

SONY®

CAMERA CONTROL NETWORK ADAPTOR

CNA-1

OPERATION MANUAL

English

1st Edition



4431096010

安全のために

ソニー製品は安全に充分配慮して設計されています。しかし、電気製品はまちがった使い方をすると、火災や感電などにより死亡や大けがなど人身事故につながることもあり、危険です。事故を防ぐために次のことを必ずお守りください。

安全のための注意事項を守る

3 ページの注意事項をよくお読みください。

定期点検を実施する

長期間安全に使用していただくために、定期点検を実施することをおすすめします。点検の内容や費用については、ソニーのサービス担当者または営業担当者にご相談ください。

故障したら使用を中止する

ソニーのサービス担当者、または営業担当者にご連絡ください。

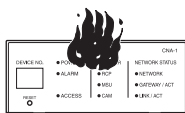
万一、異常が起きたら

異常な音、におい、煙が出たら



- ① 接続ケーブルを抜く。
- ② ソニーのサービス担当者、または営業担当者修理を依頼する。

炎が出たら



すぐに接続ケーブルを抜き、消火する。

警告表示の意味

オペレーションマニュアルおよび製品では、次のような表示をしています。表示の内容をよく理解してから本文をお読みください。



この表示の注意事項を守らないと、火災や感電などにより死亡や大けがなど人身事故につながることがあります。

注意を促す記号



火災



感電

行為を禁止する記号



禁止



分解禁止



下記の注意を守らないと、**火災や感電により死亡や大けが**につながる可能性があります。



分解禁止

外装をはずさない、改造しない

外装をはずしたり、改造したりすると、感電の原因となります。

内部の調整や設定および点検を行う必要がある場合は、必ずサービストレーニングを受けた技術者にご依頼ください。



禁止

内部に水や異物を入れない

水や異物が入ると火災や感電の原因となることがあります。

万一、水や異物が入ったときは、すぐに接続ケーブルを抜いて、ソニーのサービス担当者または営業担当者にご相談ください。



禁止

油煙、湯気、湿気、ほこりの多い場所では設置・使用しない

上記のような場所で設置・使用すると、火災や感電の原因となります。

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

For the customers in the U.S.A.

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

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

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For the customers in Canada

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

For the customers in Europe

This product with the CE marking complies with the EMC Directive issued

by the Commission of the European Community.

Compliance with this directive implies conformity to the following European standards:

- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment: E4 (controlled EMC environment, ex. TV studio).

For the customers in Europe, Australia and New Zealand

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

For the customers in Europe

The manufacturer of this product is Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, 108-0075 Japan. The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany. For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

This apparatus shall not be used in the residential area.

For the customers in Taiwan only



廢電池請回收

Pour les clients au Canada

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

Pour les clients en Europe

Ce produit portant la marque CE est conforme à la Directive sur la compatibilité électromagnétique (EMC) émise par la Commission de la Communauté européenne.

La conformité à cette directive implique la conformité aux normes européennes suivantes:

- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans l'environnement électromagnétique suivant: E4 (environnement EMC contrôlé, ex. studio de télévision).

Pour les clients en Europe, Australie et Nouvelle-Zélande

AVERTISSEMENT

Il s'agit d'un produit de Classe A. Dans un environnement domestique, cet appareil peut provoquer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre des mesures appropriées.

Pour les clients en Europe

Le fabricant de ce produit est Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, 108-0075 Japon.

Le représentant autorisé pour EMC et la sécurité des produits est Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Allemagne. Pour toute question concernant le service ou la garantie, veuillez consulter les adresses indiquées dans les documents de service ou de garantie séparés.

Ne pas utiliser cet appareil dans une zone résidentielle.

Für Kunden in Europa

Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt die EMV-Richtlinie der EG-Kommission. Angewandte Normen:

- EN55103-1: Elektromagnetische Verträglichkeit (Störaussendung)
 - EN55103-2: Elektromagnetische Verträglichkeit (Störfestigkeit)
- Für die folgende elektromagnetische Umgebung: E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio).

