FOR.A®
INNOVATIONS IN VIDEO
and AUDIO TECHNOLOGY

OPERATION MANUAL

HVS-AUX16A
HVS-AUX16B
HVS-AUX32A
HVS-AUX64A

Auxiliary Unit

5th Edition

Edition Revision History

Edit.	Rev.	Date	Description	Section/Page
1	-	2014/05/19		
2	-	2014/06/06	Supported HVS-390HS	
3	-	2015/04/14	Supported HVS-2000 Changed model names (HVS-XT100/110 >> HVS-100/110)	Sec. 3-3
4	-	2015/07/27	Added HVS-AUX16B.	
5	-	2018/07/27	Supported HVS-490 and HVS-1200	

Precautions

Important Safety Warnings

[Power]

⚠ Caution	Operate unit **only** at the specified supply voltage.
🔌	Disconnect the power cord via the power plug only. **Do not** pull on the cable portion.
🚫 Stop	**Do not** place or drop heavy or sharp-edged objects on the power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check the power cord for excessive wear or damage to avoid possible fire / electrical hazards.
❗ Caution	**Ensure** the power cord is firmly plugged into the AC outlet.
❗ Caution	When powering on a device, supply AC power source after the supplied AC adapter has been connected to the device. When powering off the device, first disconnect the power cord from the AC power source.

[Operation]

⚠ Hazard	**Do not** operate the unit under hazardous or potentially explosive atmospheric conditions. Doing so could result in fire, explosion, or other hazardous results.
⚠ Hazard	**Do not** allow liquids, metal pieces, or other foreign materials to enter the unit. Doing so could result in fire, other hazards, or a unit malfunction.
🔌	If a foreign material does enter the unit, turn the power off and **immediately** disconnect the power cord. Remove the material and contact an authorized service representative if damage has occurred.

[Transportation]

❗ Caution	**Handle** with care to avoid impact shock during transit, which may cause malfunction. When you need to transport the unit, use the original or suitable alternative packing material.

[Circuitry Access]

	Do not remove covers, panels, casing, or access the circuitry with power applied to the unit. Turn the power off and disconnect the power cord prior to removal. Internal servicing / adjustment of unit should only be performed by qualified personnel.
Stop	**Do not** touch any parts / circuitry with a high heat factor. Capacitors can retain enough electric charge to cause mild to serious shock, even after the power has been disconnected. Capacitors associated with the power supply are especially hazardous.
Hazard	Unit **should not** be operated or stored with cover, panels, and / or casing removed. Operating the unit with circuitry exposed could result in electric shock / fire hazards or a unit malfunction.

[Potential Hazards]

Caution	If abnormal odors or noises are noticed coming from the unit, immediately turn the power off and disconnect the power cord to avoid potentially hazardous conditions. If problems similar to the above occur, contact an authorized service representative **before** attempting to operate the unit again.

[Rack Mount Brackets, and Rubber Feet]

Caution	To rack-mount or to install rubber feet, **do not** use screws or materials other than those supplied. Doing so may cause damage to the internal circuits or components of the unit. If you remove the rubber feet that are attached to the unit, **do not** reinsert the screws that secure the rubber feet.

[Consumables]

Caution	Consumable items that are used in the unit must be periodically replaced. For further details on which parts are consumables and when they should be replaced, refer to the specifications at the end of the Operation Manual. Since the service life of the consumables varies greatly depending on the environment in which they are used, such items should be replaced at an early date. For details on replacing consumable items, contact your dealer.

Upon Receipt

Unpacking

HVS-AUX16A, HVS-AUX16B, HVS-AUX32A and HVS-AUX64A units and their accessories are fully inspected and adjusted prior to shipment. Operation can be performed immediately upon completing all required connections and operational settings.

Check your received items against the packing lists below. Check to ensure no damage has occurred during shipment. If damage has occurred, or items are missing, inform your supplier immediately.

◆ **HVS-AUX16A / 32A / 64A box**

ITEM	QTY	REMARKS
HVS-AUX16A HVS-AUX32A HVS-AUX64A	1	
AC Adapter	1	
AC Cord	1 set	DC power cord retaining clip
Operation Manual	1	(This manual)

◆ **HVS-AUX16B box**

ITEM	QTY	REMARKS
HVS-AUX16B	1	
AC Adapter	1	
AC Cord	1	
Operation Manual	1	(This manual)

◆ **User-supplied cable**

ITEM	QTY	REMARKS
LAN cable	1	For switcher connection. For a hub connection, use a straight-through cable. For direct connection, use a cross-over cable.

