T101-1209-01EN | 01

IP-9500e

User's Guide

FUJITSU

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USING IP-9500e SAFELY

Handling of This Manual

The manual contains important information regarding the safe use of IP-9500e. Read it thoroughly before operating this device. Make sure that users of the device read and understand thoroughly all safety precautions contained in the manual. Keep this manual in a safe and convenient location for quick reference.
Fujitsu makes every effort to prevent users and bystanders from injury and to prevent property damage. To ensure no harm to you and bystanders, and to prevent damage to the device itself, be sure to use IP-9500e in accordance with instructions in the manual.

The following notice is for USA users only.
IP-9500e 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.

The following notice is for Canada users only.
This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

The following notice is for EU (European Union) users only.
This is Class A product of Electromagnetic Interference (EMI) standard. In a domestic environment this product may cause radio interference in which case the user may be required to make adequate measures.

This manual includes technology controlled under the Foreign Exchange and Foreign Trade Control Law of Japan. The manual or a portion thereof must not be exported (or re-exported) without authorization from the appropriate governmental authorities in accordance with the above law.

IP-9500e is designed and manufactured for use in standard applications such as office work, personal devices, and household appliances. The product is not intended for special uses (such as nuclear-reactor control in atomic energy facilities, aeronautic and space systems, air traffic control, operation control in mass transit systems, medical devices for life support, and missile firing controls in weapons facilities) where particularly high reliability requirements exist, where the pertinent levels of safety are not guaranteed, or where a failure or operational error could threaten a life or cause physical injury (hereafter referred to as "mission-critical" use). Customers considering use of this product for mission-critical applications must have safety-assurance measures in place beforehand. Moreover, they are requested to consult our sales representative before embarking on such specialized use.

IMPORTANT NOTE TO USERS

READ THE ENTIRE MANUAL CAREFULLY BEFORE USING THIS PRODUCT. INCORRECT USE OF THE PRODUCT MAY RESULT IN INJURY OR DAMAGE TO USERS, BYSTANDERS OR PROPERTY.

While FUJITSU has sought to ensure the accuracy of all information in this manual, FUJITSU assumes no liability to any party for any damage caused by any error or omission contained in this manual, its updates or supplements, whether such errors or omissions result from negligence, accident, or any other cause. In addition, FUJITSU assumes no liability with respect to the application or use of any product or system in accordance with descriptions or instructions contained herein; including any liability for incidental or consequential damages arising therefrom.

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FUJITSU reserves the right to make changes to any products described herein without further notice and without obligation.

PREFACE

Thank you for purchasing the FC4073IP1E IP-9500e.

IP-9500e is the video transmission unit with the H.264 encoding technology which performs the high compression ratio, and transmits the HD (High Definition) video and audio signals in real time through even the optical IP network like FTTH. IP-9500e has functions that encodes HD video signals from a HD camera or similar device and distributes it across the network in real-time. It also has functions that decode the encoded HD video signal data received via the network and displays it on a monitor or other device. In addition, the optional cards add the various services.

This manual is intended for system designers and system managers who use IP-9500e. Readers are assumed to have a basic knowledge of networks and video distribution.

September 2007 1st Edition

Product operating environment

- Designed for use in real-time audio/video transmission systems and in the transmission system of monitoring systems, IP-9500e is intended for indoor use.

Note:
The contents of this manual are subject to change without notice.

ORGANIZATION AND CONTENTS OF THIS MANUAL

The manual consists of five chapters, an appendix, a glossary and an index.
Read Chapters 1 and 2 first for information on installing and connecting the device. Read Chapter 3 for operating instructions, and Chapter 4 and subsequent chapters can be read as required.

Chapter 1 Preparations

This chapter describes the checks that are required before the start of IP-9500e operation.

Chapter 2 Installation and Connection

This chapter describes conditions for IP-9500e installation and explains how to connect it to peripheral the devices.

Chapter 3 Operating Instructions

This chapter explains how to power on/off, set up and operate the device.

Chapter 4 Connection Cable Specifications

This chapter contains a classification of how work is implemented, cable connection system diagrams and cable connector details.

Chapter 5 Troubleshooting

This chapter describes actions to be taken if the device does not operate normally or if an alarm LED turns on.

Appendix

The appendix contains views of the device and its basic specifications. Installation work and on-site adjustment preparations are also covered in this section.

Glossary

The glossary defines the technical terms used in this manual.

Index

The index lists keywords and corresponding pages on which the words appear, so necessary items can be looked up immediately.

WARNING INDICATIONS

This manual uses warning indications to warn of conditions in order to prevent serious injury and property damage. Warning indications consist of warning markings of specific levels and warning messages. The warning markings are shown below along with their definitions.

⚠WARNING

⚠ WARNING indicates a situation that could lead to serious injury or loss of life if procedures are not followed correctly.

⚠CAUTION

⚠ CAUTION indicates a situation that could lead to minor or moderate injury and/or damage to the device itself if procedures are not followed correctly.

Warning indications within text

Warning markings are followed by warning messages. Every warning marking is centered on a line. Left and right indents are set for warning messages to differentiate them from ordinary text. Furthermore, the lines immediately before and after warning indications are left blank.

(Example)

⚠WARNING

Possibility of electric shock, fire and damage to the device
Always observe the precautions given below.
This indicates a hazardous situation that could lead to electric shock, fire or damage to the device.

- Always connect the power cord to a power receptacle for a standard two-prong plug with ground.
- Connect the device to the power receptacle with a capacity of 1A or more. When using a power extension cable, be sure that the total power consumption of all devices connected to the cable does not exceed the rated capacity of the cable. If a power receptacle with a low capacity or capacity below the rated value is used, the power receptacle, extension cable or power distribution wiring may overheat and start a fire.

Important warning indications are summarized below in “Safety Precautions.”

SAFETY PRECAUTIONS

List of important warnings

The table below contains a list of important warning indications.

⚠WARNING	Indicates a situation that could lead to serious injury or loss of life if procedures are not followed correctly.

Work type	Warning
Normal use	Possibility of electric shock and fire If an excessive heat, smoke, an abnormal odor or an unusual noise is coming from the device, immediately set its power switch to OFF and remove the power cord plug from the power receptacle. Then, contact a Fujitsu Service Center. This indicates a hazardous situation that could lead to fire and electric shock. Possibility of electric shock and fire If foreign matter (e.g., water, bits of metal, fluid) gets inside the device, immediately set its power switch to OFF and remove the power cord plug from the power receptacle. Then, contact a Fujitsu Service Center. This indicates a hazardous situation that could lead to fire and electric shock. Possibility of electric shock and fire If the device has been dropped or otherwise damaged, immediately set its power switch to OFF and remove the power cord plug from the power receptacle. Then, contact a Fujitsu Service Center. This indicates a hazardous situation that could lead to electric shock. Possibility of electric shock and fire To keep foreign matter out, ensure that drink containers and metal objects are not placed on or near the device. The presence of foreign matter such as water inside the device creates a hazardous situation that could lead to electric shock. Possibility of electric shock and fire Ensure that no liquid is splashed on the device, making it wet. The presence of foreign matter such as water inside the device creates a hazardous situation that could lead to fire and electric shock. Possibility of electric shock and fire Ensure that the power cord does not become damaged, and avoid tampering with it. If the power cord has a heavy object is placed on it, pulled at, bent, or becomes entangled, it could be damaged as a result. Also, the power cord could be damaged if subjected to heat, creating a hazardous situation that could lead to fire and electric shock. Possibility of electric shock Because this device contains a hazardous voltage section, never open the cover. Only a service engineer must open the cover. This warning indicates a hazardous situation that could lead to electric shock.

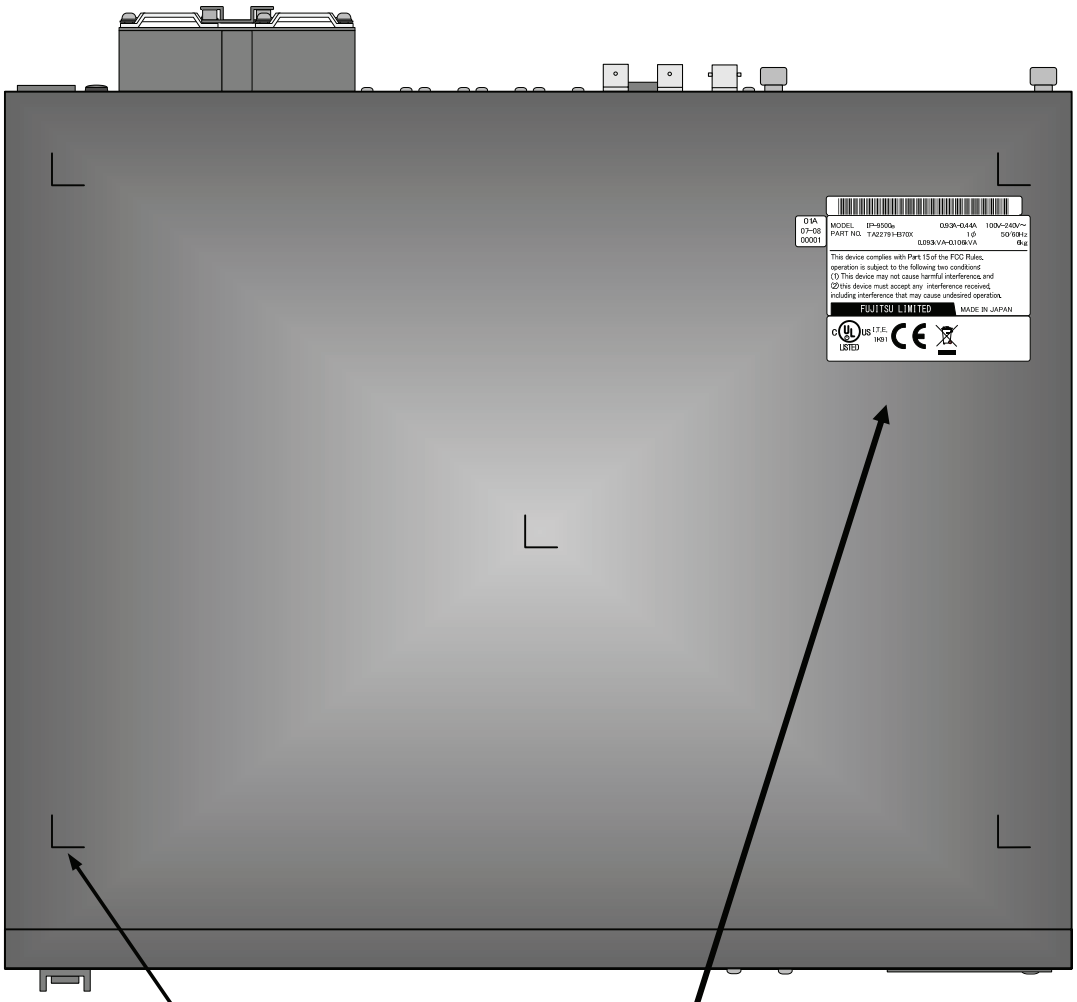
Work type	Warning
Installation	Possibility of electric shock and fire Do not install the device in the following places because using it there may cause a fire or electric shock: • Extremely dusty or dirty place • Wet or humid location • Hot location, such as a place where the device is exposed to direct sunlight or is near heating equipment • Near products (e.g., speakers) that generate a strong magnetic field • Location where the temperature is too hot or cold • In an environment with sharp temperature fluctuations • Area with poor ventilation • Near a fire Possibility of electric shock, fire, and damage to the device Always observe the precautions given below. This indicates a hazardous situation that could lead to electric shock, fire and damage to the device. • Always connect the power plug to a power receptacle for a standard two-prong plug with ground. • Connect the device to a power receptacle with a capacity of 1 A or more. When using a power extension cable, be sure that the total current consumption of all devices connected to the cable does not exceed the rated capacity of the cable. If a power receptacle with a low capacity or capacity below the rated value is used, the power receptacle, extension cable or power wiring may overheat and start a fire.

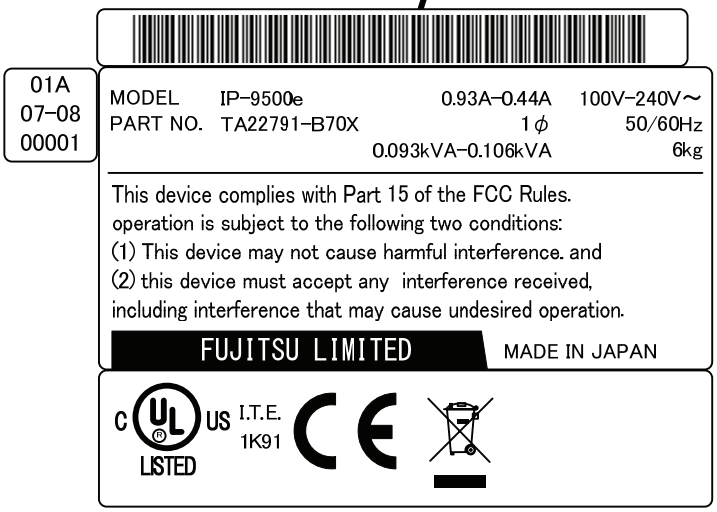
Work type	Warning
Installation and relocation	Possibility of serious injury and damage to the device Do not install the device in places where it is exposed to shock and strong vibrations, on an incline or in unstable locations. This indicates a hazardous situation that could lead to serious injury or damage to the device. Possibility of serious injury and damage to the device When relocating the device, observe the following precautions to protect against serious injury and damage to the device: • Set the power switch to OFF, and disconnect all connected cables. Take care to avoid getting your feet entangled in the cables. • To prevent serious personal injury when moving the device, take special care to pay attention to your surroundings.

LABEL

The warning label shown below is affixed to the device.

- Never remove the label.
- Be sure to check the label at the bottom of this device before coming to the power supply.
- The following label is intended for users of the devices.





PRODUCT HANDLING PRECAUTIONS

Maintenance

⚠WARNING

Do not try to repair the device yourself. Contact a Fujitsu Service Center.

⚠CAUTION

Read this manual thoroughly before attempting to operate the device.
If you have any questions, contact a Fujitsu Service Center.

If a problem occurs, contact a Fujitsu Service Center.
The Fujitsu Service Center will ask you to describe the problem, the lamp display status of alarm LEDs and other details. Check the system for this information.

Connectable devices

Only devices that conform to the device interface specifications (see Appendix 2.3, "Device Specifications") can be connected. Otherwise, if incompatible devices are connected, the result may be personal injury and property damage.

Disposal

To dispose of the device, contact a Fujitsu Service Center, or request a specialist to take care its disposal.

Modification and restoration

Do not use any device that has been modified or rebuilt with refurbished used parts. Doing so may result in personal injury and property damage.

CONTENTS

CHAPTER 1
PREPARATIONS

This chapter describes the checks that are required before the start of IP-9500e operation.

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1.1 Main Features

IP-9500e is the video transmission unit with the H.264 encoding technology which performs the high compression ratio, and transmits the HD (High Definition) video signal in real time through even the optical IP network like FTTH.

IP-9500e has an encoding function that encodes HD video signals from a HD camera or similar device and distributes it across the network in real-time. Its decoding function decodes the encoded HD video signal data received via the network and displays it on a monitor or other device.

Main Features

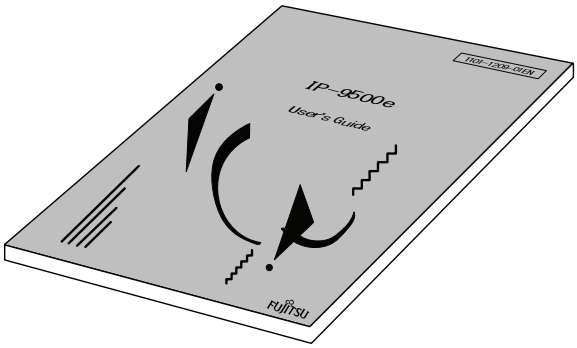
Item	Specifications		
Video input	HD-SDI	1ch	[BNC]
	HDMI	1ch	[HDMI]
Video output	HD-SDI	1ch	[BNC]
	HDMI	1ch	[HDMI]
	Analog Composite	1ch	[BNC] NTSC/PAL
Audio input	HD-SDI embedded	4ch	[BNC], 2 stereo pairs
	HDMI	2ch	[HDMI]
	Analog balanced 600Ω	2ch	[XLR 3pin], 1 stereo pair
Audio output	HD-SDI embedded	4ch	[BNC], 2 stereo pairs
	HDMI	2ch	[HDMI]
	Analog balanced 600Ω	2ch	[XLR 3pin], 1 stereo pair
Reference clock input	Analog Composite 75Ω or Component 75Ω	1ch	[BNC]
Voice input/output	Analog balanced 600Ω	1ch	[RJ25]
Network	LAN	2ch	[RJ45], 10BASE-T / 100BASE-TX / 1000BASE-T
Data input/output	RS-232C	1ch	[D-sub9-pin], male connector
CF CARD slot	CF CARD	1	Data storage application
Installation conditions	Indoor: On a desk, mounted in a rack		
Dimensions	W: 425 H: 42 D: 350 (mm) Note: Excluding protrusions (i.e., not including feet) W: 430 H: 45 D: 393 (mm) Note: Including FAN, etc		
Cooling system	Forced air cooling		
Power supply	100-240VAC		
Weight	Maximum 6kg		
Power consumption	90W (93VA) or less @ 100VAC		
Temperature Humidity	-10 to 55°C (No low temperature startup: -10 to -1°C) 20 to 90%RH (No condensing)		

1.2 Components

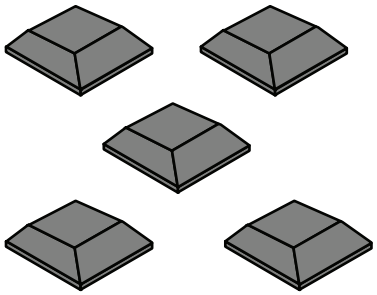
The IP-9500e product package consists of the following components.

- **IP-9500e: 1 pc (cables separate order)**

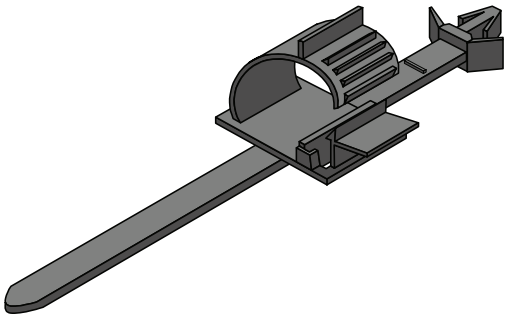
- **Instruction manual (this manual):**



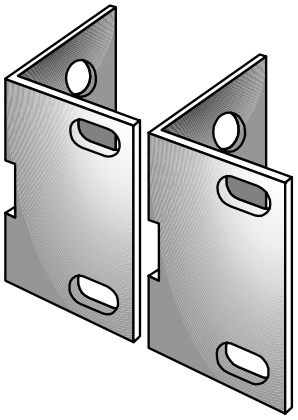
- **Feet: 5 pcs**



- **Holder of power supply cable: 1 pc**

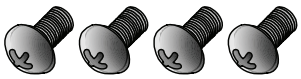


- **Mounting kit on 19” rack: 2 pcs**



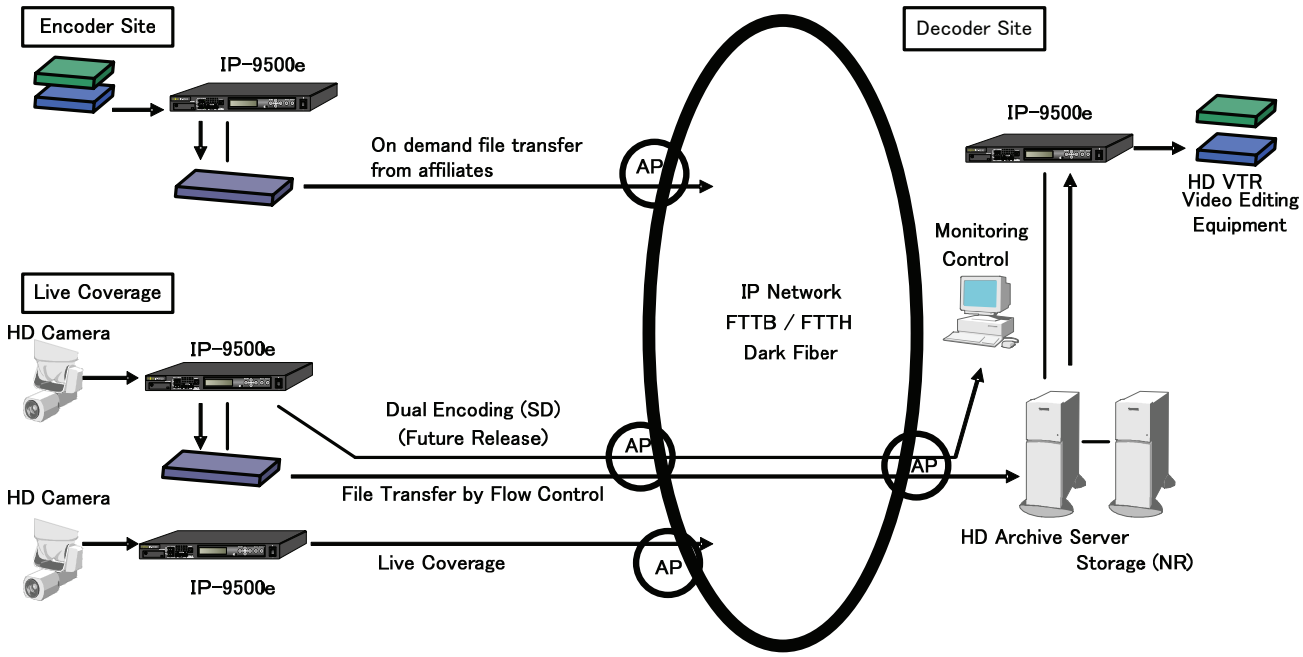
- **Pan screw (M5): 4 pcs**

(19” rack - Mounting kit)



1.3 Basic Application Examples

Examples (system configuration) of use of IP-9500e are shown below.



1.4 Part Names

This section gives the name and describes the function of individual parts of IP-9500e.

The diagrams below show the layout of parts on the outside of the device, and the table below lists the name and describes the function of individual parts. Numbers in the diagrams correspond to numbers in the table.

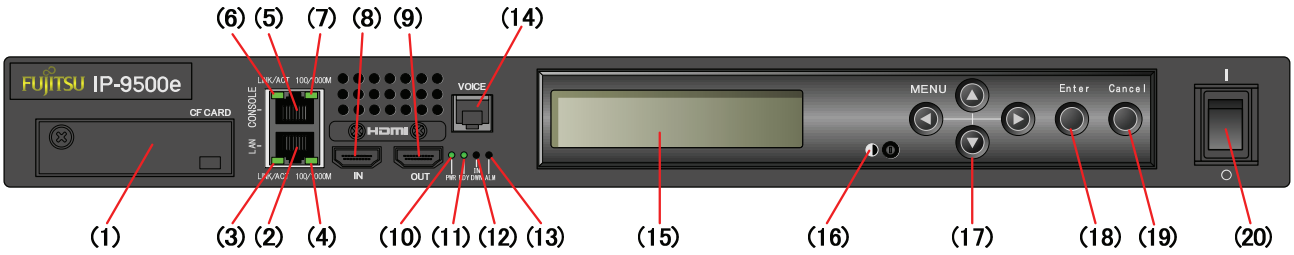


Figure Front panel

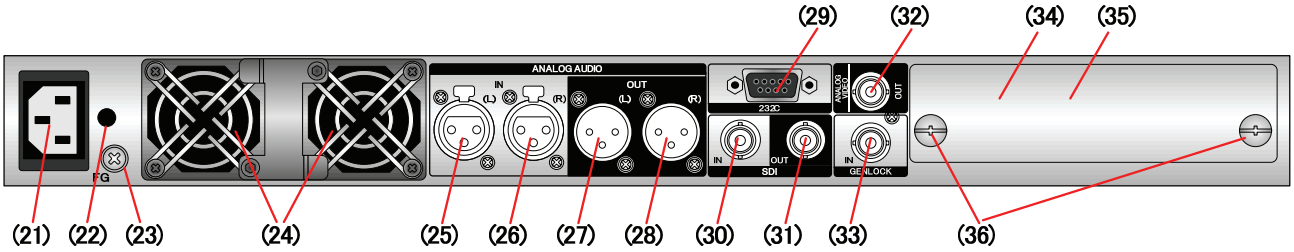


Figure Rear panel

Part names

No.	Name	Description
(1)	CF CARD slot	Slot in which a CompactFlash@ card is inserted.
(2)	LAN port (LAN)	Ethernet 10BASE-T/100BASE-TX /1000BASE-T communication port. See Section 2.4, “Connection to a Network,” for an explanation on using this port. See Section 4.2, “Cable and Connector Details,” for cable connection information.
(3)	Status LED (LINK/ACT)	Indicates the status of LAN port. For more information, see Table 5.3, “Details of LED Indications,” in Section 5.2.
(4)	Speed LED (100/1000M)	Indicates the speed of LAN port. For more information, see Table 5.3, “Details of LED Indications,” in Section 5.2.
(5)	CONSOLE port (CONSOLE)	Ethernet 10BASE-T/100BASE-TX /1000BASE-T communication port. See Section 2.4, “Connection to a Network,” for an explanation on using this port. See Section 4.2, “Cable and Connector Details,” for cable connection information.
(6)	Status LED (LINK/ACT)	Indicates the status of console port. For more information, see Table 5.3, “Details of LED Indications,” in Section 5.2.
(7)	Speed LED (100/1000M)	Indicates the speed of console port. For more information, see Table 5.3, “Details of LED Indications,” in Section 5.2.
(8)	HDMI input (HDMI IN)	Digital HDMI video input terminal. 50Ω unbalanced. See Section 2.3, “Audio and Video Device Connections,” for an explanation on using this terminal. See Section 4.2, “Cable and Connector Details,” for cable connection information.