Für Kunden in Europa, Australien und Neuseeland

WARNING

Dies ist eine Einrichtung, welche die Funk-Entstörung nach Klasse A besitzt. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.

Für Kunden in Europa

Der Hersteller dieses Produkts ist Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, 108-0075 Japan.

Der autorisierte Repräsentant für EMV und Produktsicherheit ist Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Deutschland. Bei jeglichen Angelegenheiten in Bezug auf Kundendienst oder Garantie wenden Sie sich bitte an die in den separaten Kundendienst- oder Garantiedokumenten aufgeführten Anschriften.

Dieser Apparat darf nicht im Wohnbereich verwendet werden.

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI-A

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Overview

Features

The CNA-1 is a network device for expansion of the Sony camera network system. The CNA-1 works as the master device of a camera network system instead of the MSU (Master Setup Unit), which means that can construct a multi-camera system without using the MSU.

The CNA-1 can add a device that is connected to the CNA-1 with a CCA cable to the camera network system via a LAN. It allows you to add the CCU (Camera Control Unit) or RCP (Remote Control Panel) easily to the camera network system with the CCA connection.

Also, the CNA-1 supports the Gateway function. This extension allows you to expand the camera network system by adding a control panel or camera that conforms to the simple protocol provided from the CNA-1 to the camera network system.

Master device function

By working the CNA-1 as the master device of the camera network system, you can operate the MCS (multi-camera system) without using the MSU.

CCA to LAN converting

If you connect the CNA-1 to the camera network system via a LAN, and connect the CCU or RCP device to the CNA-1 with the CCA cable, you can add the CCU or RCP device easily to the camera network system without including them on the LAN.

Gateway function

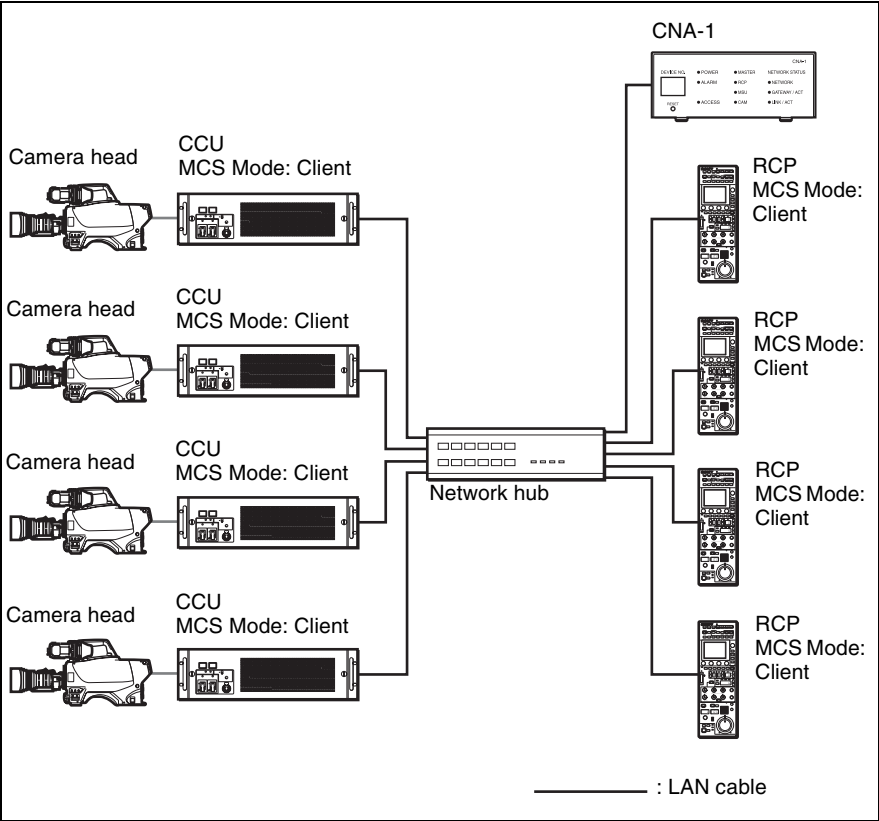
The CNA-1 can convert the protocol of the camera network system to a simpler protocol.

