperatur von 0 bis 35 °C (32 °F bis 95 °F) ansteigt (T_{mra}).

b) Reduzierte Belüftung

Das Gerät muß so im Gestell installiert werden, daß eine Belüftung gewährleistet ist, die für den sicheren Betrieb des Geräts erforderlich ist.

c) Mechanische Belastung

Das Gerät muß so im Gestell installiert werden, daß nicht durch eine ungleichmäßige mechanische Belastung Unfallgefahr entsteht.

d) Überlastung der Stromkreise

Der Anschluß des Geräts an das Versorgungsnetz erfordert sorgfältige Planung. Bitte beachten Sie insbesondere die Auswirkungen, die eine Überlastung der Stromkreise im Hinblick auf den Überspannungsschutz und die physischen Komponenten des Versorgungsnetzes haben kann. Beachten Sie in diesem Zusammenhang unbedingt die Angaben auf dem Typenschild am Gerät.

e) Zuverlässige Erdung

Geräte, die in einem Gestell installiert werden, benötigen eine zuverlässige Erdung. Achten Sie insbesondere auf Anschlüsse an das Versorgungsnetz, die nicht direkt an einen Abzweigstromkreis, sondern indirekt, zum Beispiel über Verlängerungskabel, erfolgen.

f) Erforderliche Abstände

Halten Sie zur Ober- und Unterseite eines in einem Gestell installierten Geräts einen Abstand von 44 mm (1 3/4 inches) ein.

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Chapter 3 Appendix

Precautions

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 benzene, 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 rack mounting

When the monitor is mounted on a rack, the temperature around the monitor may rise due to heat generated from other equipment and reduced air circulation, causing damage to the monitor. To prevent this, keep ventilation holes, install a ventilation fan or take other effective countermeasures so that the temperature around the monitor is within the specified range: operating temperature of 0 to 35 °C (32 to 95°F), optimum temperature of 20 to 30°C (68 to 86°F).

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.

On displaying the 4:3 signal (BVM-D20F1U/D20F1E/D20F1A only)

The 16:9 mask has been attached to the BVM-D20F1U/D20F1E/D20F1A at the factory. If the 16:9 button is pressed to change to the 4:3 aspect mode in this condition, the upper and lower portions of the image is hidden by the mask. To display the 4:3 image, replace the 16:9 mask with the supplied 4:3 mask.

For details, see “Installation of the 4:3 Mask” on page 21.

The BVM-D20F1U/D20F1E/D20F1A are 20-inch¹⁾ Trinitron^{®2)} Color Video Monitors. The BVM-D24E1WU/D24E1WE/D24E1WA are 24-inch¹⁾ Trinitron^{®2)} Color Video Monitors. The BVM-D32E1WU/D32E1WE/D32E1WA are 32-inch¹⁾ Trinitron^{®2)} Color Video Monitors. They are suitable for television stations or video production houses, where precise image reproduction is required.

Features

Multiformat

The monitor supports the principal formats (480I/480P/720P/1080I) for the digital broadcasts, NTSC and PAL color systems, and a wide variety of signals³⁾ whose horizontal frequency is between 15 kHz and 45 kHz.

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-D20F1U/ D20F1E/D20F1A	0.3 mm	900 TV lines (4:3) 700 TV lines (16:9)
BVM-D24E1WU/ D24E1WE/ D24E1WA	0.25-0.28 mm	1000 TV lines (4:3, 16:9)
BVM-D32E1WU/ D32E1WE/ D32E1WA	0.32-0.36 mm	1000 TV lines (4:3, 16:9)

Separate control unit

Using a separate control unit reduces the space needed for the equipment.

The monitor is controlled by a separate control unit, such as an optional BKM-10R/11R Monitor Control Unit or by daisy chain connections. The BVM-D20F1U/D20F1E/D20F1A can be connected to the BKM-10R via an optional BKM-32H Monitor Control Unit Attachment Kit; the BVM-D24E1WU/D24E1WE/D24E1WA via a BKM-34H.

Controlling monitor groups

Up to 32 monitors can be controlled from one control unit by the RS-485 serial remote connections. You can 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 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 via the BKM-10R/11R Monitor Control Unit. 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.

Auto chroma/phase and white balance functions

The chroma and phase of the decoder are automatically adjusted with the auto chroma and phase function and the color temperature is automatically adjusted with the auto white balance function by using the BKM-14L Auto Setup Probe, etc.

Safe area display

The safe area display function equipped as standard displays the important image area.

Expandable input capability

The monitor is equipped with one channel of YP_BPr/_R GBR input connectors at the factory.

The input connector configuration can be easily modified by simply inserting the optional decoder adaptor or the input expansion adaptor into the input option slot at the rear of the monitor. Up to four adaptors can be installed.

Stable color temperature

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

-
- 1) 20-inch, 24-inch and 32-inch refer to the CRT size of the monitor.
For effective picture size, see "Specifications" on page 62.
 - 2) Trinitron[®] is a registered trademark of Sony Corporation.
 - 3) For details on the signal format, see "Available Signal Formats" on page 65.

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.

Matrix selection

The ITU-601, ITU-709 and SMPTE-240M matrix modes can be selected for individual input signals.

Beam landing correction circuit (BVM-D24E1WU/D24E1WE/D24E1WA/D32E1WU/D32E1WE/D32E1WA only)

The beam landing shift caused by the change in CRT luminance and temperature, and that caused by the earth's magnetism can be adjusted manually, or automatically using the optional BKM-14L auto setup probe.

Digital uniformity circuit (BVM-D24E1WU/D24E1WE/D24E1WA/D32E1WU/D32E1WE/D32E1WA only)

Uniform white can be reproduced on every point of the screen, even in the peripheral area, thanks to the built-in digital uniformity circuit. The uniformity can be adjusted to match the installation conditions of the monitor. Automatic adjustment is also possible using the optional BKM-14L auto setup probe.

Digital convergence circuit (BVM-D32E1WU/D32E1WE/D32E1WA only)

Clear color can be reproduced on every point of the screen, even in the peripheral area, thanks to the built-in digital convergence circuit. The convergence can be adjusted to match the installation conditions of the monitor.

Other features

- The monitor's various functions and operating conditions can be set with on-screen menus.
- Compatible with the ISR (Interactive Status Reporting) system.
- Has both RS-485 serial remote and relay contact parallel remote control connectors.
- Built-in test signal generator for crosshatch, 100% white signal, 20% gray signal, gray scale, and PLUGE (Picture Line Up Generating Equipment).
- Built-in Caption Vision decoder.
- Pulse cross function for simultaneous checking of the horizontal and vertical synchronization signals.

- 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 Rack Mount Kit (BVM-D20F1U/D20F1E/D20F1A only).
- The appearance of the monitor can be changed to 16:9 or 4:3 display by the replacement of a mask (BVM-D20F1U/D20F1E/D20F1A only).

Options

For external control

BKM-10R Monitor Control Unit BKM-11R Monitor Control Unit

A controller, 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.

BKM-14L Auto Setup Probe

A probe, allowing the automatic adjustment of this monitor's color temperature.

For the BVM-D24E1WU/D24E1WE/D24E1WA/D32E1WU/D32E1WE/D32E1WA, the probe is also used for white uniformity adjustment.

For installation

BKM-30E20 Rack Mount Kit

Rack mount kit for mounting the BVM-D20F1U/D20F1E/D20F1A 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-D20F1U/D20F1E/D20F1A.

BKM-34H Monitor Control Unit Attachment Kit

Assembly kit for attaching a BKM-10R Monitor Control Unit to the BVM-D24E1WU/D24E1WE/D24E1WA.

Decoder and input expansion adaptors

The input connector panel is configured by sliding the optional decoder adaptor or input expansion adaptor into the input option slot at the rear of the monitor. Up to four adaptors can be installed to the monitor. The input signal type for each connector of the adaptor is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

Note

When installing the adaptor, 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 “[C1] Setting the Input Configuration (SET UP 1) — INPUT CONFIGURATION Menu” on page 35.

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.

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.

BKM-22X SDI Input Expansion Adaptor

Increases the number of input/output channels. Includes input/output connectors for three serial digital channels and three analog channels.

BKM-24N NTSC Decoder Adaptor

Includes decoders for analog composite NTSC signals and input/output connectors for six analog channels.

BKM-25P PAL Decoder Adaptor

Includes decoders for analog composite PAL signals and input/output connectors for six analog channels.

BKM-26M PAL-M Decoder Adaptor

Includes decoders for analog composite PAL-M signals and input/output connectors for six analog channels.

BKM-27T Tri-Standard Decoder Adaptor

Includes decoders for analog composite NTSC, PAL, and SECAM signals and input/output connectors for six analog channels.

BKM-28X Analog Input Expansion Adaptor

Increases the number of input/output channels. Includes input/output connectors for six analog channels.

BKM-41HD HD SDI Input Adaptor (one HD SDI channel)

Includes a decoder for HD serial digital signals and input/output connectors for a serial digital signal channel and an analog signal channel.

BKM-42HD HD SDI Input Adaptor (two HD SDI channels)

Includes a decoder for HD serial digital signals and input/output connectors for two serial digital signal channels and an analog signal channel.

Notes

- The BKM-41HD and BKM-42HD use two input option slots.
- The signal from the MONITOR OUT connector of the BKM-41HD/42HD does not satisfy the ON-LINE signal specifications.

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 using the switch inside the board.

Connector Panel Configuration

The unit comes standard with connectors for one channel of Y/Pb/Pr or GBR. By adding the optional decoder adaptor 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

- One BKM-22X can be attached simultaneously with the BKM-20D or BKM-21D.
- The BKM-20D, BKM-21D and BKM-22X can not provide proper active-through outputs if a signal whose format is not selected in the INPUT CONFIGURATION menu is input. (If AUTO is selected, input a signal which has the same format with the signal monitored last.)

For information about the INPUT CONFIGURATION menu, see “[C1] Setting the Input Configuration (SET UP 1) – INPUT CONFIGURATION Menu” on page 35.

Priority of the decoder adaptors

When multiple decoder adaptors for NTSC or PAL format are installed, their priority is as in the following table.

Example: To monitor the composite NTSC signal when the BKM-24N and BKM-27T are installed, the input composite NTSC signal is always decoded by the BKM-24N.

Input signal and its format		Decoder adaptor			
		BKM-24N	BKM-25P	BKM-27T	BKM-21D
Composite signal	NTSC	1		3	2
	PAL		1	3	2
YC signal	NTSC	1		2	
	PAL		1	2	

Signal format		Adaptor name	BKM-41HD HD SDI Input Adaptor	BKM-42HD HD SDI Input Adaptor	BKM-48X ¹⁾ HD Analog Expansion Adaptor
		Serial digital input	Component 525/625		
Composite NTSC					
Composite PAL					
HD SDI	⊙		⊙		
Analog input	Composite NTSC				○
	Composite PAL				○
	Composite PAL-M				○
	Composite SECAM				○
	YP _B P _R 525/625	⊙	⊙		⊙
	GBR 525/625	⊙	⊙		⊙
	Y/C NTSC				○
	Y/C PAL				○
	Y/C PAL-M				○
	YP _B P _R /GBR 1080/48I	⊙	⊙		⊙
	YP _B P _R /GBR 1080/50I	⊙	⊙		⊙
	YP _B P _R /GBR 575/50P	⊙	⊙		⊙
	YP _B P _R /GBR 480/60P	⊙	⊙		⊙
	YP _B P _R /GBR 1035/60I	⊙	⊙		⊙
	YP _B P _R /GBR 1080/60I	⊙	⊙		⊙
YP _B P _R /GBR 720/60P	⊙	⊙		⊙	
Number of digital inputs			1	2	–
Number of analog input			1	1	6

- ⊙ Signal can be reproduced with this adaptor.
- Signal can be reproduced when using this adaptor together with an adaptor marked with ⊙.

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

(continued)

Overview

Signal format		Adaptor name		BKM-20D	BKM-21D	BKM-22X	BKM-24N	BKM-25P	BKM-26M	BKM-27T	BKM-28X
		SDI 4:2:2 Decoder Adaptor	SDI Multi Decoder Adaptor	SDI Input Expansion Adaptor	NTSC Decoder Adaptor	PAL Decoder Adaptor	PAL-M Decoder Adaptor	Tri-Standard Decoder Adaptor	Analog Input Expansion Adaptor		
Serial digital input	Component 525/625	⊙	⊙	○							
	Composite NTSC	○	⊙	○							
	Composite PAL	○	⊙	○							
	HD SDI										
Analog input	Composite NTSC	○	⊙	○	⊙	○	○	○	○	⊙	○
	Composite PAL	○	⊙	○	○	⊙	○	○	○	⊙	○
	Composite PAL-M	○	○	○	○	○	⊙	○	○	○	○
	Composite SECAM	○	○	○	○	○	○	○	○	⊙	○
	YP _B P _R 525/625	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
	GBR 525/625	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
	Y/C NTSC				⊙	○	○	○	○	⊙	○
	Y/C PAL				○	⊙	○	○	○	⊙	○
	Y/C PAL-M				○	○	⊙	○	○	○	○
	YP _B P _R /GBR 1080/48I										
	YP _B P _R /GBR 1080/50I										
	YP _B P _R /GBR 575/50P										
	YP _B P _R /GBR 480/60P										
	YP _B P _R /GBR 1035/60I										
	YP _B P _R /GBR 1080/60I										
	YP _B P _R /GBR 720/60P										
Number of digital inputs		3	3	3	–	–	–	–	–	–	–
Number of analog input		3	3	3	6	6	6	6	6	6	6

⊙ Signal can be reproduced with this adaptor.

○ Signal can be reproduced when using this adaptor together with an adaptor marked with ⊙.

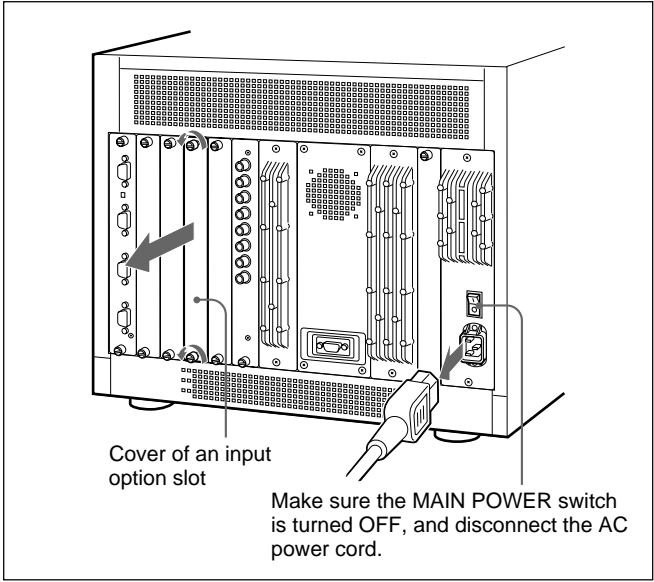
Installing a Decoder Adaptor

Each decoder adaptor can be installed in any input option slot.

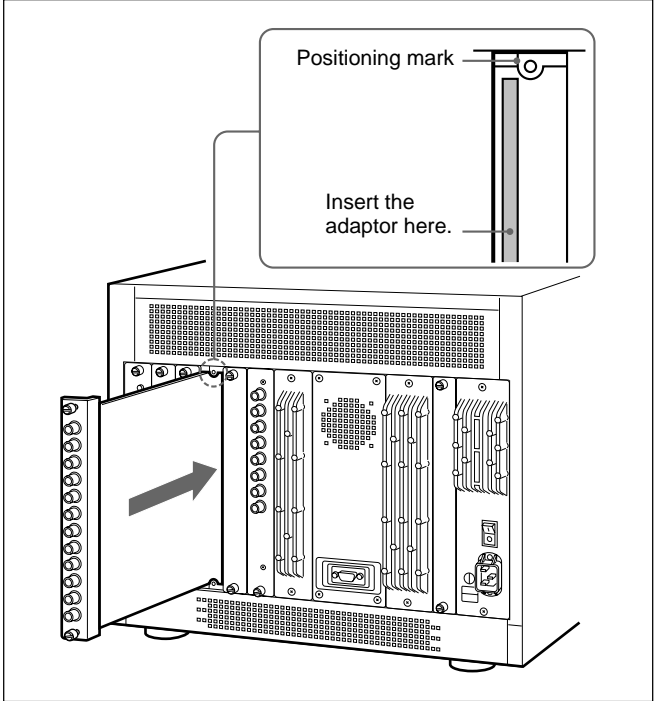
Note

Turn off the main power of the monitor and disconnect the AC power cord before installing or removing adaptors.

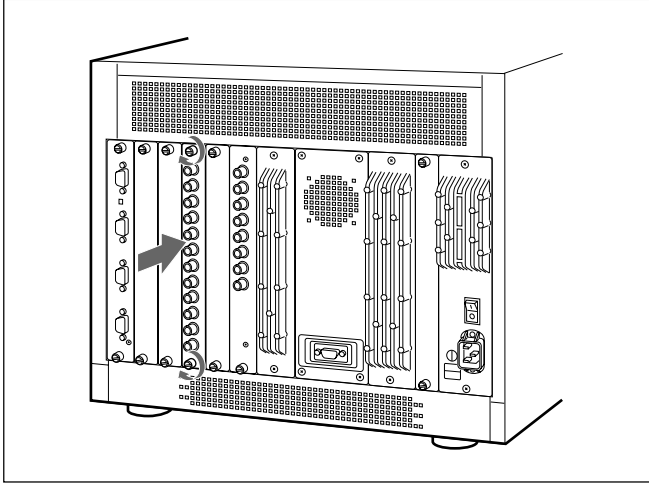
- 1** Remove the cover of an input option slot on the rear panel of the monitor.



- 2** Insert the adaptor under the positioning mark on the top of the slot (on the left of the screw hole).



- 3** Push the adaptor in until it is firmly seated in the connector inside the monitor, then tighten the two screws to secure the adaptor.



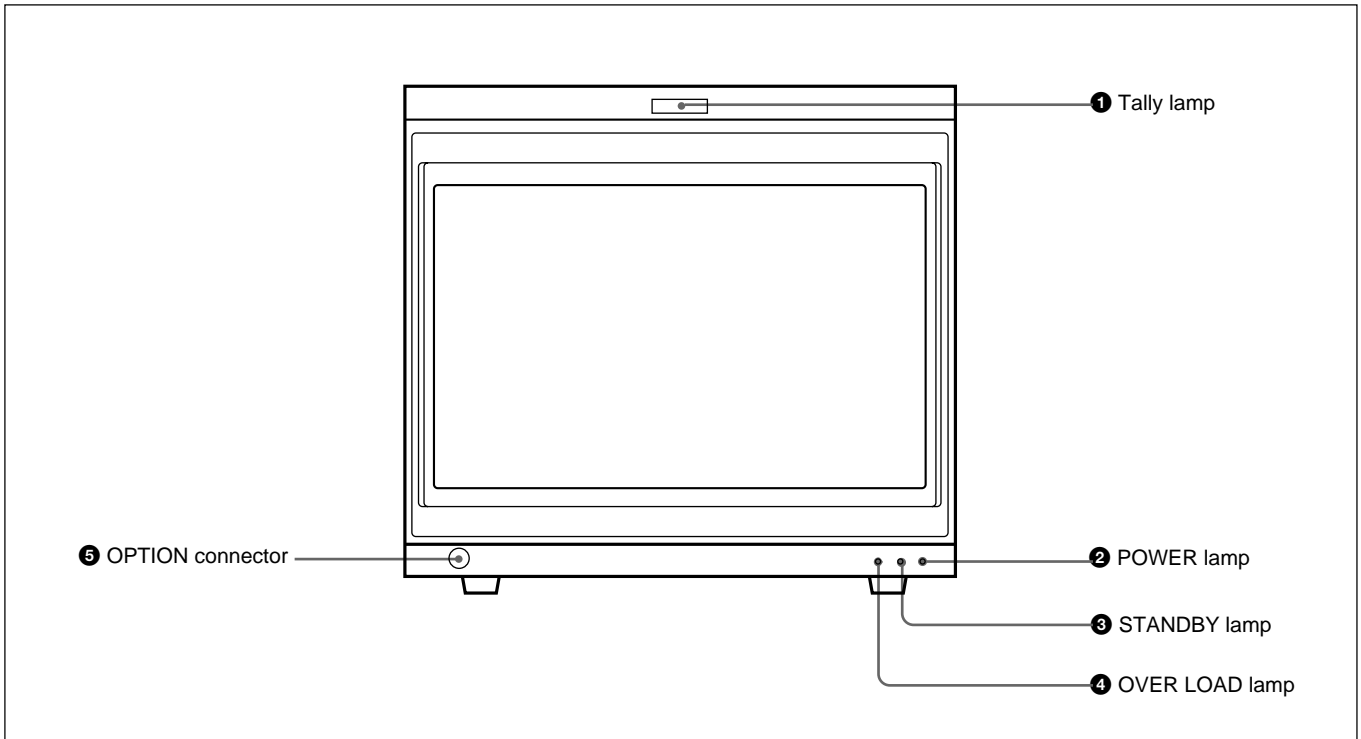
Note

When installing a decoder 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. If some adaptors are already installed, first of all remove them and then do the installing operation in order from the rightmost slot. When removing the adaptors, always loosen all adaptor screws and then remove the adaptors in order from the rightmost slot.

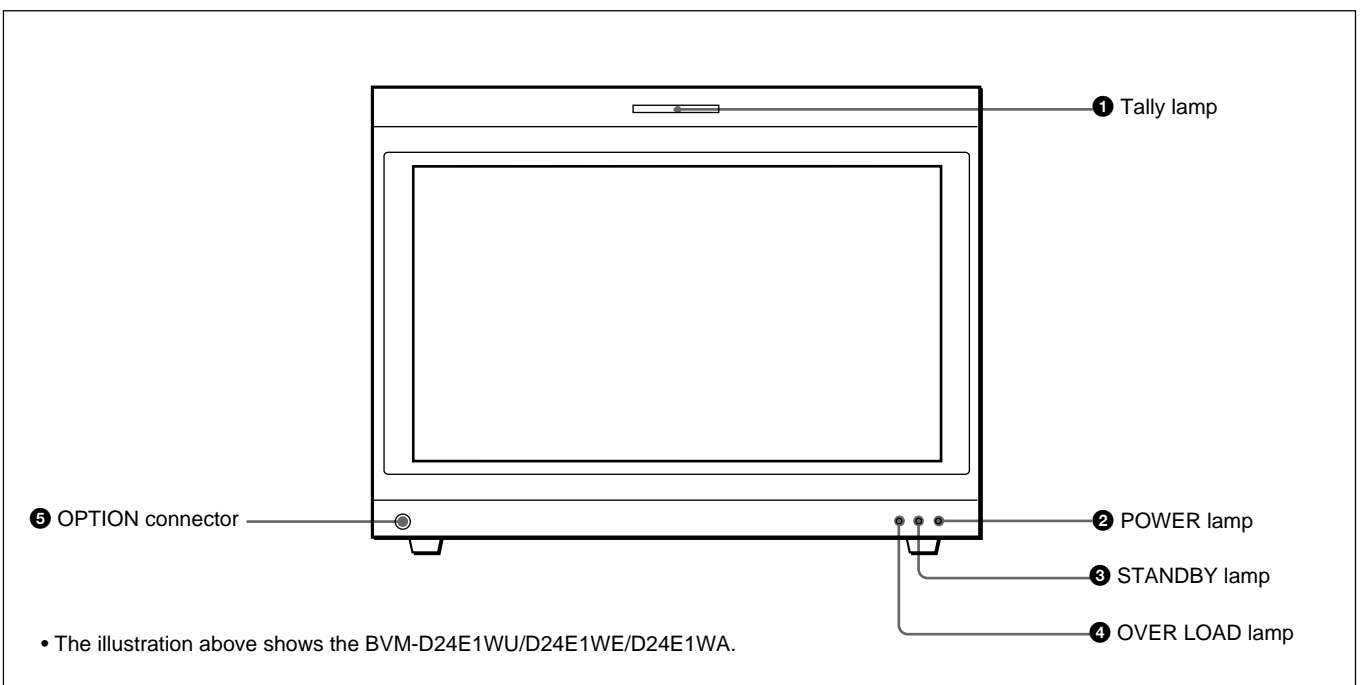
Location and Function of Parts

Front Panel

BVM-D20F1U/D20F1E/D20F1A



BVM-D24E1WU/D24E1WE/D24E1WA/D32E1WU/D32E1WE/D32E1WA



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 information about the REMOTE menu, see “[C2] Assigning the Remote Control Functions (SET UP 2) — REMOTE Menu” on page 40.