No.	Names	Description
(9)	HDMI output (HDMI OUT)	Digital HDMI video output terminal. 50Ω unbalanced. See Section 2.3, "Audio and Video Device Connections," for an explanation on using this terminal. See Section 4.2, "Cable and Connector Details," for cable connection information.
(10)	Power LED (PWR)	Turns on when the device is powered on.
(11)	Status LED (RDY)	Turn on when IP-9500e power is on. For more information, see Table 5.3, "Details of LED Indications," in Section 5.2.
(12)	AV input status LED (INDWN)	Audio/Video input setting status indicator and LED that indicates the input off status during input setting. For more information, see Table 5.3, "Details of LED Indications," in Section 5.2.
(13)	Alarm LED (ALM)	Turns on when IP-9500e operation is abnormal. For more information, see Table 5.3, "Details of LED Indications," in Section 5.2.
(14)	Voice input/output (VOICE)	Voice communication (Intercom) port between IP-9500s. See Section 2.3, "Audio and Video Device Connections," for an explanation on using this terminal. See Section 4.2, "Cable and Connector Details," for cable connection information.
(15)	LCD panel	Uses to set IP-9500e up and displays status. 2 lines x 20 characters.
(16)	LCD brightness controller	Adjusts the brightness of LCD panel.
(17)	Direction key (△▽◁▷)	Uses to operate IP-9500e and check the status. See Section 3.4, "Device Setting and Operation (Front Panel)" for more explanation.
(18)	Enter key (Enter)	Used to finalize the displayed data on the front panel. See Section 3.4, "Device Setting and Operation (Front Panel)" for more explanation.
(19)	Cancel key (Cancel)	Used to cancel the displayed data on the front panel. See Section 3.4, "Device Setting and Operation (Front Panel)" for more explanation.
(20)	Power button	Turns the device on and off.
(21)	Power inlet connector (INPUT 100-240VAC)	Can be connected to a 100-240VAC commercial power supply by using power card with a standard two-prong plug with ground. See Section 2.2.2, "Connection to a Power Source," for an explanation on using this connector. See Section 4.2, "Cable and Connector Details," for cable connection information.
(22)	AC cord clamp hole	Hole to fix AC cord clamp. See Section 2.2.2, "Power Supply System Connection" for more information.
(23)	FG terminal (FG)	Use for an FG connection to the device. See Section 2.2.1, "Connection to ground," for an explanation on using this terminal.
(24)	FAN	Maintenance-free FAN that cools the inside of the device.
(25)	Audio input (ANALOG AUDIO IN) (L), (R)	Balanced audio input terminal. See Section 2.3, "Audio and Video Device Connections," for an explanation on using this terminal. See Section 4.2, "Cable and Connector Details," for cable connection information.
(26)		
(27)	Audio output (ANALOG AUDIO OUT) (L), (R)	Balanced audio output terminal. See Section 2.3, "Audio and Video Device Connections," for an explanation on using this terminal. See Section 4.2, "Cable and Connector Details," for cable connection information.
(28)		
(29)	RS-232C port (232C)	RS-232C data communication port. See Section 2.5, "Connection to an RS-232C Device," for an explanation on using this pin. See Section 4.2, "Cable and Connector Details," for cable connection information.

No.	Names	Description
(30)	SDI video input (SDI IN)	Digital HD-SDI video input terminal. 75Ω unbalanced. See Section 2.3, “Audio and Video Device Connections,” for an explanation on using this terminal. See Section 4.2, “Cable and Connector Details,” for cable connection information.
(31)	SDI video output (SDI OUT)	Digital HD-SDI video output terminal. 75Ω unbalanced. See Section 2.3, “Audio and Video Device Connections,” for an explanation on using this terminal. See Section 4.2, “Cable and Connector Details,” for cable connection information.
(32)	Video output (ANALOG VIDEO OUT)	Analog video output terminal. 75Ω unbalanced. See section 2.3, “Audio and Video Device Connections,” for an explanation on using this terminal. See Section 4.2, “Cable and Connector Details,” for cable connection information.
(33)	Reference clock signal input (GENLOCK IN)	External clock signal input terminal. 75Ω unbalanced. See Section 2.3, “Audio and Video Device Connections,” for an explanation on using this terminal. See Section 4.2, “Cable and Connector Details,” for cable connection information.
(34)	Optional card slot	Optional card slot.
(35)	Blank panel	Remove when the optional card is equipped. See Section 2.7, “Optional card insertion” for removing or insertion of the optional card.
(36)	Screws	Screws to fix the optional card. See Section 2.8, “Optional card insertion” for removing or insertion of the optional card.

CHAPTER 2

INSTALLATION AND CONNECTION

This chapter describes conditions for IP-9500e installation and explains how to connect it to peripheral devices.

⚠ CAUTION

Possibility of serious injury

The power cord and other cables connected to IP-9500e may become entangled with someone walking close to them, possibly leading to serious injury and property damage. Clamp the cables to the rack or floor.

2.1 Installation Conditions

This section describes the installation environment, air flow into and out from the device, and the requirement for open space around the device.

2.1.1 Environment conditions

Ensure that installation site conditions do not exceed 55°C. Under this condition, IP-9500e can operate in the multiple pile. Otherwise, the operating environment may damage and shorten the product life of IP-9500e noticeably.

2.1.2 Installation environment

1. 19” rack mounting

Using the mounting kit, it is possible to mount on 19” rack complied EAI standard (1U size).

⚠ CAUTION

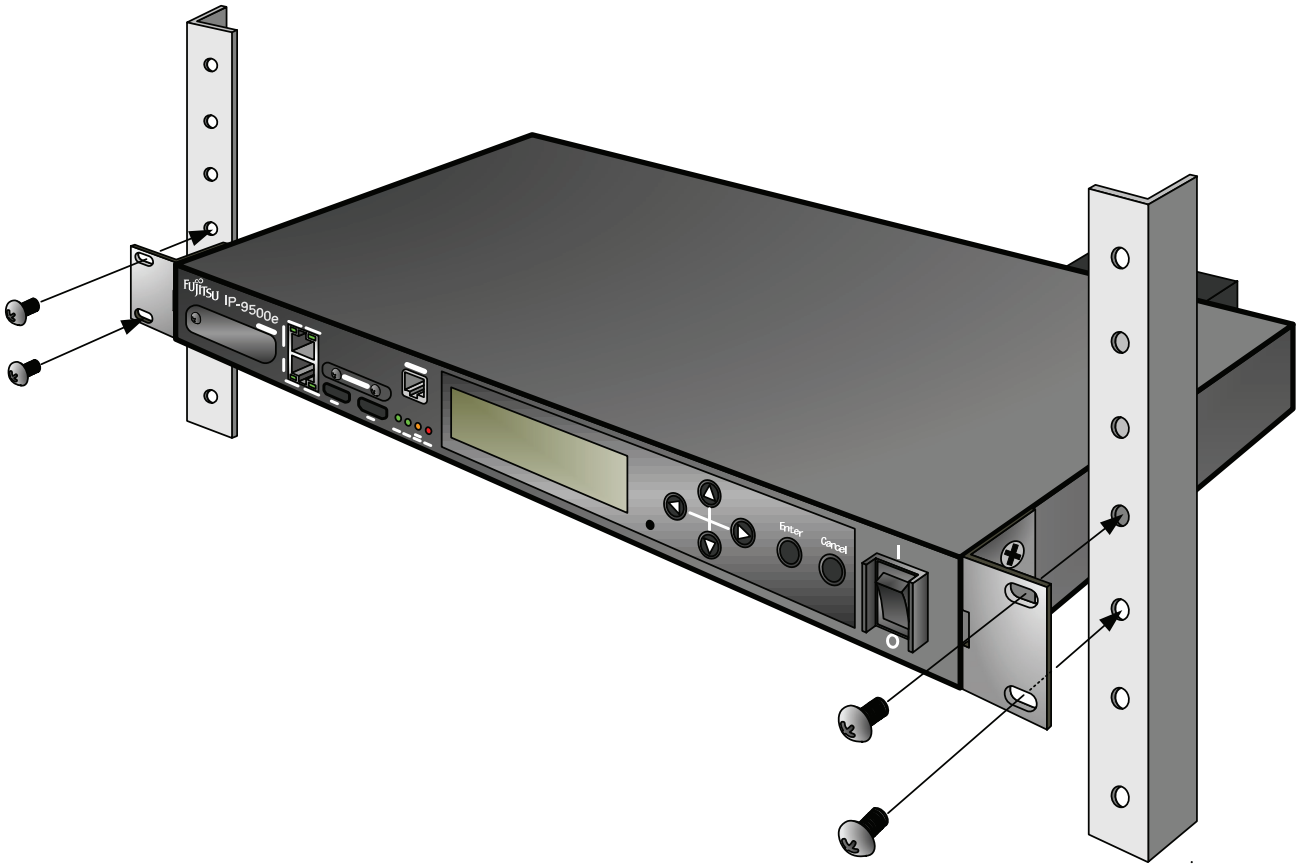
The mounting kit attached must be used to install. When the installation is unstable, the serious accident may be caused.

(1) Check all cables disconnected.

(2) Screw out six pan screws (three at right side and three at left side) to install the rack mounting kit.

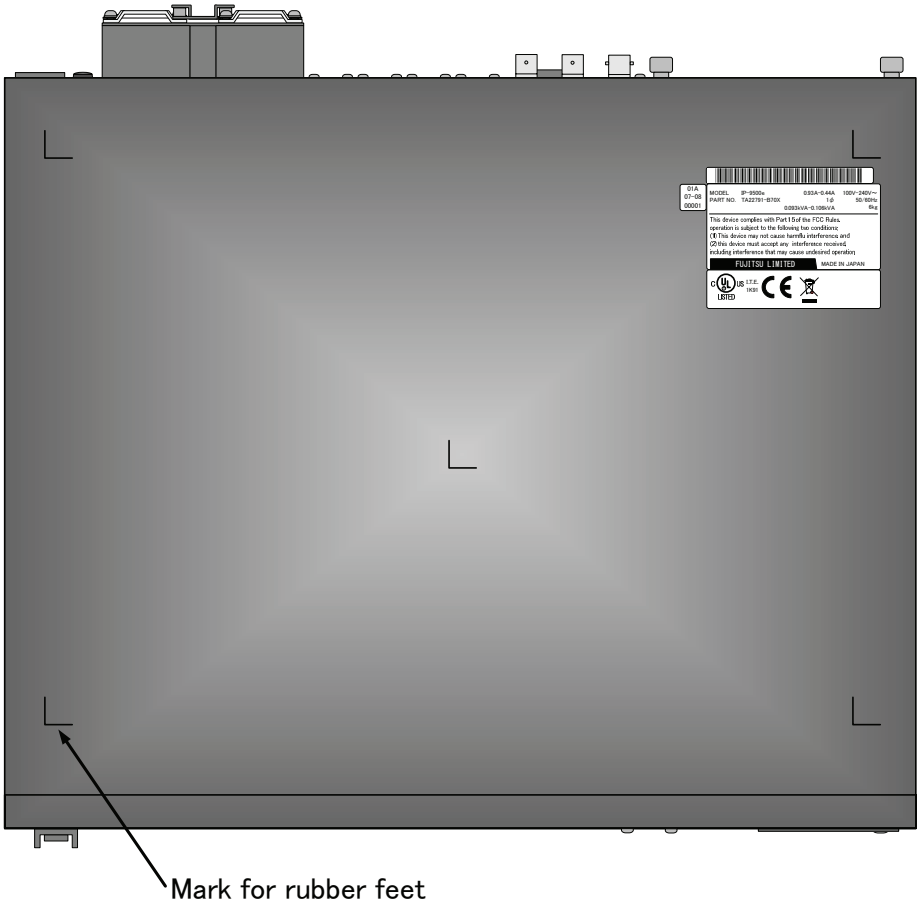
(3) Install the rack mounting kit on 19” rack using six same screws.

(4) Install IP-9500e on 19” rack using the four pan screws (M5) attached.



2. Desk-top installation

Install IP-9500e referring Section 2.1.3, "Air flow into and out from the device" and Section 2.1.4, "Open space required around the device" after sticking the five rubber feet (Rack mounting kit is not required).



⚠ CAUTION

Safety installation instruction:

1) Multiple pile

The maximum 5 IP-9500e can be piled under the environment condition specified. Please install considering the maintenance-ability. When IP-9500e are piled, please fix them to avoid to fall (Do not cover the air intake.). See Section 2.1.4, "Open space required around the device" for the installation space.

2) When IP-9500e is installed in a closed or multi-unit rack, the operating ambient temperature inside of the rack environment may be greater than room ambient. Therefore, the consideration should be given to operate in the environment compatible with the specifications in Appendix 2.2 "Environment Specifications."

- **The consideration for adjustment of the air condition like air circulation should be given to prevent the internal rack ambient from exceeding the maximum operating ambient temperature of IP-9550e.**
- **The maximum operating ambient temperature for IP-9500e: 55**°C.

3) **The installation of IP-9500e in a rack should be such that the amount of airflow required for safe operation of IP-9500e is not compromised.**
   - **IP-9500e has ventilation opening at the left and rear side.**
   - **Do not cover or close these ventilation openings to prevent overheating.**

4) **The mounting of IP-9500e in a rack should be such that a hazardous condition in not archived due to uneven mechanical loading. To keep stability of the entire rack, please fix the rack to wall or floor by suitable means.**
   - **Be careful about injury during installation of IP-9500e into rack.**
   - **Do not install IP-9500e into your rack where IP-9500e mau make the entire rack unstable.**
   - **The weight of IP-9500e with the maximum configuration: 6 kg**

5) **If IP-9500e is supplied from the power strip or the service outlet of other units, it may overload the power supply cord of the power strip or other units.**
   - **Confirm that the current rating of the power strip or the service outlet exceeds the combined ratings of all equipment is supplying.**
   - **The electrical rating of IP-9500e: Rated 100-240 VAC, 0.93-0.44 A, 50/60 Hz, 1 phase.**

6) **The reliable earthing of the rack-mounted equipment must be maintained. The particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of the power strips or the power distribution unit).**
   Note: The high leakage current may flow through the power strip earthing conductor if all power supply cords of IP-9500e are connected to one power strip. The earth connection is essential before connecting supply. If the power strip is not directly connected to the branch circuit, the power strip which has the industrial type attachment plug should be used.

7) **For installing, IP-9500e shall be installed near the wall-outlet and the wall-outlet shall be easily accessible.**

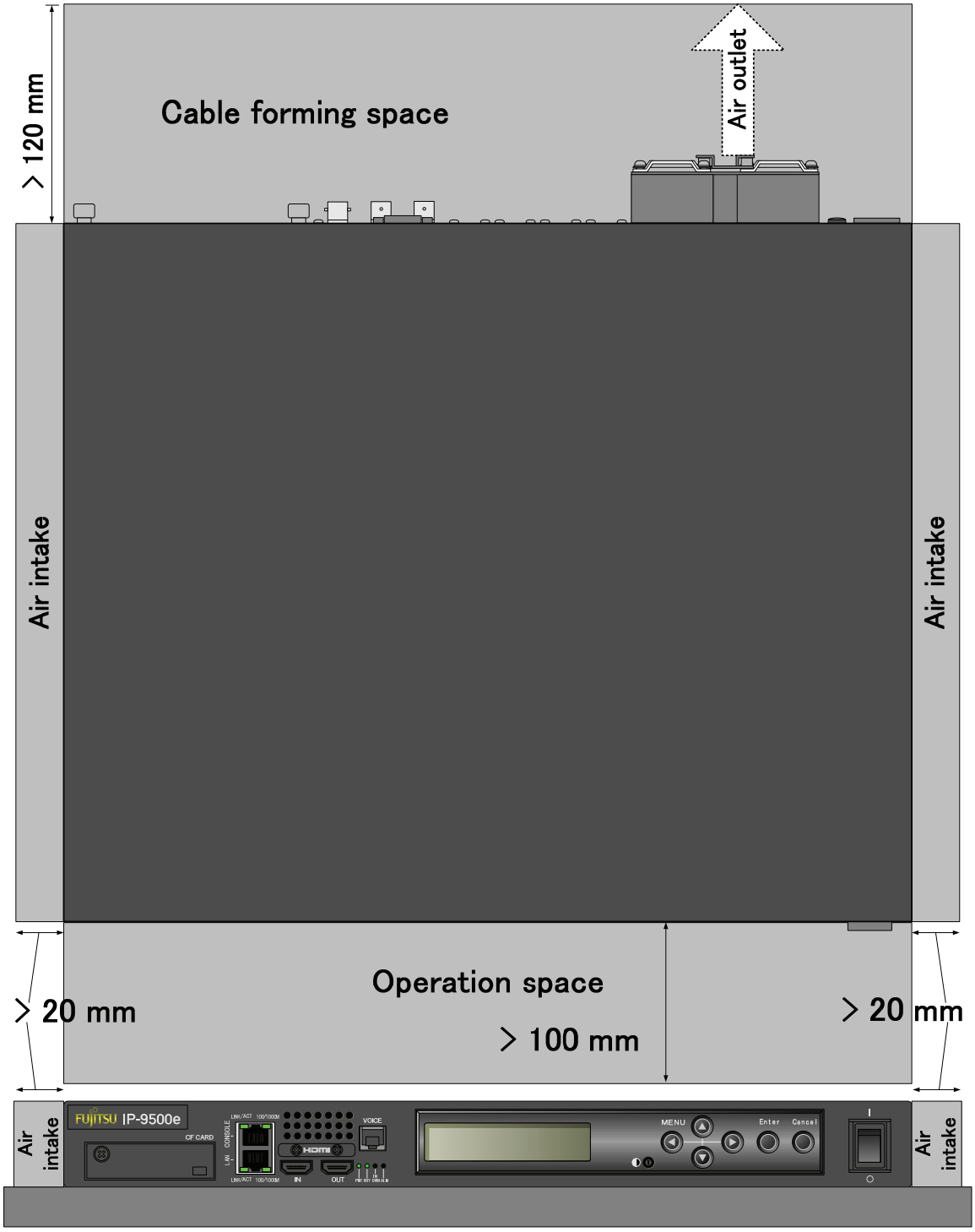
2.1.3 Air flow into and out from the device

IP-9500e is forced air cooled. Be sure not to block the air intake/exhaust vents. Provide an adequate amount of space around the vents.

2.1.4 Open space required around the device

Provide the indicated (parts with hatched area) below, cable forming space, operation space and air intake/exhaust.

For the information of maintenance space, see Section 5.3.1, “Maintenance space.”



2.2 Power Supply System Connections

This section explains ground and power-source connections.

2.2.1 Connection to ground

Use a power cord with the standard two-prong plug with ground wire for FG and external ground connections.

When not using a power cord with a ground wire, connect the FG terminal to an external ground. The FG terminal has an M4 screw that comes with a plastic washer. To connect the FG wire, remove this washer.

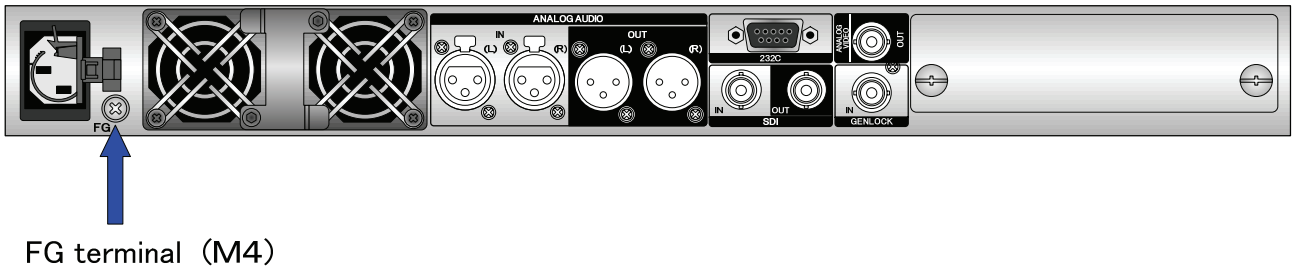


Figure Connection to ground

2.2.2 Connection to power source

IP-9500e operation requires a power supply of 100-240 VAC. Insert the power cord with the standard two-prong plug with ground into the inlet connector.

The power cord is not supplied with the device. Procure it separately.

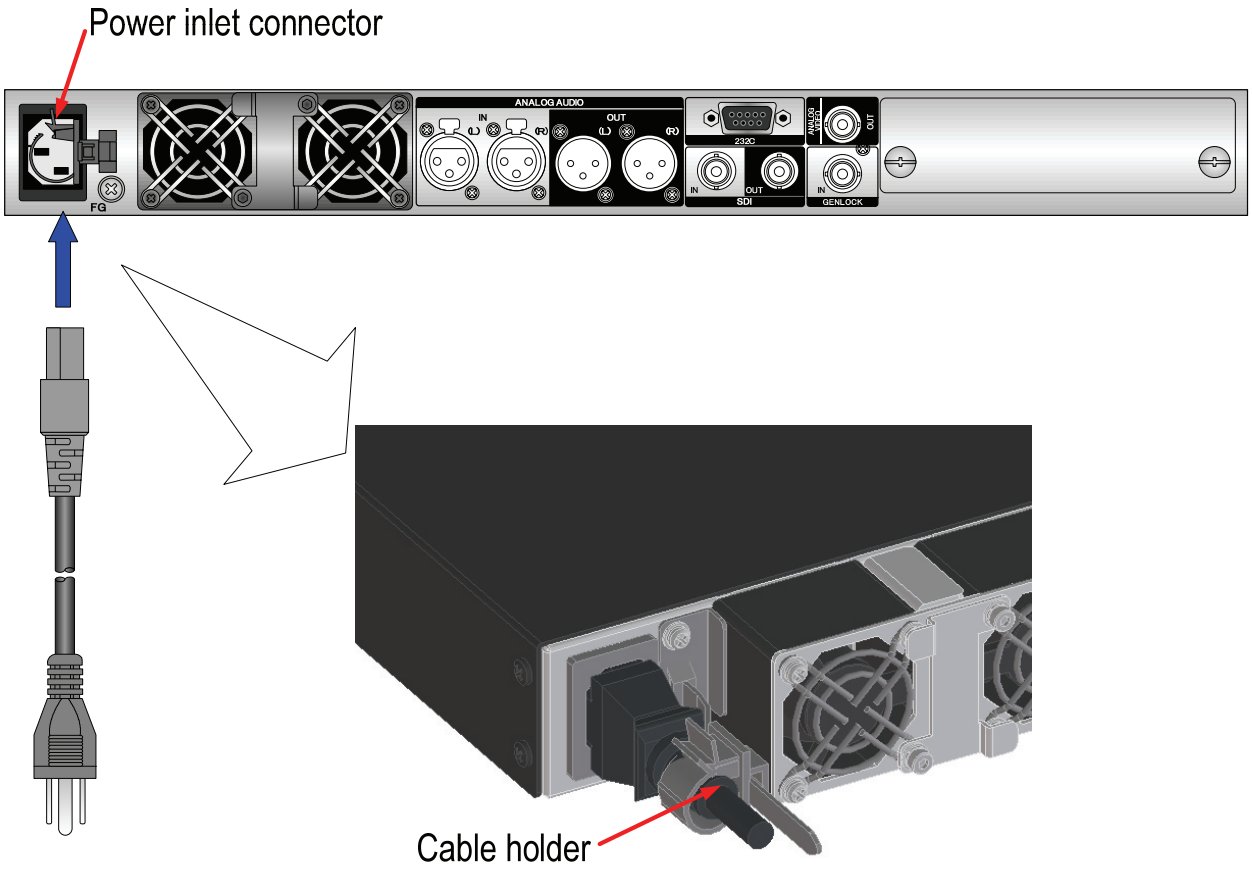


Figure Power cord connection

AC cord clamp

Insert the AC cord clamp into the AC cord clamp hole and fix the power cord as shown in figure above. When remove the AC cord clamp, screw out and remove it with the mounting kit.