DC Cord Clamp Installation (HVS-AUX16A/32A/64A)

Insert the DC cord into the DC IN connector, then secure the cord with the DC cord clamp attached to the hole as shown in the figure.
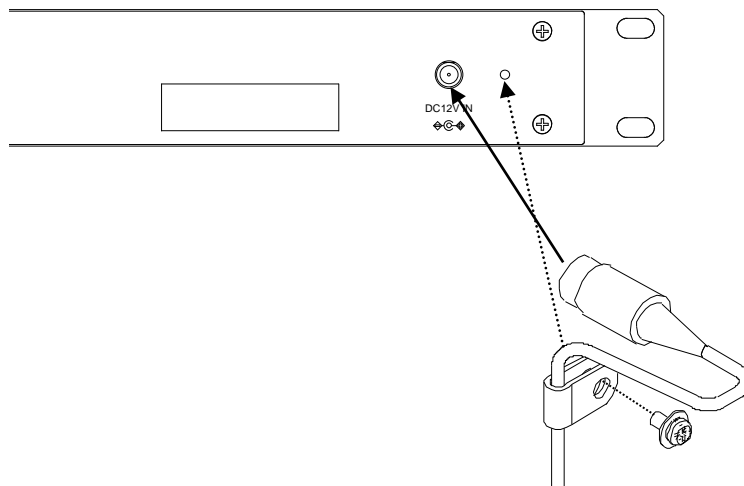
Table of Contents

1. Prior to Starting

1-1. Welcome

Congratulations! By purchasing an Auxiliary Units you have entered the world of FOR-A and its many innovative products. Thank you for your patronage and we hope you turn to FOR-A products again and again to satisfy your video and audio needs.

FOR-A provides a wide range of products, from basic support units to complex system controllers, which have been increasingly joined by products for computer video-based systems. Whatever your needs, talk to your FOR-A representative. We will do our best to be of continuing service to you.

1-2. Features

Auxiliary Units, HVS-AUX16A, HVS-AUX16B, HVS-AUX32A and HVS-AUX64A (hereafter called AUX unit), are designed to remotely control M/E (PGM/PST) and auxiliary outputs of the Hanabi series switchers and Multiviewers.

◆ **Supported Switchers**

Switcher	Max. Connections
HVS-100/110	5 units
HVS-390HS	10 units
HVS-2000	4 units
HVS-490	12 units
HVS-1200	12 units

◆ **Supported Multiviewers**

Multiviewers	Max. Connections
MV-1620HSA	2
MV-4200/4210/4220/4300/4320/4340	8
MV-1200	6

* Hereafter, "Switchers" in this document includes "Multiviewers."

➢ All buttons are user assignable: HVS-AUX16A and HVS-AUX16B - 16 buttons
    HVS-AUX32A - 32 buttons
    HVS-AUX64A - 64 buttons

➢ AUX front panel LOCK function

➢ Multiple AUX units connection available through an Ethernet Hub

➢ HVS-AUX16B is a desktop type model.

