

OPERATION MANUAL

USF-108ADA

Analog Audio Distribution Amplifier

USF-ADAIF





ADA INTERFACE

1st Edition




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.




[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]

 <p>Caution</p>	<p>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.</p>
--	---

Upon Receipt

The USF-108ADA Analog Audio Distribution Amplifier is fully inspected and adjusted prior to shipment. 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-108ADA**

ITEM	QTY	REMARKS
USF-108ADA	1	USF-108ADA Front Module USF-108ADA Rear Module
CD-ROM	1	Operation Manual (PDF)

◆ **Option**

ITEM	QTY	REMARKS
USF-ADAIF	1	Interface Card
Mounting Studs	4	Used to mount USF-108ADA into USF frames
Mounting Screws	8	Used to mount USF-108ADA into USF frames

Table of Contents

1. Overview and Features	6
1-1. Overview	6
1-2. Features	6
1-3. About This Manual	6
2. Panel Descriptions	7
2-1. Front Panel.....	7
2-2. Rear Panel	8
3. Connection	8
3-1. Audio Input/ Output Connector Pin Arrangement	8
3-2. Balanced Input Output	11
3-3. Unbalanced Input Output	11
3-4. System Connection	12
4. Front Module Settings	13
4-3. LOCAL/REMOTE Settings (SW3, SW4, SW7).....	14
5. USF-ADAIF(Optional)	15
5-1. Installing a USF-ADAIF(Optional).....	15
6. WEB GUI	16
6-1. WEB GUI.....	16
6-2. WEB Display information	18
7. About SNMP.....	19
8. Specifications and Dimensions	20
8-1. Specifications	20
8-2. External Dimensions	21

1. Overview and Features

1-1. Overview

The USF-108ADA is an Analog Audio Distribution Amplifier that can distribute one analog audio input signal to 8 output signals. Two inputs can also be distributed to 4 outputs by changing internal settings.

Name	Mode	Distribution
USF-108ADA	Single Channel	IN A – 8 outputs
	Dual Channel	IN A – 4 outputs IN B – 4 outputs

Installing a USF-VEAIF network interface into an USF-108ADA allows web-based and SNMP monitoring, and control of the USF-108ADA over the network.

NOTE

Install the USF-108ADA with its USF-ADAIF into a USF-212S frame. USF-212 frames are unable to display web-based control even when a USF-ADAIF is installed into a USF-108ADA.

1-2. Features

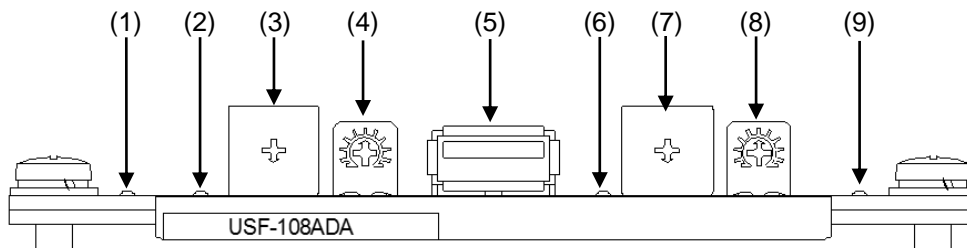
- Installs into USF frames; USF-212/ USF-212S
- Front panel adjustment of Audio gain
- Audio output gain adjustable in 5-level in 4dB steps.
- Single channel or dual channel mode selectable via internal setting changes.
- USF-ADAIF interface card allows browser-based control and SNMP monitoring.

1-3. About This Manual

This manual is intended to help the user easily operate this product and make full use of its functions during operation. Before connecting or operating your unit, read this operation manual thoroughly to ensure you understand the product. Afterwards, store this manual in a safe place for future reference.

