TOA

INTEGRATED AUDIO COLLABORATION SYSTEM
AM-CF1B, AM-CF1W
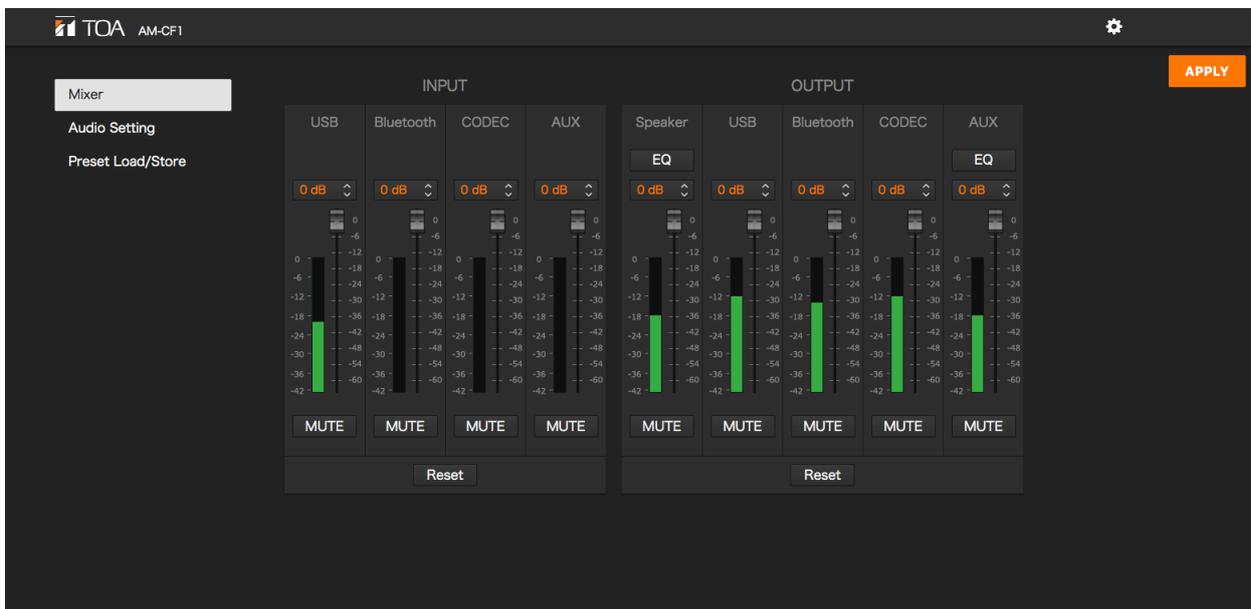
Thank you for purchasing TOA's Integrated Audio Collaboration System.
Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

TABLE OF CONTENTS

1. OVERVIEW OF SYSTEM SETTINGS

Connecting the AM-CF1 unit to a PC by way of a LAN cable allows the following function settings and maintenance to be performed using the PC's browser:

[Unit Settings]
・ Network settings
・ Clock settings
・ User account settings
・ Bluetooth® name settings
・ Key lock setting

[Operation Settings]
・ Volume adjustment and current value confirmation of various audio inputs and outputs
・ EQ parameter adjustment
・ Settings for microphone sound collection
・ Echo and noise cancellation settings
・ Operation settings for control input and output terminals by contact input and output signals
・ Operation setting for the multifunction indicator
・ Saving and reading of the above setting data

[Maintenance Function]
・ Firmware update

2. SYSTEM REQUIREMENTS

PC hardware requirements are as follows:

Display	1366 x 768 resolution or higher

Confirmed PC operation environments are as follows:

OS	Windows 10, 64-bit
	macOS 10.4.3 Mojave
Browser	Google Chrome 72.0.3626.81, Safari 12.0.3

3. CONNECTIONS

**Step 1.** Start up the web browser and enter "Unit's IP address" in the address field.
Example: 192.168.14.1
The login screen is displayed.
Tip: The IP address is factory-preset to "192.168.14.1".

Step 2. Enter a user name and a password.
The mixer screen is displayed.
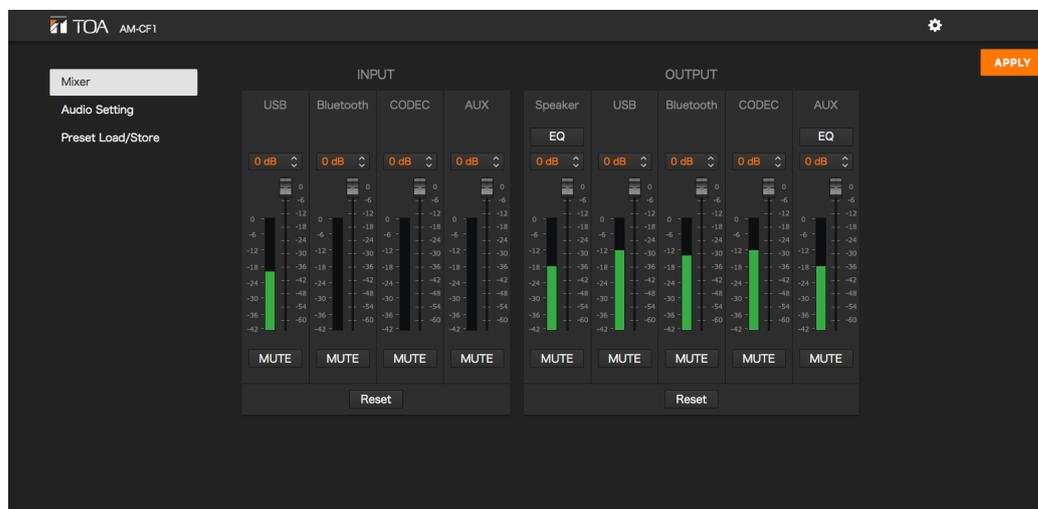
Note
Do not launch multiple web browsers at the same time.

