

UPDATE GUIDE

FA-1010

Frame Synchronizer

FA-10RU

FA-10AES-BL/UBL/UBLCL

FA-10ANA-AUD

FA-10GPI

FA-10DCCRU

2nd Edition

(FA-1010 Updater: Ver. 2.2.1 or higher)

Edition Revision History

FA-1010/FA-10RU/FA-10AES Update Guide Revision History

Edit.	Rev.	Date	Description	Section
1	-	2014/02/05	First edition	
2	-	2014/06/30	FA-10DCCRU update instruction added.	1, 2, 6
			Figures replaced.	4, 5, 6, 7
			Update notes added.	4, 5
			Appendix added.	Appendix A -F

FA-1010/FA-10RU/FA-10DCCRU Versions and Supported Options

FA-1010	FA-10RU	FA-10DCCRU	Supported Option	Note
FPGA1-4: 1.00 or higher FPGA5: 1.00 or higher Software: 1.00 or higher	-	-	FA-10PS	First edition
FPGA1-4: 1.10 or higher FPGA5: 1.10 or higher Software: 1.10 or higher	-	-		
FPGA1-4: 2.00 or higher FPGA5: 2.00 or higher Software: 1.10 or higher	-	-	FA-10AES-BL FA-10AES-UBL FA-10AES-UBLC	Audio option supported version
FPGA1-4: 2.10 or higher FPGA5: 2.10 or higher Software: 2.20 or higher	FPGA1, 2: 1.00 Software: 1.00, 1.01	FPGA1, 2: 1.00 Software: 1.00 (Limited functions depending on software version of connected device*)	FA-10RU FA-AUX30 FA-10GPI FA-10ANA-AUD	FA-10RU, FA-10AUX30, and FA-10GPI supported version
FPGA1-4: 2.20 FPGA5: 3.00 Software: 3.00	FPGA1, 2: 1.00 Software: 2.00	FPGA1, 2: 1.00 Software: 1.00		BY-PASS/OPERATE, Y Level and SPLIT functions added

FA-10DCCRU/Connected Device Software Version Correspondence

FA-1010	FA-9520 (FA-9520Mode)	FA-9520 (FA-9500Mode)	FA-9500	FA-10DCCRU Functions
Software: 1.00-2.01	Software: 1.00-2.01	Software: 7.00-8.01	Software: 1.00-8.00	Connection not possible.
Software: 2.20-2.22	Software: 2.02 or higher	Software: 8.02 or higher	Software: 8.01 or higher	BY-PASS/OPERATE, Y Level, and SPLIT are non-functional.
Software: 3.00 or higher				All functions are functional.

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1. Equipment and System Requirements

◆ To update FPGA/DSP (FA-1010/FA-10RU/FA-10DCCRU/FA-10AES)

*Normally, updates can be achieved with the following equipment.

1. PC	2. FA-1010 Updater (Software)	3. One crossover LAN cable, or 2 straight through LAN cables.	4. Hub
	 FA1010Updater.exe		

◆ To update CPLD (FA-1010/FA-10RU/ FA-10DCCRU/FA-10AES)

*Required only when updating CPLD.

1. PC	2. Quartus II Programmer (Software)	3. Byte Blaster or USB Blaster	4. 3x6 Phillips screwdriver
	 quartus_pgmw.exe		

<Required equipment for hardware option installation>

1. 3x6 Phillips screwdriver


<Default IP address>

Product	Default IP address
FA-1010	192.168.0.10
FA-10RU	192.168.0.100
FA-10DCCRU	192.168.0.100

2. Workflow

FA-1010/FA-10RU/FA-10DCCRU updates can be performed as follows.

1) Back up the settings and event data

Back up settings and event data before updating software.

See the respective operation manuals for details on the backup procedure.

* If backup is not needed, e.g. settings have not changed from default settings, skip this step and go to step 2).

◆ **Reference Notation in Operation Manuals**

(Only section numbers are given for reference, since pages may vary depending on edition or the revision numbers of manuals.)

FA-1010 (Default IP address: 192.168.0.10)

1. How to open associated GUI setting pages:

Appendix A-1. "Utility" (or FA-1010 Operation Manual, Sec. 4-6)

2. How to save setting data:

Appendix A-1-2. "Backup Parameter" (or FA-1010 Operation Manual, Sec. 4-6-2)

3. How to save event data:

Appendix A-1-3. "Event Data Backup" (or FA-1010 Operation Manual, Sec. 4-6-3)

FA-10RU (Default IP address: 192.168.0.100)

1. How to open associated GUI setting pages:

Appendix B-1. "Backup & Restore" (or FA-10RU Operation Manual, Sec. 10-7)

2. How to save setting data:

Appendix B-1-1. "Configuration Data Backup" (or FA-10RU Operation Manual, Sec. 10-7-1)

3. How to save event data:

Appendix B-1-2. "Event Data Backup" (or FA-10RU Operation Manual, Sec. 10-7-2)

FA-10DCCRU (Default IP address: 192.168.0.100)

1. How to open associated GUI setting pages:

Appendix C-1. "Backup & Restore" (or FA-10DCCRU Operation Manual, Sec. 5-3-7)

2. How to save setting data:

Appendix C-1. "Backup & Restore ◆ Backing Up All FA-10DCCRU Settings" (or FA-10DCCRU Operation Manual, Sec. 5-3-7)

3. How to save event data:

Appendix C-1. "Backup & Restore ◆ Saving Event Data" (or FA-10DCCRU Operation Manual, Sec. 5-3-7)

[The FA-1010 IP address has been changed and is unknown]

If the IP address has been changed and the new address is unknown, open the FA-1010 top panel, then set DIP switch DS2-3 to ON.

(DS2 address on the card: W.5, 2.0)

The FA-1010 can then be accessed using the default IP address (192.168.0.10).

Be sure to set DS2-3 back to OFF after the update has been completed.

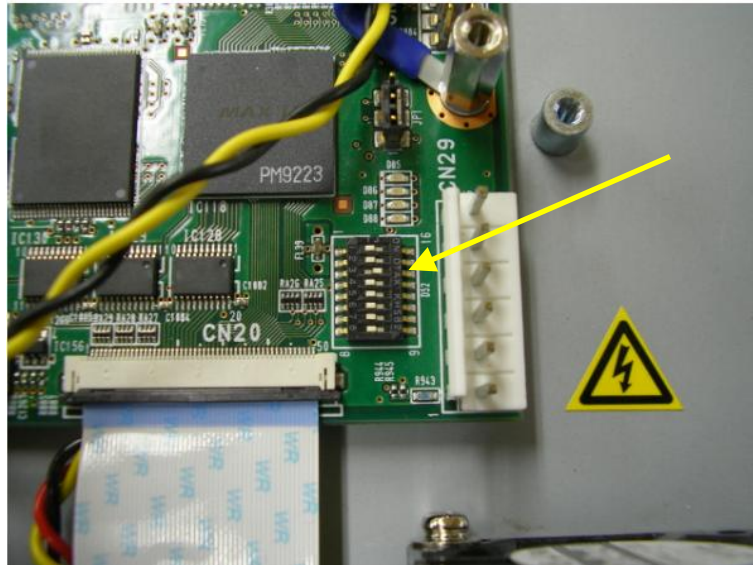


Fig. 1 Set DIP switch DS2-3 to ON

- 2) Install hardware option/s
When installing any additional hardware options on-site, follow the instructions given in Sec. 3. "Hardware Option Installation".
- 3) Update Software
Update FA-1010/FA-10RU/FA-10DCCRU programs in the following order.
FA-1010: FA-1010 update (1. SOFT > 2. FPGA1, 2, 3, 4→3. CPLD)
FA-10RU: FA-10RU update (1. SOFT > 2. CPLD1, 2)
FA-10DCCRU: FA-10DCCRU update (1. SOFT > 2. CPLD1, 2)
FA-10AES-BL/UBL/UBLC: FA-10AES update (1. FPGA2 > 2. CPLD)
* FA-10AES-UBLC, FA-10ANA-AUD, and FA-10GPI options do not require software updates.
- 4) Initialize the unit
Once software updates are complete, initialize the FA-1010/FA-10RU/FA-10DCCRU.
 - ◆ **Initializing the FA-1010**
 1. Turn the power on while pressing down the INITIALIZATION button (Fig. 2).
 2. The FA-1010 beeps when it is turned on. Continue pressing the button.
Verify all LEDs on the front panel are lit during the initialization.
 3. The FA-1010 beeps twice when the initialization is complete.
Do not turn the power of the unit on until at least 5 seconds after the beep.

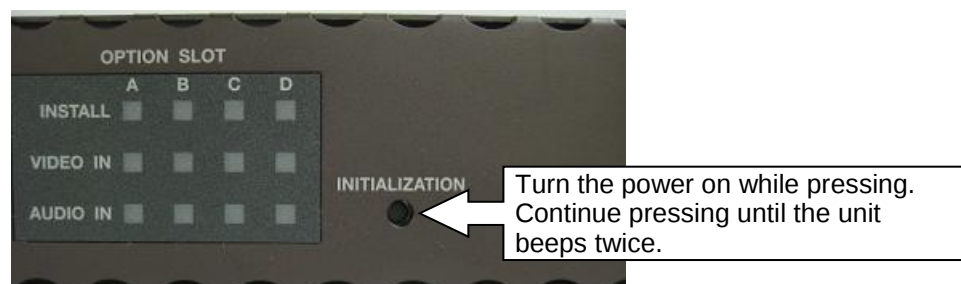


Fig. 2 FA-1010 INITIALIZATION button location

◆ Initializing the FA-10RU

Turn the power on while pressing the UNITY buttons under F2 and F4 to initialize the unit. The UNIT MU SELECT menu will appear when the initialization is complete.