2. Panel Descriptions

2-1. Front Panel

◆ **HVS-AUX16A**
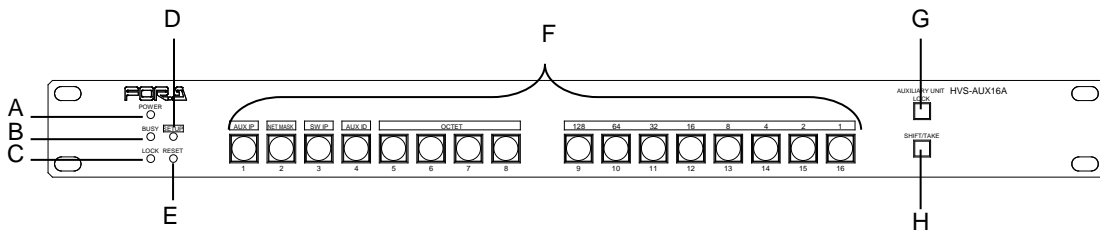
◆ **HVS-AUX16B**
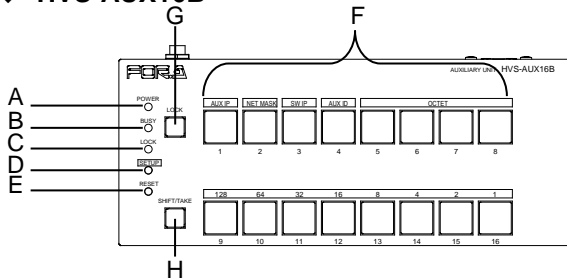
◆ **HVS-AUX32A**
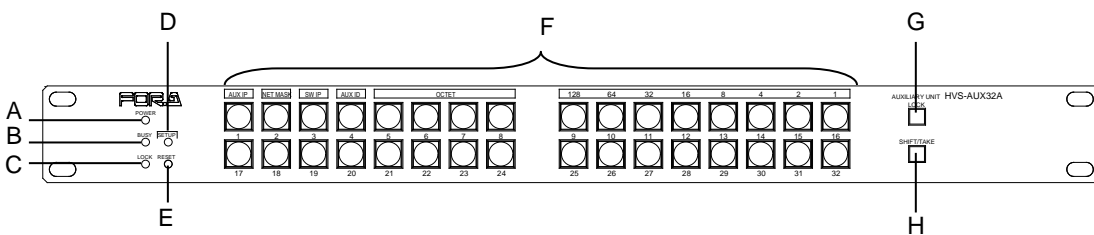
◆ **HVS-AUX64A**
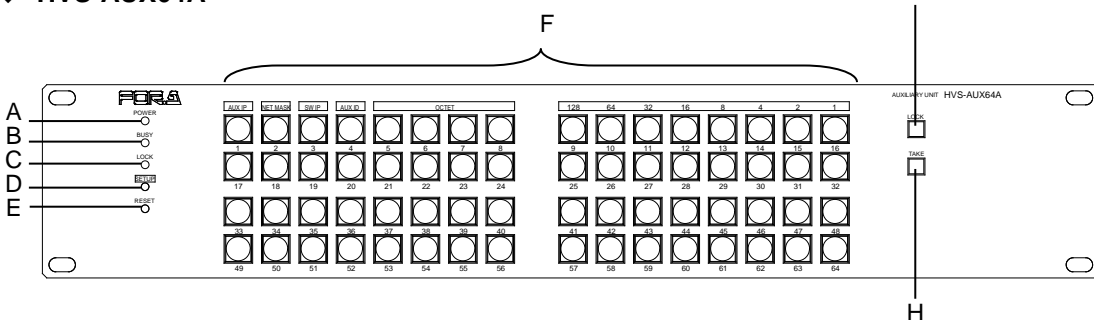
Letter	Name	Description
A	POWER	Displays the power status. ▶ See the table on the next page for details on indications.
B	BUSY	Displays the flash memory writing status for backup settings. ▶ See the table on the next page for details on indications.

C	LOCK	Displays the LOCK status. ▶See the table on the next page for details on indications. ▶See section 4-4. "LOCK (Front Panel Lock)" for details on the lock function.
D	SETUP	Used to set IP address or other settings. ▶See section 4-1 "SETUP Menu" for SETUP menu details.
E	RESET	Used to re-initialize the AUX Unit.
F	Buttons	All buttons are user assignable. (Buttons turn green when selected.)
G	LOCK	Used to disable switcher control from the AUX Unit.
H	SHIFT/TAKE	Used as an assignable **SHIFT** or **TAKE** button on the switcher. (Only **TAKE** can be assigned on HVS-AUX64A units.)

◆ **LED Color indications**

LED \ LED color	Green	Red	Orange	Unlit
POWER	Normal			
BUSY	Normal processing		Writing to flash memory	Un-connected to the switcher
LOCK		Unit locked		Unit unlocked

*   All indicators, POWER, BUSY and LOCK, light orange when the SETUP menu is displayed.

IMPORTANT
Do **not power OFF** the unit while BUSY LED is **lit orange**

Changing Button Labels

Button labels can be changed for user-assignable buttons. Download and use the appropriate label template from the FOR-A Website product page. (See the back cover.)

