Panasonic

DVCPRO 50

## Non-Linear Editing System

AJ-**DE97**P

Operating Instructions

This manual contains information on the hardware only.
For details on video and audio uploading, editing and other operations, refer to the Reference Manual (AJ-SF97).
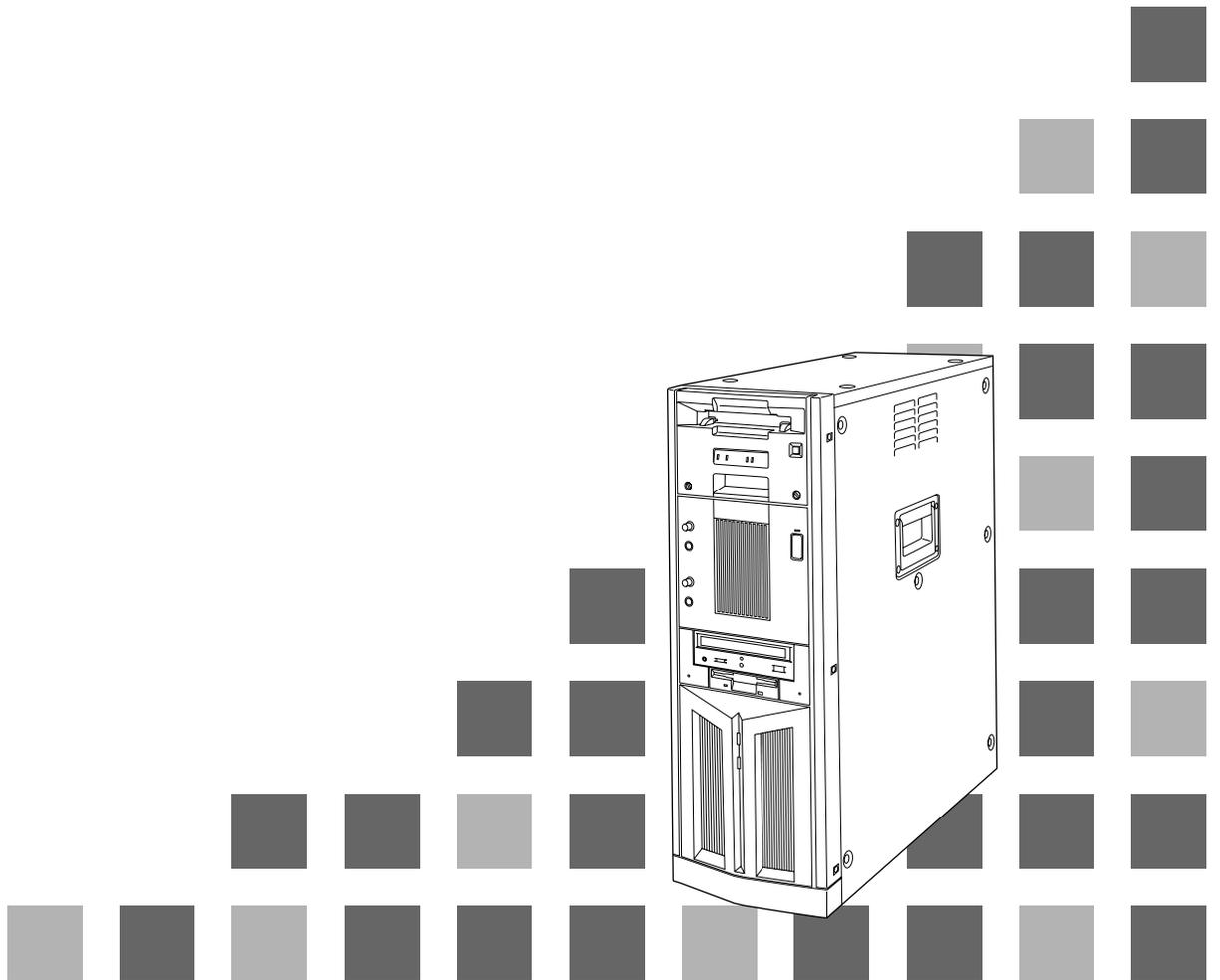
CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER TO SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (service) instructions in the literature accompanying the appliance.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER CHANGE OF SWITCH SETTING INSIDE THE UNIT TO QUALIFIED SERVICE PERSONNEL.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER MOUNTING OF THE OPTIONAL INTERFACE BOARD TO QUALIFIED SERVICE PERSONNEL.

WARNING:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

FCC Note:
This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.

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.

CAUTION:

A CD-ROM DRIVE (CLASS 1 LASER PRODUCT) IS INSTALLED IN THE PRODUCT.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT MAKE ANY MODIFICATIONS. DO NOT REPAIR BY YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER INSTALLATION OF HARD-DISK DRIVE TO QUALIFIED SERVICE PERSONNEL.
HARD-DISK DRIVE MUST BE APPROVED BY UL AND/OR CSA.

CAUTION:

Do not install or place this unit in a bookcase, built-in cabinet or any other confined space in order to maintain adequate ventilation. Ensure that curtains and any other materials do not obstruct the ventilation to prevent risk of electric shock or fire hazard due to overheating.

indicates safety information.

Contents

● Windows and Windows NT are registered trademarks of Microsoft Corporation.
● Pentium is a registered trademark of Intel Corporation.
All other names of companies and products are the trademarks or registered trademarks of the companies concerned.

Features

All-in-one tower design
This system contains a internal VTR for uploading and downloading data.
This feature translates into savings in terms of both the cost and space required for an externally connected VTR, and it enables DVCPRO tapes to be loaded just like floppy disks or magneto-optical disks. The unit also contains a hard disk for audio-video recording, and its size is the same as a tower-type personal computer. It can be placed by the side of a desk for highly efficient editing operations.

Transfer and saving at twice/4 times normal speed
Data can be uploaded and downloaded between the internal VTR and hard drive at a speed of $2\times$ (DVCPRO 50) or $4\times$ (DVCPRO): this makes it possible to accomplish the preparatory work which has been viewed as a kind of bottleneck in non-linear editing much more quickly.

Same high picture quality recording as with DVCPRO 50/DVCPRO
The same digital component compression recording system as for DVCPRO 50/DVCPRO is used to record data onto the hard disk. The resulting picture quality is higher than that achieved by JPEG which has been adopted by many non-linear editors (comparison made at the same transfer rate).
Furthermore, 140 minutes (with DVCPRO 50) or 280 minutes (with DVCPRO) of video and/or audio data can be recorded on the internal hard drive (standard specification: 72GB).

Transfer of data while still compressed
Data still in a compressed format can be uploaded and downloaded between the internal VTR and hard drive. Due to the absence of the A/D (D/A) conversion and compression/expansion processes, the picture quality of the data is not subject to any deterioration whatsoever during the transfer process.

Editing of data while still compressed
In the case of cut editing, the unit leaves the recorded data completely unchanged. With the data still in its compressed form, changes are made only to the read sequence and positions. During recording, the compressed data does not need to be expanded at all, and it can be edited up to the form taken by the completed package. This means that high picture quality is maintained even after editing.
(When the special effect and superimpose functions are used, the data is expanded into full bit digital video data, and compressed back again after processing.)

Real-time preview of special effects
The unit contains a switcher so that wipe, dissolve and other special effects can be previewed on a real-time basis during A/B roll editing. Trial-and-error operations can be repeated any number of times while checking how the results turn out.

External VTR control (RS-422A)
The unit's RS-422A (9 Pin) remote connector enables a wide range of analog or digital VTRs to be controlled. This feature can also be used to introduce material or transmit perfect package programs using external VTRs.

All the proven features of the AJ-DE77's operation system adopted
The user interfaces of the AJ-DE77 have served as a solid foundation on which to introduce improvements into the system's operating ease.

Streamlined operations using mouse
All the operator has to do in order to add, replace or delete cuts is rearrange the clips by operating the mouse. Cut editing can be achieved with excellent response.

Warning

1. This unit must not be used on board a vehicle.
Doing so may damage the hard disk drive and destroy the data.

2. The user must not install any software programs which have not been designated for use with this system.
The system may not operate properly if such programs are installed. For further details, consult your dealer.

System Configuration

Do not subject the supplied mouse, keyboard or cables to strong bumps or shocks. Doing so could damage them.
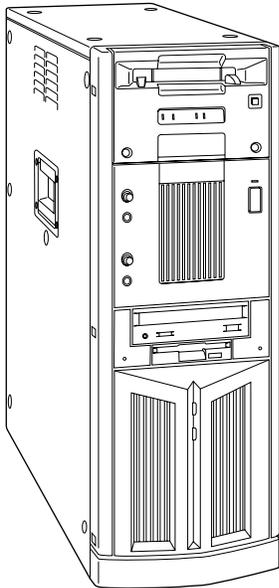
Keyboard

Main unit
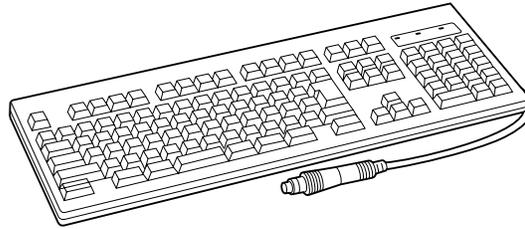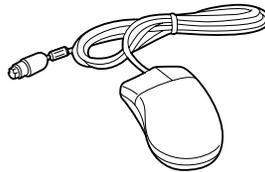
Mouse
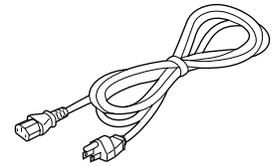
Power cord
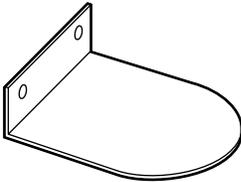
Stabilizers (×4)
mounting screws (×8)
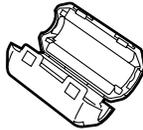
Ferrite cores (×4)

When the SCSI hard disk drive for external expansion purposes is to be connected, attach one ferrite core to one end of the SCSI I/F cable and the other one to the other end.