❷ POWER lamp

Lights when the monitor is put into operation mode from standby mode (see STANDBY lamp ❸) by pressing the POWER switch of the BKM-10R/11R.

Note

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

❸ 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.

❹ OVER LOAD lamp

Lights to warn of CRT overload.

When the OVER LOAD lamp is lit, use the unit with the contrast or brightness reduced.

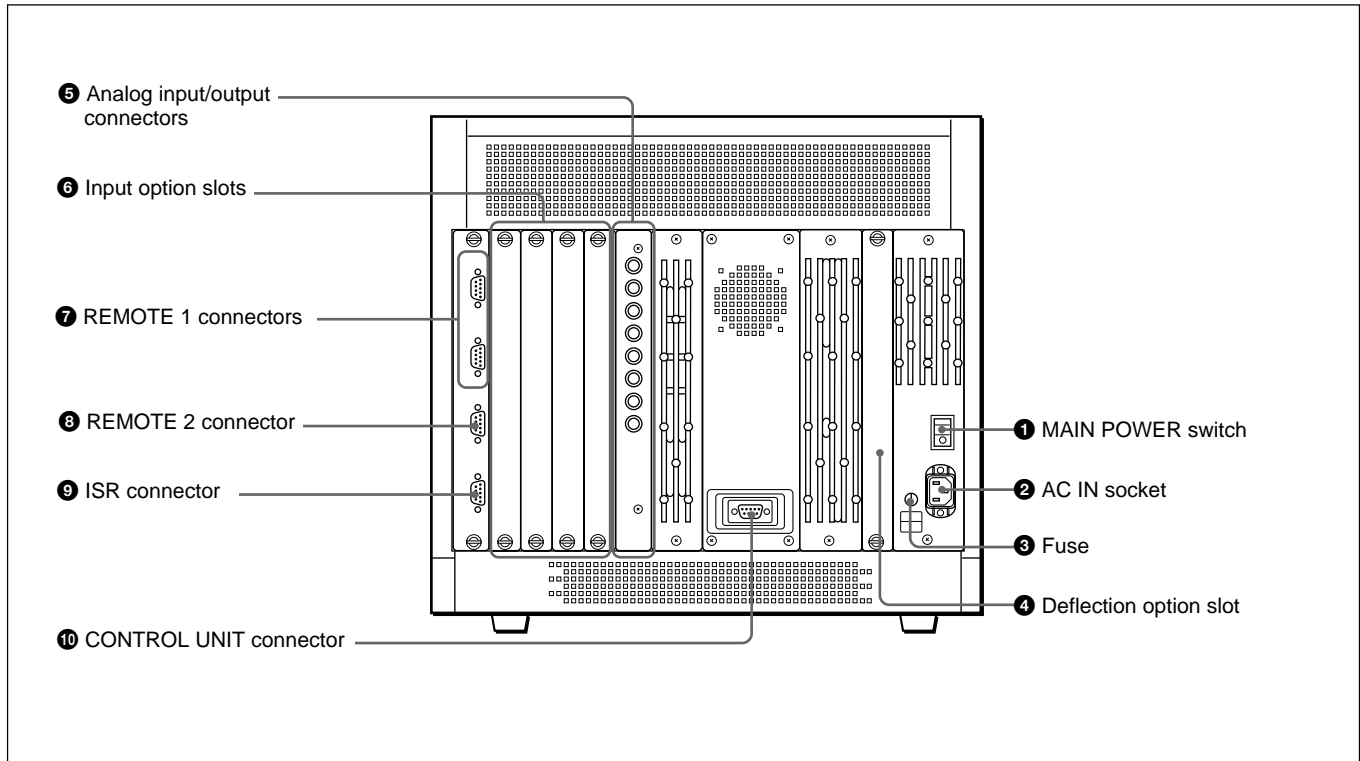
❺ OPTION connector

Used to connect the BKM-11R Monitor Control Unit or a auto setup probe (BKM-14L, etc).

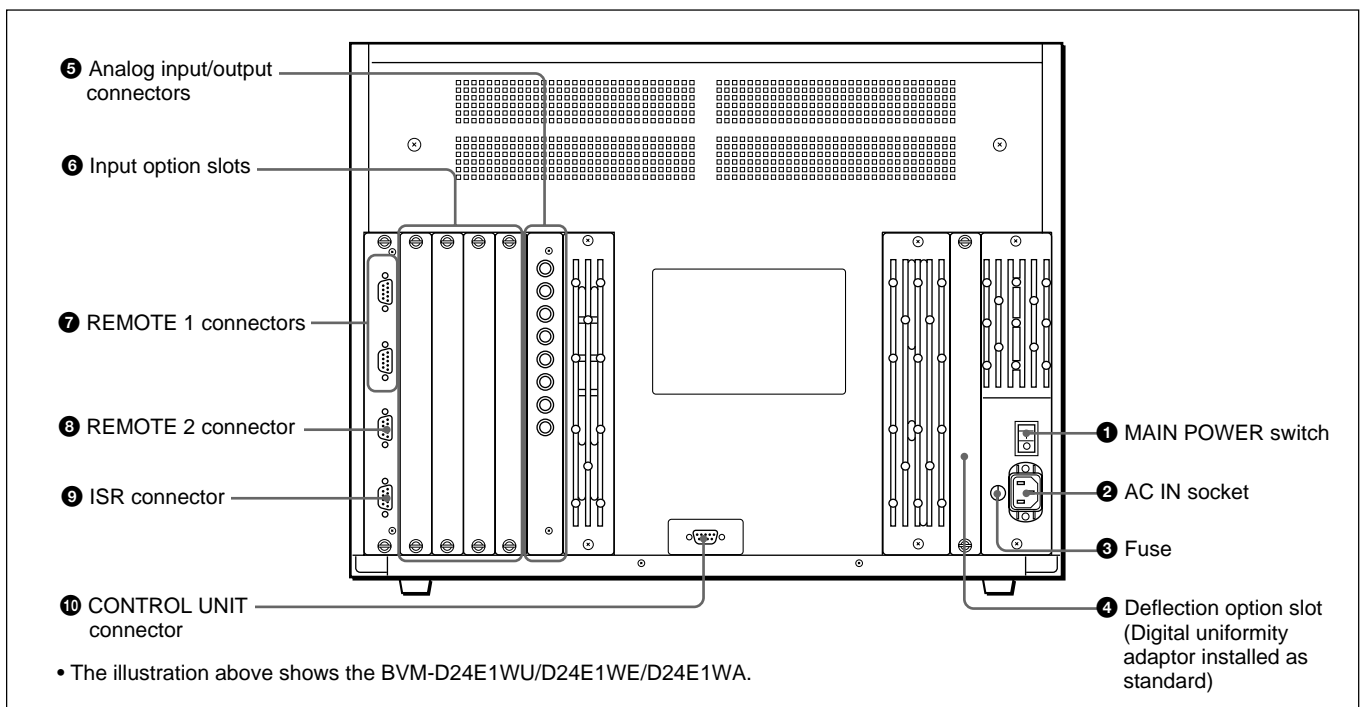
Location and Function of Parts

Rear Panel

BVM-D20F1U/D20F1E/D20F1A



BVM-D24E1WU/D24E1WE/D24E1WA/D32E1WU/D32E1WE/D32E1WA



1 MAIN POWER switch

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

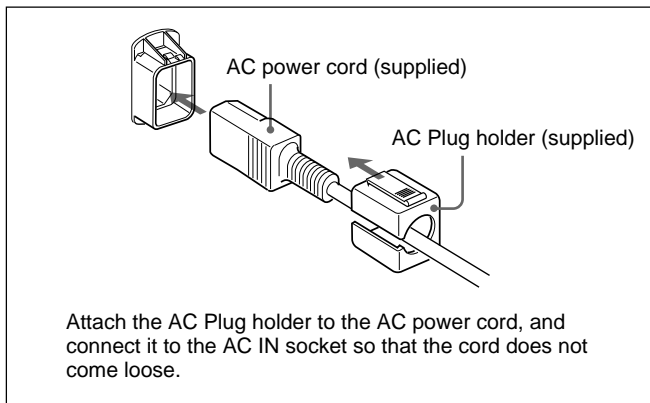
Note

When the monitor is turned on, “INITIALIZING” is displayed. While it is displayed, the monitor cannot accept commands from the BKM-10R/11R Monitor Control Unit or the equipment connected to the serial REMOTE 1 connector.

For information about the SYSTEM CONFIGURATION menu, see “ [C4] Setting the Channel Selection Method, Power-Up Conditions and Decoder (SET UP 4) — SYSTEM CONFIGURATION Menu” on page 44.

2 AC IN socket (3-pin)

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



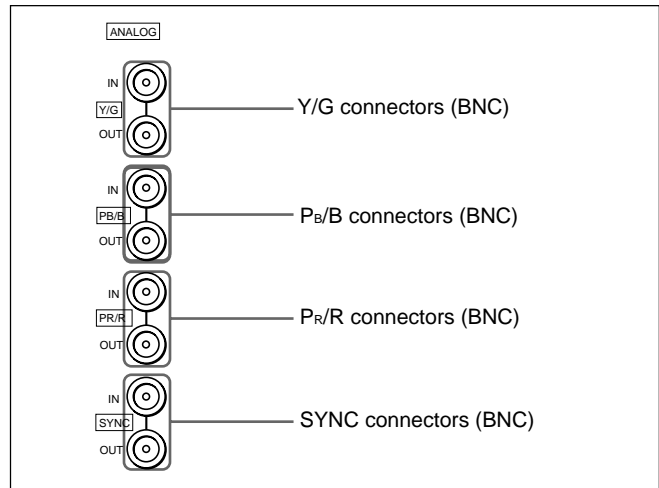
3 Fuse

Use a T4AH fuse.

4 Deflection option slot

For the BVM-D24E1WU/D24E1WE/D24E1WA/D32E1WU/D32E1WE/D32E1WA, the digital uniformity adaptor has been installed at the factory. For the BVM-D20F1U/D20F1E/D20F1A, this slot is provided for future use.

5 Analog input/output connectors



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

For information about the INPUT CONFIGURATION menu, see “ [C1] Setting the Input Configuration (SET UP 1) — INPUT CONFIGURATION Menu” on page 35.

6 Input option slots

The monitor may be fitted with optional decoder adaptors.

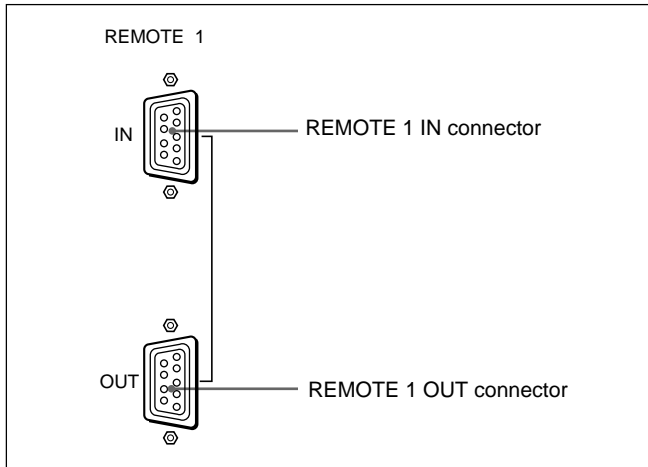
Note

The BKM-41HD and BKM-42HD use two input option slots.

(continued)

Location and Function of Parts

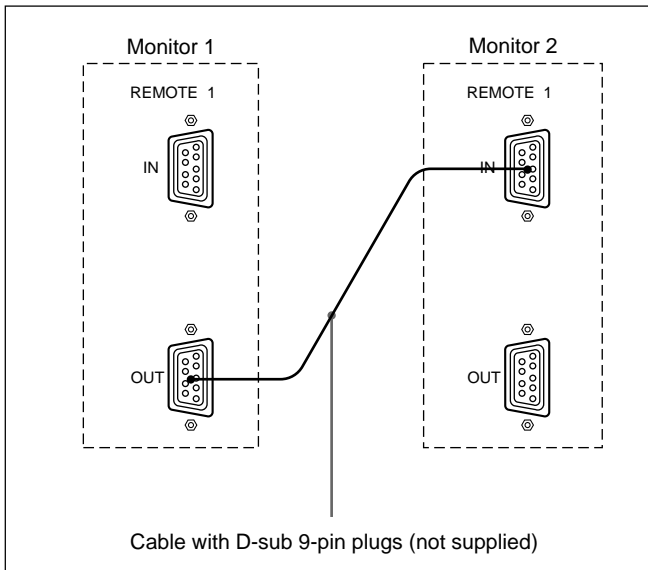
7 REMOTE 1 connectors (female, D-sub 9-pin)



These are RS-485 serial interface connectors, used for connecting two or more BVM-Dxx, BVM-xxE/F/G and HDM-xxE series monitors.

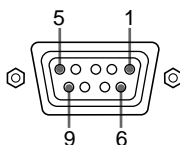
The IN and OUT connectors form a loop-through connection.

Connect two monitors using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as shown in the figure.



8 REMOTE 2 connector (female, D-sub 9-pin)

Forms a parallel switch and controls the monitor externally. The pin assignment 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 MODE button function)
5	Safe area on/off (SAFE AREA button function)
6, 7	Not connected
8	Tally lamp on/off
9	Ground

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

For information about the REMOTE menu, see “[C2](#) Assigning the Remote Control Functions (SET UP 2) — REMOTE Menu” on page 40.

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.

9 ISR (Interactive Status Reporting) connector (female, D-sub 9-pin)

Connect to the ISR system.

10 CONTROL UNIT connector (female, D-sub 9-pin)

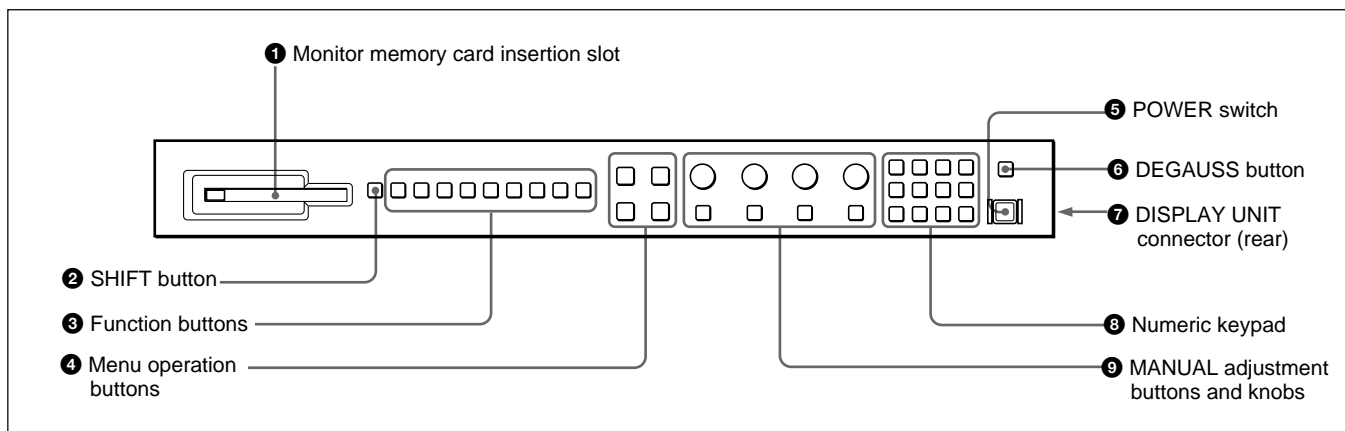
Connects the BKM-10R Monitor Control Unit using a cable with D-sub 9-pin plugs such as an RCC-5G/10G/30G (not supplied) or the cable supplied with the BKM-32H/34H Monitor Control Unit Attachment Kit.

BKM-10R Monitor Control Unit (Optional)

This manual explains the location and function of parts and controls of the optional BKM-10R Monitor Control Unit. The explanation applies to the optional BKM-11R Monitor Control Unit.

Note

If you press the UP/DOWN buttons or ENTER button on the Monitor Control Unit quickly and repeatedly, it may cause the monitor to go out of control. In this case, turn the PHASE, CHROMA or another MANUAL adjustment knob to restore control.



1 Monitor memory card insertion slot

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

For inserting/ejecting the monitor memory card, see page 20.

2 SHIFT button

Press to select one of the two functions designated to the function buttons 3.

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

SHIFT OFF: The functions indicated above the function buttons can be used (the LED of the function button lits in green).

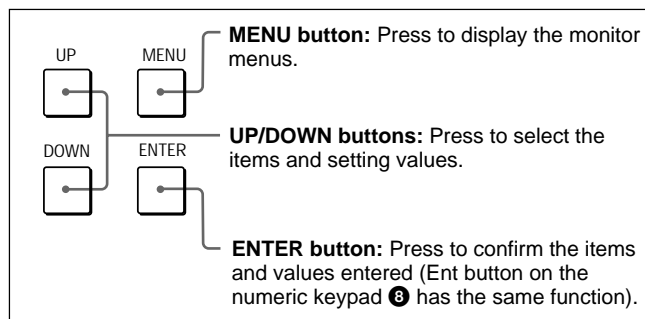
SHIFT ON: The functions indicated below the function buttons can be used (the LED of the function button lits in amber).

3 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 2. When the SHIFT button is set to ON, the LED lights in amber, and when the SHIFT button is set to OFF, the LED of each button lights in green.

For the functions of the function buttons in case of SHIFT OFF and SHIFT ON, see pages 17 and 18.

4 Menu operation buttons



For more information about menu operation, see “Basic Menu Operations” on page 22.

5 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.

Note

When the monitor is turned on, “INITIALIZING” is displayed. While it is displayed, the monitor cannot accept commands from the BKM-10R/11R Monitor Control Unit or the equipment connected to the serial REMOTE 1 connector.

For information about the ADDRESS menu, see “Selecting the Monitor to Control — ADDRESS Menu” on page 60.

(continued)

Location and Function of Parts

6 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.

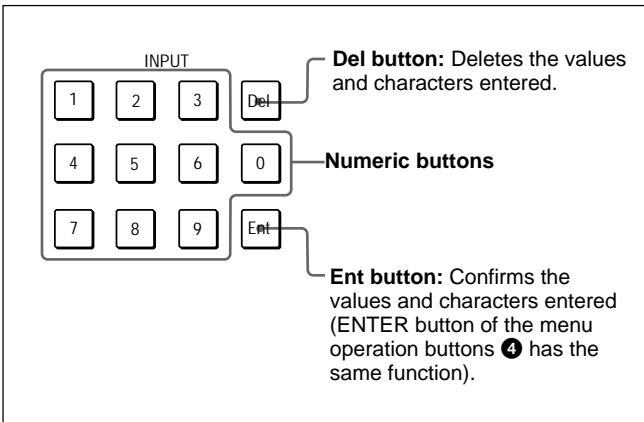
7 DISPLAY UNIT connector (rear)

Connect to the CONTROL UNIT connector of the monitor, using an optional RCC-5G/10G/30G cable or the cable supplied with the BKM-32H or BKM-34H Monitor Control Unit Attachment Kit.

The power is supplied from the monitor and the control signal is sent and received via this connector.

8 Numeric keypad

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

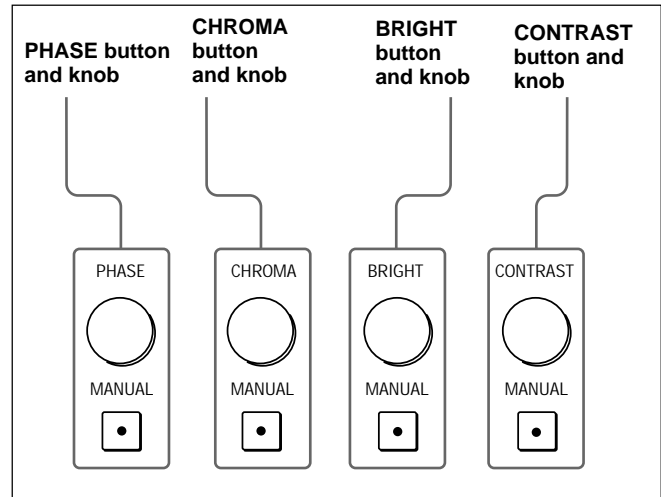


Channel number entry method

When selecting a channel number from 1 to 9, press one-digit channel number on the numeric keypad. When selecting a channel number from 10 to 99, press 0 button, then press the two-digit channel number.

9 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. The PHASE knob is 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.

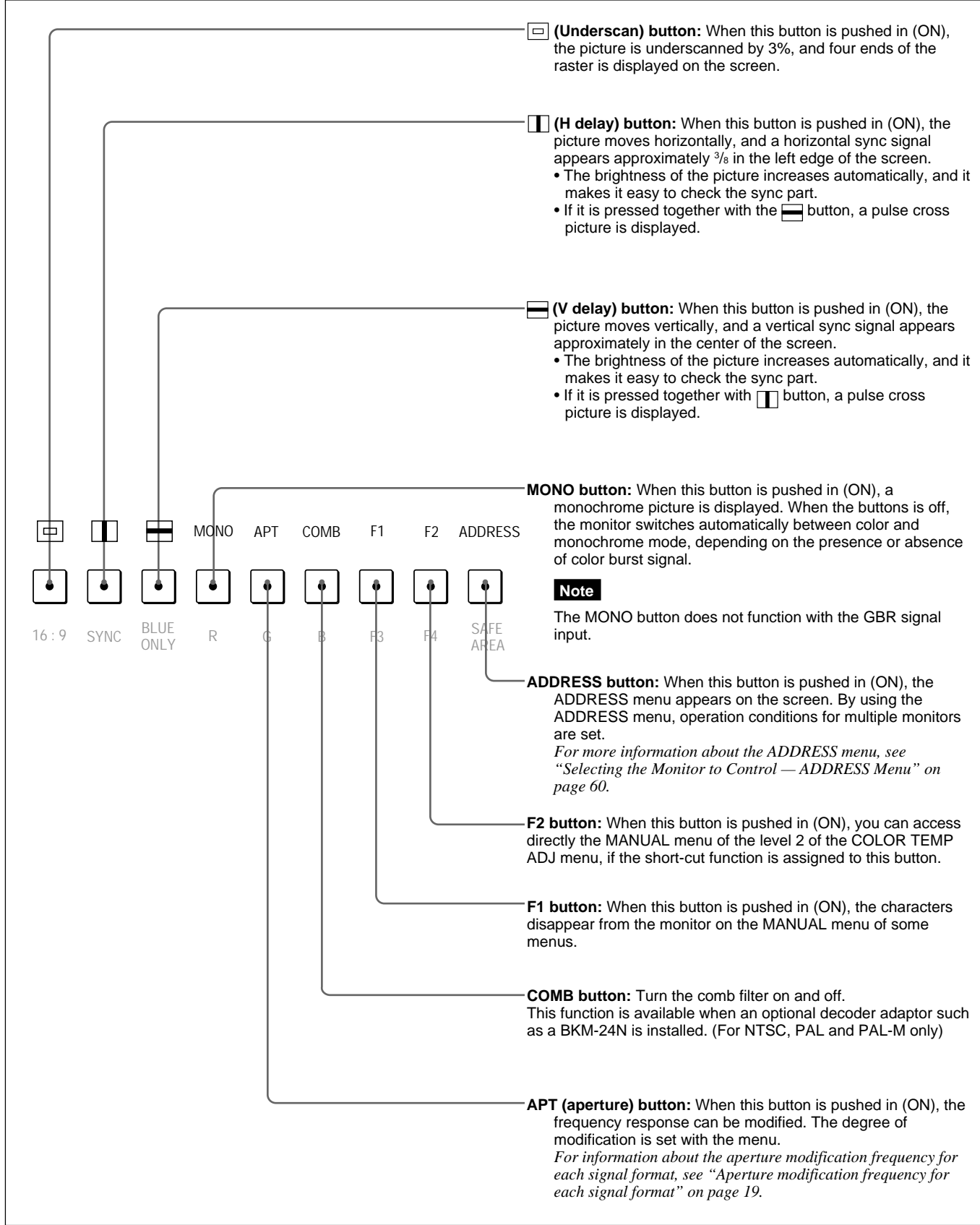


For information about the CONTROL PRESET ADJ menu, see “**[A]** Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ menu” on page 28.

