SONY

BVP-E30 Series Video Camera System

HDC1000 Series Video Camera System

CAMERA NETWORK SYSTEM MANUAL
1st Edition

⚠警告

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お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

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Manual Structure

Purpose of this manual

This manual is the LAN connection setup manual of the Sony system camera equipment.
It contains information on the system configuration method to control the Sony system camera equipment using the LAN connection.
In addition to the description of this manual, knowledge on computer network is required for the system configuration.

Trademarks

Trademarks and the registered trademarks used in this Manual are as follows:

- Ethernet is a registered trademark of Xerox Corporation.

Section 1
Service Overview

1-1. Camera Network System Overview

The Sony system camera equipment is controlled by the unique communication protocol using the CCA-5 cable. The network control system is realized by connecting the equipment via LAN and by expanding this protocol on TCP/IP.

1-2. Camera Network System Features

- An economical network control system can be created by connecting the camera equipment via network, thus eliminating the needs for CNU.
- Thanks to the IP technology, the physical distance between the equipment imposes no restriction in configuring a system since communication of the camera control signal is established using the IP technology. (There is a restriction due to signal delay.)
- In the conventional system that uses multiple units of CNU, the RCP assignment and the “ALL” function cannot be used across multiple units of CNU. However, this new system has overcome this restriction.
- When the RM-B750 is attached to the HDCU1500 or CCU-590 as a front panel, switchover of active panel has not been possible between the RM-B750 and the other control panels in the conventional CNU system. When the MCS mode of the new camera network system is used, this function can be freely used.

1-3. Restrictions and Notes on the Camera Network System

- Use the 10BASE-T or the 100BASE-TX for the LAN.
- Performance of the camera network system largely depends on the network line condition. Confirm that the network has sufficient bandwidth and security before using the system.
- The traffic monitoring is always issued so that delays due to traffic are restricted. If a network has significant delay, or if a network has heavy congestion, connection of the system can be unstable.
- When a system uses Internet or intranet to connect the equipment, there is a possibility that the system may not reach full performance due to incompatibility with other traffic or security problem. It is recommended that an independent network be constructed for stable operation of a system.
- Upon completion of the network setting, reboot the system.
- For the multiple camera operation, be sure to prepare an MSU to be assigned as the Master.
- Do not turn off the power of the Master machine while the system is in operation.
- The RCP assignment function in the MCS mode can be set only from the MSU that is assigned as the Master. It cannot be set from client MSU.
- The maximum number of connections in the MCS mode is 24 units of CCU/HDCU and RCP in total and 2 units of MSU. RCP units that are directly connected to the CCU/HDCU by the CCA cable and CCU/HDCU units that are directly connected to the RCP are not included in the count of the maximum number even though the CCU/HDCU or the RCP are connected to the camera network system.
- Systems using LAN and systems using CNU cannot be used together.
- The Master/Slave function does not work in the camera network system.
- File transfer in the one-to-one configuration is possible but the file transfer from one unit to multiple units is not possible.
- If multiple units of RCP are assigned to a single CCU/HDCU, response can be delayed. Do not use this method of operation.
- Performance of the MSU that is assigned to Master can be degraded when number of the connected equipment increases.
- S-BUS is not supported.
- As the RCP, use either RCP-750/751 or RCP-920/921. Operations with other types of RCP are not guaranteed.

1-4. Applicable Models

The following system camera equipment can be connected to the camera network system.

MSU : MSU-900/950
CCU/HDCU : CCU-590/790
HDCU1000/1080/1500/3300
RCP : RCP-750/751/920/921

1-5. Required Software Versions

Before connecting equipment to the system, check the version number of the ROM installed in each equipment. If the required versions as specified below are not installed yet, upgrade the version.
Contact your local Sony Sales Office/Service Center for version upgrade.

Name of equipment	ROM version
MSU-900/950	Ver.1.20 or higher
CCU-590/790	Ver.1.23 or higher
HDCU1000/1080/1500	Ver.1.20 or higher
HDCU3300 (AT)	Ver.1.20 or higher
RCP-750/751	Ver.1.40 or higher
RCP-920/921	Ver.1.10 or higher

1-6. Function and Terminology Description

Camera Network System (CNS)

The three modes of connection are prepared to connect the camera equipment. They are Bridge mode, MCS mode and Legacy mode. The Bridge mode is used when connecting the camera control unit (to be called as CCU/HDCU) to the control panel in the one-to-one connection on a network. The MCS mode allows user to configure a system containing multiple units of CCU/HDCU and multiple units of control panel. In contrast, the Legacy mode is the connection using the conventional CCA-5 cable only.

Legacy mode

All controls of the camera equipment are performed via the CCA-5 cable only. Connection for the Legacy mode is performed only by the CCA-5 cable that connects CCU/HDCU to the control panel.

Bridge mode

In the Bridge mode, control panel is connected to the equipment to be controlled, in the one-to-one connection on a network. System configuration of the Bridge mode is the same as that of connecting CCU/HDCU to the control panel with the CC-5 cable. However, the LAN cable is used instead of the CCA-5 cable to send the control signals to the camera equipment.
The Bridge mode has the advantage that CCU/HDCU and the control panel can be installed in remote locations since they are connected via network. At the same time, multiple camera systems that are configured by the Bridge mode can be mixed on a single network by using HUB.
Further, the control panel has the three connection modes that are the Active, the Passive and the Semi-Auto that selects Active or Passive semi-automatically.

MCS mode

The MCS mode enables configuration of the multiple camera systems consisting of the multiple equipment supporting the network connection. The MCS mode is equivalent to the conventional system that uses CNU. Cameras can be selected from the MSU enabling control and the RCP assignment. In the MSU mode, any single MSU among the equipment in the system should be assigned as the Master and be set accordingly.

Connection mode

The connection modes are the sub modes of the Bridge mode determining operations of the Bridge mode. The connection mode is set by the panel equipment side determining configuration. There are following three connection modes. Use Semi-Auto mode normally.

Active : The settings that are required for connection are performed to the target equipment from one's own side. (The target equipment to be connected is called Target.)
In this mode, one side should be set as Active while the other side should be set as Passive.

Passive : The equipment of Passive mode awaits connection from the Target equipment in this mode. (Camera and CCU/HDCU are fixed to Passive so that no setting is required.)
When the Passive mode is used, the system camera equipment that does not support the network function of the camera network system can be controlled via network. (However, the equipment that does not guarantee connection with RCP or MSU can not be connected.)
Since the Bridge mode is configured on the premise of one-to-one connection of equipment, the connection that allows a single equipment to become Target of multiple units of equipment is not possible.

Semi-Auto : When equipment is set in the Semi-Auto mode, the equipment is switched to Active or Passive depending on the connection environment. When RCP or MSU is connected to network as standalone equipment independently, they become Active. When RPC or MSU is connected to CCU/HDCU or camera with the CCA-5 cable, they become Passive. (Factory default setting)

Network setting should be made in each equipment. For the equipment of Active mode, IP address of the Target equipment should also be set.

Master/Client

When the MCS mode is selected to configure a system, a single equipment of the system should be set as Master.
This equipment is called Master, and other equipment is called Client. (Only MSU can be set as Master.)
When multiple units of MSU are used, a single MSU should be set as Master while all other units of MSU should be set as Client. The Master equipment performs the function equivalent to CNU in the conventional system. Since the Master equipment performs the system arbitration, never turn off the power of the Master equipment while the system is in operation.
The network setting (including IP address, subnet mask and default gateway) and the equipment number (CCU/HDCU number, RCP number and MSU number) should be set to each equipment. The IP address of the Master equipment should be set in the Client equipment separately.

RCP assignment

The RCP assignment is the function that enables us to change combination of camera and CCU/HDCU without changing the physical connection of the control cable, for the control from RCP. The RCP assignment function can be used in the MCS mode.

Preview

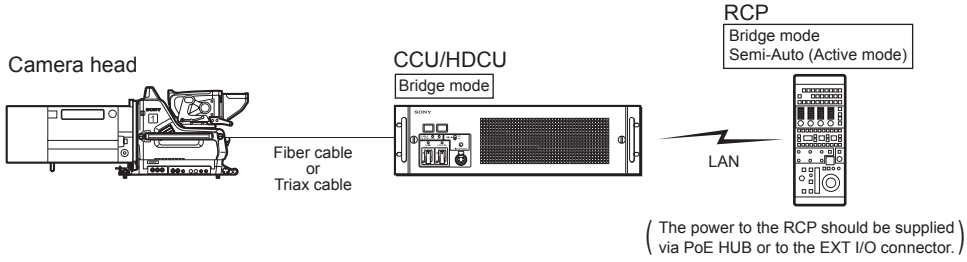
The RCP of the Joystick (lever) type has the Preview switch. ON/OFF status of the Preview switch can be obtained from the interface connector.