Fig. 3. FA-10RU screen display after initialization.

◆ Initializing the FA-10DCCRU

Turn the power on while pressing the GAMMA BLACK and SEPIA buttons on the lower right of the front panel simultaneously to initialize the unit. “Factory Setting” will disappear and “Connecting” will appear when the initialization is complete.

5) Reinstall backup data

After the initialization is complete, reinstall the backup data to the FA-1010/FA-10RU/FA-10DCCRU.

Refer to the respective sections described under “Reference in Operation Manuals” in step 1) for details on how to reinstall backups.

(* If the user has approved the default settings of the unit, the procedure is complete in step 4.)

IMPORTANT	
If DIP switch DS2-3 is ON, be sure to set it back to OFF after step 4).	

6) Verify versions after updating

Refer to the following manuals and sections to verify versions.

FA-1010*	GUI: Appendix D-1. “Status (GUI)” (or FA-1010 Operation Manual, Sec. 4-5) Web: Appendix D-2. “Status (Web)” (or FA-1010 Operation Manual, Sec. 5-5)
FA-10RU	Front panel: Appendix E-1. “FA-10RU INFORMATION (Front Panel)” (or FA-10RU Operation Manual, Sec. 9-1-7) Web: Appendix E-2. “Information (Web)” (or FA-10RU Operation Manual, Sec. 10-1)
FA-10DCCRU	Front panel: Appendix F-1. “SYSTEM Settings (Front Panel)” (or FA-10DCCRU Operation Manual, Sec. 8) Web: Appendix F-2. “Information (Web)” (or FA-10DCCRU Operation Manual, Sec. 5-3-1)

*FA-10AES version can also be verified here.

3. Hardware Option Installation

IMPORTANT

The power of the unit should be turned off when installing hardware options.
This update guide describes a hardware installation into Option Slot A. Installation into Option Slots B to D can be performed in the same manner.

3-1. Common Installation Procedures for All Hardware Options

1) Top Panel Removal

Remove the top panel from the FA-1010. (Remove the 3 screws on the top panel, and 2 screws each from both side panels. Remove rack ears if attached.)

* All removed screws (11 total) will be used to close the top panel. Keep the screws in a safe place.

2) Blank Panel Removal

Remove the blank panel covering the slot into which you are going to install the option card on the FA-1010 rear panel (Fig. 4).

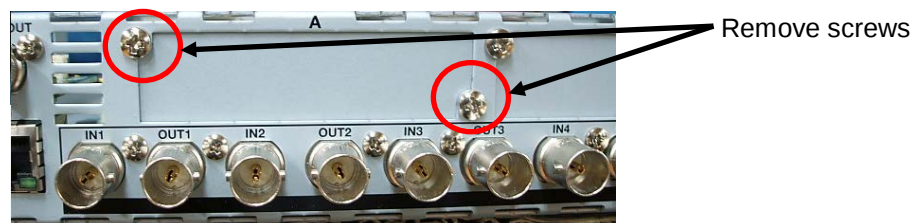


Fig. 4 Blank panel removal

IMPORTANT

When removing screws securing the blank panel, hold the blank panel so that it does not fall inside the casing. (Fig. 5) **Turn the power of the unit off** before doing this.

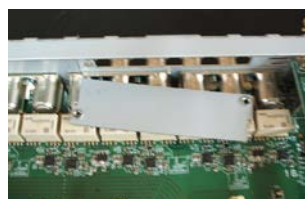


Fig. 5 Hold the blank panel so that it does not fall

3-2. Installation Procedure for Each Option

3-2-1. FA-10AES-BL

Nest connectors on the option card into the slot, align screw holes, then secure the card with the supplied double-SEMS screws. Connect the PWA cable (Fig. 6). Secure the option card to the rear panel with the binding screws removed under Common Installation/Removal Procedure.

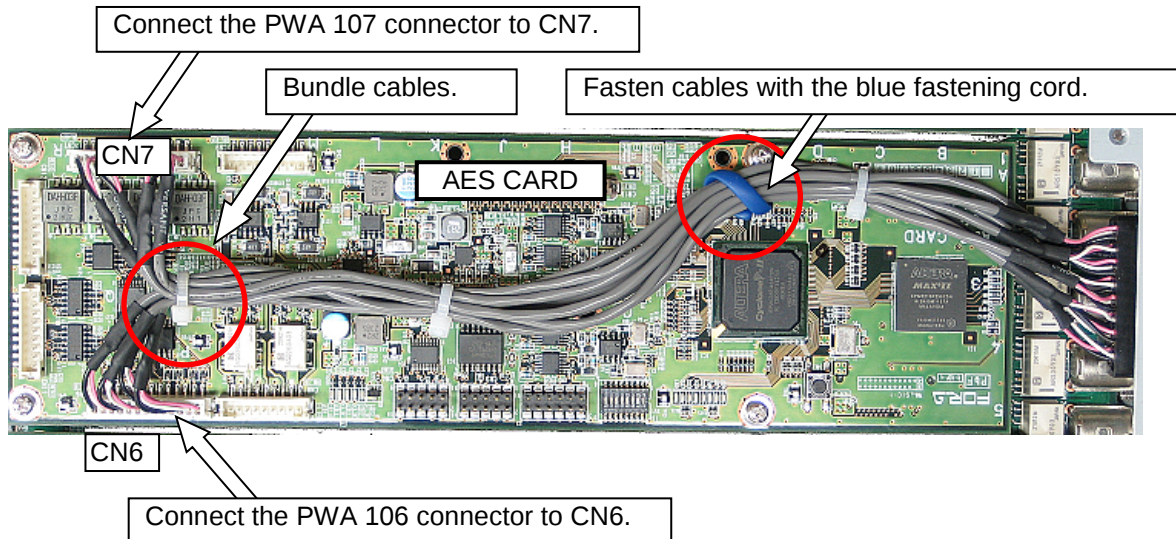


Fig. 6 FA-10AES-BL PWA Wiring

3-2-2. FA-10AES-UBL

Nest connectors on the option card into the slot, align screw holes, then secure the card with the supplied double-SEMS screws. Connect the PWA cable to CN8 (Fig.7). Secure the option card to the rear panel with the binding screws removed in Common Installation/Removal Procedure.

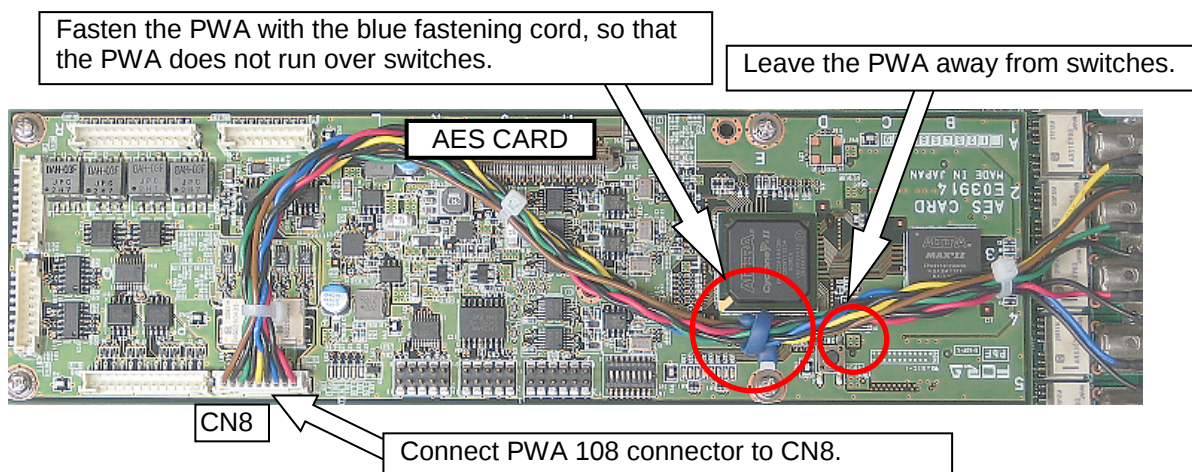


Fig. 7 FA-10AES-UBL PWA Wiring

3-2-3. FA-10AES-UBL

The FA-10AES-UBL option is an additional PWA cable that attaches to the FA-10AES-UBL. The FA-10AES-UBL can be attached after the FA-10AES-UBL is mounted. Connect the PWA cable connector to CN9 (Fig. 8). Secure the option card to the rear panel with the binding screws removed in Common Installation/Removal Procedure.