2. Panel Descriptions

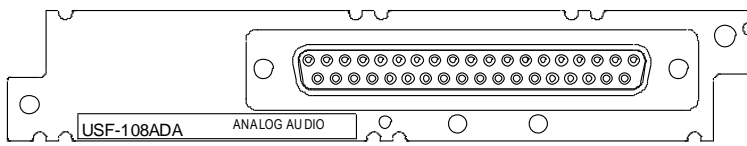
2-1. Front Panel



No.	Name	Description
(1)	POWER	LED lights green when normal DC power is supplied by USF frame.
(2)	LINE A IN	LED lights green when a signal is being input into LINE A. LED turns off when a signal less than -10dB continues for 2 or more seconds.
(3)	LINE A ATT	Sets LINE A attenuation with rotary switch SW2 in the range from scale 3 to 7. 0 to 2: 0dB 3: -8dB 4: -4dB 5: 0dB (Factory Setting) 6: +4dB 7: +8dB 8 to 9: 0dB
(4)	LINE A GAIN	Adjusts LINE A audio signal gain volume. ±6dB adjustable against input signal. (Factory setting: 0dB)
(5)	USB connector	Used to update USF-ADAIF software. (Do not connect to USB devices)
(6)	LINE B IN *	LED lights green when sensing input signal to LINE A. LED turns off when the sound less than -10dB continues for more than 2 seconds.
(7)	LINE B ATT *	Sets LINE B attenuation with rotary switch SW6 in the range from dial 3 to 7. 0 to 2: 0dB 3: -8dB 4: -4dB 5: 0dB (Factory Setting) 6: +4dB 7: +8dB 8 to 9: 0dB
(8)	LINE B GAIN *	Adjusts LINE B audio signal gain volume. ±6dB adjustable against input signal. (Factory setting: 0dB)
(9)	OPTION	LED lights green when optional USF-ADAIF is installed.

* Active when dual channel mode is set. Refer to 4-1. "Operation mode SW(8)" for setting dual channel mode.

2-2. Rear Panel



ANALOG AUDIO	Audio signal input/ output connector. See Sec. 3-1 "Audio input / output connector pin arrangement" for details.
--------------	---

3. Connection

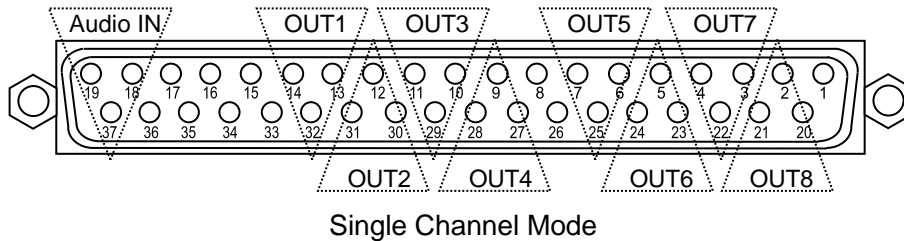
Refer to USF frame operation manuals for details on USF-108ADA module installation into a USF frame.

3-1. Audio Input/ Output Connector Pin Arrangement

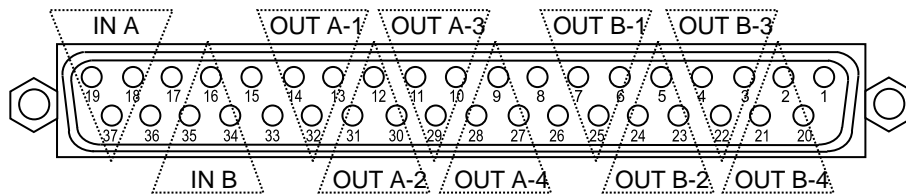
Name	Mode	Distribution	Pin Arrangement
USF-108ADA	Single channel	8-distribution from IN A	Table 1
	Dual channel	4-distribution from IN A 4-distribution from IN B	Table 2

* Refer to Sec. 4-1. "Operation mode (SW8)" for details on operation mode settings.

◆ USF-108ADA rear panel connector: D-sub 37-pin FEMALE



Single Channel Mode



Dual Channel Mode

◆ **Table 1: USF-108ADA Single Channel Mode Connector Pin Assignment**

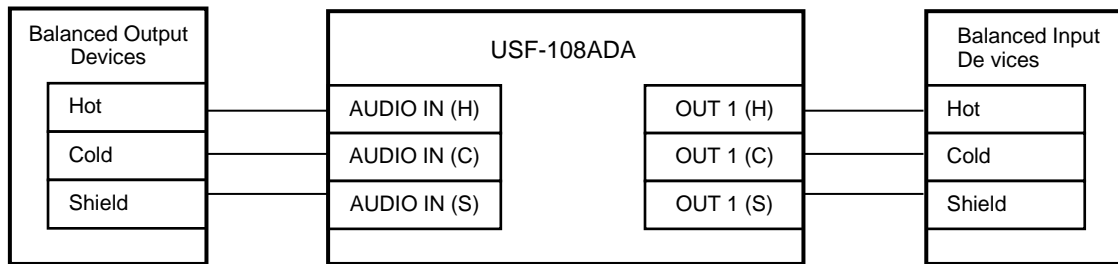
Pin No.	Signal	IN/OUT	Description
1	GND	–	Grounding
2	OUT 8 (C)	OUT	Cold for audio signal distribution 8
3	OUT 7 (S)	OUT	Shield for audio signal distribution 7
4	OUT 7 (H)	OUT	Hot for audio signal distribution 7
5	OUT 6 (C)	OUT	Cold for audio signal distribution 6
6	OUT 5 (S)	OUT	Shield for audio signal distribution 5
7	OUT 5 (H)	OUT	Hot for audio signal distribution 5
8	GND	–	Grounding
9	OUT 4 (C)	OUT	Cold for audio signal distribution 4
10	OUT 3 (S)	OUT	Shield for audio signal distribution 3
11	OUT 3 (H)	OUT	Hot for audio signal distribution 3
12	OUT 2 (C)	OUT	Cold for audio signal distribution 2
13	OUT 1 (S)	OUT	Shield for audio signal distribution 1
14	OUT 1 (H)	OUT	Hot for audio signal distribution 1
15	GND	–	Grounding
16	NC	–	Not used (No connection)
17	GND	–	Grounding
18	AUDIO IN (S)	IN	Shield for audio signal input
19	AUDIO IN (H)	IN	Hot for audio signal input
20	OUT 8 (S)	OUT	Shield for audio signal distribution 8
21	OUT 8 (H)	OUT	Hot for audio signal distribution 8
22	OUT 7 (C)	OUT	Cold for audio signal distribution 7
23	OUT 6 (S)	OUT	Shield for audio signal distribution 6
24	OUT 6 (H)	OUT	Hot for audio signal distribution 6
25	OUT 5 (C)	OUT	Cold for audio signal distribution 5
26	GND	–	Grounding
27	OUT 4 (S)	OUT	Shield for audio signal distribution 4
28	OUT 4 (H)	OUT	Hot for audio signal distribution 4
29	OUT 3 (C)	OUT	Cold for audio signal distribution 3
30	OUT 2 (S)	OUT	Shield for audio signal distribution 2
31	OUT 2 (H)	OUT	Hot for audio signal distribution 2
32	OUT 1 (C)	OUT	Cold for audio signal distribution 1
33	GND	–	Grounding
34	NC	–	Not used (No connection)
35	NC	–	Not used (No connection)
36	GND	–	Grounding
37	AUDIO IN (C)	IN	Cold for audio signal input