CAUTION:
To reduce the risk of injury due to tipping over, mount the stabilizers before installation.
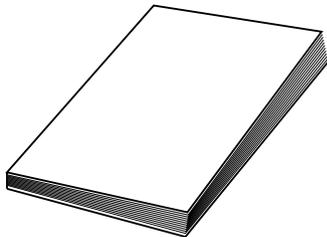
Operating instructions
(which you are now reading)
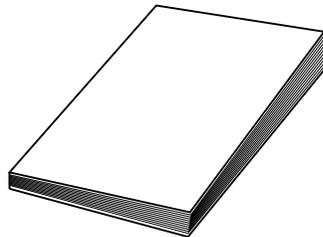
Installation manual
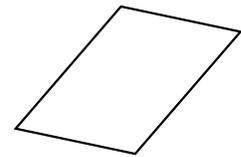
Warranty card
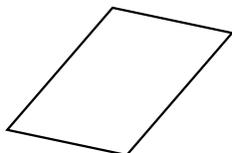
Service support guide

Parts and Their Functions

Front Panel

❻ Phones volume control
This is used to adjust the headphones volume and the monitor output volume.

❼ Mic jack
The microphone is connected here for voice-over editing operations.

❽ Mic volume control
This is used to adjust the level at which the microphone sound is input.

❾ Cassette slot
M cassettes or L cassettes are loaded through this slot. Consumer-use cassettes cannot be used for recording or playback.

❿ Cassette tape EJECT button.
When this button is pressed, the tape is unloaded, and the cassette is automatically ejected several seconds later.

⓫ CD-ROM drive

⓬ Tray OPEN/CLOSE button

⓭ Floppy disk drive

⓮ Carrying handle

⓯ HDD access display lamp (system)

⓰ HDD access display lamp (AV data)

⓱ Screws for securing mechanism
Loosen these screws when cleaning the head mechanism transport system of the VTR unit or when conducting other kinds of servicing or maintenance. It will then be possible to pull out the VTR unit's mechanism.
After the maintenance work has been completed or when the unit is to be moved, the mechanism must be put back inside the unit and the screws tightened up securely.

❶ Main unit power switch
Set this switch to the OFF position after quitting the system. If the power is turned off while the hard disk drive is operating, data may be lost or the drive may be damaged.
Do NOT turn off the power while white characters on a blue background appear on the monitor display (for the personal computer) during startup.

❷ Main unit power LED

❸ HDD sub switch
Press this switch if PC unit's power does not come on even when the main unit power switch is set to ON.
Do not press this switch without good reason since the power of the PC unit will be turned off if it pressed while the power is supplied.

❹ HDD reset switch
Press this switch when the PC unit is not operating properly. The start screen will now be restored, and checks on the operation can be carried out.
Do NOT press this switch while white characters on a blue background appear on the monitor display (for the personal computer) during startup.

❺ Phones jack
The sound can be monitored when stereo headphones are connected to this jack.

Parts and Their Functions

LED Display Panel
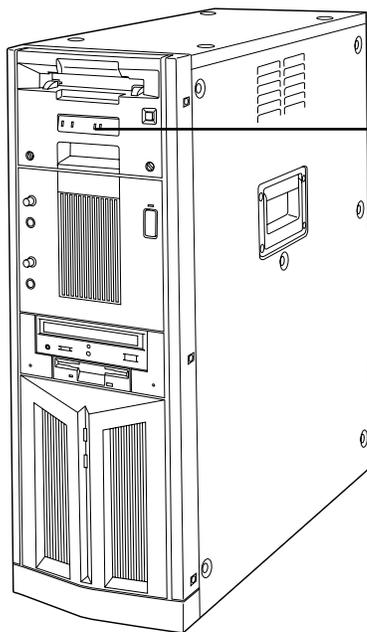
LED display panel
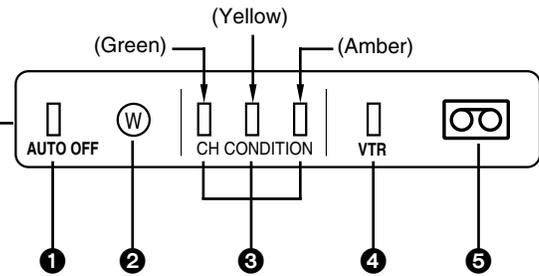
❶ **AUTO OFF lamp**
This lights when trouble has occurred in the unit's operation.

❷ **Warning lamp**
This lights when a warning item has occurred.

❸ **Channel condition lamps**
One of these lamps lights in accordance with the error rate status.
(Green ➧ yellow ➧ amber)

Green: This lights when the video and audio play signal error rates are at acceptable levels.
Yellow: This lights when either the video or audio play signal error rate has deteriorated. The playback picture remains normal even while this lamp is lighted.
Amber: This lights when either the video or audio play signal error rate is subject to correction or interpolation.

❹ **VTR lamp**
This lights while the tape is traveling.

❺ **Cassette loaded lamp**
This lights when a cassette has been loaded in the unit.

Parts and Their Functions

Rear Panel

❺ Analog composite video signal input connectors [ANALOG, VIDEO INPUT, VIDEO IN]
The analog composite video signals are supplied to these connectors which are joined by a loop-through configuration. Connect a VTR or other video unit with a composite signal output capability here.

❻ Analog reference video signal input connectors [ANALOG, VIDEO INPUT, REF VIDEO IN]
The analog reference video signals are supplied to these connectors which are joined by a loop-through configuration.
In order to ensure that the video and audio signals played back are stable, supply stable black burst signals to these connectors from an external sync signal generator.

❼ 75-ohm termination switch
Set this to ON for termination.

❽ Serial digital video signal input connectors [SDI/SDTI IN] (option)
(For details on supporting this option, consult your dealer.)

❾ Serial digital video signal output connectors [SDI/SDTI OUT] (option)
(For details on supporting this option, consult your dealer.)

❶ AC power socket [~AC IN]
The power cord (provided) is connected to this socket.

❷ Fuse holder [FUSE 1/2, 125 V, 5 A]
This holder contains a 5 A fuse.
FUSE 1: for VTR unit
FUSE 2: for PC unit

❸ Ventilating fan
This fan prevents the internal temperature from rising. Do not block the fan openings by placing the unit right up against a wall or other object.

❹ Analog component video signal input connectors [ANALOG, VIDEO INPUT, Y/P$_B$/P$_R$]
The analog component video signals are supplied to these connectors. Connect a VTR or other video unit with a component signal output capability here.

Parts and Their Functions

Rear Panel

❿ Analog component video signal output connectors [ANALOG, VIDEO OUTPUT, Y/P$_B$/P$_R$]
The analog component video signals are output from these connectors. Connect a VTR or other video unit with a component signal input capability here.

⓫ Analog composite video signal output connectors [ANALOG, VIDEO OUTPUT, 1/2]
The analog composite video signals are output from these connectors.
Connect a VTR or other video unit with a composite signal input capability here.

⓬ Analog video monitor signal output connector [ANALOG, VIDEO OUTPUT, MON OUT]
The analog composite video signals with superimposed data are output from this connector. Connect an monitor (Video) for monitoring the pictures here.

⓭ Analog audio signal input connectors [ANALOG, AUDIO INPUT, CH1/CH2/CH3/CH4]
The analog audio signals are supplied to these connectors. Connect a CD player, VTR or other audio unit capable of outputting analog audio signals to these connectors.

⓮ Analog audio signal output connectors [ANALOG, AUDIO OUTPUT, CH1/CH2/CH3/CH4]
The analog audio signals are output from these connectors. Connect an audio amplifier, VTR other audio unit capable of handling analog audio signals to these connectors.

⓯ Analog audio monitor signal output connectors [ANALOG, AUDIO MON, L/R]
The audio playback signals are output from these connectors. Connect monitor speakers, etc. to them.

⓰ Time code signal input connector [TC IN]
This connector is used when the time code signals from an external source are to be supplied.

Parts and Their Functions

Rear Panel

⑰ Digital audio signal input connector [DIGITAL AUDIO IN, CH1-2/CH3-4]
The digital audio signals in the AES/EBU format are supplied to these connectors.

⑱ Digital audio signal output connectors [DIGITAL AUDIO OUT, CH1-2/CH3-4]
Connect a VTR equipped with AES/EBU input connectors here.