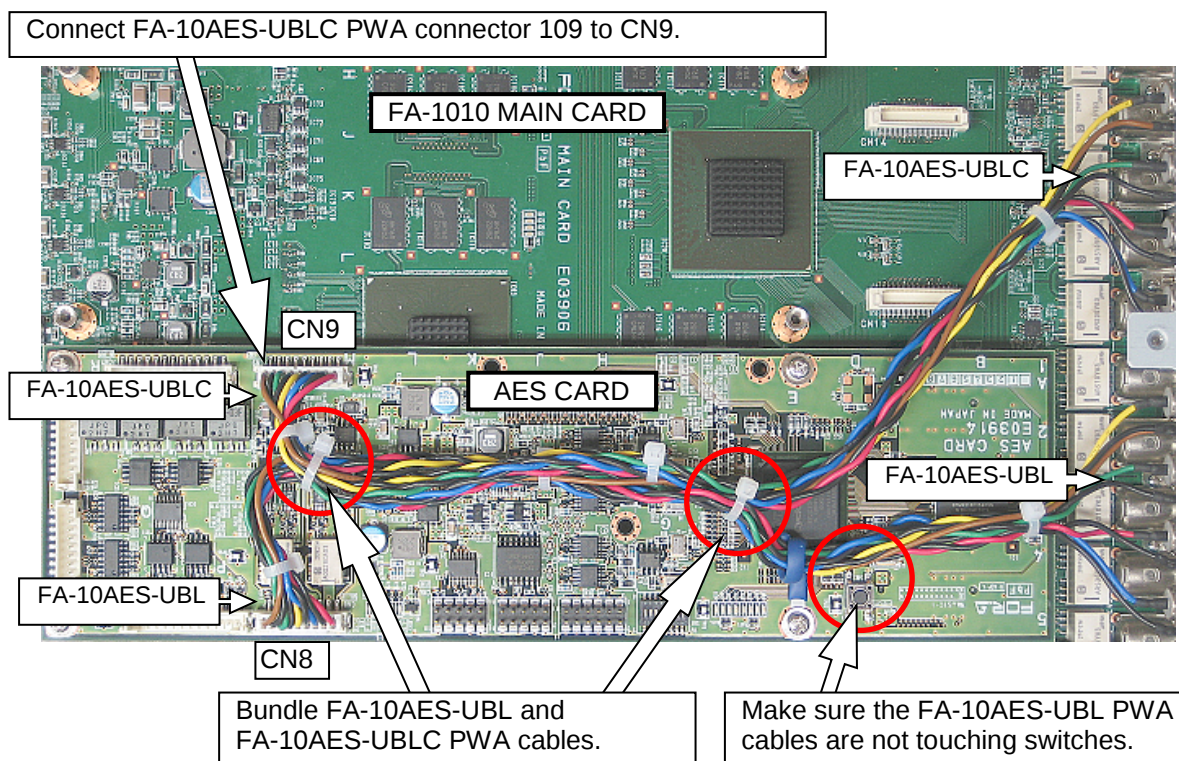


Fig. 8 FA-10AES-UBL PWA Wiring

3-2-4. FA-10ANA-AUD

* The FA-10ANA-AUD can only be installed into Slot D, not to other slots.
Connect PWA connectors as shown below (Fig. 9). Secure the option card to the rear panel with the binding screws removed in Common Installation/Removal Procedure.

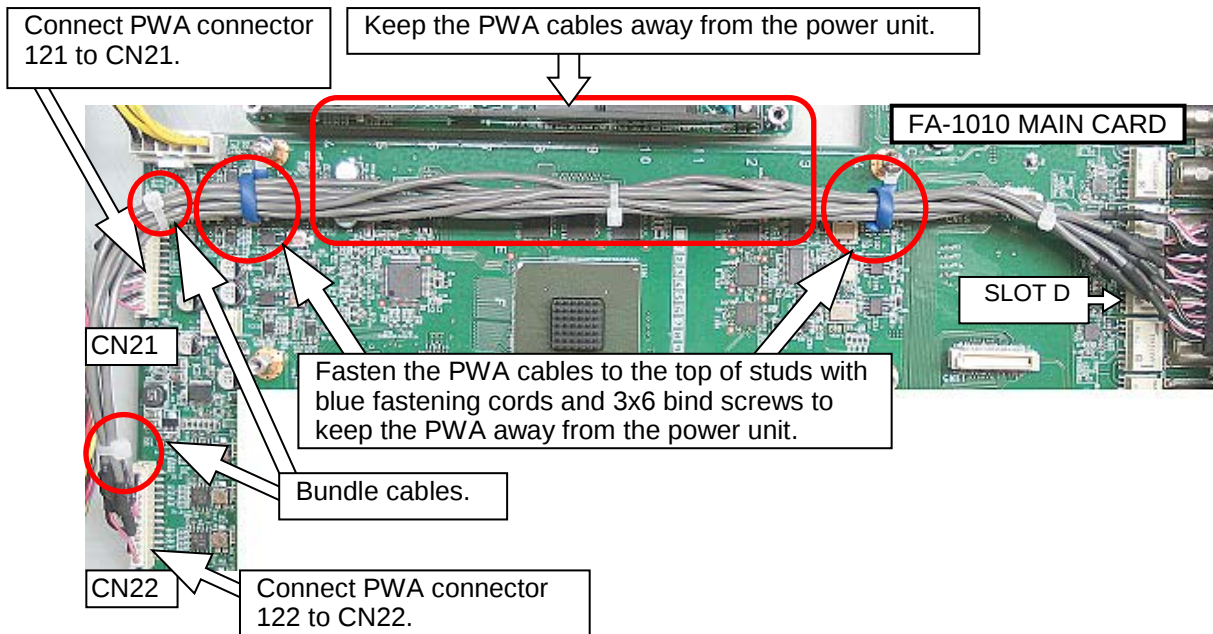


Fig. 9 FA-10ANA-AUD PWA Wiring

After the installation is complete, set DIP switch DS2-2 to ON.



Fig. 10 Set DIP switch DS2-2 to ON

3-2-5. FA-10GPI

- 1) Nest connectors on the option card into the slot, align screw holes, then lightly secure the card with the supplied double-SEMS screws.
- 2) Secure the option card to the rear panel with the binding screws removed in Common Installation/Removal Procedure.
- 3) Tighten double-SEMS screws.

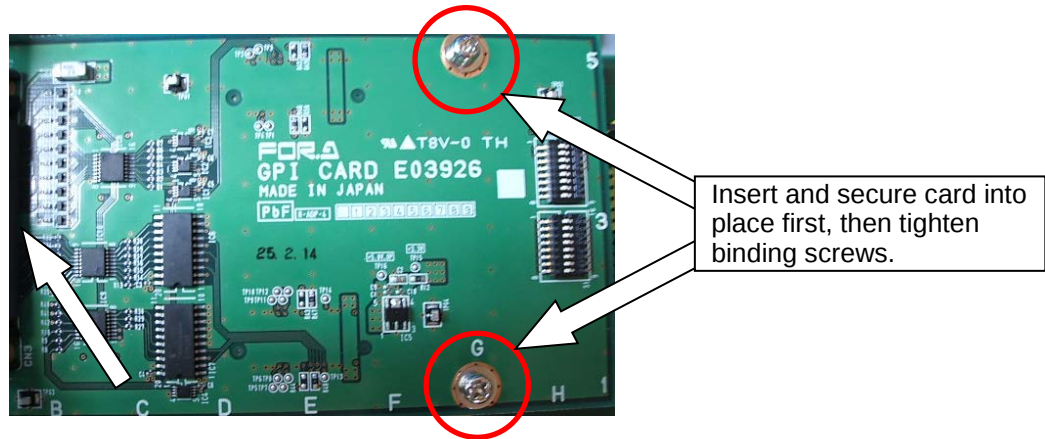
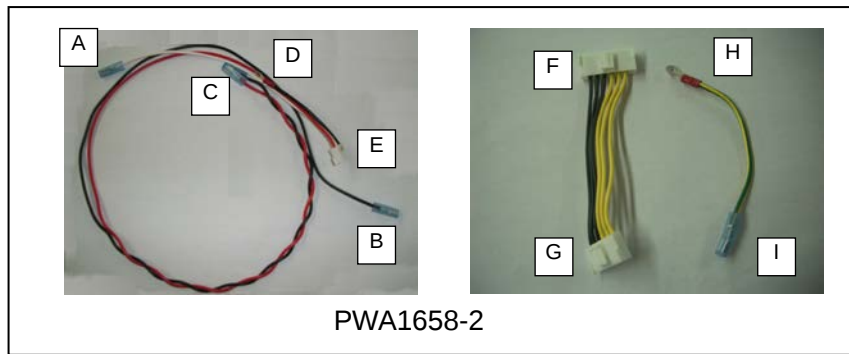


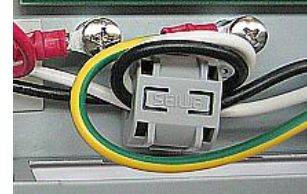
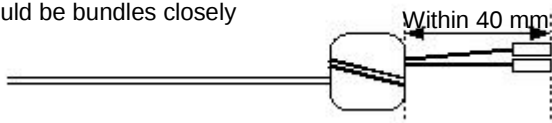
Fig. 11 FA-10GPI Installation

3-2-6. FA-10PS



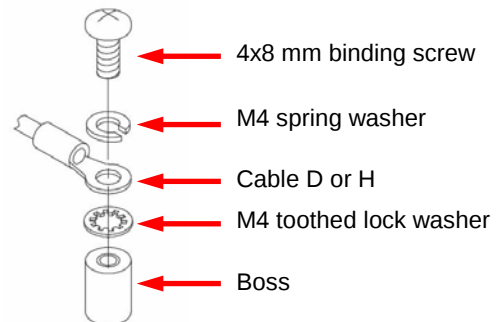
- 1) Attach the ferrite core to leads **A** and **B** of PWA1658-2.