USABLE DETACHABLE POWER SUPPLY CORD SET

MODEL	Input	Connector	Cord	Attachment Plug cap
North America <*1> <*2>	100-120V	IEC C-13 Rated 13A, 125V UL, CSA Approved	Type SJT, No.16 AWG Min. 3-Conductors (Single phase;2-current carrying conductors & ground) UL, CSA Approved	NEMA (5-15P) parallel blade Rated 13A, 125V UL, CSA Approved
	200-240V	IEC C-13 Rated 15A, 250V UL, CSA Approved	Type SJT, No.14 AWG Min. 3-Conductors (Single phase; 2-current carrying conductors & ground) UL, CSA Approved	NEMA (6-15P) tandem blade Rated 15 A, 250 V UL, CSA Approved
Europe <*2>	100-240V	IEC C-13 Rated 10A, 250V <*1>	CENELEC OC 3X1.0 square mm<*1> <HAR>	Rated 10 A, 250 V <*1>
Aus-tralia	100-240V	IEC C-13 Rated 10A, 250V	Cable: AS OD 3 X1.0 square mm e.g.	Rated 10 A, 250 V
U.K <*2>	100-240V	IEC C-13 Rated 10A, 250V	BS OC 3 X1.00 square mm	Rated 10 A. 250 V or
Japan	100V	IEC C-13 Rated 13A, 125V	Type HVCTF cross section area 1.25 square mm 3-Conductors (Single phase;2-current carrying conductors & ground)	NEMA (5-15P) parallel blade Rated 13 A, 125 V
		METI Approved or <PSE>	METI Approved or <PSE>	METI Approved or <PSE>
Korea	220V (Class I)	IEC 60320-1 (IEC C-13) Rated 12A, 250V or	Comply with KSC3304. Type VCTF cross section area 1.25 (0.50 or 1.00 or 2.00) square mm 3-Conductors (Single phase;2-current carrying conductors & ground) or	Comply with KSC8305. Rated 12A, 250V or
	220V (Class II)	IEC 60320-1 (IEC C-13) Rated 3A, 250V or	Comply with KSC3304. Type VCTFK cross section area 1.25 (0.50 or 0.75 or 1.00 or 2.00) square mm 2-Conductors or	Comply with KSC8305. Rated 12A, 250V or

Note: *1. Be sure that the detachable proper Supply cord has the approval of the appropriate safety agencies of the country where the equipment will be used.
*2. Cable length of above Power Supply cord shall be shorter than 4.5 m.

CERTIFICATION MARKING

Country	Agency	Certification Mark	Country	Agency	Certification Mark
Austria	OVE		Italy	IMQ	
Belgium	CEBEC		Norway	NEMKO	
Denmark	DEMKO		Spain	AEE	
Finland	FEI		Sweden	SEMKO	
France	UTE		Switzerland	SEV	
Germany	VDE				

⚠ WARNING

Possibility of electric shock, fire, and damage to the device

Always observe the precautions given below.

This indicates a hazardous situation that could lead to electric shock, fire, or damage to the device.

Always connect the power cord to a power receptacle for the standard two-prong plug with ground.

Use a power receptacle with a capacity of 1A or more. When using a power extension cable, be sure that the total power consumption of all devices connected to the cable does not exceed the rated capacity of the cable. If the power receptacle capacity is low, or power consumption exceeds the rated value, the power cord or power wiring may overheat and start a fire.

⚠ CAUTION

Possibility of damage to the device

Do not turn on the device until connection of peripheral devices is completed. Otherwise, the device may be damaged.

100-240 VAC

Using a power cord with the standard two-prong plug with ground, connect IP-9500e to 100-240 VAC outlet.

Provide a power receptacle for the standard two-prong plug with ground.

2.3 Audio and Video Device Connections

2.3.1 Encoder

For audio and video encoding, there are two digital video, one digital audio and two analog audio terminals to connect audio and video output device.

Digital video input

Connect to SDI IN terminal on the rear panel of IP-9500e using coaxial cable with BNC connector and input HD-SDI signal. The signal is terminated in 75Ω. The HD signal input is output from SDI OUT and ANALOG VIDEO OUT (NTSC after downconverted) terminals to monitor simultaneously.

Digital and analog audio input

Connect to ANALOG AUDIO IN (L), (R) on the rear panel of IP-9500e using the cable with XLR connector. The impedance is 600Ω balanced. Inputting a signal outside of the rated value will cause a problem in terms of audio level and noise. To input mono signal, connect the audio device to ANALOG AUDIO IN (L) terminal. The HD-SDI embedded audio is supported for the digital audio too.

The figure below shows how to connect the digital and analog audio/video cables. See the next page for the connection of HDMI and voice communication cables.

NOTE: For details about connectors and cables, see Section 4.2, "Cable and Connector Details." For electrical specifications, see Appendix 2.3, "Function Specifications."

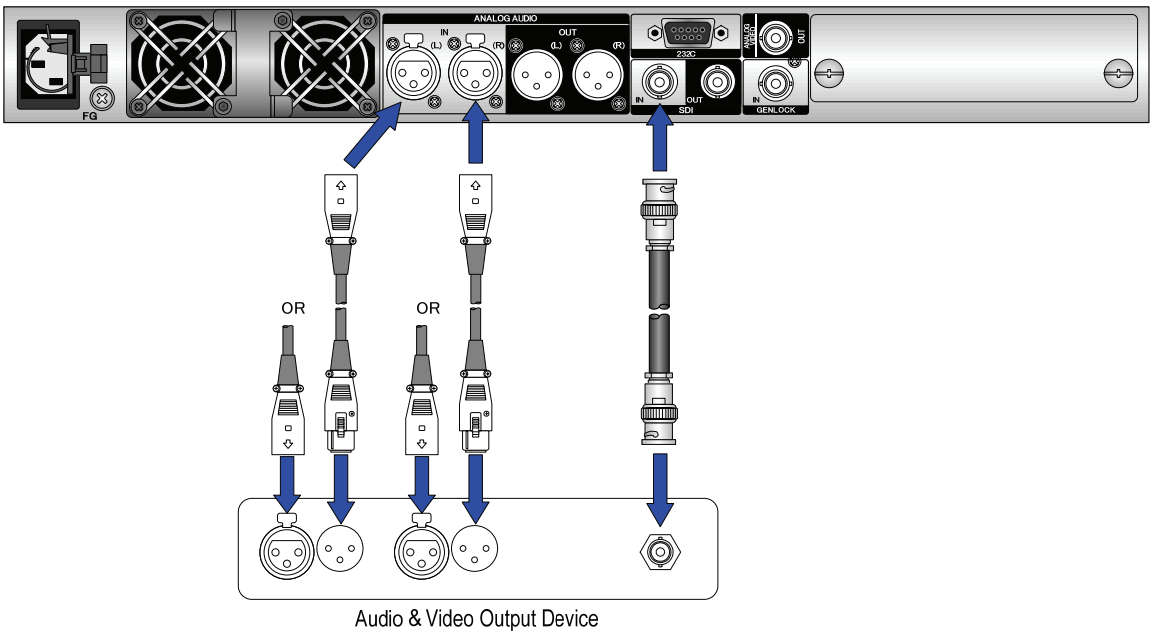


Figure Audio and video output device connections

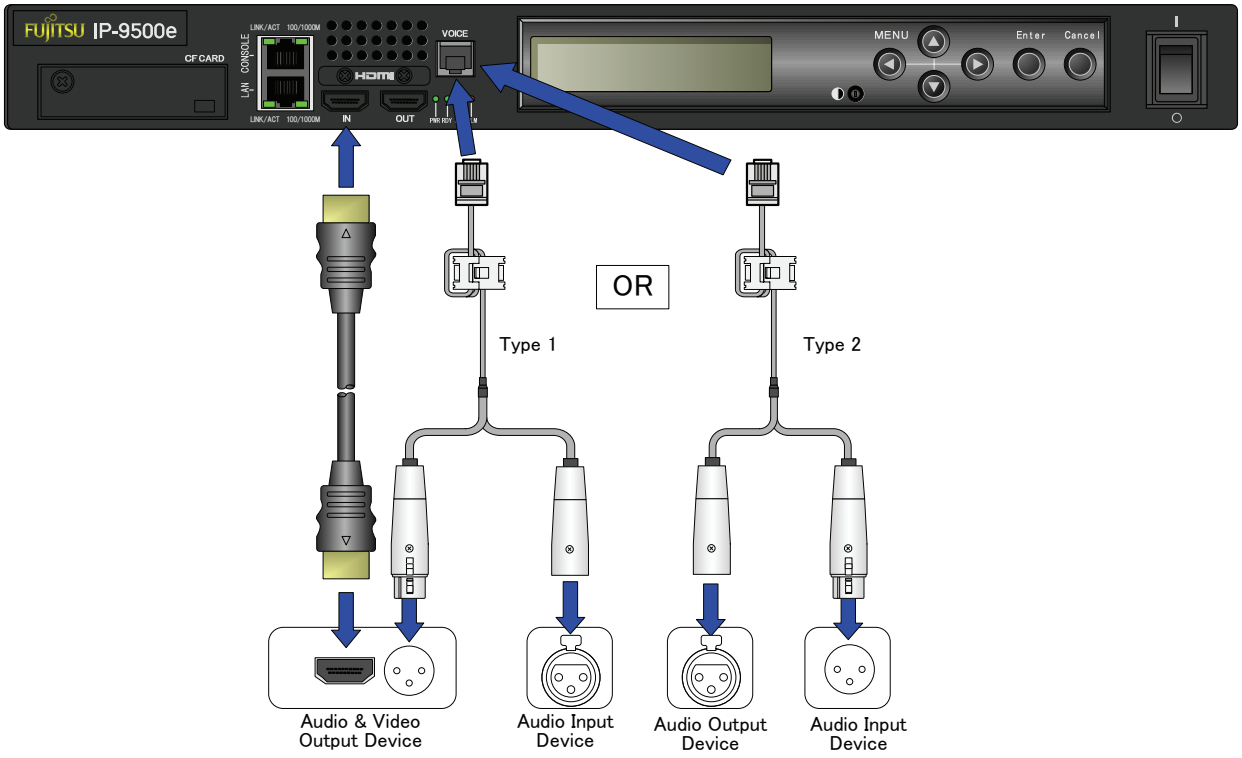
For HDMI input, there is one HDMI terminal to connect the video and audio output device.

Connect to HDMI IN on the front panel of IP-9500e using the HDMI cable. The signal is terminated in 50Ω.

For voice communication between IP-9500e, there is one voice terminal to connect the voice communication device (e.g., intercom).

Connect to VOICE terminal on the front panel of IP-9500e using the dedicated adaptor cable with the bidirectional voice communication terminal (RJ25 – XLR). The impedance is terminated in 600Ω. There are two types of the cables. Procure the appropriate type separately because this cable is not attached to IP-9500e. For more information, see Section 4.2, "Cable and Connector Details."

NOTE: For details of the connector and cable, see Section 4.2, "Cable and Connector Details." For the electric specifications, see Appendix 2.3, Function Specifications."



2.3.2 Decoder

For audio and video decoding, there are two digital vide, one analog video, one digital audio and two analog audio terminals to connect and audio and video input device.

Digital video output

Connect to SDI OUT on the rear panel of IP-9500e using coaxial cable with BNC connector and output HD-SDI signal.

Analog video output

Connect to ANALOG VIDEO OUT on the rear panel of IP-9500e using coaxial cable with BNC connector and output NTSC or PAL signal.

Digital audio output

The HD-SDI embedded audio is supported.

Analog audio output

Connect to ANALOG AUDIO OUT (L), (R) on the rear panel of IP-9500e using the cable with XLR connector. The impedance is 600Ω balanced. Inputting a signal outside the rated value will cause a problem in terms of audio level and noise. To output mono signals, connect the audio device to the AUDIO OUT (L) terminal.

In addition, the synchronization input is available. Connect to GENLOCK IN on the rear panel of IP-9500e using the coaxial cable with BNC connector. The signal is terminated in 75Ω.

The figure below shows how to connect the digital and analog audio/video and the reference clock cables. See the next page for the connection of HDMI and voice communication cables.

NOTE: For details about connectors and cables, see Section 4.2, “Cable and Connector Details.” For electrical specifications, see Appendix 2.3, “Function Specifications.”

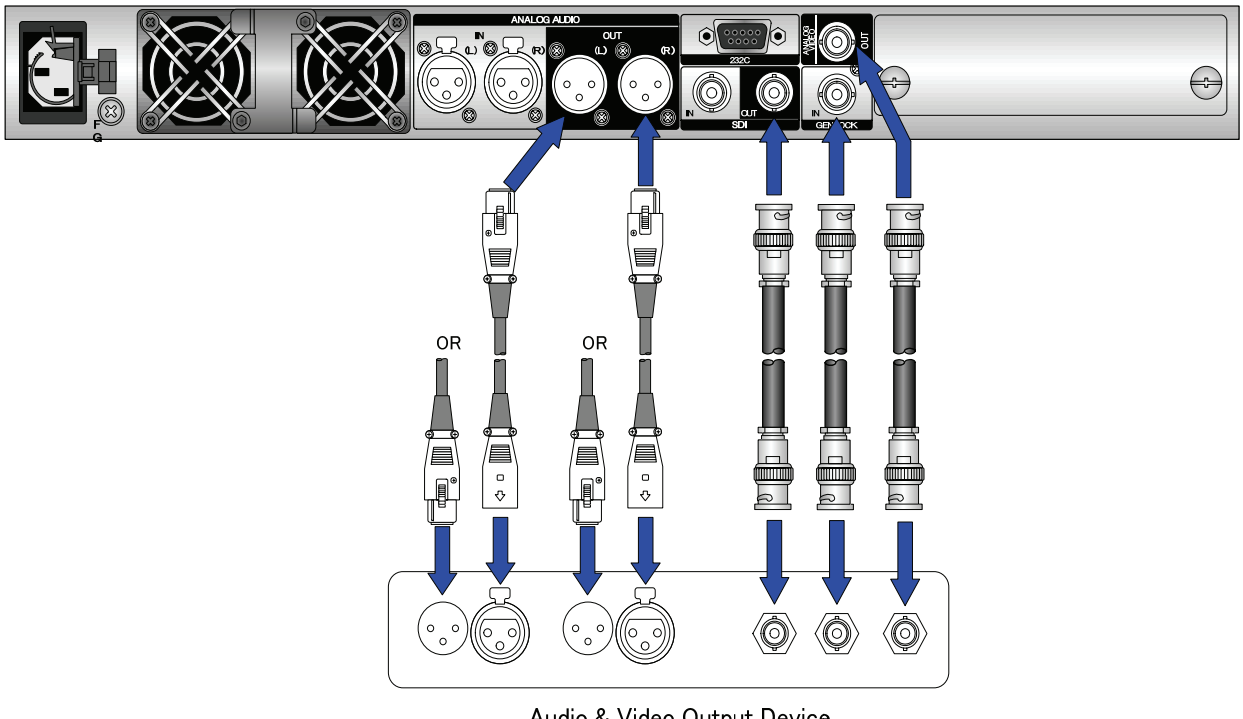


Figure Audio and video input device connections

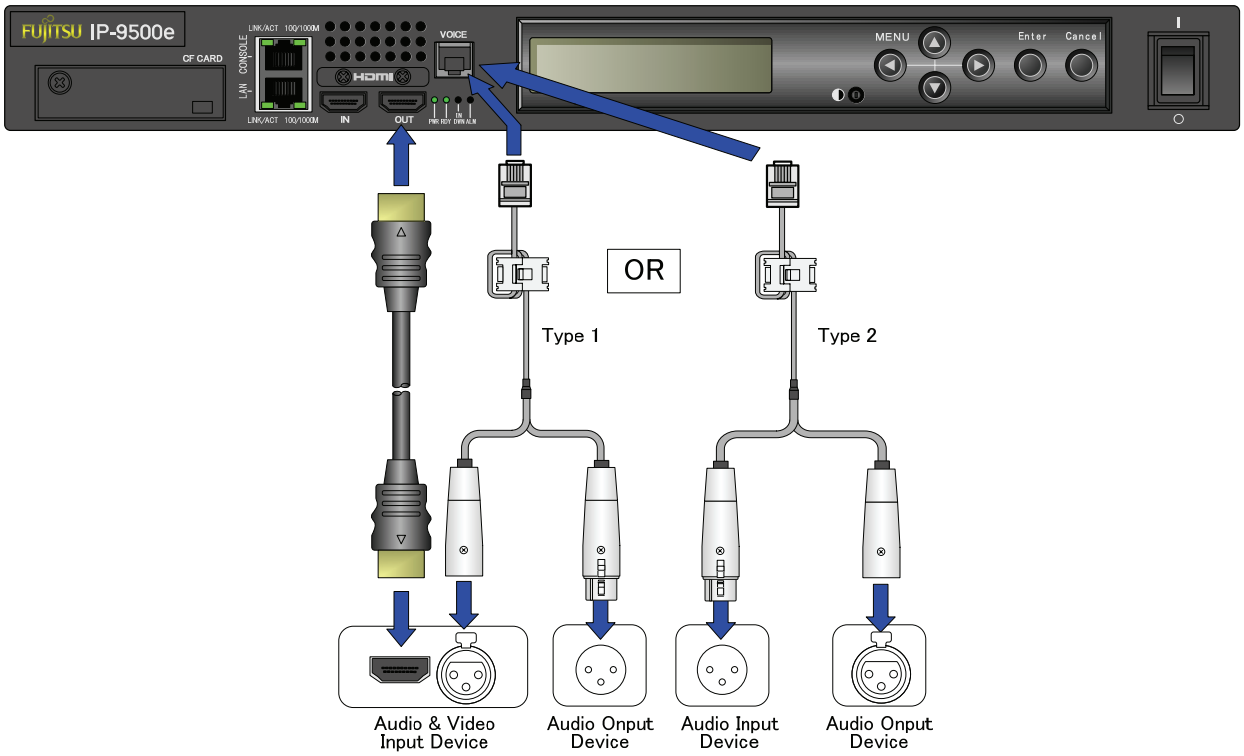
For HDMI output, there is one HDMI terminal to connect the video and audio input device.

Connect to HDMI OUT on the front panel of IP-9500e using the HDMI cable.

For voice communication between IP-9500e, there is one voice terminal to connect the voice communication device (e.g., intercom).

Connect to VOICE terminal on the front panel of IP-9500e using the dedicated adaptor cable with the bidirectional voice communication terminal (RJ25 – XLR). The impedance is terminated in 600Ω. There are two types of the cables. Procure the appropriate type separately because this cable is not attached to IP-9500e. For more information, see Section 4.2, "Cable and Connector Details."

NOTE: For details of the connector and cable, see Section 4.2, "Cable and Connector Details." For the electric specifications, see Appendix 2.3, Function Specifications."



2.4 Connection to Network

To connect IP-9500e to a LAN device, connect the LAN device to the LAN communication port [CONSOLE/LAN] of IP-9500e using a LAN cable (UTP cable). The LAN communication port specification of IP-9500e is 10BASE-T/100BASE-TX /1000BASE-T for CONSOLE and LAN.

The figure below shows the connection method.

NOTE: For details about connectors and cables, see Section 4.2, “Cable and Connector Details.” For electrical specifications, see Appendix 2.3, “Function Specifications.”

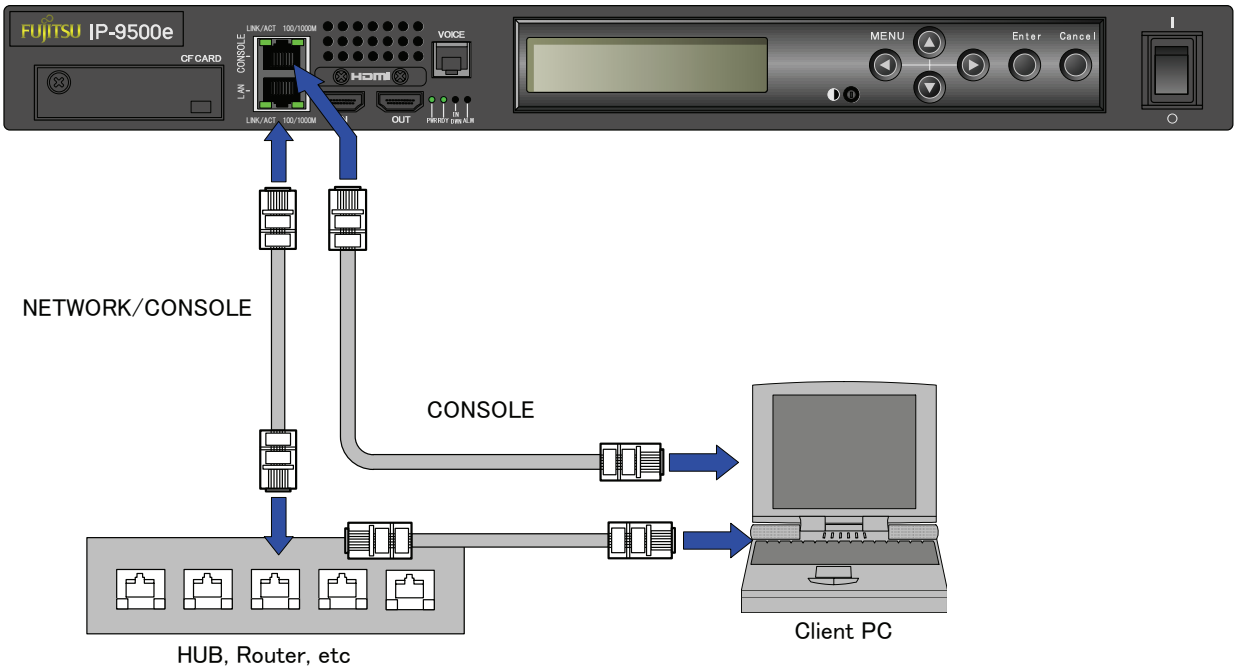


Figure Connection to a network

⚠ CAUTION

Please do not provision the IP address below.

LAN/Console ports;
- IP address commonly unused（0.0.0.0，255.255.255.255，etc…）
- Loop back address (127.xxx.xxx.xxx)
- Class D and Class E addresses
- IP address already used

Console port only;
- IP address (169.254.xxx.xxx) used when LAN port cannot obtain IP address normally from PPPoE/DHCP server.

For more information, see IP-9500e Software User’s Guide.

2.5 Connection to RS-232C Device

The [232C] connector of IP-9500e is the RS-232C communication terminal. The terminal of IP-9500e is the D-sub 9 pins (male) and the specification is DTE. Use a cross connection or straight cable corresponding to the connected device. See Section 4.2, “Cable and Connector Details.”

The figure below shows the connection method.

NOTE: For details about connectors and cables, see Section 4.2, “Cable and Connector Details.”
For electrical specifications, see Appendix 2.3, “Function Specifications.”