⑲ Serial 1 connector [SERIAL 1]
Spare connector

⑳ Mouse connector [MOUSE]
Connect the mouse (provided) here.

㉑ Keyboard connector [KEYBOARD]
Connect the keyboard (provided) here.

㉒ Parallel connector [PARALLEL]
Connect a device with a parallel interface here.

㉓ Serial 2 connector [SERIAL 2]
Spare connector

㉔ RS-232C connector [RS-232C]
Connect the editing pad here.
(Options supported: For details, please consult with your dealer.)

㉕ RS-422A connector [RS-422A]
Connect an external VTR (External VTR1) which can be controlled using an RS-422A interface to control its recording and playback functions.

Parts and Their Functions

Rear Panel
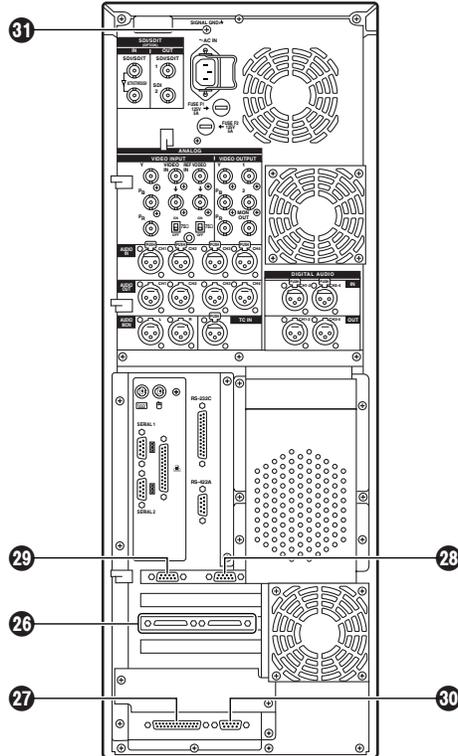
㉖ SCSI connector

Connect a SCSI hard disk drive for external expansion purposes.

(Future plans call for this connector to be used to support some options. For details, please consult with your dealer.)

㉗ RS-232C connector

Spare connector (for maintenance purposes)

㉘ SVGA I/F connector

This is connected to the SVGA monitor.

㉙ SVGA I/F connector

Spare connector

㉚ RS-422A connector [RS-422A]

Connect an external VTR (External VTR2) which can be controlled using an RS-422A interface to control its recording and playback functions.

㉛ SIGNAL GND terminal

This is connected to the signal ground terminal on the unit connected in order to reduce the noise.
It is not a safety ground.

Connections

Basic Connections
(Connecting the power cord, keyboard, mouse and system cables)

1. Connect the keyboard and mouse to their respective connectors.
2. Connect the power cord.

Main unit

Power cord

Mouse

Keyboard
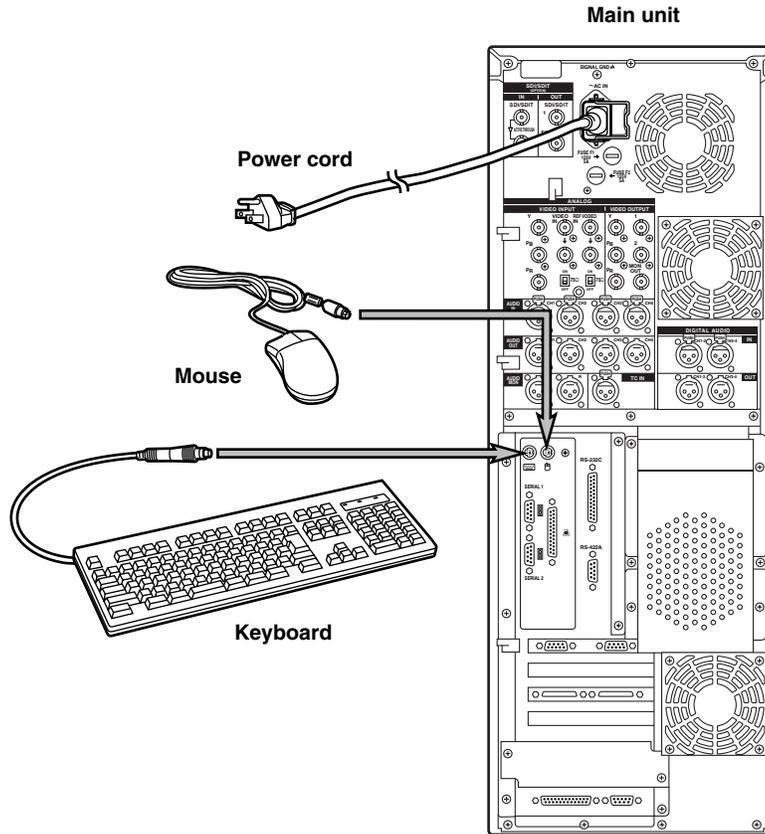
Connections

Monitor Connections

■ Connecting the personal computer monitor (S-VGA)

Connect the computer monitor to the SVGA I/F connector. Use a monitor which meets the following conditions.

Default settings
- Resolution   : 1152×870 pixels
- Refresh frequency : 75 Hz

Main unit

**Coaxial cable
(with BNC connectors)**

**Cable with 15-pin (D-SUB)
connectors**

MON OUT

**monitor (Video) for
monitoring the pictures**

S-VGA monitor for computer
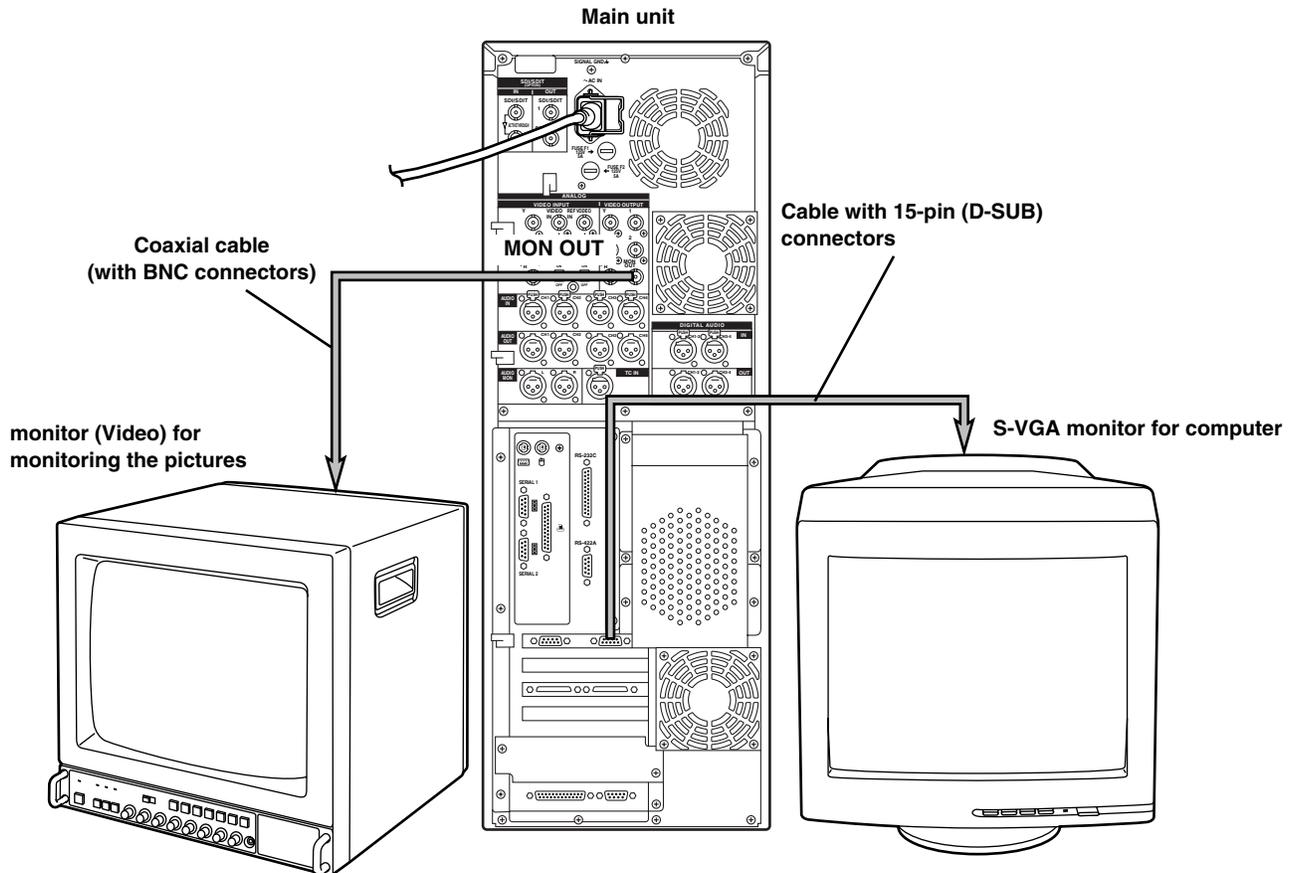
■ Connecting the monitor (Video) for monitoring the pictures

Connect the monitor (Video) for monitoring the pictures to the analog video monitor signal output (MON OUT) connector. The pictures during recording and playback can now be checked.