This protocol allows you to develop various applications easily and add them to the camera network system.

Examples of system configurations

Example for the master device function

The CNA-1 works as the master device for the MCS.



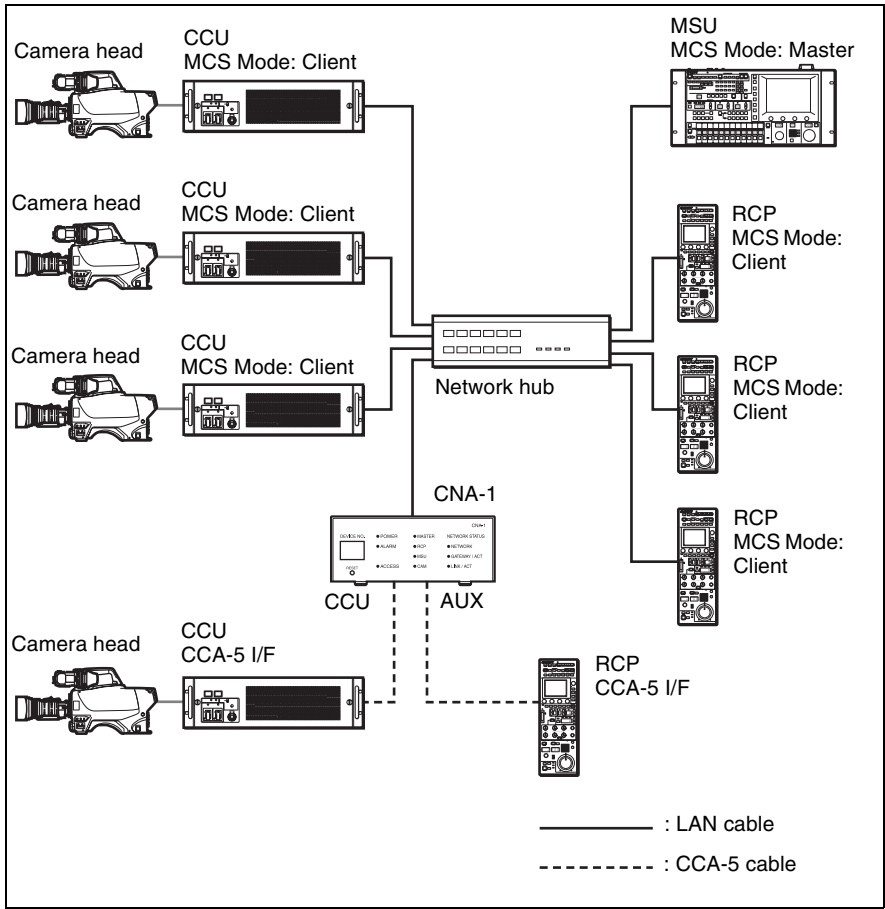
CNA-1 setup

For details of the following setting items, see “Menu items” (page 17).

CNS Configuration	CNS Mode	MCS
	Master Mode	Enable
	Master IP Address	Variable
	Target IP Address	Variable
Gateway Configuration	Gateway Mode	Disable

Example for CCA to LAN converting

This connection allows you to connect the devices that have only the CCA-5 interface to the MCS.



CNA-1 setup

For details of the following setting items, see “Menu items” (page 17).