Wrap the white and black cables together around the ferrite core once. Cables should be bundles closely together.



- 2) Connect leads **A**, **B**, and **I** (grounding terminal) of the cable to the AC inlet.
- 3) Connect **C** of the cable to the power switch. (Connect the black cable to the top, and the red cable to the bottom terminals.)

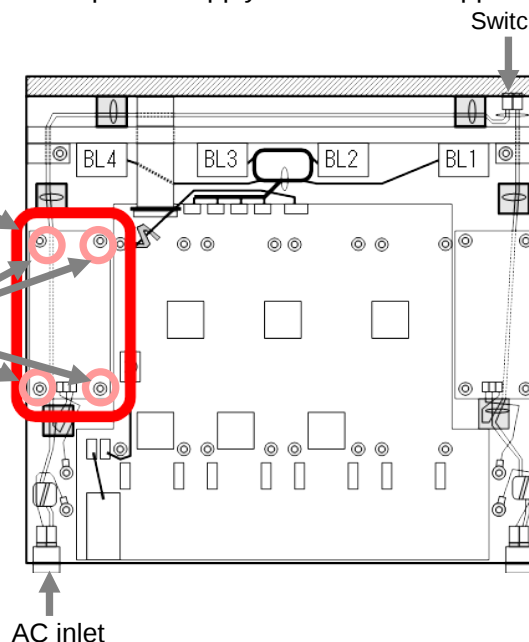
- 4) Connect **D** and **H** of the cable to bosses. (See the figure at right)
Boss locations are shown in the figure below. (Circled)



- 5) Place the insulation sheet (bottom) on the chassis in the area shown with thick border lines in the figure below. Place cable PWA1658-2 under the insulation sheet.
- 6) Place the power supply unit on the insulation sheet (bottom) placed in step 7). Then secure the power supply unit with the supplied studs screwed to the bosses.
- 7) Secure the (top) insulation sheet over the power supply unit with the supplied 3x6 mm binding screws.

Wire the PWA1658-2 cable under the insulation sheet (bottom).

Screw 4 studs into the bosses, then secure the insulation sheet (top) over the power supply unit with 3x6 mm binding screws.



- 8) Connect connector E (numbered 401) of cable PWA1658-2 to CN 1 (3-pin) on the power supply unit.
- 9) Connect connector F (numbered 451) to CN 4 (8-pin).
- 10) Connect connector G (numbered 129) to CN 29 (6-pin) on the main card.
- 11) Fasten cables using the supplied cable ties and cable tie mounts as shown in the figure below.

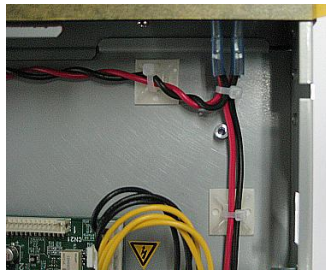
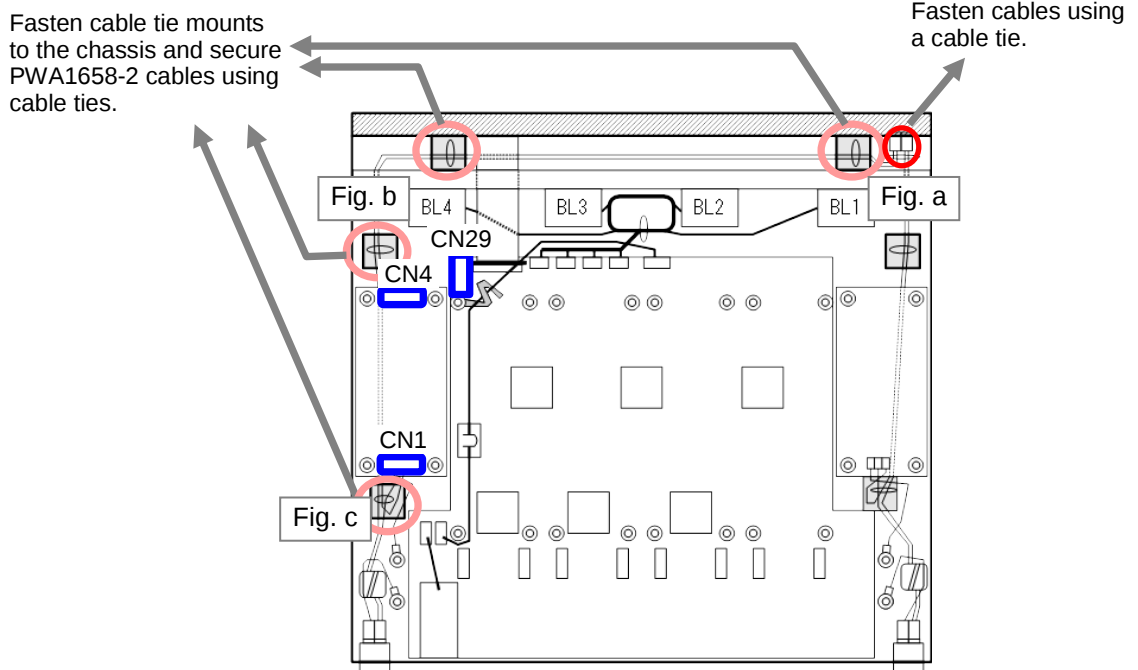


Fig. a

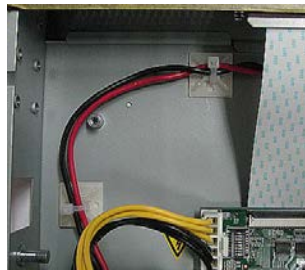


Fig. b

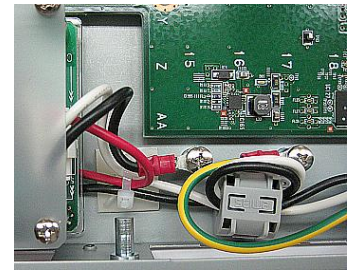
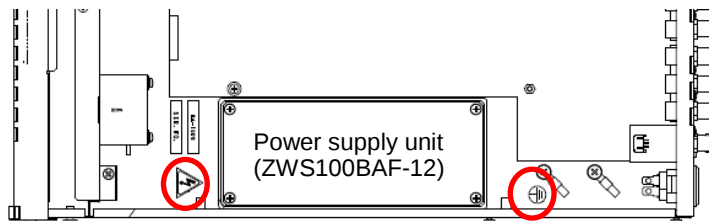


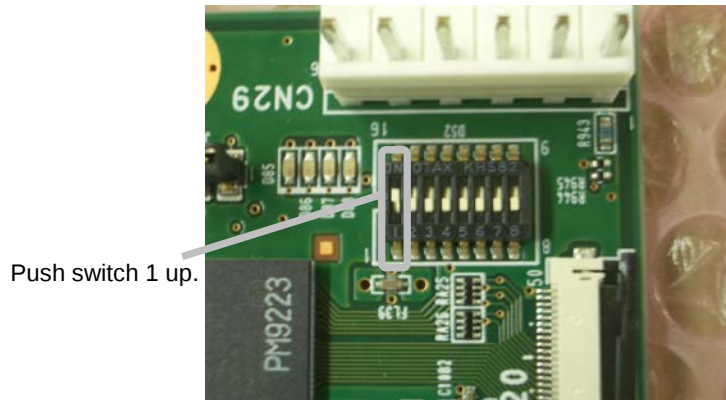
Fig. c

* Fan unit not installed in above figure.

- 12) Attach the DANGER and grounding stickers as shown below.

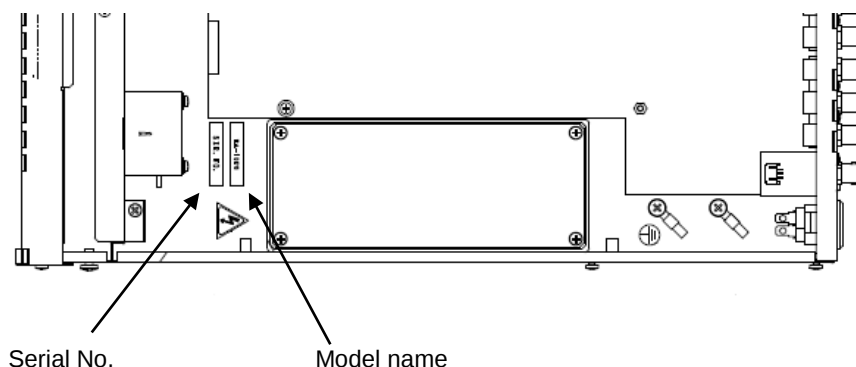


- 13) Set DS2 (see the above figure) DIP switch 1 to ON.



3-2-6-1. FA-10PS Verification

- 1) Connect an AC cord to FA-1010 AC IN 1 and turn the power on.
- 2) Verify that the DC Power 2 LED on the front panel is lit red.
- 3) Connect another AC cord to AC IN 2 while the power is on, then verify that the DC Power 2 LED turns green.
- 4) Verify the voltage of the installed FA-10PS to be +12V ($\pm 0.2V$).
Adjust the voltage if it exceeds the above allowance using the power supply voltage adjustor VR51.
- 5) Connect a Windows 7 or 8 PC to the same network with the FA-1010.
Start-up the FA-1010 Windows GUI on the PC. Enter the FA-1010 IP address (default is 192.168.0.10), then click **Connect**.
- 6) Once the connection is established, open the **Status** tab.
- 7) Verify that **DC Power 2** under "**Power Supply Status**" is indicated as **Normal**.
(Abnormal if an AC cord is not connected to AC IN 2.)
- 8) Attach the Serial No. and Model name stickers as shown below.



