SONY®

Trinitron®
Color Video Monitor

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Trinitron

SSM-14N5E/14N5U/14N5A
SSM-20N5E/20N5U/20N5A

Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____

Serial No. _____

WARNING

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

Dangerously high voltage are present inside the unit.
Do not open the cabinet. Refer servicing to qualified personnel only.

In the event of a malfunction or when maintenance is necessary, consult an authorized Sony dealer.

For the customers in the U.S.A.

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.

For the customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

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

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

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

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

ATTENTION:
Picture distortion may occur if this monitor is positioned in close proximity to any equipment emitting electromagnetic radiation.

Precaution

Table of Contents

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

On installation

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

On cleaning

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

On repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit.

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

About this manual

Before operating the unit, please read this manual thoroughly and retain it for future reference.

The explanation given in this manual can be applied to the following models unless noted otherwise.
When explanation differs among models, this is clearly indicated in this manual.
- SSM-14N5E/14N5U/14N5A (14-inch monitor)
- SSM-20N5E/20N5U/20N5A (20-inch monitor)
Illustrations of the video monitor are for the SSM-20N5E/20N5U/20N5A.

EN
English

Features

Picture

Fine pitch Trinitron[1] picture tube
The fine pitch Trinitron tube provides a high resolution picture. Horizontal resolution is more than 500 TV lines at the center of the picture.

Comb filter
When NTSC video signals are received, a comb filter activates to make more accurate Y/C separation. This contributes to less of a decrease in resolution, cross color and cross luminance phenomena.

Beam current feedback circuit
The built-in beam current feedback circuit assures stable white balance.

Four color system available
The monitor can display NTSC, PAL, SECAM, and NTSC$_{4.43}$[2] signals. The appropriate color system is selected automatically.

Input

Y/C input connector
The video signal, split into the chrominance signal (C) and the luminance signal (Y), can be input through this connector, eliminating the interference between the two signals, which tends to occur in a composite video signal, ensuring video quality.

Automatic termination
(connector with -\/\/- mark only)
The input connector is terminated at 75 ohms inside when no cable is connected to the loop-through output connector. When a cable is connected to an output connector, the 75-ohm termination is automatically released.

Functions

On-screen menus
You can set monitor operation settings by using the on-screen menus.

EIA standard 19-inch rack mounting
By using an MB-502B mounting bracket (for a 14-inch monitor, not supplied) or SLR-103A slide rail (for a 20-inch monitor, not supplied), the monitor can be mounted in an EIA standard 19-inch rack.

Attention – when the product is installed in a rack:

* **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 manufacturer's maximum rated ambient temperature of 0 to +35 °C (Tmra).
* **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.
* **Mechanical loading**
  Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
* **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.
* **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).

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1) **Trinitron**
   "Trinitron" is a registered trademark of Sony Corporation.
2) **NTSC$_{4.43}$**
   The NTSC$_{4.43}$ system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz. When an NTSC recorded video program is played back with a Trident (PAL/SECAM/NTSC$_{4.43}$) VTR, the NTSC$_{4.43}$ signal is output.