2-2. Rear Panel

◆ **HVS-AUX16A/32A/64A**

A   B

◆ **HVS-AUX16B**

A   B
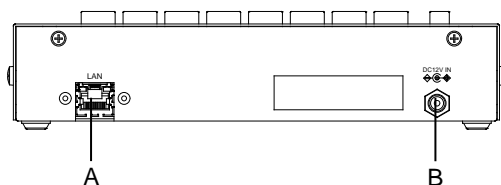
Letter	Name	Description
A	LAN	For switcher connection Ethernet port (100BASE-TX, RJ-45)
B	DC12V IN	12 V DC power inlet

3. Connection

The example systems shown below are for switchers HVS-100, HVS-390HS and HVS-2000.
Refer to each switcher operation manual for connections other than these switchers.

3-1. Connecting HVS-100/110

Reference

PGM(AUX1)

Preview
(AUX2)

HD/SD SDI

Multiview
(HDMI)

Video server,
VTR, etc.

HD/SD SDI

TSG (REF)

75Ω terminator

HVS-100 rear panel

To AC power source

To AC power source

LAN cable (straight)

MU-OU connection cable

HUB

To AC adapter

HVS-100OU rear panel

To AC adapter

PC

HVS-AUX16A rear panel

To AC adapter

3-2. Connecting HVS-390HS

HVS-AUX16A rear panel

PC

To AC adapter

HUB

LAN cable
(straight)

TSG (Reference)

Video Server
VTR, etc.

HD/SD SDI

75Ω termination

HVS-390HS rear panel

RATING LABEL

To AC power
source

ARCNET (BNC)

REF signal

Preview
(AUX1)

HD/SD SDI (M/E2 PGM)

HD/SD SDI (M/E1 PGM)

75Ω termination

HVS-392OU rear panel

To AC power
source

3-3. Connecting HVS-2000

REF signal ⋯⋯⋯⋯⋯

HD/SD SDI (M/E1 PGM)

HD/SD SDI (M/E2 PGM)

HVS-2000
rear panel

75Ω termination

AC power
source

HD/SD SDI

Preview
image

Video server,
VTR, etc.

Multiview
image

HUB

LAN cable
(straight)

HVS-2240OU
rear panel

AC power
source

PC-based
GUI menu

PC

HVS-AUX16A rear panel

To AC power
source

4. Setup (Network Settings)

Network settings should be changed for multiple AUX units connected to a switcher, since identical IP addresses within a network are not allowed.

4-1. SETUP Menu

The **SETUP** button allows you to enter **Setup Menu** mode, in which AUX Unit network settings can be displayed and changed. The left four buttons are used to select information to be displayed. To exit Setup Menu mode, press the **SETUP** button again.

Button name	Default setting	Description
AUX IP	192.168.0.20	Sets the AUX Unit IP address.
NETMASK	255.255.255.0	Sets the AUX Unit Netmask.
AUX IP + NETMASK	192.168.0.1	Sets the AUX Unit default Gateway.
SW IP	192.168.0.10	Specifies the IP address of the switcher to be connected.
AUX ID	1	Sets the AUX Unit ID number.