Tip
Default user name and password are as follows:
User name: amcf1
Password: amcf1guest

4. SETTINGS

4.1. Settings Screen Switching

Click the following screen name or icon to switch the settings screen to the desired screen. Perform necessary settings on each screen.
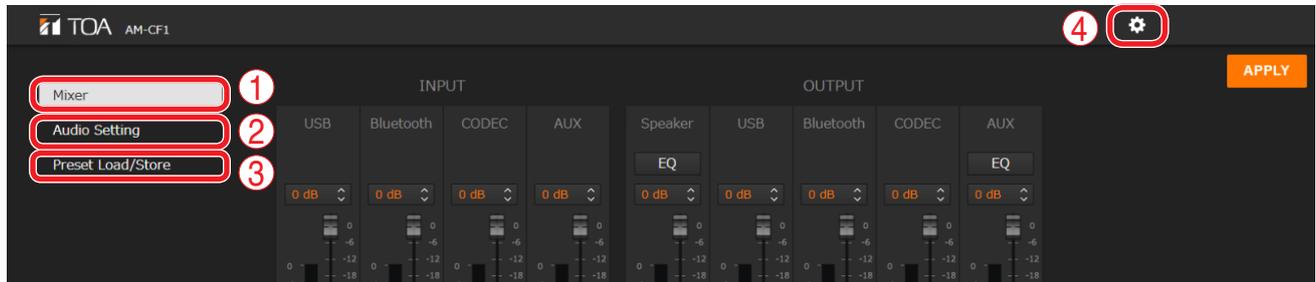
	Screen Name or Icon	Setting Contents
①	Mixer screen (Mixer)	Used to set input and output gains, etc. Equalizer settings are possible for both speaker and AUX outputs. (See below.)
②	Audio settings screen (Audio Setting)	Used to set microphone collection sound parameters, echo cancellers and noise cancellers. (See p. 9.)
③	Preset data loading and storage screen (Preset Load/Store)	Used to perform settings regarding the methods of loading and storing preset data. (See p. 11.)
④	Configuration icon	Used to perform settings related to networks, contact control/front panel LED indication and day and time/firmware update. (See p. 12.)

4.2. Mixer Screen Settings
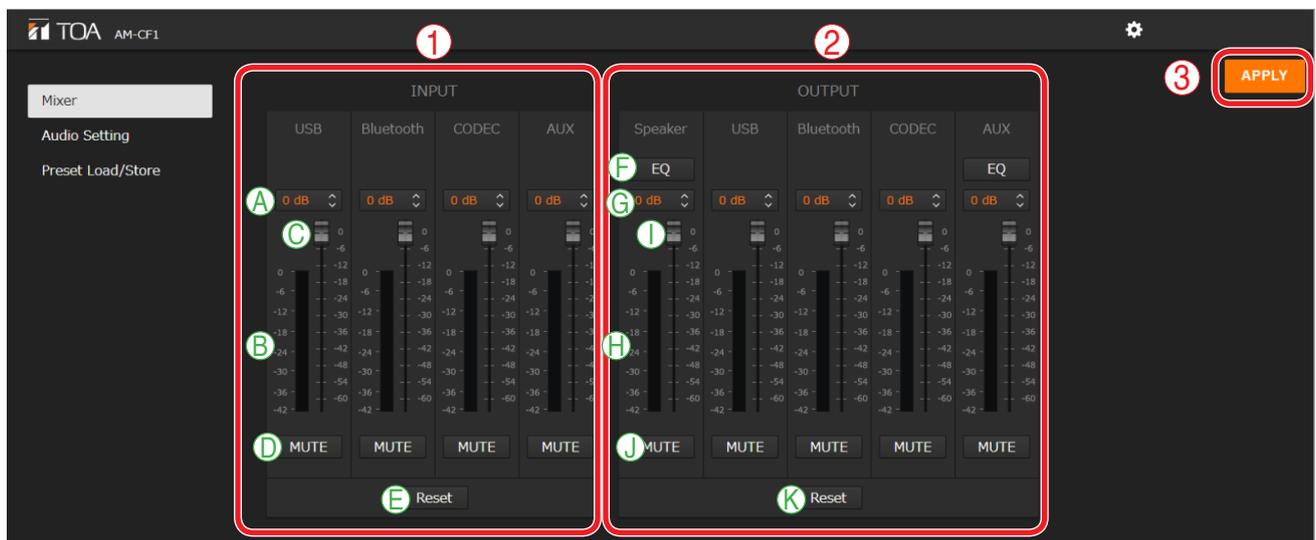
(1) Input signal adjustment section (INPUT)
Perform settings related to input signals.
The following four input types are made available:
USB
Bluetooth
CODEC
AUX

	Name	Description
A	Input gain display	Input gains are displayed numerically. Numerical values can be changed with the arrows to the right of each value. Initial setting: 0 dB **Tip:** Linked to faders (C).
B	Input level indicators	Display input levels.
C	Faders	Used to change input gains. **Tip:** Linked to input gain display (A).
D	Mute button	Click to mute corresponding input. Clicking again returns input to the previous level.
E	Reset button	Click to return all input adjustment settings to their initial settings.

(2) Output signal adjustment section (OUTPUT)

Perform settings related to output signals.

Settings for the following five types of output can be performed:

    Speaker
    USB
    Bluetooth
    CODEC
    AUX

|	Name	Description
F	EQ button	Performs equalization on both speaker and AUX outputs. Clicking this button opens the Equalizer Screen. (See p. 7.)

G	Output gain display	Output gains are displayed numerically. Numerical values can be changed using the arrows to the right of each value.
		Initial setting as follows:
		    Speaker, USB, CODEC, AUX: 0 dB
		    Bluetooth: −20 dB
		Tip: Linked to faders (I).

H	Output level indicators	Display output levels.
I	Faders	Used to adjust output gains. **Tip:** Linked to output gain display (G).
J	Mute button	Click to mute corresponding output. Clicking again returns output to the previous level.
K	Reset button	Click to return all output adjustment settings to their initial settings.