◆ **Table 2: USF-108ADA Dual Channel Mode Connector Pin Arrangement**

Pin No.	Signal	IN/OUT	Description
1	GND	–	Grounding
2	OUT B-4 (C)	OUT	Cold for input B audio signal distribution 4
3	OUT B-3 (S)	OUT	Shield for input B audio signal distribution 3
4	OUT B-3 (H)	OUT	Hot for input B audio signal distribution 3
5	OUT B-2 (C)	OUT	Cold for input B audio signal distribution 2
6	OUT B-1 (S)	OUT	Shield for input B audio signal distribution 1
7	OUT B-1 (H)	OUT	Hot for input B audio signal distribution 1
8	GND	–	Grounding
9	OUT A-4 (C)	OUT	Cold for input A audio signal distribution 4
10	OUT A-3 (S)	OUT	Shield for input A audio signal distribution 3
11	OUT A-3 (H)	OUT	Hot for input A audio signal distribution 3
12	OUT A-2 (C)	OUT	Cold for input A audio signal distribution 2
13	OUT A-1 (S)	OUT	Shield for input A audio signal distribution 1
14	OUT A-1 (H)	OUT	Hot for input A audio signal distribution 1
15	GND	–	Grounding
16	IN B (C)	IN	Cold for audio signal input B
17	GND	–	Grounding
18	IN A (S)	IN	Shield for audio signal input A
19	IN A (H)	IN	Hot for audio signal input A
20	OUT B-4 (S)	OUT	Shield for input B audio signal distribution 4
21	OUT B-4 (H)	OUT	Hot for input B audio signal distribution 4
22	OUT B-3 (C)	OUT	Cold for input B audio signal distribution 3
23	OUT B-2 (S)	OUT	Shield for input B audio signal distribution 2
24	OUT B-2 (H)	OUT	Hot for input B audio signal distribution 2
25	OUT B-1 (C)	OUT	Cold for input B audio signal distribution 1
26	GND	–	Grounding
27	OUT A-4 (S)	OUT	Shield for input A audio signal distribution 4
28	OUT A-4 (H)	OUT	Hot for input A audio signal distribution 4
29	OUT A-3 (C)	OUT	Cold for input A audio signal distribution 3
30	OUT A-2 (S)	OUT	Shield for input A audio signal distribution 2
31	OUT A-2 (H)	OUT	Hot for input A audio signal distribution 2
32	OUT A-1 (C)	OUT	Cold for input A audio signal distribution 1
33	GND	–	Grounding
34	IN B (S)	IN	Shield for audio signal input B
35	IN B (H)	IN	Hot for audio signal input B
36	GND	–	Grounding
37	IN A (C)	IN	Cold for audio signal input A

3-2. Balanced Input Output

For balanced input and output, connect each audio signal hot, cold, and shield to each pin.