Section 2
System Configuration Diagram

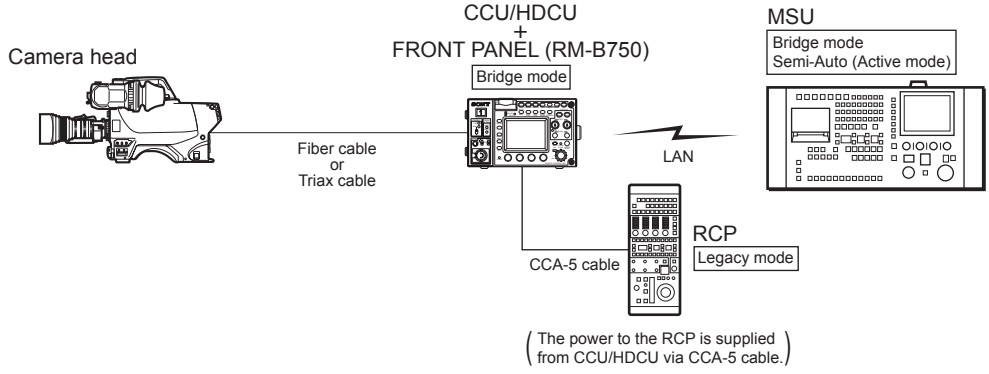
2-1. Bridge Mode System Configuration

2-1-1. Example of Connecting CCU/HDCU and Control Panel

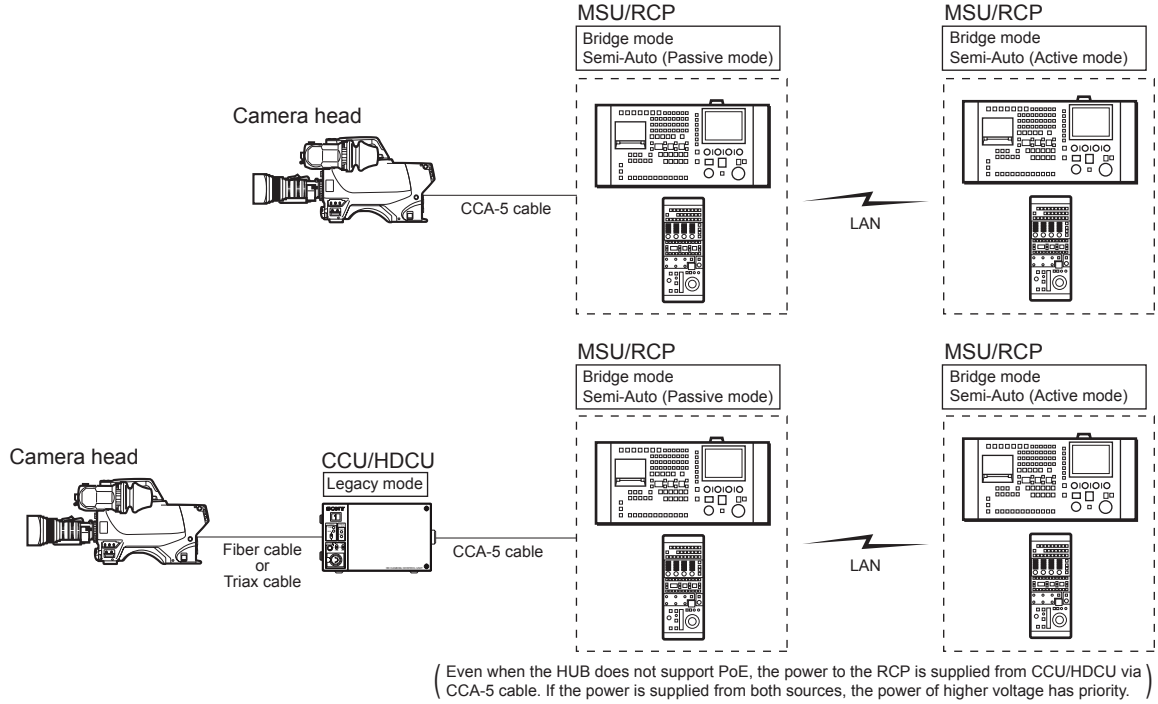
Connection example using RCP



Connection example using MSU

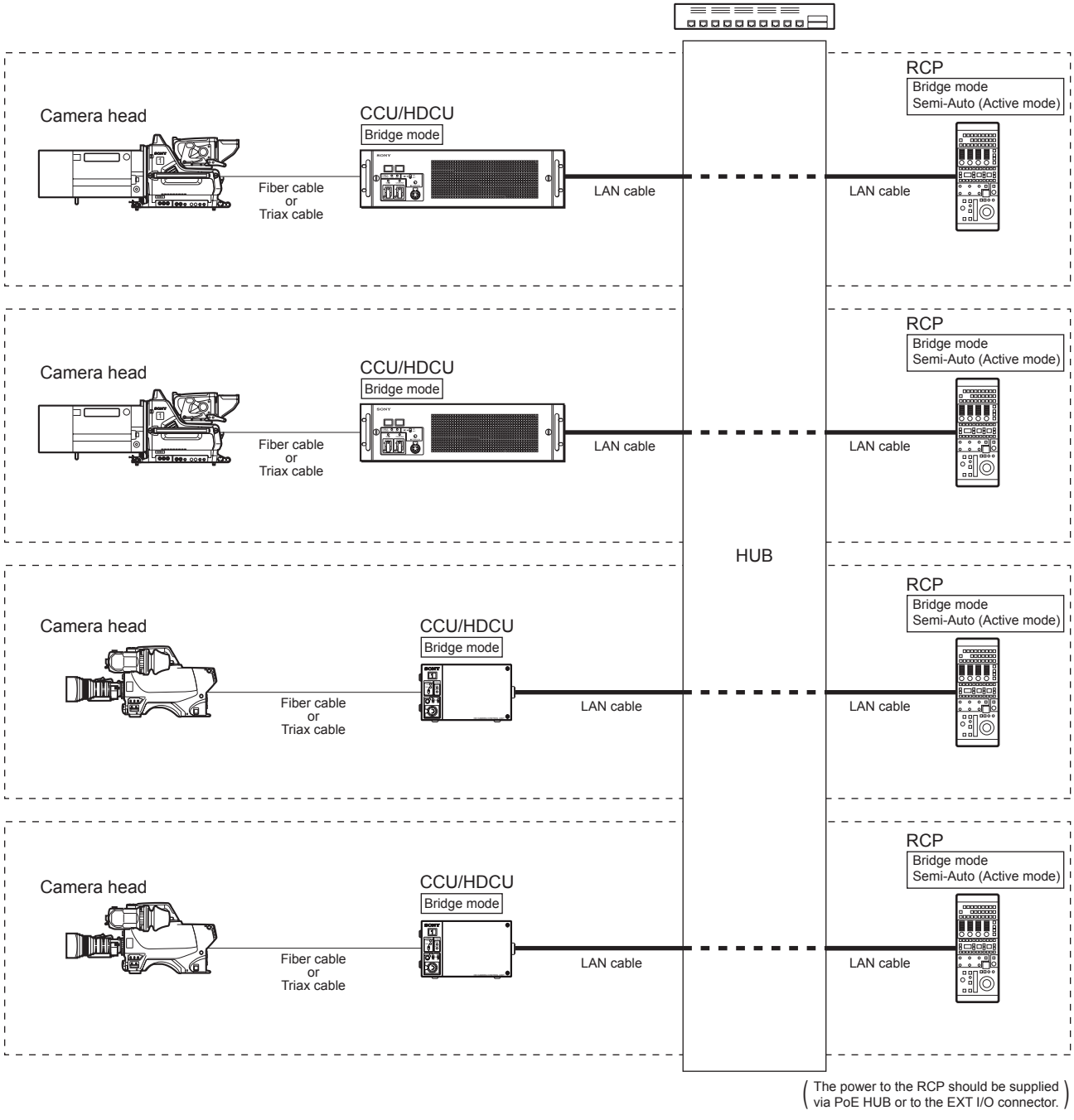


2-1-2. Example of Connecting Multiple Control Panels



2-1-3. Example of Connecting Multiple Units

Multiple camera systems of the Bridge mode can be mixed on the single network. In the configuration shown below, however, camera select by MSU or RCP assignment are not possible.