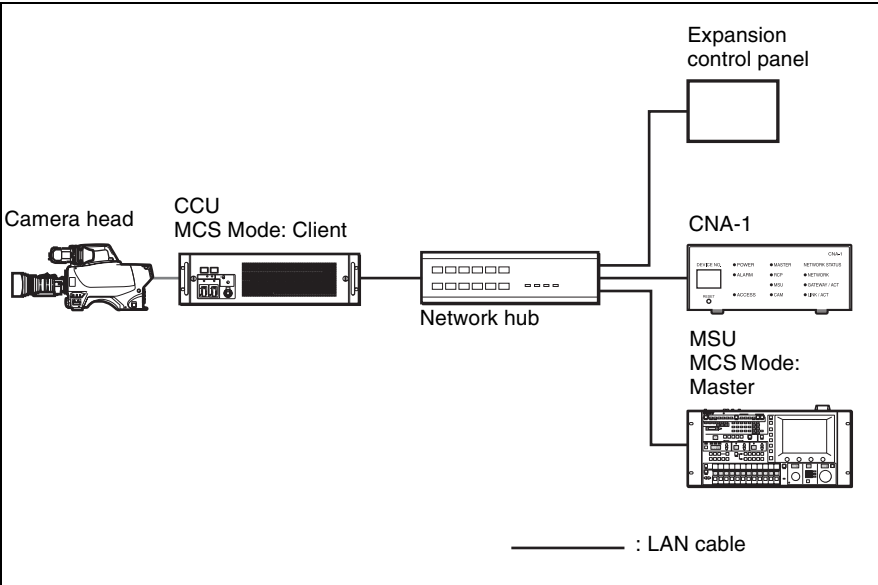
CNS Configuration	CNS Mode	MCS
	Master Mode	Disable
	Master IP Address	Master MSU's IP address
	Target IP Address	Variable
Gateway Configuration	Gateway Mode	Disable

Example for the Gateway function

When controlling the Sony's camera from the expansion control panel
This is the MCS connection via the LAN.

Note

The expansion control panel needs to be compatible with the simple protocol provided from the CNA-1.



CNA-1 setup

For details of the following setting items, see “Menu items” (page 17).

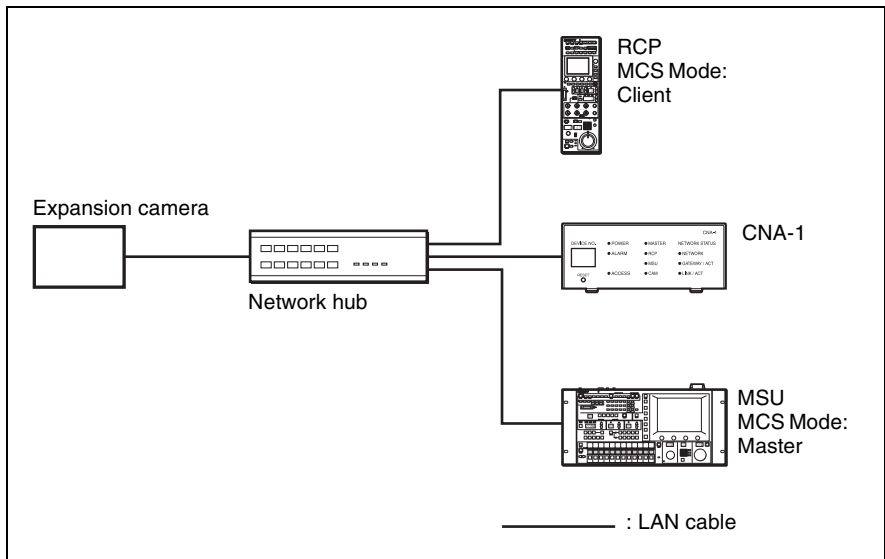
CNS Configuration	CNS Mode	MCS
	Master Mode	Disable
	Master IP Address	Master MSU's IP address
	Target IP Address	Variable
Gateway Configuration	Gateway Mode	Enable
	Emulation Mode	RCP

When controlling a expansion camera from the Sony’s control panel (MSU, RCP)

This is the MCS connection via the LAN.

Note

The expansion camera needs to be compatible with the simple protocol provided from the CNA-1.



CNA-1 setup

For details of the following setting items, see “Menu items” (page 17).

