

OPERATION MANUAL

USF-1040VEA

USF-1100VEA

Analog Video Equalizing Distribution
Amplifier

USF-VEAIF


VEA Interface

1st Edition - Rev.1


Precautions

Important Safety Warnings



[Installation/Operation]

 Stop	Do not install or operate the module under high temperature, high humidity, dusty, or high-vibration conditions. Installing the unit in conditions other than those specified may cause malfunction, fire, or electric shock hazards.
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[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.
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[Internal Setting Change]

 Caution	Turn the power off and disconnect the power cord prior to changing internal settings. Changing internal settings while the unit is powered on should only be attempted by qualified personnel.
 Stop	Do not touch any parts / circuitry with a high heat factor. Doing so is hazardous and may cause burns.

[Potential Hazards]

 Caution	If the power does not turn on, or 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. Immediately contact your supplier.
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[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. The service life of these items vary 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.
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Upon Receipt

Unpacking

Congratulations! By purchasing a USF-1040VEA/ USF-1100VES Analog Video Equalizing Distribution Amplifier you have entered the world of FOR-A and its many innovative products. 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.

◆ **USF-1040VEA or USF-1100VEA**

ITEM	QTY	REMARKS
USF-1040VEA or USF-1100VEA	1	A Front Module and Rear Module
CD-ROM	1	Operation Manual (PDF)
Screw (for Rear Module Installation)	2 or 4	USF-1040VEA: 2 USF-1100VEA: 4

◆ **Option**

ITEM	QTY	REMARKS
USF-VEAIF	1	Interface Card
Stud	4	For USF-1040VEA/USF-1100VEA connection
Screw	8	For USF-1040VEA/USF-1100VEA connection

NOTE

A USF-1040VEA or USF-1100VEA with USF-VEAIF installed can be used only in a USF-212S. USF-212 cannot be used.

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1. Features Overview

1-1. Overview

The USF-1040VEA is an Analog Video Equalizing Distribution Amplifier that can distribute 1 analog video input signal to 4 output signals. The USF-1100VEA is an Analog Video Equalizing Distribution Amplifier that can distribute 1 analog video input signal to 10 output signals. It supports composite and HD/SD analog component signals.

Installing a USF-VEAIF network interface into an USF-1040VEA/1100VEA allows web-based monitoring and control of the USF-1040VEA/1100VEA over the network. It also allows SNMP monitoring.

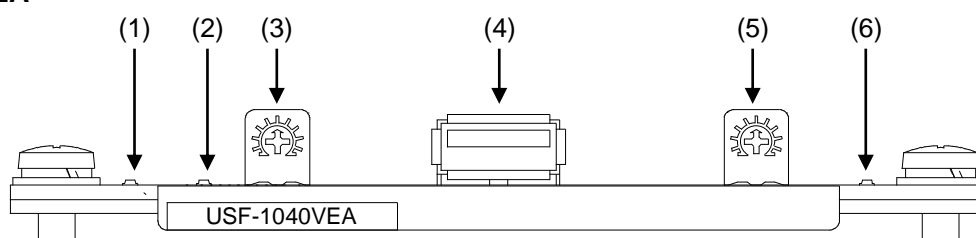
1-2. Features

- Installs into USF frames
- Video Gain adjustment
- Input cable compensation (up to 300 m when using 5C-2V equivalent cables)
- Input signal detection
- Input signal loop through
- Video signal coupling/clamp setting
- Analog video signal distribution, as well as tri-level sync signal distribution
- USF-VEAIF enables monitoring and setting via PC web browser through USF frame. (USF-212S only)