2-2. MCS Mode System Configuration

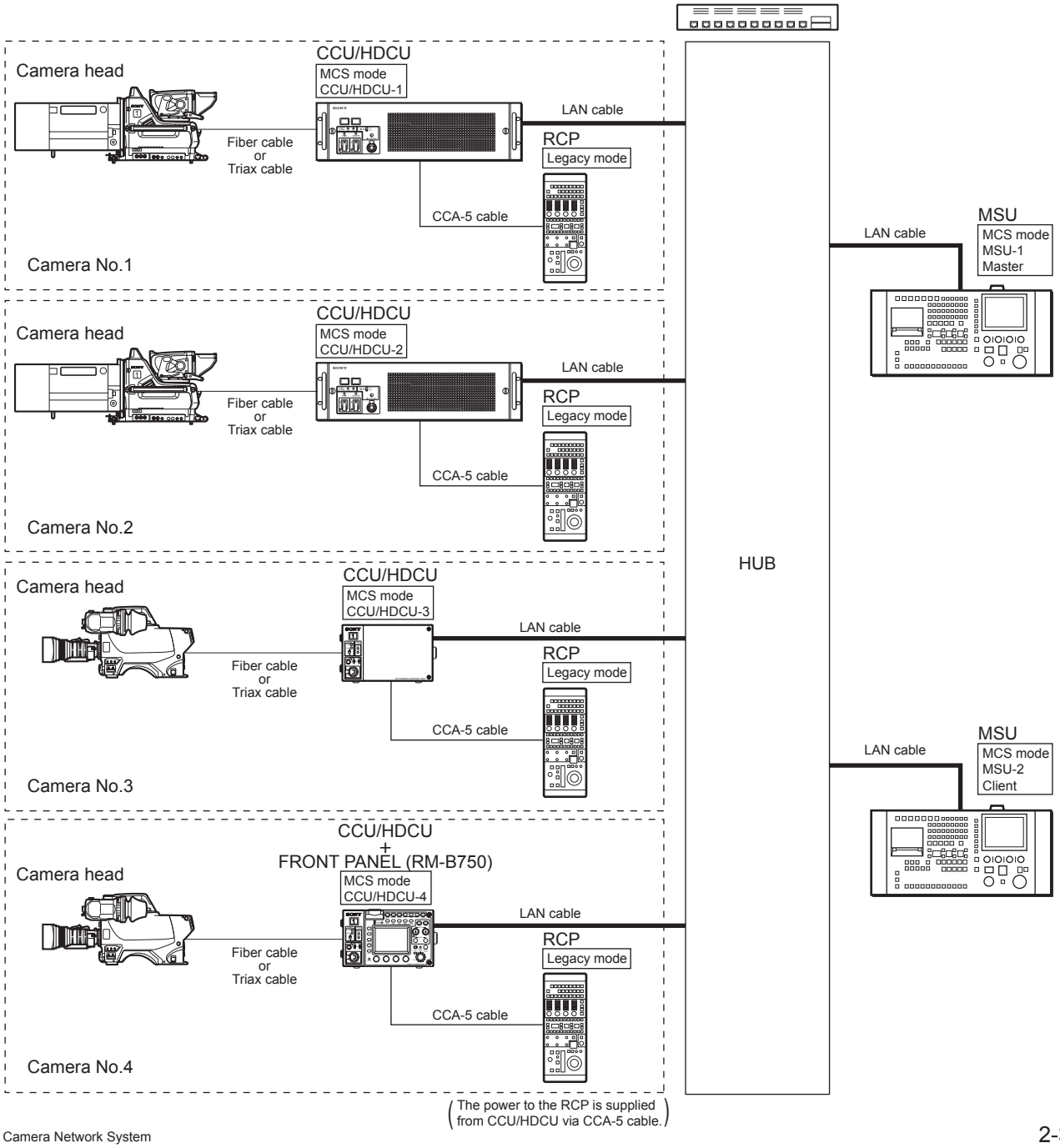
2-2-1. Connection Example Using CCU/HDCU Supporting Network Connection

For this connection, select the Legacy mode for the CNS MODE setting of RCP.

Note

Because the equipment number (camera number) of CCU/HDCU is used as the camera selection numbers by MSU, the same equipment number (camera number) of CCU/HDCU should not be duplicated. For the method of setting the equipment number (camera number) of CCU/HDCU, refer to Section "3-4-6. Equipment Setting" of this manual.

In the following connection, RCP can be assigned to other CCU/HDCU by using the RCP assignment function. However, if the power to the CCU/HDCU is shut down, the power to the RCP connected is also shut down so that the RCP cannot be operated.



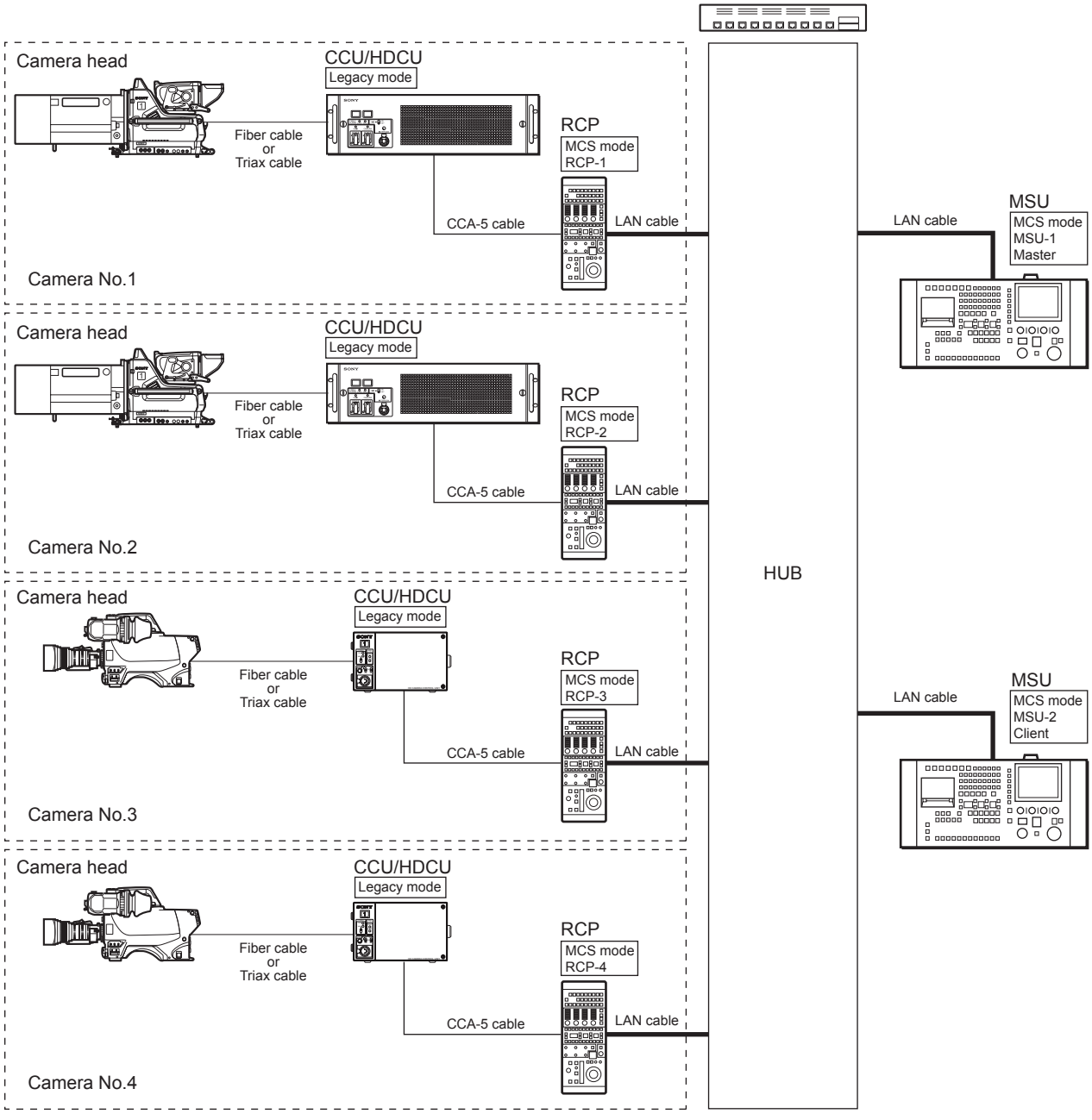
2-2-2. Connection Example Using RCP Supporting Network Connection

For this connection, select MCS for the CNS MODE setting of RCP.

Note

Because the equipment number of RCP is used as the camera selection numbers by MSU, the same equipment number of RCP should not be duplicated.
For the method of setting the equipment number of RCP, refer to Section “3-2-2. Camera Network System Setting Menu” of this manual.

When the following connection method is used, the system camera equipment not supporting the network control can also be used. However, the equipment that does not guarantee the multi-camera operation cannot be used.



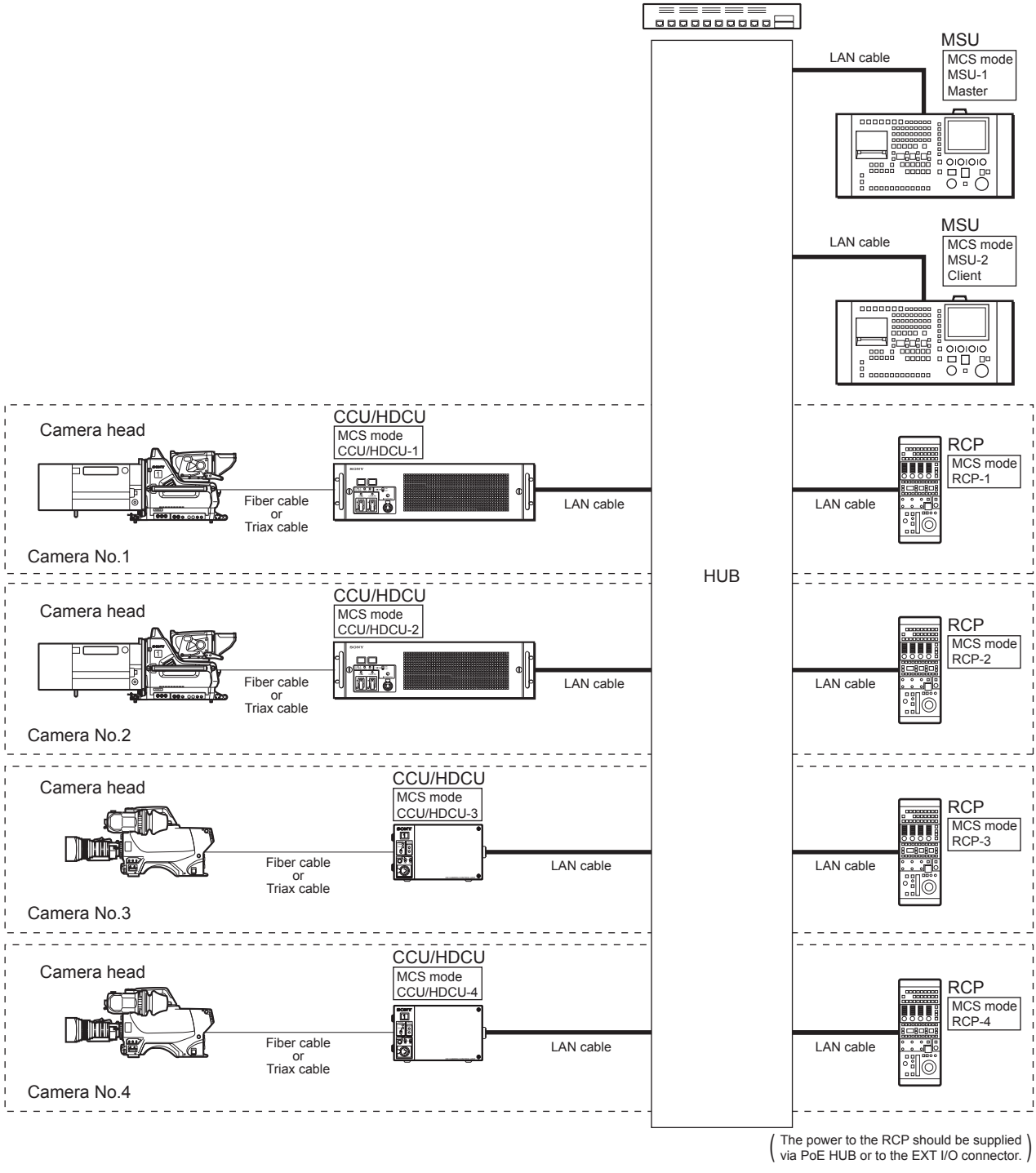
When the HUB does not support PoE, the power to the RCP is supplied from CCU/HDCU via CCA-5 cable. When the HUB supporting PoE is used, or when the power is supplied to the EXT I/O connector, the RCP can operate even when the power to the CCU/HDCU is shut down. If the power is supplied from both sources, the power of higher voltage has priority.