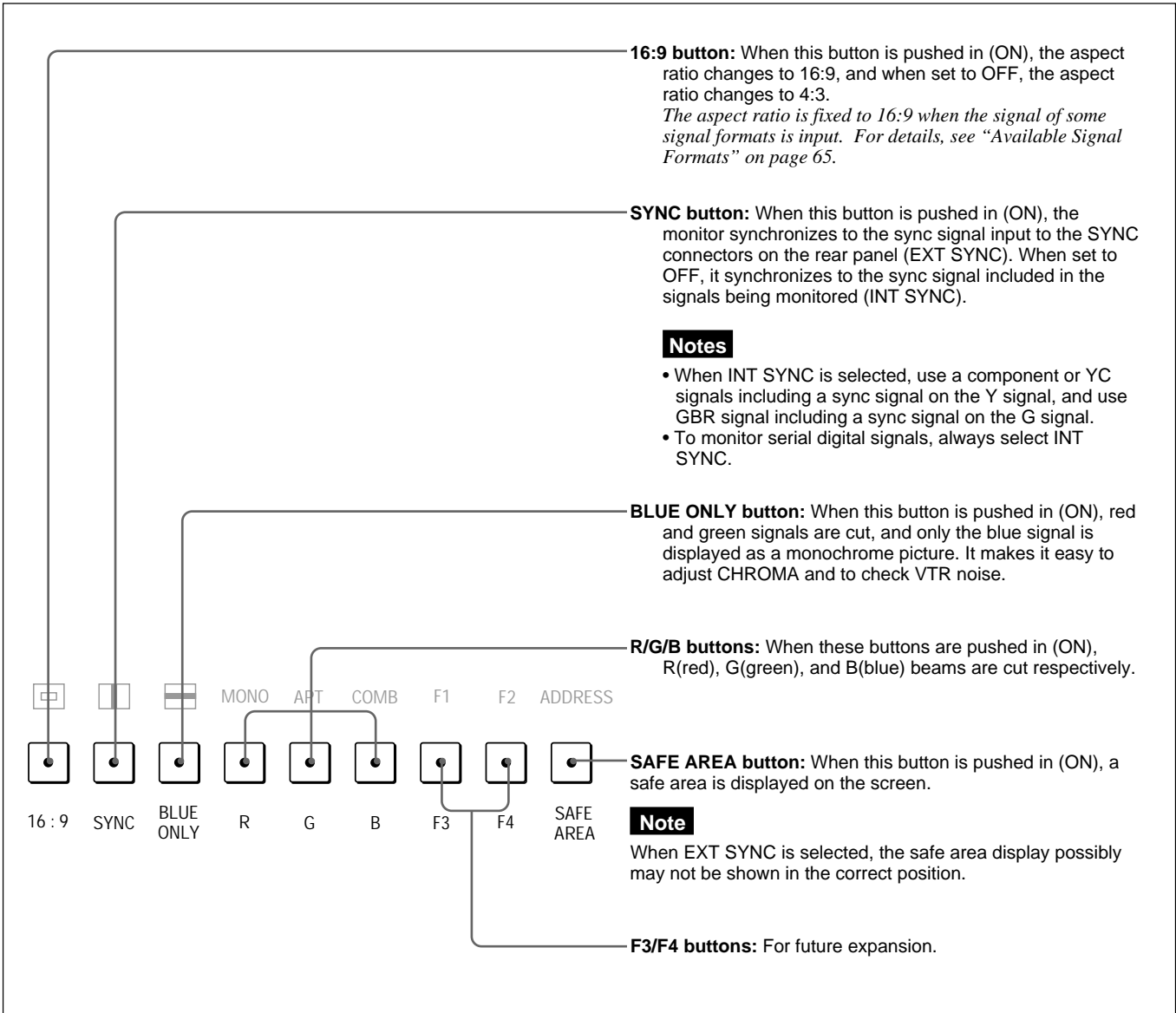
Notes

- The signal phase cannot be adjusted when using the composite SECAM, composite PAL D, component or SDI (component or composite serial digital interface) format.
- The phase and chroma cannot be adjusted when using GBR signals.

Function buttons in SHIFT OFF mode (LEDs of function buttons in green)



Function buttons in SHIFT ON mode (LEDs of function buttons in amber)



Aperture modification frequency for each signal format


Signal format	Serial digital input		Analog input		
	SDI	HD SDI	Composite (Y/C)	Component (YPbPr)	GBR
575/50I	5 MHz		5 MHz	5 MHz*	*
480/60I	5 MHz		5 MHz	5 MHz*	*
1080/48I		25 MHz**		25 MHz	25 MHz
1080/50I		25 MHz**		25 MHz	25 MHz
575/50P				25 MHz	25 MHz
480/60P				25 MHz	25 MHz
1035/60I		25 MHz		25 MHz	25 MHz
1080/60I		25 MHz		25 MHz	25 MHz
720/60P		25 MHz**		25 MHz	25 MHz

An empty frame in the table means that the signal cannot be input or the aperture modification can not operate for that signal even if it is input.

- * The aperture modification frequency is 25 MHz when the signal is input via the analog input/output connectors (equipped as standard).
- ** The BKM-41HD and BKM-42HD with the serial number 2100001 to 2110000 cannot receive the HD SDI signal of the 1080/48I, 1080/50I or 720/60P format. To receive all of the above signal formats, use the BKM-41HD and BKM-42HD with a serial number from 2600001 to 2610001.

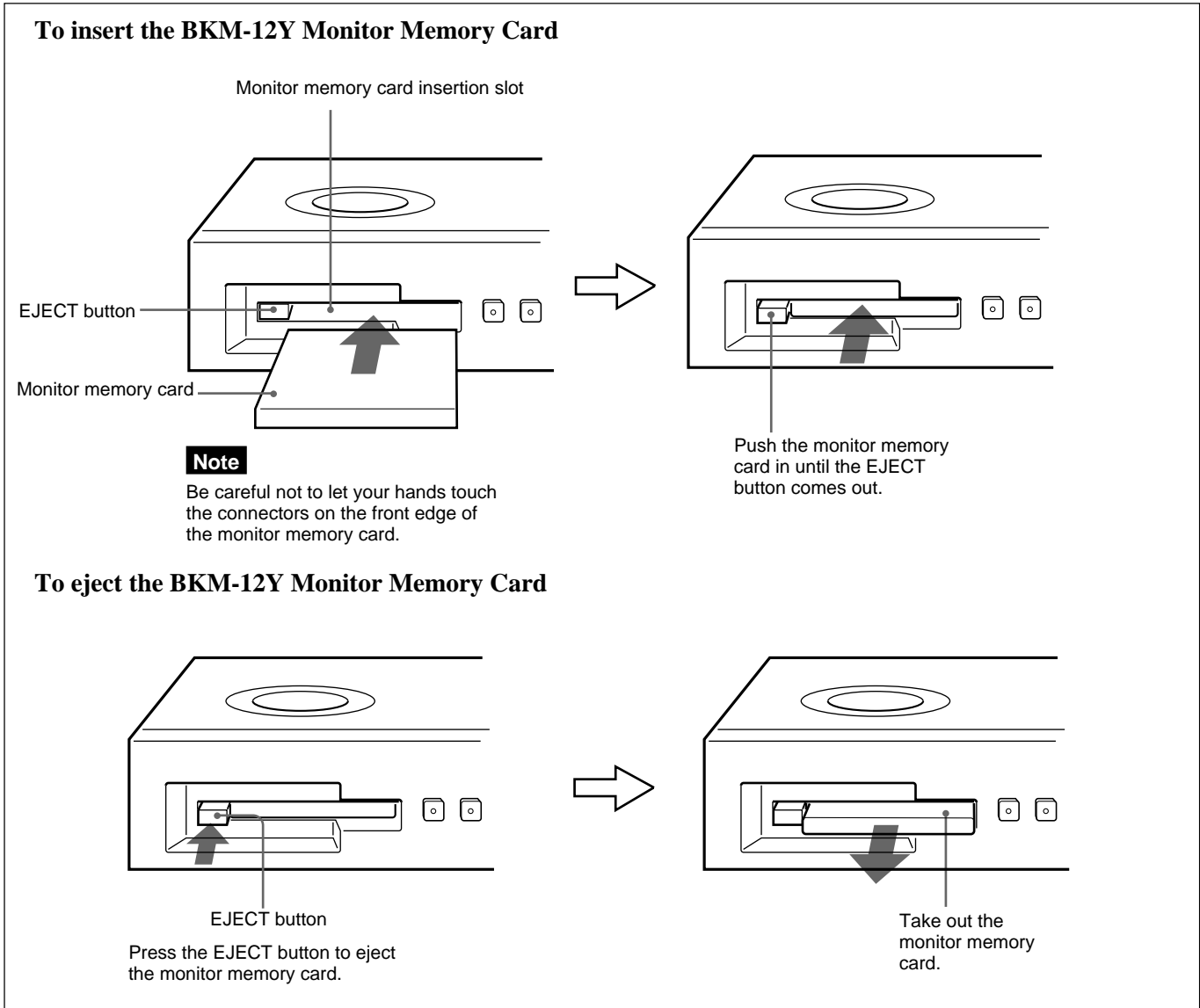
Inserting/ejecting the BKM-12Y Memory Monitor Card

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

For information about operations on monitor memory card data, see “ Monitor Memory Card Data Operations — MEMORY CARD menu” on page 57.

Note

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



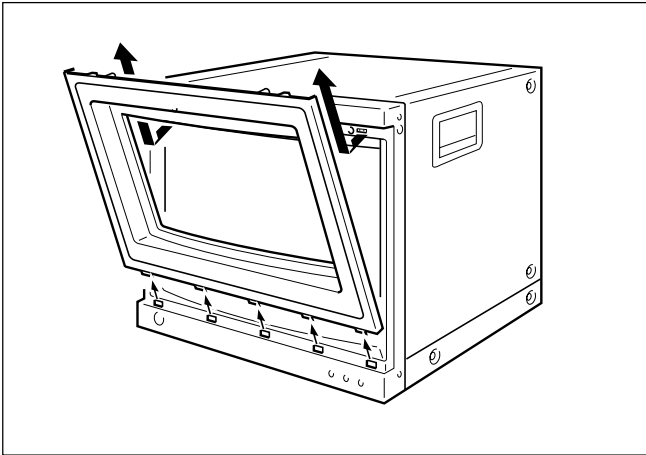
Installation of the 4:3 Mask

(BVM-D20F1U/D20F1E/D20F1A only)

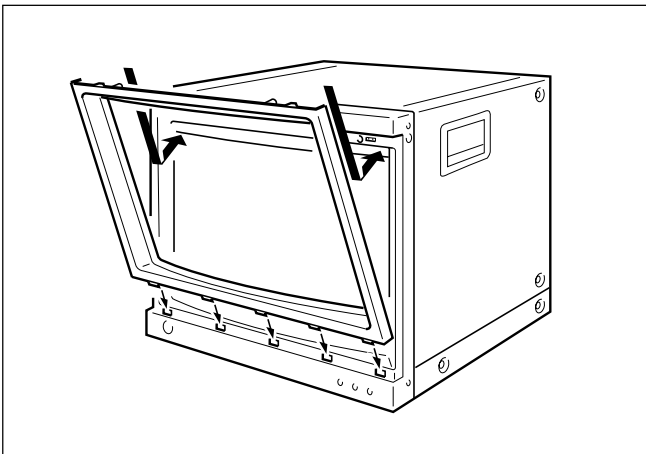
When the BVM-D20F1U/D20F1E/D20F1A aspect ratio is switched from 16:9 to 4:3, replace the 16:9 mask with the supplied 4:3 mask.

Installing the 4:3 mask

- 1 Remove the 16:9 mask by pulling the top side out and then lifting up from the bottom side.



- 2 Install the 4:3 mask (supplied) by inserting the bottom side and then pressing the top side in.



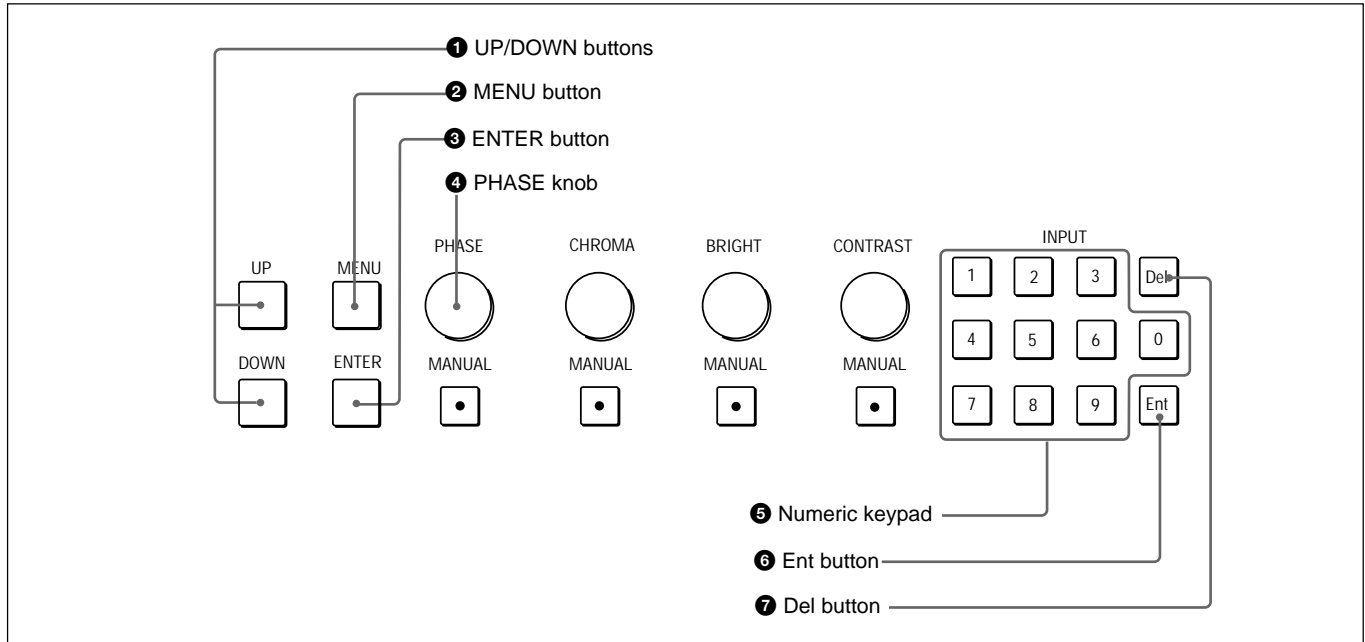
Replacing the 16:9 mask

Remove the 4:3 mask and replace the 16:9 mask using the same procedures as those for installing the 4:3 mask.

Basic Menu Operations

Menu Operation Buttons

The menus are operated using the menu operation buttons on the BKM-10R Monitor Control Unit (optional). The operations are the same for the BKM-11R (optional).



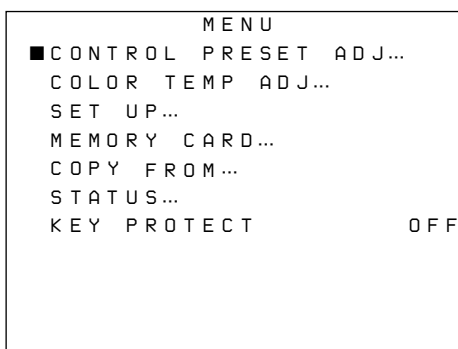
The functions of the menu operation buttons are described below.

Button	Function
① UP button	Moves the cursor upward. In setting mode, increases the setting and adjustment values.
① DOWN button	Moves the cursor downward. In setting mode, decreases the setting and adjustment values.
② MENU button	Displays the menus. Goes back to the menu of the upper level (on the Main Menu, goes back to the normal picture).
③ ENTER button/ ⑥ Ent button	Executes the items selected and settings.
④ PHASE knob	By turning this knob clockwise, the cursor moves upward. In setting mode, increases the setting and adjustment values (has the same function as UP button). By turning this knob counterclockwise, the cursor moves downward. In setting mode, decreases the setting and adjustment values (has the same function as DOWN button).
⑤ Numeric keypad	Enters the numerical values.
⑦ Del button	Deletes the values and characters entered.

Displaying the Menus

Press the MENU button.

The menu list is displayed on the screen.



Menu List

When you select one item on the main menu, the level 1 menu corresponding to the selected item on the main menu appears.

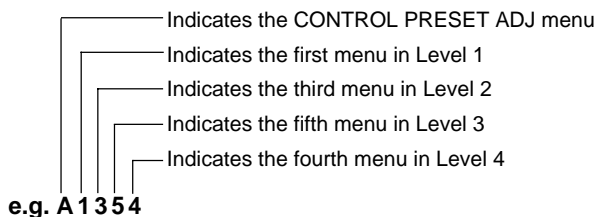
For information about the items on the main menu, see “Menu Structure” on page 27.

Note

Menu settings displayed in blue cannot be changed.

About menu numbers

For purposes of explanation in this manual, each menu is preceded by menu numbers. The alphabet determines the classification of Menus on the Menu List (Main Menu), and the numbers determine the level and the order. These menu numbers are not shown on the screen.



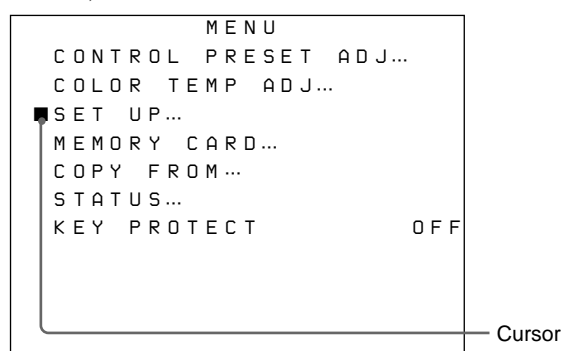
Note

Only the menus which require explanation are preceded by menu numbers. Thus, the menu number is counted without menus which do not require explanation.

Menu Operation

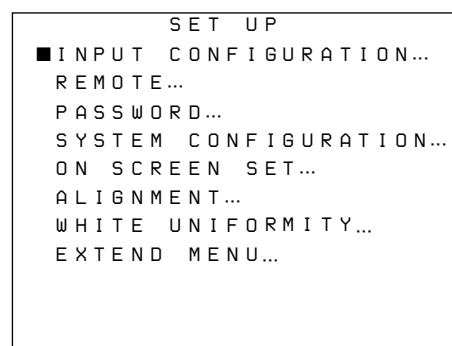
Follow the steps described below to display the menu and perform the adjustment or setup you wish.

- 1 Press the MENU button **2**.
The Menu List is displayed.
- 2 Using the UP/DOWN buttons **1** or PHASE knob **4**, move the cursor to the desired item. (Example: select the SET UP menu by pressing the DOWN button.)



Menu List

- 3 Press the ENTER button **3** or Ent button **6**.
The Level 1 of the selected menu is displayed.



(continued)

Basic Menu Operations

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

For more information about setting and adjustments, see below.

INPUT CONFIGURATION ↑↓				[↓] indicates that the menu continues onto next page.
01CH				[↑] indicates that the menu is continued from previous page.
■FORMAT...	YPBPR			
SLOT NO		SLOT2		
INPUT NO			1	Selects from various options.
YC SEP	3LINES	COMB		
SYNC MODE			INT	Indicates that this item has sub-list. Thus, you can go to the lower level.
SCREEN MODE	4:3-NORM			
SAFE AREA DISPLAY		MODE...	OFF	
APERTURE			OFF	
VALUE			100	Enters numerical values.

To abort menu operation

Press the MENU button. The menu of the upper level is displayed.

The setting or adjustment being performed is canceled, and data loading or saving is aborted.

If “NG” or “ERROR” appears during menu operation

Press the MENU button to return to the menu in use.

Choosing one of two or more selections

Selecting in yellow text

1 Using the UP/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 and set to setting mode.

INPUT CONFIGURATION ↑↓			
01CH			
FORMAT...	YPBPR		
SLOT NO		SLOT2	
INPUT NO			1
YC SEP	3LINES	COMB	
■SYNC MODE			INT
SCREEN MODE	4:3-NORM		
SAFE AREA DISPLAY		MODE...	OFF
APERTURE			OFF
VALUE			100

2 Using the UP/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 the setting list

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

SCREEN MODE	
■16:9-NORM	
16:9-UNDR	
4:3-NORM	
4:3-UNDR	

2 Press the ENTER or Ent button. The display returns to the menu of the upper level, and the selected setting is executed.

Entering a numerical value

- Using the UP/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 and set to setting mode.

```

INPUT CONFIGURATION ↑↓
01 CH
FORMAT...           Y P B P R
SLOT NO             SLOT 2
INPUT NO            1
YC SEP             3 LINES COMB
SYNC MODE           INT
SCREEN MODE         4 : 3 - NORM
SAFE AREA DISPLAY  OFF
                   MODE...
APERTURE            OFF
■ VALUE            100
  
```

- Set the value in one of the following three ways:
 - Enter the value directly using the numeric keypad and press the ENTER or Ent button
 - Select the value using the UP/DOWN buttons
 - Select the value using the PHASE knob
- Press the ENTER or Ent button.
The setting is confirmed (The item is displayed in white text again).

Entering characters

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

```

CHANNEL NAME
PROG
EDIT
CAM
UTR
■ NEW NAME
  
```

- Press the ENTER or Ent button.
“?” is displayed in yellow. The “?” indicates the position where character input is possible.

```

CHANNEL NAME
PROG
EDIT
CAM
UTR
■ NEW NAME
  ?
  
```

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

A BY Z 0 18 9 (,)
: ; . - + / & (space) ?

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

- Press the ENTER or Ent button.
The selected character is entered.

```

CHANNEL NAME
PROG
EDIT
CAM
UTR
■ NEW NAME
  C ?
  
```

- Repeat steps 3 and 4 until all the characters are entered, then press the ENTER or Ent button.
The selected characters are confirmed, and the display returns to the menu of the previous 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.

ADDRESS Menu

In addition to the menus displayed on the menu list, the ADDRESS menu is provided. This ADDRESS menu is used to select the monitor or the monitor group by assigning the address number or group address number, 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 information about the ADDRESS menu, see “Selecting the Monitor to Control —ADDRESS Menu” on page 60.

Menu Structure

Menus consist of two to six levels. The Main Menus displayed on the Menu List and Level 1 are shown below.

Detailed information on the levels of menus is described at the top of explanation of each menu.

Main Menu	Level 1	Functions
CONTROL PRESET ADJ A	PRESET A1	Sets the preset values for the input signal contrast, brightness, chroma, and phase. (page 28)
	CH SET A1	
COLOR TEMP ADJ B	STD B1	Sets the color temperature. (page 30)
	COL1 B2	
	COL2 B3	
	CH SET B4	
SET UP C	INPUT CONFIGURATION C1	A menu group for performing monitor setup, consisting of the following. Sets the input channel. (page 35)
	REMOTE C2	Sets the remote control functionality. (page 40)
	PASSWORD C3	Sets passwords for menus. (page 42)
	SYSTEM CONFIGURATION C4	Sets the input channel selection method, power-up conditions and decoder. (page 44)
	ON SCREEN SET C5	Sets data about the screen display. (page 46)
	ALIGNMENT C6	Adjusts the screen convergence, and geometry. (page 48)
	WHITE UNIFORMITY C7	Adjusts the beam landing and color uniformity of the CRT (BVM-D24E1WU/D24E1WE/D24E1WA/D32E1WU/D32E1WE/D32E1WA only). (page 51)
	EXTEND MENU C8	Loads the factory default data for the board installed. (page 55)
MEMORY CARD D	SAVE D1	Operates on data in the memory card. (page 57)
	LOAD D2	
	DELETE D3	
	FORMAT D4	
COPY FROM E	MONITOR ADDRESS E1	Copies set-up data from other connected monitors. (page 58)
STATUS F	STATUS (1/3) F1	Displays the information about the monitor or options installed in the monitor. (page 59)
	STATUS (2/3) F2	
	STATUS (3/3) F3	
KEY PROTECT G		When set to ON, function buttons on the control unit (with the exception of menu operation buttons) will be disabled. When set to OFF, key protection is removed.