- 9) Close the top panel.

4. FA-1010 Update

4-1. Software Update (PM9222) (Required Time: 1 sec.)

1. Connect the FA-1010 and PC using a LAN cable.
2. Start the **FA1010 Updater.exe** file (Fig. 12).



Fig. 12. FA1010Updater.exe

3. Enter the IP address (default IP address: 192.168.0.10)(Fig. 13 ①).
 4. Check **[FA-1010 Soft]** under **[Target]** (Fig. 13 ②).
 5. Select the latest version software under **[Update File]** (Fig. 13 ③).
 6. Click **[Update]** to start updating. (Fig. 13 ④).
- The selected file needs to be in **.ais** format with a file name that begins with **"FA1010_"**.
If an error occurs, verify that the data is FA-1010 software data.
7. A message appears when the update is complete.

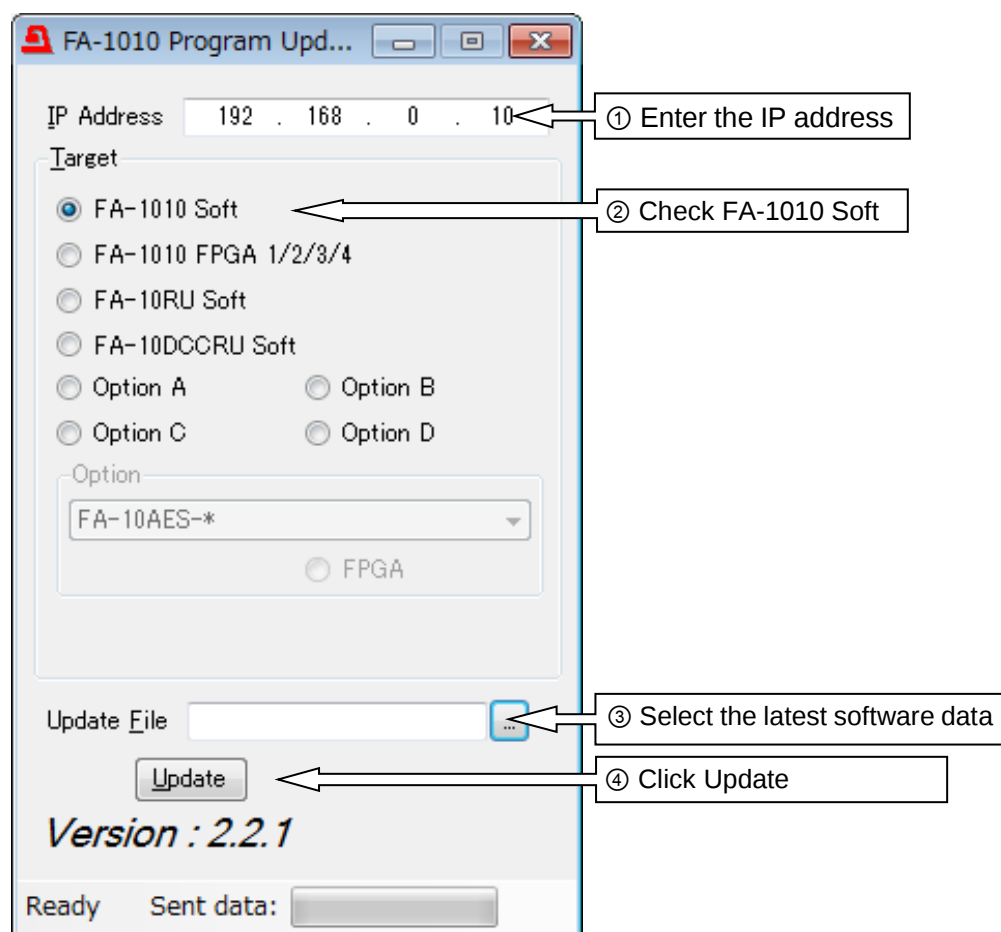


Fig. 13 FA-1010 Program Updater dialog
(for Software update settings)

4-2. FPGA Update (PM9221) (Required Time: 7 minutes)

Updating FPGA (FPGA 1, 2, 3, 4) (PM9221)

1. Connect the FA-1010 and PC using a LAN cable.
2. Start the **FA1010Updater.exe** file (Fig. 12).
3. Enter the IP address. (default IP address: 192.168.0.10)(Fig. 14 ①).
4. Check **[FPGA1/2/3/4]** under **[Target]** (Fig. 14 ②).
5. Select the latest FPGA data under **[Update File]** (Fig. 14 ③).
6. Click **[Update]** to start updating (Fig. 14 ④).
The selected file needs to be in **.pof** format with a file name that begins with **"FA1010_"**.
If an error occurs, verify that the data is FA-1010 FPGA data.
7. A message appears when the update is complete.

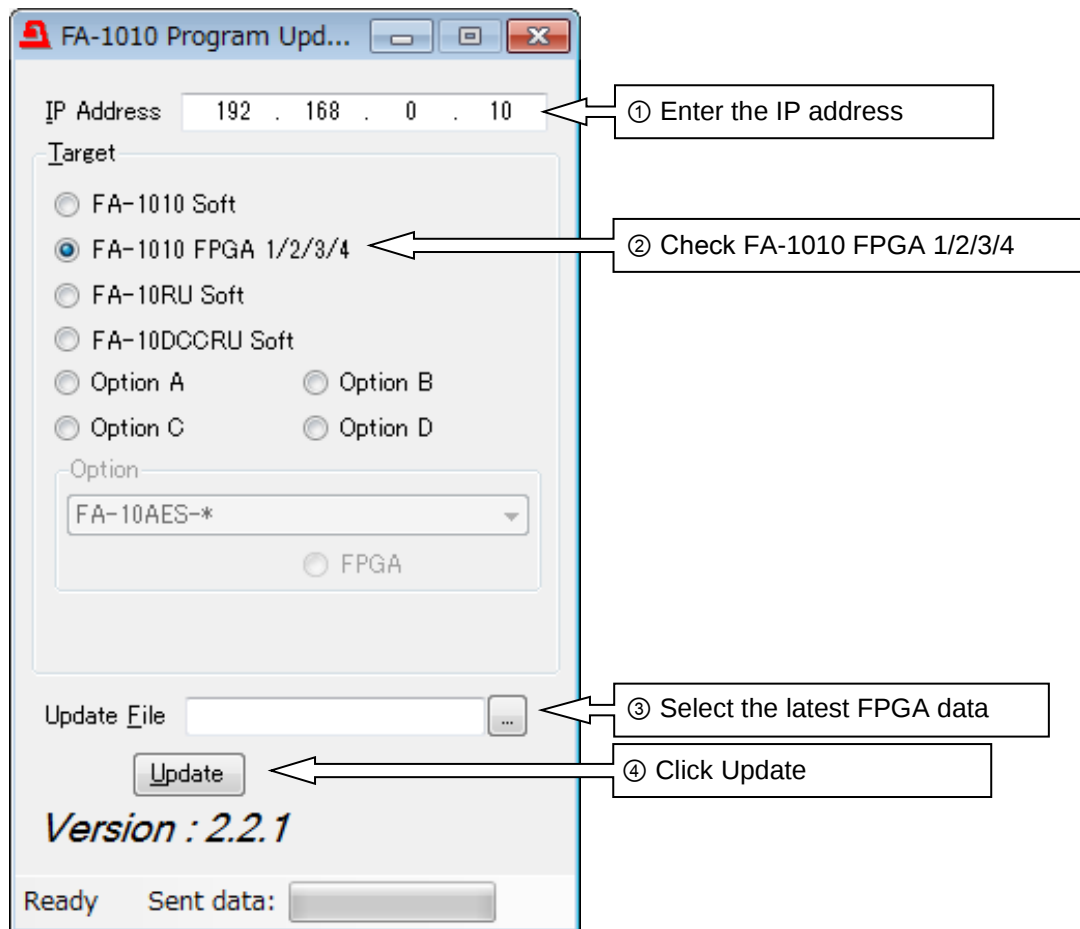


Fig. 14 FA-1010 Program Updater dialog
(for FPGA update settings)

4-3. CPLD Update (PM9223) (Required Time: 2 min.)

Updating CPLD (FPGA5) (PM9223)

1. Remove the top panel of the FA-1010.
2. Connect the **ByteBlaster II** to the parallel port of a PC (or **USB Blaster** cable to a USB port).
3. Connect the **ByteBlaster II** plug to **CN24** (Card address: X.5, 4.0) (Fig. 15).
4. Start **Quartus II Programmer**.
5. Verify that **ByteBlasterII** (or **USB Blaster**) is selected (Fig. 16 ①)
6. If **ByteBlaster II** that is connected to PC is not selected, or "**No Hardware**" is displayed, click **[Hardware Setup]**(Fig. 16 ②) and select the connected **ByteBlasterII** (or **USB Blaster**).
- * USB Blasters will not appear under the **[Hardware Setup]** list, unless they have been connected beforehand.
7. Select **[JTAG]** under **[Mode]** (Fig. 16 ③).
8. Turn the power of the FA-1010 on.
9. Click **[Auto Detect]** (Fig. 16 ④).
10. If connected devices are displayed on the screen, select "**EPM2210F256**" displayed under **[Device]** (Fig. 16 ⑤), then click **[Change File]** and select the latest pof file (Fig. 16 ⑥).
11. Check **[Program/Configure]** and **[Verify]** (Fig. 16 ⑦).
12. Click **[Start]** to start updating (Fig. 16 ⑧)
13. If **[Progress]** indicates 100% (Fig. 16 ⑨) and no error sign (in red) appears on the status bar at the bottom of the window (Fig. 16 ⑩), the update is complete.
14. Turn the power of the FA-1010 off, and disconnect the cable from CN24.
15. Close the top panel of the FA-1010.