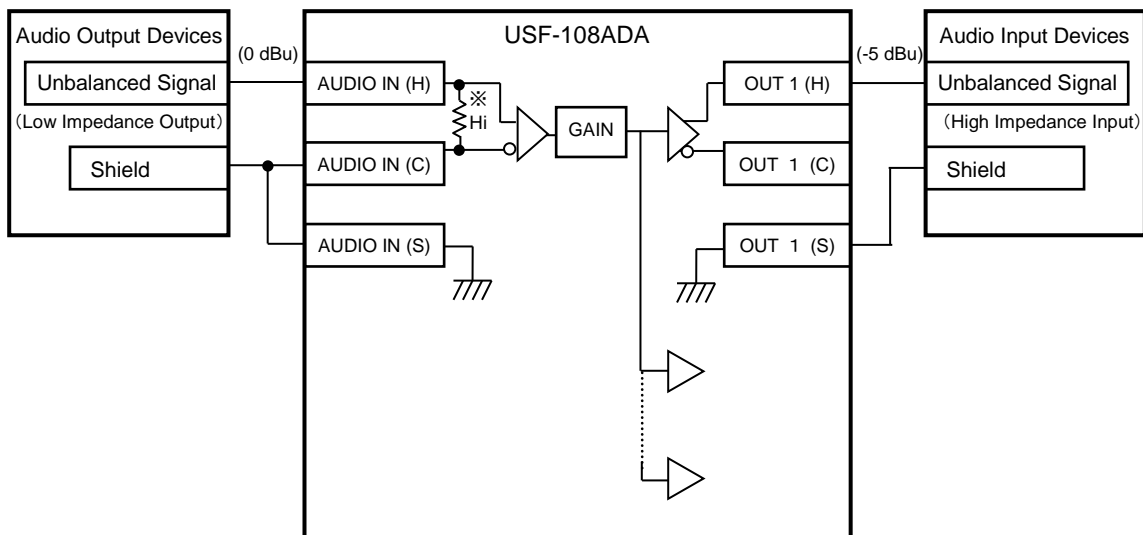


3-3. Unbalanced Input Output

With unbalanced input and output, connect the audio signal line to HOT and connect the shield line to both COLD and SHIELD.

Check level after system connection and adjust the level using the gain adjustment volume knob on the front if required.

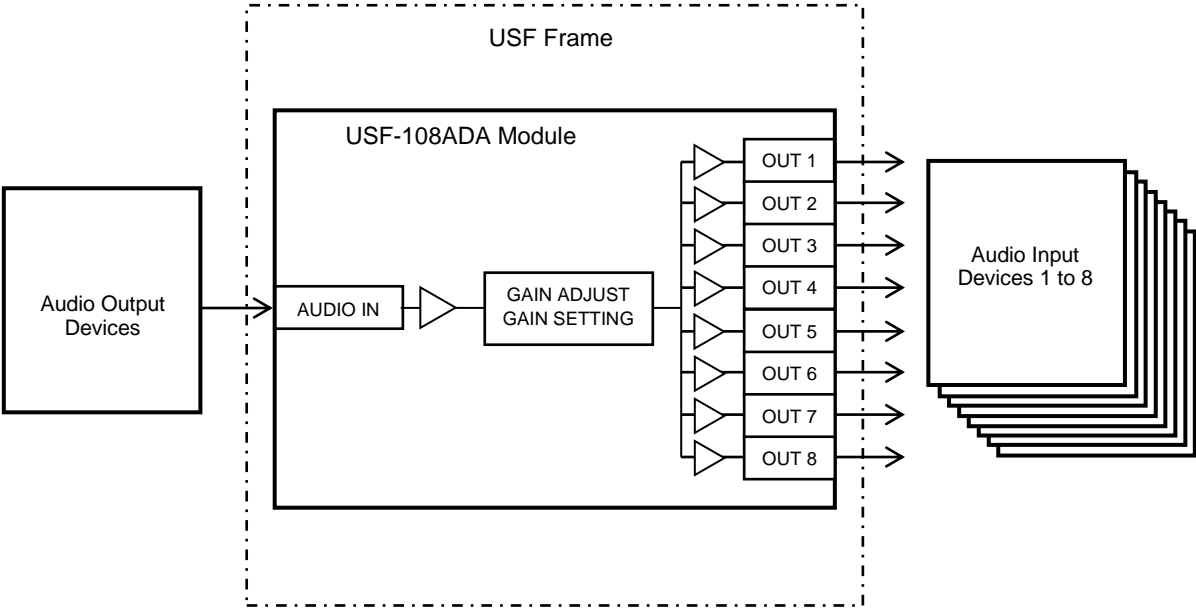
When inputting 0 dBu as unbalanced signal as shown in the figure below, the output level becomes approximately -5 dBu.