Connections

VTR Connections

Connect a commercial video cassette recorder/player

Coaxial cable (with BNC connectors)

COMPONENT VIDEO OUT (Y/P$_B$/P$_R$)

Main unit

REFERENCE SIGNAL

Coaxial cable (with BNC connectors)

COMPONENT VIDEO IN (Y/P$_B$/P$_R$)

AUDIO IN (CH1/CH2/CH3/CH4)

AUDIO OUT (CH1/CH2/CH3/CH4)

2-conductor shielded cable (with XLR-3-12C connectors)

RS-422A

External VTR 1

REFERENCE VIDEO THROUGH OUT

RS-422A
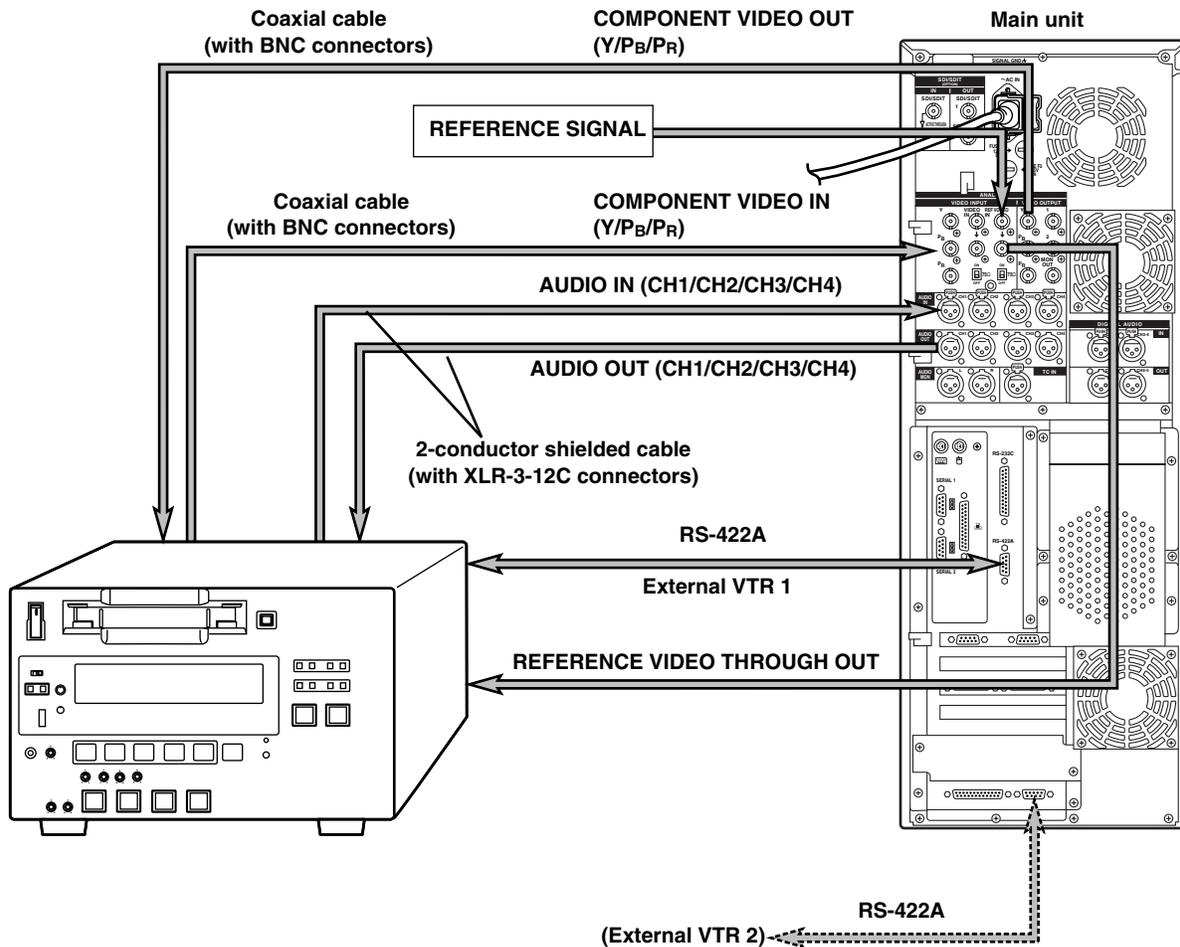
(External VTR 2)

Note:
Set the TAPE/EE selector switch of the external VTR to the TAPE position. (If it is set to EE, the picture may be unstable and audio may be transmitted.)

If the VTR is not equipped with a TAPE/EE selector switch, use one of the two connection configurations described below:
1. To use the external VTR for playback only, connect the outputs of the external VTR to the inputs of the editing system unit.
2. To use the external VTR for recording only, connect the inputs of the external VTR to the outputs of the editing system unit.

Connections

Audio Equipment Connections

Connect speakers with built-in amplifiers, a cassette deck or other audio unit.

Main unit

2-conductor shielded cable
(with XLR-3-12C connectors)

2-conductor shielded cable
(with XLR-3-12C connectors)

AUDIO IN (CH1/CH2/CH3/CH4)

AUDIO OUT
(CH1/CH2/CH3/CH4)

AUDIO MON L/R

Cassette deck

Speakers with built-in
amplifiers
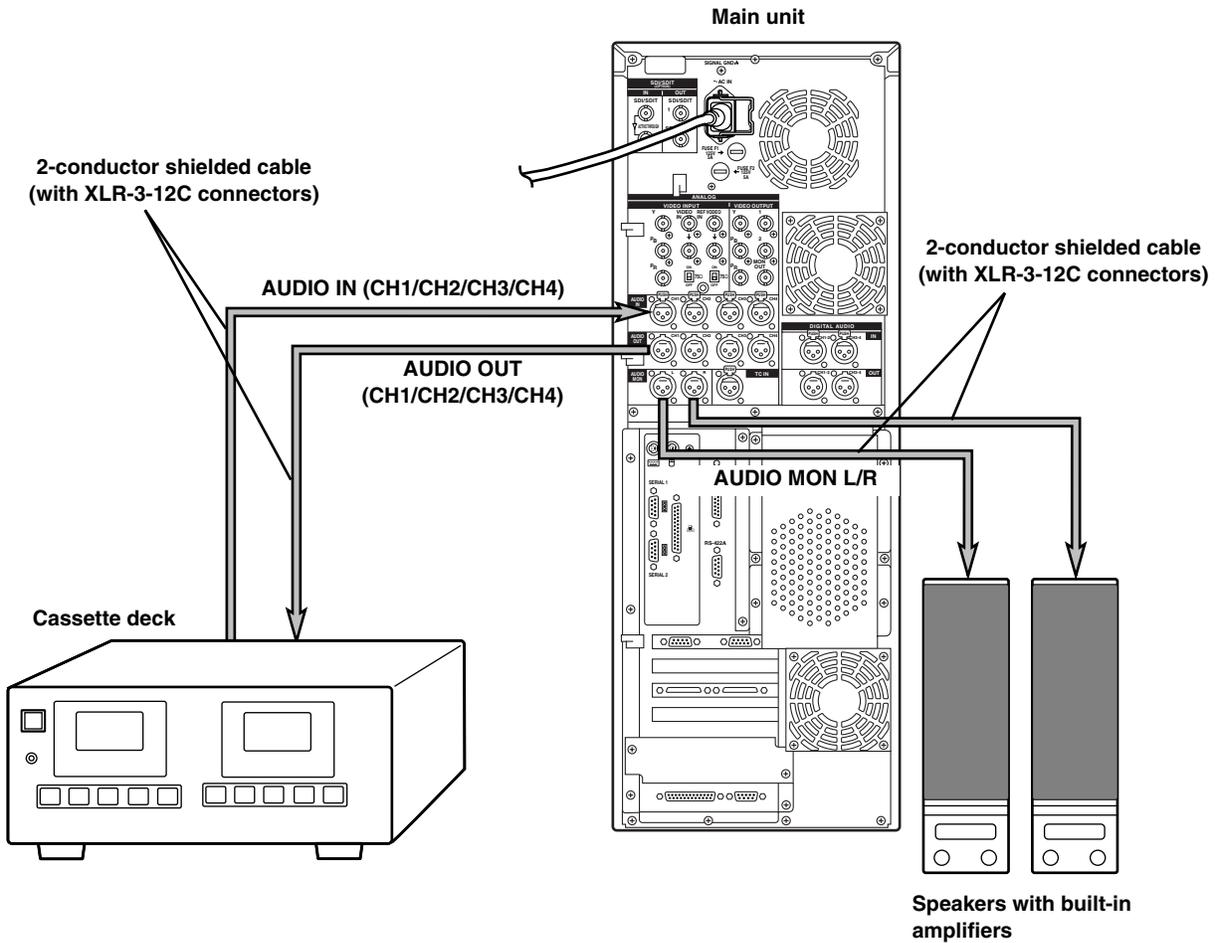
Connections

Editing Control Pad Connections

Connect the editing control pad (AJ-A77) available as an option.