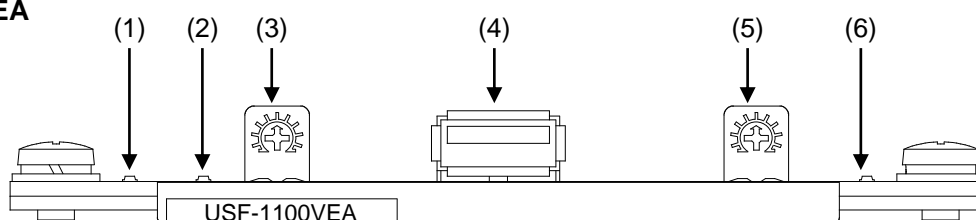
2. Part Descriptions

2-1. Front Panel

◆ USF-1040VEA



◆ USF-1100VEA



No.	Name	Description			
(1)	POWER	LED lights green when DC power is supplied normally.			
(2)	INPUT	LED indicates analog video input signal status.			
		Green	Indicates that a signal is being input.(-10dB to +6dB)		
		Off	Indicates that no signal is being input or signal level is too low.(less than -10dB)		
	Flashing	Indicates that input signal is distorted.			
(3)	GAIN	Video input signal volume adjustment knob. ^{*1} Adjusts signal GAIN in the range ± 3.0 dB.			
(4)	USB Connector	Used to update USF-VEAIF. In normal operation, do not connect a USB device.			
(5)	COMPEN (COMPENSATION)	Coaxial cable input compensation adjusting knob. ^{*1} The knob has ten level steps. In case of 5C-2V, cable compensation adjustable from 0m to 300m.			
		Dial	Approx. length of compensation	Dial	Approx. length of compensation
		(Far-left) 0	0 m	6	150 m
		1	0 m	7	200 m
		2	5 m	8	250 m
		3	10 m	9	300 m
		4	50 m	(Far-right) 10	300 m
5	100 m				
(6)	OPTION LED	LED lights green when optional USF-VEAIF is installed.			

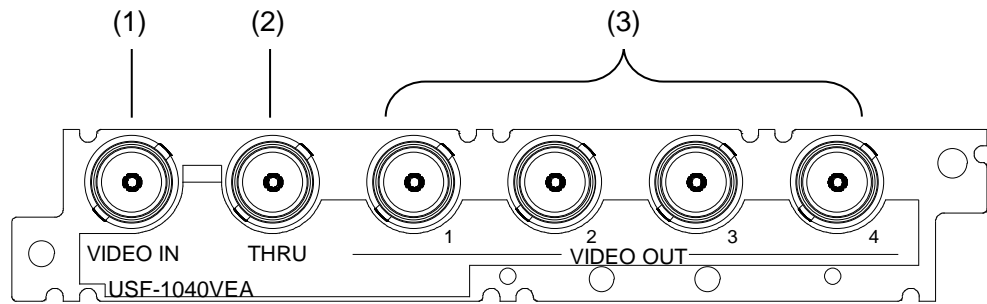
^{*1} Front panel setting is disabled with LOCAL/ REMOTE switch set to REMOTE when an optional USF-VEAIF is installed.

See Sec. 4. "Front Module DIP Switch" for details on LOCAL/REMOTE settings.

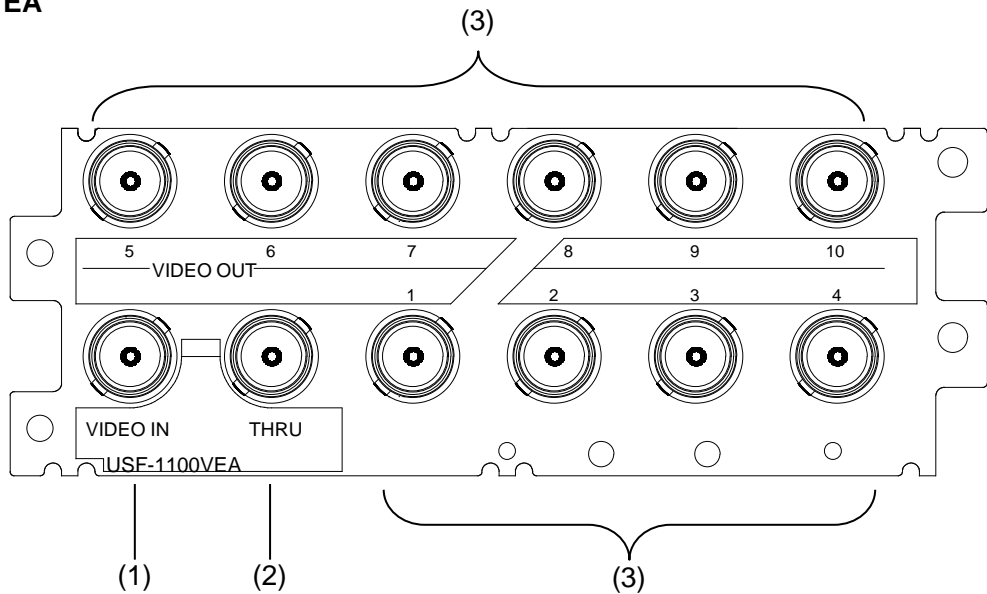
See Sec. 7. "Web GUI" for details on web page settings.