(3) APPLY button

Click this button after all settings on this screen are completed. Setting contents are applied.

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[Equalizer Settings]

Clicking the EQ button (see the previous page) displays the equalizer screen.
Both speaker and AUX outputs allow equalizer settings on 5 points and PEQ (parametric equalizer) parameters can be set on all of the 5 points. In addition, PEQ or HPF (high-pass filter) settings can be performed on the leftmost point, and PEQ or LPF (low-pass filter) settings can be performed on the ringhtmost point.

(Example: Speaker Output Equalizer Screen)
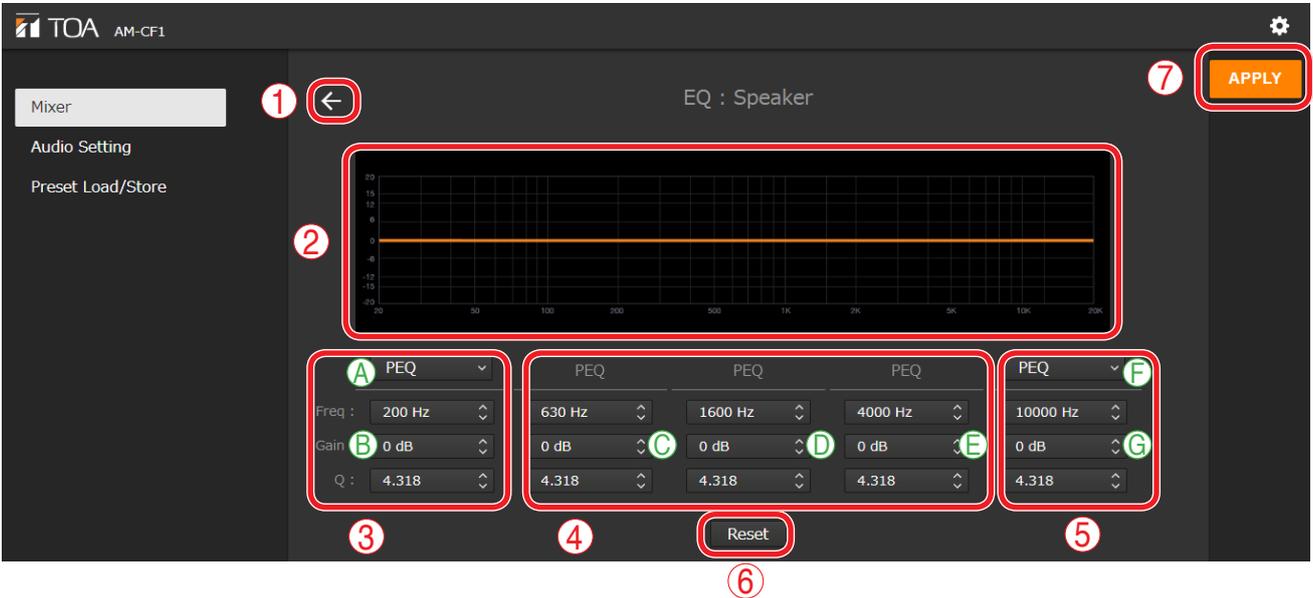
(1) Back icon
Clicking this icon returns the screen to the Mixer Screen.

(2) EQ curve display section
EQ curves are displayed depending on parameter settings.

(3) PEQ/HPF setting section
Used to set PEQ or HPF parameters.

	Name	Description

A	PEQ/HPF selection	Select the parameter type (PEQ or HPF).
		Initial setting as follows:
		    Speaker output: HPF
		    AUX output: PEQ

B	Parameter settings	Set parameters for Freq (frequency), Gain and Q. The setting range and initial settings are shown in the table below. **Note:** Gain and Q cannot be set if HPF is selected in the PEQ/HPF selection.

[Setting Ranges and Initial Settings]

Setting Item	Setting Contents	Setting Range	Initial Setting	
			Speaker Output	AUX Output
PEQ	Freq (Hz)	20 to 20000	300	200
	Gain (dB)	–15 to 15, 0.5 dB steps	0	0
	Q	0.267 to 69.249	0.718	4.318
HPF	Freq (Hz)	20 to 20000	300	200

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(4) PEQ setting section

Set Frequency, Gain and Q parameters.
The setting range and initial settings are as shown in the table below:

Setting Item	Setting Contents	Setting Range	Initial Setting	
			Speaker Output	AUX Output
PEQ	Freq (Hz)	20 to 20000	C: 300 D: 600 E: 4000	C: 630 D: 1600 E: 4000
	Gain (dB)	−15 to 15, 0.5 dB steps	C: −6 D: −3 E: 8	C: 0 D: 0 E: 0
	Q	0.267 to 69.249	C: 4.318 D: 4.318 E: 2.145	C: 4.318 D: 4.318 E: 4.318

(5) PEQ/LPF setting section

Used to set PEQ or LPF parameters.

	Name	Description
A	PEQ/HPF selection	Select the parameter type (PEQ or LPF). Initial setting: PEQ
B	Parameter settings	Set parameters for Freq (frequency), Gain and Q. The setting range and initial settings are shown in the table below. **Note:** Gain and Q cannot be set if LPF is selected in the PEQ/HLPF selection.

[Setting Ranges and Initial Settings]

Setting Item	Setting Contents	Setting Range	Initial Setting	
			Speaker Output	AUX Output
PEQ	Freq (Hz)	20 to 20000	10000	10000
	Gain (dB)	−15 to 15, 0.5 dB steps	0	0
	Q	0.267 to 69.249	4.318	4.318
HPF	Freq (Hz)	20 to 20000	10000	10000

(6) Reset button

Click this button to change the values (3) – (5) of speaker output and AUX output, respectively, as follows:

Setting Item	Setting Contents	(3) PEQ/HPF setting section	(4) PEQ setting section	(5) PEQ/LPF setting section
PEQ	Freq (Hz)	200	C: 630 D: 1600 E: 4000	10000
	Gain (dB)	0	C: 0 D: 0 E: 0	0
	Q	4.318	C: 4.318 D: 4.318 E: 4.318	4.318

(7) APPLY button

Click this button after all settings on this screen are completed. Setting contents are applied.