Location and Function of Parts and Controls

Front

❶ Speaker

❷ MENU buttons

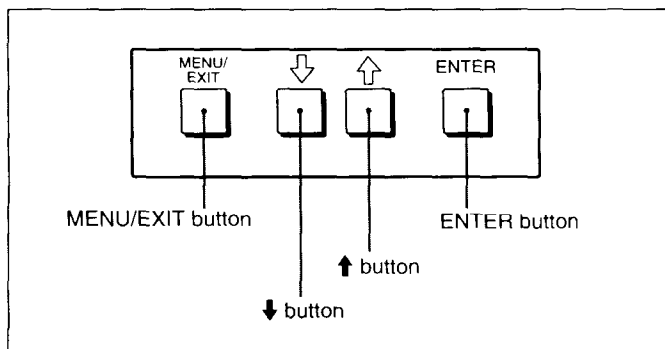**❸ ①POWER switch and indicator**
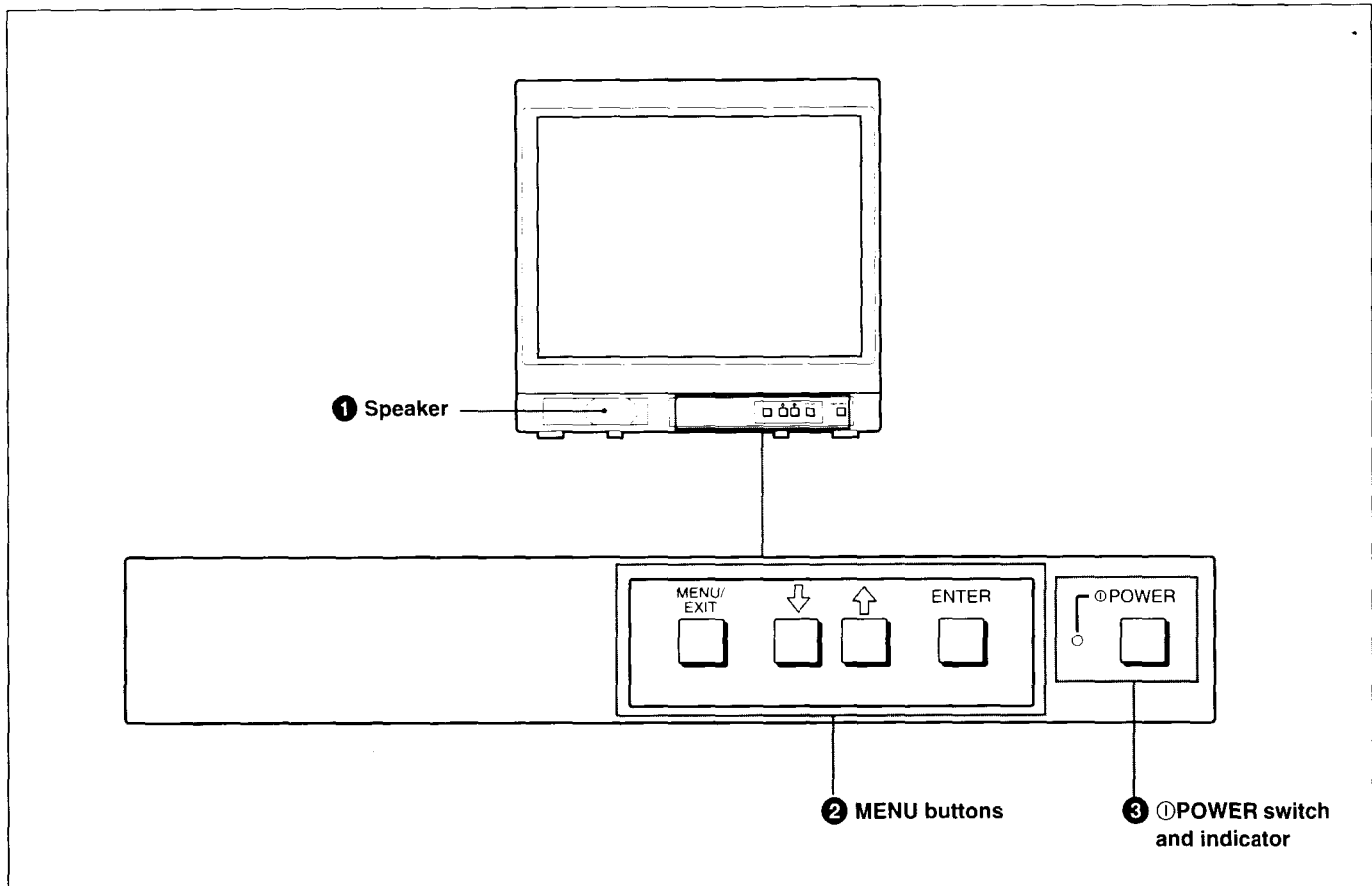
❶ Speaker

❷ MENU buttons

Press to make the menu appear.