2-2. Rear Panel

◆ USF-1040VEA



◆ USF-1100VEA

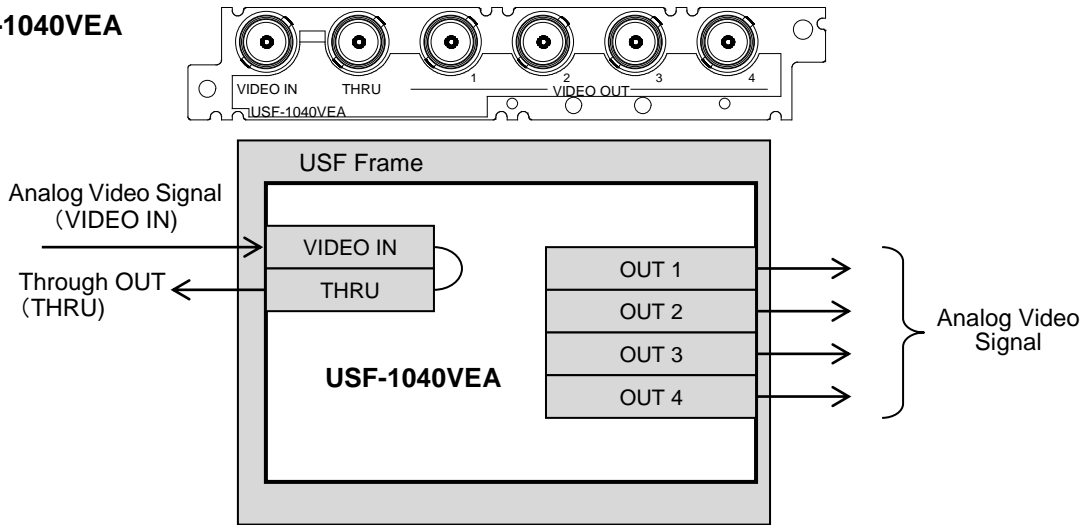


No.	Name	Description
(1)	VIDEO IN	Analog video signal input connector.
(2)	THRU	Loop through terminal for VIDEO IN. Connect to 75Ω terminator when not in use.
(3)	VIDEO OUT 1 to 4 (USF-1040VEA)	Analog video signal output connectors. Distributes input analog video signal.
	VIDEO Out 1 to 10 (USF-1100VEA)	