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4.3. How to Set the Audio Settings Screen

Perform settings related to microphone sound collection.
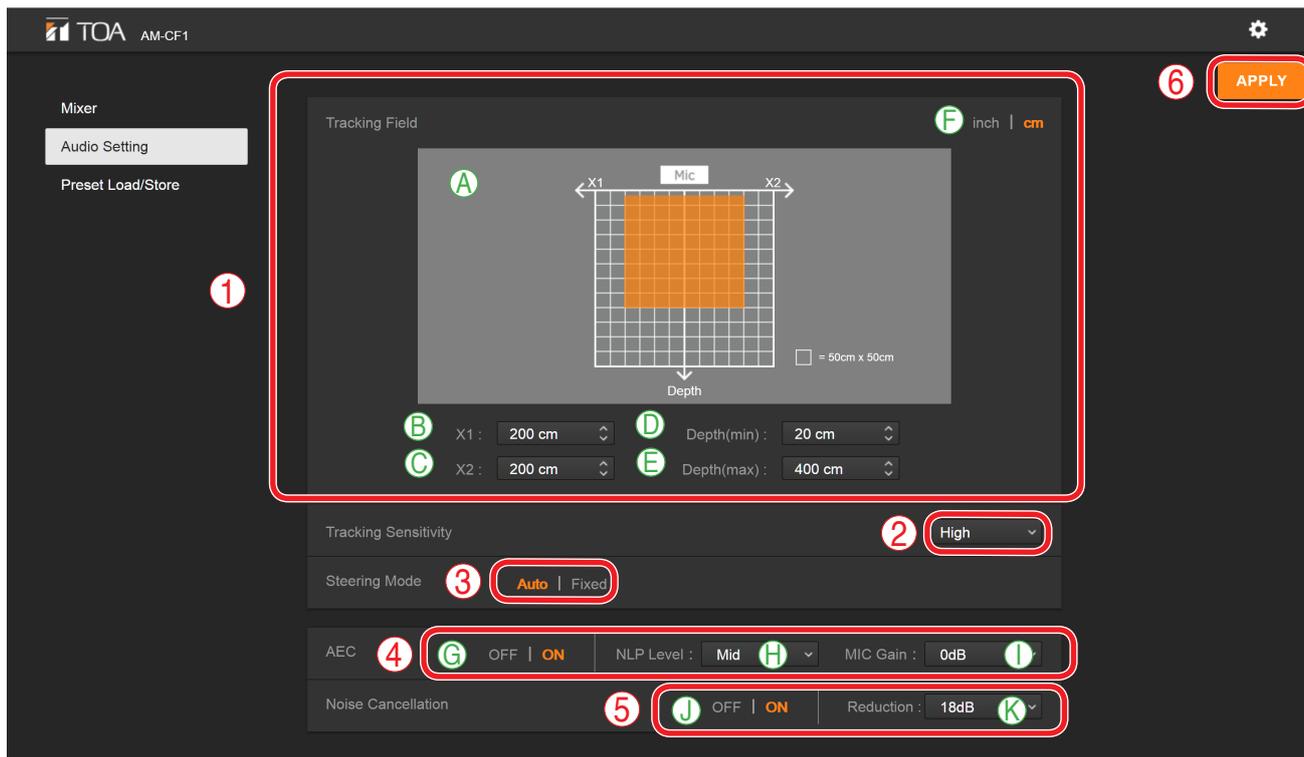
(1) Tracking Field

Set the range of sound source tracking with the microphone position (AM-CF1) as a reference. Use distances to the left and right from the center of the microphone position (AM-CF1) and the distance directly in front of the microphone to set the range.

	Name	Description
A	Range display	The sound source tracking range is displayed in orange.
B	X1 axis setting	Set the distance from the microphone position in the direction of the X1 axis. Setting range: 0 to 300 cm (0 to 120 inch) Initial setting: 200 cm (80 inch)
C	X2 axis setting	Set the distance from the microphone position in the direction of the X2 axis. Setting range: 0 to 300 cm (0 to 120 inch) Initial setting: 200 cm (80 inch)
D	Shortest distance setting	Set the shortest distance in front of the microphone position. Setting range: 20 to 590 cm (8 to 236 inch) Initial setting: 20 cm (8 inch)
E	Farthest distance setting	Set the farthest distance in front of the microphone position. Setting range: 30 to 600 cm (12 to 240 inch) Initial setting: 400 cm (160 inch)
F	Unit selection	Click to set the unit of distance to either centimeters (cm) or inches. The selected unit is displayed in orange. Initial setting: cm

(2) Tracking Sensitivity

Set the sensitivity to be used to specify a sound source.
Setting range: Low, Mid and High
Initial setting: High

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(3) Steering Mode
　　Set whether or not to track a sound source by clicking "Auto" or "Fixed."
　　The set mode is displayed in orange.
　　"Auto":　 Select this when tracking the sound source.
　　"Fixed":　Select this when the sound source position is fixed and thus not being tracked.
　　Initial setting: Auto

(4) Echo Canceller (AEC)

|	Name	Description
G	ON/OFF switching	Turns the [AEC] (Acoustic Echo Canceller) mode ON or OFF. The selected mode is displayed in orange. Initial setting: ON
H	NLP Level setting	Sets the setting level for Non-Linear AEC processing. Setting range: Low, Mid, High Initial setting:　Mid
I	Microphone Gain setting	Sets the output volume level of the beam steering microphone. Setting range: –6, –4, –2, 0, 2, 4 and 6 dB Initial setting:　0 dB

(5) Noise Cancellation

	Name	Description
J	ON/OFF switching	Turns the noise cancellation mode ON or OFF. The selected mode is displayed in orange. Initial setting: ON
K	Attenuation setting	Sets the amount of noise attenuation in dB. Setting range: 12 dB, 15 dB, 18 dB, 21 dB Initial setting:　18 dB

(6) APPLY button
　　Click this button after all settings on this screen are completed. Setting contents are applied.