For detailed information on MENU buttons, see "Operation through On-Screen Menus" on page 9.
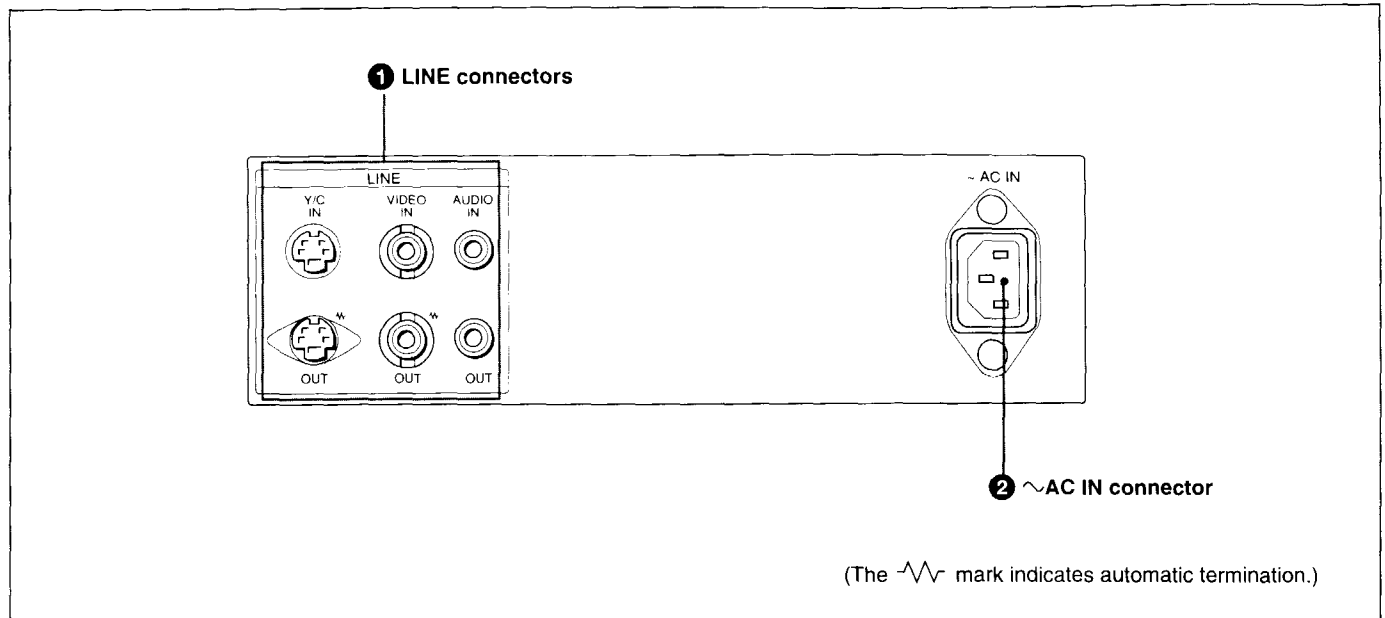

❸ ①POWER switch and indicator

Press to turn the monitor on. The indicator lights in green.

To turn the power off, press this again.

Location and Function of Parts and Controls

Rear Panel

1 LINE connectors

~AC IN

2 ~AC IN connector

(The -/\/\- mark indicates automatic termination.)

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1 LINE connectors

Input connectors for the composite video, Y/C separate video and audio signals and their loop-through output connectors.

Note

The Y/C IN connector has priority over the VIDEO IN connector.
When connecting the cable to the Y/C IN connector, the Y/C IN connector is automatically selected and the VIDEO IN connector is disconnected even if the cable is connected.

Y/C IN connector (4-pin mini-DIN)

Connect to the Y/C separate output connector of a video camera, VCR or other video equipment.

Y/C OUT connector (4-pin mini-DIN)

Loop-through output of the Y/C IN connector.
Connect to the Y/C separate input connector of a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm termination of the input is automatically released, and the signal input to the Y/C IN connector is output from this connector.

VIDEO IN connector (BNC-type)

Connect to the video output connector of video equipment, such as a VCR or a color video camera. For a loop-through connection, connect to the video output connector of another monitor.

VIDEO OUT connector (BNC-type)

Loop-through output of the VIDEO IN connector.
Connect to the video input connector for a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm termination of the input is automatically released, and the signal input to the VIDEO IN connector is output from this connector.

AUDIO IN connector (phono jack)

Connect to the audio output connector of a VCR or other equipment. For a loop-through connection, connect to the audio output of another monitor.