CNS Configuration	CNS Mode	MCS
	Master Mode	Disable
	Master IP Address	Master MSU’s IP address
	Target IP Address	Variable
Gateway Configuration	Gateway Mode	Enable
	Emulation Mode	CAM

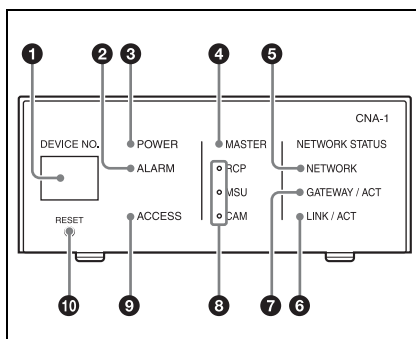
Supported devices

This unit supports connection of the following devices.

- HDC2000/2500
- HDCU2000/2500
- HDC1000(R)/1500(R)/3300(R)
- HDCU1000/1500/3300(R)
- HSC-300
- HSCU-300
- HDC-P1
- RCP-1500/1501/1530
- MSU-1000/1500
- HZC-CSM10

Location and function of parts

Front panel



Indicators

- 1 DEVICE NO. indicator**
Indicates the CNA-1's device number.
- 2 ALARM indicator**
Indicates the CNA-1's operating status.
Flashing: The CNA-1 is updating the firmware, or cannot boot properly.
Off: The CNA-1 is working normally.

Note

If the ALARM indicator flashes even though the CNA-1 is not updating, immediately stop using the CNA-1, and consult your Sony Service Center.

3 POWER indicator

Indicates the CNA-1's power status.

On: Power is being supplied.

Off: Power is not being supplied.

4 MASTER indicator

Indicates the master mode status of the CNA-1.

On: The CNA-1 is working in the master mode.

Off: The CNA-1 is not working in the master mode.

5 NETWORK indicator

Indicates the network connection status.

On: The CNA-1 is connected to the network properly.

Flashing: If the CNS setting of the CNA-1 is set to the MCS mode, the CNA-1 is connected to the master device properly, but there is no destination (camera or CCU) or the CNA-1 has failed to connect to it.

Off: If the CNA-1 is set to the MCS mode, there is no master device or the CNA-1 has failed to connect to it. If the CNA-1 is set to the Bridge mode, there is no destination (CCU, RCP, or MSU) or the CNA-1 has failed to connect to it. If the CNA-1 is set to legacy mode, the CNA-1 has failed to connect to the Gateway client device or the CNA-1 has failed to connect to it.

6 LINK / ACT indicator

Indicates the LAN communication status of the CNA-1.

On: The CNA-1 is linked properly.

Flashing: The CNA-1 is linked properly and data is being exchanged.

Off: The CNA-1 is not linked.

7 GATEWAY / ACT indicator

Indicates the communication status between the Gateway client device and the CNA-1.

On: The communication is established.

Flashing: The communication is established and data is being exchanged.

Off: The communication is not established.

8 RCP, MSU, CAM indicator

Indicates the Gateway Emulation mode status of the CNA-1. One of the RCP, MSU, CAM indicators turns on, or all indicators turn off.

On: The CNA-1 is working in the Gateway Emulation mode according to the indicator turned on (RCP, MSU, or CAM Emulation mode).

Off: The CNA-1 is not working in the Gateway Emulation mode.

Note

The MSU indicator is for future functions. This indicator usually does not turn on.

9 ACCESS indicator

Indicates the status of the internal memory or connected USB mass storage device.

On: The USB mass storage device is connected.

Flashing: Read-write access is being performed on the internal memory or USB mass storage device.

Off: Read-write access is not being performed, or the USB mass storage device is not connected.

Note

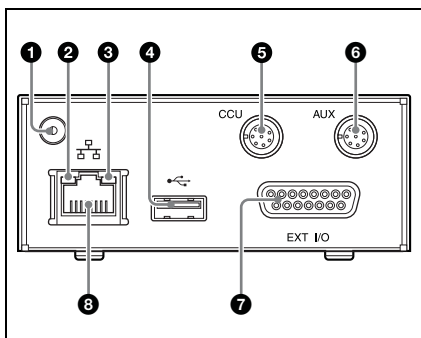
Do not disconnect a USB mass storage device while the ACCESS indicator is flashing.