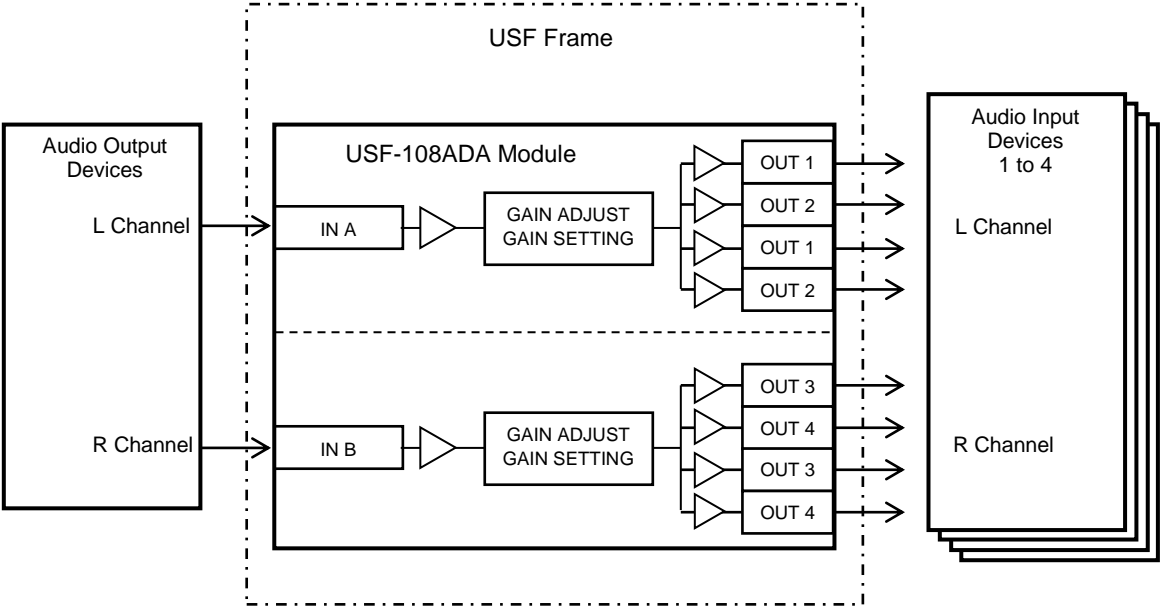
- * When the output impedance is low with unbalanced input, set the input terminal of USF-108ADA as high impedance. Maximum output level at unbalanced output will be +19 dBu.

3-4. System Connection

1. Single Channel Mode (1-input x 8-distribution)

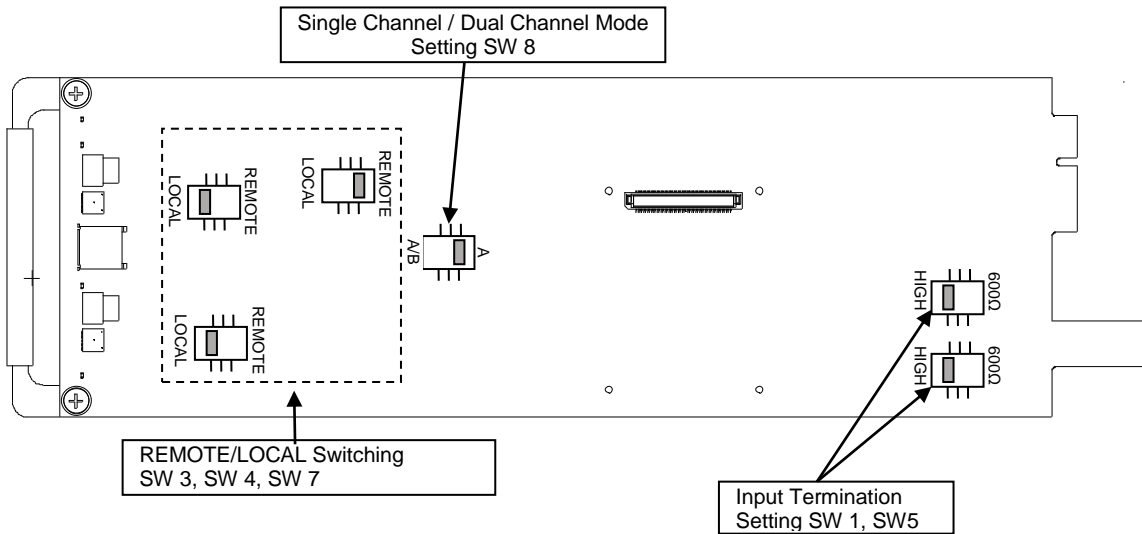


2. Dual Channel Mode (2-channels x 4-distribution)



4. Front Module Settings

Various settings are available using the DIP switches on the front module.
Set DIP switch settings before installing the module into a frame.



4-1. Mode (SW8)

SW8	Mode
A	Single Channel Mode
A/B	Dual Channel Mode

Factory setting: A (Single Channel Mode).

4-2. Input Termination (SW1, SW5)

AUDIO IN / IN A, IN B input termination set via SW1 and SW5.