Main unit

**Connecting cable (25-pin)
provided with the AJ-A77**

AJ-A77

Power cord
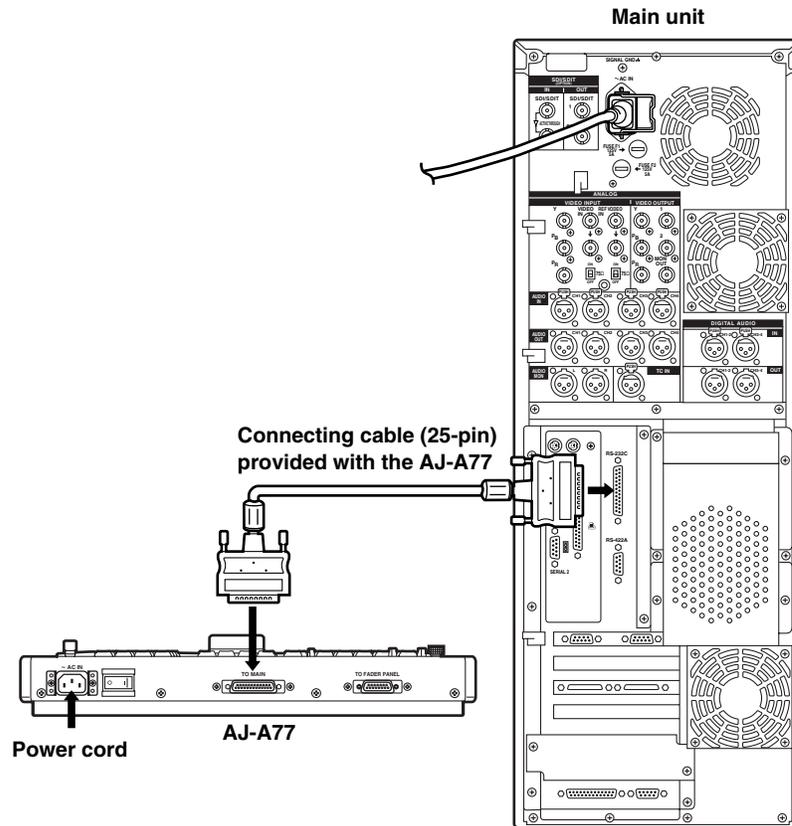
Note:
Turn on the power of the editing control pad (AJ-A77) after Windows NT has been started up in the main unit. When the control pad's power is turned on, all of its LED indicators will light up for about 1.5 seconds. The control pad can then be operated by starting up the editing application program.
For details on how to set up and use the software for the AJ-A77, refer to the "AJ-A77 Operation Reference Manual" which is provided with the Non-Linear Editing System Software Package.

System Startup and Exit

System Startup

1 Set the power switches of the peripheral units to ON.

2 Set the power switch on the main unit to ON. The HDD access display lamp on the main unit's front panel lights.

3 The system starts up, and Windows NT also starts up.

Main unit power switch

HDD access display lamp
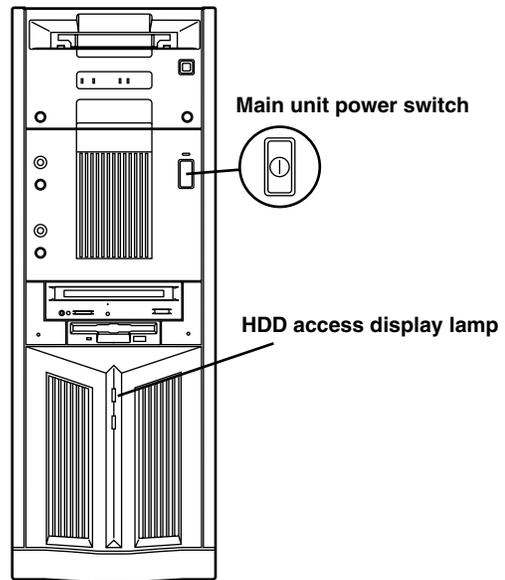
Computer monitor/Windows NT startup screen
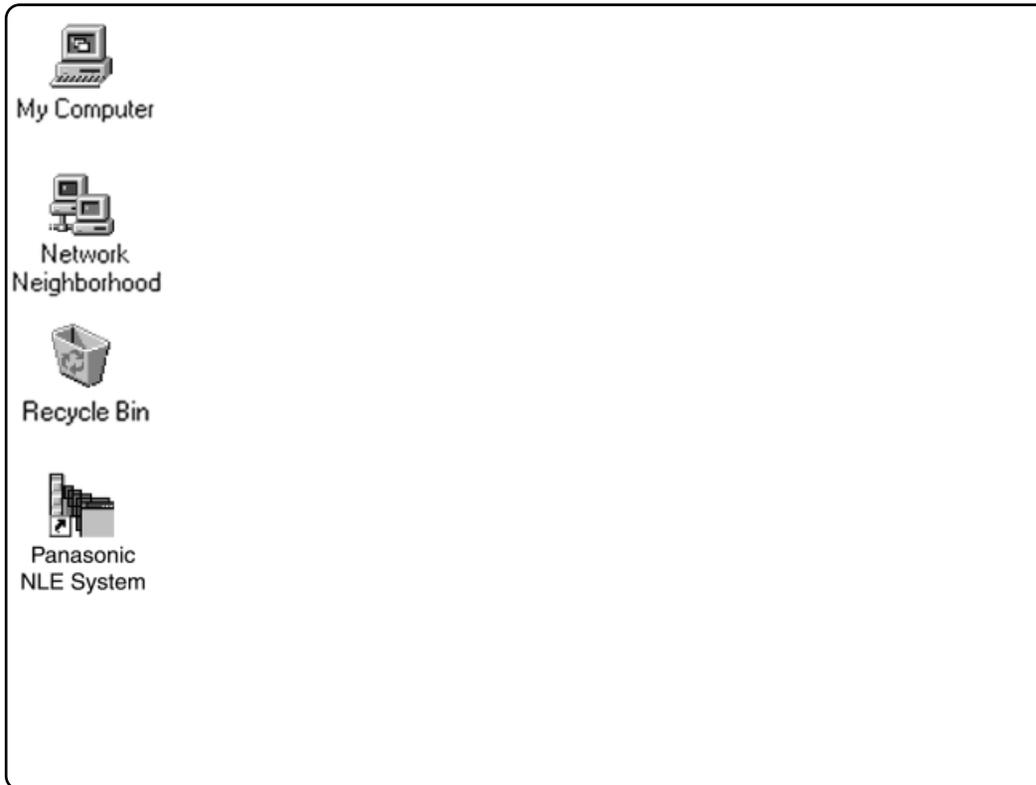
My Computer

Network Neighborhood

Recycle Bin

Panasonic NLE System

For details on video and audio uploading, editing and other operations, refer to the Reference Manual.

System Startup and Exit

System Exit

1 Click ▨ EXIT ▨ in the tool box.
A confirmation panel appears.

Computer monitor
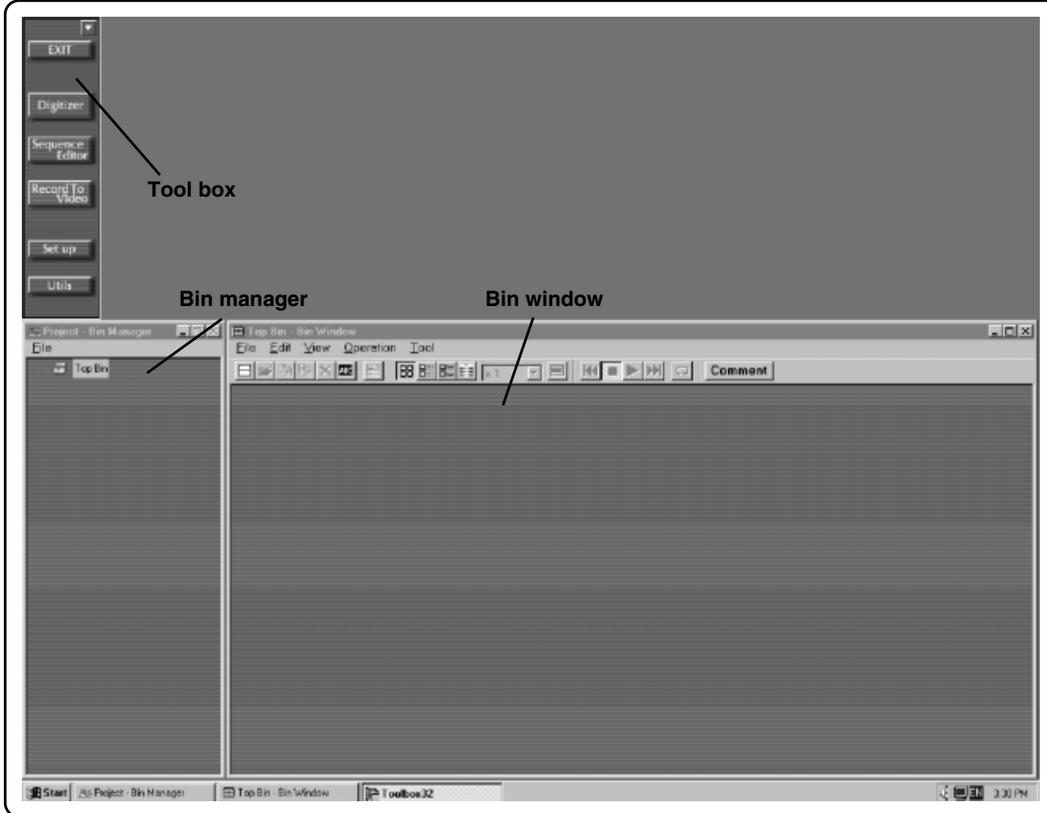
2 Click ▨ OK ▨ if you wish to exit the system.
The Windows NT screen now appears.