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

Overview

The preliminary adjustments 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:

- **Adjustment with the MANUAL knobs (MANUAL menu)**
- **Automatic adjustment (AUTO menu)**
An external color bar signal is necessary.

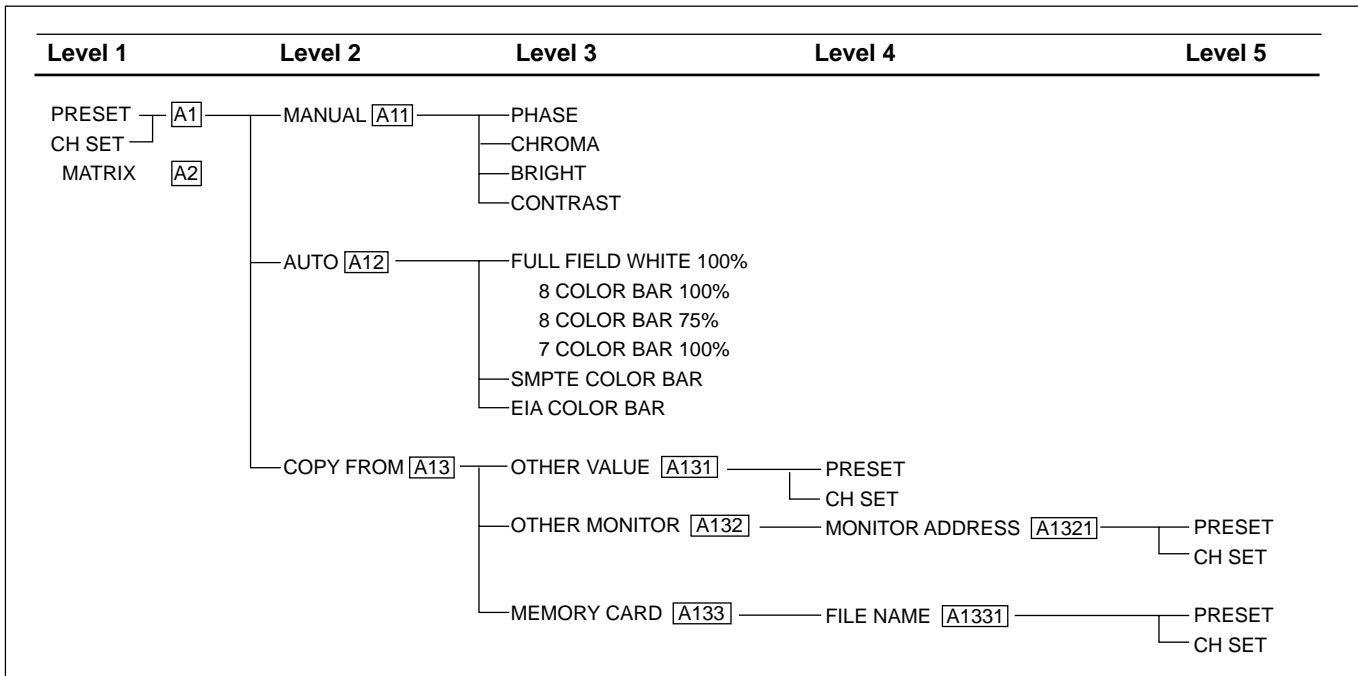
• Copying data (COPY FROM menu)

Copying data from other channels, common data, or other BVM-DxxE/DxxF series monitors that have been connected via the serial remote connector, or from data stored in monitor memory cards

Note

Data copy is impossible between monitors other than BVM-DxxE/DxxF series.

Structure of the CONTROL PRESET ADJ Menu



Setting Lists in the CONTROL PRESET ADJ Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

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

For more information about the menu number, see “About menu numbers” on page 23.

- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[A] CONTROL PRESET ADJ menu

Select either PRESET or CH SET. ⇒ [A1]

PRESET... : Set common values.

CH SET... : Set values for each individual channel.

MATRIX... : Set the data area for each individual channel when CH SET is selected. ⇒ [A2]

[A1] PRESET menu/CH SET menu

Select the setting method.

MANUAL... : Set with the MANUAL knobs. ⇒ [A11]

AUTO... : Set by automatic adjustment. ⇒ [A12]

COPY FROM... : Copy data from elsewhere. ⇒ [A13]

[A2] MATRIX menu

Select the data area for the YP_BPr (SMPTE/EBU-N10), SDI 4:2:2 and HD SDI signals. The ITU 709, ITU 601 or SMPTE 240M can be selected for each signal format. The selected data area is common to all the channels.

The factory settings are as follows:

- 1080/60I: ITU 709 (default)
- 1080/50I: ITU 709 (default)
- 1080/48I: ITU 709 (default)
- 1035/60I: SMPTE 240M (default)
- 720/60P: ITU 709 (default)
- 575/50P: ITU 601 (default)
- 575/50I: ITU 601 (default)
- 480/60P: ITU 601 (default)
- 480/60I: ITU 601 (default)

Notes

- When PRESET is selected, the same MATRIX data as the above are used automatically.
- The ITU 601 data is used for the COMPOSITE, YC, YP_BPr (BETACAM), GBR and SDI (D2) signals, regardless of the settings on the MATRIX menu.

[A11] MANUAL menu

Adjust values by turning the PHASE, CHROMA, BRIGHT, and/or CONTRAST knobs. After the adjustment, press the ENTER or Ent button to confirm the adjusted values.

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

When you want to erase characters from the screen while adjusting manually

Press the [F1] button. The characters disappear. To display characters, 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.

8COLOR BAR 100%: 100% full-field 8-color bar (white, yellow, cyan, green, magenta, red, blue and black)

8COLOR BAR 75%: 75% full-field 8-color bar (with 100% white signal, effective for 15K signal only)

7COLOR BAR 100%: 100% full-field 7-color bar (white, yellow, cyan, green, magenta, red and blue) (with 100% white signal, not selectable for 15K signal)

SMPTE COLOR BAR: SMPTE standard color bar (effective for 15K signal only)

EIA COLOR BAR: EIA standard color bar (effective for 15K signal only)

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 FROM menu

Select the source to be copied from.

OTHER VALUE... : Copy data from another channel or common data. ⇒ [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.

[A132] OTHER MONITOR menu

Input the address of the monitor from which the data will be copied. ⇒ [A1321]

MONITOR ADDRESS: Input the address number.

[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.

[A133] MEMORY CARD menu

Select the file name. ⇒ [A1331]

FILE NAME: Select the file name.

Note

The input signal is not displayed during the data loading.

[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.

B 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 (STD, COL1 and COL2 menus) or individually for each channel (CH SET menu).

Use the factory setting value or the adjusted value as an original value to shorten the adjustment time.

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

- **Knob adjustment (MANUAL menu)**

You can adjust the color temperature with the bias and gain knobs.

- **Automatic adjustment using a probe (PROBE menu)**

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 color analyzer to the monitor.

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

For more information about the cable specification required and about the connection, see “Connection Cable Specifications for Color Temperature Probes” on page 69.

- **Copying other data (COPY FROM menu)**

You can copy data from other channels, common data, or other BVM-DxxE/DxxF series monitors that have been connected via the serial remote connector, or from data stored in monitor memory cards.

Note

Data copy is impossible between monitors other than BVM-DxxE/DxxF series.

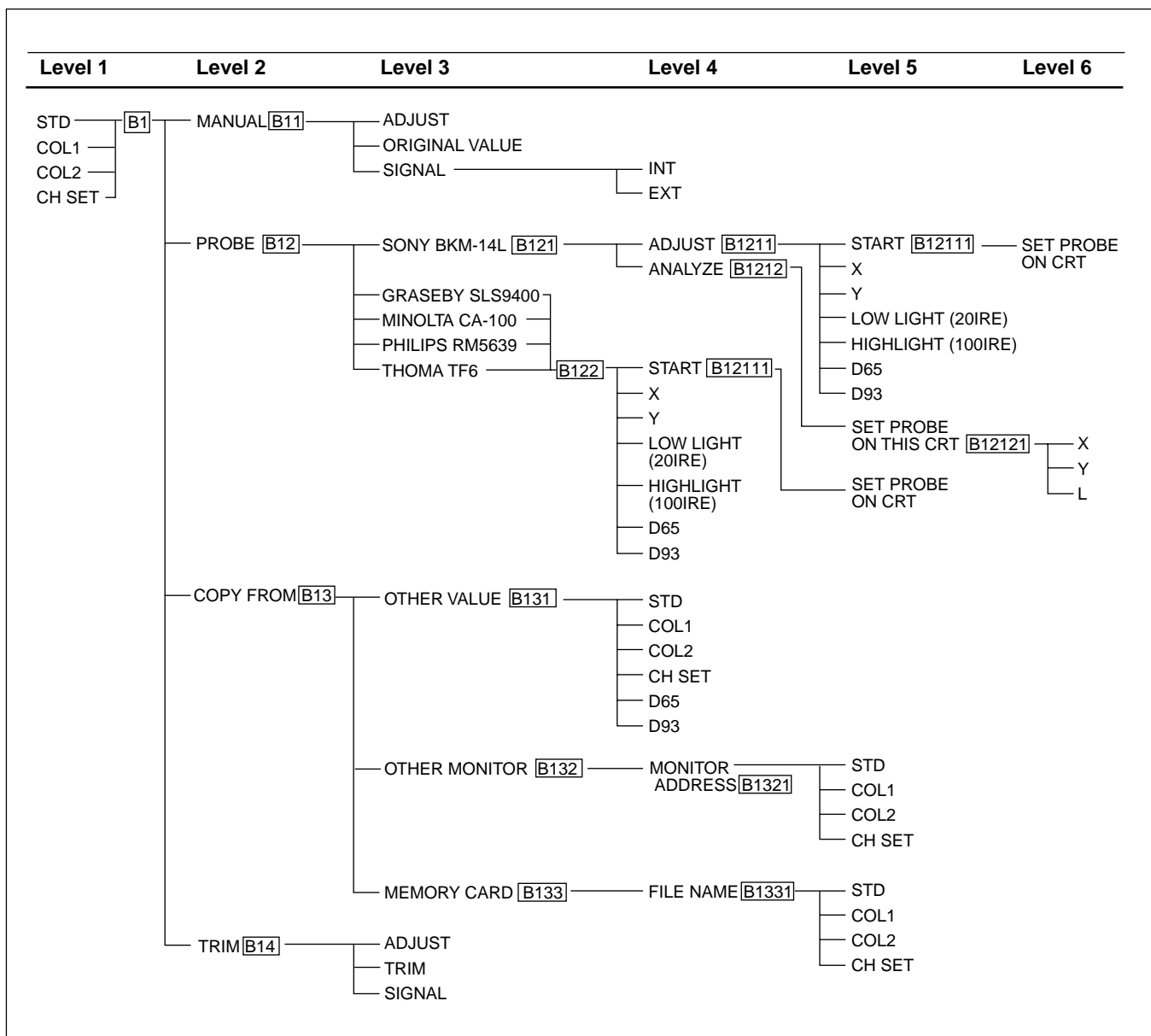
- **Fine adjustment after the color temperature adjustment (TRIM menu)**

You can perform fine adjustment of the gain and bias and add the data to the original adjustment data.

Before adjusting the color temperature

We recommend that you perform the automatic adjustment using the AUTO menu [A12] of the CONTROL PRESET ADJ menu before adjusting the color temperature.

Structure of the COLOR TEMP ADJ Menu



B Adjusting the Color Temperature — COLOR TEMP ADJ Menu

Setting Lists in the COLOR TEMP ADJ Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 23.
- The arrow mark (➔) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

B COLOR TEMP ADJ menu

Select STD, COL 1, 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/D65¹⁾).
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 FROM... : Copy data from elsewhere. ➔ **B13**
TRIM... : Perform fine adjustments after setting the color temperature. ➔ **B14**

B11 MANUAL menu

Select the adjustment method.
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 or Ent 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.

Note

You cannot reset the setting after you press the ENTER or Ent 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/D65¹⁾).
CH SET: Use data for a particular channel (factory setting: D65).

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.

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 (STD/COL1/COL2/CH SET) set to the image on the screen.

*For details of how to assign the short-cut key, see “**C4** Setting the Channel Selection Method, Power-Up Conditions and Decoder (SET UP 4) — SYSTEM CONFIGURATION Menu” on page 44.*

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**

1) D56: BVM-D20F1U/D24E1WU/D32E1WU

- 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 performing 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 LOW LIGHT and HIGH LIGHT.
- (3) Select START.

START: Start adjustment. ÷ **[B12111]**

X: Enter the x coordinate.

Y: Enter the y coordinate.

LOW LIGHT (20IRE): Enter the luminance (cd/m²) for low light.

HIGH LIGHT (100IRE): Enter the luminance (cd/m²) 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 or Ent 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 on the center of the CRT and press the ENTER or Ent button. ÷ **[B12121]**
Once the BKM-14L has carried out calibration, the BKM-14L can start analyze the monitor's performance.

[B12121] SET PROBE ON THIS CRT menu

Display the color system and luminance readout values from the BKM-14L system at the bottom of the CRT.
X: xxxx: Display the x coordinate of the color system.
Y: xxxx: Display the y coordinate of the color system.
L: xxxx: Display the luminance value.

[B122] GRASEBY/MINOLTA/PHILIPS/THOMA menu

The forth and lower levels of **[B122]** are the same as those of the fifth and lower levels of **[B1211]**. Refer to **[B1211]** and **[B12111]**.

[B13] COPY FROM 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 a BVM-DxxE/DxxF series monitor. ÷ **[B132]**

MEMORY CARD... : Copy data from a monitor memory card. ÷ **[B133]**

[B131] OTHER VALUE 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/D65¹⁾).

CH SET: Copy data from a particular channel (factory setting: D65). Enter the number of the channel from which the data will be copied.

D65: Copy the color temperature of D65.

D93: Copy the color temperature of D93.

[B132] OTHER MONITOR menu

Specify the address number of the monitor.

MONITOR ADDRESS: Input the address number of the monitor from which the data will be copied.

÷ **[B1321]**

1) D56: BVM-D20F1U/D24E1WU/D32E1WU
D65: BVM-D20F1E/D20F1A/D24E1WE/D24E1WA/D32E1WE/D32E1WA

B Adjusting the Color Temperature — COLOR TEMP ADJ Menu

[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/D65¹⁾).

CH SET: Copy data from a particular channel. Enter the number of the channel from which the data will be copied.

[B133] MEMORY CARD menu

Select the file name. ÷ **[B1331]**

FILE NAME: Select the file name.

Note

The input signal is not displayed during the data loading.

[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/D65¹⁾).

CH SET: Copy data from a particular channel. Enter the number of the channel from which the data will be copied.

[B14] TRIM menu

Finely adjust the gain and bias 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 or Ent 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, 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.

TRIM: Select whether to add the fine adjustment to the original setting (gain and bias set in MANUAL menu **[B11]**).

APPLY: Adds the fine adjustment to the original setting.

When APPLY is selected, “XX/TRIM” (XX: the selected color temperature among STD, COL 1 or COL 2) 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 **[B11]**).

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 or Ent button to confirm the adjusted values results in that APPLY will be selected.

1) D56: BVM-D20F1U/D24E1WU/D32E1WU

D65: BVM-D20F1E/D20F1A/D24E1WE/D24E1WA/D32E1WE/D32E1WA

C1 Setting the Input Configuration (SET UP 1) — 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 following data can be set with the INPUT CONFIGURATION menu.

- Assigning the signal **FORMAT**
- Assigning the **SLOT NO**
- Assigning the **INPUT NO (input connector number)**
- Selecting the **YC SEP (separation) filter**
- Selecting the **SYNC MODE**
- Selecting the **SCREEN MODE**
- Selecting the **SAFE AREA DISPLAY**
- Setting the **SAVE AREA MODE**
- Activating/deactivating the **APERTURE adjustment**
- Assigning the **APERTURE VALUE**
- Turning on/off the **FILTER operation for monochrome display**
- Assigning **CHANNEL NAME**
- Selecting the picture **CONTROL settings**
- Setting the **COLOR TEMP (temperature)**
- Adjusting **H PHASE**
- Assigning the number of active scanning lines of **1125/60I SYSTEM**
- **COPYing FROM other data**

Note

Data copy is impossible between monitors other than BVM-DxxE/DxxF series.

Channels 91 to 99 assignment

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 for each slot are numbered 1 to 6 (from the top).

Assigning the signal type and format

The signal type and format which can be assigned to each channel number vary, depending on what adaptors (not supplied) are installed in the rear panel.

To assign serial digital signals

Serial digital signals can be assigned to the serial digital input connectors on the BKM-20D/21D/22X/41HD/42HD adaptors.

You need to install one of the BKM-20D (for component signals only), BKM-21D, BKM-41HD or BKM-42HD adaptors with a serial digital signal decoder to the rear panel of the monitor.

To assign analog composite signals

Analog composite signals can be assigned to any analog input connectors on the BKM-20D/21D/22X or any input connectors on the BKM-24N/25P/26M/27T/28X/48X.

You need to install one of the following decoder adaptors.

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

To assign Y/C signals

Y/C signals can be assigned to any input connectors on the BKM-24N/25P/26M/27T/28X/48X.

You need to install one of the following decoder adaptors.

To assign NTSC signals: BKM-24N/27T

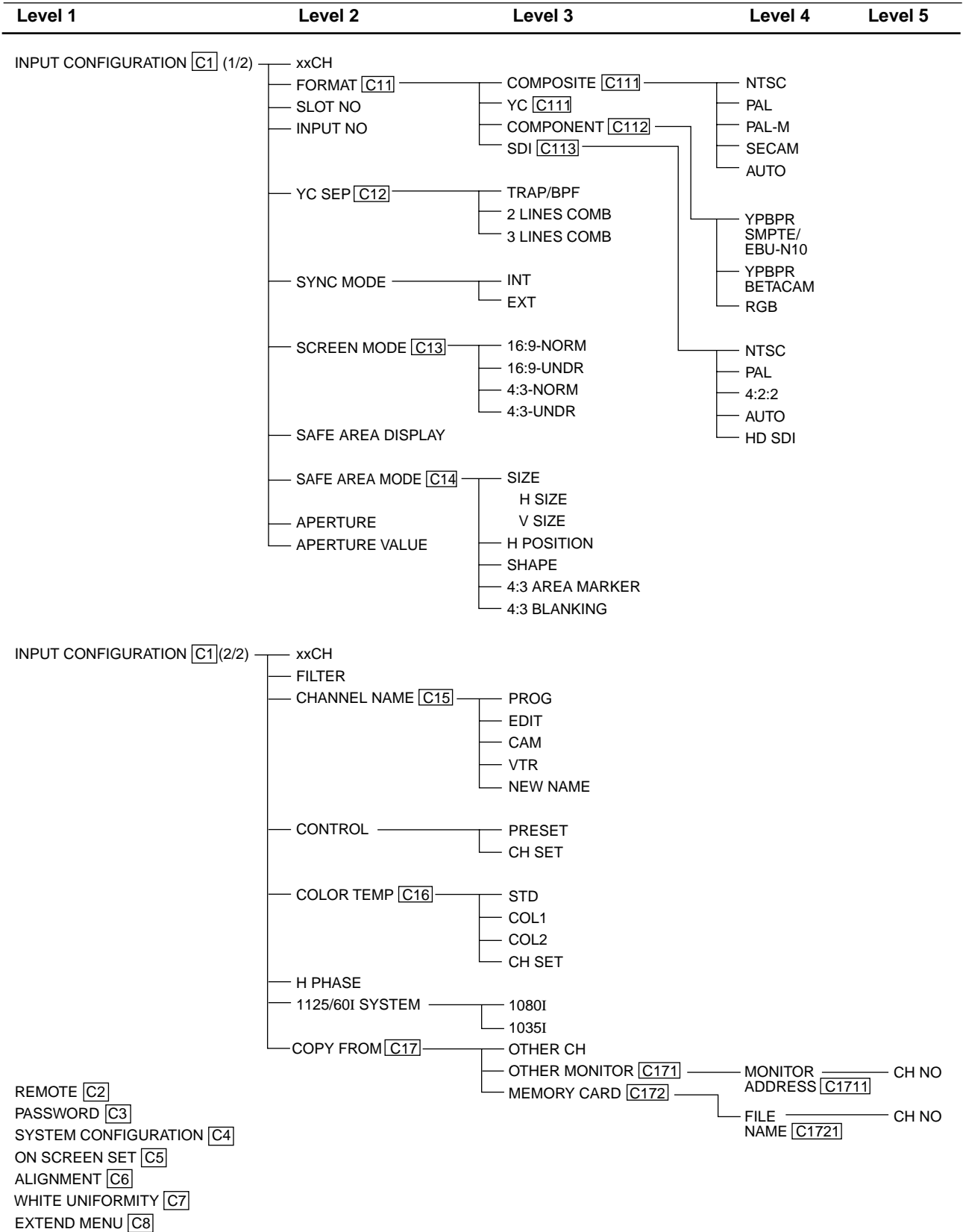
To assign PAL signals: BKM-25P/27T

To assign PAL-M signals: BKM-26M

To assign 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/41HD/42HD.

Structure of the INPUT CONFIGURATION Menu



Setting Lists in the INPUT CONFIGURATION Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 23.
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[C1] INPUT CONFIGURATION menu (1/2)

Set input signal data for each channel.

xxCH: Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. 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 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 DISPLAY: Choose whether or not to display the safe area (OFF or ON).

MODE... : Select the display mode for safe area.
⇒ [C14]

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

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

[C1] INPUT CONFIGURATION menu (2/2)

Set input signal data for each channel.

xxCH: Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. 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: Use if either PRESET or CH SET values are used for the CONTRAST/BRIGHT/CHROMA/PHASE settings.

PRESET: Use values common to all channels.

CH SET: Use individual values for each channel.

COLOR TEMP... : Set the color temperature.

⇒ [C16]

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

1125/60I SYSTEM: Select the number of active scanning lines per frame. When the HD SDI signal is input, the number of active scanning lines is selected automatically.

1080I: The active scanning lines are 1080 lines

1035I: The active scanning lines are 1035 lines.

COPY FROM... : Select a method for copying data from elsewhere. ⇒ [C17]

Note

For H PHASE data, if a value above or below the allowable range is entered, the monitor will not operate correctly.

[C11] FORMAT menu

Select the signal format.

COMPOSITE... : Analog composite signal ⇒ [C111]

YC... : Analog Y/C signal ⇒ [C111]

COMPONENT... : Analog 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/YC menu

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

NTSC: SETUP 7.5 or 0.

PAL: S (simple) or D (delay)

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

SECAM (for the COMPOSITE menu only)

AUTO: The format of the input signal is detected and switched automatically. ¹⁾

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

(continued)

Notes

- Even when selecting AUTO, also select NTSC (SETUP 7.5 or 0), PAL (S or D), and PAL-M (S or D).
- 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).
- If you change the format of the channel to which the SDI signal is assigned to AUTO of the COMPOSITE menu with the BKM-21D installed, the image may not be displayed. In this case, change the signal format to NTSC or PAL once, then reset it to AUTO.
- If you change the format of the PAL-M Y/C signal to AUTO of the YC menu with the BKM-26M installed, the image may not be displayed. In this case, select PAL-M S or D.

C112 COMPONENT menu

Select the component signal format, or RGB.

YPBPR SMPTE/EBU-N10

YPBPR BETACAM: SETUP 7.5 or 0.

RGB

C113 SDI menu

Select the format of the serial digital signal ¹⁾.

NTSC: SETUP 7.5 or 0.

PAL: S (simple) or D (delay)

4:2:2

AUTO: The NTSC, PAL or 4:2:2 format of the input signal is detected and switched automatically. ¹⁾

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

HD SDI

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.

16:9-NORM: Overscanned 16:9 aspect ratio.