Switch

10 RESET switch

Press and hold for 10 seconds to reset the CNA-1 to the default setting.

Rear panel



1 Earth terminal

Connect to a safety ground.
To connect a ground terminal, use the following screw.

- Thread Size: M3, Length (L): 6 (7-682-547-04 equivalent)

Note

When receiving power from the PoE device, make sure to ground the CNA-1 to earth.

2 Network link status indicator LINK / ACT (orange)

On: The CNA-1 detects a valid link.
Flashing: The CNA-1 senses transmit or receive activity.
Off: The CNA-1 could not detect a valid link.

3 Network link status indicator SPEED (green)

On: The CNA-1 is linked to a 100 Mbps network.

Off: The CNA-1 is linked to a 10 Mbps network, or a network cable is not connected.

4 USB connector

Connect a USB flash drive only for maintenance. Do not connect a device other than a USB flash drive.

5 CCU REMOTE connector (8-pin, multi-connector, female terminal)

Connect to the RCP/CNU connector of the CCU.

6 AUX REMOTE connector (8-pin, multi-connector, female terminal)

Preliminary connector.

7 EXT I/O connector (D-sub 15-pin, female terminal)

Connects the external interface.

8 Network connector (RJ-45 8-pin)

Used for network connection.

Connect to the 100BASE-TX hub with a network cable (shield type, category 5 or higher). This connector can receive the power from a power supply (PoE) device that conforms to the IEEE802.3af standard.

ご注意

ネットワークケーブルで使用の際は、輻射ノイズによる誤動作を防ぐため、シールドタイプのケーブルを使用してください。

CAUTION

When you connect the network cable of the unit to peripheral device, use a shielded-type cable to prevent malfunction due to radiation noise.

Starting and stopping the CNA-1

The CNA-1 does not have the power button. When you connect the CNA-1 to the power supply (CCU or hub that is compatible with PoE) and start to feed, the CNA-1 starts.

To stop the CNA-1, turn off the power supply (that feeds to the CNA-1) or remove the cable from the CNA-1.

Notes

- Do not stop the CNA-1 while the ACCESS indicator is flashing.
- The AUX REMOTE connector does not support power supply from the CCU.
- When using a power supply other than PoE, use a hub that is not compatible with PoE.

Menu operation

Menu operation from a web browser

The menu for setting up the CNA-1 is operated on a PC via its web browser.

- Supported OS: Windows 7
- Supported browser: Internet Explorer 8
- Display resolution: 1024 × 768 or higher

To display the menu

- 1** Connect the CNA-1 and the PC directly with a LAN cross cable, or via the hub.
- 2** Start the web browser and input the IP address that is set to the CNA-1 after “http://”.

For example, <http://192.168.1.1>

Note

The factory default IP address of the CNA-1 is set to “192.168.1.1”.

- 3** The menu appears on the web browser.

Menu configuration

The menu is organized as follows.

Status

Lists the status of the CNA-1.

System

Sets the IP address, time, etc., of the CNA-1.

CNS

Sets the network setting of the camera network system or Gateway function.

Security

Changes the login password, or sets the access restriction to the Gateway TCP port.

Authentication

To display the System, CNS, and Security menus, the CNA-1 must be authenticated by the user name and password. When the pop-up window of the browser opens, input the user name and password.

- User name: admin
- Password: password (factory setting)

Note

When setting up the CNA-1, make sure to change the password from the factory setting. You can change the password on the Security menu.

Menu items

Status menu

[Status] tab



[Refresh] button

To display the Status menu, Click the [Status] tab.

The Status menu displays each setup value.

You can update the value by clicking the [Refresh] button on the menu.

Note

Only reloading the page on the browser does not update the values on the Status menu.