4-2. Connecting a Single AUX Unit to a Switcher

◆ **Connection Example**

192.168.0.10   Cross-over cable   192.168.0.20

AUX ID: 1

HVS-100 rear panel

HVS-AUX16A rear panel
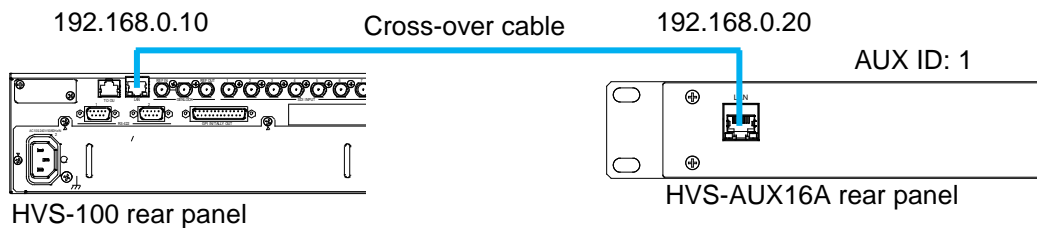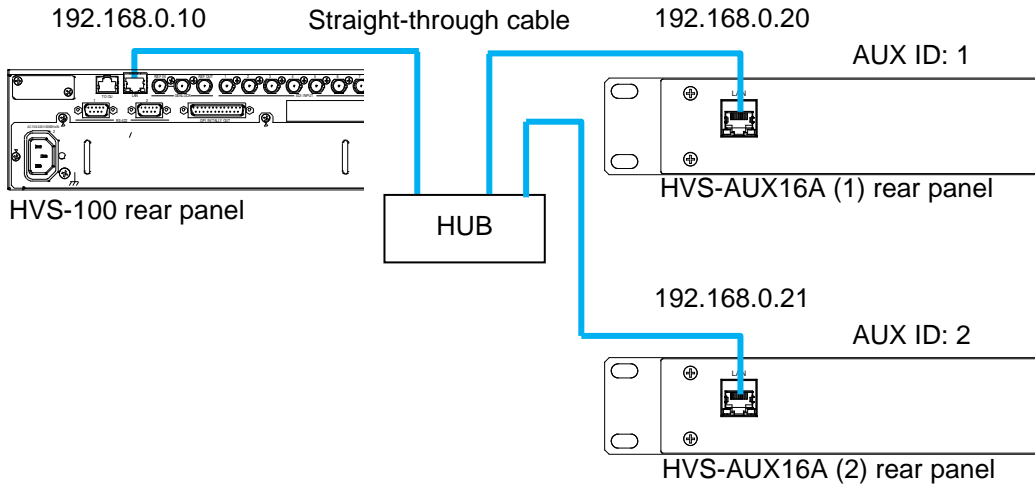
No network settings are required. Connect and use your AUX Unit under the factory default settings.

4-3. Connecting Two or More AUX Units to a Switcher

◆ **Connection Example**

192.168.0.10   Straight-through cable   192.168.0.20

AUX ID: 1

HVS-100 rear panel

HUB

HVS-AUX16A (1) rear panel

192.168.0.21

AUX ID: 2

HVS-AUX16A (2) rear panel

When connecting two or more AUX Units to a switcher, each AUX Unit should have a different IP address and AUX ID number. Refer to the following sections to change these settings.

4-3-1. Changing the AUX Unit IP Address

The following setting procedure changes the IP address of HVS-AUX16A (2) in the above figure example, from **192.168.0.20** to **192.168.0.21**.

(1) Press SETUP. All indicators turn orange and indicate that the AUX Unit is in menu SETUP mode.
(2) Press AUX IP.
(3) To obtain the current IP address, respectively press Buttons 5 to 8, which represent each octet of the IP address. Each octet number will be displayed on Buttons 9 to 16 in binary mode: On or Off.

IP address	1st octet	2nd octet	3rd octet	4th octet
192.168.0.20	192	168	0	20

(4) **Press and hold** down 8 (the fourth octet button). The button will blink.
(5) To change the fourth octet number, use 9 to 16. In this example, the number should be changed from **20** to **21** (16+4+1), then turn the buttons on or off as shown in the figure below: **off, off, off, on, off, on, off, on**.
(6) Once the IP address is changed, LOCK will blink. **Press and hold down** LOCK to confirm the change. The AUX Unit will automatically reset. (To cancel the process, press SHIFT/TAKE without pressing LOCK.)
To return settings to default, press and hold down AUX IP.

(6)

(1)   (2)   (3) (4)   (5)
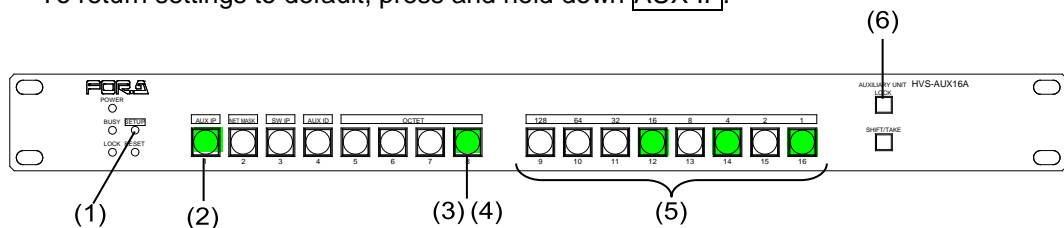
128	64	32	16	8	4	2	1	
0	0	0	1	0	1	0	0	20
0	0	0	1	0	1	0	1	21

(7) To verify the change, press SETUP, AUX IP, and then 8.
Check whether Buttons 9 to 16 show number "21" in binary mode.