16:9-UNDR: Underscanned 16:9 aspect ratio.

4:3-NORM: Overscanned 4:3 aspect ratio.

4:3-UNDR: Underscanned 4:3 aspect ratio.

C14 SAFE AREA MODE menu

Set the safe area display modes.

SIZE: Select the safe area mode.

16:9-80%: Displays a 80% safe area with 16:9 aspect ratio.

16:9-88%: Displays a 88% safe area with 16:9 aspect ratio.

16:9-90%: Displays a 90% safe area with 16:9 aspect ratio.

16:9-93%: Displays a 93% safe area with 16:9 aspect ratio.

16:9-ANY SIZE: Displays a safe area with 16:9 aspect ratio in the size determined by H SIZE and V SIZE.

4:3-80%: Displays a 80% safe area with 4:3 aspect ratio.

4:3-88%: Displays a 88% safe area with 4:3 aspect ratio.

4:3-90%: Displays a 90% safe area with 4:3 aspect ratio.

4:3-ANY SIZE: Displays a safe area with 4:3 aspect ratio in the size determined by H SIZE and V SIZE.

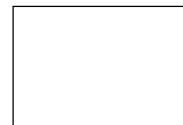
H SIZE: When 16:9-ANY SIZE or 4:3-ANY SIZE is selected, adjust the horizontal size of the safe area in 1% steps.

V SIZE: When 16:9-ANY SIZE or 4:3-ANY SIZE is selected, adjust the vertical size of the safe area in 1% steps.

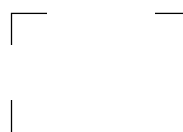
H POSITION: Adjust the horizontal display position of the safe area (-32 to +32).

SHAPE: Select the shape of the SAFE AREA MARKER.

SHAPE A:



SHAPE B:



4:3 AREA MARKER: Select whether the 4:3 line is displayed in 16:9 screen or not (ON or OFF).

4:3 BLANKING: Select the blanking outside the 4:3 area.

HALF: Half blanking

BLACK: Blanks outside the 4:3 area.

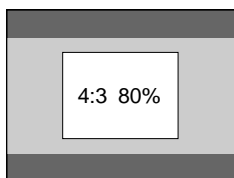
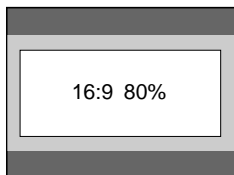
OFF: Do not blank.

Note

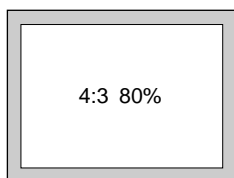
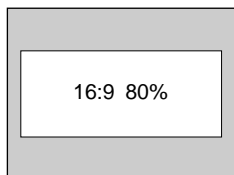
The size of the safe area for the 16:9-xx% or 4:3-xx% setting depends on the 16:9 button ON/OFF setting.

BVM-D20F1U/D20F1E/D20F1A

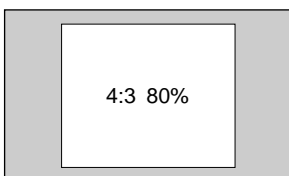
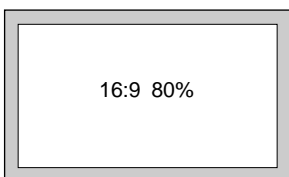
With 16:9 button ON



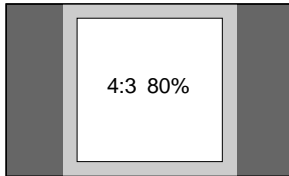
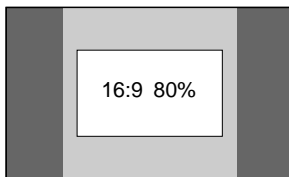
With 16:9 button OFF

**BVM-D24E1WU/D24E1WE/D24E1WA/
D32E1WU/D32E1WE/D32E1WA**

With 16:9 button ON



With 16:9 button OFF

**[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/D65¹⁾).**CH SET:** Use data for each individual channel.**[C17] COPY FROM menu**

Select the source to be copied from.

OTHER CH: Copy data from another channel. Enter the channel number.**OTHER MONITOR... :** Copy data from a BVM-DxxE/DxxF series monitor. ÷ [C171]**MEMORY CARD... :** Copy data from a memory card. ÷ [C172]**[C171] OTHER MONITOR menu**

Enter the address number of the source monitor.

MONITOR ADDRESS: Enter the address number of the monitor from which to copy data. ÷ [C1711]**[C1711] MONITOR ADDRESS menu**

Assign the channel of the selected monitor from which to copy data. ÷ Copy is carried out.

CH NO: Enter the channel number.**[C172] MEMORY CARD menu**

Select the file name.

FILE NAME: Select the file name. ÷ [C1721]**Note**

The input signal is not displayed during the data loading.

[C1721] FILE NAME menu

Assign the channel of the selected file from which to copy data. ÷ Copy is carried out.

CH NO: Enter the channel number.

1) D56: BVM-D20F1U/D24E1WU/D32E1WU
D65: BVM-D20F1E/D20F1A/D24E1WE/D24E1WA/D32E1WE/D32E1WA

C2 Assigning the Remote Control Functions (SET UP 2) — 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.

The following settings can be made with the REMOTE menu.

- **Settings for the serial remote control (REMOTE 1) (REMOTE 1 CONFIG menu)**
An address number (MONITOR ADDRESS) and group number (GROUP ADDRESS) can be assigned to the monitor connected to the serial REMOTE 1 connector.
The BVM-xxE/F/G, BVM-Dxx and HDM-xxE series monitors can be connected.
- **Settings for the parallel remote control (REMOTE 2) (REMOTE 2 CONFIG menu)**
Functions can be assigned to the pins of the REMOTE 2 connector.
- **ON/OFF setting for the parallel remote control (REMOTE 2) (REMOTE 2 menu)**

Priority order of the remote control functions

It is possible to simultaneously use the BKM-10R/11R Monitor Control Unit, REMOTE 1, and REMOTE 2 for control, but commands from REMOTE 2 have priority. Therefore, it is impossible for the BKM-10R/11R 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.

About monitor address and group numbers

The BKM-10R/11R Monitor Control Units 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 1 CONFIG menu, each monitor can be set with a monitor address and group number, between 1 and 99.

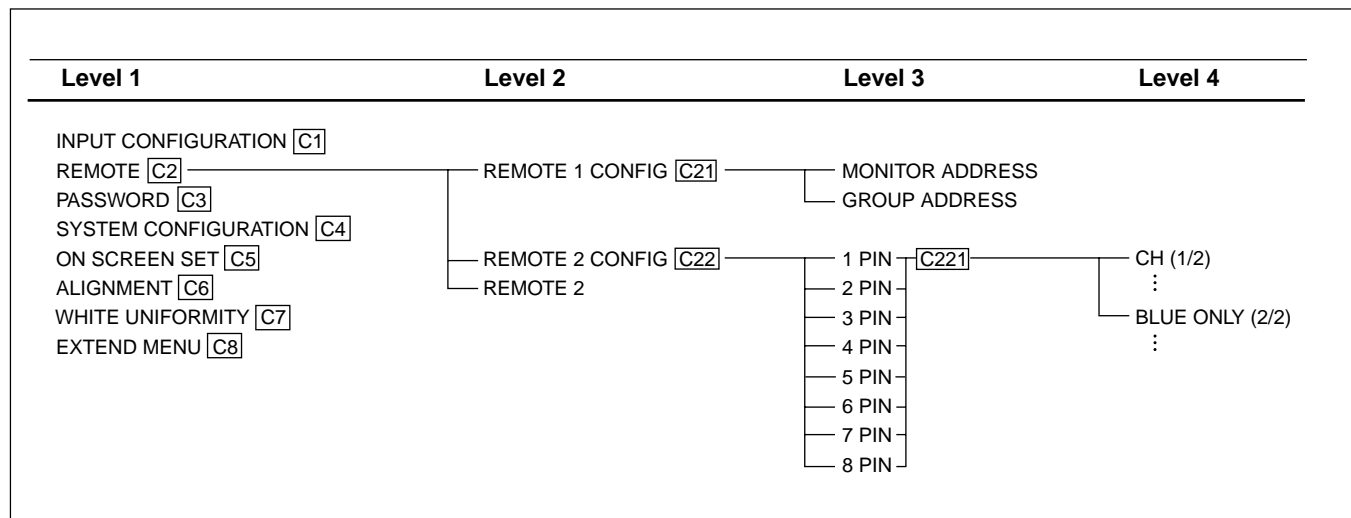
The ADDRESS menu is used to select a particular monitor or group by entering a monitor number or group number.

For information about the ADDRESS menu, see “Selecting the Monitor to Control — ADDRESS Menu” on page 60.

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 REMOTE Menu



Setting Lists of the REMOTE Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 23.
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[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 REMOTE 2 (parallel remote control) connector. ⇒ **[C22]**

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

[C21] REMOTE 1 CONFIG menu

Set the monitor address and group number.

MONITOR ADDRESS: Enter an address number.

GROUP ADDRESS: Enter a group number.

[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. ⇒ **[C221]**

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] 1-8 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.

UNDER SCAN: 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] 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.

SAFE AREA ON: Set the safe area display on or off.

CAPTION VISION: Set 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 the pin assignment, see “REMOTE 2 connector” in the Location and Function of Parts on page 14.

C3 Setting the Password (SET UP 3) — 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.

With the PASSWORD menu, you can change the password (CHANGE PASSWORD menu) and apply the password to a desired menu item (APPLY PASSWORD menu). A password is always assigned to the PASSWORD menu (factory setting: 9999).

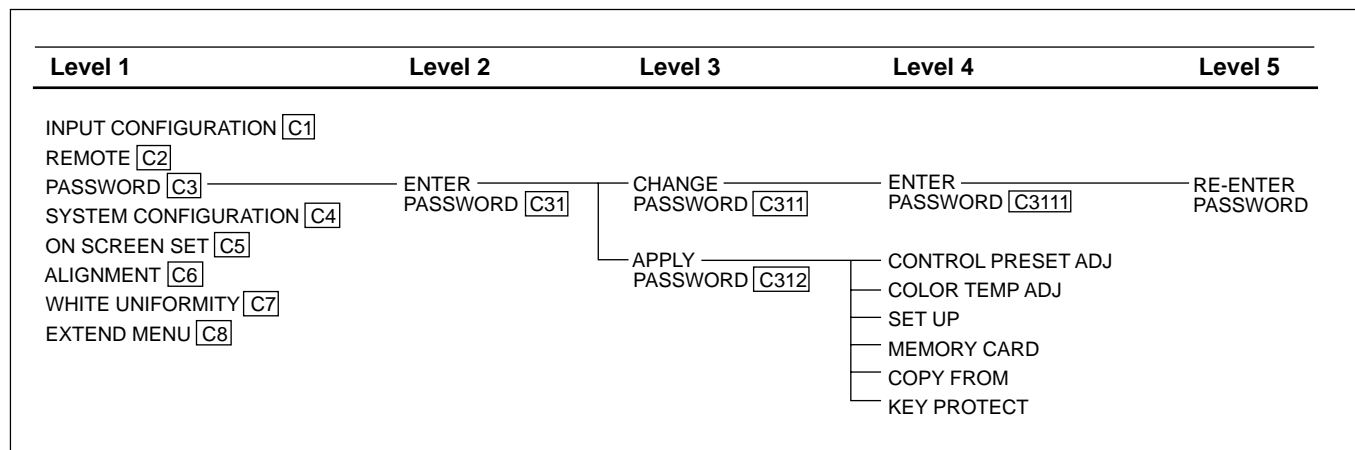
Use of the password

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 the 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 PASSWORD Menu



Setting Lists of the PASSWORD Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

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

For more information about the menu number, see “About menu numbers” on page 23.

- The arrow mark (\Rightarrow) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[C3] PASSWORD menu

Enter the password for the PASSWORD menu.

ENTER PASSWORD: Enter the password (factory setting: 9999). ⇨ [C31]

[C31] ENTER 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 PASSWORD... : Enter a new password.

⇨ [C3111]

[C3111] ENTER PASSWORD menu

Create a new password.

RE-ENTER PASSWORD

Enter the new password again and press the ENTER button. ⇨ The password is registered.

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.

COLOR TEMP ADJ: Select YES or NO.

SET UP: Select YES or NO.

MEMORY CARD: Select YES or NO.

COPY FROM: Select YES or NO.

KEY PROTECT: Select YES or NO.

C4 Setting the Channel Selection Method, Power-Up Conditions and Decoder (SET UP 4) — SYSTEM CONFIGURATION Menu

Overview

The SYSTEM CONFIGURATION menu is used for the following settings:

- **Channel number entry method (INPUT SELECT menu)**

This menu sets the way in which the numeric keypad can be used to enter channel numbers.

- **Power-up condition (STANDBY MODE menu)**

This menu sets the condition of the monitor when the MAIN POWER switch on the rear panel is switched on.

- **Power-up input channel (DEFAULT CH menu)**

This menu sets the power-up input channel.

- **Time from power-up until degauss (DEGAUSS DELAY menu)**

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.

- **Residual subcarrier detection (RESIDUAL SC SW menu) (when using the BKM-24N/25P)**

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

- **Auto color control (ACC SW menu) (when using the BKM-27T)**

Selects if the ACC (Auto Color Control) circuit is activated or deactivated.

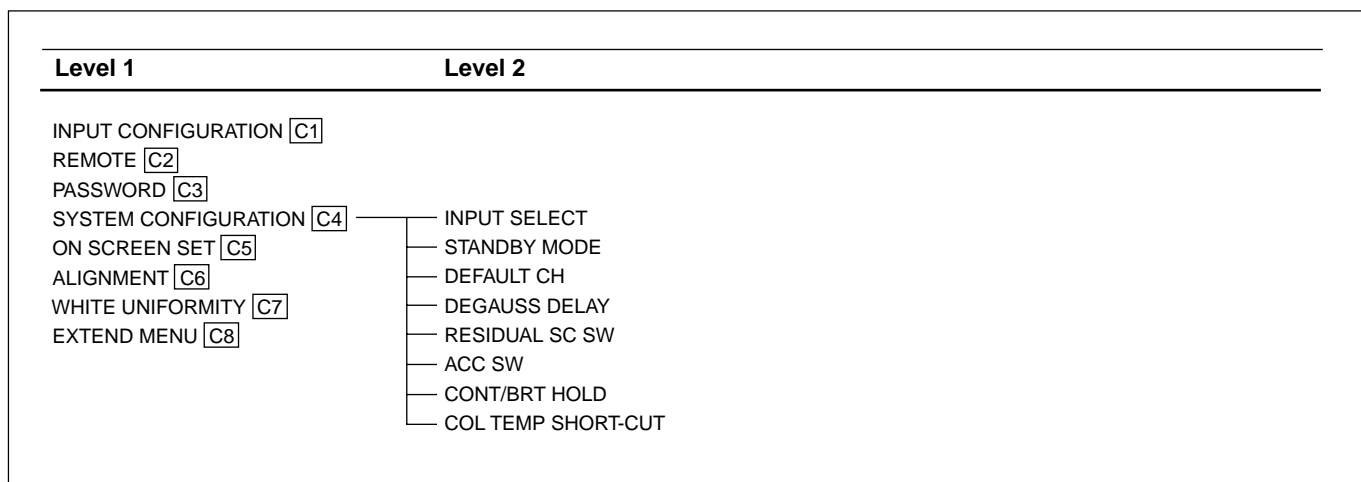
- **Setting of the contrast and brightness after adjusting the white balance (CONT/BRT HOLD menu)**

Selects if the adjusted contrast and brightness are retained or they are reset to the center values.

- **Assigning shortcut to the COLOR TEMP ADJ menu to the [F2] key (COL TEMP SHORT-CUT menu)**

Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu to the [F2] key. This allows you to jump directly to the MANUAL menu corresponding to the color temperature set to the currently displayed image (STD/COL 1/COL 2/CH SET).

Structure of the SYSTEM CONFIGURATION Menu



Setting Lists of the SYSTEM CONFIGURATION Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 23.
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

C4 SYSTEM CONFIGURATION menu

Set each of the following items.

INPUT SELECT: Select the channel number selection method (DIRECT or 10KEY).

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

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

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

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).

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

ACC SW: Set 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 ADJ (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: Does not assign the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.

C5 Setting the Screen Display (SET UP 5) — ON SCREEN SET Menu

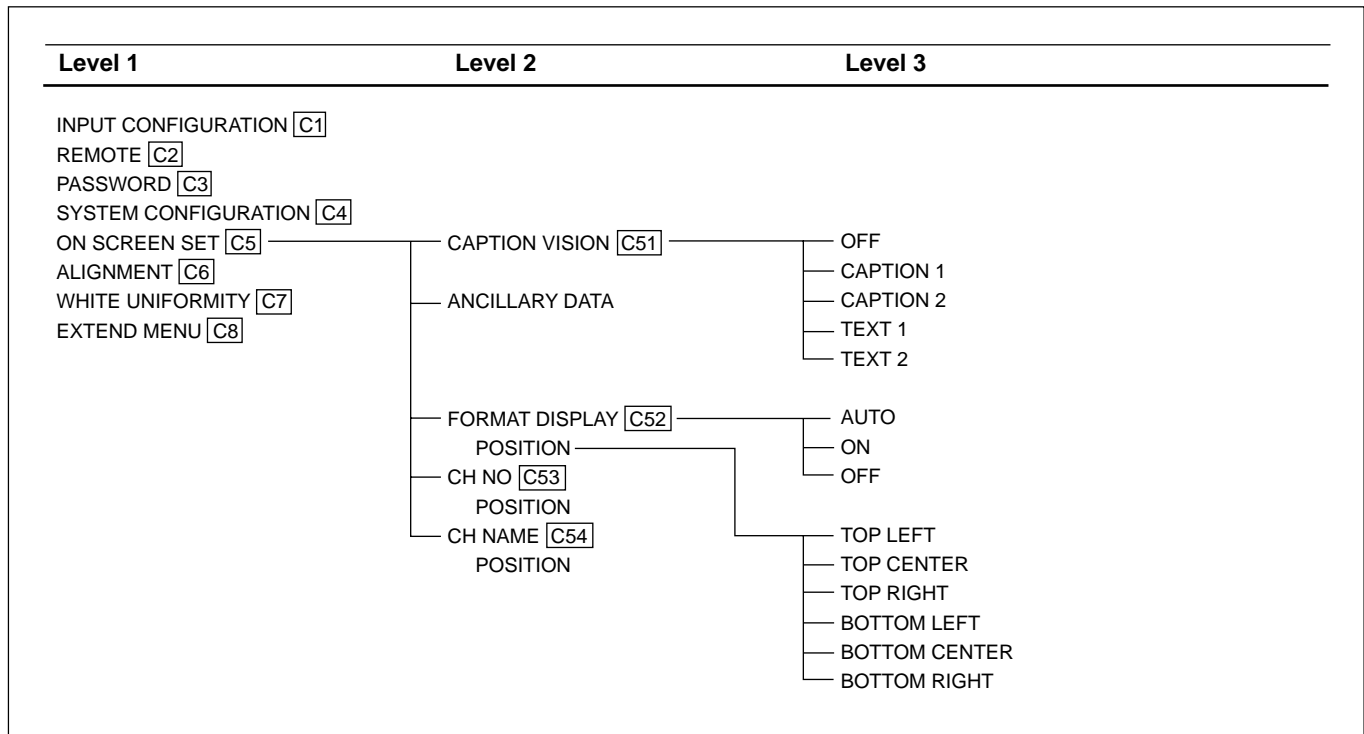
Overview

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:

- **Caption vision (CAPTION VISION menu)**
- **SDI signal ancillary data blanking (ANCILLARY DATA menu)** (when the SDI signal is displayed)
- **Display mode and position of the signal format (FORMAT DISPLAY and POSITION menus)**
- **Display mode and position of the channel number (CH NO and POSITION menus)**
- **Display mode and position of the channel name (CH NAME and POSITION menus)**

Structure of the ON SCREEN SET Menu



Setting Lists of the ON SCREEN SET Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 23.
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[C5] ON SCREEN SET menu

Select items to be displayed on the screen.

CAPTION VISION... : Select the caption display mode. ⇒ [C51]

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

FORMAT DISPLAY: Select the display mode of the signal format. ⇒ [C52]

FORMAT DISPLAY POSITION: Select the display position for the signal format. ⇒ [C52]

CH NO : Select the display mode of the channel number. ⇒ [C53]

CH NO POSITION : Select the display position for the channel number. ⇒ [C53]

CH NAME : Select the display mode of the channel name. ⇒ [C54]

CH NAME POSITION : Select the display position for the channel name. ⇒ [C54]

[C51] 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.

[C52] FORMAT DISPLAY and POSITION menus FORMAT DISPLAY menu

Select the display mode of the signal format.

AUTO: Disappears after displayed for a while.

ON: Displayed.

OFF: Not displayed.

One of the following signal formats is displayed on the screen.

1035/60I, 1080/60I, 1080/50I, 1080/48I, 480/60P, 480/60I, 575/50P, 575/50I, 720/60P, NO SYNC

POSITION menu

Select the display position.

TOP LEFT, TOP CENTER, TOP RIGHT, BOTTOM LEFT (factory setting), **BOTTOM CENTER, BOTTOM RIGHT**

[C53] CH NO and POSITION menus

CH NO menu

Select the display mode of the channel number.

AUTO: Disappears after displayed for a while.

ON: Displayed

OFF: Not displayed.

POSITION menu

Select the display position.

TOP LEFT, TOP CENTER, TOP RIGHT (factory setting), **BOTTOM LEFT, BOTTOM CENTER, BOTTOM RIGHT**

[C54] CH NAME and POSITION menus

CH NAME menu

Select the display mode of the channel number.

AUTO: Disappears after displayed for a while.

ON: Displayed

OFF: Not displayed.

POSITION menu

Select the display position.

TOP LEFT (factory setting), **TOP CENTER, TOP RIGHT, BOTTOM LEFT, BOTTOM CENTER, BOTTOM RIGHT**

C6 Adjusting Geometry and Convergence (SET UP 6) — ALIGNMENT Menu

Overview

The ALIGNMENT menu is used for adjusting geometry and convergence.

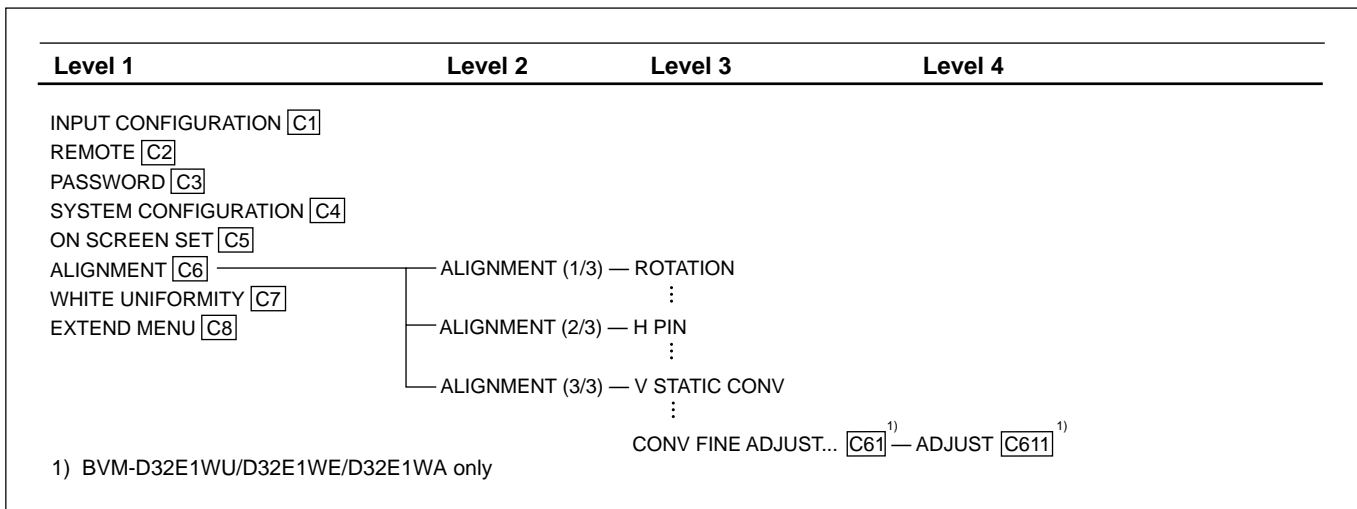
Note

Adjust the beam landing ([C8]) after the geometry and convergence adjustments have been completed.