Confirmation panel
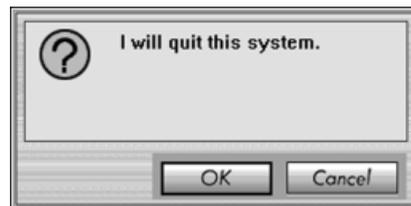
System Startup and Exit

Computer monitor/Windows NT exit screen

My Computer

Network Neighborhood

Recycle Bin

Panasonic NLE System

Programs ▶	
Documents ▶	
Settings ▶	
Find ▶	
Help	
Run...	
Shut Down...	

Windows NT Workstation

Start   6:34 PM

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3 Click Windows NT shutdown.
A confirmation panel now appears.

4 Select the exit method and click [Yes] if you wish to exit Windows NT.

5 First, wait until the "It is now safe to turn off your computer" message appears. Then set the power switches of the main unit to OFF and, finally, set the power switch on the peripheral units to OFF.

Confirmation panel

Shut Down Windows   [×]

Are you sure you want to:

⦿ Shut down the computer?
○ Restart the computer?
○ Close all programs and log on as a different user?

[Yes]   [No]   [Help]

Troubleshooting

If you believe that something is wrong with your product, take the time to check whether the product has been operated incorrectly before asking a service engineer to conduct repairs.

1. Self-diagnosis test for main unit

The main unit's basic test is automatically conducted when its power switch is set to the ON position. When this test is completed without error, a beep will sound once.
If trouble has been detected, the beep will sound two or more times. In a case like this, the product may have been installed improperly or a hardware error may be to blame.

2. Basic checks

Check out the following points.

1) Has the power cable been fully plugged into both the main unit and power outlet?

2) Have the power switches of the main unit, personal computer's monitor and monitor (Video) for monitoring the pictures all been turned on?

   ● Are the power lamps on all the units lighted?

3) Is the personal computer's monitor connected properly to the main unit?
   Connect the monitor to the SVGA-I/F connector ㉘ on page 11 of Parts and Their Functions.
   (For details on the monitor connections, refer to page 13.)

4) Have the accessories been connected properly to the rear panel connectors?
   (See page 12)

   ● Included among the accessories are the keyboard and mouse.
   ● The connectors for the keyboard and mouse have the same shape. Is the keyboard connected to the mouse connector and is the mouse connected to the keyboard connector?

5) Have the contrast and brightness of the personal computer's monitor and monitor (Video) for monitoring the pictures been adjusted?

   ● If no display appears, faulty adjustments may be to blame.

6) Has the system been started up with a floppy disk already inserted in the floppy disk drive?

   ● When the main unit's power switch is set to the ON position with a floppy disk already inserted in the floppy disk drive, the main unit will attempt to start up the system from the floppy disk drive, resulting in a startup failure.

3. Check out the Troubleshooting Chart

If the symptom persists even after the basic checks have been carried out, check the "Suggested remedial action" for the symptom concerned on the following Troubleshooting Chart.

If the trouble still persists, contact your dealer.

Troubleshooting

Troubleshooting Chart

Use the Troubleshooting Chart to remedy certain symptoms. Find the "Symptom" concerned in the left-hand column of the table, and take the "Suggested remedial action" in the right-hand column.

Always make sure that you have conducted the basic checks before consulting the Table.

Symptoms related to personal computer monitor

Symptom	Suggested remedial action
■ Nothing at all appears on the monitor screen or the "NO SIGNAL" or other warning display appears.	● First, check whether the monitor is a PC/AT compatible monitor. ● When nothing at all appears, check the supply voltage, connecting cables (for disconnections) and monitor unit settings. ● Some monitors have their own self-diagnosis functions. If you feel that the monitor unit is responsible for the trouble, refer to the manual accompanying the monitor, and check the adjustment and test methods. ● If you still cannot trace the cause of the problem, try replacing the troubled monitor with a monitor whose operation is trouble-free if such a monitor is at hand.
■ The display keeps running off the monitor screen.	● Check the monitor's resolution setting. This product's default resolution setting is 1152×870, and its default refresh rate setting is 75 Hz. These settings may not display properly on some monitors. Refer to the manual accompanying the monitor, and check its available resolution settings. ● If you still cannot trace the cause of the problem, refer to the above symptom (Nothing at all appears on the monitor screen or the "NO SIGNAL" or other warning display appears), and check whether the monitor is to blame for the problem.
■ The display on the monitor screen is subject to wave-like noise, distortion or jitter resulting in horizontal or vertical wobbling.	● If the monitor is determined by its self-diagnosis function to be trouble-free, review the monitor's installation location. Trouble may be caused in the monitor display by the adverse affects of magnetic fields generated by other devices (such as another display, fluorescent light or transformer). In a case like this, turn off the monitor, distance the monitor from the other devices, and turn the power back on. (The picture distortion, etc. may remain if the monitor is moved while the power is still supplied.)

Troubleshooting

Symptoms related to floppy disk drive

Symptom	Suggested remedial action

■ The floppy disk drive's access lamp remains lighted or the system fails to recognize the floppy disk drive.	● Has the product been started up with a floppy disk already inserted in the floppy disk drive?
	When its power switch is set to the ON position, this product checks whether a floppy disk has already been inserted in the floppy disk drive, and it then starts the product. If a floppy disk has not been inserted, startup proceeds from the built-in system hard disk; if a disk has been inserted, the product is started up from the floppy disk drive.
	For normal use, set the power switch to the ON position while there is no floppy disk in the floppy disk drive: this will ensure that the system starts up properly.
	
	● Check out the following points if this problem should occur while a floppy disk has been inserted the floppy disk drive at times other than startup.
	
	  1. Is the floppy disk damaged in any way?
	    (Check this using a trouble-free disk.)
	
	  2. Has the disk been inserted properly?
	    (Has it been inserted upside down?)
	
	  3. Does the editing application program lock up or does some other software problem occur at the same time?

Troubleshooting

Symptoms related to the keyboard or mouse

Symptom	Suggested remedial action
■ All or some of the keys on the keyboard fail to function.	● Are you using the keyboard provided with the product? Problems may occur in operation if a keyboard other than the one provided with the product is used. ● Has the keyboard been connected? ● Is the keyboard connected to the mouse connector and is the mouse connected to the keyboard connector? Provided that both the mouse and the keyboard used are the ones provided with the product, connecting them erroneously will not damage the main unit but input operations will not be acknowledged even if the connections are rectified while the power is still being supplied. In this case, the power must be turned off, the devices must be connected properly and then the system must be re-booted.
■ Desired letters or numbers cannot be input from the keyboard.	● Does the lighting of the [NumLock], [CapLock] and [ScrollLock] LEDs reflect the desired status in each case? The status of each of these LEDs is reversed every time the corresponding key is pressed. If you have not noticed that a key has been pressed in error, what you input may not be as originally desired. Take [NumLock] for instance: the 10 number keys cannot be used unless this LED is lighted.
■ The mouse fails to operate properly.	● Are you using the mouse provided with the product? Problems may occur in operation if a mouse other than the one provided with the product is used. ● Has the mouse been connected. ● Is the keyboard connected to the mouse connector and is the mouse connected to the keyboard connector? For the suggested remedial action, refer to the above symptom (All or some of the keys on the keyboard fail to function).
■ The movements of the mouse cursor are awkward.	● Are you using the mouse provided with the product? Problems may occur in operation if a mouse other than the one provided with the product is used. ● Is the mouse roller or mouse pad dirty?
■ The mouse cursor tends to disappear or its display position suddenly changes on its own.	● Are you using the mouse provided with the product? A mouse other than the one provided with the product may be more susceptible to the effects of static or other types of noise. Noise entering from the mouse or mouse connecting cable has the effect of simulating mouse input and causing malfunctioning.