4.4. Preset Data Loading and Storage Screen Settings

Preset data contents can be loaded from or stored to a PC.
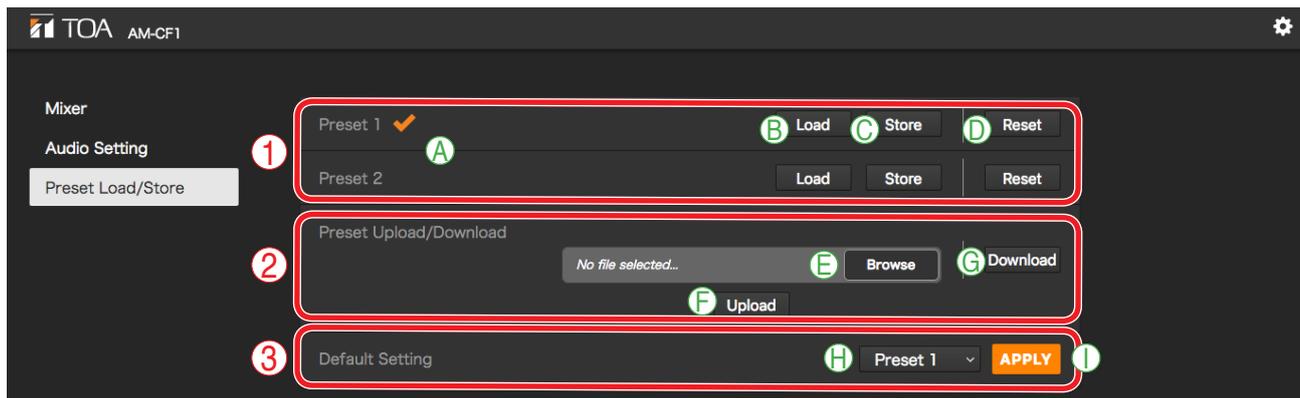
(1) Preset data setting section

Either of two different preset data contents can be selected.

	Name	Description
A	Preset data selection	Select the preset contents to use by clicking either "1" or "2." A checkmark appears to the right of currently selected preset data.
B	Loading (Load)	Loads stored setting contents.
C	Storage (Store)	Stores setting contents. Clicking this button stores current setting contents as preset data.
D	Reset	Resets setting contents to their initial settings after storing them as preset data.

(2) Preset data upload and download

Load or store preset data on a PC.

	Name	Description
E	File selection (Browse)	Click when selecting the preset data file (extension: zip) stored on the PC.
F	Upload	Click when uploading the selected preset data file to the AM-CF1 unit. **Note:** Files that do not satisfy filename conditions (see below) cannot be uploaded.
G	Download	Click when downloading preset AM-CF1 data for storage on a PC. The filename when downloading is "amcf1_preset.zip". **Tip:** Filenames can be changed after they are stored on a PC. Usable characters: Alphanumerics, space, [_], and [-] Maximum number of characters: 32

(3) Preset AM-CF1 data settings at startup

Set which preset data to upload when the AM-CF1 unit is started.

	Name	Description
H	Preset data selection at startup	From the pull-down menu, select the preset data contents to be uploaded when the AM-CF1 unit is started.
I	APPLY button	Click after selecting the startup preset file contents. The selected setting contents are applied.

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4.5. Configuration Settings

The configuration settings screen is displayed when the configuration icon is clicked.
Perform settings related to the configuration of the AM-CF1 unit.
The following three configuration settings screens are available. Click any one of the screen names shown in the screen below to switch the screen and perform all necessary settings.
- Network/User
- Control/Indicator
- Time/Firmware