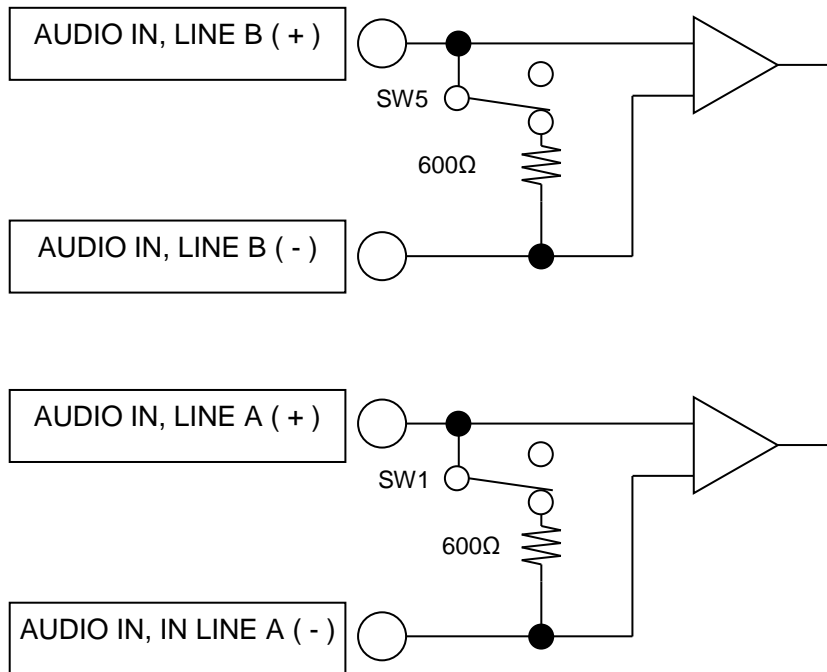
SW1 AUDIO IN A	Input Termination
600	600Ω Termination
HIGH	High Impedance

Factory setting: 600Ω termination.

SW5 * AUDIO IN B	Input Termination
600	600Ω Termination
HIGH	High Impedance

Factory setting: 600Ω termination.

- * SW5 is enabled when Dual Channel mode is set.
Refer to Sec. 4-1. "Mode SW(8)."



Factory setting is termination (SW1: 600Ω, SW5: 600Ω).

4-3. LOCAL/REMOTE Settings (SW3, SW4, SW7)

USF-108ADA operation can be monitored and network settings can be changed via web browser/PC-network connection by attaching a USF-ADAIF to a USF-108ADA module installed in a USF-212S.

- When all the switches SW3, SW4, and SW7 are set to REMOTE, Attenuator and Gain are settable via web browser. Front panel Attenuator and Gain settings are disabled.
- When all the switches SW3, SW4, and SW7 are set to LOCAL, Attenuator and Gain can be set via the front panel. Attenuator and Gain settings via web browser are disabled.
 - * Refer to Sec. 6-1 “WEB GUI.”
 - * SW3, SW4, and SW7 are all set to LOCAL as factory settings.

NOTE

Set SW3, SW4, and SW7 to LOCAL when a USF-ADAIF is not installed. When a USF-ADAIF is installed into USF-108ADA, install the USF-108ADA into a USF-212S frame. If a USF-108ADA with USF-ADAIF is installed to a USF-212 frame, web displays are not available.

5. USF-ADAIF(Optional)

When an optional USF-ADAIF is installed into a USF-108ADA module and the module is installed into a USF-212S frame, the state of the USF-ADA module can be displayed on the web page.

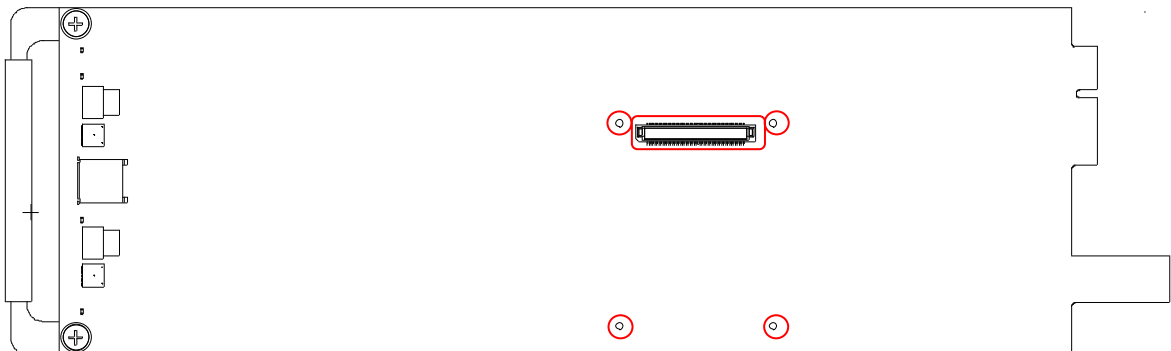
◆ USF-ADAIF DIP switch S1 settings

No.	Factory Settings
1	Off
2	Off
3	Off
4	Off
5	Off
6	Off
7	Off
8	Off

* Do not change settings.