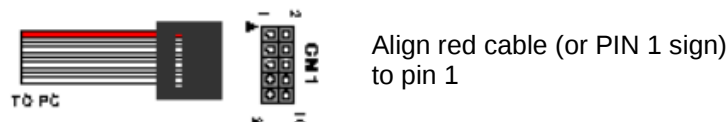


Fig. 15 ByteBlaster II (or USB Blaster) connection

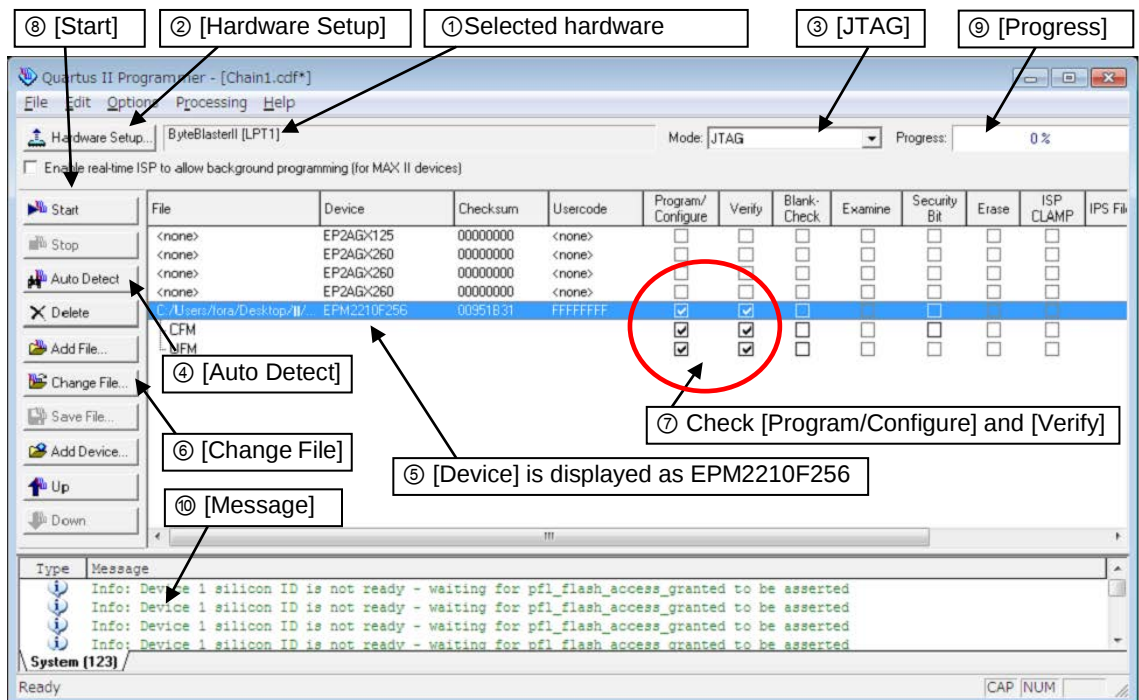


Fig. 16 CPLD Update Screen (FA-1010)

5. FA-10RU Update

5-1. Software Update (PM9292) (Required Time: 1 min.)

1. Connect the FA-10RU and PC using a LAN cable.
2. Start **FA1010Updater.exe** (Fig. 12).
3. Enter the IP address (default IP address: 192.168.0.100)(Fig. 17 ①).
4. Check **[FA-10RU Soft]** under **[Target]** (Fig. 17 ②).
5. Select the latest version software under **[Update File]** (Fig. 17 ③).
6. Click **[Update]** to start updating (Fig. 17 ④).

The selected file needs to be in **.ais** format with a file name that begins with **"FA10RU_"**.
If an error occurs, verify that the data is FA-10RU software data.

7. A message appears when the update is complete.

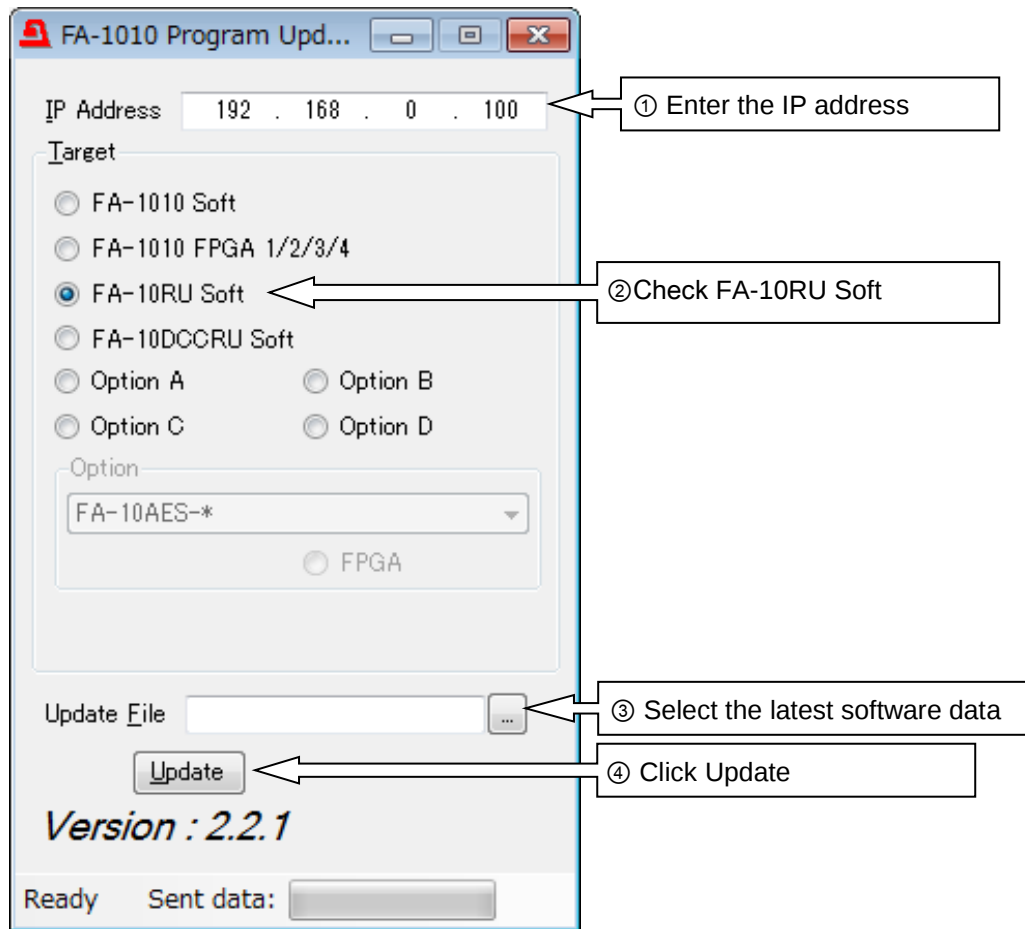


Fig. 17 FA-1010 Program Updater dialog
(for FA-10RU software update settings)

5-2. CPLD Update (PM9290,PM9291) (Required Time: 2min.)

Updating CPLD1, 2 (PM9290, PM9291)

1. Remove the top panel of the FA-10RU.
2. Connect the **ByteBlaster II** to the parallel port of a PC (or **USB Blaster** cable to a USB port).
3. Connect the **ByteBlaster II** plug to **CN1** (Card address: N.0, 1.0) (Fig. 15).
4. Start **Quartus II Programmer**.
5. Verify that **ByteBlasterII** (or **USB Blaster**) is selected (Fig. 18 ①).
If **ByteBlaster II** that is connected to PC is not selected, or "**No Hardware**" is displayed, click **[Hardware Setup]** (Fig. 18 ②) and select the connected **ByteBlasterII** (or **USB Blaster**).
* USB Blasters will not appear under the **[Hardware Setup]** list, unless they have been connected beforehand.
6. Select **[JTAG]** under **[Mode]** (Fig. 18 ③).
7. Turn the power of the FA-10RU on.
8. Click **[Auto Detect]** (Fig. 18 ④).
9. If connected devices are displayed on the screen, select "**EPM2210F256**" displayed under **[Device]** (Fig. 18 ⑤), then click **[Change File]** and select the latest pof file (PM9290-X.pof) (Fig. 18 ⑥).
10. Select "**EPM2210F256**" displayed under **[Device]** (Fig. 18 ⑦), then click **[Change File]** and select the latest pof file (PM9291-X.pof).
11. Check **[Program/Configure]** and **[Verify]** (Fig. 18 ⑧).
12. Click **[Start]** to start updating (Fig. 18 ⑨).
13. If **[Progress]** indicates 100% (Fig. 18 ⑩) and no error sign (in red) appears on the status bar at the bottom of the window (Fig. 18 ⑪), the update is complete.
14. Turn the power of the FA-10RU off, and disconnect the cable from CN1.
15. Close the top panel of the FA-10RU.