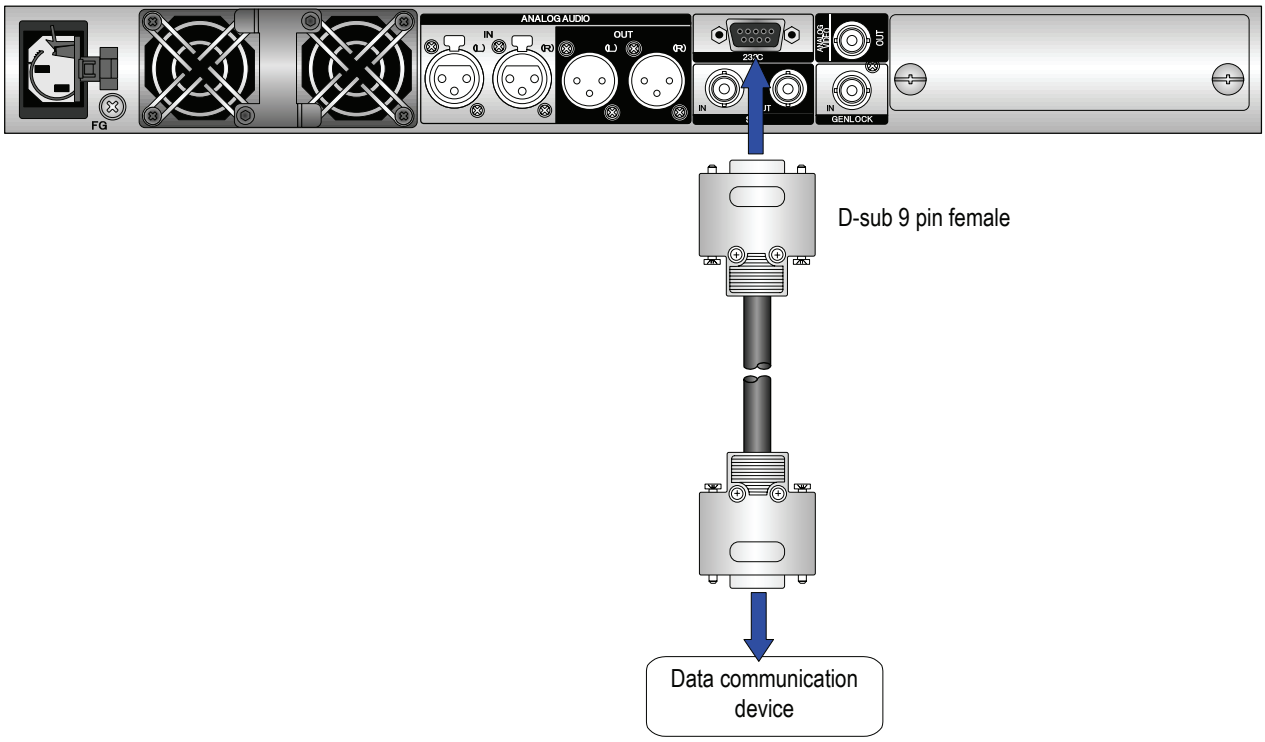


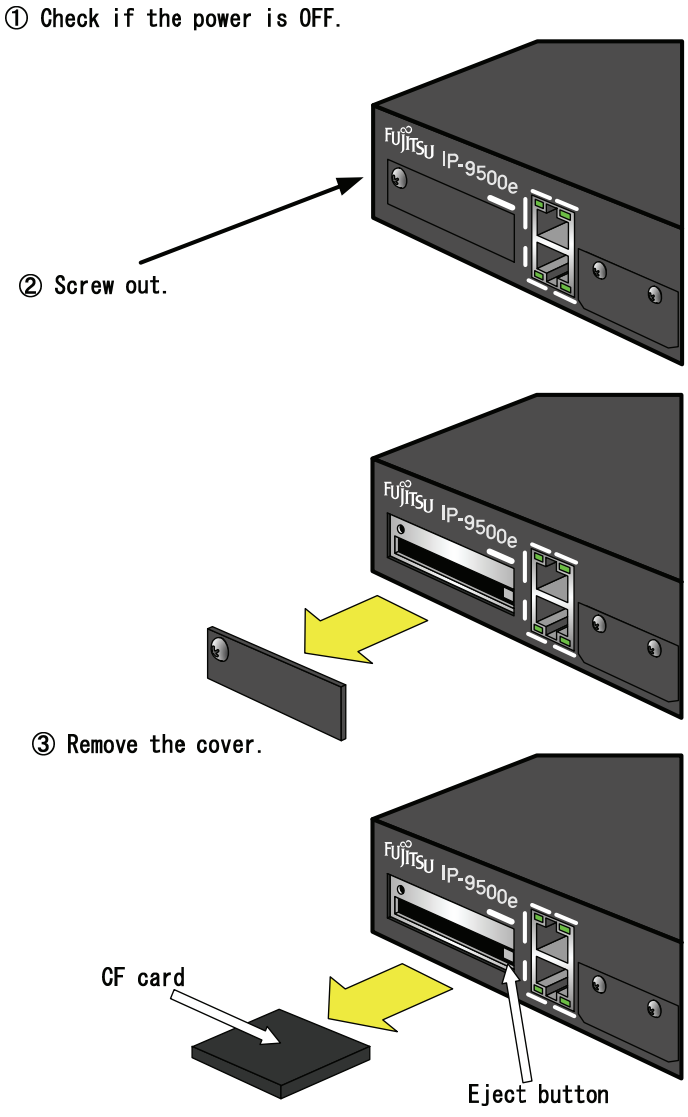
Figure Connection to RS-232C input/output device

2.6 CF Card Insertion and Removal

In order to insert the CF card, the front cover of IP-9500e must be opened by screwing out the cover. No storage card is supplied with IP-9500e. It can be procured separately, depending on the system.

The CF card removal procedure is shown below.

Please turn off the power to insert or remove the CF card.



④ Press the eject button and remove the CF card.
※CF card is unequipped initially (Separate order).

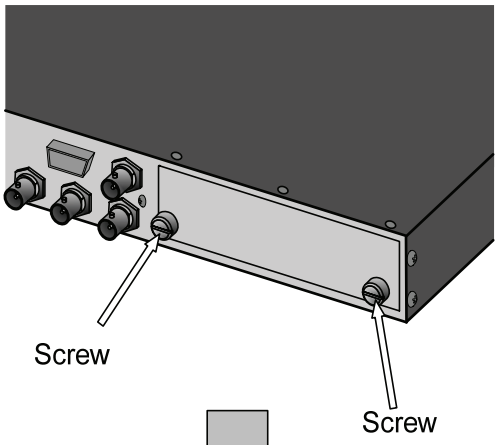
⑤ Replace CF card and cover it.

Please contact Fujitsu office what type of CF card is available to use.

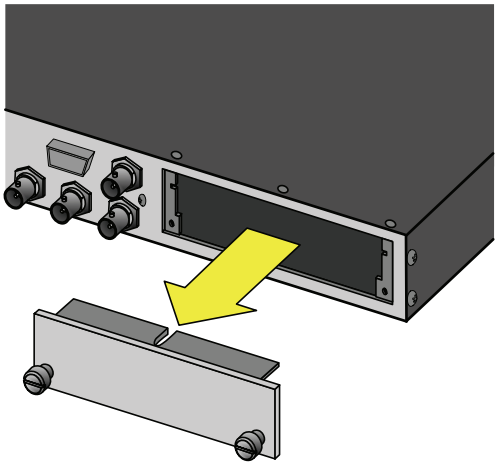
2.7 Optional Card Slot

The install procedure of optional card is as follows.

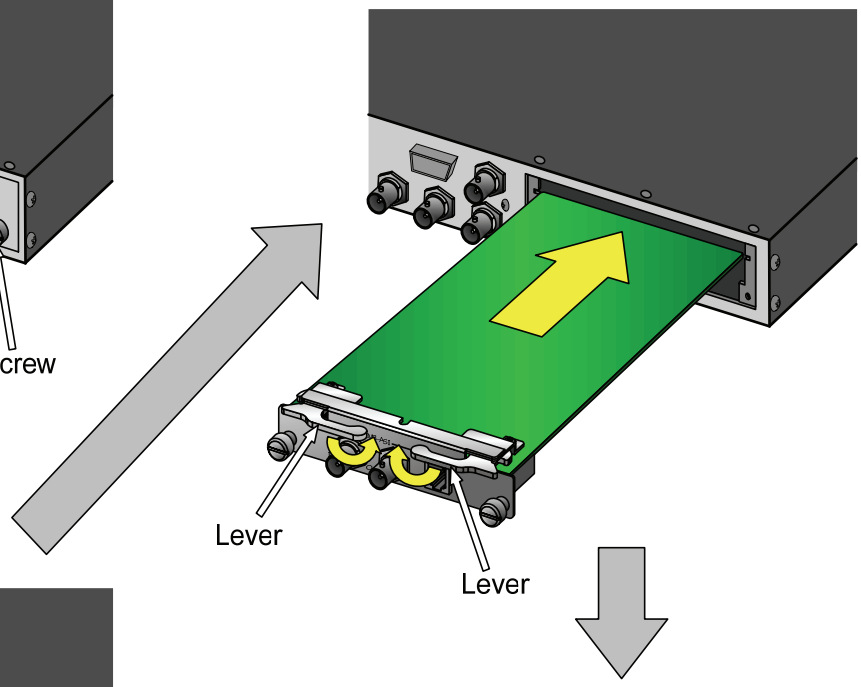
① Screw the blank panel out.



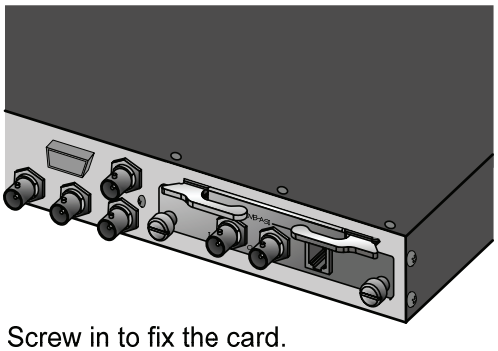
② Remove the blank panel off.



③ Insert the card along the guide rail of IP-9500e opening the levers and close the lever after the card reaches the end.



④ Screw in to fix the card.



⑤ To remove this card, follow the procedure from ④ to ①.

⚠WARNING

Please turn off the power of IP-9500e when the optional card is inserted or removed. Otherwise, it may cause the serious damage to the device or injury.

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CHAPTER 3
OPERATION INSTRUCTIONS

This section explains how to power on/off, setup and operate the device.

⚠ CAUTION

IP-9500e can be used to provide a variety of services using different types of installed software.

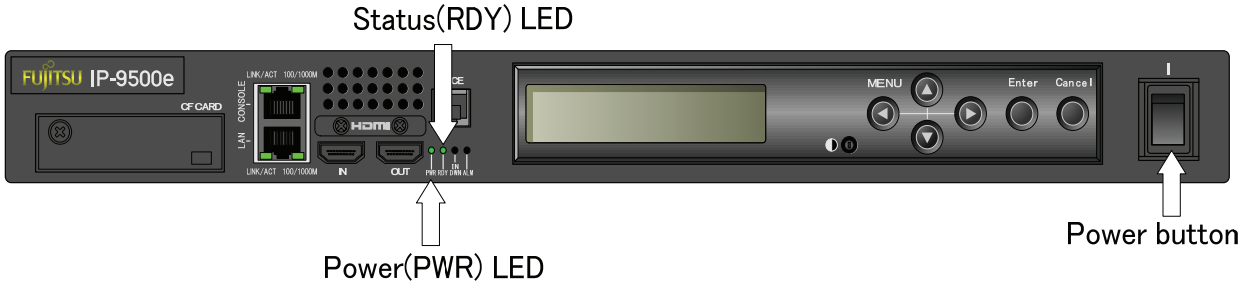
Always install the appropriate software for IP-9500e.

3.1 Power ON/OFF

This section explains how to power on/off the IP-9500e.

3.1.1 Powering on

When the power button on the front panel is set to the [|] position, the PWR LED turns on.
When IP-9500e completes preparations for operation, the RDY LED turns on.



3.1.2 Powering off

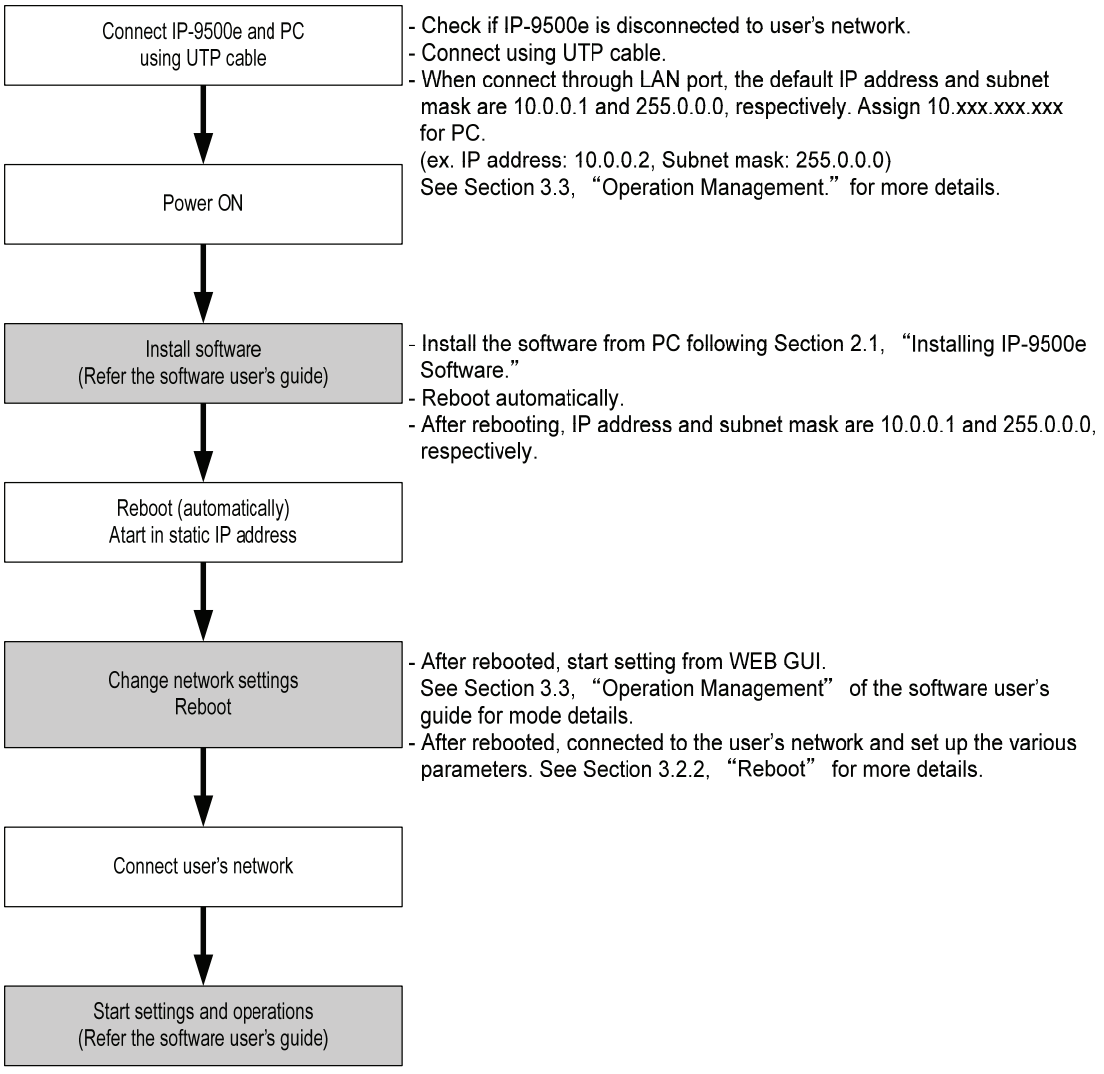
When the power button on the rear panel is set to the [O] position, the device is powered off and the PWR LED turns off

3.2 Device Settings and Operation

■Setup Procedure

The setup procedure is shown below.

See Software User's Guide for the procedure of the software installation and the each setting.



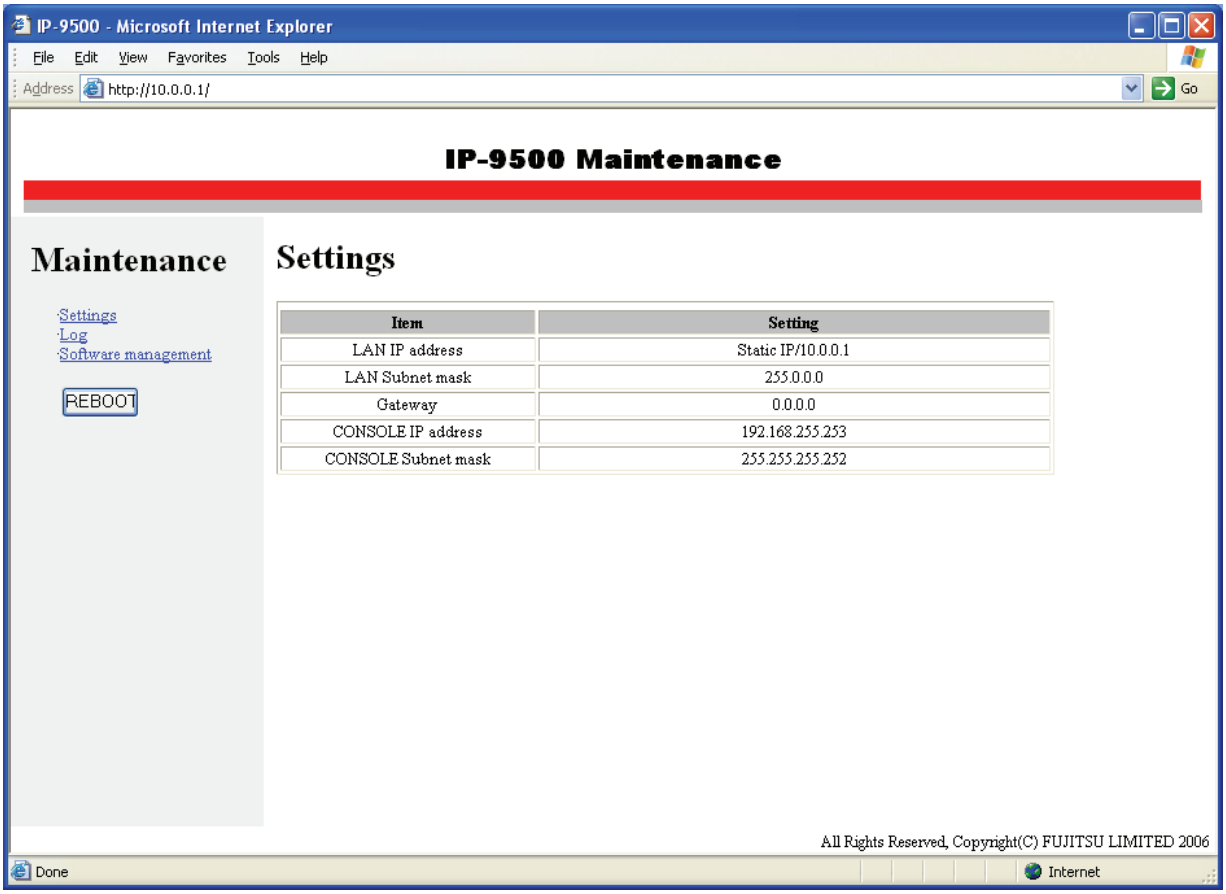
■Web browser recommended

The recommended web browser is as follow.

- Internet Explorer 6.0 SP2 or later

■ **Basic functions of IP-9500e Web setup pages**

The settings page at shipment from the factory is shown below:



Setup page at shipment from the factory (initial page)

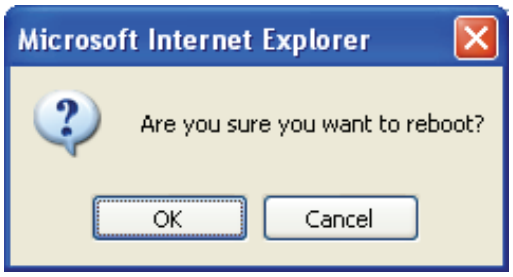
This section briefly explains the basic functions of the setup pages.

3.2.1 Maintenance page

Clicking the Settings, Log or Software management menu in the left frame of the browser displays the corresponding device setting page so that you can set or display items.

3.2.2 Reboot

Clicking the REBOOT button displayed in the left frame of the browser reboots the device. When you click the button, the following dialog box shown below appears for confirmation. Click OK to reboot.



3.3 Operation Management

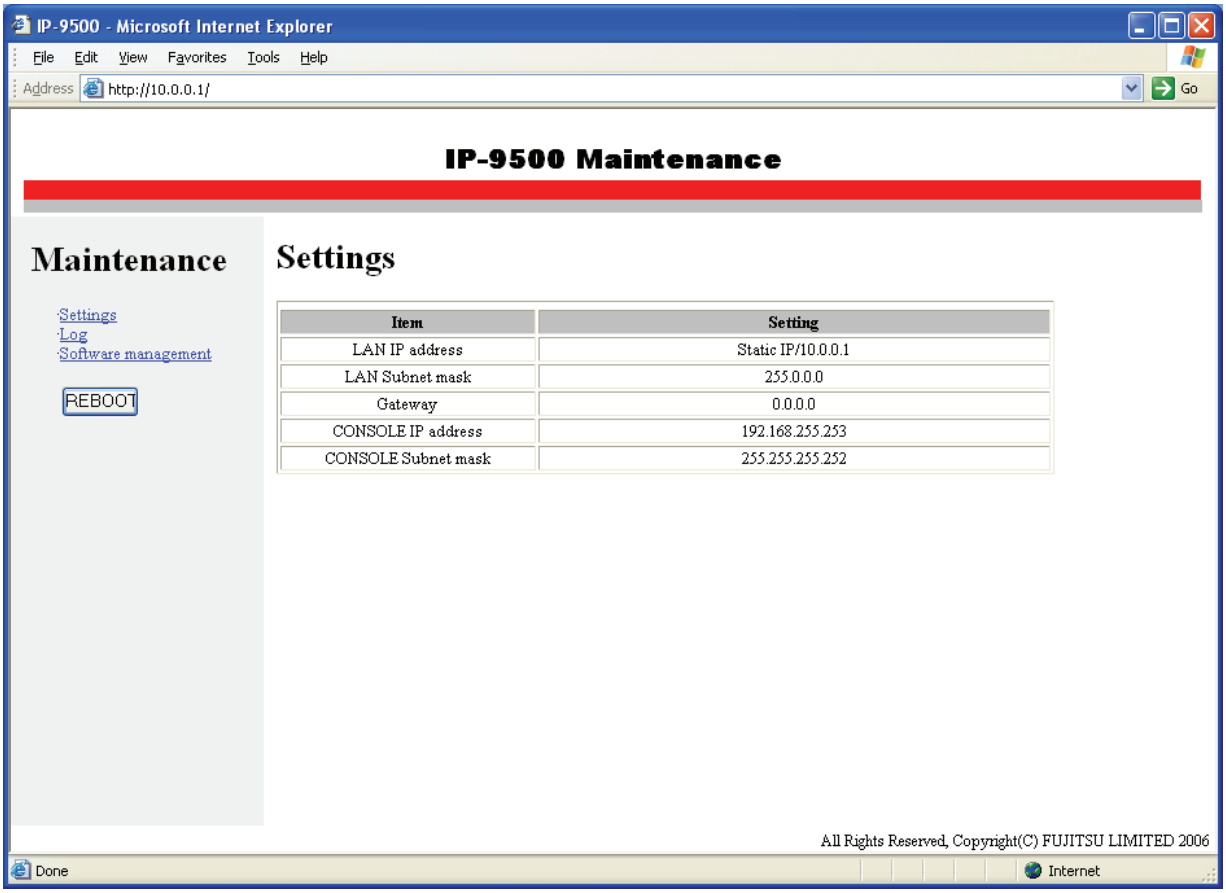
3.3.1 Settings

On the PC Web browser, specify the IP address of IP-9500e (LAN: 10.0.0.1, CONSOLE: 192.168.255.253) [example: http://10.0.0.1/ (LAN), http://192.168.255.253/ (CONSOLE)] to set up a connection to the http server of the IP-9500e.

When using http://10.0.0.1/ for connection, set the PC IP address and subnet mask as follows:

- IP address : 10.xxx.xxx.xxx
  (xxx is a number from 0 to 255, excluding 10.0.0.0, 10.0.0.1, and 10.255.255.255.)
  ［Example: 10.0.0.2］
- Subnet mask : 255.0.0.0

The page shown below first appears (Initial page at power-on immediately after shipment from the factory). The IP addresses and subnet masks set for the IP-9500e on the LAN and CONSOLE, and the gateway setting are displayed.