Configuration icon
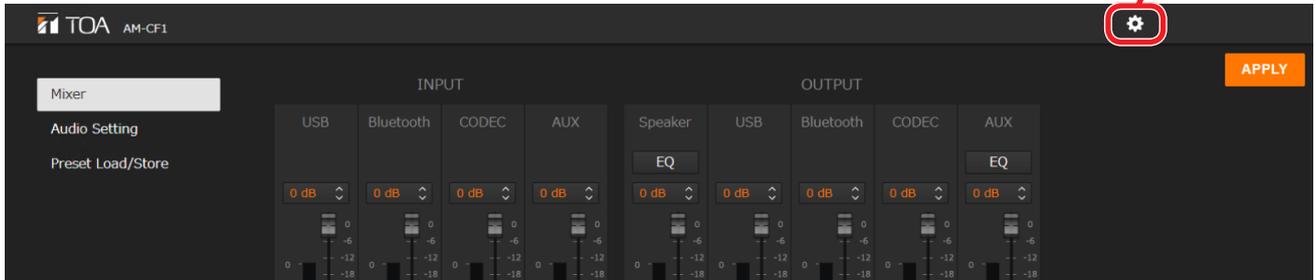
[Configuration Settings Screen]
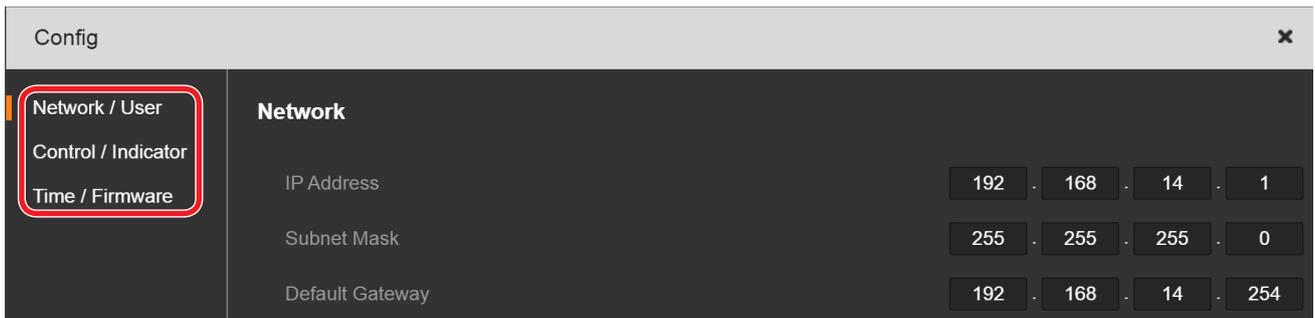
4.5.1. Network/User settings screen
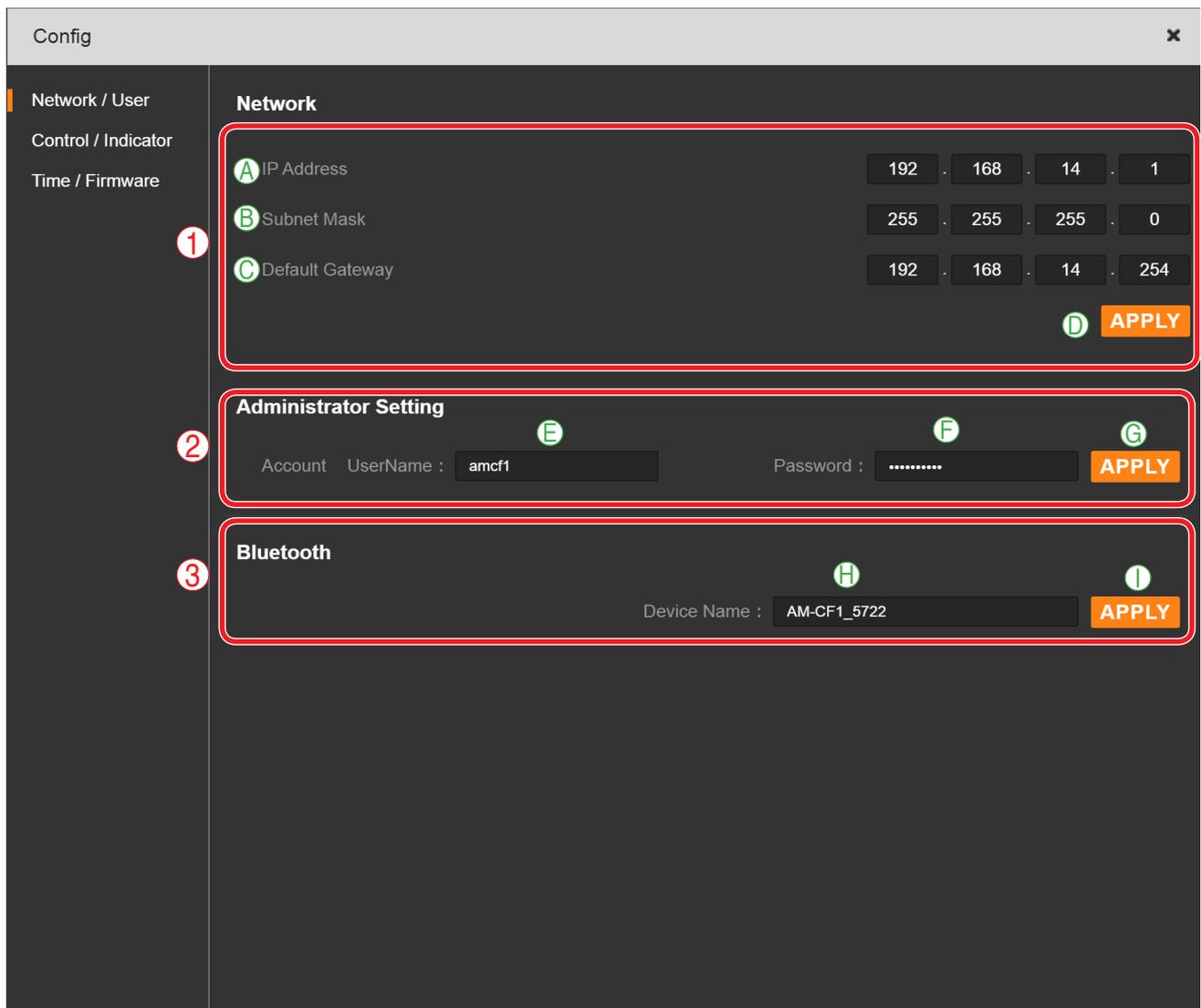
(1) Network settings

Perform network settings for the AM-CF1 unit.

	Setting Item and Button	Description
A	IP Address	Enter the AM-CF1 unit's IP address. Initial setting: 192.168.14.1
B	Subnet Mask	Enter the AM-CF1 unit's subnet mask. Initial setting: 255.255.255.0
C	Default Gateway	Enter the AM-CF1 unit's default gateway. Initial setting: 192.168.14.254
D	APPLY button	Click after setting entry completion. The set network contents are applied.

(2) Administrator Setting

Set the network administrator's user account.

	Setting Item and Button	Description
E	User account name	Enter the administrator's user account name. Initial setting: amcf1
F	Password	Enter the password of the user account. Initial setting: amcf1guest
G	APPLY button	Click after setting completion. The set administrator contents are applied.

(3) Bluetooth name settings

The name of the AM-CF1 unit as a Bluetooth device can be entered, confirmed and changed.

	Setting Item and Button	Description
H	Device name	Enter a new device name. The last 4 digits of the initial setting correspond to the last 4 digits of the device's MAC address. Usable characters: Alphanumerics, space, [_], [-] and [.] Maximum number of characters: 24
I	APPLY button	Click after device name entry completion. The entered device name is applied.