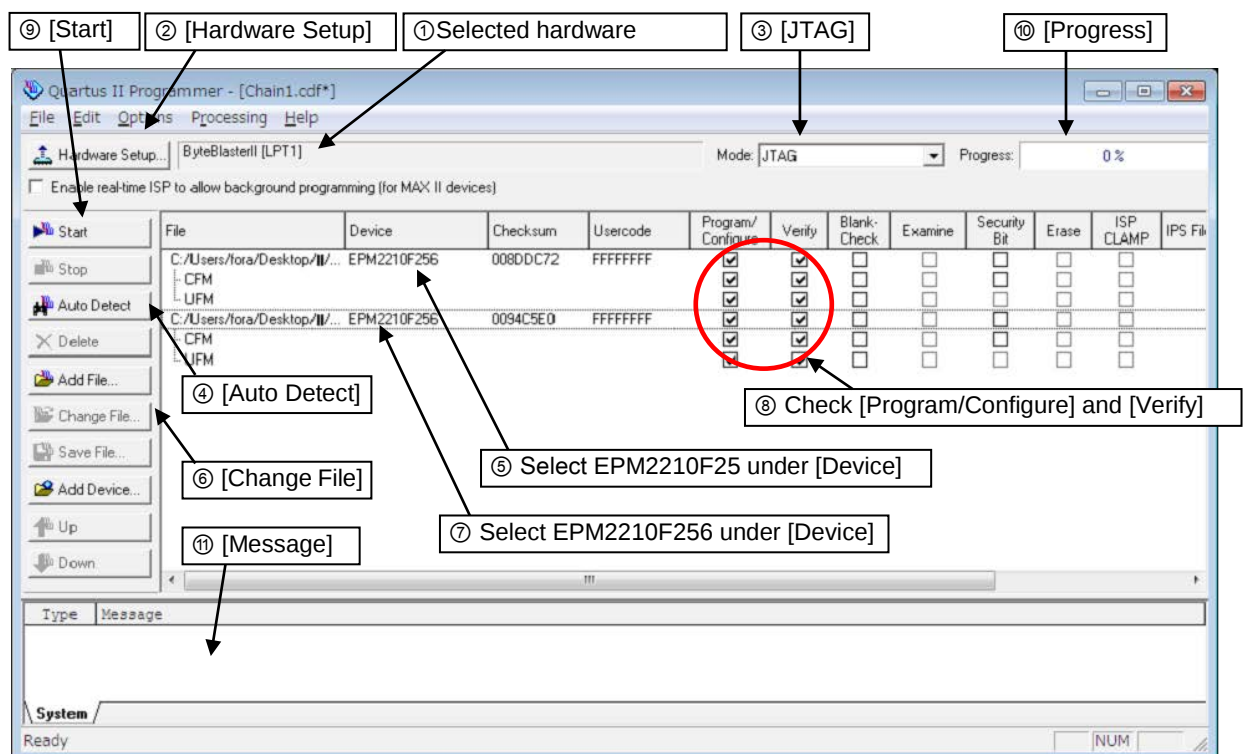


Fig. 18 CPLD Update Screen (FA-10RU)

6. FA-10DCCRU Update

6-1. Software Update (PM9316) (Required Time: 3 min.)

1. Connect the FA-10DCCRU and PC using a LAN cable.
 2. Start the **FA1010Updater.exe** file (Fig. 12).
 3. Enter the IP address. (default IP address: 192.168.0.100) (Fig. 19 ①).
 4. Check **[FA-10DCCRU Soft]** under **[Target]** (Fig.19 ②).
 5. Select the latest version software under **[Update File]** (Fig. 19 ③).
 6. Click **[Update]** to start updating (Fig. 19 ④).
- The selected file needs to be in **.ais** format with a file name that begins with **"FA10DCCRU_"**.
- If an error occurs, verify that the data is FA-10DCCRU software data.
7. A message appears when the update is complete.
 8. After ensuring that the message **"Please Reboot"** is displayed on the front panel screen, reboot the unit.

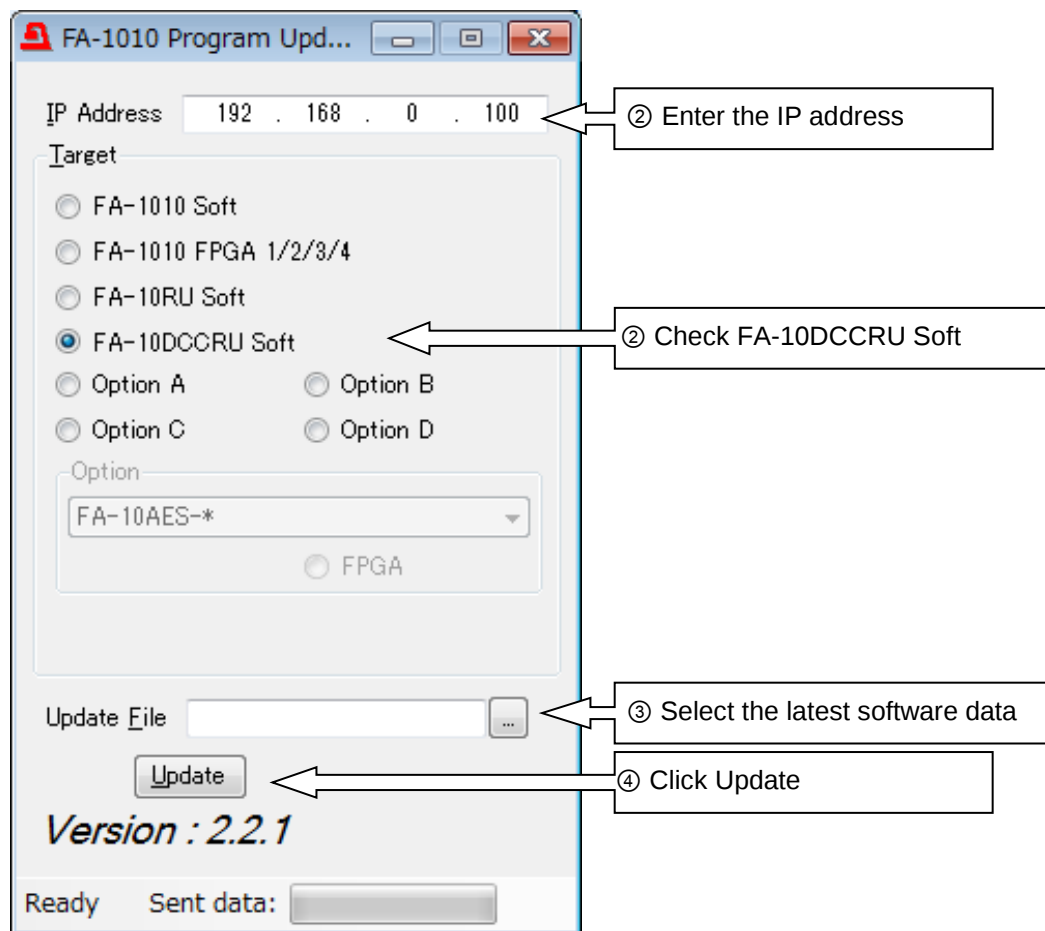


Fig. 19 FA-1010 Program Updater dialog
(for FA-10DCCRU software update settings)

6-2. CPLD Update (PM9314, PM9315) (Required Time: 3 min.)

Updating CPLD1, 2 (PM9314, PM9315)

1. Remove the top panel of the FA-10DCCRU.
2. Connect the **ByteBlaster II** to the parallel port of a PC (or **USB Blaster** cable to a USB port).
3. Connect the **ByteBlaster II** plug to **CN1** (Card address: P.8 , 3.0) (Fig. 15).
4. Start **Quartus II Programmer**.
5. Verify that **ByteBlasterII** (or **USB Blaster**) is selected (Fig. 20 ①)
6. If **ByteBlaster II** that is connected to PC is not selected, or "**No Hardware**" is displayed, click **[Hardware Setup]**(Fig. 20 ②) and select the connected **ByteBlasterII** (or **USB Blaster**).
- * USB Blasters will not appear under the **[Hardware Setup]** list, unless they have been connected beforehand.
7. Select **[JTAG]** under **[Mode]** (Fig. 20 ③).
8. Turn the power of the FA-10DCCRU on.
9. Click **[Auto Detect]** (Fig. 20 ④).
10. After connected devices are displayed on the screen, select the upper "**EPM2210F256**" displayed under **[Device]** (Fig. 20 ⑤), then click **[Change File]** and select the latest pof file (PM9314-X) (Fig. 20 ⑥).
11. Select the lower "**EPM2210F256**" displayed under **[Device]** (Fig. 20 ⑦), then click **[Change File]** and select the latest pof file (PM9315-X).
12. Check **[Program/Configure]** and **[Verify]** (Fig. 20 ⑧).
13. Click **[Start]** to start updating (Fig. 20 ⑨)
14. If **[Progress]** indicates 100% (Fig. 20 ⑩) and no error sign (in red) appears on the status bar at the bottom of the window (Fig. 20 ⑪), the update is complete.
15. Turn the power of the FA-10DCCRU off, and disconnect the cable from CN1.
16. Close the top panel of the FA-10DCCRU.