The items in the Settings window are listed in the table below:

Item	Explanation
LAN IP address	Displays the IP address on LAN. Default: 10.0.0.1
LAN Subnet mask	Displays the subnet mask on LAN. Default: 255.0.0.0
Gateway	Displays the gateway address. Default: 0.0.0.0
CONSOLE IP address	Displays the IP address on CONSOLE. Default: 192.168.255.253
CONSOLE Subnet mask	Displays the subnet mask on CONSOLE. Default: 255.255.255.252

⚠ CAUTION

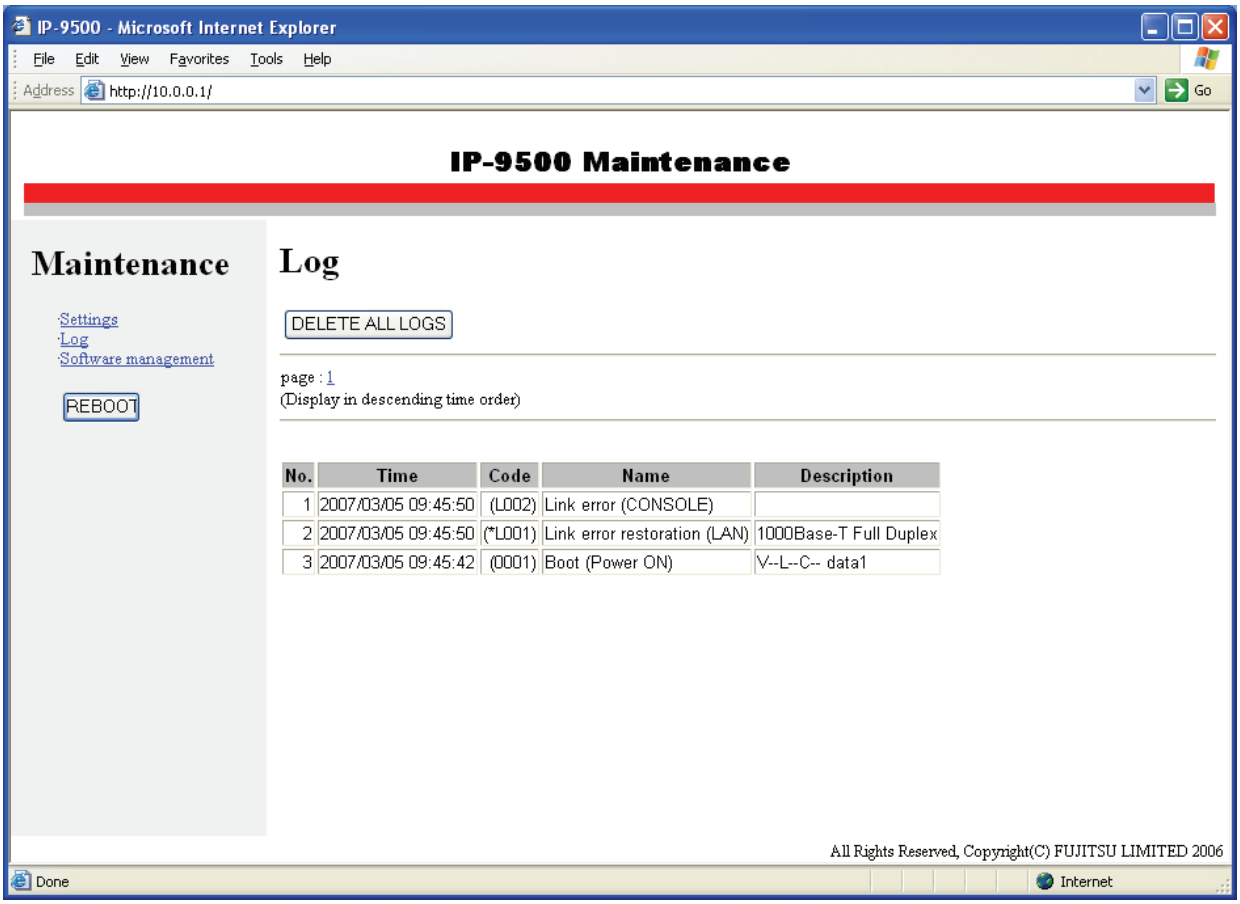
When you operate the IP-9500e with the default settings after shipment from the factory, disconnect the IP-9500e from your network. Connect it to the setting terminal via a Hub or directly. Install the software in the setting terminal, and then set up the IP-9500e to meet the requirements for your network and then connect the IP-9500e to the network. If you connect the IP-9500e to your network with the default settings, an unexpected problem may be caused with your network.

3.3.2 Log

Click Log in the left frame of the browser to display the log information page in the right frame of the browser, where you can check alarm log information on the IP-9500e.

Clicking DELETE ALL LOGS in the right frame deletes all log information.

* Up to 1,000 log items can be saved. Log items exceeding 1,000 items overwrite existing items beginning with the chronologically oldest item. (Ten pages of log information, 100 items per page, are saved.)



For details of the alarm log information, see the alarm code list on the next page. Note that messages may be changed after installation of each type of software. For details, see IP-9500e Software User's Guide.

Alarm codes

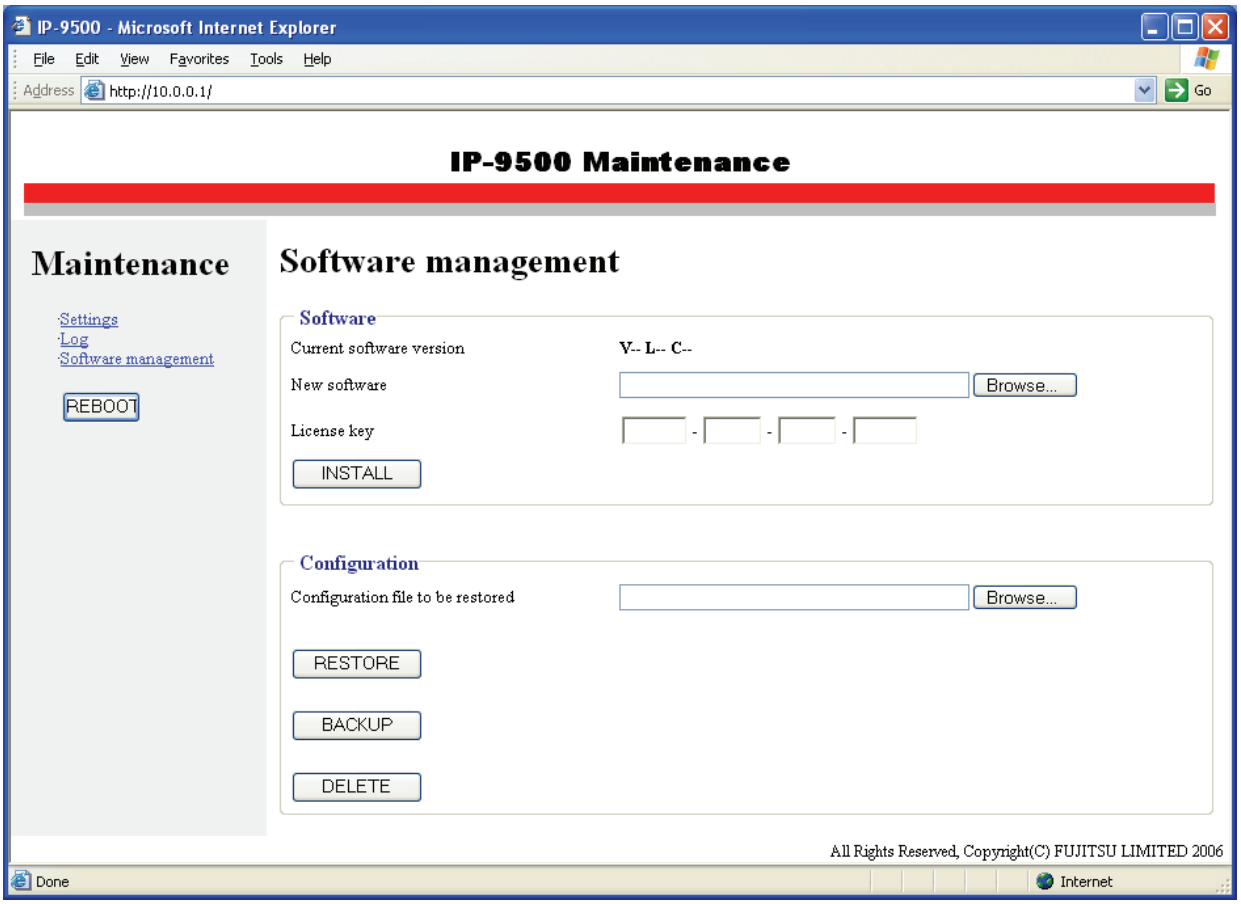
Error Code.	Error information	Description
0001	Boot (Power On)	Normally started by the power button
0002	Boot (Reset)	Normally started by reboot
0006	Software update	Software updated
0007	Boot (Restart)	Restarted due to a CPU error
0008	Boot (Others)	Restarted due to a software error
0009	Shutdown	Shutdown by LCD operation
000A	RTC initialization	RTC battery backup failure
000B	CF card initialization	CF card formatting error
000C	Configuration update	Configuration data updated
L001	LINK error(LAN)	Disconnected from network equipment
L002	LINK error (CONSOLE)	Disconnected from network equipment
L006	Time server synchronization failure	Time synchronization with the time server failed
L009	DHCP connection failure	Disconnection recognized by DHCP
L00A	PPPoE connection failure	Disconnection recognized by PPPoE
L00C	IP address collision	Collision between IP addresses on LAN and CONSOLE
L00E	DHCP connection update	IP address changed during DHCP connection
L00F	PPPoE connection update	IP address changed during PPPoE connection
I001	HD-SDI input down	HD-SDI input signal not detected
I002	HDMI input down	HDMI input signal not detected
I005	DVB-ASII input down	DVB-ASI input signal not detected
I006	Reference clock input down	GENLOCK signal not input
I011	Video synchronization error	HD-SDI signal synchronization failed
I015	DVB-ASI synchronization failure	DVB-ASI signal synchronization failed
I016	Reference clock synchronization failure	GENLOCK input PLL synchronization failed
E001	Power error (*1)	Power failure occurred
E003	Temperature error occurrence (*5)	Abnormal temperature (shutdown processing started)
E00A	Flash ROM check sum error (*1)	Invalid data set in built-in Flash ROM
E010	FAN1 error (*2)	FAN1 failed (low speed) or stopped
E011	FAN2 error (*2)	FAN2 failed (low speed) or stopped
E013	Temperature warning (*2)	Temperature alarm caused (warning only)
E082	CODEC1 error (*4)	HD CODEC LSI error occurred
E083	CODEC2 error (*4)	SD CODEC LSI error occurred
E084	CF card access error (*3)	Access to the CF card failed
E085	CF card power error (*3)	Over current to the CF card occurred
E08B	SUBCPU 1 error (*4)	SUBCPU 1 error occurred
E08C	SUBCPU 2 error (*4)	SUBCPU 2 error occurred
E08E	Clock error (*1)	Clock error or disconnection occurred
E08F	Memory error (*1)	SDRAM memory check error occurred
E090	Downconversion error (*6)	Video Scalar error occurred
E091	Intercom error (*4)	Intercom error occurred
E092	Version mismatch (*3)	Version mismatch between hardware and software
E0A1	Optional card error (*3)	Optional card failure
E0A4	Optional card (Unequipped) (*7)	Optional card unequipped

"*" is marked on the left side of an error code for which an alarm recovery has occurred.

*1 After an alarm occurs, the ALM LED remains on. The device needs to be rebooted to turn off the ALM LED.
*2 The ALM LED blinks while an alarm is active. The LED goes off when the alarm cause is recovered.
*3 After occurrence of this error, the ALM LED remains to blink.
*4 After occurrence of this error, the operation is retired for recovery. If the retry for recovery is unsuccessful, the ALM LED remains on. The device needs to be rebooted to turn off the ALM LED.
*5 If an extreme temperature is detected, all LEDs except LINK/ACT, 100/1000 go on. The device needs to be rebooted to turn off the LEDs.
*6 The ALM LED is on while this alarm is active. The LED goes off when the error cause is recovered.
*7 The ALM LED blinks on while this alarm is active. The LED goes off when the error cause is recovered.

3.3.3 Software management

Click Software management in the left frame of the browser screen to display the software management page in the right frame of the browser screen, where you can install software or restore, save, or delete configuration data.



■Software

Specify an update file and enter the license key, and then click the INSTALL button to start installing the software.

■Configuration (configuration data)

●Restoring all the configuration data

Specify the file containing the configuration data and then click the RESTORE button to restore all the configuration data saved in the past.

●Saving all the configuration data

All the configuration data currently stored on the device can be saved to a PC by clicking the BACKUP button.

●Deleting all the configuration data

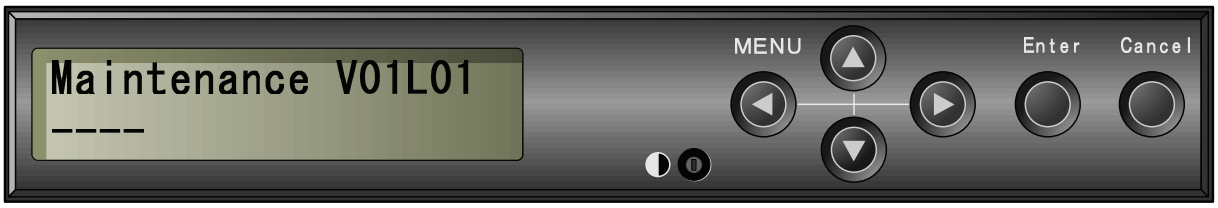
Clicking the DELETE button deletes all the configuration data currently stored on the device. Information such as IP addresses is also reset to the initial values with which the device was shipped from the factory.

NOTE: **Changing (restoring or deleting) the configuration data, in some cases, changes IP addresses, subnet masks, and the gateway address. Be careful because doing this may cause an unexpected problem with your network.**

3.4 Device Setting and Operation (Front Panel)

The IP-9500e has six control keys: [△], [▽], [◁], [▷], [Enter] and [Cancel]. Use these keys for making settings.

The LCD panel displays of two lines, 20 characters per line.



Front Control Pane;

■Function description of each key

Functions of [△] and [▽] keys
- Each key changes the menu items or setting items displayed on the LCD panel.
- The displayed item changes each time either key is pressed. [△] and [▽] change items in the opposite direction.

Functions of [◁] and [▷] keys
- Each key moves the cursor displayed on the LCD panel to the left or right.
- The cursor moves one column each time either key is pressed.

[Enter] key
- Pressing the [Enter] key while the maintenance initial page is displayed proceeds to the maintenance menu page.
- Pressing the [Enter] key on the maintenance menu page allows you to make settings for status display and shutdown.

[Cancel] key
- Pressing the [Cancel] key while the maintenance menu page is displayed proceeds to the maintenance initial page. Pressing the [Cancel] key on the setting item selection page returns to the page displayed immediately before you pressed the [Enter] key.

Other
- If you do not make any key input for 30 seconds on any page, the LCD panel backlight goes off.
- If you do not make any key input for 60 seconds on any page, the current page proceeds to the maintenance initial page.

3.5 Operation Method and Page Transition

This section explains page transition on the LCD panel before application software is installed. For information on the operation procedure for each function after software is installed, see the software user's guide.

- IP-9500e startup (maintenance initial page)

Status No.	Page status	Description	Key operation /Conditions	Transition to
0	● Power-on (Blank) ⇩ IP-9500 VxxLxxx Maintenance Booting ⇩ IP-9500 VxxLxxx Initializing... ⇩ Maintenance VxxLxx Configure#1 Maintenance initial page （Initial screen）	Nothing is displayed on the LCD panel for about 15 seconds from when the power to IP-9500e is turned on to when the RDY LED starts blinking in yellow. After this, the message "Maintenance Booting => Initializing..." appears and, about one minute later, IP-9500e initialization is finished and the RDY LED at the front of the IP-9500e goes on. Simultaneously, the maintenance initial page as shown in the figure on the left is displayed. (The figure on the left is a display example.)		1
1	●Maintenance initial page Maintenance VxxLxx Configure#1	The current software version is displayed on line 1. When the factory shipment setting is effective, "Maintenance Vxxlxx" is displayed. "xx" in the left figure indicates the current version. Configuration data is displayed on line 2. When the factory shipment setting is effective, "Configure#1" is displayed. If the power is turned on with the [Cancel] key pressed, "---" is displayed on line 2. For more information, see Section 3.6, "Special Use of the Cancel Key."	Press [Enter]	2-1
			Press [Cancel]	-----
			Press [△]	-----
			Press [▽]	-----
			Press [◁]	-----
			Press [▷]	-----

- Maintenance menu

2-1	●Maintenance menu page 1 Maintenance 1>Status	Pressing the Enter key while the initial page of the maintenance menu is displayed proceeds to this page. This menu displays various settings on the LAN or CONSOLE side.	Press [Enter]	3-1
			Press [Cancel]	1
			Press [△]	2-2
			Press [▽]	2-2
			Press [◁]	-----
			Press [▷]	-----
2-2	●Maintenance menu page 2 Maintenance 2>Shutdown	This menu is used to put the IP-9500e in the state in which it can be turned off or rebooted.	Press [Enter]	6-1
			Press [Cancel]	1
			Press [△]	2-1
			Press [▽]	2-1
			Press [▷]	-----

- Status menu page

Status No.	Page status	Description	Key operation /Conditions	Transition to
3-1	●Status menu page 1 Status 1>LAN Status	Pressing the Enter key while the Maintenance menu page 1 is displayed proceeds to this page. Pressing the Enter key at this page displays the settings on the LAN side.	Press[Enter]	4-1
			Press [Cancel]	2-1
			Press [△]	3-2
			Press [▽]	3-2
			Press [◁]	-----
			Press [▷]	-----
3-2	●Status menu page 2 Status 2>Console Status	Pressing the Enter key displays the settings on the console side.	Press [Enter]	5-1
			Press [Cancel]	2-1
			Press [△]	3-1
			Press [▽]	3-1
			Press [◁]	-----
			Press [▷]	-----

- Status menu LAN

Status No.	Page status	Description	Key operation /Conditions	Transition to
4-1	●Status menu LAN page 1 1 Setting Static IP The above figure shows a display example. "Static IP," "DHCP," or "PPPoE" is displayed.	Pressing the Enter key while the Status menu page 1 is displayed proceeds to this page. The current IP setting is displayed. In the factory shipment state, "Static IP" is displayed. Pressing the [△] or [▽] key displays other settings.	Press [Enter]	-----
			Press [Cancel]	3-1
			Press [△]	4-6
			Press [▽].	4-2
			Press [◁]	-----
			Press [▷]	-----
4-2	●Status menu LAN page 2 2 IP address XXX.XXX.XXX.XXX The current IP address is displayed at the above XXX.	The IP address that is currently set is displayed. When the factory shipment setting is effective, "10.0.0.1" is displayed.	Press [Enter]	-----
			Press [Cancel]	3-1
			Press [△]	4-1
			Press [▽]	4-3
			Press [◁]	-----
			Press [▷]	-----
4-3	●Status menu LAN page 3 3 Subnetmask XXX.XXX.XXX.XXX The current subnet mask is displayed at the above XXX.	The subnet mask that is currently set is displayed. When the factory shipment setting is effective, "255.0.0.0" is displayed.	Press [Enter]	-----
			Press [Cancel]	3-1
			Press [△]	4-2
			Press [▽]	4-4
			Press [◁]	-----
			Press [▷]	-----
4-4	●Status menu LAN page 4 2 Gateway address XXX.XXX.XXX.XXX The current gateway address is displayed at the above XXX.	The gateway address that is currently set is displayed. When the factory shipment setting is effective, "0.0.0.0" is displayed.	Press [Enter]	-----
			Press [Cancel]	3-1
			Press [△]	4-3
			Press [▽]	4-5
			Press [◁]	-----
			Press [▷]	-----
4-5	●Status menu LAN page 5 3 Speed 1000Base-T The above figure shows a display example. One of the following is displayed: 1000Base-T Full / Half 100Base-TX Full / Half 10Base-T Full / Half	The Ethernet type that is currently set is displayed. When the factory shipment setting is effective, the displayed data depends on the connection partner. "----" is displayed when no link is set up because the LAN cable is not connected.	Press [Enter]	-----
			Press [Cancel]	3-1
			Press [△]	4-4
			Press [▽]	4-6
			Press [◁]	-----
			Press [▷]	-----
4-6	●Status menu LAN page 6 4 Link Connected "Connected" or "Disconnected" is displayed.	The current link status is displayed.	Press [Enter]	-----
			Press [Cancel]	3-1
			Press [△]	4-5
			Press [▽]	4-1
			Press [◁]	-----
			Press [▷]	-----

- Status menu CONSOLE

Status No.	Page status	Description	Key operation /Conditions	Transition to
5-1	●Status menu console page 1 2 IP address XXX. XXX. XXX. XXX The current IP address is displayed at the above XXX.	Pressing the Enter key while the Status menu page 2 is displayed proceeds to this page. The current IP address setting is displayed. When the factory shipment setting is effective, "192.168.255.253" is displayed. Pressing the [△] or [▽] key displays other settings.	Press[Enter]	-----
			Press [Cancel]	3-2
			Press [△]	5-4
			Press [▽]	5-2
			Press [◁]	-----
			Press [▷]	-----
5-2	●Status menu console page 2 3 Subnetmask XXX. XXX. XXX. XXX The current subnet mask is displayed at the above XXX.	The subnet mask that is currently set is displayed. When the factory shipment setting is effective, "255.255.255.252" is displayed.	Press [Enter]	-----
			Press [Cancel]	3-2
			Press [△]	5-1
			Press [▽]	5-3
			Press [◁]	-----
			Press [▷]	-----
5-3	●Status menu console page 3 3 Speed 1000Base-T The above figure shows a display example. One of the following is displayed: 1000Base-T Full / Half 100Base-TX Full / Half 10Base-T Full / Half	The Ethernet type that is currently set is displayed. When the factory shipment setting is effective, the displayed data depends on the connection partner. "----" is displayed when no link is set up because the LAN cable is not connected.	Press [Enter]	-----
			Press [Cancel]	3-2
			Press [△]	5-2
			Press [▽]	5-4
			Press [◁]	-----
			Press [▷]	-----
5-4	●Status menu console page 4 4 Link Connected "Connected" or "Disconnected" is displayed.	The current link status is displayed.	Press [Enter]	-----
			Press [Cancel]	3-2
			Press [△]	5-3
			Press [▽]	5-1
			Press [◁]	-----
			Press [▷]	-----

- Shutdown menu

Status No.	Page status	Description	Key operation /Conditions	Transition to
6-1	●Shutdown menu page 1 Shutdown 1>Shutdown	Pressing the Enter key while the Maintenance menu page 2 is displayed proceeds to this page. Pressing the Enter key at this page displays the shutdown selection page.	Press [Enter]	7-1
			Press [Cancel]	2-2
			Press [△]	6-2
			Press [▽]	6-2
			Press [◁]	-----
			Press [▷]	-----
6-2	●Shutdown menu, page 2 Shutdown 2>Reboot	Pressing the Enter key proceeds to the device reboot page.	Press [Enter]	8-1
			Press [Cancel]	2-2
			Press [△]	6-1
			Press [▽]	6-1
			Press [◁]	-----
			Press [▷]	-----

- Shutdown

Status No.	Page status	Description	Key operation /Conditions	Transition to
7-1	● Shutdown selection page System Shutdown ?	Pressing the Enter key at this page starts shutdown processing. However, shutdown may be disabled during access from the Web.	Press [Enter]	7-2A or 7-2B
			Press [Cancel]	6-1
			Press [△]	-----
			Press [▽]	-----
			Press [◁]	-----
			Press [▷]	-----
7-2A	●Shutdown page Please turn off.	After this page appears, you can turn off the power to the IP-9500e. The RDY lamp at the front of the IP-9500e goes off and key operations are no longer enabled. Access to the Web is no longer enabled either.	Press [Enter]	-----
			Press [Cancel]	-----
			Press [△]	-----
			Press [▽]	-----
			Press [◁]	-----
			Press [▷]	-----
7-2B	●Shutdown page Busy	If this page appears, power-off is disabled because another command is being executed. Retry shutdown later. Pressing the Enter key proceeds to the shutdown menu page.	Press [Enter]	6-1
			Press [Cancel]	-----
			Press [△]	-----
			Press [▽]	-----
			Press [◁]	-----
			Press [▷]	-----

- Reboot

Status No.	Page status	Description	Key operation /Conditions	Transition to
8-1	●Reboot selection page System reboot ?	Pressing the Enter key at this page restarts IP-9500e. However, restarting the IP-9500e may be disabled during access from the Web.	Press [Enter]	8-2A or 8-2B
			Press [Cancel]	6-2
			Press [△]	-----
			Press [▽]	-----
			Press [◁]	-----
			Press [▷]	-----
8-2A	●Reboot page System is rebooting.	IP-9500e is restarting. Key operations are disabled. After this the device startup page is displayed. Access to the Web is also disabled while the IP-9500e is restarting.	Press [Enter]	-----
			Press [Cancel].	-----
			Press [△]	-----
			Press [▽]	-----
			Press [◁]	-----
			Press [▷]	-----
8-2B	●Shutdown page Busy	If this page appears, the IP-9500e cannot be restarted because another command is in execution. Retry restarting the IP-9500e later.	Press [Enter]	6-2
			Press [Cancel]	-----
			Press [△]	-----
			Press [▽]	-----
			Press [◁]	-----
			Press [▷]	-----

3.6 Special Use of Cancel Key

You can start IP-9500e by turning on the power while holding down the [Cancel] key (for about 10 seconds) until the RDY LED begins blinking in orange. Doing so starts the IP-9500e with the initial IP address and subnet mask with which the IP-9500e is shipped from the factory (CONSOLE: IP address 192.168.255.253, Subnet mask 255.255.255.252, LAN: IP address 10.0.0.1, Subnet mask: 255.0.0.0).