3. Connection

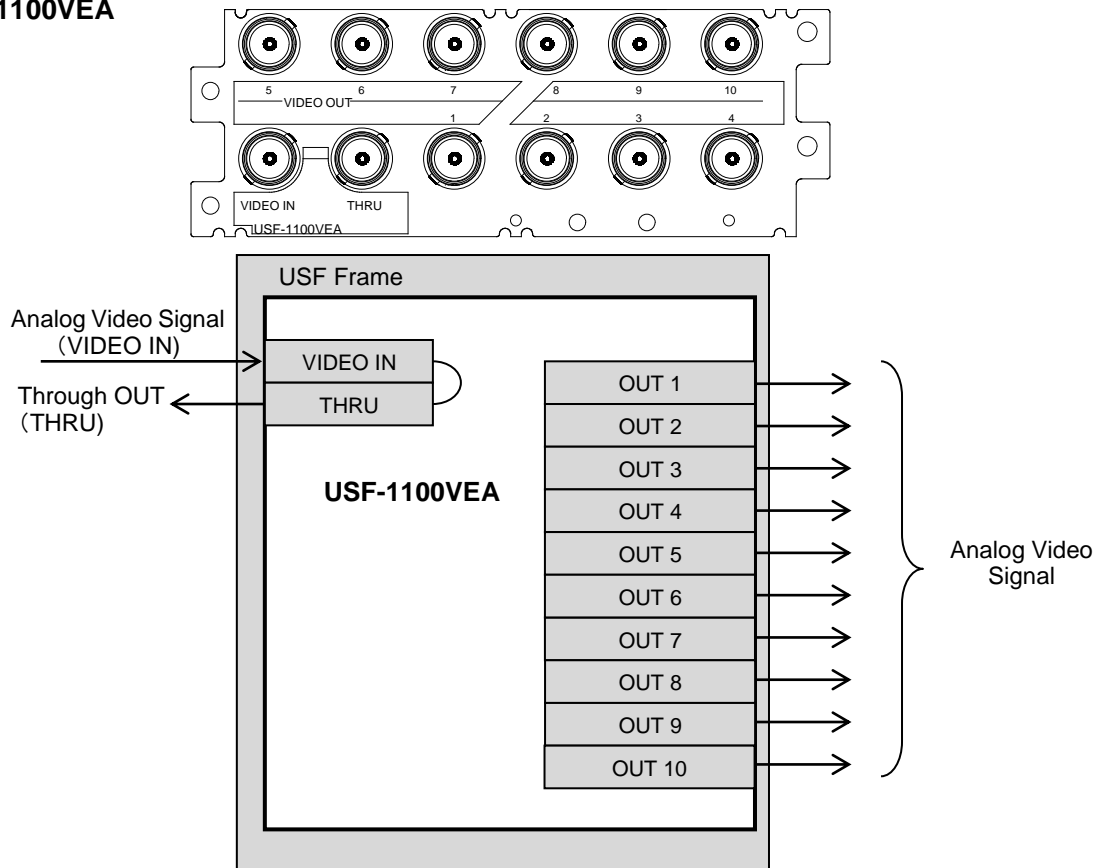
Connect a USF-1040VEA or USF-1100VEA to external devices referring to the charts below.

◆ **USF-1040VEA**



VIDEO IN becomes high impedance in Loop-through mode.
The last device in the chain should be terminated with 75Ω.

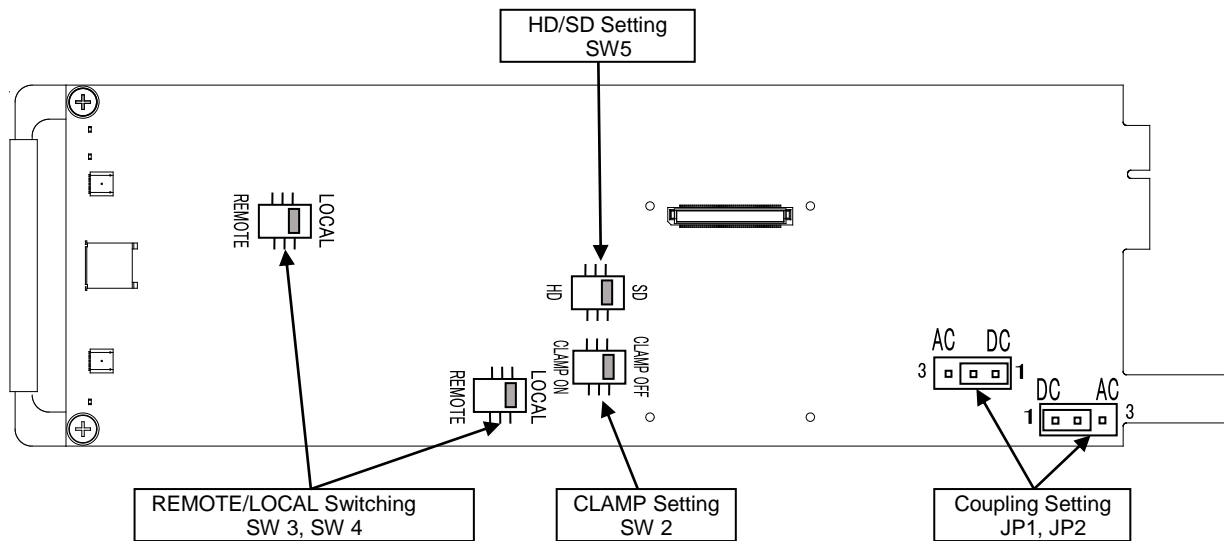
◆ **USF-1100VEA**



VIDEO IN becomes high impedance in Loop-through mode.
The last device in the chain should be terminated with 75Ω.