System menu

[System] tab



[Apply] button

To display the System menu, Click the [System] tab.

To apply the settings, click the [Apply] button. The settings are stored in the internal memory.

1. IP Configuration

Sets the network connection.

Input the CNA-1's IP address.



Input the subnet mask.

Notes

- If you set the wrong IP address, the menu cannot be accessed from the browser. Be careful when setting the IP address.

- If you have forgotten the IP address, reset the CNA-1 by pressing the RESET switch.

2. Port Configuration

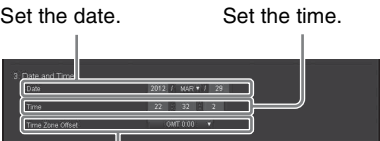
Displays the status of the LAN setting.



These settings are fixed.

3. Date and Time

Sets the date and time of the CNA-1.

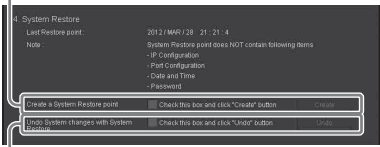


Select the Time Zone.

4. System Restore

Sets the System Restore parameters.

Check the box and click the [Create] button to store the current settings to the internal memory as the System Restore point.



Check the box and click the [Undo] button to load the settings of the System Restore point and rewrite in the setting.

Notes

- Only one System Restore point can be stored.
- The IP Configuration, Date and Time, and Password settings are not stored.

5. System Control

Restarts the CNA-1 or resets the CNA-1's settings.

Check the box and click the [Reboot] button to restart the CNA-1.

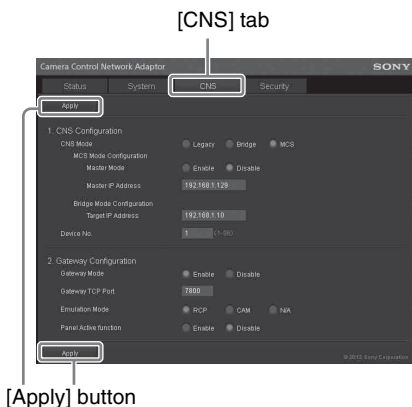


Check the box and click the [Factory Default] button to reset the CNA-1 to the factory settings.

Notes

- When restarting the CNA-1, close the browser, then access the menu from the browser again.
- The System Restore point is not deleted even when you perform [Factory Default]. Use the System Restore function if needed.

CNS menu



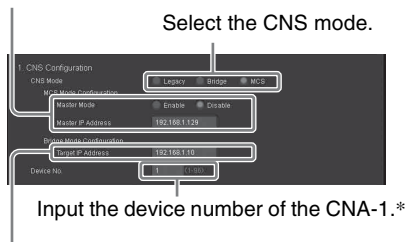
To display the CNS menu, Click the [CNS] tab.
To apply the settings, click the [Apply] button. The settings are stored in the internal memory.

1. CNS Configuration

Sets the camera network system connection.

When the CNA-1 works in the MCS mode, the CNA-1 works as the master device by selecting [Enable].

When you use the CNA-1 as the client by selecting [Disable], input the IP address of the connected master device to [Master IP Address].



When the CNA-1 works in the Bridge mode, input the IP address of the connected device.

* The device number should be set as follows:

- If the CCU is connected to the CNA-1 with the CCU to LAN converting function, set a different device number from that of the CCU on the network.
- If the Gateway function is activated and the Gateway Emulation mode is set to RCP, set a different device number from that of the RCP on the network.
- If the Gateway function is activated and the Gateway Emulation mode is set to CAM, set a different device number from that of the CCU on the network.

Note

When you set [Master Mode] to [Enable], the Gateway Mode setting is set to [Disable] automatically.

2. Gateway Configuration

Sets the Gateway function.

To activate the Gateway function, select [Enable].



Notes

- Do not set the Gateway function to [Enable] when you do not plan to use it, because the Gateway function affects the other network device.
- The Gateway function cannot be set to [Enable] when the CNA-1 is working in the Master Mode.