Use this function when making initial settings for IP-9500e from a control terminal (such as a PC having a LAN interface) (*1).

*1 When you operate the IP-9500e with the default IP address, connect the device to a control terminal and make setting from the terminal with the device disconnected from your network.

After making settings according to the requirements for your network, connect the device to the network. If the device with the default settings made at the factory is connected to the network, an unexpected problem may occur with your network.

If you start IP-9500e while holding the [Cancel] key, set the IP addresses and subnet masks of the control terminal to connect as follows:

- IP address on CONSOLE : 192.168.255.254
- Subnet mask on CONSOLE : 255.255.255.252
- IP address on LAN : 10.xxx.xxx.xxx
  (xxx is any number from 0 to 255, excluding 10.0.0.0, 10.0.0.1, and 10.255.255.255.)
- Subnet mask on LAN : 255.0.0.0

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CHAPTER 4
CABLE SPECIFICATIONS

This chapter contains a type of how work is implemented, cable connection system diagrams, and cable connector details

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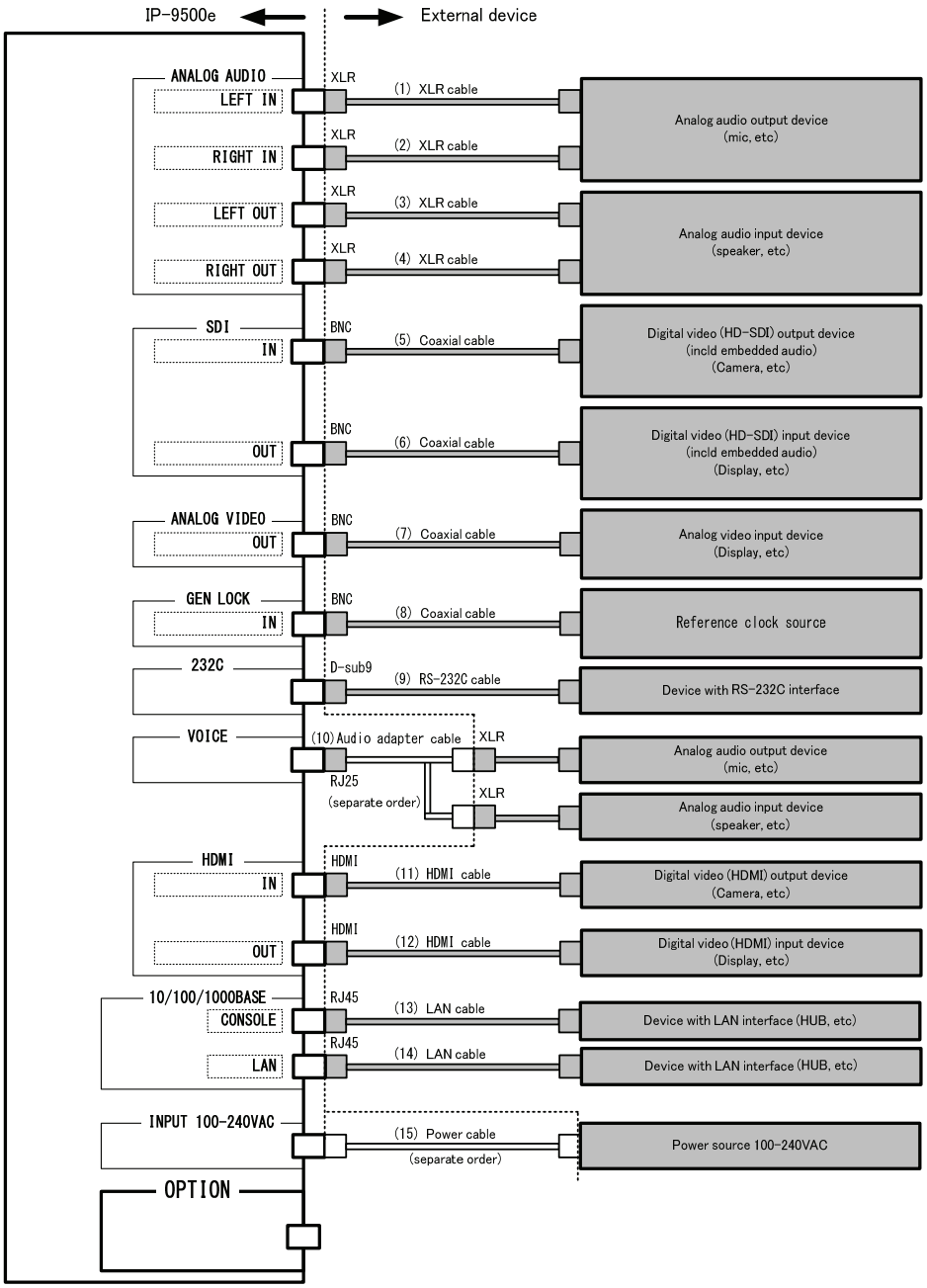
4.1 Installation Preparations

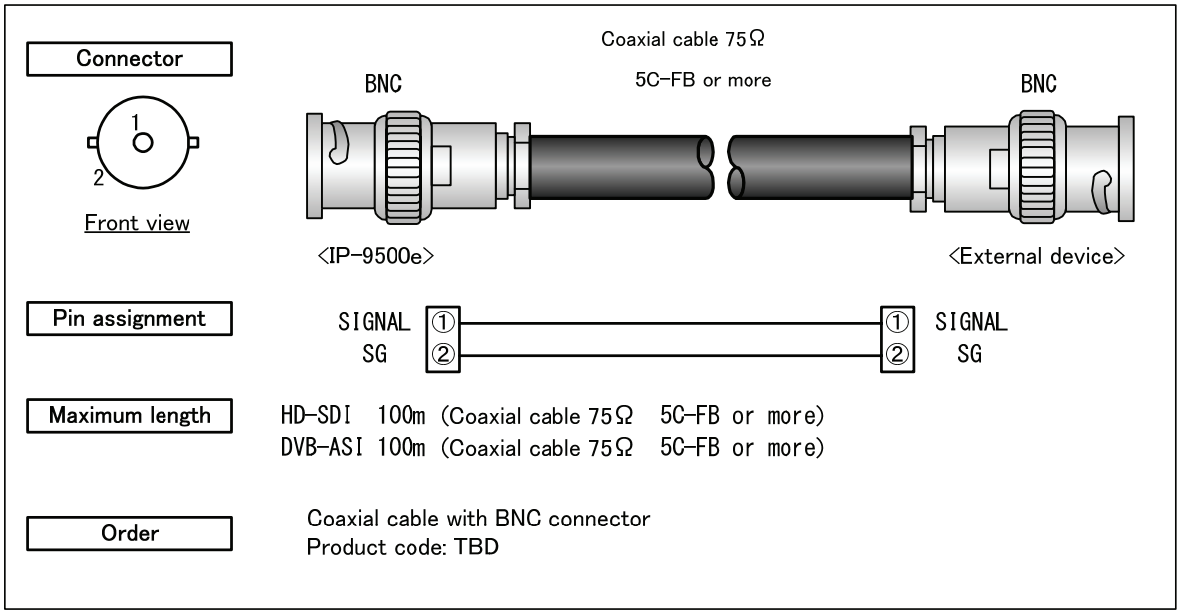
A type of IP-9500e installation work is shown below.



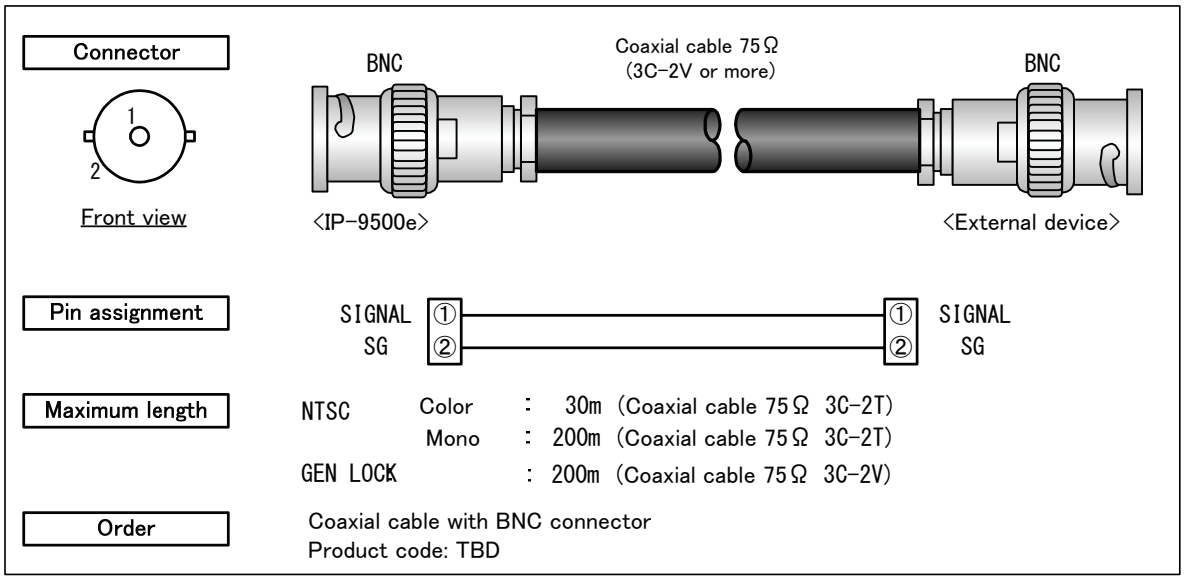
When constructing a system that uses IP-9500e, consideration must be given so that its boundary between IP-9500e and other devices is similar to that shown in the above figure. Since the type of work may change depending on the system, procure equipment and perform work based on consultations with a system designer.

4.2 Cable and Connector Details

(1) SDI VIDEO cable

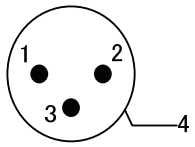


(2) Analog VIDEO / Synchronization (GENLOCK) cable

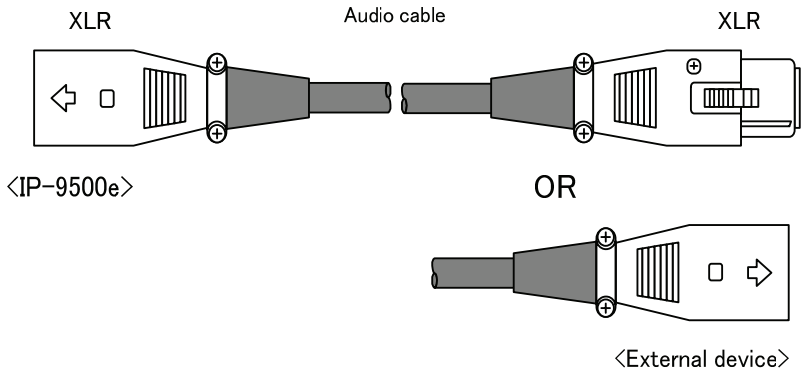


(3) Analog AUDIO cable (IN)

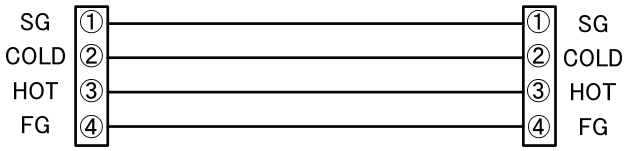
Connector



Front view



Pin assignment

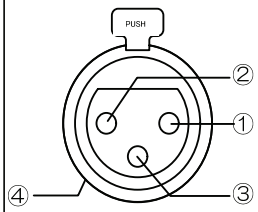


Maximum length 20m

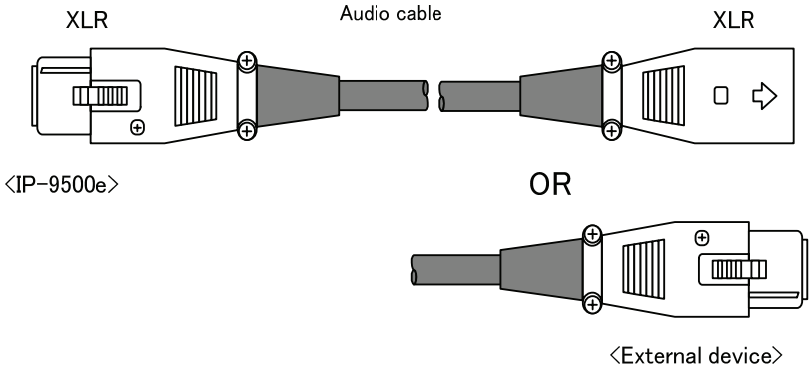
Order Audio cable with XLR (male) connector
Product code: TBD

(4) Analog AUDIO cable (OUT)

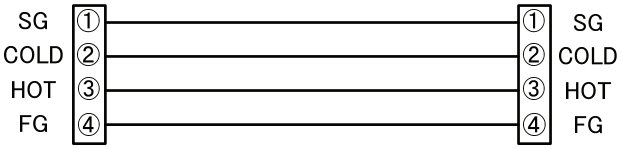
Connector



Front view



Pin assignment

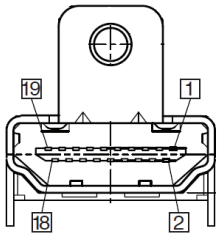


Maximum length 20m

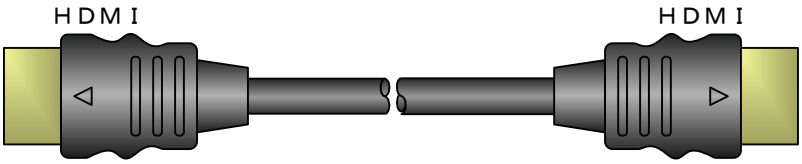
Order Audio cable with XLR (female) connector
Product code: TBD

(5) HDMI cable

Connector



Front view



<IP-9500e> <External device side>

Pin assignment

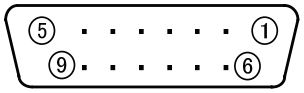
TMDS DATA2 +	①	① TMDS DATA2 +
TMDS DATA2 SHIELD	②	② TMDS DATA2 SHIELD
TMDS DATA2 −	③	③ TMDS DATA2 −
TMDS DATA1 +	④	④ TMDS DATA1 +
TMDS DATA1 SHIELD	⑤	⑤ TMDS DATA1 SHIELD
TMDS DATA1 −	⑥	⑥ TMDS DATA1 −
TMDS DATA0 +	⑦	⑦ TMDS DATA0 +
TMDS DATA0 SHIELD	⑧	⑧ TMDS DATA0 SHIELD
TMDS DATA0 −	⑨	⑨ TMDS DATA0 −
TMDS CLOCK +	⑩	⑩ TMDS CLOCK +
TMDS CLOCK SHIELD	⑪	⑪ TMDS CLOCK SHIELD
TMDS CLOCK −	⑫	⑫ TMDS CLOCK −
CEC	⑬	⑬ CEC
RESERVE(N.C.)	⑭	⑭ RESERVE(N.C.)
SCL	⑮	⑮ SCL
SDA	⑯	⑯ SDA
DDC/CEC GROUND	⑰	⑰ DDC/CEC GROUND
+5V POWER	⑱	⑱ +5V POWER
HOT PLUG DETECT	⑲	⑲ HOT PLUG DETECT

Maximum length Length of the attested HDMI cable is pretermission.
The unattested cable can't be used.

Order HDMI cable with HDMI connector

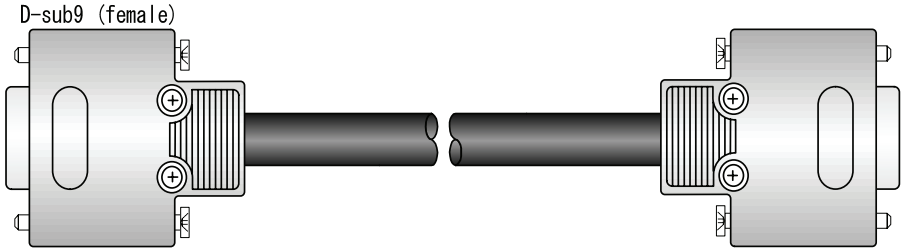
(6) RS-232C cable

Connector



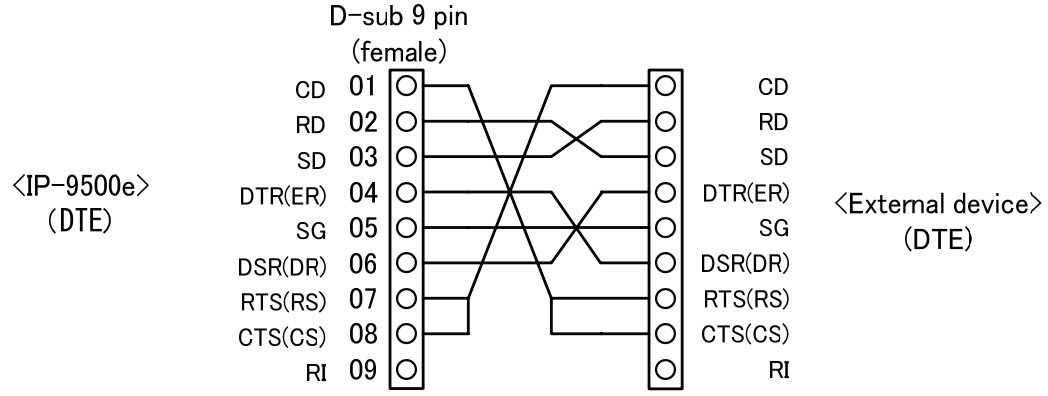
D-sub 9 pin (male)
#4-40 retainer screw

Front view



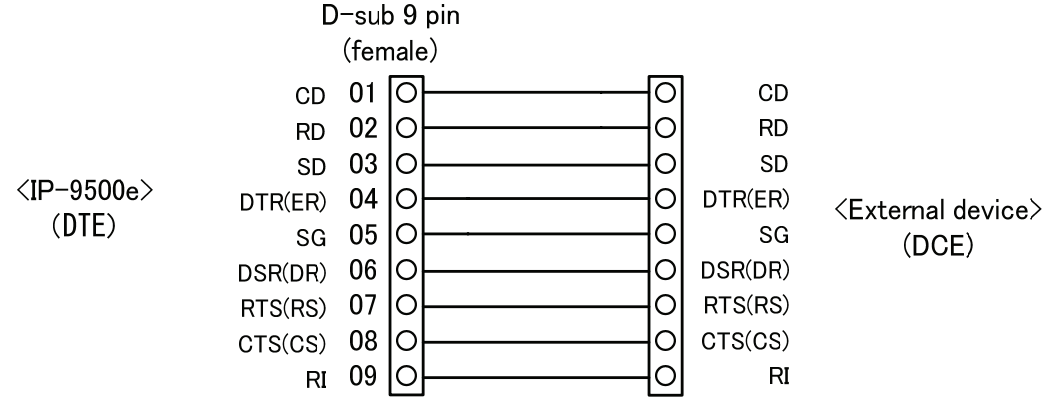
Pin assignment

RS-232C DTE



Pin assignment

RS-232C DCE

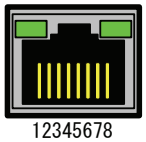


Maximum length

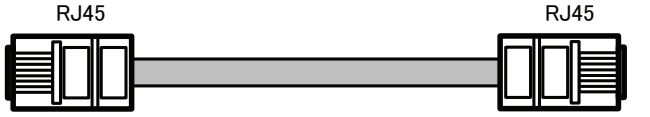
15 m (Twisted pair cable with shield 24AWG)

(7) LAN cable

Connector

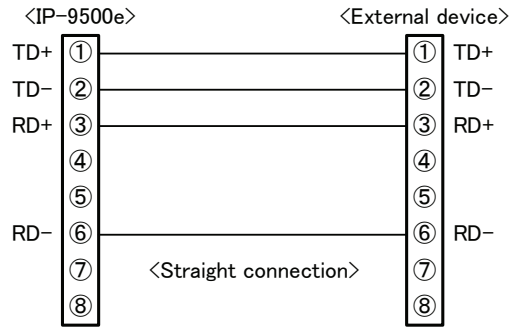


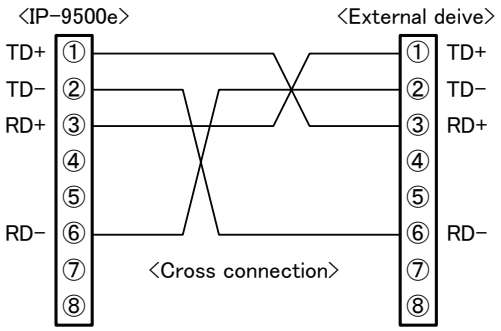
Front view



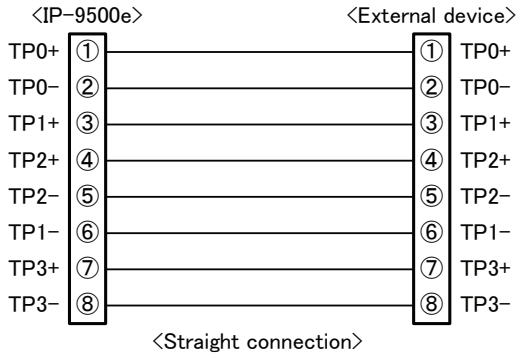
Pin assignment

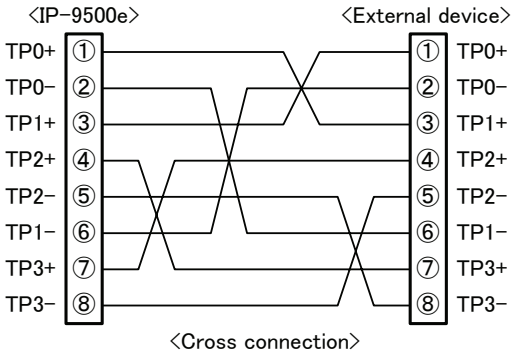
10/100BASE





10/100/1000BASE





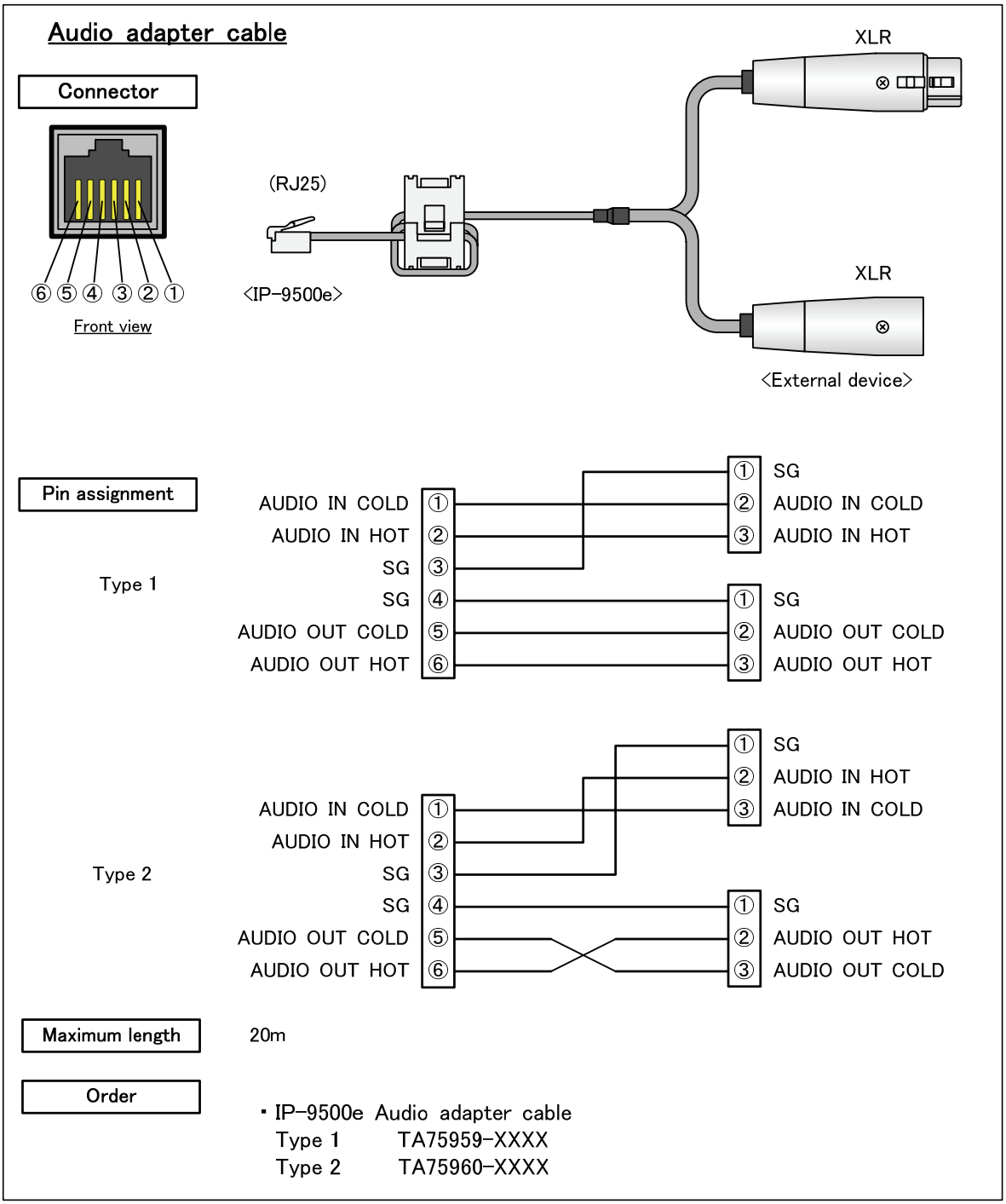
Max length

10/100BASE : 100 m UTP cable (Category 5 or more)
1000BASE : 100 m UTP cable (Enhanced category 5 or more)