2-2-3. Connection Example Using CCU/HDCU and RCP Supporting Network Connection

Note

For CCU/HDCU and RCP, set the numbers that correspond to the camera selection numbers of MSU. The same number should not be duplicated among the multiple units of RCP and CCU/HDCU for secure connection. For the method of setting the equipment numbers, refer to Section “3-3-5. RCP No. Setting Menu” and Section “3-4-6. Equipment Setting” of this manual.

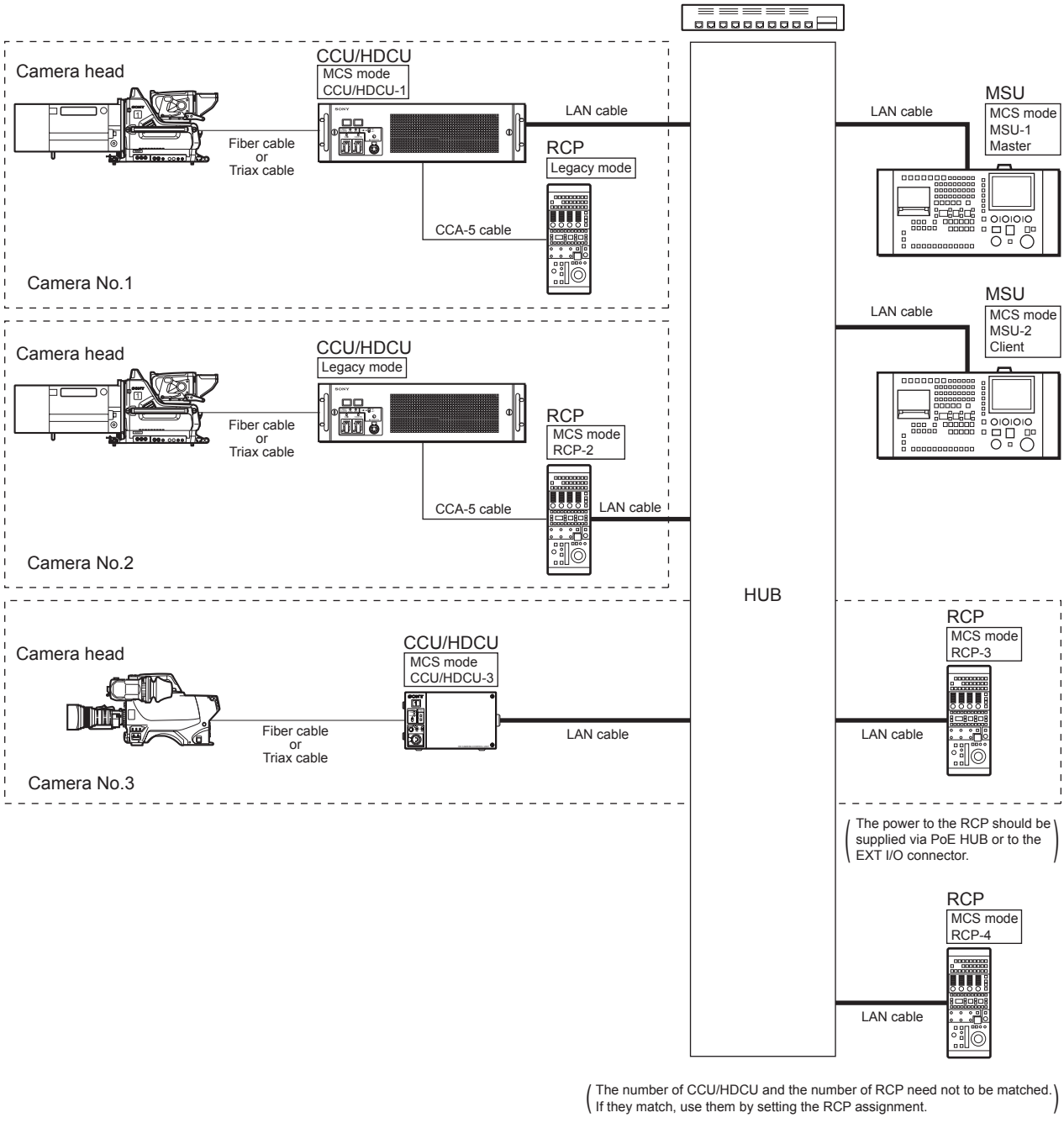
Total number of the CCU/HDCU and RCP that are directly connected to network should not exceed 24. In the following connection example, maximum number of the CCU/HDCU and RCP becomes 12.



2-2-4. Application Example of System Configuration

Note

For CCU/HDCU and RCP, set the numbers that correspond to the camera selection numbers of MSU. The same number should not be duplicated among the multiple units of RCP, CCU/HDCU and MSU for secure connection. For the method of setting the equipment numbers, refer to Section “3-2-2. Camera Network System Setting Menu”, Section “3-3-5. RCP No. Setting Menu” and Section “3-4-6. Equipment Setting” of this manual.

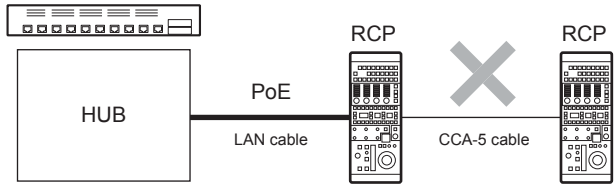


2-2-5. Notes When Configuring System

Power supply to RCP

The power to the RCP-920/921 can be supplied via three methods of “PoE”, “Via CCA-5 cable” and “Supplying power to EXT I/O”. A method of supplying power is automatically selected in the way that the power with the highest voltage has priority.

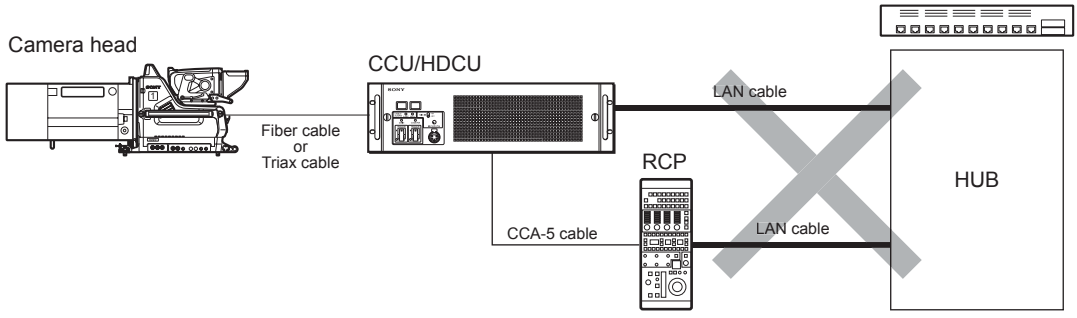
When “PoE” is select to supply the power, calculate the power that can be supplied from the respective output terminal of the equipment supplying power, and the total power that is required by each equipment. Use the equipment supplying power that has the sufficient power supply capacity. If another RCP is connected by the CCA-5 cable to an RCP that has already been connected by PoE, total power may exceed the power supply capacity with PoE. Do not connect equipment in such way.



Loop connection is prohibited

If two or more equipment that have already been connected to the same network are further connected each other by the CCA-5 cable, a loop is created resulting in malfunction.

In the following connection, remove the CCA-5 cable, or remove the LAN cable from CCU/HDCU or RCP so that the information transmission route should not create a loop.