The following adjustments can be performed with the three pages of the ALIGNMENT menu.

- Adjusting the position and size of the picture (ALIGNMENT menu (1/3))
- Adjusting the geometry of the picture (ALIGNMENT menu (2/3))
- Adjusting the convergence (ALIGNMENT menu (3/3))

Structure of the ALIGNMENT Menu



Setting Lists of the ALIGNMENT Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

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

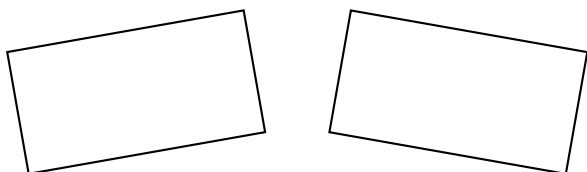
For more information about the menu number, see “About menu numbers” on page 23.

- The arrow mark (\Leftrightarrow) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

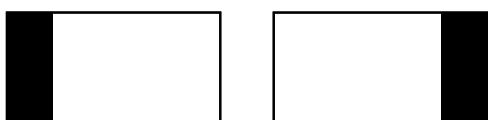
[C6] ALIGNMENT menu (1/3)

Adjust the position or size of the picture 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.



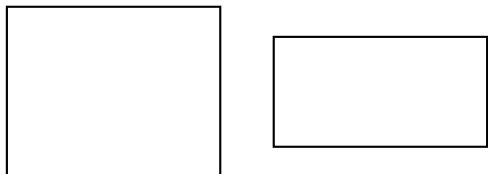
V CENTER: Adjust the vertical picture position.



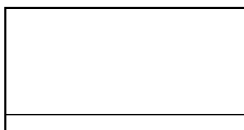
H SIZE: Adjust the width of the picture.



V SIZE: Adjust the height of the picture.



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 or signal format is changed.

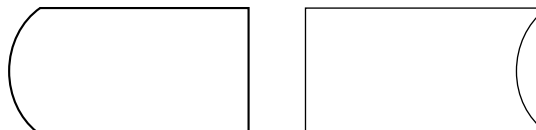
[C6] ALIGNMENT menu (2/3)

Adjust the geometry of the picture with the UP and DOWN buttons or PHASE knob.

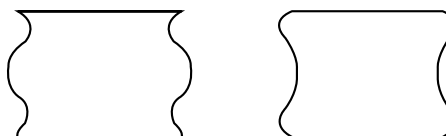
H PIN: Correct side pincushion distortion.



H PIN BAL: Correct the balance of side pincushion distortion.



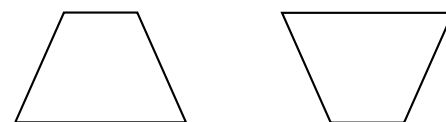
H CORNER PIN: Correct pincushion distortion at the sides of the picture.



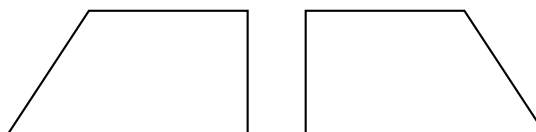
H CORNER S: Correct S pincushion distortion at the sides of the picture.



H KEY: Correct trapezoid distortion.



H KEY BAL: Correct the balance of trapezoid distortion.



[C6] ALIGNMENT menu (3/3)

Adjust the convergence with the UP and DOWN buttons or PHASE knob.

V STATIC CONV: Adjust vertical static convergence on the whole screen.

V CONV TOP: Adjust vertical convergence at the top of the screen. (BVM-D20F1U/D20F1E/D20F1A/D24E1WU/D24E1WE/D24E1WA only)

V CONV BOT: Adjust vertical convergence at the bottom of the screen. (BVM-D20F1U/D20F1E/D20F1A/D24E1WU/D24E1WE/D24E1WA only)

H STATIC CONV: Adjust horizontal static convergence on the whole screen.

CONV FINE ADJUST... : Adjust the convergence finely at each adjustment point on the screen.

⇒ **[C61]** (BVM-D32E1WU/D32E1WE/D32E1WA only)

C611 CONV FINE ADJUST menu (BVM-D32E1WU/D32E1WE/D32E1WA only)

Adjust the convergence finely at each adjustment point on the screen with the MANUAL knobs.

The signal format and screen size for the adjustment are displayed on the top of the screen.

ADJUST... : Adjust the convergence. ⇔ **C611** (It may take some time to change to the next menu.)

Use appropriate knobs and buttons in each adjustment as described below.

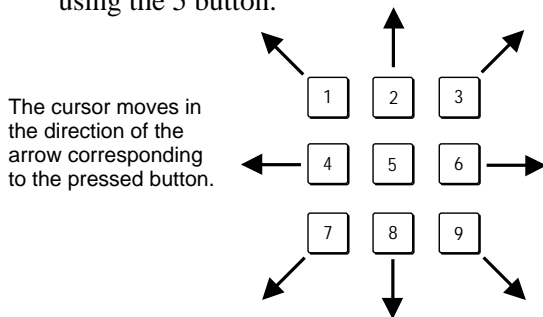
H CONV: CONTRAST KNOB: Adjust the horizontal convergence with the CONTRAST knob.

H G CONV: BRIGHT KNOB: Adjust the horizontal convergence with the BRIGHT knob.

V CONV: CHROMA KNOB: Adjust the vertical convergence with the CHROMA knob.

V G CONV: PHASE KNOB: Adjust the vertical convergence with the PHASE knob.

CURSOR POSITION: 10KEY: Move the cursor using the numeric keypad (except the 5 button) as illustrated below. Turn on/off the cursor using the 5 button.



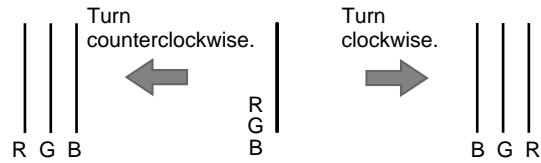
TO CANCEL: MENU KEY: Press the MENU button to clear the adjusted data and return to the previous menu.

TO CONFIRM: ENTER KEY: Press the ENTER or Ent button to confirm the adjusted data.

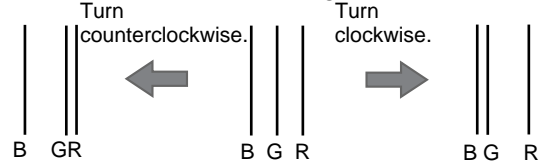
C611 ADJUST menu

Adjust the convergence at the cursor position using the CONTRAST (H CONV), BRIGHT (H G CONV), CHROMA (V CONV) and PHASE (V G CONV) knobs. Move the cursor using the numeric keypad.

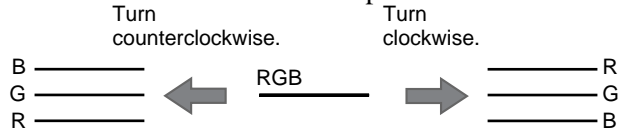
H CONV: Turn the CONTRAST knob clockwise to move the R beam to the right and the B beam to the left; counterclockwise to move the R beam to the left and the B beam to the right.



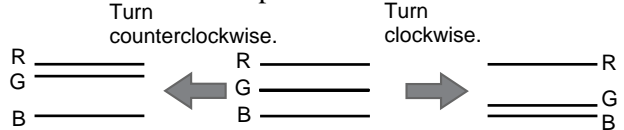
H G CONV: Turn the BRIGHT knob clockwise to move the G beam to the left; counterclockwise to move the G beam to the right.



V CONV: Turn the CHROMA knob clockwise to move the R beam upward and the B beam downward; counterclockwise to move the R beam downward and the B beam upward.



V G CONV: Turn the PHASE knob clockwise to move the G beam downward; counterclockwise to move the G beam upward.



To reset the convergence to the condition before adjustment

You can reset the adjusted condition to the one before adjustment by pressing the corresponding MANUAL button.

To finish the adjustment

Press the ENTER or Ent button. The adjusted data is stored in the memory and the screen returns to the CONV FINE ADJUST menu (**C611**). (It may take some time to change to the previous menu.)

To cancel the adjustment

Press the MENU button. The adjusted data is cleared and the screen returns to **C61**. (It may take some time to change to the previous menu.)

When you want to erase characters from the screen while adjusting the convergence

Press the **F1** button. The characters disappear. To display characters, press the **F1** button again.

Overview

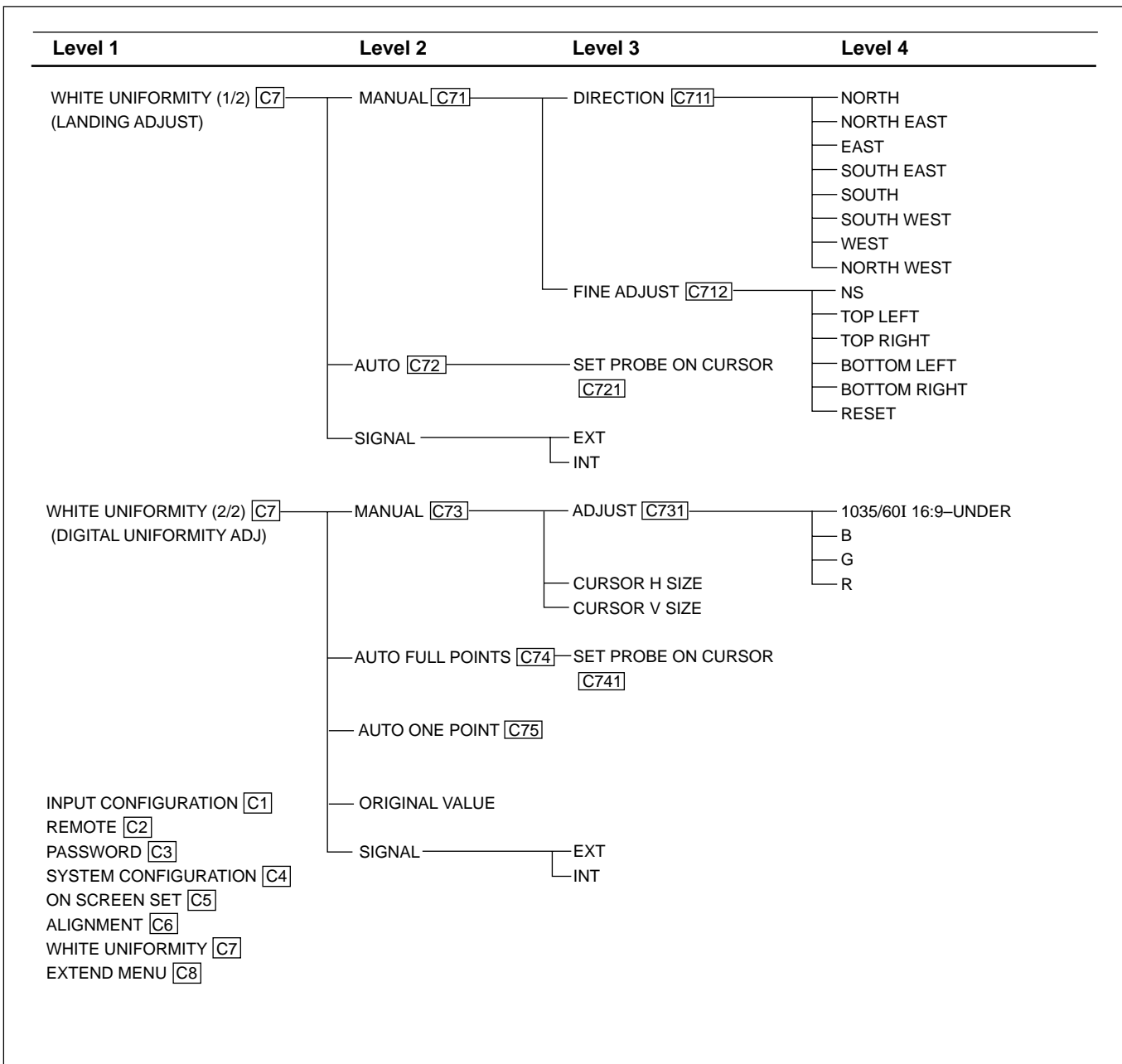
The following two adjustments can be performed using the WHITE UNIFORMITY menu, by making the white in the picture as uniform as possible.

- Correcting the shift of beam landing caused by the earth's magnetism (LANDING ADJUST menu)
- Adjusting the color unevenness of the CRT (DIGITAL UNIFORMITY menu)

Note

Perform the digital uniformity adjustment after the beam landing adjustment has been completed.

Structure of the WHITE UNIFORMITY Menu



C7 Adjusting Beam Landing and Digital Uniformity (SET UP 7) — WHITE UNIFORMITY Menu

Setting Lists of the WHITE UNIFORMITY Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 23.
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

C7 WHITE UNIFORMITY menu (1/2)

Adjust the shift of beam landing which occurs due to the earth’s magnetism (**LANDING ADJUST menu**). Select the method of adjustment in this menu.

MANUAL... : Adjust with the MANUAL knobs.

⇒ C71

AUTO... : Automatically adjust using the Sony BKM-14L Auto Setup Probe. ⇒ C72

SIGNAL: Select the white signal to be used for adjustment.

EXT: Use an external input signal. When adjusting the gain, input the appropriate signal.

INT: Use an internal white signal.

C7 WHITE UNIFORMITY menu (2/2)

Adjust the color unevenness of the CRT (**DIGITAL UNIFORMITY ADJ menu**). Select the method of adjustment in this menu.

MANUAL... : Adjust with the MANUAL knobs.

⇒ C73

AUTO FULL POINTS... : Automatically adjust the whole area of the screen in sequence using the Sony BKM-14L Auto Setup Probe. ⇒ C74

AUTO ONE POINT... : Automatically adjust the selected adjustment point of the screen only using the Sony BKM-14L Auto Setup Probe. ⇒ C75

ORIGINAL VALUE: Set the initial value.

Select the signal format from 1035/60I, 1080/60I, 1080/50I, 1080/48I, 480/60P, 480/60I, 575/50P, 570/50I and 720/60P, and the screen size from 16:9-NORM, 16:9-UNDR, 4:3-NORM and 4:3-UNDR.

Note

4:3-NORM and 4:3-UNDR can be combined with 480/60P, 480/60I, 575/50P and 570/50I only.

SIGNAL: Select the white signal to be used for adjustment.

EXT: Use an external input signal. When adjusting the gain, input the appropriate signal.

INT: Use an internal white signal.

C71 MANUAL menu

Select the rough or fine adjustment of beam landing. First perform the rough adjustment, then proceed to the fine adjustment.

DIRECTION : Adjust the beam landing shift approximately by selecting the direction in which the monitor is facing. ⇒ C711

FINE ADJUST : Adjust the beam landing shift finely at each adjustment point on the screen. ⇒ C712

C711 DIRECTION menu

Display the white signal and select the direction using the UP/DOWN buttons or PHASE knob where the white is most uniform on the screen.

NORTH, NORTH EAST, EAST, SOUTH EAST, SOUTH, SOUTH WEST, WEST or NORTH WEST

C712 FINE ADJUST menu

Display the white signal, select the adjustment point on the screen, and adjust the white at the selected point as uniformly as possible using the UP/DOWN buttons or PHASE knob.

NS: Correct the beam landing shift at the top center and bottom center of the screen simultaneously.

TOP LEFT: Correct the beam landing shift at the top left of the screen.

TOP RIGHT: Correct the beam landing shift at the top right of the screen.

BOTTOM LEFT: Correct the beam landing shift at the bottom left of the screen.

BOTTOM RIGHT: Correct the beam landing shift at the bottom right of the screen.

RESET: Reset the beam landing data at all the five points above to the center simultaneously.

When you want to erase characters from the screen while adjusting manually

Press the **F1** button. The characters disappear. To display characters, press the **F1** button again.

C72 AUTO menu

Before entering the AUTO menu, connect the BKM-14L to the OPTION connector.

The following message appears. ⇒ C721

SET PROBE ON CURSOR

[C721] SET PROBE ON CURSOR

To perform adjustment, operate the BKM-14L as follows:

- (1) Place the BKM-14L to the cursor displayed on the bottom left of the screen. \Rightarrow The adjustment starts. "IN PROGRESS" appears during adjustment, and the cursor is displayed at the next adjustment point when the adjustment is completed.
- (2) Move the BKM-14L to the cursor. \Rightarrow The next adjustment is performed.

In the same way, adjust each adjustment point guided by the cursor. When the adjustment of all the points is completed, the screen automatically returns to the WHITE UNIFORMITY menu (1/2) ([C7]).

To cancel the adjustment

Press the MENU button. The adjusted data is cleared and the screen returns to the WHITE UNIFORMITY menu (1/2) ([C7]).

If the BKM-14L is not placed to the cursor

The following message appears, and the cursor moves to the right and left alternately on the screen.

DO YOU WISH TO ABORT?

LEFT CURSOR: ABORT

RIGHT CURSOR: CONTINUE

To abort, place the BKM-14L to the cursor when it is displayed on the left. \Rightarrow Returns to [C7].

To continue, place the BKM-14L to the cursor when it is displayed on the right. \Rightarrow Returns to [C721].

[C73] MANUAL menu

Adjust the gain of R, G and B with the MANUAL knobs.

The signal format and screen size for the adjustment are displayed on the top of the screen.

ADJUST... : Adjust the gain. \Rightarrow [C731] (It may take some time to change to the next menu.)

Use appropriate knobs and buttons in each adjustment as described below.

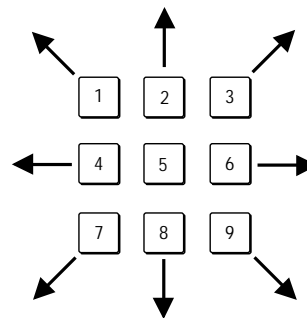
RED: CONTRAST KNOB: Adjust the R gain with the CONTRAST knob.

GREEN: BRIGHT KNOB: Adjust the G gain with the BRIGHT knob.

BLUE: CHROMA KNOB: Adjust the B gain with the CHROMA knob.

CURSOR POSITION: 10KEY: Move the cursor using the numeric keypad (except the 5 button) as illustrated below. Turn on/off the cursor using the 5 button.

The cursor moves in the direction of the arrow corresponding to the pressed button.



CURSOR H SIZE: Specify the horizontal size of the cursor (1 to 4).

CURSOR V SIZE: Specify the vertical size of the cursor (1 to 4).

[C731] ADJUST menu

Adjust the gain at the cursor position using the CONTRAST (RED), BRIGHT (GREEN) and CHROMA (BLUE) knobs. Move the cursor using the numeric keypad.

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

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

To cancel the adjustment

Press the MENU button. The adjusted data is cleared and the screen returns to [C73]. (It may take some time to change to the previous menu.)

When you want to erase characters from the screen while adjusting manually

Press the [F1] button. The characters disappear. To display characters, press the [F1] button again.

[C74] AUTO FULL POINTS menu

Before entering the AUTO FULL POINTS menu, connect the BKM-14L to the OPTION connector. The following message appears. \Rightarrow [C741] (It may take some time to change to the next menu.)

SET PROBE ON CURSOR**[C741] SET PROBE ON CURSOR**

To perform adjustment, operate the BKM-14L as follows:

- (1) Place the BKM-14L to the cursor displayed in the center of the screen. \Rightarrow The adjustment starts. When the adjustment is completed, the cursor is displayed at the next adjustment point.
- (2) Move the BKM-14L to the cursor. \Rightarrow The next adjustment is performed.

(continued) 53

C7 Adjusting Beam Landing and Digital Uniformity (SET UP 7) — WHITE UNIFORMITY Menu

In the same way, adjust each adjustment point guided by the cursor. When the adjustment of all the points is completed, the screen automatically returns to the WHITE UNIFORMITY menu (2/2) (**C7**).

To cancel the adjustment

Press the MENU button. The adjusted data is cleared and the screen returns to the WHITE UNIFORMITY menu (2/2) (**C7**). (It may take some time to change to the previous menu.)

If the BKM-14L is not placed to the cursor

The following message appears, and the cursor moves to the right and left alternately on the screen.

**DO YOU WISH TO ABORT?
LEFT CURSOR: ABORT
RIGHT CURSOR: CONTINUE**

To abort, place the BKM-14L to the cursor when it is displayed on the left. ⇨ Returns to **C7**.

To continue, place the BKM-14L to the cursor when it is displayed on the right. ⇨ Returns to **C741**.

C75 AUTO ONE POINT menu

Before entering the AUTO ONE POINT menu, connect the BKM-14L to the OPTION connector. The cursor flashes in the center of the screen.

Use appropriate buttons as described below.

CURSOR POSITION: 10KEY: Move the cursor using the numeric keypad (except the 5 button). Turn on/off the cursor using the 5 button.

TO CANCEL: MENU KEY: Press the MENU button to clear the adjusted data and return to the previous menu.

TO CONFIRM: ENTER KEY: Press the ENTER or Ent button to confirm the adjusted data.

To perform adjustment, operate the BKM-14L as follows:

- (1) Move the cursor to the desired point using the numeric keypad (except the 5 button), and press the ENTER or Ent button. ⇨ The following message appears and the cursor returns to the center.

SET PROBE ON CURSOR

Note

If you press the ENTER or Ent button without moving the cursor, the screen returns to the WHITE UNIFORMITY menu (2/2) (**C7**).

- (2) Place the BKM-14L to the cursor displayed in the center of the screen. ⇨ The adjustment of the center of the screen starts. “IN PROGRESS” appears during adjustment, and the cursor returns to the point set in step (1) when the adjustment is completed.
- (3) Move the BKM-14L to the cursor. ⇨ The adjustment of the specified point is performed. “IN PROGRESS” appears during adjustment, and the cursor flashes when the adjustment of that point is completed.

To adjust another point of the screen

Move the cursor to the desired point using the numeric keypad (except the 5 button), and press the ENTER or Ent button. Then place the BKM-14L to the cursor to perform the adjustment. Repeat this procedure for each adjustment point.

To finish the adjustment

When the adjustment of the specified points is completed, press the ENTER or Ent button without operating the numeric keypad. The adjusted data is stored in the memory and the screen returns to the WHITE UNIFORMITY menu (2/2) (**C7**). (It may take some time to change to the previous menu.)

Note

Operating the numeric keypad before pressing the ENTER or Ent button starts the adjustment.

To cancel the adjustment

Press the MENU button. The adjusted data is cleared and the screen returns to the WHITE UNIFORMITY menu (2/2) (**C7**). (It may take some time to change to the previous menu.)

If the BKM-14L is not placed to the cursor

The following message appears, and the cursor moves to the right and left alternately on the screen.

**DO YOU WISH TO ABORT?
LEFT CURSOR: ABORT
RIGHT CURSOR: CONTINUE**

To abort, place the BKM-14L to the cursor when it is displayed on the left. ⇨ Returns to **C7**.

To continue, place the BKM-14L to the cursor when it is displayed on the right. ⇨ Returns to **C75**.