* Use the same procedure to change NETMASK, SW IP or DEFAULT GATEWAY, as necessary.

4-3-2. Changing the AUX ID Number

(1) Press SETUP. All indicators turn orange to indicate the AUX Unit is in SETUP menu mode.
(2) Press AUX ID.
(3) The current AUX ID number will be displayed on Buttons 9 to 16 in binary mode: On or Off.
(4) **Press and hold** down 5. The button will blink.
(5) To change the ID number, use 9 to 16. In this example, the number should be changed from **1** to **2**, then turn the buttons on or off as shown in the figure below: **off, off, off, off, off, off, on, off**.
(6) Once the ID number is changed, LOCK will blink. **Press and hold down** LOCK to confirm the change. The AUX unit will automatically reset. (To cancel the process, press SHIFT/TAKE without pressing LOCK.)
To return settings to defaults, press and hold down AUX IP.
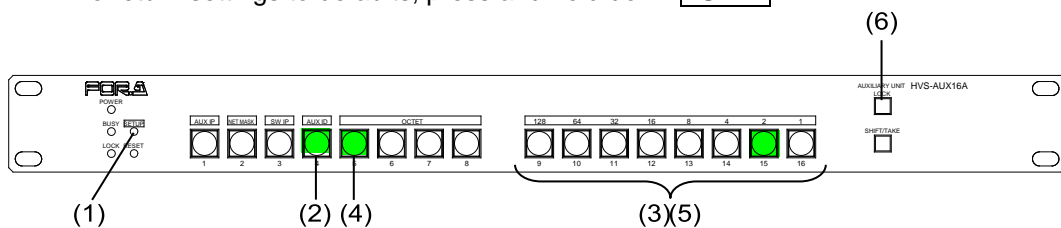
(7) To verify the change, press SETUP, then AUX ID.
Check whether Buttons 9 to 16 show number "2" in binary mode (see the figure above).

4-4. LOCK (Front Panel Lock)

The LOCK function allows you to disable AUX Unit front panel control.

◆ **To disable front panel operation:**
Press and hold LOCK down for 3 or more seconds until the button blinks.
The LOCK indicator also blinks red and panel control is disabled.

◆ **To unlock the front panel:**
Press and hold LOCK down for 3 or more seconds until the button turns off.
The LOCK indicator also turns off and panel control is enabled.

5. Specifications and Dimensions

5-1. Unit Specifications

|		AUX16A	AUX32A	AUX64A	AUX16B
Free Buttons		16	32	64	16
LOCK button		Available	Available	Available	Available
SHIFT/TAKE button		Available	Available	TAKE only	Available
Interface (LAN)		100BASE-TX RJ-45 x 1 (For switcher connection. Hub required for multiple units connection)			
Temperature		0ºC to 40ºC			
Humidity		30% to 85% (no condensation)			
Power		+12 V DC, Pin connector x 1			
Consumption	AC100-120V	8VA (3W)	10VA (4W)	15VA (7W)	12VA (4W)
	AC220-240V	11VA (3W)	13VA (4W)	20VA (8W)	13VA (4W)
Dimensions		480(W) x 44(H) x 27(D) mm EIA1RU		480(W) x 88(H) x 27(D) mm EIA2RU	215(W) x 43(H) x 88(D) mm EIA2RU half-rack size
Weight		1 kg		1.5 kg	0.8 kg
Consumables		AC adapter: Replace every 5 years			