Troubleshooting

Symptoms related to memory

Symptom	Suggested remedial action
■ What is displayed as the memory size differs from the size of the memory actually provided. ■ At startup, the memory check keeps running, and operation fails to advance to the next step.	● Has the memory been increased inappropriately or has the memory insertion slot been changed? When the product is shipped, two 128 MB DIMM memory boards yielding a total memory size of 256 MB are installed. "262144 KB" appears as the memory check display during startup. **<Note>** When changing the memory board, consult your dealer and use the memory board specified.
■ The main unit's internal VTR cannot be controlled from the editing application program.	● Has the system's Internal VTR been selected as the setting for the device to control the editing application program? If any other setting (such as External VTR) has been selected for this device, the internal VTR will not operate even when the on-screen control buttons are clicked. ● Has a tape been loaded into the main unit's internal VTR? The main unit's internal VTR cannot be controlled when no tape has been loaded into it or when its tape has been ejected.
■ The external VTR cannot be controlled from the editing application program.	● Has the connecting cable for controlling the external VTR been connected properly? The external VTR cannot be controlled if the RS-422A 9-pin control cable (option) has not been connected or if an error is made in the connectors which have been connected. For details on the connections, refer to the main unit's rear panel connection diagram. (See page 14) ● Has "remote control" enable been set as the external VTR setting mode? For details on the remote control mode settings, refer to the manual accompanying the external VTR. ● Has External VTR been selected as the setting for the device to control the editing application program? If Internal VTR has been selected as the setting for this device, the external VTR will not operate even when the on-screen control buttons are clicked. ● Has a tape been loaded into the external VTR? The external VTR cannot be controlled when no tape has been loaded into it or when its tape has been ejected.

Troubleshooting

Symptoms related to software, operating system or operations

Symptom	Suggested remedial action
■ A warning dialogue appears when the display changes to the Windows NT startup screen during startup.	● Were the mouse and other peripheral devices connected after the power was turned on? If this is the case, the power must be turned off, the devices must be connected properly and then the system must be re-booted. ● Was the power turned off and then immediately turned back on? Wait at least 5 seconds after turning the power off before turning it back on.
■ The application program's icon fails to appear on the Windows NT startup screen.	● Has the system been started up in the VGA mode (640×480 screen resolution) or has the screen resolution setting been changed? ● Has the display size on the personal computer's monitor been adjusted so that the whole picture fits inside the display range? The application program's icon may be located outside the screen display range. ● Have you deleted the application program's shortcut icon? If the icon has been deleted in error, check inside the [trash folder], and bring back the "Init Emv.exe" shortcut icon from it.
■ A warning dialogue appears when the application program is started.	● Is the AV hard disk recognized correctly by Windows NT? Start the disk administrator on the Windows NT management menu, and check the AV hard disk recognition status.

Troubleshooting

Other symptoms

Symptom	Suggested remedial action
■ The playback images of the tape inserted into the internal VTR are not shown on the video monitor (used to check the images) even when the on-screen PLAY button is clicked.	● Has the power of the monitor (Video) for monitoring the pictures been turned on? ● Has the monitor (Video) for monitoring the pictures cable been connected properly? ● Has the VTR tape been loaded? ● Have images been recorded properly on the VTR tape? ● Has "50Mx2, 50Mx1, 25Mx4" been selected for the device setting? ● Do the tape format and device format match?
■ Disk images cannot be uploaded.	● Is there enough free memory on the AV disk? The free memory left on the AV disk can be checked using the "Free" display in the "Digitizer" editing program. When the display reads "00:00:00:00," it means that there is no free memory left. The clips which are no longer required must be deleted to free up the amount of memory needed.
■ Noise is superimposed onto the disk images or some frames are missing.	● Has a program other than the designated editing application program been installed? The product may fail to operate properly if a program other than the designated editing application program has been installed. ● Is a program or programs other than the designated editing application program being run? ● Has the reference input been turned on or off? ● In the case of uploaded data, is there a problem with the tape which was used for uploading? Alternatively, does the VTR which was used for recording have dirty heads?
■ The preview images of the internal VTR break up frequently.	● Is there a problem with the tape which was used? ● Does the VTR have dirty heads? The preview images of the internal VTR are not played back in the complete on-track status. Some playback images may be disrupted.

Troubleshooting

Other symptoms

Symptom	Suggested remedial action
■ The personal computer's monitor screen display suddenly goes completely blue during uploading.	● Is the supply voltage within the rated range? Use of an uninterruptible regulated power system is recommended when the system is operated under adverse power supply conditions including times when extreme voltage drops may occur.
■ No downloading possible.	● Has a tape been loaded in the VTR? ● Has "SAVE" (write prohibit) been set for the tape?
■ The indicator fails to operate normally.	● Trouble may have occurred in the hardware. Turn off the power and disconnect the power plug from the power outlet.
■ When the power is turned on, the alarm continues to sound intermittently. ■ An abnormal odor or overheating is noticeable. ■ Some other symptom occurs unpredictably, and it is hard to determine the cause.	● Trouble may have occurred in the hardware. Turn off the power and disconnect the power plug from the power outlet.

Connector Signals

VIDEO INPUT

Y, P$_B$, P$_R$ (ANALOG)	: BNC×3
VIDEO IN	: BNC×2 Loop-through, 75 Ω termination switch provided
REF VIDEO IN	: BNC×2 Loop-through, 75 Ω termination switch provided

VIDEO OUTPUT

Y, P$_B$, P$_R$ (ANALOG)	: BNC×3
VIDEO OUT	: BNC×2
MONITOR OUT	: BNC×1 with superimposed data

AUDIO INPUT

AUDIO IN (ANALOG)	: XLR×4 CH1, CH2, CH3, CH4
MIC IN (front)	: M6

AUDIO OUTPUT

AUDIO OUT (DIGITAL)	: XLR×2 CH1-2, CH3-4, AES/EBU format
AUDIO OUT (ANALOG)	: XLR×4 CH1, CH2, CH3, CH4
MONITOR OUT	: XLR×2 L (CH1)/R (CH2)
HEADPHONES (front)	: M6

TIME CODE INPUT

TC IN	: XLR×1

XLR

Pin No.	Signal
1	GND
2	HOT
3	COLD

IN

PUSH

OUT
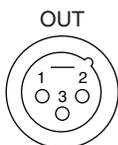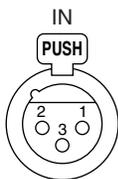
RS-232C

Pin No.	Signal
1	GND
2	TXD
3	RXD
4	RTS
5	CTS
6	DSR
7	SG
8	DCD
20	DTR
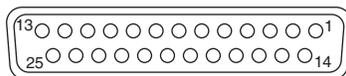
RS-422A

Pin No.	Signal
1	GND
2	RXD −
3	TXD +
4	GND
5	spare
6	GND
7	RXD +
8	TXD −
9	GND
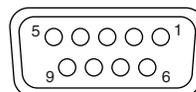
PARALLEL

Pin No.	Signal
1	− STROBE
2~9	PD0~PD7
10	− ACK
11	BUSY
12	PE
13	SELECT
14	− AUTFD
15	− ERROR
16	− PINIT
17	− SL IN
18~25	GND
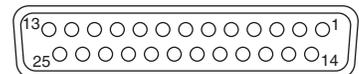
Connector Signals

RGB I/F

Pin No.	Signal
1	CRV
2	CGV
3	CBV
4	un used
5~8	GND
9	+ 5 V
10	GND
11	SDA
12	DCI Comm
13	– CHSYNC
14	– CVSYNC
15	SCL
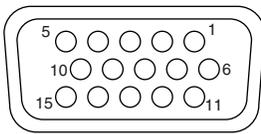
Key board/Mouse

Pin No.	Signal
1	DATA
2	un used
3	GND
4	+ 5V
5	CLOCK
6	un used
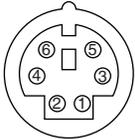
SERIAL 1, 2

Pin No.	Signal
1	CD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	CI
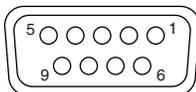
SCSI CH1/A, CH2/B

Pin No.	Signal	Pin No.	Signal
1	+ DB (12)	35	– DB (12)
2	+ DB (13)	36	– DB (13)
3	+ DB (14)	37	– DB (14)
4	+ DB (15)	38	– DB (15)
5	+ DB (P1)	39	– DB (P1)
6	+ DB (0)	40	– DB (0)
7	+ DB (1)	41	– DB (1)
8	+ DB (2)	42	– DB (2)
9	+ DB (3)	43	– DB (3)
10	+ DB (4)	44	– DB (4)
11	+ DB (5)	45	– DB (5)
12	+ DB (6)	46	– DB (6)
13	+ DB (7)	47	– DB (7)
14	+ DB (P)	48	– DB (P)
15	GND	49, 50	GND
16	DIFFSENSE	51, 52	TERM POWER
17, 18	TERM POWER	53	RESERVED
19	RESERVED	54	GND
20	GND	55	– ATN
21	+ ATN	56	GND
22	GND	57	– BSY
23	+ BSY	58	– ACK
24	+ ACK	59	– RST
25	+ RST	60	– MSG
26	+ MSG	61	– SEL
27	+ SEL	62	– C/D
28	+ C/D	63	– REQ
29	+ REQ	64	– I/O
30	+ I/O	65	– DB (8)
31	+ DB (8)	66	– DB (9)
32	+ DB (9)	67	– DB (10)
33	+ DB (10)	68	– DB (11)
34	+ DB (11)		
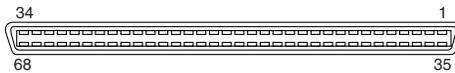
Error Items