Section 3
Connection Settings of Equipment

3-1. Settings of Camera Network System

	Legacy	Bridge Mode		MCS Mode	
		Active	**Passive**	**Master**∗1	**Client**
Mode Select	Legacy∗2	Bridge	Bridge	MCS	MCS
Connection Mode	–	Semi-Auto (Active)	Semi-Auto (Passive)	–	–
Target IP Address	–	IP address of connection target	–	–	–
Master/Client	–	–	–	Master	Client
Master IP Address	–	–	–	–	IP address of Master
Equipment number∗3	–	–	–	Set the unique number that does not duplicate between multiple units of MSU, RCP and CCU/HDCU each other∗4	

∗1 : MSU alone can be set as Master.
∗2 : CCU/HDCU has the network control ON/OFF switch on board. It should be set to ON when using the network control. For details of the connection selection switch, refer to Section “3-4-6. Equipment Setting”.
∗3 : The equipment numbers when they are set correspond to the camera selection numbers (before assignment) of MSU.
∗4 : For the method of setting the equipment numbers, refer to Section “3-2-2. Camera Network System Setting Menu”, Section “3-3-5. RCP No. Setting Menu” and Section “3-4-6. Equipment Setting” of this manual.

LAN and TCP/IP should be set in accordance with the network to be connected.
Upon completion of the network setting, reboot the system.

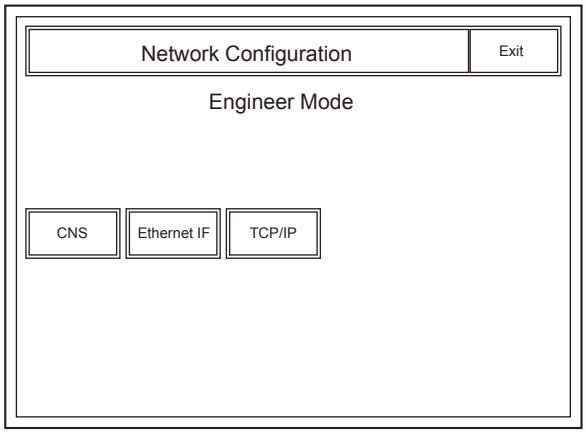
3-2. Connection Setting on MSU-900/950

Enter the Engineer Mode for setting.
For details of the menu operation block, menu operation method and setting method in Engineer Mode, refer to the Operation Manual.

3-2-1. Network Configuration Menu

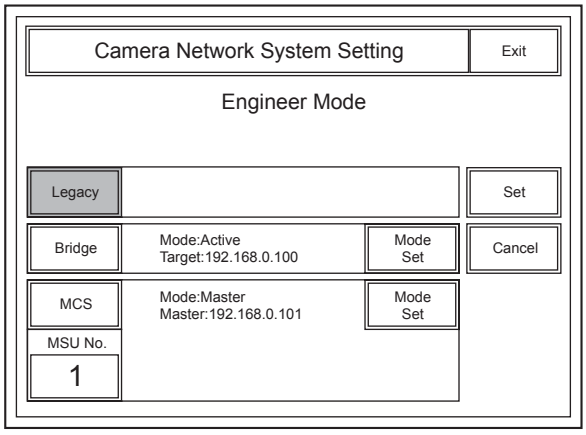
Menu display method

1. Press the menu operation block CONFIG button to display the Configuration menu.
2. Touch the Configuration menu MSU button to display the MSU Configuration menu.
3. Touch the MSU Configuration menu Network button.



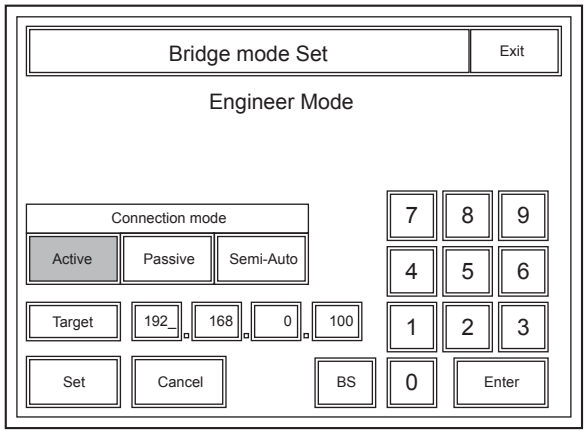
Item	Function
CNS	Display of the setting menu such as the Camera Network System (CNS) connection mode
Ethernet IF	Display of the LAN connection setting menu
TCP/IP	Display of the setting menu related to TCP/IP such as IP address

3-2-2. Camera Network System Setting Menu



Item	Function
Legacy	Connection using the conventional CCA cable
Bridge	One-to-one connection mode
Mode Set	Sub mode of the Bridge mode Move to the Bridge mode Set menu
MCS	Multiple unit connection mode
Mode Set	Sub mode of the MCS mode Move to the MCS mode Set menu
MSU No.	MSU equipment number setting **Note** In the MCS mode, set the numbers so that they should not duplicate among the multiple units of MSU within the same system.

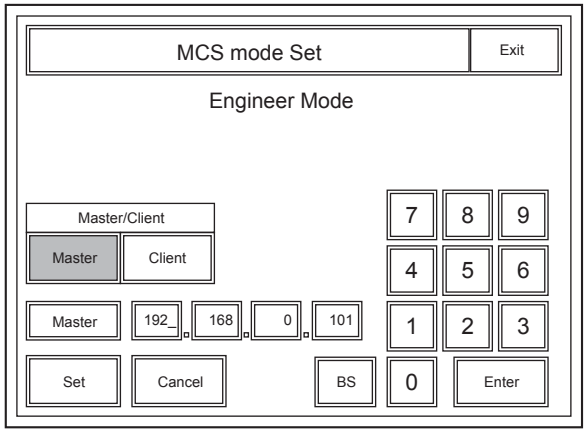
3-2-3. Bridge Mode Setting Menu



Item	Function
Connection mode	Bridge mode operation setting Active : The settings are performed from one's own side Passive : Awaits connection from the Target equipment Semi-Auto : Active or Passive are switched depending on the connection environment∗1
Target	Set IP address of the connection Target∗2

∗1 : Active when a single unit of MSU is used. Passive when connected to CCU/HDCU or camera with the CCA cable.
∗2 : Setting is not required in the Passive mode.

3-2-4. MCS Mode Setting Menu

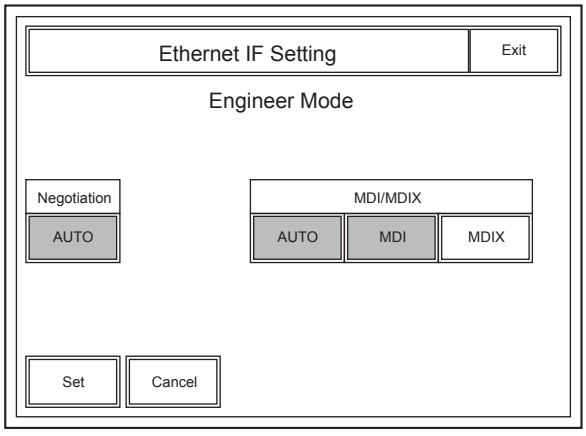


Item	Function
Master/Client	Set the Master MSU/Client MSU when connecting multiple units of MSU∗1
Master	Set IP address of the Master MSU when connecting MSU as Client in the MCS mode∗2

∗1 : Set a single unit as Master, and others as Client.
∗2 : Master MSU does not require any setting.

3-2-5. LAN IF Setting Menu

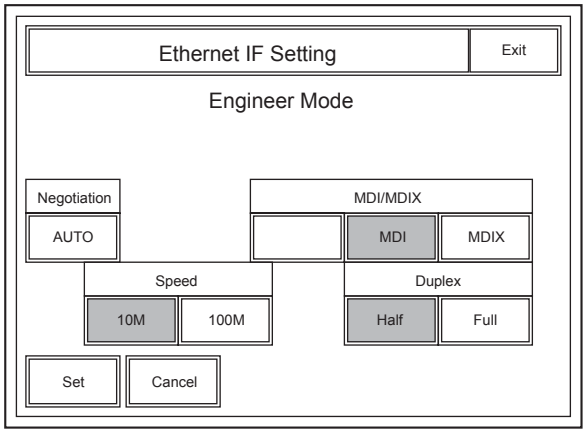
Set the equipment when connected to LAN. Implement the following settings in accordance with the connection Target.



Item	Function
Negotiation	When “AUTO” is set, Speed and Duplex are set automatically

When Negotiation is set to “AUTO”

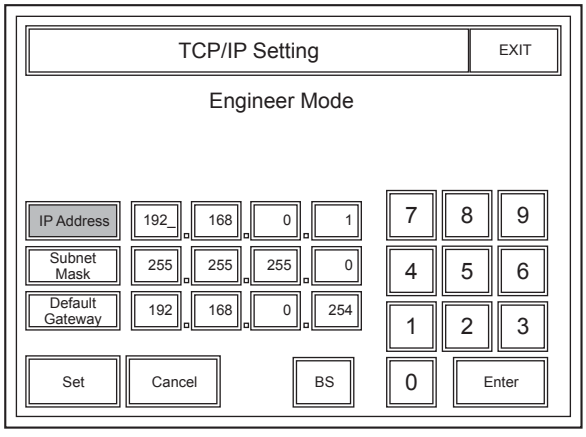
Item	Function
MDI/MDIX	Set polarity of cable (AUTO/MDI/MDIX)
Speed	Automatic setting
Duplex	Automatic setting



When Negotiation is set to “OFF”

Item	Function
MDI/MDIX	Set polarity of cable (MDI/MDIX)
Speed	Set the connection speed (10 Mbps/100 Mbps)
Duplex	Set the communication method (Half/Full)

3-2-6. IP Address Setting Menu



Item	Function
IP Address	Set the assigned IP address
Subnet Mask	Set the subnet mask value of the network environment in use
Default Gateway	Set the default gateway of the network environment in use as needed

3-3. Connection Setting on RCP-920/921

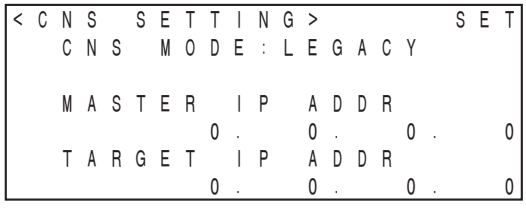
Enter the Engineer Mode for setting.
For details of the menu operation block, menu operation method and setting method in Engineer Mode, refer to the Operation Manual.