Order

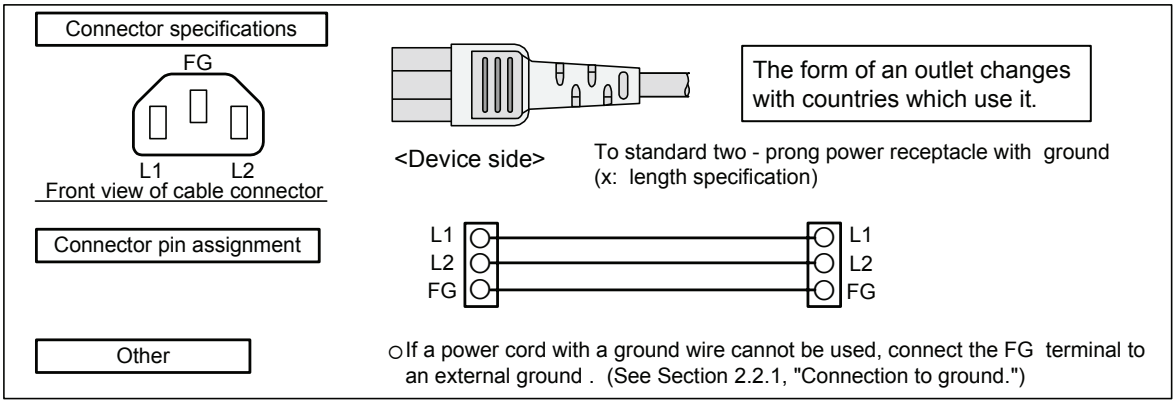
5m : TPCBL-B005
10m : TPCBL-B010
50m : TPCBL-B050
100m : TPCBL-B100

(8) Intercom adapter cable



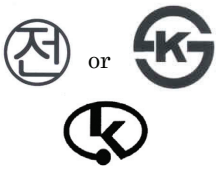
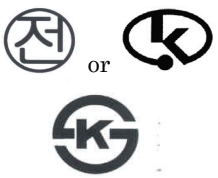
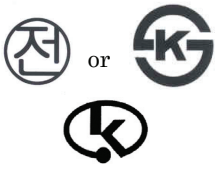
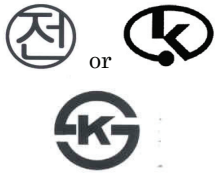
(9) 100 - 240 VAC power cord

The power supply cable is not contained in this device. Please prepare the cable which suits the country which uses it.



USABLE DETACHABLE POWER SUPPLY CORD SET

MODEL	Input	Connector	Cord	Attachment Plug cap
North America <*1> <*2>	100-120V	IEC C-13 Rated 13A, 125V UL, CSA Approved	Type SJT, No.16 AWG Min. 3-Conductors (Single phase;2-current carrying conductors & ground) UL, CSA Approved	NEMA (5-15P) parallel blade Rated 13A, 125V UL, CSA Approved
	200-240V	IEC C-13 Rated 15A, 250V UL, CSA Approved	Type SJT, No.14 AWG Min. 3-Conductors (Single phase; 2-current carrying conductors & ground) UL, CSA Approved	NEMA (6-15P) tandem blade Rated 15 A, 250 V UL, CSA Approved
Europe <*2>	100-240V	IEC C-13 Rated 10A, 250V <*1>	CENELEC OC 3X1.0 square mm<*1> <HAR>	Rated 10 A, 250 V <*1>
Aus-tralia	100-240V	IEC C-13 Rated 10A, 250V	Cable: AS OD 3 X1.0 square mm e.g.	Rated 10 A, 250 V
U.K <*2>	100-240V	IEC C-13 Rated 10A, 250V	BS OC 3 X1.00 square mm	Rated 10 A. 250 V or
Japan	100V	IEC C-13 Rated 13A, 125V	Type HVCTF cross section area 1.25 square mm 3-Conductors (Single phase;2-current carrying conductors & ground)	NEMA (5-15P) parallel blade Rated 13 A, 125 V
		METI Approved or <PSE>	METI Approved or <PSE>	METI Approved or <PSE>

Korea	220V (Class I)	IEC 60320-1 (IEC C-13) Rated 12A, 250V 	Comply with KSC3304. Type VCTF cross section area 1.25 (0.50 or 1.00 or 2.00) square mm 3-Conductors (Single phase;2-current carrying conductors & ground) or 	Comply with KSC8305. Rated 12A, 250V 
	220V (Class II)	IEC 60320-1 (IEC C-13) Rated 3A, 250V 	Comply with KSC3304. Type VCTFK cross section area 1.25 (0.50 or 0.75 or 1.00 or 2.00) square mm 2-Conductors or 	Comply with KSC8305. Rated 12A, 250V 

Note: *1. Be sure that the detachable proper Supply cord has the approval of the appropriate safety agencies of the country where the equipment will be used.
*2. Cable length of above Power Supply cord shall be shorter than 4.5 m.

CERTIFICATION MARKING

Country	Agency	Certification Mark	Country	Agency	Certification Mark
Austria	OVE		Italy	IMQ	
Belgium	CEBEC		Norway	NEMKO	
Denmark	DEMKO		Spain	AEE	
Finland	FEI		Sweden	SEMKO	
France	UTE		Switzerland	SEV	
Germany	VDE				

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CHAPTER 5
TROUBLESHOOTING

This section explains how to power on/off, setup and operate the device.

This chapter describes actions to be taken if the device does not operate normally or if an alarm LED turns on.

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5.1 Help Information

If a problem is found in device operation, take recommended action described in the table below, according to the applicable conditions. If the action does not solve the problem, contact a service representative.

⚠WARNING

Possibility of electric shock
Contact your system administrator before checking the voltage of a power outlet. Otherwise, electric shock may occur.

Table 5.1 Problem descriptions and recommended actions

No.	Class	Status	Description	Recommended action
1.	Power	Power cannot be turned on.	Is the power cable connected?	Make sure that the power cable is properly connected to the outlet.
2.			Is the outlet voltage normal?	Measure the voltage with a tester to confirm that the voltage is normal. If another device is connected to the same outlet, check the operation of the device.
3.	Device	The ALM LED is blinking.	Check the log information from the browser. The temperature inside the device has risen to the critical level, the fan speed has fallen, or a CF card access error has occurred.	If the ambient temperature of the device is too high, make proper arrangements to lower the ambient temperature. If there is any shielding material in the installation space, remove it. If the fan speed is low, the fan needs to be replaced. Contact a Fujitsu Service Center. In the case of a CF card access error, restart the device. If the problem persists, contact a Fujitsu Service Center. The CF card or the device needs to be replaced.
4.		The ALM LED is on.	The device is faulty.	Troubleshoot from the control terminal. (For details, see the software manuals.)
5.		The LEDs excluding LAN and Console are on.	Is the ambient temperature of the device higher than that in the specifications?	Adjust the temperature so that the ambient temperature of the device meets the specification's condition.
			Is there any shielding material in the installation space?	Remove the shielding material.
6.	Input	The INDWN lamp lights in orange.	Is the power to the video/audio output device (such as a camera) selected for input turned on?	Verify the power supply and operation of the video/audio output device selected for input.
7.			Is this device correctly connected to the video/audio output device?	Check the cable connection between this device and video/audio output device.
8.		The INDWN lamp blinks in orange.	The synchronization slipping occurs for encoder or the reference clock input fault occurs for decoder.	Make sure that the video input signal for encoder or the reference clock input signal for decoder is set correctly.
9.	Line	The LINK/ACT LED for the LAN port is not turned on.	Is the power to the communication destination device turned on?	Verify the power supply and operation of the communication destination device.
10.			Are the LINK LEDs on this device and the hub turned on?	If the LINK LEDs are not ON, the LAN cable is not connected. Connect the LAN cable correctly.

11.		Device setting through a LAN is disabled.	Is the IP address specified from the Web browser correct?	Specify a correct IP address from the Web browser on the control terminal.
12.			Are the network settings (IP address, subnet mask, etc.) on the control terminal PC correct?	Make correct settings by referring to the PC user's guide and OS handbook. If this device is started with the default settings made before shipment from the factory, see "Section 3.3.1, "Settings," for the network settings for the control terminal PC.
13.			Is a reply received in response to a PING command issued to the IP address of the device?	If a reply is not received, turn on the power to the device while holding down the Cancel key to start the system with the default IP address (10.0.0.1) set before shipment from the factory. Confirm the IP address. If the problem persists, check the status on the LAN. For information on this startup procedure, see Section 3.6, "Special Use of Cancel Key."

5.2 Alarm LED Lamp Is On

This section describes corrective actions to take if an alarm LED turns on.

The appropriate corrective action depends on the alarm code displayed. See the table below for this information.

Reference See Section 3.3.2, "Log," for information how to check the alarm log check and an example with displayed information.

Table 5.2 Alarm codes and corrective actions

Code	Corrective action
Lxxx	Check the network and destination device. If an error cannot be identified, contact your system administrator.
Exxx	Turn off and on the device. If the device is still operating abnormally after being powered on again, contact your maintenance personnel. Then, he/she may ask the alarm code.
Ixxx	This indicates a loss of video input. Check the video output device and video cable connected to the video input terminal.

xxx: Indicates a three-digit numeric value. See Section 3.3.2, "Log," for more details.

In addition, LED display details are given in the following table:

Table 5.3 LED display details

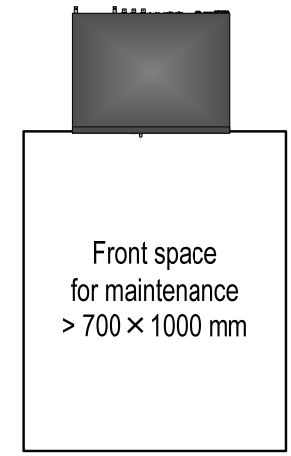
Display	Description
PWR	Lights in green when the device is powered on.
RDY	Blinks in green in the operation preparation state, and lights in green in the operation state. Blinks in orange in the maintenance mode waiting state, and lights in yellow in maintenance mode.
INDWN	No LED lights in normal state. Lights in orange in the state of audio/video input down or abnormal. Blinks in orange when the input signal slipping for encoder and the reference clock input down for decoder.
ALM	Alarm LED. Blinks or lights in red when a device alarm occurs. For more details of the alarm log, see Section 3.2.2, "Log" and Section 3.2.7, "Log" of IP-9500e Software User's Guide."

5.3 Maintenance

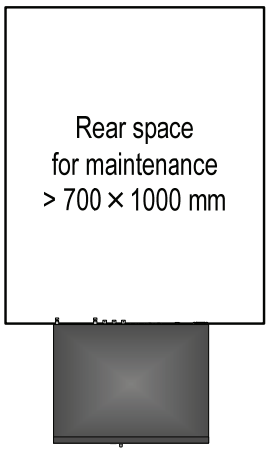
5.3.1 Maintenance space

When the operators do the maintenance work, the maintenance space below is required in addition to Section 2.1.4, “Installation space.”

Desk-top installation:
Please allocate the space more than 1 m in front or rear for maintenance.

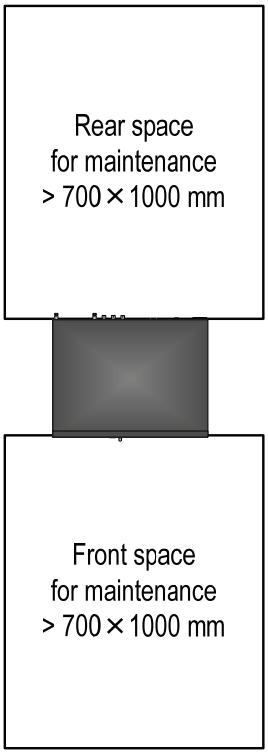


Front access case



Rear access case

Rack installation:
Please allocate the space more than 1 m in front and rear for maintenance.



5.3.2 Change of maintenance parts (Maintenancer only)

If there is no improvement of situation after checking and dealing with referring Section 5.1, “Help Information,” change the hardware following the procedure below.

The maintenance unit of this product is the whole equipment or the optional card. When the optional card failed, please change the optional card only. When other part than the optional card failed, please change whole equipment (excluding the optional card) for the change of the maintenance parts.

Please refer Section 2.6, “CF card insertion and removal,” Section 5.3.3, “Optional card slot” for the respective maintenance.

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Appendix

The appendix contains view of the device and its main specifications. Notes on installation work and preparations for on-site turn-up are also contained in this section.

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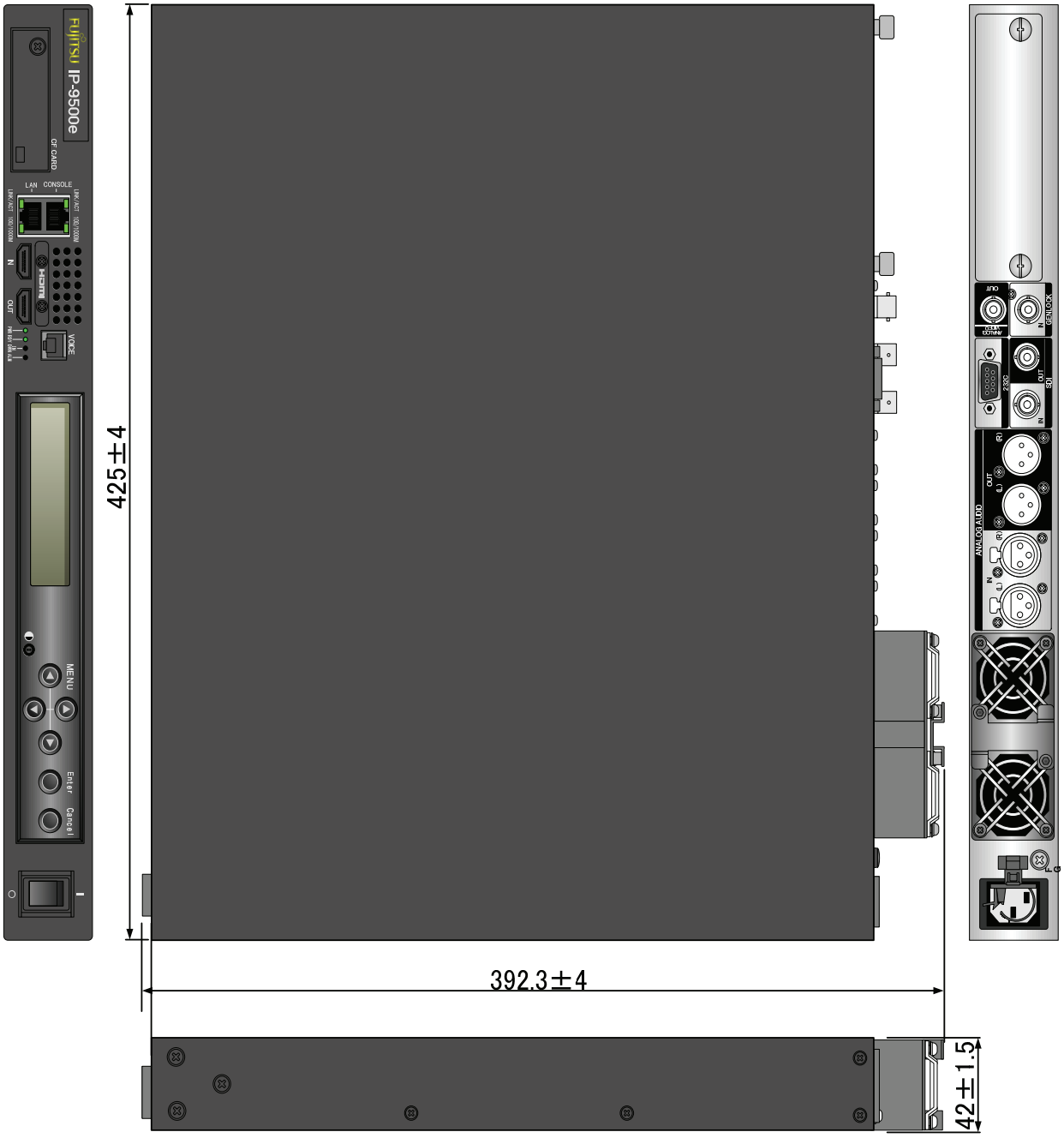
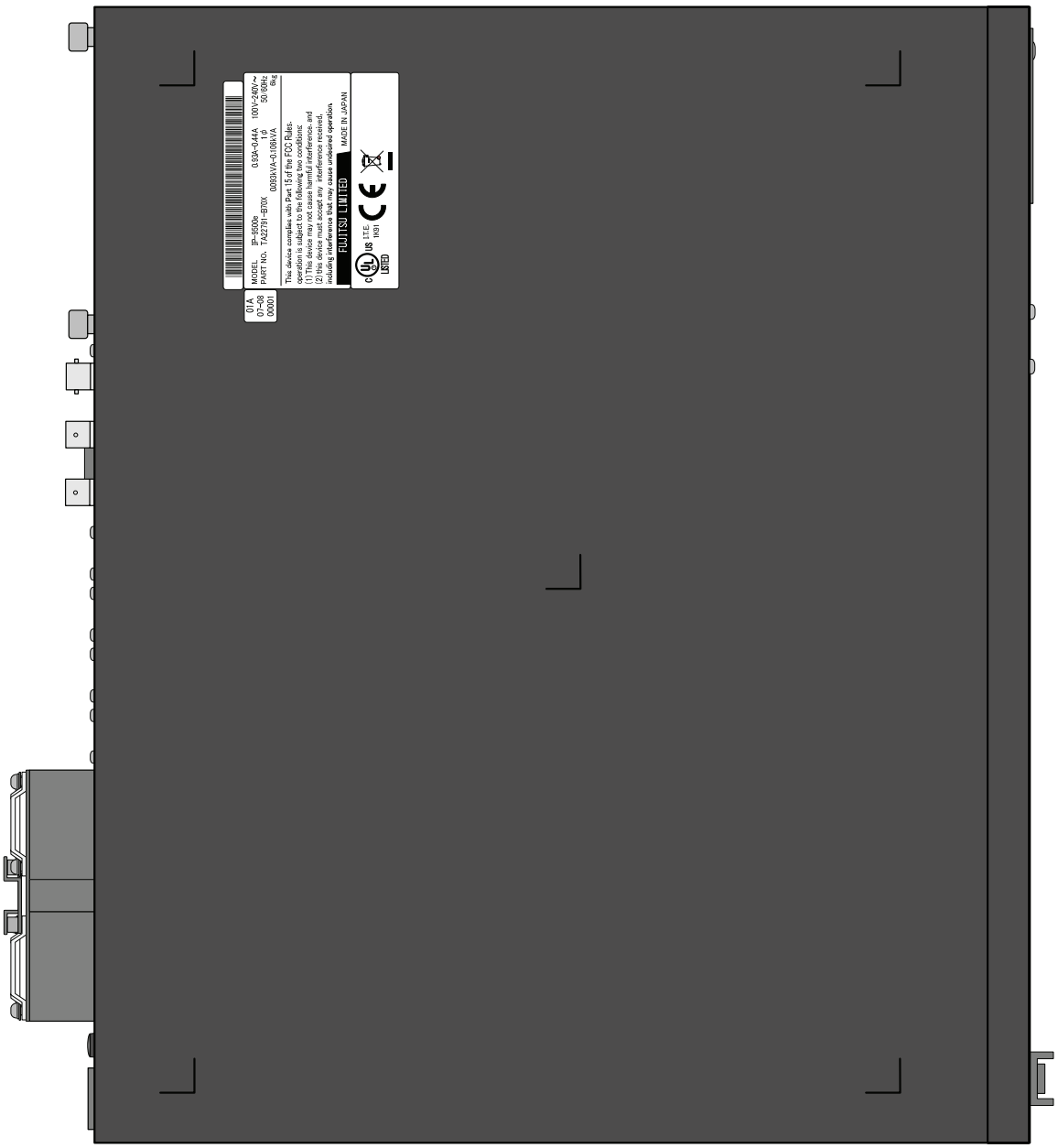
A.1 Appearance

The appearance of this equipment is shown below.





Bottom View

A.2 Basic Specifications

This chapter describes the external specifications, environment specifications, and function specifications of the device.

A.2.1 External specifications

The device has the following external specifications:

Item	Specifications
Installation conditions	Indoor: Installation on a desk or in a rack that is mounted
Dimensions	Width: 425, Height: 42, Depth: 350 (mm) (excluding projections) Width: 430, Height: 45, Depth: 393 (mm) (including optional card, etc)
Cooling method	Forced air cooling (maintenance-free fan used)
Power	100-240VAC
Weight	Max. 6 kg
Power consumption	90W (93 VA) or less @ 100VAC

A.2.2 Environment specifications

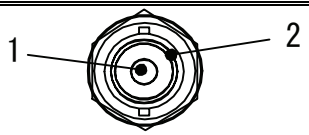
The device has the following environmental specifications:

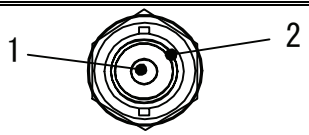
Item	Specifications
Power conditions	100-240 VAC ± 10%, 50/60 Hz ± 3 Hz
Temperature and humidity conditions	Temperature: -10 to 55°C (No low temperature startup: -10 to -1°C) Humidity: 20 to 90% (without condensation) (Conditions for guaranteed operation and characteristics)
Dust	Communication equipment room or office environment (0.2 mg/m^3 or less)
EMI (Electro Magnetic Interference - regulation)	FCC (part 15) Class A EN55022 Class A VCCI Class A

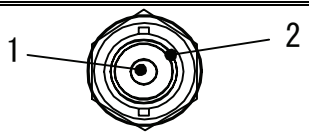
A.2.3 Function specifications

This chapter describes functional specifications of individual parts of the device.