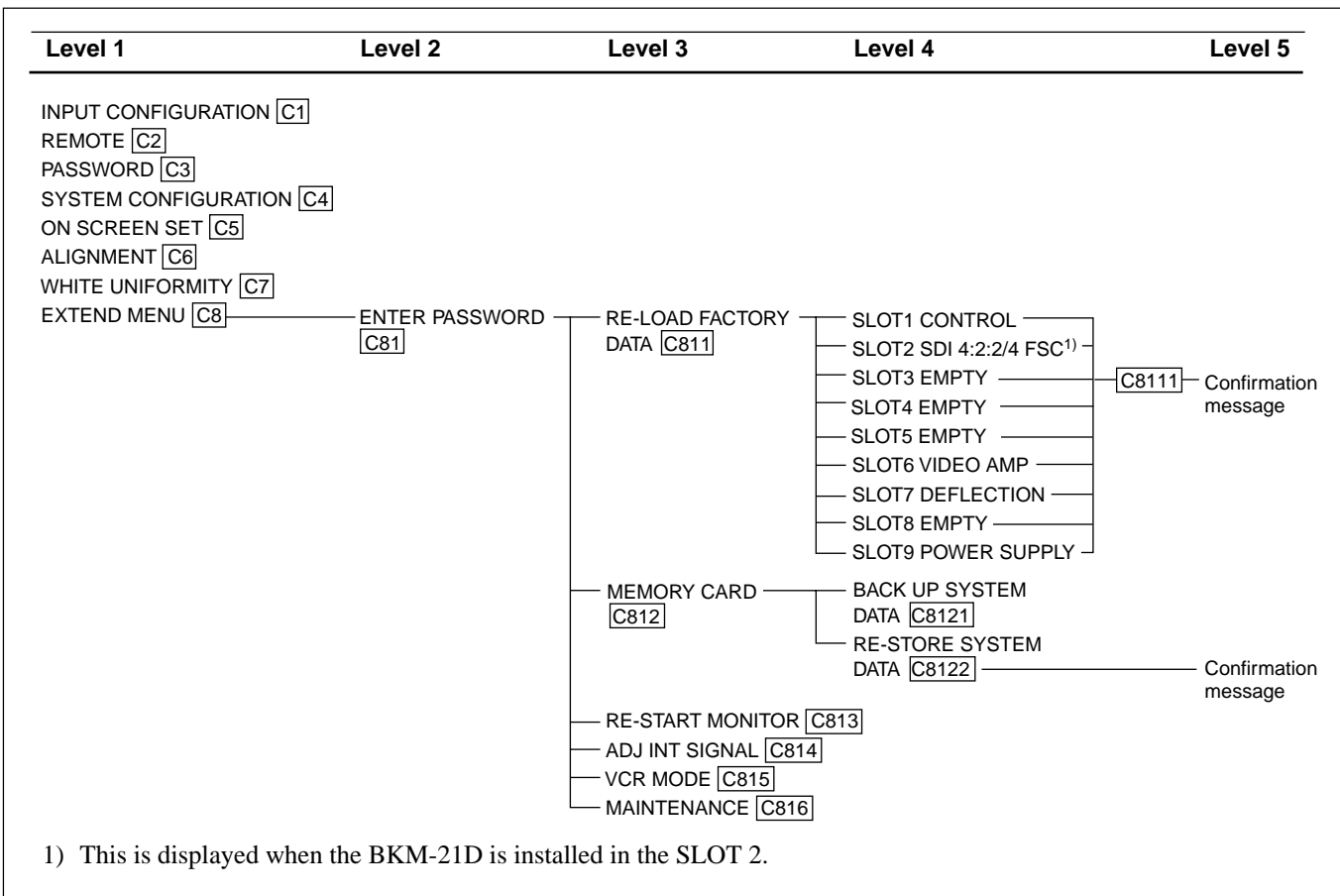
C8 Using Extended Functions (SET UP 8) — EXTEND Menu

Overview

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

- Loading factory default data for installed boards into memory (RE-LOAD FACTORY DATA menu)
- Writing monitor setting and adjustment data to the monitor memory card, or read setting and adjustment data from the monitor memory card (MEMORY CARD menu)
- Restarting the monitor (RE-START MONITOR menu)
- Calibrating the internal signal level (ADJ INT SIGNAL menu)
- Improving the skew of the picture from the connected VCR (VCR MODE menu)
- Displaying the menu for maintenance (MAINTENANCE menu)

Structure of the EXTEND Menu



Setting Lists of the EXTEND Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

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

For more information about the menu number, see “About menu numbers” on page 23.

- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

C8 EXTEND menu

Enter the password (ENTER PASSWORD [C81])

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. ⇒ [C811]

MEMORY CARD... : Read and write setting and adjustment data by using the monitor memory card. ⇒ [C812]

RE-START MONITOR: Restart the monitor. ⇒ [C813]

ADJ INT SIGNAL: Automatically adjust the SETUP level and 100 IRE level of internal signals. ⇒ [C814]

VDR MODE: Select the mode of the connected VCR. ⇒ [C815]

MAINTENANCE: Display the menu for maintenance. ⇒ [C816]

[C811] RE-LOAD FACTORY DATA menu

Select a slot where a board is installed to reload factory default data to the board. ⇒ [C8111]

[C8111] RE-LOAD FACTORY DATA menu

The following message appears to confirm the data reload operation.

**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 or Ent 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. ([C811])

[C812] 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. ⇒ [C8121]

RE-STORE SYSTEM DATA... : Read the data from the monitor memory card. ⇒ [C8122]

Notes

- Before using a monitor memory card, 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.
- The input signal is not displayed during the data saving or loading.

[C8121] 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**

[C8122] RE-STORE SYSTEM DATA menu

The following message appears to confirm the data restore operation.

**RE-STORE SYSTEM DATA
ALL DATA WILL BE RESTORED
ARE YOU SURE?**

OK: ENTER KEY

CANCEL: MENU KEY

OK: To continue, press the ENTER or Ent 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 ([C812]).

[C813] RE-START MONITOR menu

Turn the monitor off and on again automatically.

[C814] ADJ INT SIGNAL menu

Adjust the SETUP level and 100 IRE level of the internal white signal which is used with the COLOR TEMP ADJ menu ([B]).

[C815] VCR MODE menu

Improve the skew of the picture when a non-standard signal is input from the connected VCR. This menu is effective for the 480/60I or 575/50I format signals only.

ON: Always activates this function for the 480/60I or 575/60I format signals.

OFF: Deactivates this function.

[C816] MAINTENANCE menu

The menu for the maintenance personnel is displayed.

D Monitor Memory Card Data Operations

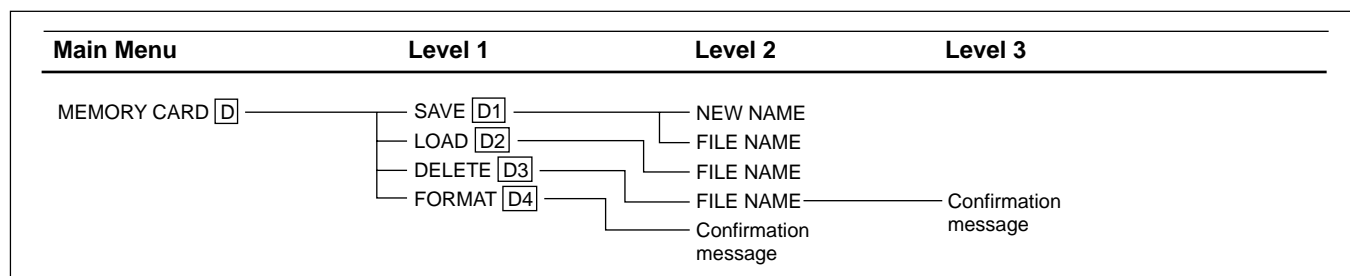
— MEMORY CARD Menu

Overview

Operations on monitor memory card data are performed with the MEMORY CARD menu. The following operations are possible with the MEMORY CARD menu.

- Writing data to a monitor memory card (SAVE menu)
- Reading data from a monitor memory card (LOAD menu)
- Deleting a file in a monitor memory card (DELETE menu)
- Formatting a monitor memory card (FORMAT menu)

Structure of the MEMORY CARD Menu



Setting Lists of the MENU CARD Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 23.
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[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]

Note

The input signal is not displayed during the data saving, loading or deleting, or the memory card formatting.

[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 or Ent 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. The following confirmation message appears. All files will be deleted at formatting.

ALL FILES WILL BE DELETED!

ARE YOU SURE?

OK: ENTER KEY

CANCEL: MENU KEY

OK: To continue, press the ENTER or Ent button.

⇒ The format is performed.

CANCEL: To cancel, press the MENU button.

⇒ Return to the MEMORY CARD menu ([D]).

E Monitor-to-Monitor Data Copy

— COPY FROM Menu

Overview

When multiple BVM-DxxE/DxxF series 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.

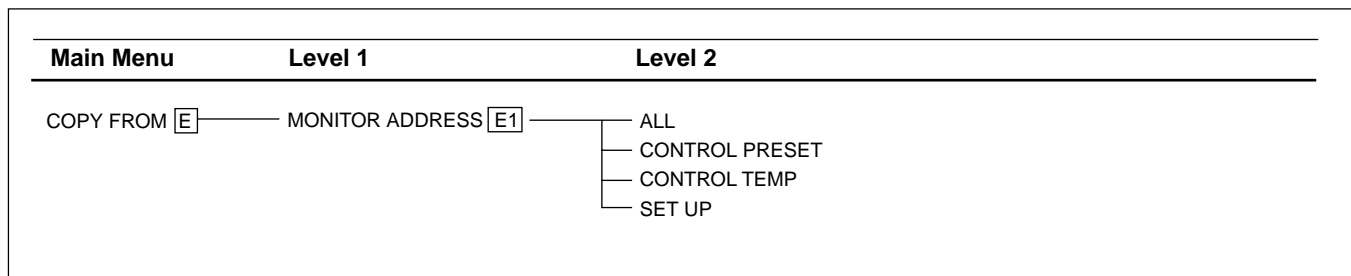
Note

Data copy is impossible between monitors other than BVM-DxxE/DxxF series.

First assign the MONITOR ADDRESS from which the data is to copy, then select the data from among the following:

- Copying data for all menu settings (ALL menu)
- Copying data for the CONTROL PRESET ADJ menu settings (CONTROL PRESET menu)
- Copying data for the COLOR TEMP ADJ menu settings (COLOR TEMP menu)
- Copying data for the SET UP menu settings (SET UP menu)

Structure of the COPY FROM Menu



Setting Lists of the COPY FROM Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

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

For more information about the menu number, see “About menu numbers” on page 23.

- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[E] COPY FROM menu

Select the copy source monitor.

MONITOR ADDRESS: Enter the monitor 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.

F Displaying Information About the Monitor — STATUS Menu

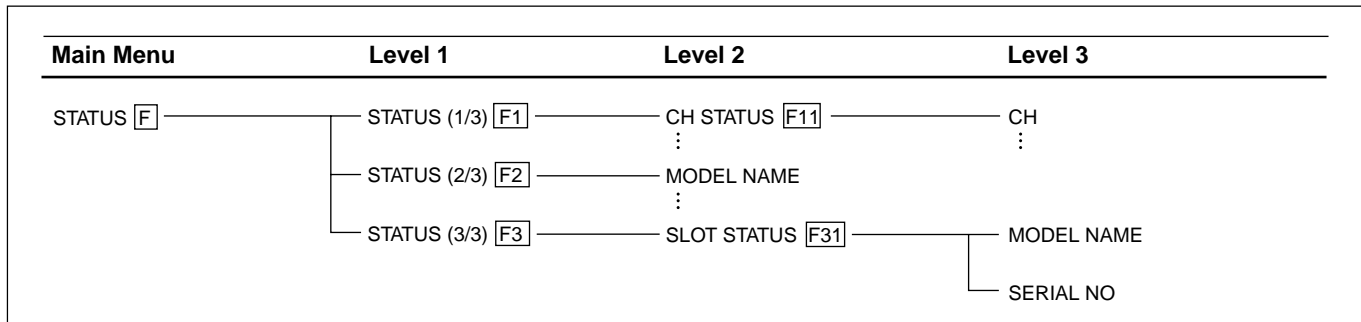
Overview

The STATUS menu is used to view general data about the monitor status, the current channel, etc.

The following information is displayed on the three pages of the STATUS menu.

- Data about the current channel (STATUS menu (1/3))
- Data about the monitor in use (STATUS menu (2/3))
- Data about the circuit boards installed into the slots in the rear panel (STATUS menu (3/3))

Structure of the STATUS Menu



Setting Lists of the STATUS Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

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

For more information about the menu number, see “About menu numbers” on page 23.

- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[F] STATUS menu

Select the STATUS menu 1/3, 2/3 or 3/3. ⇒ [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)

Data about circuit boards installed into the respective slots in the rear panel is displayed. When the BKM-21D is installed in SLOT 2, the following is displayed. When any optional boards are not installed, EMPTY is displayed for SLOT 2 to SLOT 5.

SLOT1: CONTROL

SLOT2: SDI4:2:2/4FSC

SLOT3: EMPTY

SLOT4: EMPTY

SLOT5: EMPTY

SLOT6: VIDEO AMP

SLOT7: DEFLECTION

**SLOT8: EMPTY (BVM-D20F1U/D20F1E/D20F1A)
or DIGITAL UNIF (BVM-D24E1WU/
D24E1WE/D24E1WA/D32E1WU/
D32E1WE/D32E1WA)**

SLOT9: POWER SUPPLY

[F31] SLOT STATUS menu

Select the desired slot. Data about the optional board installed 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

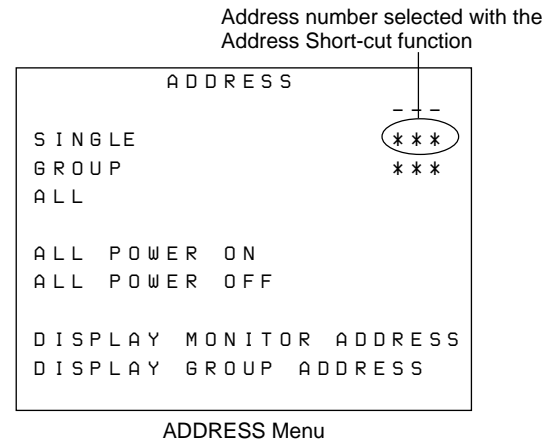
When multiple monitors are connected by a serial remote connection, the ADDRESS menu is used to choose whether one particular monitor or monitor group will be controlled, or whether operations are to be performed on all monitors together.

Displaying the ADDRESS Menu

Press the ADDRESS button.

The ADDRESS menu is displayed on the screen.

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



Settings made with the menu items are as follows:

Item	Function
SINGLE	Controls only a specified monitor. Enter the monitor address number.
GROUP	Controls only a specified monitor group. Enter the group address number.
ALL	Controls all monitors.
ALL POWER ON	Turns all connected monitors on.
ALL POWER OFF	Turns 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.

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 “[C2] Assigning the Remote Control Functions (SET UP 2) – REMOTE Menu” on page 40.

- 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.
 - (1) **In case of SHIFT OFF before remote control operation:** LEDs light in green when the SHIFT button is remotely set to OFF.
 - (2) **In case of SHIFT ON before remote control operation:** LEDs light in amber when the SHIFT button is remotely set to ON.
For details, see “SHIFT button” on page 15.
- In SINGLE mode, when the data is saved or loaded 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 by controlling the monitor from the BKM-10R/11R directly connected to the target monitor.



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 two-digit 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 two-digit group number) when it is from 10 to 99.

To select all the monitors in the ALL mode

- 1** Press the ADDRESS button.
- 2** Press the F2 button.

Specifications

General

System 15.625 kHz – 45 kHz (For details, see “Available Signal Formats” on page 65.)

CRT

BVM-D20F1U/D20F1E/D20F1A

Super fine pitch Trinitron, 4:3 aspect ratio
Aperture grille pitch: 0.3 mm
90 degree deflection, 30.6 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
386 × 218 mm (15 1/4 × 8 5/8 inches) (w/h)
443 mm (17 1/2 inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
386 × 291 mm (15 1/4 × 11 1/2 inches) (w/h)
482 mm (19 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 C phosphor (BVM-D20F1U)

	x	y
R	0.630	0.340
G	0.310	0.595
B	0.155	0.070

EBU phosphor (BVM-D20F1E/D20F1A)

	x	y
R	0.640	0.330
G	0.290	0.600
B	0.150	0.060

Error: ± 0.005 or less

BVM-D24E1WU/D24E1WE/D24E1WA

Super fine pitch Trinitron, flat surface, 16:9 aspect ratio
Aperture grille pitch: 0.25-0.28 mm
90 degree deflection, 29.1 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
482.1 × 271.2 mm (19 × 10 3/4 inches) (w/h)
553.1 mm (21 7/8 inches) (diagonal size)

Effective picture size with 4:3 aspect ratio:
361.6 × 271.2 mm (14 1/4 × 10 3/4 inches) (w/h)
452.0 mm (17 7/8 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 C phosphor (BVM-D24E1WU)

	x	y
R	0.630	0.340
G	0.310	0.595
B	0.155	0.070

EBU phosphor (BVM-D24E1WE/D24E1WA)

	x	y
R	0.640	0.330
G	0.290	0.600
B	0.150	0.060

Error: ± 0.005 or less

BVM-D32E1WU/D32E1WE/D32E1WA

Super fine pitch Trinitron, flat surface, 16:9 aspect ratio
Aperture grille pitch: 0.32-0.36 mm
90 degree deflection, 29.1 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
655.2 × 368.5 mm (25 7/8 × 14 5/8 inches) (w/h)
751.7 mm (29 5/8 inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
491.3 × 368.5 mm (19 3/8 × 14 5/8 inches) (w/h)
614.1 mm (24 1/4 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 C phosphor (BVM-D32E1WU)

	x	y
R	0.630	0.340
G	0.310	0.595
B	0.155	0.070

EBU phosphor (BVM-D32E1WE/
D32E1WA)

	x	y
R	0.640	0.330
G	0.290	0.600
B	0.150	0.060

Error: ± 0.005 or less

Mass **BVM-D20F1U/D20F1E/D20F1A:**
approx. 38 kg (83 lb 12 oz)
**BVM-D24E1WU/D24E1WE/
D24E1WA:** approx. 51 kg (112 lb 7 oz)
**BVM-D32E1WU/D32E1WE/
D32E1WA:** approx. 94 kg (427 lb 11 oz)

Power consumption
BVM-D20F1U/D20F1E/D20F1A:
155 W
When an optional adaptor is installed:
210 W
**BVM-D24E1WU/D24E1WE/
D24E1WA:** 150 W
When an optional adaptor is installed:
205 W
**BVM-D32E1WU/D32E1WE/
D32E1WA:** 180 W
When an optional adaptor is installed:
235 W

Power requirements
BVM-D20F1U/D20F1E/D20F1A: 100
to 240 V AC, 2.3 to 1.0 A, 50/60 Hz
**BVM-D24E1WU/D24E1WE/
D24E1WA:** 100 to 240 V AC, 2.1 to
0.9 A, 50/60 Hz
**BVM-D32E1WU/D32E1WE/
D32E1WA:** 100 to 240 V AC, 2.4 to
1.0 A, 50/60 Hz

Peak inrush current
(1) Power ON, current probe method:
47 A (240 V)
(2) Hot switching inrush current,
measured in accordance with
European standard EN55103-1
18 A (230 V)

Input/output connectors

Video input BNC type $\times 3$ (with loop-through
outputs)
G/B/R: Composite 1.0 Vp-p or non-
composite 0.7 Vp-p
Y: Composite 1.0 Vp-p or non-composite
0.7 Vp-p
PB/PR: Non-composite 0.7 Vp-p
Sync: ± 0.3 V ± 6 dB, positive/negative, tri-
level sync, or 0.3 V ± 6 dB negative sync
Sync input BNC type $\times 1$ (with loop-through output)
0.3 to 8 Vp-p, positive/negative, tri-level
sync signal input, or 0.3 to 8 Vp-p,
negative sync signal input
Return loss More than 40 dB (10 MHz, with
75-ohm termination)
Remote control
OPTION: Mini-DIN 8-pin $\times 1$
CONTROL UNIT: D-sub 9-pin $\times 1$
REMOTE 1: D-sub 9-pin $\times 1$ (with loop-
through output), RS-485 serial
interface
REMOTE 2: D-sub 9-pin $\times 1$
ISR: D-sub 9-pin $\times 1$

Video signal

Differential gain
**BVM-D20F1U/D20F1E/D20F1A/
D24E1WU/D24E1WE/D24E1WA:**
Less than 5% (for luminance from 0 to
100 cd/m²)
**BVM-D32E1WU/D32E1WE/
D32E1WA:** Less than 5% (for luminance
from 0 to 70 cd/m²)
Differential phase
**BVM-D20F1U/D20F1E/D20F1A/
D24E1WU/D24E1WE/D24E1WA:**
Less than 5° (for luminance from 0 to
100 cd/m²)
**BVM-D32E1WU/D32E1WE/
D32E1WA:** Less than 5° (for luminance
from 0 to 70 cd/m²)
Frequency response
50 Hz to 30 MHz, +1 dB/ -3 dB
DC restoration
Back porch type
Black level fluctuation: less than 1% for
10 % to 90% APL input signal variation

Specifications

Synchronization

- Vertical blanking time
Less than 650 μ s.
- Horizontal blanking time
Less than 3.77 μ s. (1080/60I, 1035/60I)

Picture performance

- Normal scan
5% overscan of CRT effective screen area ($\pm 10\%$ of CRT effective screen area)
- Underscan
3% underscan of CRT effective screen area ($\pm 10\%$ of CRT effective screen area)
- Linearity
BVM-D20F1U/D20F1E/D20F1A/D24E1WU/D24E1WE/D24E1WA:
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 (1080/60I, 1035/60I)
- BVM-D32E1WU/D32E1WE/D32E1WA:** Within a central area bounded by a circle with a diameter equal to the picture height, less than 1 % of the picture height, and outside the same area, about 2 % of the picture height (1080/60I, 1035/60I)
- Color temperature
D65, D93 (adjustable to other color temperatures)
- Convergence error
BVM-D20F1U/D20F1E/D20F1A/D24E1WU/D24E1WE/D24E1WA:
Within a central area bounded by a circle with a diameter equal to the picture height.
Less than 0.4 mm with a central area bounded by a circle and less than 0.7 mm at any other point.
- BVM-D32E1WU/D32E1WE/D32E1WA:**
Within a central area bounded by a circle with a diameter equal to the picture height.
Less than 0.5 mm with a central area bounded by a circle and less than 0.8 mm at any other point.

Standard luminescence

- BVM-D20F1U/D20F1E/D20F1A/D24E1WU/D24E1WE/D24E1WA:**
100 cd/m² (at standard 1 Vp-p 100% white signal)
- BVM-D32E1WU/D32E1WE/D32E1WA:** 70 cd/m² (at standard 1 Vp-p 100% white signal)

Raster size stability

- BVM-D20F1U/D20F1E/D20F1A/D24E1WU/D24E1WE/D24E1WA:**
Less than 1% of picture height (at 100 cd/m² peak luminescence, 10 to 90% APL)
- BVM-D32E1WU/D32E1WE/D32E1WA:** Less than 1% of picture height (at 70 cd/m² peak luminescence, 10 to 90% APL)

- Scan delay
Horizontal: Approx. $\frac{3}{8}$ line
Vertical: Approx. $\frac{1}{2}$ field

- Resolution
BVM-D20F1U/D20F1E/D20F1A:
700 TV lines (16:9)
900 TV lines (4:3)
(at screen center, 100 cd/m² luminescence)
- BVM-D24E1WU/D24E1WE/D24E1WA:**
1000 TV lines (16:9)
1000 TV lines (4:3)
(at screen center, 100 cd/m² luminescence)
- BVM-D32E1WU/D32E1WE/D32E1WA:**
1000 TV lines (16:9)
1000 TV lines (4:3)
(at screen center, 70 cd/m² luminescence)

Operating conditions

- Temperature
0°C to 35°C (32°F 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)
AC plug holder (1)
Fuse (1)
Tally plate (1) (BVM-D20F1U/D20F1E/D20F1A only)
4:3 mask (1) (BVM-D20F1U/D20F1E/D20F1A only)
Operation manual (1)
Quick reference (1)

Acquired safety regulations

UL1950, CSA No.950
 FCC Class A, IC Class A
 DHHS, DNHW
 TÜV (EN60950)
 CE, C-tick

Design and specifications are subject to change without notice.

Available Signal Formats

System	Total lines per frame	Active lines per frame	Frame rate** (Hz)	Scanning format	Aspect	Standard
575/50I (PAL*)	625	575	25	2:1 interlace	16:9/4:3	ITU 601
480/60I (NTSC*)	525	483	30	2:1 interlace	16:9/4:3	ITU 601
575/50P	625	575	50	Progressive	16:9/4:3	–
480/60P	525	483	60	Progressive	16:9/4:3	SMPTE 293M
1080/48I	1125	1080	24	2:1 interlace	16:9	–
1080/50I	1125	1080	25	2:1 interlace	16:9	SMPTE 274M
1035/60I	1125	1035	30	2:1 interlace	16:9	BTA S-001B
1080/60I	1125	1080	30	2:1 interlace	16:9	SMPTE 274M/BTA S-001B
720/60P	750	720	60	Progressive	16:9	SMPTE 296M

* Available when the optional adaptor is installed.