3-3-1. SETTING Menu

Menu display method

1. Press the Paint adjustment block ENTER button to display the top screen of the Paint menu.
2. Keep pressing the ENTER button for more than 1 second to display the RCP Configuration menu.
3. Switch the setting screen and adjustment screen with the ▲/▼ key of the Paint adjustment block to display the desired page.

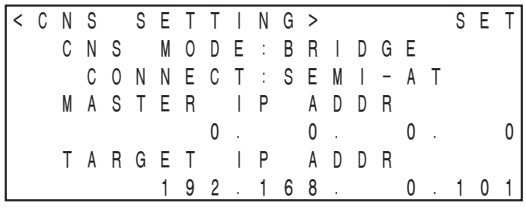
3-3-2. CNS Setting Menu



Item	Function
CNS MODE	Camera Network System (CNS) connection setting LEGACY : Connection using the conventional CCA cable BRIDGE : One-to-one connection mode MCS : Multiple unit connection mode

When the CNS MODE is set to “LEGACY”

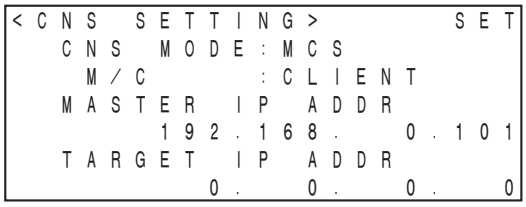
Item	Function
MASTER IP ADDR	Setting is not required
TARGET IP ADDR	Setting is not required



When the CNS MODE is set to “BRIDGE”

Item	Function
CONNECT	Bridge mode operation setting ACTIVE : The settings are performed from one’s own side PASSIVE : Awaits connection from the Target equipment SEMI-AT : Active or Passive is switched depending on the connection environment*1
MASTER IP ADDR	Setting is not required
TARGET IP ADDR	Set IP address of the connection Target*2

*1 : Active when a single unit of RCP is used. Passive when connected to CCU/HDCU or camera with the CCA cable.
*2 : Setting is not required in the Passive mode.

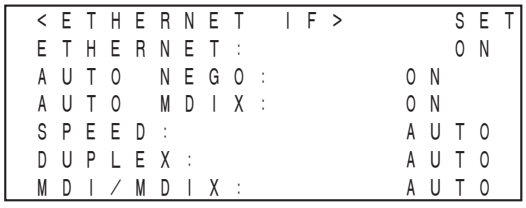


When the CNS MODE is set to “MCS”

Item	Function
M/C	Display of the Master/Client setting in the system (Fixed to CLIENT)
MASTER IP ADDR	Set IP address of the connected Master MSU in the MCS mode
TARGET IP ADDR	Setting is not required

3-3-3. LAN IF Setting Menu

Set the equipment when connected to LAN. Implement the following settings in accordance with the connection Target.

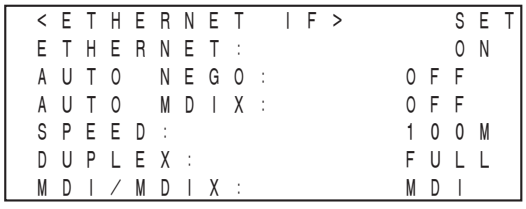


Item	Function
ETHERNET	Set LAN IF valid/invalid
AUTO NEGO	When set to “ON”, Speed and Duplex are set automatically

When AUTO NEGO is set to “ON”

Item	Function
AUTO MDIX	Set polarity of cable (ON/OFF)
SPEED	Connection speed is set automatically (AUTO)*
DUPLEX	Communication method is set automatically (AUTO)*
MDI/MDIX	Cable polarity is set automatically (AUTO)*

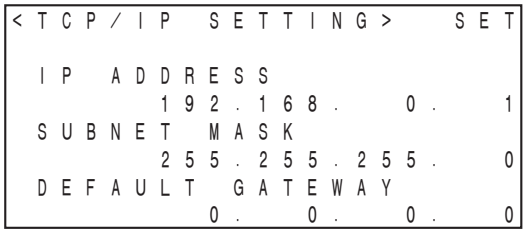
* : Automatic setting when AUTO MDIX is set to “ON”. Manual setting when “OFF”.



When AUTO NEGO is set to “OFF”

Item	Function
AUTO MDIX	OFF
SPEED	Set the connection speed manually (10 Mbps/100 Mbps)
DUPLEX	Set the communication method manually (HALF/FULL)
MDI/MDIX	Set polarity of cable manually (MDI/MDIX)

3-3-4. IP Address Setting Menu



Item	Function
IP ADDRESS	Set the assigned IP address
SUBNET MASK	Set the subnet mask value of the network environment in use
DEFAULT GATEWAY	Set the default gateway value of the network environment in use

3-3-5. RCP No. Setting Menu

```
< R C P   N o . S E T >
> R C P   N o . :   1
```

Item	Function
RCP No.	Set equipment number of RCP **Note** In the MCS mode, set the numbers so that they should not duplicate among the multiple units of RCP within the same system.

3-4. Connection Setting on HDCU1000/1080/1500/3300 and CCU-590/790

Implement the NETWORK setting of the CCU-MENU.
For details of the menu operation block and menu operation method, refer to the Operation Manual.

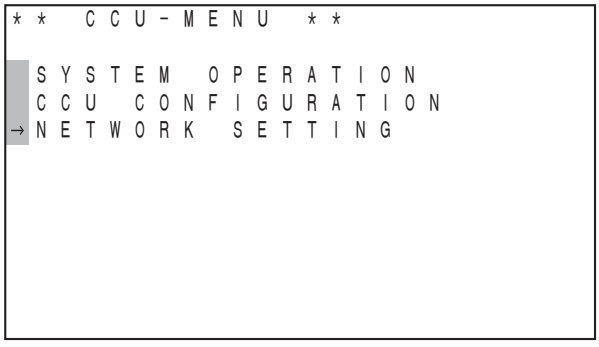
Notes

- When implementing the network setting, it can be efficiently set by using the CCU Menu Control menu of the RCP that is directly connected to the CCU/HDCU with the CCA cable.
- Set NS MODE of the CCU/HDCU to LEGACY, and connect the MSU directly to the CCU/HDCU with the CCA cable. The network setting using the CCU Menu Control menu of the MSU becomes possible. Set the IP address first. Set next the NS MODE to MCS/BRIDGE and connect to network. The network setting can be implemented more efficiently than the setting from CCU/HDCU.

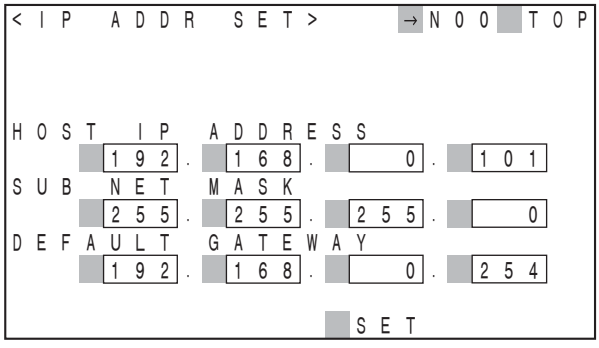
3-4-1. NETWORK Setting Menu

Menu display method

1. Operate the menu operation switch of the internal board to display CCU-MENU.
   (For the internal board, refer to the Operation Manual of the respective models.)
2. Select NETWORK SETTING, and set the CANCEL/ENTER switch to the ENTER position.
   (SYSTEM OPERATION and CCU CONFIGURATION are displayed in the HDCU1000 series only.)



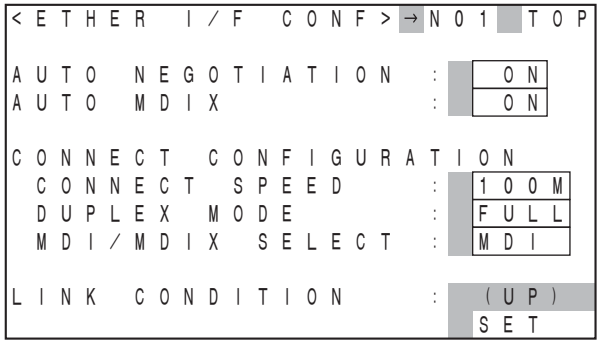
3-4-2. IP Address Setting Menu



Item	Function
HOST IP ADDRESS	Set the assigned IP address (0 to 255)
SUB NET MASK	Set the subnet mask value of the network environment in use (0 to 255)
DEFAULT GATEWAY	Set the default gateway of the network environment in use (0 to 255)
SET	The above setting is saved

3-4-3. LAN IF Setting Menu

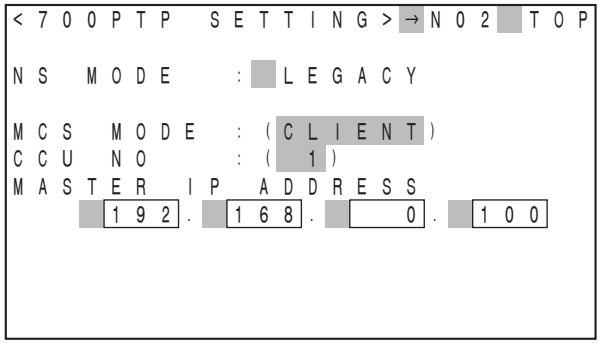
Set the equipment when connected to LAN. Implement the following settings in accordance with the connection Target.