4.5.2. Control/Indicator settings screen
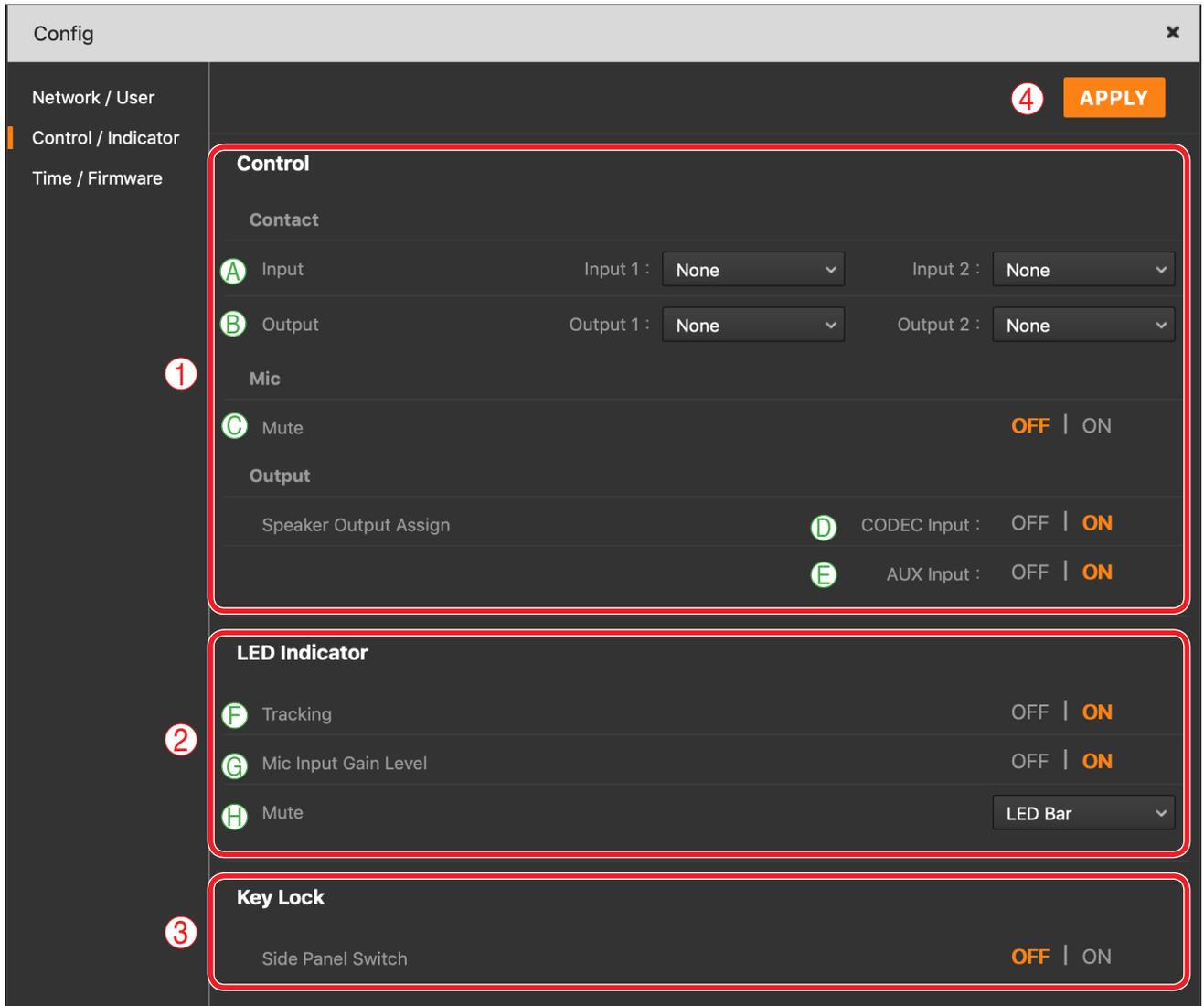
(1) External control settings (Control)

Set the input and output terminal operations to be activated by the contact input and output signals.

	Name	Description
A	Pull-down menus 1 and 2 for contact input settings	Individually set the operation to be performed when a signal is received at control input terminals 1 and 2. Setting range: None, Mute (Momentary), Mute (Latching), Vol Up, Vol Down, Preset 1 and Preset 2 Initial setting: None
B	Pull-down menus 1 and 2 for contact output settings	Individually set the operation to be performed when a signal is output from control output terminals 1 and 2. Setting range: None, Mute Status, Sync In 1 and Sync In 2 Initial setting: None

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	Name	Description
C	Mic Mute ON/OFF Setting	Enable or disable the mute function by clicking directly on either the ON or OFF indicator of [Mic] Mute. The selected mode is displayed in orange. When ON is selected, microphone input is muted at all times. Initial setting: OFF **Notes** • If ON is selected, the mute switch located on the side of the unit will be disabled, as will any external control over Mic Mute operation, rendering any further operation of the Mic Mute impossible. • When ON is selected, the multifunction indicator does not stay lit red, as it does while in Mic Mute mode.
D	Speaker Output Assignment (CODEC Input ON/OFF Setting)	Perform the setting by clicking directly on either the ON or OFF indicator of CODEC Input of [Speaker Input Assign]. The selected mode is displayed in orange. Selecting ON enables the CODEC input signal for output from the speaker. Initial setting: ON
E	Speaker Output Assignment (AUX Input ON/OFF Setting)	Perform the setting by clicking directly on either the ON or OFF indicator of AUX Input of [Speaker Input Assign]. The selected mode is displayed in orange. Selecting ON enables the AUX input signal for output from the speaker. Initial setting: ON

(2) LED Indicator settings

Perform indication status settings for the AM-CF1 unit's front panel-mounted multifunction indicator.