5-2. External Dimensions

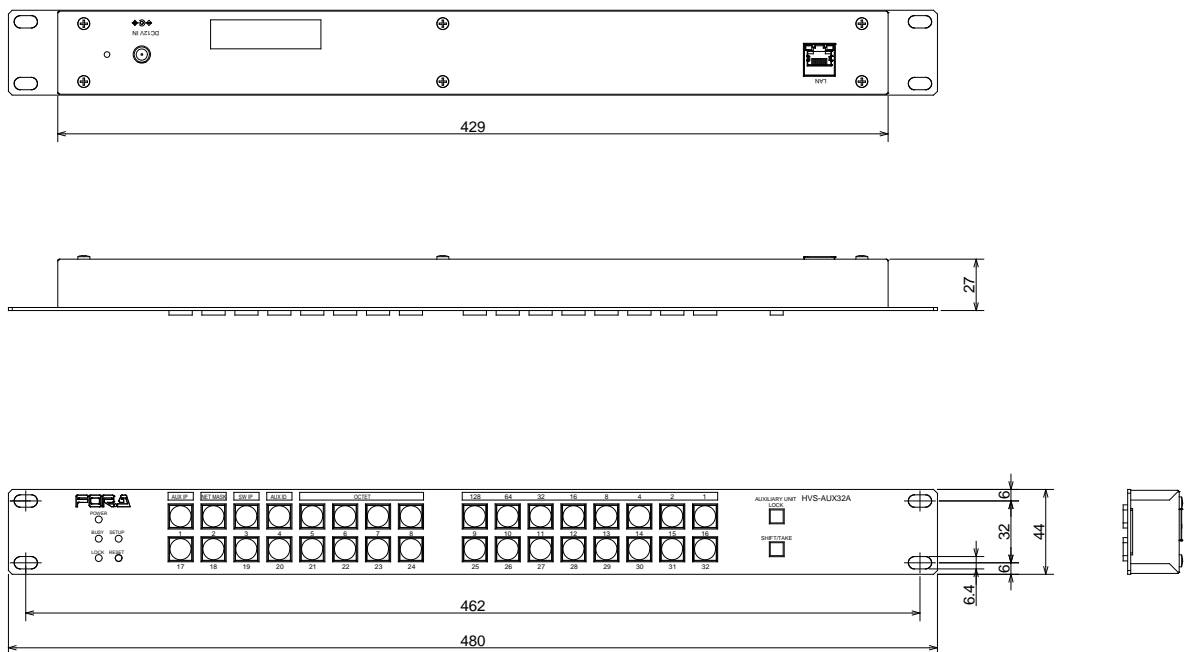### 5-2-1. HVS-AUX16A

(All dimensions in mm.)
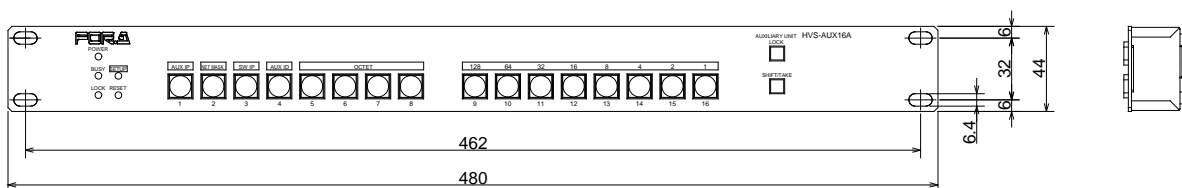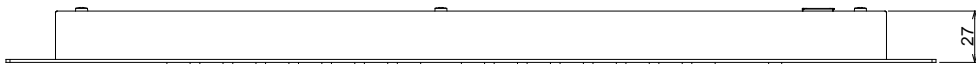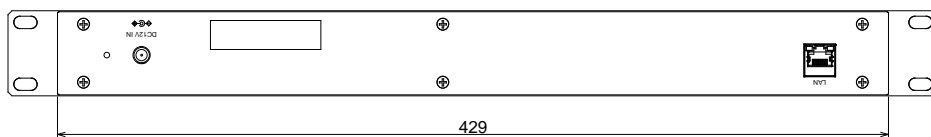
5-2-2. HVS-AUX16B
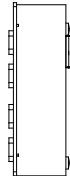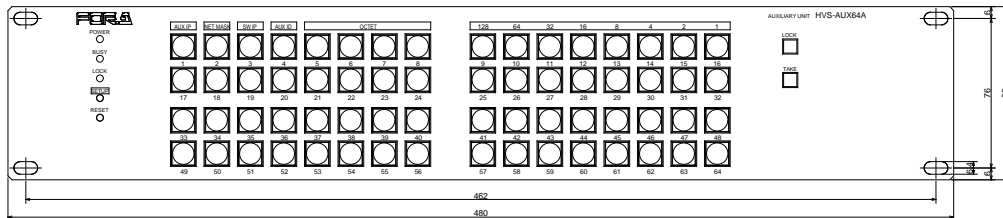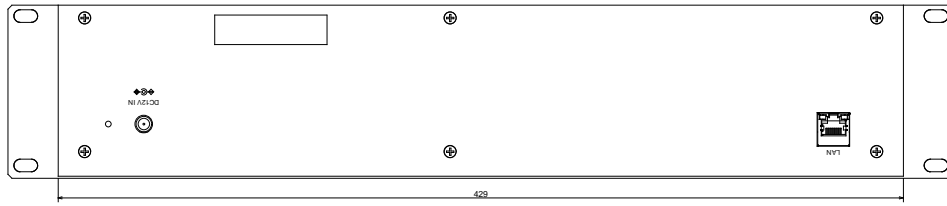