Item	Function
AUTO NEGOTIATION	Set AUTO NEGOTIATION (ON/OFF)
AUTO MDIX	Polarity of cable is set automatically (ON∗1/OFF)
CONNECT SPEED	Set the connection speed (10M/100M)∗2
DUPLEX MODE	Set the communication method (FULL/HALF)∗2
MDI/MDIX SELECT	Set polarity of cable (MDI/MDIX)∗3
LINK CONDITION	Network communication condition is displayed (UP/DOWN) UP : Connected DOWN : Not connected
SET	The above setting is saved

∗1 : Valid when AUTO NEGOTIATION is set to “ON”.
∗2 : Automatic setting when AUTO NEGOTIATION is set to “ON”.
∗3 : Automatic setting when AUTO MDIX is set to “ON”.

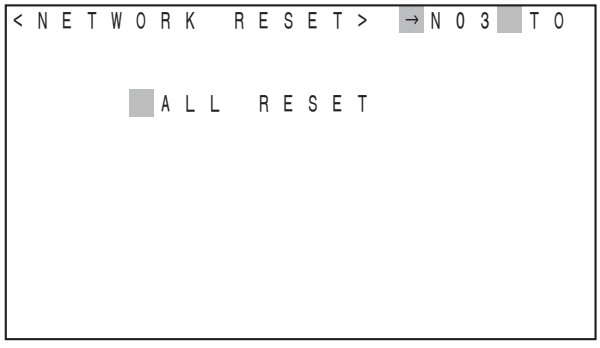
3-4-4. 700PTP Setting Menu



Item	Function
NS MODE	Set the communication mode (LEGACY/BRIDGE/MCS)
MCS MODE	Displays that CCU/HDCU is Client (Display only)
CCU NO	Equipment number (camera number) is displayed∗ (Blank/1 to 96)
MASTER IP ADDRESS	Set IP address of the Master equipment in the MSU mode (0 to 255)

∗ : Setting is performed by using the setting switch on the board. For the setting method, refer to Section “3-4-6. Equipment Setting” of this manual.

3-4-5. NETWORK Reset Menu



Item	Function
ALL RESET	Return the network setting to the default value when shipped from the factory Factory default setting: • IP ADDRESS : 0.0.0.0 • NS MODE : LEGACY • AUTO NEGOTIATION : ON • AUTO MDIX : ON • CONNECT SPEED : 100M • DUPLEX MODE : FULL • MDI/MDIX : MDI

3-4-6. Equipment Setting

In addition to the menu setting items, the equipment setting should also be performed.

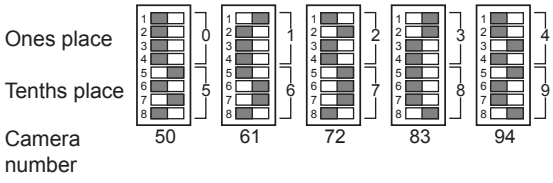
Setting the equipment number (camera number)

When equipment is used in the MCS mode, the equipment number (camera number) should be set.
In the CNU system, the CCU/HDCU connector numbers become the equipment number. However, in the Camera Network System, the equipment number should be set to the individual equipment separately.
The camera number is set by the switch S409 (B-4/side A) of the AT-167 board in the HDCU1000/1080/1500/3300. It is set by the switch S311 (B-4/side A) of the AT-155 board in the CCU-590/790. Use the switches 1 to 4 to set the ones place digit. Use the switches 5 to 8 to set the tenths place digit.
The alphanumeric of 0 to f can be set in each place. However, a to f are invalid. The camera number in the range of 1 to 24 can be set.
For more details of the setting method, refer to the CCH/HDCU Installation Manual “Setting the Camera Number”.

Note

Set the camera numbers of the CCU/HDCU so that they should not duplicate among the multiple units of CCU/HDCU within the same system.

(Setting example)



Communication method setting

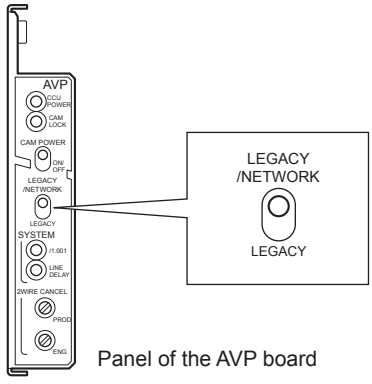
Select enable/disable of network connection.

The setting switches of the respective models are shown below.

- CCU-590/790 : When the switch SW5 of S310 (B-4/side A) of the AT-155 board is set to ON, connection setting on the network becomes possible. Switching to the communication mode from the connection setting menu becomes also possible. When connection on network is not required, set it to OFF.
- HDCU1000/1080/1500/3300 : The following two types are shipped depending on the time of manufacture.

  (1) The type that the LEGACY/NETWORK selector switch is not installed on the AVP board panel.
  When the switch SW5 of S407 (B-4/side A) of the AT-167 board is set to ON, connection setting on the network becomes possible. Switching to the communication mode from the connection setting menu becomes also possible. When connection on network is not required, set it to OFF.

  (2) The type that the LEGACY/NETWORK selector switch is installed on the AVP board panel.
  There are two selector switches. When the network connection is desired, set both of these switches that enable the network connection.
  - SW5 of S407 (B-4/side A) of the AT-167 board
    When the switch is set to ON, connection setting on the network becomes possible. When connection on network is not required, set it to OFF.
  - On-panel switch of the AVP board
    This is the forced Legacy switch. When the switch is set to the “LEGACY/NETWORK” position, connection setting on the network becomes possible. When the switch SW5 of S407 (B-4/side A) of the AT-167 board is set to ON, switching of the communication mode from the connection setting menu is enabled.
    When the switch is set to the “LEGACY” position, the communication mode is set to the Legacy mode.



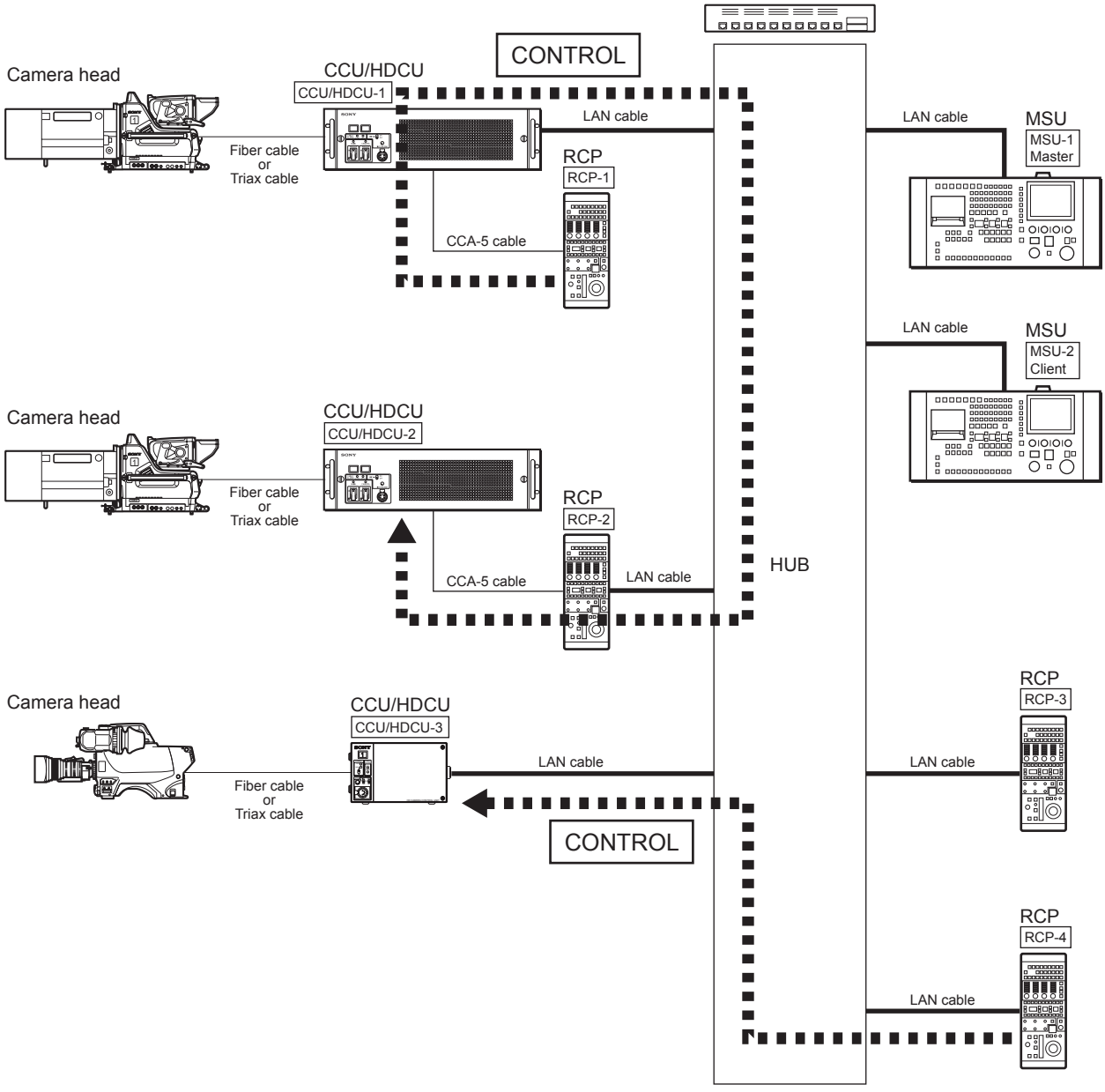
Panel of the AVP board

When this switch is used, switching between the network connection and the Legacy mode becomes possible from the panel. It helps us when the communication mode should be switched in an emergency.