4. Front Module DIP Switch Settings

The DIP switch settings listed in the table below are available on the front module. Set the switches before installing the module into a frame.



Function	Switch	Switch Setting	Description
Coupling (*1)	JP1 JP2	DC (Factory Setting)	DC coupling (1-2 Short)
		AC	AC coupling (2-3 Short)
Clamp	SW 2	ON	Pedestal Clamp on (*2)
		OFF (Factory Setting)	Pedestal Clamp off
LOCAL/REMOTE (*3)	SW 3	LOCAL (Factory Setting)	COMPENSATION is set on the front panel not via Web GUI.
		REMOTE	COMPENSATION is set via Web GUI. Front panel setting of COMPENSATION is disabled.
	SW 4	LOCAL (Factory Setting)	GAIN is set on the front panel, not via Web GUI.
		REMOTE	GAIN is set via Web GUI. Front panel setting of GAIN is disabled.
SD/HD	SW 5	SD (Factory Setting)	Used to input composite or SD analog component signal.
		HD	Used to input HD analog component or tri-level sync signal.

(*1) Set two switches to the same setting.

(*2) When used as CLAMP ON, some signals are not applicable due to video format. Refer to Sec. 9-1. "Specifications" for details.

DC fluctuation of analog output can be suppressed using AC coupling/CLAMP ON for the input signal with large DC-voltage fluctuation.

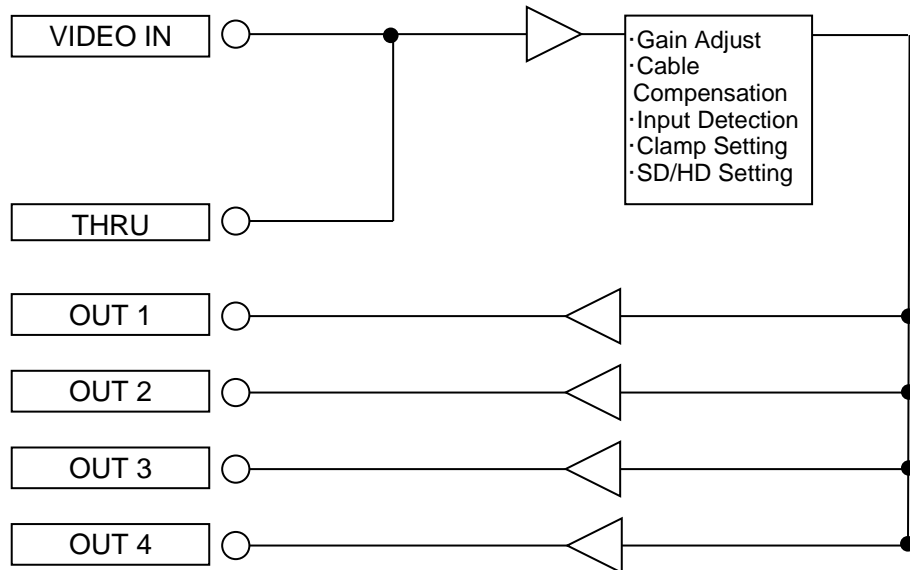
(*3) Set the SW3 and SW4 to LOCAL when the USF-VEAIF option is not installed.

Installing a USF-VEAIF enables USF-1040VEA/1100VEA status displays. Set both SW3 and SW4 to REMOTE to set GAIN and COMPENSATION through Web GUI. Refer to Sec. 7. "Web GUI" for details.