AUDIO OUT connector (phono jack)

Loop-through output of the AUDIO IN connector.
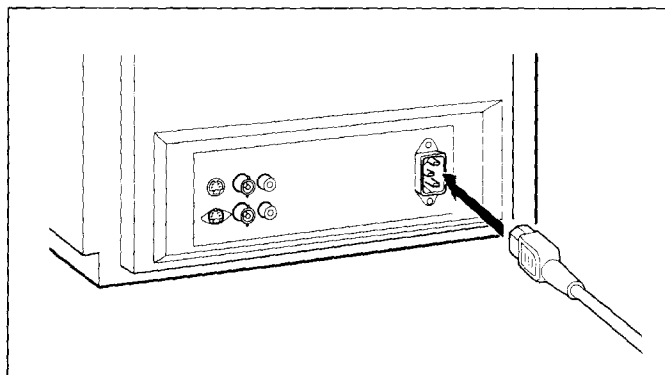Connect to the audio input connector of a VCR or another monitor.

2 ~AC IN (inlet) connector

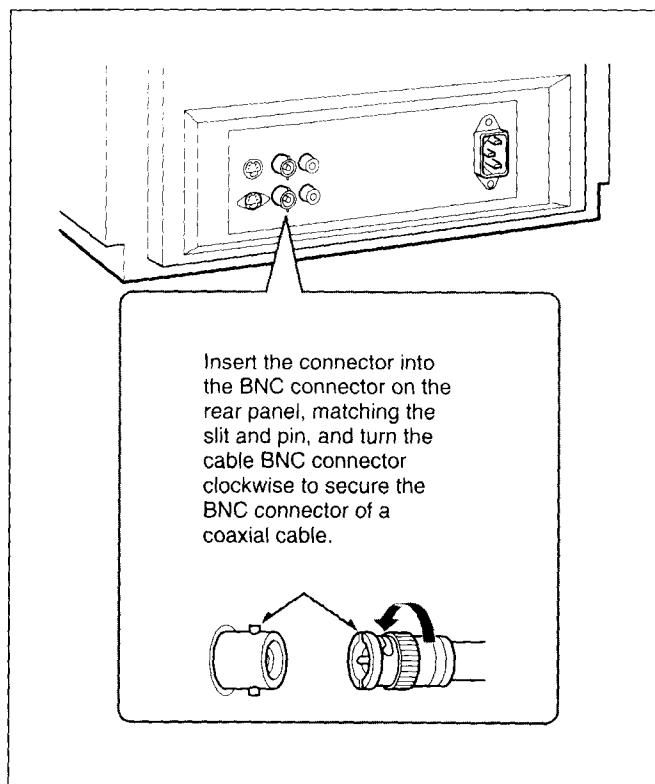Connect the supplied AC power cord to this connector and to a wall outlet.

Connections

How to Connect the AC Power Cord

Connect the AC power cord (supplied) to the ∿AC IN connector and to a wall outlet.

How to Connect a Cable to a BNC Connector

Connect the coaxial cable with the BNC connectors to the BNC connectors on the rear panel as illustrated below.

Insert the connector into the BNC connector on the rear panel, matching the slit and pin, and turn the cable BNC connector clockwise to secure the BNC connector of a coaxial cable.

Using On-Screen Menus

You can make various settings and adjustments of the monitor using the on-screen menus.