5-1. Installing a USF-ADAIF(Optional)

When an optional USF-ADAIF is separately purchased, install the USF-ADAIF to a USF-108ADA front module, then the module into a USF-212S frame.



- 1) Install the USF-ADAIF on the front module of USF-108ADA confirming the position of the connector. Align the connector portion outlined in red and click.
- 2) Fasten the USF-ADAIF with the 4 supplied screws from the rear. (Circled in red, above)

* If a USF-ADAIF is already installed onto a USF-108ADA this process is not necessary.

NOTE

When a USF-ADAIF is installed, USF-108ADA can be used only with a USF-212 frame and not with a USF-212 frame.

6. WEB GUI

USF-108ADA operation can be monitored and network settings can be changed via web browser/PC-network connection by attaching an optional USF-ADAIF to a USF-108ADA. SNMP monitoring is also available. Refer to the USF-212S operation manual for details on displaying web pages.

6-1. WEB GUI

The USF-108ADA web page changes at LOCAL or REMOTE settings.

Refer to Sec. 4-1. "Mode (SW8)" for details on mode settings.

Refer to Sec. 4-3. "LOCAL/REMOTE Settings (SW3, SW4, SW7)" for details on LOCAL/REMOTE settings.

◆ Single Channel Mode / LOCAL

USF-108ADA

Module Information

Slot: 1
S/N(USF-ADAIF): 16430001
Version(USF-ADAIF): 1.00
IP Address: 192.168.0.11
MAC Address: 00-10-B1-0A-C0-01
Installed Cards: Matched
CPU Temperature: 36.4 °C
Mode: Single Mode

↓ Download MIB File

System A

Audio In: Silence
Audio Termination: 600 ohm
Silence Detect Time: 2 s
Input Status Trap: Disable Enable

Refresh

◆ Single Channel Mode / REMOTE

USF-108ADA

Module Information

Slot: 1
S/N(USF-ADAIF): 16430001
Version(USF-ADAIF): 1.00
IP Address: 192.168.0.11
MAC Address: 00-10-B1-0A-C0-01
Installed Cards: Matched
CPU Temperature: 36.6 °C
Mode: Single Mode

↓ Download MIB File

System A

Audio In: Silence
Audio Termination: 600 ohm
Attenuator: 0dB
Audio Gain: 0.0 dB
Silence Detect Time: 2 s
Input Status Trap: Disable Enable

Refresh

◆ Dual Channel Mode / LOCAL

USF-108ADA

Module Information

Slot: 1
S/N(USF-ADAIF): 16430001
Version(USF-ADAIF): 1.00
IP Address: 192.168.0.11
MAC Address: 00-10-B1-0A-C0-01
Installed Cards: Matched
CPU Temperature: 34.9 °C
Mode: Dual Mode

[Download MIB File](#)

System A

Audio In: Silence
Audio Termination: 600 ohm
Silence Detect Time: 2 s
Input Status Trap: Disable Enable

System B

Audio In: Silence
Termination: 600 ohm
Silence Detect Time: 2 s
Input Status Trap: Disable Enable

[Refresh](#)

◆ Dual Channel Mode / REMOTE

USF-108ADA

Module Information

Slot: 1
S/N(USF-ADAIF): 16430001
Version(USF-ADAIF): 1.00
IP Address: 192.168.0.11
MAC Address: 00-10-B1-0A-C0-01
Installed Cards: Matched
CPU Temperature: 34.9 °C
Mode: Dual Mode

[Download MIB File](#)

System A

Audio In: Silence
Audio Termination: 600 ohm
Attenuator: 0dB
Audio Gain: 0.0 dB
Silence Detect Time: 2 s
Input Status Trap: Disable Enable

System B

Audio In: Silence
Termination: 600 ohm
Attenuator: 0dB
Audio Gain: 0.0 dB
Silence Detect Time: 2 s
Input Status Trap: Disable Enable


[Refresh](#)

6-2. WEB Display information

Module Information

Item	Status Display
Slot	Slot no. of USF-212S on which the USF-108ADA is installed.
S/N(USF-ADAIF)	Serial number of USF-ADAIF
Version(USF-ADAIF)	Software version of USF-ADAIF
IP Address	IP address of USF-ADAIF
MAC Address	MAC address of USF-ADAIF
Installed Cards	Indicates whether the front and rear modules match. Matched: Correct (front/rear) modules are installed. Mismatched: Incorrect rear module is installed. Install a correct rear module.
CPU Temperature	Temperature of USF-ADAIF CPU.
Mode	Mode of USF-108ADA Refer to Sec. 4-1. "Mode (SW8)" for details on mode settings.

◆ Downloading MIB Files

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

System A / System B

System B is displayed when Dual Channel Mode is selected.

Refer to Sec. 4-1. "Mode (SW8)" for mode setting.