When the WARNING lamp is lighted

Monitor display	Description	VTR operation
FAN STOP	This is displayed when the fan motor stops.	Operation continues
NO RF	This appears during playback when a blank section (tape blank) lasting for one or more seconds has been detected. Such a section is identified as a tape blank when all of the following conditions are met. ● No head outputs ● No playback data readout ● No CTL	Operation continues
SERVO NOT LOCKED	This is displayed when the servo is not locked for three or more seconds during playback, recording, or editing.	Operation continues
LOW RF	This is displayed when envelope levels approximately 1/3 that of normal levels are detected for more than one second during playback, recording, or editing.	Operation continues
HIGH ERROR RATE	This is displayed when the error rate increases and correction/interpolation is performed on either the video or audio playback signal.	Operation continues

When the AUTO OFF lamp is lighted

Monitor display	Description	VTR operation
CAP ROTATE TOO SLOW	If the capstan motor speed is abnormally low, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)
CAP TENSION ERROR	If an abnormal tension at the supply side is detected in the capstan mode, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)
DEW	If condensation is detected, the AUTO OFF lamp lights, the message display flashes, and the VTR is transferred to the eject mode. After the tape is ejected, the drum rotates in order to eliminate the condensation. When the condensation has been eliminated, the AUTO OFF lamp and message display go off, and the VTR can be used. **<Notes>** ● If condensation is detected in the eject mode, the drum starts rotating as soon as it is detected. ● If condensation is detected when the cassette has been inserted, the drum rotation is stopped, and after the tape is ejected, the drum starts rotating.	EJECT (Normal operation resumed after condensation is eliminated)
DRUM ROTA TOO FAST	If the cylinder motor speed is abnormally high, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)

Error Items

When the AUTO OFF lamp is lighted

Monitor display	Description	VTR operation
DRUM ROTA TOO SLOW	If the cylinder motor speed is abnormally low, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)
DRUM TORQUE ERROR	When it has been detected that the cylinder motor is subject to an abnormal torque, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)
E-FF	If the tape start and tape end are detected simultaneously either during or after loading, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)
FRONT LOAD ERROR	The AUTO OFF lamp lights and the message display flashes when the take-up reel has been rotating idly for a fixed period of time while the start/end processing operation during loading (half position) is being performed.	STOP (POWER OFF ➡ ON)
FRONT LOAD MOTOR	If the cassette does not move up even when 6 seconds have elapsed since the VTR was transferred to the eject mode, the AUTO OFF lamp lights, and the message display flashes. **<Note>** If the cassette does not move down inside the machine even when 6 seconds have elapsed since the cassette was inserted, the VTR is transferred to the eject mode.	STOP (POWER OFF ➡ ON)
LOADING MOTOR	When the unloading operation is not completed within 6 seconds, the AUTO OFF lamp lights, and the message display flashes. **<Note>** When the loading operation is not completed within 6 seconds, the VTR is transferred to the eject (unloading) mode.	STOP (POWER OFF ➡ ON)
REEL DIR UNMATCH	If the reel motor at the take-up side is running in the reverse direction, the AUTO OFF lamp lights and the message display flashes.	STOP (POWER OFF ➡ ON)
REEL TENSION ERROR	If an abnormal tension at the supply side is detected in the reel mode, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)
SERVO COMM ERROR	When the servo microcomputer does not follow the instructions of the system control microcomputer even when 10 seconds have elapsed, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)
SERVO CONTROL ERR	When there is no response from the servo microcomputer for 1 or more seconds, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)
SERVO ERROR	When only the servo microcomputer was reset in an instantaneous power failure, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➡ ON)

Error Items

When the AUTO OFF lamp is lighted

Monitor display	Description	VTR operation
S-FF/REW TIMEOVER	If the start/end processing operation is not completed, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➜ ON)
S REEL TOO FAST	If the supply reel motor should rotate at an abnormally fast rate, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➜ ON)
S REEL TORQUE ERR	If an abnormal torque applied to the supply reel motor is detected or if an abnormal current flowing to the current-sensing resistor is detected, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➜ ON)
T REEL TOO FAST	If the take-up reel motor should rotate at an abnormally fast rate, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➜ ON)
T REEL TORQUE ERR	If an abnormal torque applied to the take-up reel motor is detected, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➜ ON)
UNLOAD ERROR	If the tape has not been wound up during unloading, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➜ ON)
WINDUP ERROR	If, after the total tape amount has been detected, the amount of tape wound up on the take-up reel and the amount of tape supplied by the supply reel differ to an abnormal extent while the tape is traveling in the forward or reverse direction, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➜ ON)
W-UP REEL NOT ROTA	If, after the cassette has been inserted, the tape take-up reel has not wound up the tape while the total tape amount is not detected and while the tape is traveling in the forward or reverse direction, the AUTO OFF lamp lights, and the message display flashes.	STOP (POWER OFF ➜ ON)

Maintenance and Care

- In order to deliver a high performance, this unit contains some precision-made mechanisms.
  To keep the unit in perfect working order for as long as possible, remember to maintain and take care of this machine.
  Lubrication, parts replacement, electrical component adjustment and servicing all require sophisticated technology and equipment. Do not attempt to do any of these activities yourself but consult with your dealer and follow the recommendations given.
- Failure to remove dust and dirt accumulated inside the unit, replenish the lubricating oil, replace worn parts (heads, etc.) and otherwise inspect and maintain your unit will not only make it impossible to achieve good-quality pictures and proper recordings but will also shorten the unit's service life. It is recommended that maintenance and inspections be performed as soon as they are required.

Video head Cleaning

This unit has an auto head cleaning function which automatically reduces the dirt on the heads. However, to further increase the unit's reliability, it is recommended that its video heads be cleaned every day.
Use the cleaning fluid designated by Panasonic.

Condensation

Condensation occurs due to the same principle involved when droplets of water form on a window pane of a heated room. It occurs when the unit or tape is moved between places where the temperature or humidity varies greatly or when, for instance:
- It is moved to a very humid place full of steam or a room immediately after it has been heated up.
- It is suddenly moved from a cold location to a hot or humid location.

When moving the unit to locations such as these, leave it standing for about 10 minutes rather than switching on the power immediately.
If condensation has formed on or in the unit, the AUTO OFF lamp lights and the cassette tape is automatically ejected.
Keep the power supplied and simply wait until the AUTO OFF lamp goes off.

Specifications

[GENERAL]

> **Power supply:** 120V AC(±10%), 50Hz – 60 Hz
> **Rated current:** 4.0 A

Ambient operating temperature:
41 °F to 95 °F, (5 °C to 35 °C)
Ambient operating humidity:
10 % to 80 % (no condensation)
Dimensions (W) $\times$ (H) $\times$ (D):
9 $1/16''$ $\times$ 25 $1/4''$ $\times$ 21 $^{11}/_{16}''$ (230 $\times$ 641 $\times$ 550 mm)
Weight:
99.22 lb (45.1 kg)
main unit only

[PC]

CPU:
X86 compatible CPU
Operating system:
Windows NT 4.0
Memory:
256 MB
System hard disk drive:
EIDE type
AV hard disk drive:
Video: 18 GB$\times$4, Audio: 18 GB$\times$1
Recording for a nominal duration of 140 minutes is
possible. (With DVCPRO 50 format)
CD-ROM:
ATAPI specifications supported
Floppy disk drive:
3.5″

[VTR]

Recording format:
DVCPRO 50/DVCPRO format
Tape speed:
DVCPRO 50 ($\times$2 speed)
: 135.280 mm/s
DVCPRO 50 ($\times$1 speed)
: 67.640 mm/s
DVCPRO ($\times$4 speed)
: 135.280 mm/s
Recording/playback time:
92 minutes :using AJ-5P92LP tape
(With DVCPRO 50 format)

[VIDEO]

Sampling frequency:
Y: 13.5 MHz
P_B/P_R: 6.75 MHz (4:2:2)
P_B/P_R: 3.375 MHz (4:1:1)
Quantizing:
8 bits/sample
Compression:
DVCPRO 50/DVCPRO

[AUDIO]

Sampling frequency:
48 kHz
Quantizing:
16 bits/sample
Number of channels:
4 channels (internal: 8 channels)

Specifications

[INPUT/OUTPUT CONNECTORS]

■ Video input connectors

Analog composite:
BNC×2 (loop-through configuration)
Analog component (Y, P$_B$, P$_R$):
BNC×3
Analog reference video:
BNC×2 (loop-through configuration)

■ Video output connectors

Analog composite:
BNC×2
Analog component (Y, P$_B$, P$_R$):
BNC×3
Analog composite monitor:
BNC×1 (with superimposed data)

■ Audio input connectors

Analog (CH1/CH2/CH3/CH4):
XLR×4 (high impedance)
0 dBu
Mic:
M6 (variable level)

■ Audio output connectors

Analog (CH1/CH2/CH3/CH4):
XLR×4 (low impedance)
0 dBu
Digital (CH1-2/CH3-4):
XLR×2, AES/EBU format
Monitor (L/R):
XLR×2 (low impedance)
0 dBu
Headphones:
M6 (variable level), 8 Ω

■ Other connectors

Time code input:
XLR×1
External VTR control:
RS-422A (D-SUB, 9P) ×2
Error report/Editing pad connection:
RS-232C (D-SUB, 25P) ×2

Panasonic

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