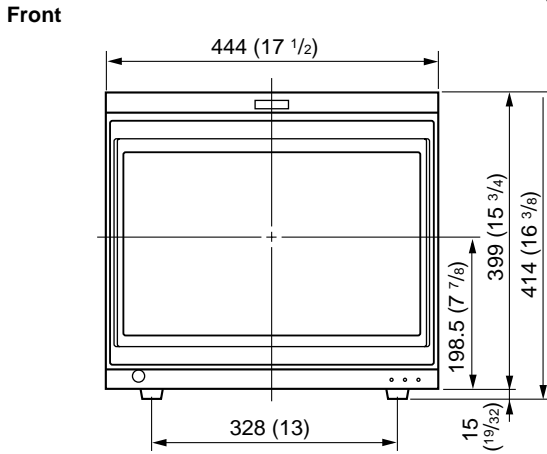
** Also compatible with 1/1.001.

Specifications

Dimensional Drawing

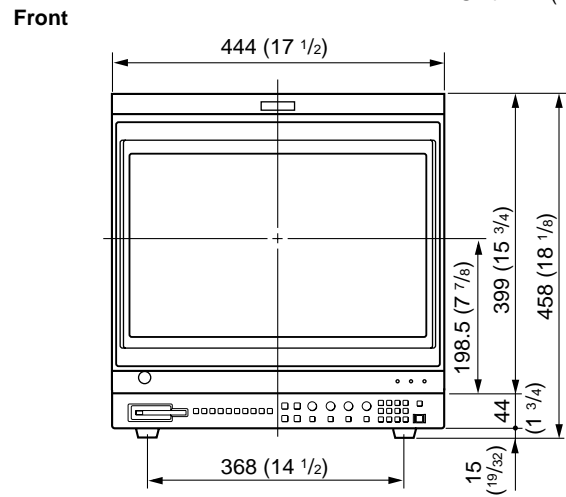
BVM-D20F1U/D20F1E/D20F1A

Unit: mm (inches)

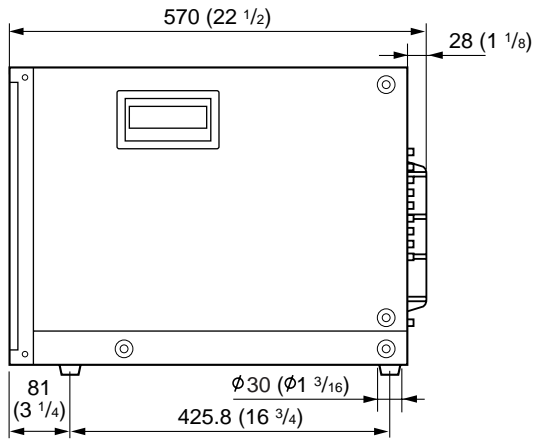


With BKM-10R attached

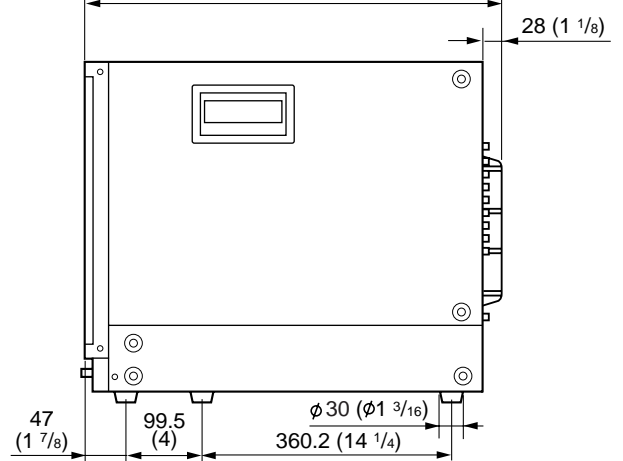
Unit: mm (inches)



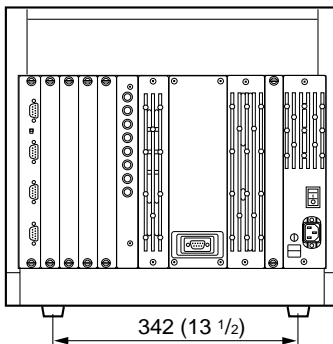
Side



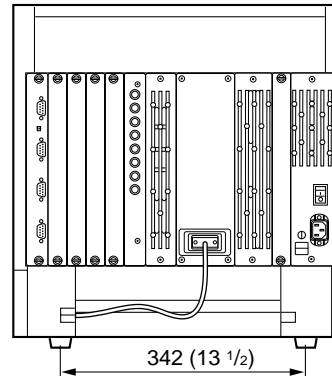
Side



Rear

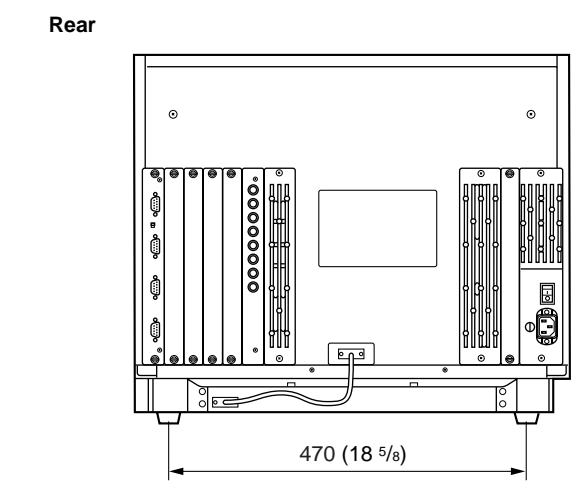
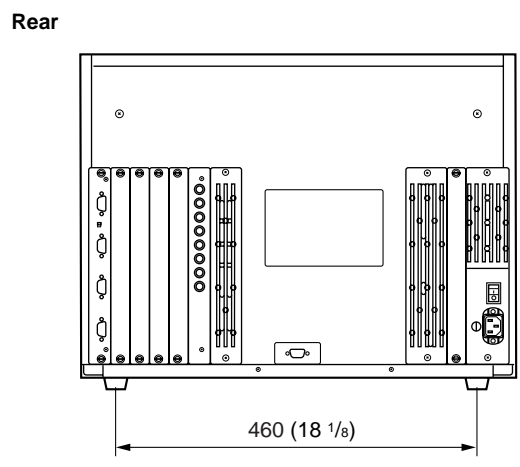
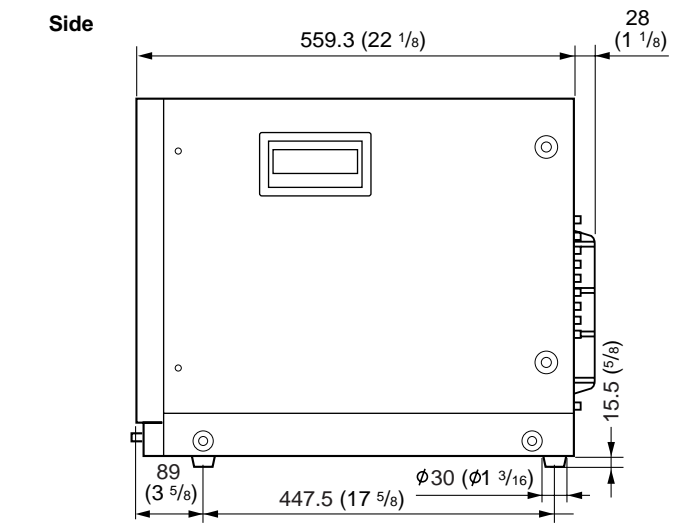
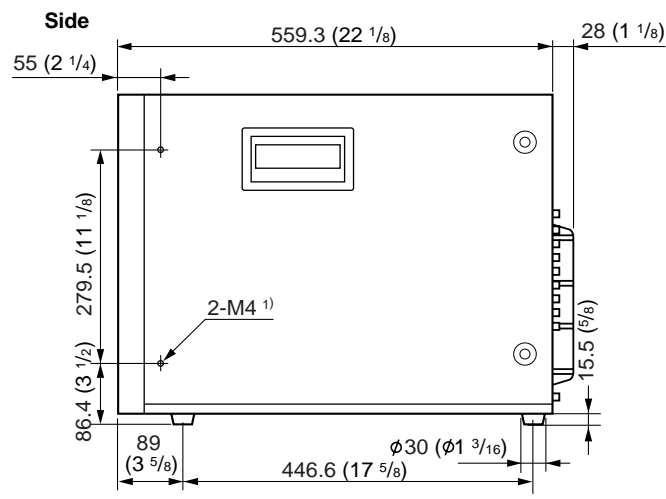
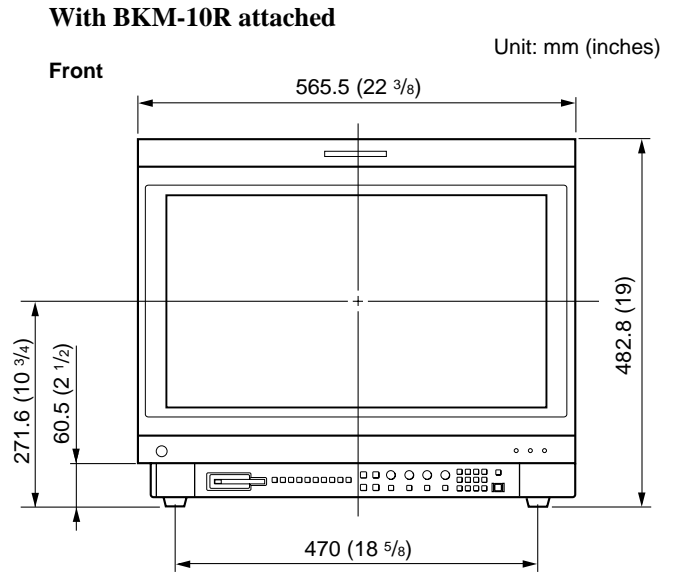
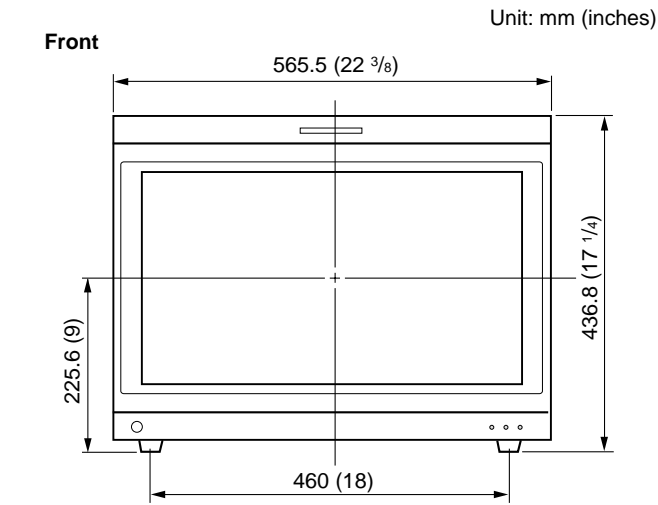


Rear



Chapter 3 Appendix

BVM-D24E1WU/D24E1WE/D24E1WA



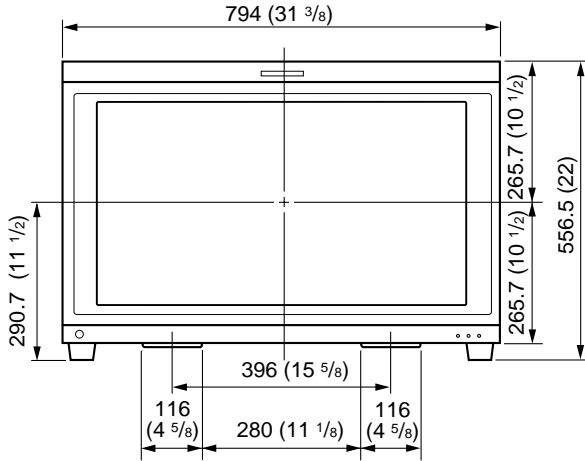
1) When using this hole, use a screw which can be inserted into the monitor to a depth of 6 to 8 mm (1/4 to 11/32 inches).

Specifications

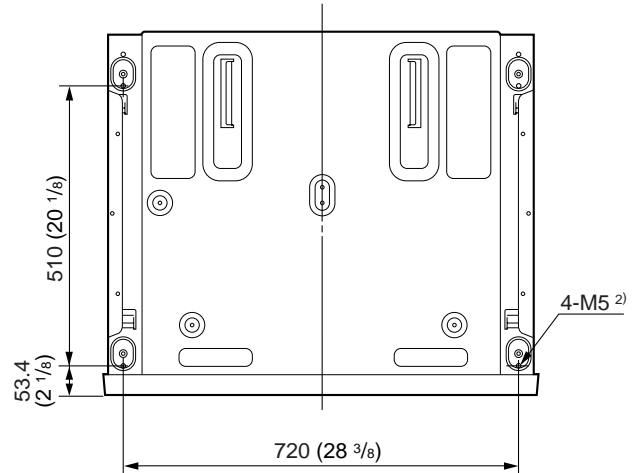
BVM-D32E1WU/D32E1WE/D32E1WA

Unit: mm (inches)

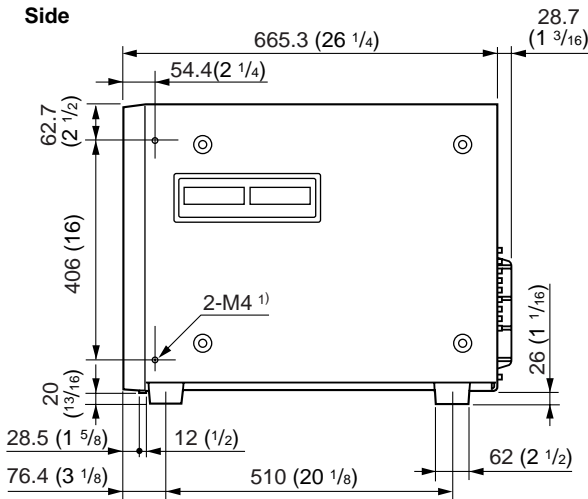
Front



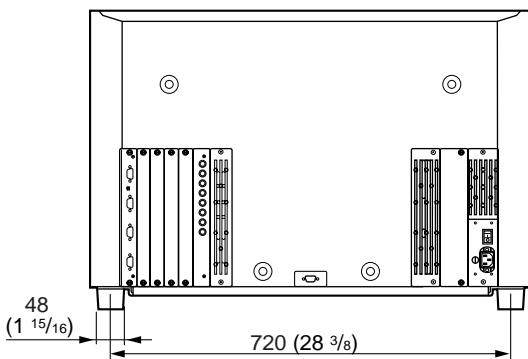
Bottom



Side



Rear



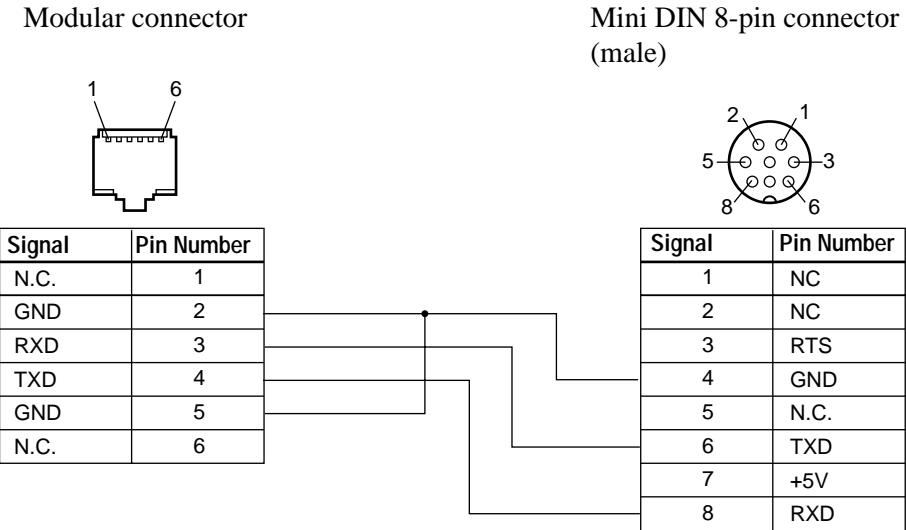
- 1) When using this hole, use a screw which can be inserted into the monitor to a depth of 6 to 16 mm (1/4 to 21/32 inches).
- 2) When using this hole, use a screw which can be inserted into the foot and monitor to a depth of 46 to 55 mm (1 1/4 to 2 1/4 inches).

Connection Cable Specifications for Color Temperature Probes

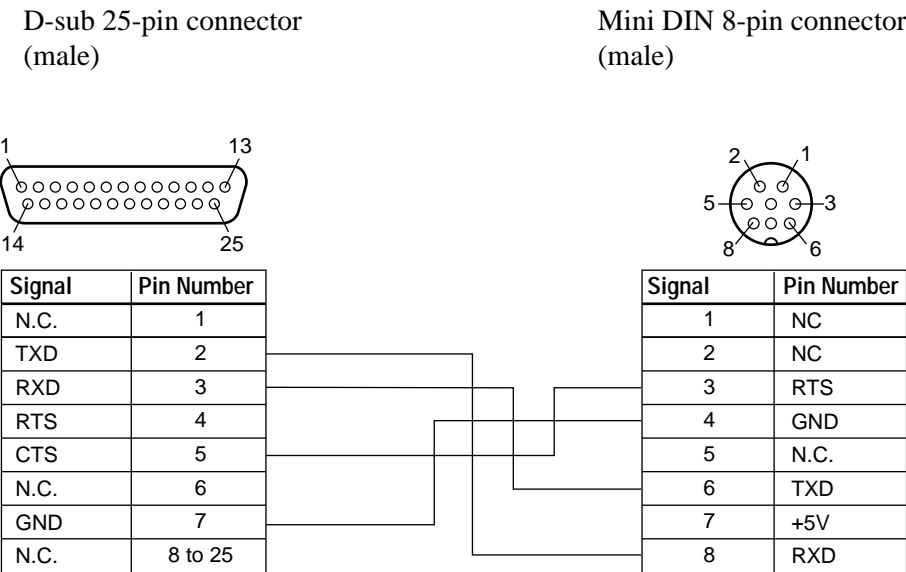
Special cables are required to connect color temperature probes other than the Sony BKM-14L to the monitor.

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

Connection cable for GRASEBY SLS 9400 probe



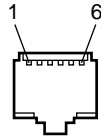
Connection cable for MINOLTA CA-100 probe



Specifications

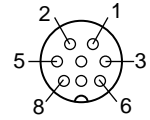
Connection cable for PHILIPS PM 5639 probe (corresponds to PHILIPS PM 5639/64 cable)

Modular connector

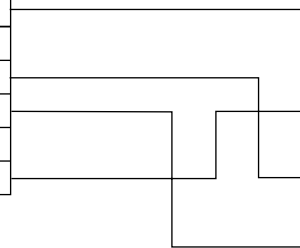


Signal	Pin Number
+5V	1
N.C.	2
RXD	3
TXD	4
N.C.	5
GND	6

Mini DIN 8-pin connector (male)

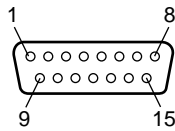


Signal	Pin Number
1	NC
2	NC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD



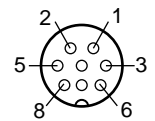
Connection cable for THOMA TF6 probe

D-sub 15-pin connector (female)

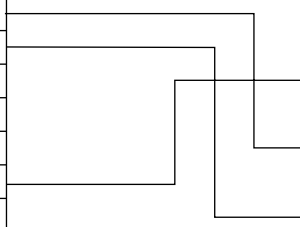


Signal	Pin Number
N.C.	1
RXD	2
TXD	3
N.C.	4
N.C.	5
N.C.	6
GND	7
N.C.	8 to 15

Mini DIN 8-pin connector (male)



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



Menu Index

The menu index shows the menu items provided with this monitor in alphabetical order. For your reference, each menu item is followed by the page of this manual on which the item is explained, its menu number, and the Main Menu that the item belongs to.

	Menu Item	Page	Menu number	Main menu	
A	ADDRESS	60	—	ADDRESS menu	
	ADJ INT SIGNAL	56	C814	SET UP/EXTEND menu	
	ADJUST	33	B1211	COLOR TEMP ADJ menu	
		50	C611	SET UP/WHITE UNIFORMITY menu	
		53	C731	SET UP/WHITE UNIFORMITY menu	
	ALIGNMENT	49	C6	SET UP/ALIGNMENT menu	
	ANALYZE	33	B1212	COLOR TEMP ADJ menu	
	APPLY PASSWORD	43	C312	SETUP/PASSWORD menu	
	AUTO	29	A12	CONTROL PRESET ADJ menu	
		52	C72	SET UP/WHITE UNIFORMITY menu	
	AUTO FULL POINTS	53	C74	SET UP/WHITE UNIFORMITY menu	
	AUTO ONE POINT	54	C75	SET UP/WHITE UNIFORMITY menu	
	B	BACK UP SYSTEM DATA	56	C8121	SET UP/EXTEND menu
	C	CAPTION VISION	47	C51	SET UP/ON SCREEN SET menu
CH NAME		47	C54	SET UP/ON SCREEN SET menu	
CH NAME POSITION		47	C54	SET UP/ON SCREEN SET menu	
CH NO		47	C53	SET UP/ON SCREEN SET menu	
CH NO POSITION		47	C53	SET UP/ON SCREEN SET menu	
CH SET		29	A1	CONTROL PRESET ADJ menu	
		32	B1	COLOR TEMP ADJ menu	
CH STATUS		59	F11	STATUS menu	
CHANGE PASSWORD		43	C311	SET UP/PASSWORD menu	
CHANNEL NAME		39	C15	SET UP/INPUT CONFIGURATION menu	
COL1		32	B1	COLOR TEMP ADJ menu	
COL2		32	B1	COLOR TEMP ADJ menu	
COLOR TEMP		39	C16	SET UP/INPUT CONFIGURATION menu	
COLOR TEMP ADJ		32	B	COLOR TEMP ADJ menu	
COMPONENT		38	C112	SET UP/INPUT CONFIGURATION menu	
COMPOSITE		38	C111	SET UP/INPUT CONFIGURATION menu	
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CONV FINE ADJUST		50	C61	SET UP/WHITE UNIFORMITY menu	
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	39	C17	SET UP/INPUT CONFIGURATION menu		
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	DIRECTION	52	C711	SET UP/WHITE UNIFORMITY menu	

(continued)

Menu Index

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		43	C3111	SET UP/PASSWORD menu
		56	C81	SET UP/EXTEND menu
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		34	B1331	COLOR TEMP ADJ menu
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	FORMAT	37	C11	SET UP/INPUT CONFIGURATION me
	FORMAT DISPLAY	57	D4	MEMORY CARD menu
	FORMAT DISPLAY	47	C52	SET UP/ON SCREEN DISPALY menu
G	GRASEBY	33	B122	COLOR TEMP ADJ menu
I	INPUT CONFIGURATION	37	C1	SET UP/INPUT CONFIGURATION menu
K	KEY PROTECT	27	G	KEY PROTECT menu
L	LANDING ADJUST	52	C7	SET UP/WHITE UNIFORMITY menu
	LOAD	57	D2	MEMORY CARD menu
M	MAINTENANCE	56	C816	SET UP/EXTEND menu
	MANUAL	29	A11	CONTROL PRESET ADJ menu
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		52	C71	SET UP/WHITE UNIFORMITY menu
		53	C73	SET UP/WHITE UNIFORMITY menu
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	Menu Item	Page	Menu number	Main menu	
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			53	C741	SET UP/WHITE UNIFORMITY menu
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	SLOT STATUS	59	F31	STATUS menu	
	SONY BKM-14L	33	B121	COLOR TEMP ADJ menu	
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			59	F1	STATUS menu
			59	F2	STATUS menu
			59	F3	STATUS menu
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V	VCR MODE	56	C815	SET UP/EXTEND menu	
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