Section 4
RCP Assignment

4-1. RCP Assignment Function Overview

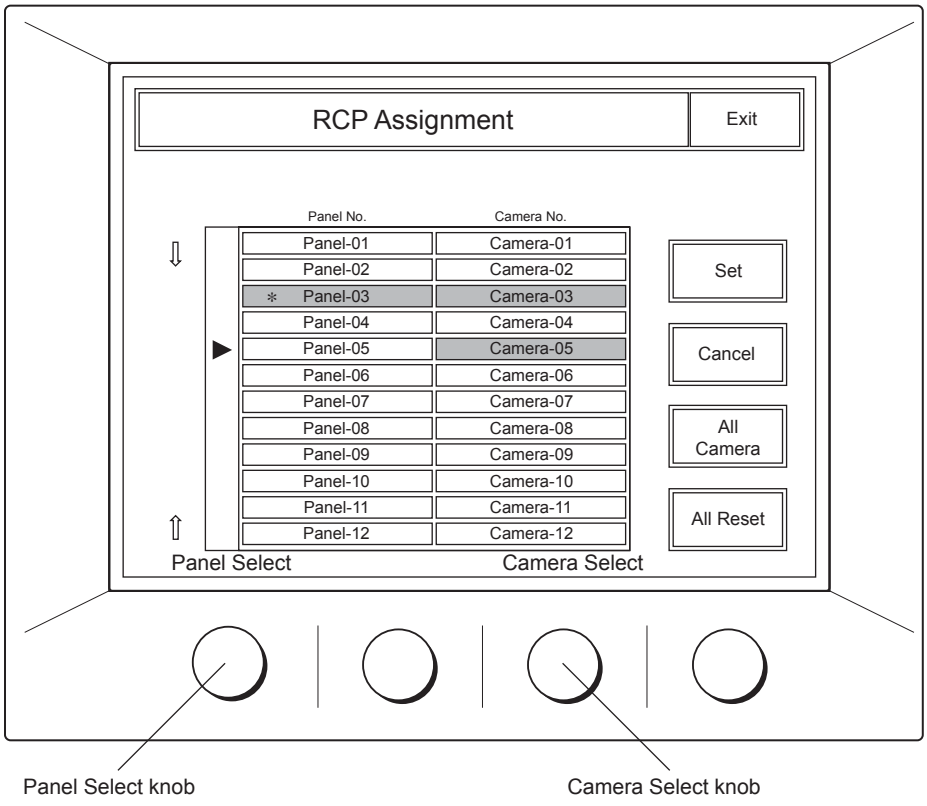
The RCP assignment is the function that enables us to change combination of camera and CCU/HDCU from RCP without changing the physical connection of the control cable. The RCP assignment function can be used in the MCS mode. (This function can be set from the MSU that is set as Master, and cannot be set from the MSU that is set as Client.)
For example, the RCP-1 that is connected to the CCU/HDCU-1 in the following figure can control the CCU/HDCU-1 in the default condition. However, it can also be used as an RCP for the other CCU/HDCU (for example CCU/HDCU-2) when the RCP assignment function is used. In the same manner, the RCP-4 can also be used as the RCP for the CCU/HDCU-3 by implementing the setting.



The RCP assignment is also possible in the system using the CNU. However, because the RCP assignment is possible for only the equipment that is connected to the same CNU, combination is restricted in the system using more than 12 units. We can get rid of such restriction by setting the network connection.

4-2. Setting Method

The RCP assignment function is set from the MSU that becomes Master. Press the menu operation block CONFIG button to display the RCP assignment menu.
For details of the menu operation block and menu operation method, refer to the Operation Manual.



1. Select the panel that you want to assign, by the Panel Select knob.
2. Select the camera (CCU/HDCU) that you want to operation from the panel, by the Camera Select knob.
3. When the setting is correct, press Set to set the setting. The selection can be cancelled if Cancel is pressed before pressing Set. The "*" mark is affixed to the top of the panel that is changed of its connection target, by the RCP assignment.
4. To cancel the assignment, press All Reset to display the screen prompting your confirmation. If you want to cancel all of the RCP assignment, press OK. When Cancel is pressed, the screen returns to the state before All Reset is pressed.

This menu displays only the connected panel and camera normally. If All Camera is pressed, all of the equipment are displayed up to No. 24. The equipment that was not recognized of its connection is displayed with the dark gray background.
By using this function, even the equipment that has turned off the power can become target of the RCP assignment.

Section 5
Preview

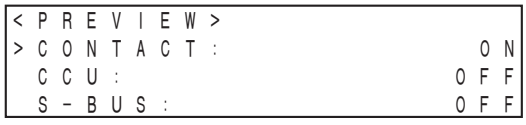
5-1. Preview Function Overview

The RCP of the Joystick (lever) type has the Preview switch. ON/OFF status of the Preview switch can be obtained from the interface connector. This signal can be obtained from the RCP. However, linking the signal to the assigned CCU/HDCU number becomes difficult when the RCP assignment function is used.
This signal can also be obtained from the interface connector of CCU/HDCU by the setting. Then, the signal is linked automatically since the information is supplied from the CCU/HDCU that controls the RCP. This function is also effective when CNU is connected.

5-2. Setting Method at RCP

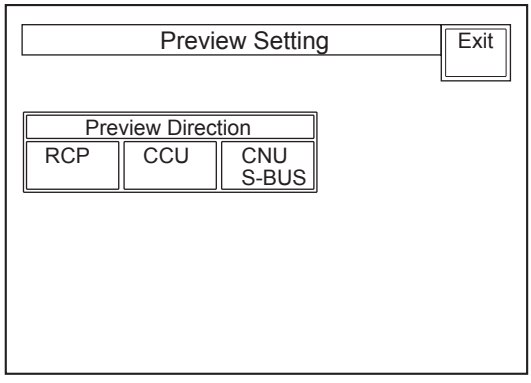
Output signal from the RCP is turned ON only when the Preview switch is pressed. However, output signal from the CCU/HDCU is controlled by the two modes. In one mode, output is turned ON only when the Preview switch is pressed. In the other mode. ON and OFF of the output are toggled by every pressing of the Preview switch.

RCP-920/921



Item	Function
CONTACT	Signal is output from EXT I/O of the RCP when set to ON
CCU	Signal is output from CCU/HDCU when set to ON
S-BUS	Not supported by the network connection

RCP-750/751



Item	Function
RCP	Signal is output from EXT I/O of the RCP when set to ON
CCU	Signal is output from CCU/HDCU when set to ON
CNU/S-BUS	Not supported by the network connection

5-3. Setting Method at CCU/HDCU

HDCU1000/1080/1500/3300

Use the CCU Configuration menu to display the I/F SETUP.

```
< I / F   S E T U P >          → C 0 4   T O P

B O A R D     F R O N T           R E A R
  S L O T 1 : D R X - 5     = >   H I F - 2 5
  S L O T 2 : D R X - 5     = >   H I F - 2 5
  S L O T 3 : D R X - 5     = >   H I F - 2 6
  S L O T 4 : E N - 1 5 9 A = >   V D A - 6 4 A
  S L O T 5 : E N - 1 5 9 B = >   V D A - 6 4 B
  S L O T 6 : ( N O N E )   = >   V D A - 6 4 C


  R E A R   P R E V I E W   :   M O M E N T A R Y
```

Item	Function
REAR PREVIEW	Select the operation mode of the REAR PREVIEW output (MOMENTARY/TOGGLE) MOMENTARY : ON is output only when the Preview is pressed at RCP TOGGLE : ON and OFF are toggled by every pressing

For the other items, refer to the Installation Manual of the HDCU.

CCU-590/790

Use the CCU Configuration menu to display the OTHERS 2/2.

```
< O T H E R S   2 / 2 >        → C 1 4   T O P

T R U N K   L I N E          :   O F F
T R U N K   L I N E   S E L  :   - - -









R E A R   P R E V I E W      :   M O M E N T A R Y
```

Item	Function
REAR PREVIEW	Select the operation mode of the REAR PREVIEW output (MOMENTARY/TOGGLE) MOMENTARY : ON is output only when the Preview is pressed at RCP TOGGLE : ON and OFF are toggled by every pressing

For the other items, refer to the Installation Manual of the CCU.

BVP-E30 (SY)
BVP-E30P (SY)
BVP-E30WS (SY)
BVP-E30WSP (SY)
CCU-590 (SY)
CCU-790 (SY)
HDC1000 (SY)
HDC1100 (SY)
HDC1400 (SY)
HDC1450 (SY)
HDC1500 (SY)
HDC1550 (SY)
HDC1580 (SY)
HDC1600 (SY)
HDC3300 (SY)
HDCU1000 (SY)
HDCU1080 (SY)
HDCU1500 (SY)
HDCU3300 (SY)
MSU-900 (SY)
MSU-950 (SY)
RCP-750 (SY)
RCP-751 (SY)
RCP-920 (SY)
RCP-921 (SY) J, E

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