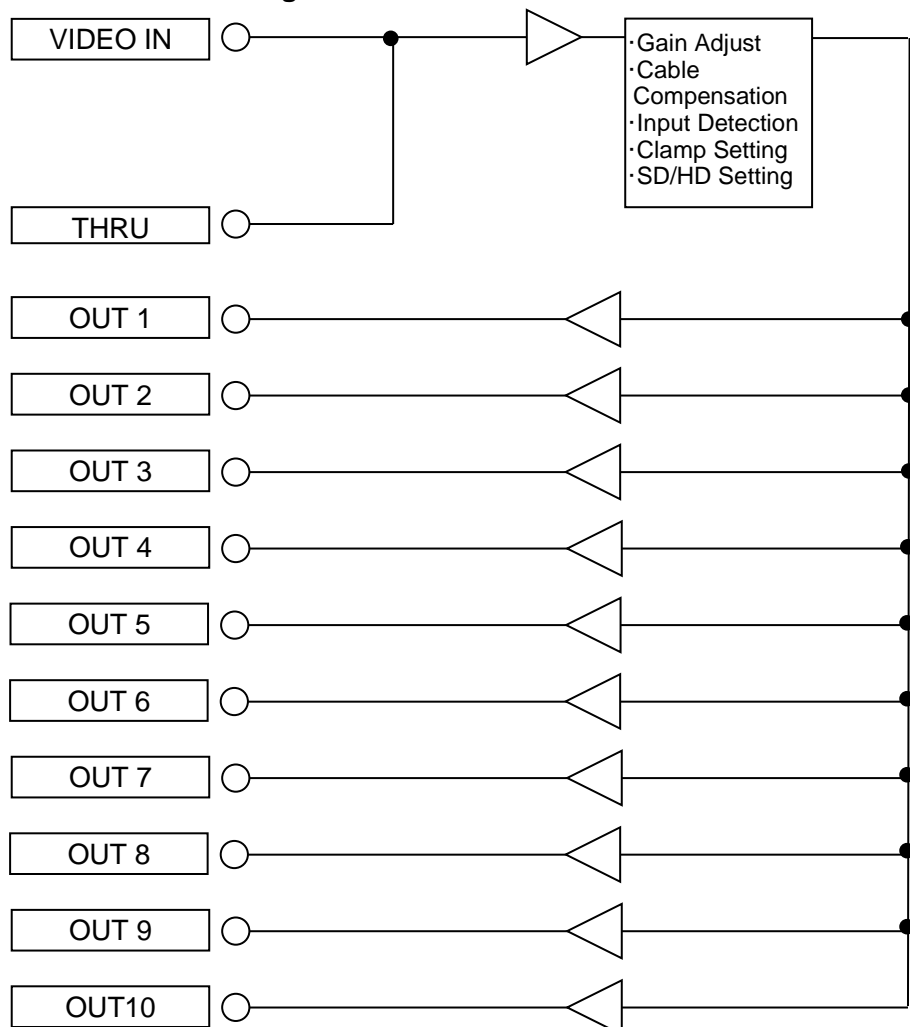
5. Internal Block Diagram

The internal block diagrams of USF-1040VEA and USF-1100VEA are shown as below.

◆ USF-1040VEA Internal Block Diagram



◆ USF-1100VEA Internal Block Diagram



6. USF-VEAIF (Option)

When an optional USF-VEAIF is installed into a USF-1040VEA or 1100VEA module and the module is installed into the USF-212S frame, the state of the USF-1040VEA or 1100VEA module can be displayed on the web page.

If USF-VEAIF is purchased later, set S1-1 according to the module type.

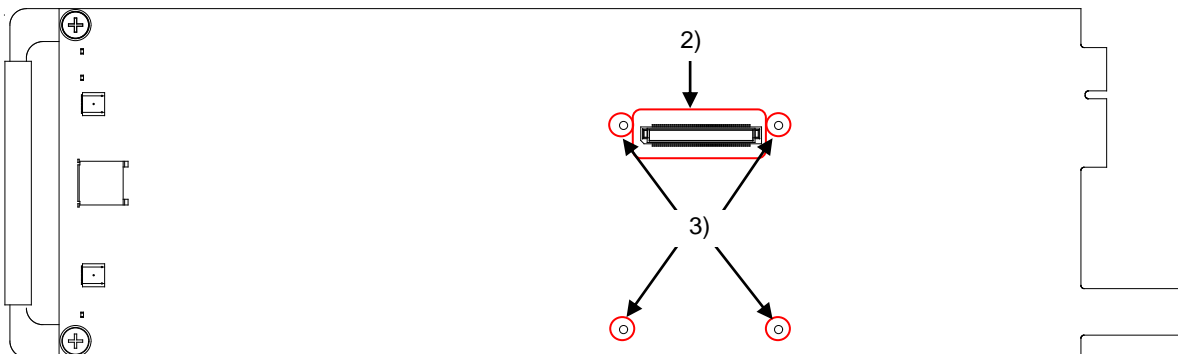
◆ Settings of S1 on the USF-VEAIF

No.	Settings
1	Off: USF-1040VEA On: USF-1100VEA
2	Off (Factory Setting)
3	Off (Factory Setting)
4	Off (Factory Setting)
5	Off (Factory Setting)
6	Off (Factory Setting)
7	Off (Factory Setting)
8	Off (Factory Setting)

* Do not change settings of 2 to 8 of S1.