Security menu



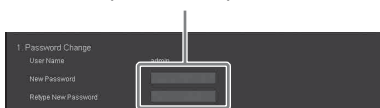
To display the Security menu, Click the [Security] tab.

To apply the settings, click the [Apply] button. The settings are stored in the internal memory.

1. Password Change

Changes the login password for the menu on the browser.

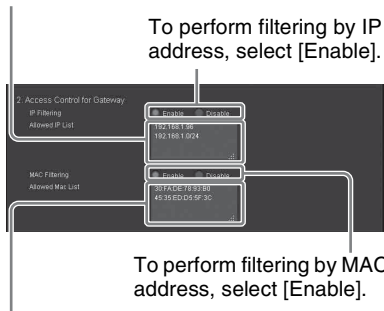
Input the new password.



2. Access Control for Gateway

Sets the access restriction to the TCP port for the Gateway function.

Input the IP address that is allowed access.*



Input the MAC address that is allowed access.**

* You can input the multiple IP addresses by separating with a new line. You can also use CIDR notation. For example, 192.168.1.1

192.168.1.0/24

**You can input the multiple MAC addresses by separating with a new line.

For example, 50:45:1F:34:0A:24

30:C0:07:AA:BF:17

Note

If you have forgotten the password, reset the CNA-1 by pressing the RESET switch.

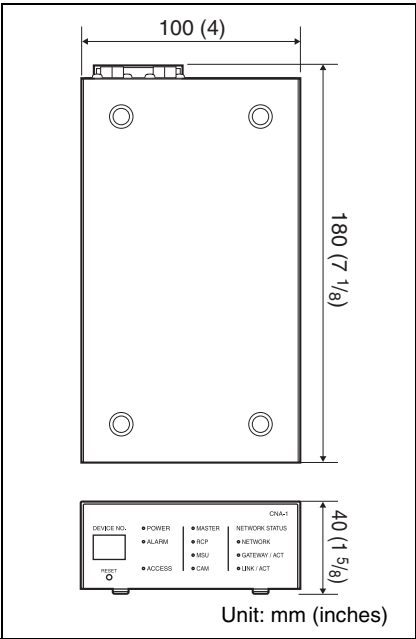
About the Gateway function

For details about using the Gateway function, consult your Sony service representative.

Specifications

General

- Power requirements
 - PoE Class 2
 - CCU PW (CCA)
 - DC: 10.5 V – 30 V
 - EXT I/O (D-SUB)
 - DC: 10.5 V – 17 V
- Power consumption
 - 2 W (CCU PW)
- Operating temperature
 - 5°C to 40°C (41°F to 104°F)
- Storage temperature
 - 20°C to +60°C (–4°F to +140°F)
- Mass
 - 700 g (1 lb 8.7 oz)
- External dimensions (w/h/d)
 - 100 mm × 40 mm × 180 mm
 - (4 inches × 1⁵/₈ inches × 7¹/₈ inches)



Control connectors

USB connector

High Speed USB (USB2.0) (1)

CCU REMOTE connector

8-pin multi-connector, female (1)

AUX REMOTE connector

8-pin multi-connector, female (1)

External I/O connector

D-SUB 15-pin

Network connector

RJ-45 (1)

100BASE-TX: IEEE 802.3u

Accessories supplied

Operation manual (1)

Design and specifications are subject to change without notice.

Note

Always verify that the unit is operating properly before use.

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Package list

lzo	e2fsprogs
net-tools	gawk
netbase	iputils
libcap	pump
util-linux-ng	wireless-tools
glibc	bash
busybox	coreutils
dosfstools	ethtool
findutils	fuse
grep	libusb
procps	tar
xz	iptables
mtd-utils	perl
linux-kernel	

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zlib.h -- interface of the 'zlib' general purpose
compression library version 1.2.5, April 19th, 2010

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THE BASIC LIBRARY FUNCTIONS

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