(All dimensions in mm.)
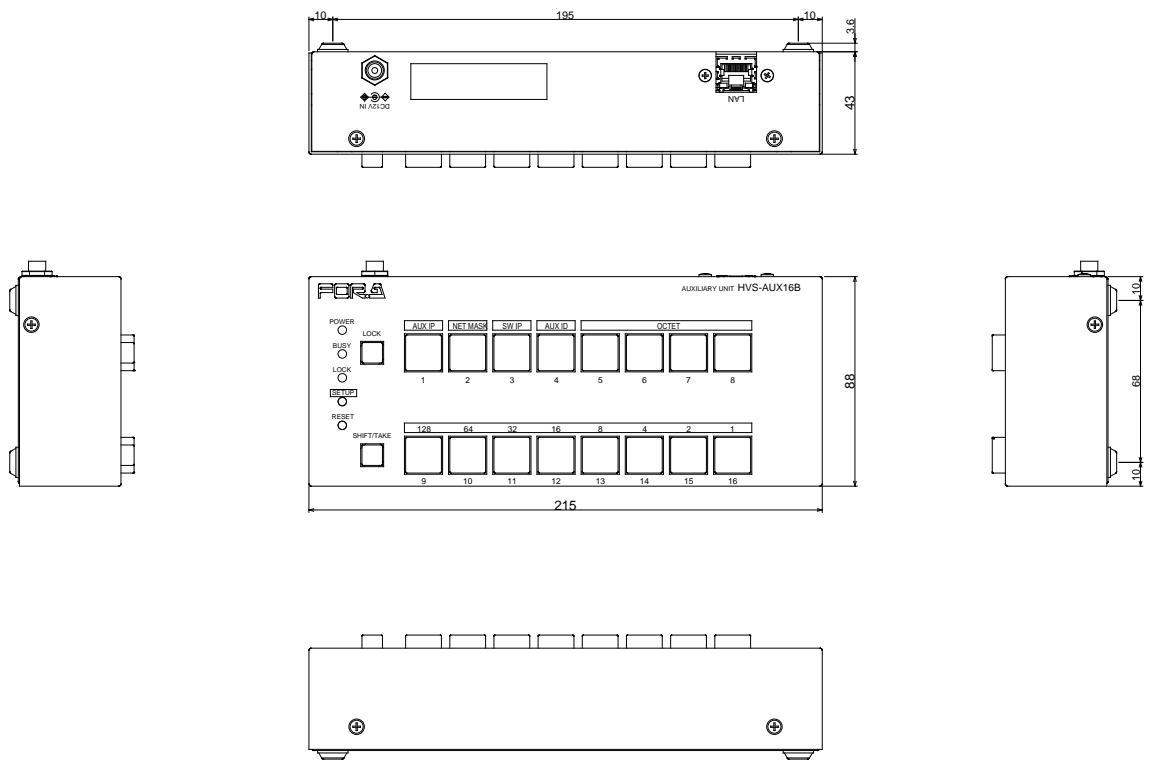
5-2-3. HVS-AUX32A

(All dimensions in mm.)

5-2-4. HVS-AUX64A

(All dimensions in mm.)

Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of 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.

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