On-Screen Menu Configuration

The on-screen menu is composed of the following two menu types.
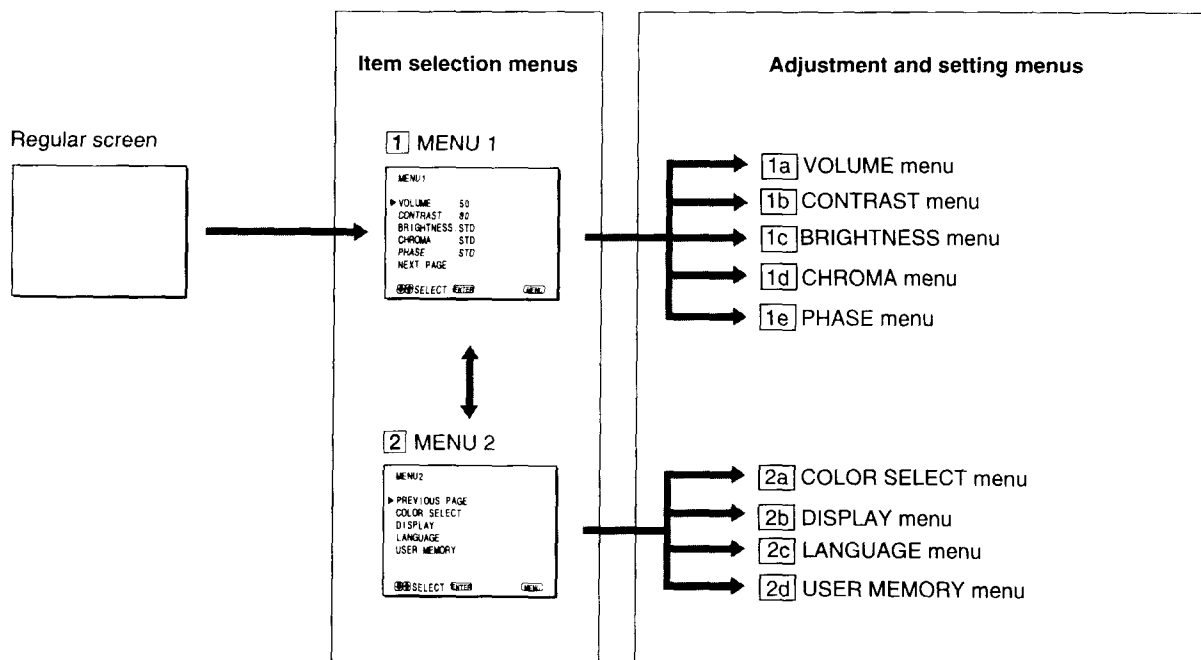
Item selection menu

You can select an adjustment and setting item such as sound volume, contrast, brightness, color intensity, color system and menu language by using the ↑,↓ and ENTER buttons.

Adjustment and setting menus

You can make desired adjustment or setting on corresponding menu. The settings and adjustments remain unchanged until next adjustment even if you turn off the power.

To reset the settings and adjustments to the factory-settings, select "FACTORY PRESET" from 2d USER MEMORY menu.

On-screen menu tree-chart

Item selection menus	Adjustment and setting menus
1 MENU 1	**1a VOLUME menu**
MENU1	**1b CONTRAST menu**
▶VOLUME 50	**1c BRIGHTNESS menu**
CONTRAST 80	**1d CHROMA menu**
BRIGHTNESS STD	**1e PHASE menu**
CHROMA STD	
PHASE STD	
NEXT PAGE	
SELECT ENTER	
2 MENU 2	**2a COLOR SELECT menu**
MENU2	**2b DISPLAY menu**
▶PREVIOUS PAGE	**2c LANGUAGE menu**
COLOR SELECT	**2d USER MEMORY menu**
DISPLAY	
LANGUAGE	
USER MEMORY	
SELECT ENTER	

Regular screen

Operation through On-Screen Menus

Menu operation buttons

There are four menu operation buttons on the front panel of the monitor.

❶ MENU/EXIT button
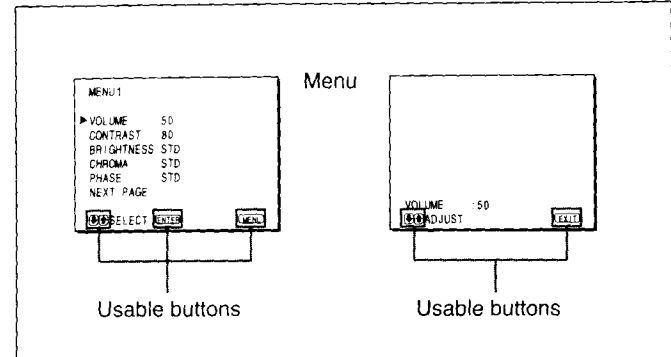**❷** ↓ button
❸ ↑ button
❹ ENTER button
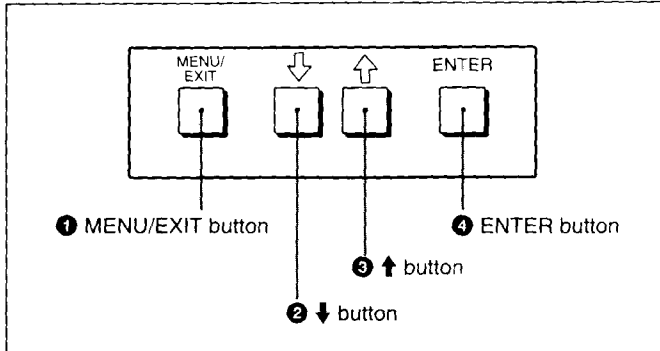
Button functions depend on the displayed menu. The following table shows the button functions on the item selection menus and adjustment and setting menus.