Refer to Sec. 4-3. "LOCAL/REMOTE Settings (SW3, SW4, SW7)" for details on LOCAL/REMOTE settings.

Item	Status Display / Settings
Audio In	Analog audio input status in System A/B is displayed.
Audio Termination	Analog audio termination settings in System A/B are displayed. Refer to Sec. 4-2. "Input Termination (SW1, SW5)" for details on settings.
Attenuator	Sets LINE A, B input attenuator. Range: -8dB, -4dB, 0dB (Factory setting), 4dB, 8dB Attenuator bar is not shown when setting is LOCAL. Refer to Sec. 4-3."LOCAL/REMOTE Settings (SW3, SW4, SW7)" for details on LOCAL/REMOTE settings.
Audio Gain	Sets LINE A, B audio signal gain. Clicking <u>Unity</u> sets the data to default Settable Range: -6.0dB - 6.0dB Step: 0.5dB Factory Setting: 0.0dB Audio Gain bar is not shown when setting is LOCAL. Refer to Sec. 4-3."LOCAL/REMOTE Settings (SW3, SW4, SW7)" for details on LOCAL/REMOTE settings.

Silence Detect Time	Sets the threshold time of silence time to judge A, B inputs as no input. Settable range: 2 sec. to 10 sec. Step: 1 sec. Factory setting: 2 sec. When silence continues over the set range, input is judged as no input. Affects Audio In on the web and Get/Trap on SNMP. Does not affect LED LINE A IN / LINE B IN on front panel.
Input Status Trap	Enable: when analog audio input changes, SNMP trap is sent to SNMP manager.

7. About SNMP

The USF-108ADA 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 : 1.3.6.1.4.1.20175.1.319.1. (Unit Info)						
Module Information	Product Name	usfAdaProductName	USF-108ADA	1	OCTET STRING	
	Product Code	usfAdaProductCode	1023818	2	INTEGER	
	Serial Number	usfAdaSerialNumber	1643****	3	INTEGER	
	Soft Version	usfAdaVersion	** **	4	OCTET STRING	
	Slot Number	usfAdaSlotNumber	1 to 12	5	INTEGER	
	Temperature	usfAdaCpuTemperature	**degree Celsius	6	INTEGER	
	Operate Mode	usfAdaOperateMode	0: single 1: dual	7	INTEGER	
	System A Input Status	usfAdaInputStatusA	-1: notAvailable 0: silence 1: present	8	INTEGER	✓
	System A Input Termination	usfAdaInputTerminateA	-1: notAvailable 0: term600-Ohm 1: high-impedance	9	INTEGER	
	System B Input Status	usfAdaInputStatusB	-1: notAvailable 0: silence 1: present	10	INTEGER	✓
System B Input Termination	usfAdaInputTerminateB	-1: notAvailable 0: term600-Ohm 1: high-impedance	11	INTEGER		

* Item parameters cannot be set from SNMP.

◆ TRAP List

Object group	Item Name	Object name in MIB file	OID	Type	Reference Object
OID : 1.3.6.1.4.1.20175.1.319.0. (TRAP)					
Trap	System A Input	usfAdaInputStatusChangedA	1	INTEGER	usfAdaSlotNumber
				INTEGER	usfAdaInputStatusA
	System B Input	usfAdaInputStatusChangedB	2	NTEGER	usfAdaSlotNumber
				NTEGER	usfAdaInputStatusB

8. Specifications and Dimensions

8-1. Specifications

Except as otherwise noted, 0dBu \approx 0.775V (r.m.s.)

Distribution	1-input \times 8-distribution 2-channels \times 4-distribution (Internal setting) D-sub37pin Female
Audio input	Analog audio balanced 600 Ω , +4dB
Input impedance	600 Ω or high impedance
Audio output	Analog audio balanced output +4dB \pm 0.2db (under 600 Ω load)
Output impedance	Less than 100 Ω
Output load resistance	More than 600 Ω
Maximum input output level	+24dB(under 600 Ω load output)
Frequency Characteristics	20Hz to 20kHz \pm 0.2dB (Standard: 1kHz)
ATT	-8dB, -4dB, 0dB, +4dB, +8dB
GAIN adjustable range	Output signal \pm 6.0dB adjustable against input signal + GAIN settings.
Distorsion ratio	Less than 0.05 % (When input is 1kHz +24dB)
S/N ratio	More than 80dB (When input is +24dB A weight FILTER)
Temperature	0 $^{\circ}$ C to 40 $^{\circ}$ C
Humidity	30% to 90% (no condensation)
Power	+12V DC (Supplied by USF frame)
Power Consumption	Approx. 910mA (+12V)
Dimensions	Front Module: 106 (W) \times 356 (D) mm Rear Module: 114 (W) \times 20.2 (H) mm \times 23.3(D)mm
Weight	0.5 kg
Required Slot	1 Slot
Consumables	None

8-2. External Dimensions

(All dimensions in mm)