	Name	Description
F	Tracking display ON/OFF settings	Turn the Tracking display ON or OFF to perform settings. The selected mode is displayed in orange. Initial setting: ON
G	Mic Input Gain Level display ON/OFF settings	Turn the Mic Input Gain Level display ON or OFF. The selected mode is displayed in orange.
H	Pull-down menu for indicator mode selection during mute status	Select from the pull-down menu whether to turn on all multifunction LED indicators or only one central indicator when in mute mode. Central indicator: Single LED All indicators: LED Bar Initial setting: LED Bar

(3) Key Lock setting

Enables or disables the Key Lock function. Setting the Key Lock function to ON disables the unit's side switches. Selected indicator lights orange.
Initial setting: OFF

(4) APPLY button

Click after all settings are completed on this screen. Set contents are applied.

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4.5.3. Time/Firmware settings screen
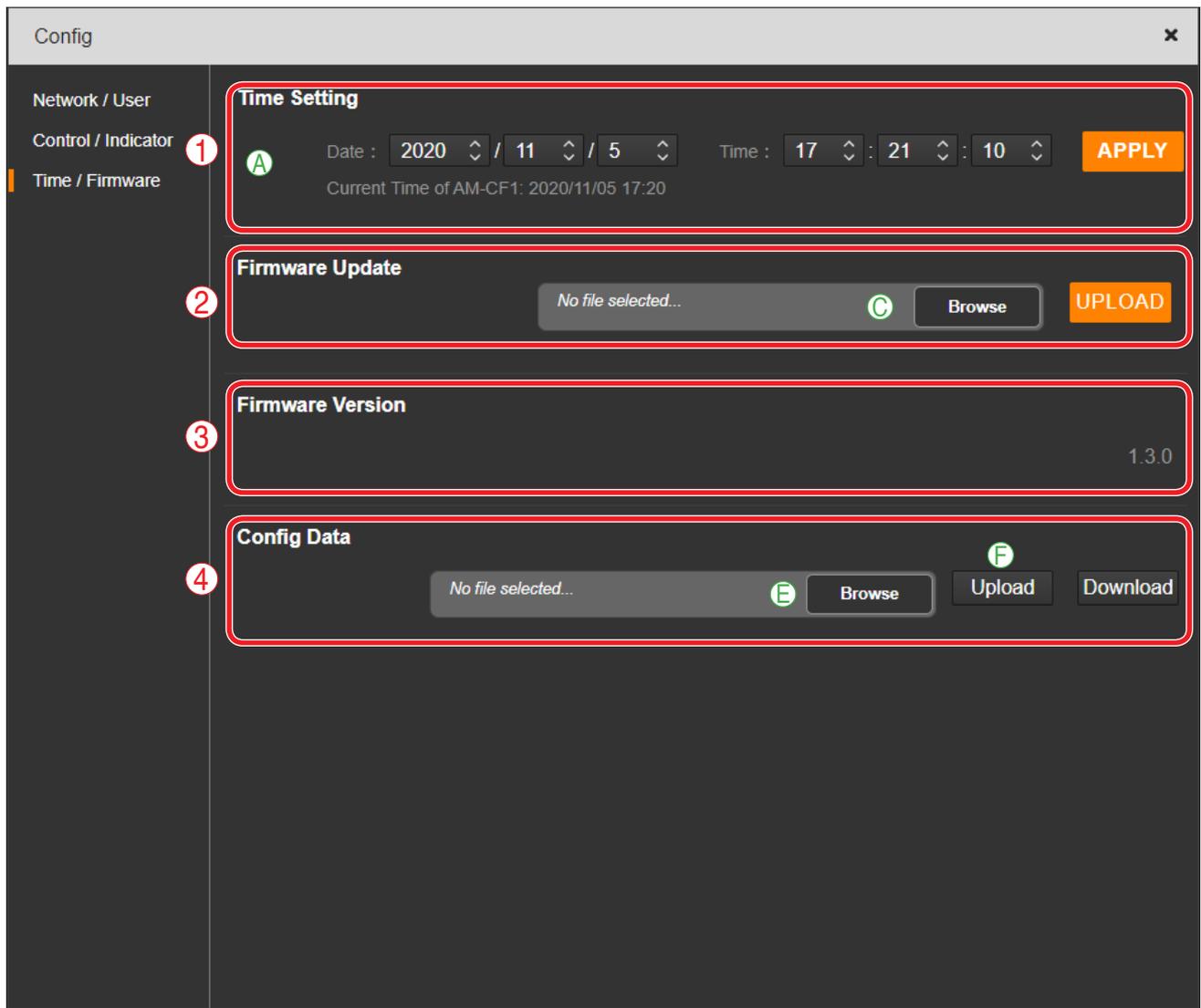
(1) Date and time settings (Time Setting)

Set the AM-CF1 Unit's date and time.

	Name	Description
A	Date and time settings	Set the date and time by changing their numerical values. When this screen is displayed, the set date and time of the PC connected to the AM-CF1 unit is first shown. The displayed time is not automatically updated.
B	APPLY button	Click after all necessary time settings are completed. The set contents are applied.

(2) Firmware update

Read the firmware update file from a PC to update the AM-CF1 unit's firmware.

	Name	Description
C	File selection (Browse)	Click when selecting the firmware update file (extension: bin) stored on the PC.
D	Upload	Click when uploading the selected firmware update file to the AM-CF1 unit.

(3) Firmware Version

The AM-CF1 unit's firmware version is displayed. No modification is possible.

(4) Configuration data (Config Data)

Upload or store configuration data on a PC.

	Name	Description
E	File selection (Browse)	Click when selecting the configuration data file (extension: zip) stored on the PC.
F	Upload	Click when uploading the selected configuration data file to the AM-CF1 Unit. **Note:** Files that do not satisfy filename conditions (see below) cannot be uploaded.
G	Download	Click when downloading the AM-CF1 configuration data file for storage on a PC. The filename when downloading is "amcf1_config.zip". **Tip:** Filenames can be changed after they are stored on a PC. Usable characters: Alphanumerics, space, [_], and [-] Maximum number of characters: 32