6-1. Installing USF-VEAIF (Option)

When an optional USF-VEAIF is separately purchased, install the USF-VEAIF to a USF-1040VEA or 1100VEA, then the module into a USF frame.



- 1) Change the USF-VEAIF S1-1 setting depending on the module type to install. (Refer to the table above.)
- 2) Install the USF-VEAIF on the front module of USF-1040VEA or 1100VEA confirming the position of the connector. Align the red squared connector portion and click.
- 3) Fasten the USF-VEAIF with the 4 supplied screws from the rear. (Circled in red, above.)

* If a USF-VEAIF is already installed on a USF-1040VEA or 1100VEA, this process is not necessary.

NOTE

When a USF-VEAIF is installed, USF-1040VEA or USF-1100VEA can be used only with a **USF-212S** frame and not with a USF-212 frame.

7. Web GUI

USF-1040VEA or 1100VEA operation can be monitored and network settings can be changed via web browser/PC-network connection by applying a USF-VEAIF to a USF-1040VEA or 1100VEA module installed in a USF-212S. SNMP monitoring is also available. Refer to the USF-212S operation for details on displaying web pages.

NOTE

The USF-1040VEA or 1100VEA does not support simultaneous Web GUI access from multiple PCs. SNMP Manager should be used to monitor USF-1040VEA or 1100VEA from multiple PCs.

7-1. Web Page

The USF-1040VEA or 1100VEA web page allows you to show the module status and settings. As factory default, **Cable Compensation** and **Video Gain** cannot be adjusted from the Web GUI. To adjust them from the Web GUI, change internal switches (SW3 and SW4) to **REMOTE** on the USF-1040VEA/1100VEA front module.

Refer to Sec. 4. "Front Module DIP Switch Settings" for LOCAL/REMOTE setting details.

<LOCAL display>

<REMOTE display>

* Same settings apply to the USF-1100VEA.


◆ Module Information

Item	Status Display
Slot	Slot no. of USF-212S on which the module is installed.
S/N(USF-VEAIF)	Serial Number of USF-VEAIF
Version(USF-VEAIF)	Software version of USF-VEAIF
IP Address	IP address of USF-VEAIF
MAC Address	MAC address of USF-VEAIF
Installed Cards	Indicates whether or not the front and rear modules match. Matched: Correct (front/rear) modules are installed. Mismatched: Incorrect rear module installed. Install correct rear module.
CPU Temperature	Temperature of the CPU on the USF-VEAIF
Video Input	Video Input Status Detected: Normal video input (within -10dB to +6dB) Not Detected: No or low level video input. (less than -10dB)
Video Input Trap	Enable: Sends input status traps to SNMP manager when input signal changes. Disable: Disables input traps.

Video Clamp	Video clamp setting (Refer to Clamp in Sec. 4. "Front Module DIP Switch Settings.")
Video Coupling	Video coupling setting (Refer to Coupling in Sec. 4. "Front Module DIP Switch Settings.")
Video Gain	Video gain setting (set on the front panel)
Compensation Mode	Compensation mode of USF-1040VEA or 1100VEA. (Refer to SD/HD in Sec. 4. "Front Module DIP Switch Settings.")
Cable Compensation	Cable compensation level setting (set on the front panel)

Item	Setting
Video Gain	Setting is enabled when SW 4 is set as REMOTE. Set the input signal gain. Default: 0dB Settable Range: -3.5dB to 3.5dB
Cable Compensation	Setting is enabled when SW 3 is set as REMOTE. Set the input cable compensation level. Default: 0m Settable Range: [0m] to [200m - 300m] (Refer to (5) COMPEN (COMPENSATION) in Sec.2-1 "Front Panel.")