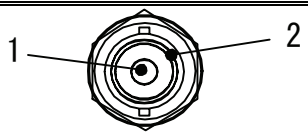
<Main Component>

Name	Specifications		Remarks
Digital SDI VIDEO input	Signal format: NRZI Input impedance: 75Ω (Unbalanced) Signal amplitude: 800mVp-p Maximum amplitude level: 800mVp-p ± 10%		
Connector name	SDI IN		BNC
Pin number	Signal name	Remarks	
1 2	SIGNAL SG		

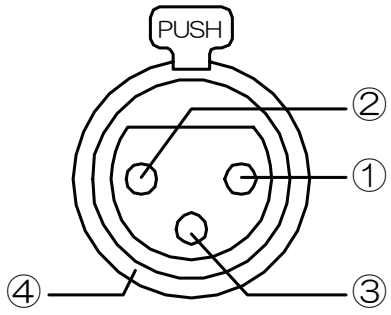
Name	Specifications		Remarks
Digital SDI VIDEO output	Signal format: NRZI Input impedance: 75Ω (Unbalanced) Signal amplitude: 800mVp-p Maximum amplitude level: 800mVp-p ± 10%		
Connector name	SDI OUT		BNC
Pin number	Signal name	Remarks	
1 2	SIGNAL SG		

Name	Specifications		Remarks
Analog VIDEO output	Signal format: NTSC w/o SETUP (Analog composite, 29.97frames/s) PAL (Analog composite, 25frames/s) Input impedance: 75Ω (Unbalanced) Signal amplitude: 1.0 Vp-p Maximum amplitude level: 0.5dB (0dB=100IRE)		
Connector name	ANALOG VIDEO NTSC/PAL OUT		BNC
Pin number	Signal name	Remarks	
1 2	SIGNAL SG		

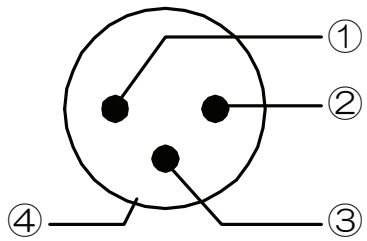
Name	Specifications	Remarks
Reference clock input (GENLOCK)	Signal format: NTSC w/o SETUP (Analog composite, 29.97frames/s) NTSC w/ SETUP (Analog composite, 29.97frames/s) PAL (Analog composite, 25frames/s) HD Tri-SYNC (29.97/25frames/s) Input impedance: 75Ω (Unbalanced) Signal amplitude: 1.0 Vp-p	NTSC/PAL Black burst or Y/Pb/Pr Three values sync (Black)

Connector name	GENLOCK		BNC
Pin number	Signal name	Remarks	
1	SIGNAL		
2	SG		

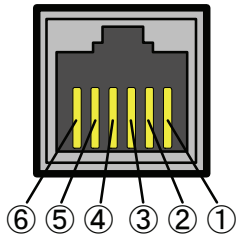
Name	Specifications	Remarks
Analog AUDIO input	Signal format: Analog audio Output impedance: 600Ω (Balanced) Signal amplitude: Max. 12Vp-p Maximum amplitude level: +20dBm, 0dBm [Selectable]	

Connector name	ANALOG AUDIO IN (L)		XLR female
Pin number	Signal name	Remarks	
1	SG	MONO: L ch	
2	COLD		
3	HOT		
4	FG		
Connector name	ANANLOG AUDIO IN (R)		
Pin number	Signal name	Remarks	
1	SG		
2	COLD		
3	HOT		
4	FG		

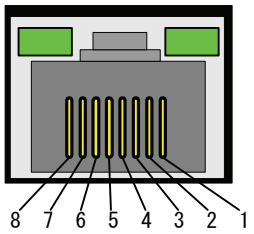
Name	Specifications	Remarks
Analog AUDIO output	Signal format: Analog audio Output impedance: 600Ω (Balanced) Signal amplitude: Max. 12Vp-p Maximum amplitude level: +20dBm, 0dBm [Selectable]	

Connector name	ANALOG AUDIO OUT (L)		XLR male
Pin number	Signal name	Remarks	
1	SG	MONO: L ch	
2	COLD		
3	HOT		
4	FG		
Connector name	ANALOG AUDIO OUT (R)		
Pin number	Signal name	Remarks	
1	G		
2	COLD		
3	HOT		
4	FG		

Name	Specifications	Remarks
Analog AUDIO input /output (VOICE)	Signal format: Analog audio Input / output impedance: 600Ω (Balanced) Maximum amplitude level: 0dBm	

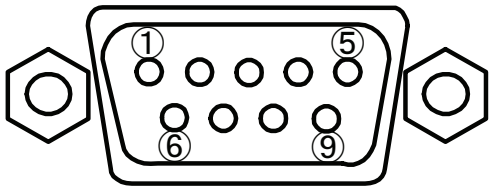
Connector name	VOICE		RJ25
Pin number	Signal name	Remarks	
1 2 3 4 5 6	IN COLD IN HOT SG SG OUT COLD OUT HOT		

Name	Specifications	Remarks
LAN interface	[10BASE-T] System standard: IEEE802.3 Transmission clock: 10Mbit/s±10000ppm(±0.01%) Load impedance: 100Ω Transmission coding: Manchester coding [100BASE-TX] System standard: IEEE802.3u Transmission clock: 125 Mbit/s±5000ppm(±0.005%) Load impedance: 100Ω Transmission coding: 4B5B [1000BASE-T] System standard: IEEE802.3ab Transmission clock: 1000 Mbit/s±10000ppm(±0.1%) Load impedance: 100Ω Transmission coding: 8B1Q4	

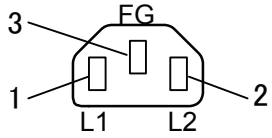
Connector name	10/100 BASE CONSOLE		10/100/1000 BASE LAN		RJ-45
Pin number	Signal name	Remarks	Signal name	Remarks	
1	TD+	Trans. data+	TP0+	Pair 0+	
2	TD-	Trans. data-	TP0-	Pair 0-	
3	RD+	Reciv. data+	TP1+	Pair 1+	
4	N.C.	-	TP2+	Pair 2+	
5	N.C.	-	TP2-	Pair 2-	
6	RD-	Reciv. data-	TP1-	Pair 1-	
7	N.C.	-	TP3+	Pair 3+	
8	N.C.	-	TP3-	Pair 3-	

Cable	Standard: ANSI/TIA/EIA568A CAT5 Pin assignment: Comply with one of two below Pin No. 1 2 3 4 5 6 7 8 T568A W/G G W/O Bl W/Bl O W/Br Br T568B W/O O W/G Bl W/Bl G W/Br Br [W: white, G: green, O: orange, Bl: blue, Br: brown]

Name	Specifications	Remarks
Data interface (232C)	No. of CH : 1 ch Signal system : Asynchronous Connection : DTE Bit rate : 1200, 2400, 4800, 9600, 19200 bps Data length : 8 Parity : NONE Stop bit : 1	RS-232C interface

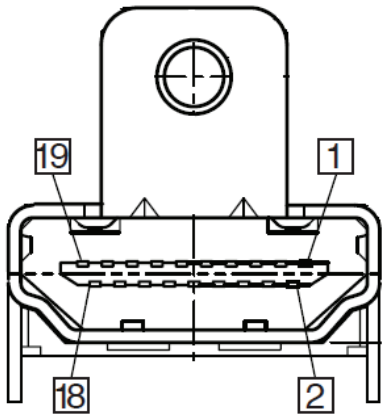
Connector name	RS-232C		D-sub 9 pin(male)
Pin number	Signal name	Remarks	
1	CD	Carrier Detect	
2	RD	Receive Data	
3	SD	Send Data	
4	DTR (ER)	Data Terminal Ready	
5	SG	Signal Ground	
6	DSR (DR)	Data set Ready	
7	RTR (RS)	Request to Send	
8	CTS (CS)	Clear to Send	
9	RI	Ring Indicator	

Name	Specifications	Remarks
POWER	Parallel 2 pin with ground Input voltage : 100-240VAC±10% Connector : Inlet Button : Locker button Input protection : Built-in fuse Withstand voltage : 1,500 VAC	

Connector name			
Pin number	Signal name	Remarks	
1	L1		
2	L2		
3	FG		

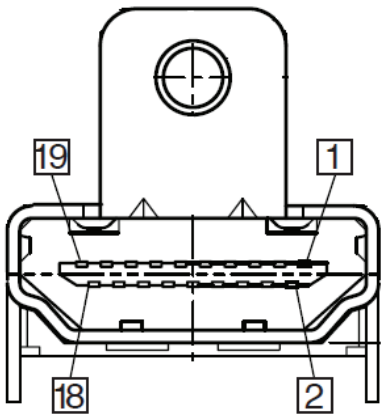
Name	Specifications	Remarks
HDMI input	Signal format : TMDS Input impedance : 50 ohms ±10% Maximum length : -------- connector : 19PIN TypeA	Length of the attested HDMI cable is pretermission. The unattested cable can't be used.

Connector name	HDMI IN		HDMI 19 pin Type A
Pin number	Signal name	Remarks	
1	TMDS DATA2 +		
2	TMDS DATA2 SHIELD		
3	TMDS DATA2 -		
4	TMDS DATA1 +		
5	TMDS DATA1 SHIELD		
6	TMDS DATA1 -		
7	TMDS DATA0 +		
8	TMDS DATA0 SHIELD		
9	TMDS DATA0 -		
10	TMDS CLOCK +		
11	TMDS CLOCK SHIELD		
12	TMDS CLOCK -		
13	CEC		
14	RESERVE(N.C)		
15	SCL		
16	SDA		
17	DDC/CEC GROUND		
18	+5V POWER		
19	HOT PLUG DETECT		



Name	Specifications	Remarks
HDMI output	Signal format : TMDS Input impedance : 50 ohms ±10% Maximum length : -------- connector : 19PIN TypeA	Length of the attested HDMI cable is pretermission. The unattested cable can't be used.

Connector name	HDMI OUT		HDMI 19 pin Type A
Pin number	Signal name	Remarks	
1	TMDS DATA2 +		
2	TMDS DATA2 SHIELD		
3	TMDS DATA2 -		
4	TMDS DATA1 +		
5	TMDS DATA1 SHIELD		
6	TMDS DATA1 -		
7	TMDS DATA0 +		
8	TMDS DATA0 SHIELD		
9	TMDS DATA0 -		
10	TMDS CLOCK +		
11	TMDS CLOCK SHIELD		
12	TMDS CLOCK -		
13	CEC		
14	RESERVE(N.C)		
15	SCL		
16	SDA		
17	DDC/CEC GROUND		
18	+5V POWER		
19	HOT PLUG DETECT		



LED name		ON	Blinking	OFF	Remarks
PWR	G	Power ON	---	Power OFF	
RDY	G	Normal operation	Starting up	Software inactive	Blink interval: 0.5s
	O	Maintenance mode LAN (IP=10.0.0.1, Subnet=255.0.0.0) CONSOLE (IP=192.168.255.253, Subnet =255.255.255.252)	Maintenance mode starting up		Maintenance mode (Cancel button startup): LAN subnet mask (255.0.0.0) CONSOLE subnet mask (255.255.255.252)
ALM	R	Equipment alarm	FAN alarm Temperature alarm CF card access error Option card error	Normal operation	
IN DWN	O	Video input down/fault	Reference clock slipping Reference clock input down/fault	Normal operation	HD-SDI video input or reference clock input monitoring
LINK/ACT [LAN]	G	LINK established	LAN packets detection	Cable disconnection or software inactive	
100M/1000M [LAN]	G	100BASE operation	1000BASE operation	10BASE operation	
LINK/ACT [CONSOLE]	G	LINK established	LAN packets detection	Cable disconnection or software inactive	
100M/1000M [CONSOLE]	G	100BASE operation	1000BASE operation	10BASE operation	

G: Green, O: Orange, R: Red

Name	Button type	Specifications	Behavior
POWER	Locker button	Power ON/OFF	

A.3 Preparations for Installation Work

This section contains notes and describes check items for installation work.

A.3.1 Scope of installation work

For details about the scope of installation work, see Section 4.1, “Installation Preparations.”

A.3.2 Unpacking and device check

Unpack and check the device as follows:

- During unpacking, carefully handle the device so as not to apply shock to it or damage its appearance.
- Make sure that the device and accompanying package are not damaged.
- Make sure that wiring does not have a short circuit and is not disconnected.
- Make sure that no incorrect screw is contained in the package.

A.3.3 Installation conditions

For the classification of this work, see Section 2.1, “Installation Conditions.”

The installation method may differ depending on the site where the device is installed. In principle, the installation method conforms to the appropriate method for the site.

Do not install the device at the following locations:

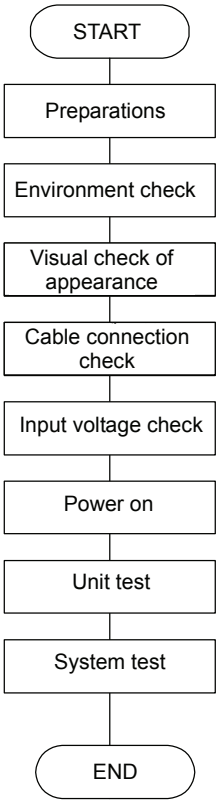
- Place exposed to direct sunlight or near a heater.
- Humid or dusty place
- Place where the device is exposed to shock or vibration
- Unstable place, such as on a slope or place with a lot of weight on it
- Place where the device is subject to strong magnetic and radio waves

A.3.4 Connecting external cables

Refer to Chapter 2, “Installation and Connection,” for the connection methods, Section 4.2, “Cables and Connector Details,” and A.2.3, “Function specifications,” for device connector pin assignments.

A.4 Preparations for On-site Turn-up

This chapter explains the workflow of on-site turn-up.



Since system configurations of the device are diverse depending on the applications used, this chapter describes the checking process for only a single device.

(1) Preparations

1) Check the system configuration
   Check the entire system configuration.
2) Check the units and cables to be connected to the device
   Check the units to be connected to the device, cables that have to be procured, and installation conditions.
3) Tools and measuring instruments necessary for work:
   - Digital multimeter
   - General-purpose tools

(2) Environment check

1) Ambient air temperature, humidity and power supply
   Make sure that the ambient air temperature, the humidity and power supply conform to A.2.2, "Environment Specifications.
2) Ground connection (FG)
   Make sure that use a grounding resistance of 100 ohms, a wire of $2mm^2$ or thicker, or your country's applicable standard.

(3) Visual check of appearance

1) Make sure that the device surface has no damage such as scratches, dirt, rust, deformation or peeling of its coating.
2) Make sure that patent nameplate and device nameplate are still attached, and that buttons are not damaged.
3) Make sure that connectors are not loose.

(4) Cable connection check

Make sure that individual cables are connected as prescribed in system specifications.
Refer to Chapter 2, "Installation and Connection," for the connection methods, Section 4.2, "Cables and Connector Details," and A.2.3, "Function specifications," for device connector pin assignments.
Hardware settings need not be set in the device.

(5) Input voltage check

Make sure that the voltage of power supplied to the device is in a range of 100-240 VAC ± 10%.

(6) Power on

1) Set Power button on the front panel to [ON].
2) Make sure that that PWR LED lamp on the front panel is on.

(7) Unit test

1) Since this device executes a self-check immediately after power is turned on, make sure that the RDY LED on the front of the panel does not light after power is turned on.
2) The LEDs light if the self-check detects an unusual condition.

(8) System test

1) Software installation
   Install appropriate software following IP-9500e Software User's Guide.
2) Set-up check
   Various devices settings complying with the system specification are made from the control terminal either directly or via the network.
3) Input video check
   Make sure that the video input to the device is correctly output to the monitor (television).
4) Data communication check
   Make sure that the line used by the system is connected.
5) Status check
   After the final setup, when the equipment is in the system operation state, make sure that the device status LED (RDY) on the front of the device lights in green, and that the alarm LED (ALM) is off.

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Glossary and Index

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Glossary

AES/EBU
This is the standard of the professional digital audio signals and standardized by AES and EBU. ANSI adopts it too.

Alarm Log
Record of errors that have occurred on devices and communication lines

BNC (Bayonet Neill Concelman)
Type of coaxial connector whose characteristic impedance is 75 Ω. A locking system called a bayonet lock is used, ensuring cables are easy to connect and remove, and secure connections. The connector is compact and lightweight and has a frequency range compatible with the high frequency of 4 GHz, so it can be used for measuring instruments and digital audio equipment.

Browser
General name for programs that support users who want to select desired options from available options. Using a browser, a user can trace links on the Internet to access such multimedia information as text, audio, and video by simply using a pointing device (e.g., mouse) to select items.

DCE (Data Circuit terminating Equipment)
Data circuit terminating equipment. DCE is a term from ITU-T. Similar to modems and DSUs, it changes signals to waveform that are suitable for their transmission routes.

DHCP (Dynamic Host Configuration Protocol)
This is the protocol to assign IP address dynamically when startup and to release it when shutdown. The IP address prepared by DHCP server is assigned.

DTE (Data Terminating Equipment)
Data terminating equipment. It is one kind of terminal equipment (e.g., PC). DTE is a term from ITU-T and is paired with DCE.

Embedded Audio
It is the scheme to embed (multiplex) AES/EBU digital audio signals in the auxiliary data area (blanking area) of the serial digital signal.

FG (Frame Ground)
Ground for a cabinet

Flow Control
Procedure for controlling the flow of data between two devices. Its purpose is to prevent data loss when the device buffer becomes full.

Gateway
Equipment that connects network systems that use different protocols. It basically converts one protocol into another to support operation between two networks. In a broader sense, a gateway sometimes means a device that transfers information between any two networks.

HD-SDI (High Definition television – Serial Digital Interface)
HD-SDI is the serial digital interface to transmit HD (High Definition) video signal, which transmission rate is 1.485 Gbps. It can transmit multiplexing HD video signal, PCM audio signal and data signal like time stamp.

HTTP (Hyper Text Transfer Protocol)
Protocol used for sending and receiving files and other data between a WWW server and WWW browser

Hub
Concentrator required for using 10BASE-T or 100BASE-TX as a local area network (LAN) standard. Twisted-pair cables are used to connect hubs. A high-speed hub conforms to 100BASE-TX, and a switching hub has switching functions.

IP (Internet Protocol)
Protocol used between host computers to transfer packets over all of the Internet. The codes that identify the destinations and senders in packet transfers are called IP addresses. An IP address is a 32-bit code that can identify a network and host in the network. A unique IP address must be allocated to each hosts that communicates on the Internet.

IP Address
Code used for identifying a node (e.g., PC) operating using TCP/IP. This 32-bit number is

divided into four 8-bit sections, and an example of this is 200.10.101.1.

IP Multicast

Technology for transmitting identical data to multiple remote destinations simultaneously using TCP/IP. An address system called class D is used for multicasting. In the class D address system, the first four bits (1110) indicate a multicast, and the remaining 28 bits specify a multicast group. Path control methods for IP multicasting are PIM and DVMRP, but no one method has become the standard yet.

LAN (Local Area Network)

Data communication system in a specific area (maximum of 6 miles or about 10 km). It provides moderate to high data transfer speeds.

LCD (Liquid Crystal Display)

The display device using the liquid crystal. A LCD is a thin, flat display device made up of any number of color or monochrome pixels arrayed in front of a light source or reflector. There are two categories, the simple matrix like STN and DSTN and the active matrix like TFT.

LED (Light-Emitting Diode)

The IP-9500e has a power LED lamp and alarm LED lamps. The power LED lamp is lit in green to indicate the device is on. An alarm LED lamp is lit in red to indicate that an alarm has been generated.

MPEG-4

Standard for the compression and coding of color video for storage purposes, and the name of the organization promoting this standardization is used in the name of the standard. MPEG-4 handles not only regular image and voice data but also a comprehensive range of multimedia data, including computer graphics and text. It defines a flexible framework for a scalable object encoding system depending on technological developments. It has a transfer speed ranging from several tens of Kbps to several tens of Mbps (low bit rate to wide range). It is intended for low-speed communication by general-purpose multimedia encoding systems on mobile terminals.

PING

Command supported by operating systems such as UNIX, Windows 9x, and Windows NT, and it is used in TCP/IP networks to check whether IP packets can reach or have reached their communication destinations

PPPoE (Point to Point Protocol over Ethernet)

This is the user authentication standard for the connection like PPP connection on the Ethernet network.

PS

MPEG-2 method of multiplexing audio, video, and data. It is an abbreviation of Program Stream, and it is used for transmission and storage in an error-free environment.

RS-232C

Interface standard that was mainly established by the Electronics Industry Association (EIA) for communication between data terminals and data communications equipment

SD-SDI (Standard Definition television – Serial Digital Interface)

Standard definition digital video interface standardized in SMPTE259M.

SG (Signal Ground)

Ground for signals

Subnet Mask

Mask value used for obtaining a subnet network address from an IP address. The subnet address is obtained by using an AND operation between an IP address and subnet mask.

TCP (Transmission Control Protocol)

Abbreviation of Transmission Control Protocol, which is the protocol required for direct connection to the Internet. In the OSI reference model, TCP corresponds to the transport layer and IP corresponds to the network layer. TCP has been a global standard protocol that is supported by major operating systems, including UNIX, OS/2, Windows 95, and Windows NT.

TS (Transport Stream)

The stream used in the multi-programs multiplexing, standardized in MPEG-2 systems. The transport stream offers features for error correction for transportation over unreliable media, and is used in broadcast applications and ATM telecommunication.

TTL (Time To Live)

Abbreviation of time to live, which indicates the survival time of a packet in a network. If a packet sent to a network happens to enter a loop because of a setting error on a router, it will not survive forever but will be discarded when the time specified in the Time To Live field of the IP header is reached.

UDP (User Datagram Protocol)

Abbreviation of User Datagram Protocol, which is a TCP/IP transaction protocol used for specific applications such as remote network management and naming service access

Unicast

Communication with a station at a single address (i.e., most general one-to-one communication)

UTP Cable

Abbreviation of unshielded twisted pair. It is a unshielded pair of wires twisted together, and these wires are used for Ethernet cabling and other purposes.

10BASE-T

LAN that uses unshielded twisted-pair (UTP) cables and complies with the IEEE 802.3 standard. A 10BASE-T connection uses a concentrator called a hub. It is widely used because special cabling work is not necessary and wiring can be done easily. The maximum length of cable wiring is 100 m.

100BASE-TX

One of the 100BASE LAN standards (also called Fast Ethernet), it supports a transfer rate of 100 Mbps. Other 100BASE standards are 10BASE-T4 and 100BASE-FX, and the difference is the type of cable used. 100BASE-TX uses unshielded twisted-pair (UTP) cables. It also uses the RJ-45 connector, which is similar to the modular jacks used for telephones.

1000BASE-T

One of the Gigabit Ethernet standards. It standardized as IEEE802.3ab in 1999, uses the UTP cables of the category 5 (CAT5) and the enhanced category (CAT5e). The maximum transmission distance is 100m and it supports the topology of the hubbing, star and so on.

Index

1

A

B

C

D

E

F

G

H

I

L

M

N

O

P

R

S

T

U

V

W

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FUJITSU

DECLARATION OF CONFORMITY

(According to EN45014)

According to Electromagnetic Compatibility Directive 2004/108/EC and Low Voltage Directive 2006/95/EC, AnnexIIIB.

FUJITSU LIMITED,1-1, Kamikodanaka 4-Chome, Nakahara-Ku, Kawasaki 211-8588, Japan

Declares, in sole responsibility, that the following product, including the options or accessories

Product Type : IP Encoder
Model Number : IP-9500xy (x = A–Z, a–z or 0–9; y = A–Z, a–z, 0–9 or blank)
Approval ID Number : JPTUV-017912-M1

Referred to in this declaration, conforms with the following directives and standards;

Restriction of use of certain Hazardous Substances in Electrical and Electronic Equipment Directive 2002/95/EC
Electromagnetic Compatibility Directive 2004/108/EC
Low Voltage Directive 2006/95/EC

EN55022 (1994), +A1, +A2/ CISPR 22 (1993), +A1, A2: Class A
EN55024 (1998), +A1, +A2
EN61000-4-2 (1995), +A1, +A2 / EN61000-4-3 (2002), +A1 / EN61000-4-4 (2004) / EN61000-4-5 (1995), +A1
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IP-9500e
User's Guide

September, 2007 1st Edition

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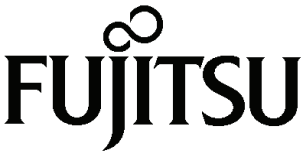
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