Button	Function on the item selection menus	Function on the adjustment and setting menus
❶ MENU/EXIT	To return to the regular screen.	To return to the item selection menu.
❷ ↓	To move the cursor downward.	To decrease value/select item.
❸ ↑	To move the cursor upward.	To increase value/select item.
❹ ENTER	To decide a selected item.	To decide a selected item[a].

a) You can use the ENTER button only on the 2d USER MEMORY menu of the adjustment and setting menus.

Usable buttons depend on the displayed menu. Buttons that can be used on the menu are displayed at the bottom line of the screen. You can perform menu operation using displayed buttons.

Usable buttons   Usable buttons

Operating procedures

To display the menu, follow this procedure.

1 Press the MENU/EXIT (❶) button.
[1] MENU 1 appears.

To select items other than ones not displayed on MENU 1
Select [2] MENU 2 .

*For details of how to select, see the "To change the item selection menus" described later.*

2 Move the cursor to the desired item by pressing the ↓ or ↑ (❷, ❸) button.

3 Press the ENTER (❹) button.
The adjustment and setting menu selected in step **2** appears.

For detailed information of menus, see "Functions of On-Screen Menus" on page 10.

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To change the item selection menus

Select NEXT PAGE on the menu to display next item selection menu and PREVIOUS PAGE on the menu to display the previous item selection menu.

MENU 1   MENU 2

━━▶ : When selecting NEXT PAGE

◀━━ : When selecting PREVIOUS PAGE
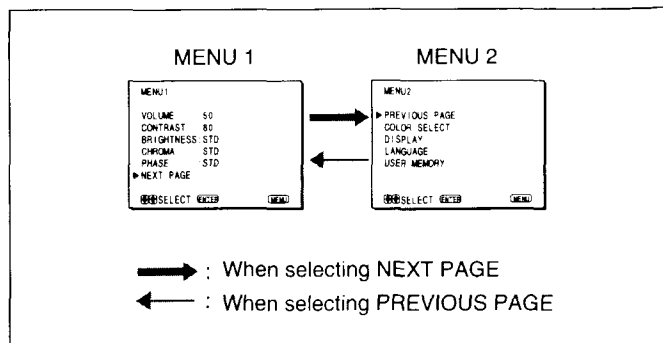
How to change the item selection menu

To return to the item selection menu from the adjustment and setting menus

Press the MENU/EXIT (❶) button on the currently displayed adjustment and setting menu.

To close the menu (to return to the regular screen)

Press the MENU/EXIT (❶) button when the item selection menu is displayed. The on-screen menu disappears and the regular screen appears.

Using the Last Control Function

If you press the ↑ or ↓ button when the menu is not displayed, one of the following menu items that you adjusted last time is displayed.
• VOLUME
• CONTRAST
• BRIGHTNESS
• CHROMA
• PHASE
Then you can adjust the item immediately.

Functions of On-Screen Menus

Item selection menus

1 MENU 1

MENU 1 menu has the following selection items.

| Item	Functions
VOLUME	To obtain the desired volume
CONTRAST	To adjust the contrast
BRIGHTNESS	To adjust the brightness
CHROMA	To adjust the color intensity
PHASE	To adjust the phase

2 MENU 2

MENU 2 menu has the following selection items.

Item	Function
COLOR SELECT	To select the color system of the input signal
DISPLAY	To select period of display
LANGUAGE	To select the menu language
USER MEMORY	To store and recall the values and settings adjusted by a user, and recall the factory-settings

Adjustment and setting menu

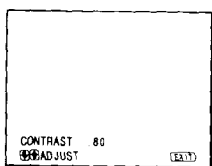### 1a VOLUME menu (Factory setting: 50)
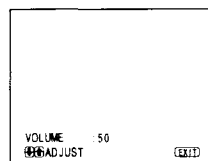
Adjust the speaker volume.
The volume increases by pressing the ↑ button.
The volume decreases by pressing ↓ button.
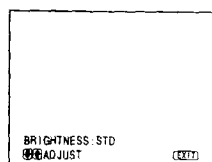
1b CONTRAST menu (Factory setting: 80)

```
CONTRAST   80
ADJUST          EXIT
```

Adjust the contrast of the screen.
The contrast becomes higher by pressing the ↑ button.
The contrast becomes lower by pressing ↓ button.