◆ Downloading MIB Files

- (1) Click  to download SNMP Manager MIB (Management Information Base)
- (2) Select **Save (S)** from the opened dialog box.
- (3) The FORA-USFVEA-MIB.zip file is downloaded.
- (4) Unzip the file and load it from SNMP Manager.

8. About SNMP

The USF-1040VEA/1100VEA can be remotely monitored using an external SNMP monitoring system that supports SNMPv2C. MIB (Management Information Base) files that are required for SNMP monitoring systems can be downloaded from Web GUI. Refer to the prior section for details on downloading MIB files. Refer to the USF-212S Operation Manual for SNMP settings.

◆ GET List

Object group	Item Name	Object name in MIB file	Value	OID	Type	TRAP Function
OID : 1.3.6.1.4.1.20175.1.318.1. (Unit Info)						
Unit Status	Product Name	usfVeaProductName	USF-1040VEA USF-1100VEA	1	OCTET STRING	
	Product Code	usfVeaProductCode	1023816(USF-1040VEA) 1023817(USF-1100VEA)	2	INTEGER	
	Serial Number	usfVeaSerialNumber	1642****	3	INTEGER	
	Soft Version	usfVeaVersion	**.**	4	OCTET STRING	
	Slot Number	usfVeaSlotNumber	1~12	5	INTEGER	
	Temperature	usfVeaCpuTemperature	**degree Celsius	6	INTEGER	
	Input Video Status	usfVeaVideoInputStatus	0: notdetected 1: detected	7	INTEGER	○
	Video Clamp	usfVeaVideoClamp	0: off 1: on	8	INTEGER	
	Video Coupling Setting	usfVeaVideoCoupling	0: dc 1: ac	9	INTEGER	
	Cable Compensation Mode	usfVeaCompensationMode	0: sd 1: hd	10	INTEGER	

* No item can be set from SNMP.

◆ TRAP List

Object Group	Item Name	Object name in MIB file	OID	Reference Object	Type
OID : 1.3.6.1.4.1.20175.1.312.0. (TRAP)					
TRAP	Video Input Status	usfVeaInputStatusChanged	1	usfVeaSlotNumber	INTEGER
				usfVeaVideoInputStatus	INTEGER

9. Specifications and Dimensions

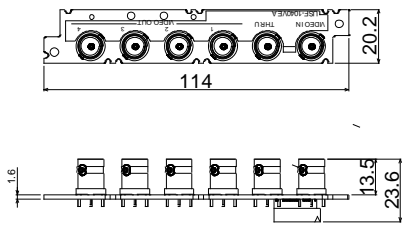
9-1. Specifications

	USF-1040VEA	USF-1100VEA
Video Input	Analog Video 1.0 Vp-p High-impedance loop through BNC x 1 (Looped output x 1 separately)	
Video Output	Analog Video 1.0 Vp-p 75Ω BNC x 4	Analog Video 1.0 Vp-p 75Ω BNC x 10
Frequency Characteristics	100 kHz to 30 MHz within ± 0.5 dB (with 0 m cable compensation)	
DG/DP	0.5% / 0.5° (APL 50%)	
GAIN	Output signal adjustment: ±3.0 dB against input signal	
Cable Compensation	Max. 300 m (if using 5C-2V equivalent cables)	
Clamp	Clamp ON/OFF internally switched. Applicable video formats when clamped. 525/60, 625/50, 1080i/50, 59.94, 60, 1080p/23.98, 24, 25, 29.97, 30, 1080PsF/23.98, 24, 720p/50, 59.94, 60	
Temperature	0°C to 40 °C	
Humidity	30% to 90% (no condensation)	
Power	+12V DC (Supplied by USF frame)	
Power Consumption	150 mA 170 mA (USF-VEAIF installed)	200 mA 220 mA (USF-VEAIF installed)
Weight	190 g 210 g (USF-VEAIF installed)	220 g 240 g (with USF-VEAIF installed)
Dimensions	Front Module: 106 (W) x 356 (D) mm Rear Module: 114 (W) x 20.2 (H) mm	Front Module: 106 (W) x 356 (D) mm Rear Module: 114 (W) x 40.7 (H) mm
Required Slot	1 Slot	2 Slots

9-2. Dimensions

(All dimensions in mm)

USF-1040VEA



USF-1100VEA