1c BRIGHTNESS menu (Factory setting: STD)

```
BRIGHTNESS:STD
ADJUST          EXIT
```
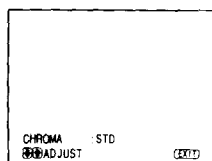
Adjust the brightness of the screen.
The screen becomes brighter by pressing the ↑ button.
The screen becomes darker by pressing ↓ button.

1d CHROMA menu (Factory setting: STD)
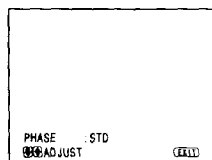
```
CHROMA    :STD
ADJUST          EXIT
```

Adjust the color intensity of the video signal.
The color intensity strengthens by pressing the ↑
button.
The color intensity weakens by pressing ↓ button.

1e PHASE menu (Factory setting: STD)

```
PHASE    :STD
ADJUST          EXIT
```

Adjust the phase of the video signals.
The skin tone becomes greenish by pressing the ↑
button.
The skin tone becomes purplish by pressing the ↓
button.

Note

The phase of an NTSC composite video signal or a
Y/C separate signal can be corrected on this menu. The
PAL composite video signal or a Y/C separate signal
cannot be corrected.

2a COLOR SELECT menu (Factory setting: AUTO)

```
COLOR SELECT

▶AUTO
 NTSC COMB
 NTSC
 NTSC 4.43
 PAL
 SECAM

SELECT          EXIT
```
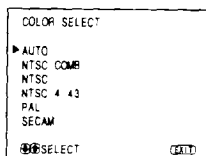
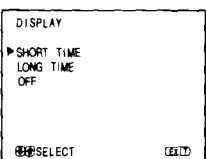Select the color system of the input signal.
AUTO: Input color systems are automatically
   selected. When you input NTSC signal, comb filter
   will activate. To monitor NTSC signal with trap
   filter, select NTSC in this menu.
The factory setting of the COLOR SELECT menu
depends on destination.
SSM-14N5U/20N5U: NTSC
SSM-14N5E/20N5E/14N5A/20N5A: PAL

2b DISPLAY menu (Factory setting: SHORT TIME)

```
DISPLAY

▶SHORT TIME
 LONG TIME
 OFF

SELECT          EXIT
```

Select the period of displaying the color system of the
current input signals.
The items have the following functions.

Item	Function
SHORT TIME	To display the kind of color system being used for several seconds on the screen each time you change the signal input.
LONG TIME	To display the kind of color system being used for approximately five minutes on the screen each time you change the signal input.
OFF	Not to display the kind of the color system.

2c LANGUAGE menu (Factory setting: ENGLISH)

```
LANGUAGE

▶ENGLISH
 DEUTSCH
 FRANÇAIS
 ITALIANO
 ESPAÑOL

SELECT          EXIT
```
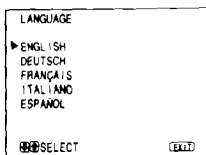
Select the menu language among the five languages,
English, German, French, Italian and Spanish.

11

Using On-Screen Menus

2d USER MEMORY menu

```
USER MEMORY
► STORE
  RECALL
  FACTORY PRESET


SELECT ENTER          EXIT
```
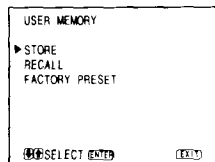
The items have the following functions.

Item	Function
STORE	To store all adjustments and settings currently set on each menu into the internal memory.
RECALL	To recall all adjustments and settings currently stored in the internal memory.
FACTORY PRESET	To reset the adjustments and settings currently set on each menu to the factory settings.[a]

a) The current settings and adjusted values are reset to the factory settings. The values and settings adjusted and stored in the internal memory by using the STORE menu, however, are not changed. To reset internally stored adjusted values and settings to the factory setting, select FACTORY PRESET, first, then select STORE. The color system of the input signal is reset to AUTO even though the factory setting on the COLOR SELECT menu is NTSC or PAL.

When you press the ENTER (❹) button, the following message is displayed for about two seconds. The currently selected item becomes active when pressing the ENTER (❹) button.

```
USER MEMORY
► STORE
  RECALL
  FACTORY PRESET
  ··COMPLETE··          ··COMPLETE··
```
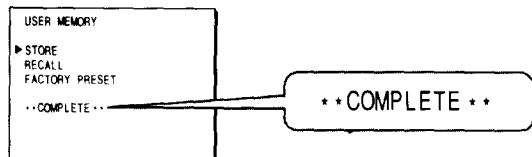
This section may help you isolate the problem. Should the problem persist, unplug the unit and contact your Sony dealer or local authorized Sony service facility.

Symptom	Possible causes and remedies
If the picture is unstable, when the input signal from a security camera is switched	Select NTSC on the COLOR SELECT menu when the NTSC signal is input. Select PAL when the PAL signal is input.

Video signal

Color system   NTSC, PAL, SECAM, NTSC₄.₃₃
Resolution   500 TV lines
Frequency response
     LINE   6 MHz±3dB (Y signal)

Picture performance

Normal scan   7 % over scan of CRT effective
                    screen area
H. linearity   Less than 8.0 % (typical)
V. linearity   Less than 7.0 % (typical)
Color temperature D65

Inputs

LINE
     Y/C IN   4-pin mini-DIN(×1)
                   See the pin assignment on this page.
     VIDEO IN   BNC connector (×1), 1Vp-p +3 dB,
                   −6 dB, sync negative
     AUDIO IN   Phono jack (×1), −5 dBu[a], more
                   than 47 kilo-ohms

a) 0 dBu = 0.775 Vr.m.s.

Outputs

LINE
     Y/C OUT   4-pin mini-DIN (×1) loop-through,
                   Automatic 75 ohms termination
     VIDEO OUT
                   BNC connector (×1) loop-through,
                   Automatic 75 ohms termination
     AUDIO OUT
                   Phono jack (×1) loop-through
Speaker output   Output level: 0.8 W

General

CRT   SSM-14N5E/14N5U/14N5A:
                   14-inch CRT with P-22 phosphor
                   visible picture size 340 mm
                   (13-inch measured diagonally)
                   SSM-20N5E/20N5U/20N5A:
                   20-inch CRT with P-22 phosphor
                   visible picture size 490 mm
                   (19-inch measured diagonally)
Power consumption
                   SSM-14N5E/14N5U/14N5A: 80W
                   SSM-20N5U: 100 W
                   SSM-20N5E/20N5A: 105W

Power requirements
                   100 to 240 V AC, 50/60Hz
                   "For use of SSM-14N5U/20N5U",
                   operate these monitors on 120 V AC. ·
Operating conditions
     Temperature   0 to +35°C
     Humidity   0 to 90% (no condensation)
Transport and Storage conditions
     Temperature   −10 to +40°C
     Humidity   0 to 90%
Dimensions (w/h/d)
                   SSM-14N5E/14N5U/14N5A:
                   346 × 340 × 414 mm
                   (13⅝ × 13½ × 16⅜ inches)
                   SSM-20N5E/20N5U/20N5A:
                   449 × 441 × 502 mm
                   (17¾ × 17⅜ × 19⅞ inches)
Mass   SSM-14N5E/14N5U/14N5A:
                   Approx. 15 kg (33 lb 1 oz)
                   SSM-20N5E/20N5U/20N5A:
                   Approx. 28 kg (61 lb 12 oz)
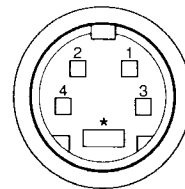Accesory supplied AC power cord (1)
                   Operating Instructions (1)
5

Pin assignment

Y/C IN connector (4-pin mini-DIN)

Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA subcarrier-input	0.286 Vp-p (NTSC), 300m Vp-p (PAL), burst Delay time between Y and C: within 0 ± 100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND

Design and specifications are subject to change without notice.

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Auto manuals search

http://auto.somanuals.com

TV manuals search

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