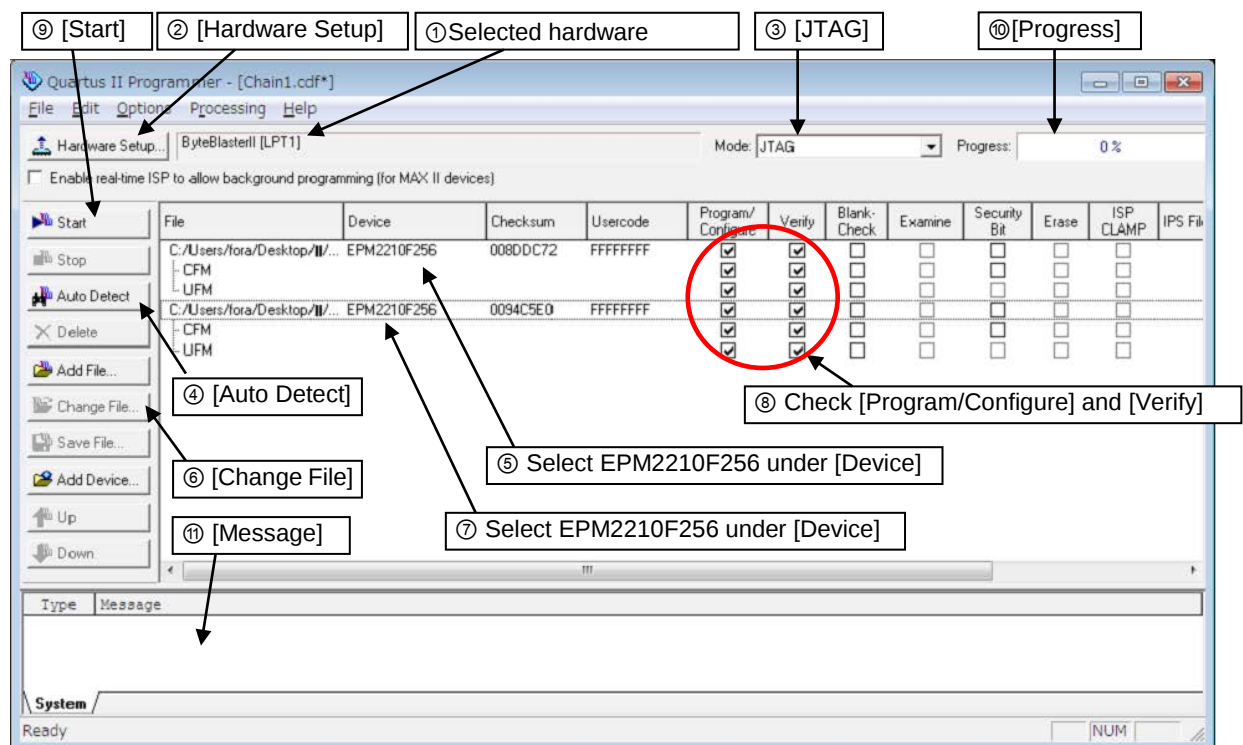


Fig. 20 CPLD Update Screen (FA-10DCCRU)

7. FA-10AES-BL/UBL Update

7-1. FPGA(FPGA 2) Update (PM 9224)(Required Time: 2min.)

* The FPGA2 update procedure for FA-10AES-BL and FA-10AES-UBL is the same.

1. Connect the FA-1010 and PC using a LAN cable.
 2. Start the **FA1010 Updater.exe** file.
 3. Enter the IP address (default IP address: 192.168.0.10)(Fig. 21 ①).
 4. Check **[Option A]** (if FA-10AES-BL/UBL is installed in Slot) (Fig. 21 ②).
 5. Select **[FA-10AES-*)** (Option) (Fig. 21 ③).
 6. Select **[FPGA]** (Fig. 21 ④).
 7. Select the latest FPGA data under **[Update File]** (Fig. 21 ⑤).
 8. Click **[Update]** to start updating (Fig. 21 ⑥).
- The selected file needs to be in **.pof** format with a file name that begins with **"FA10AES_"**.
If an error occurs, verify that the data is FA-10AES FPGA data.
9. A message appears when the update is complete.
 10. Turn the power of the FA-1010 on, and verify that the latest FPGA2 version is displayed in the FA-1010GUI Status tab.

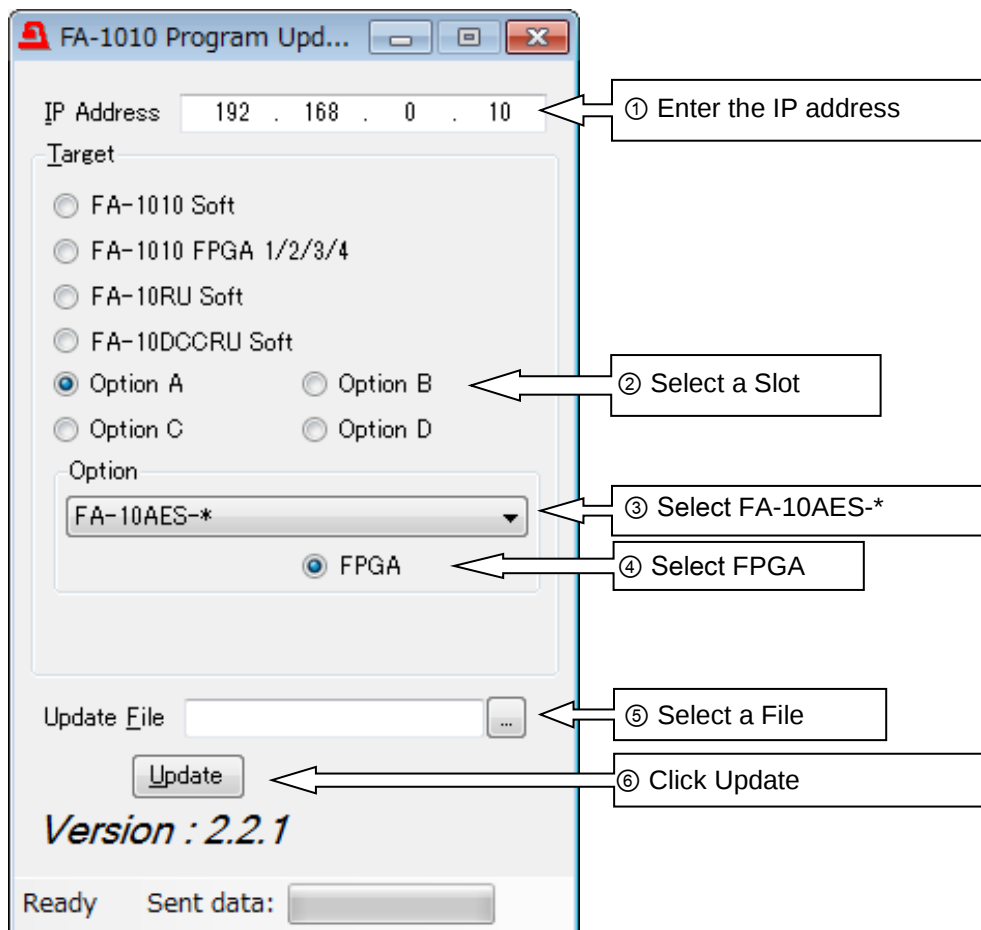


Fig. 21 FA-1010 Program Updater dialog
(for FA-10AES FPGA update settings)

7-2. CPLD Update (PM 9225) (Required Time: 30 sec.)

Updating CPLD (FPGA 1) (PM 9225)

* FPGA1 update for the FA-10AES-BL and FA-10AES-UBL is the same.

1. Remove the top panel of the FA-1010.
1. Connect the **ByteBlaster II** to the parallel port of a PC (or **USB Blaster** cable to a USB port).
2. Connect the **ByteBlaster II** plug to **CN4** on the FA-10AES-BL/UBL card (Card address: K.2, 5.0).
3. Start **Quartus II Programmer**.
4. Verify that **ByteBlasterII** (or **USB Blaster**) is selected (Fig. 22 ①).
If **ByteBlaster II** that is connected to PC is not selected, or "**No Hardware**" is displayed, click **[Hardware Setup]** (Fig. 22. ②) and select the connected **ByteBlasterII** (or **USB Blaster**).
* USB Blasters will not appear under the **[Hardware Setup]** list, unless they have been connected beforehand.
5. Select **[JTAG]** under **[Mode]** (Fig. 22 ③).
6. Turn the power of the FA-1010 on.
7. Click **[Auto Detect]** (Fig. 22 ④).
8. If connected devices are displayed on the screen, select "**EPM2210F256**" displayed under **[Device]** (Fig. 22⑤), then click **[Change File]** and select the latest pof file (Fig. 22 ⑥).
9. Check **[Program/Configure]** and **[Verify]** (Fig. 22 ⑦).
10. Click **[Start]** to start updating (Fig. 22⑧).
11. If **[Progress]** indicates 100% (Fig. 22 ⑨) and no error sign (in red) appears on the status bar at the bottom of the window, the update is complete (Fig. 22 ⑩).
12. Turn the power of the FA-1010, and disconnect the cable from CN4.
13. Turn the power of the FA-1010 on, and verify that the latest FPGA1 version is displayed in the FA-1010GUI Status tab.
14. Close the top panel of the FA-1010.

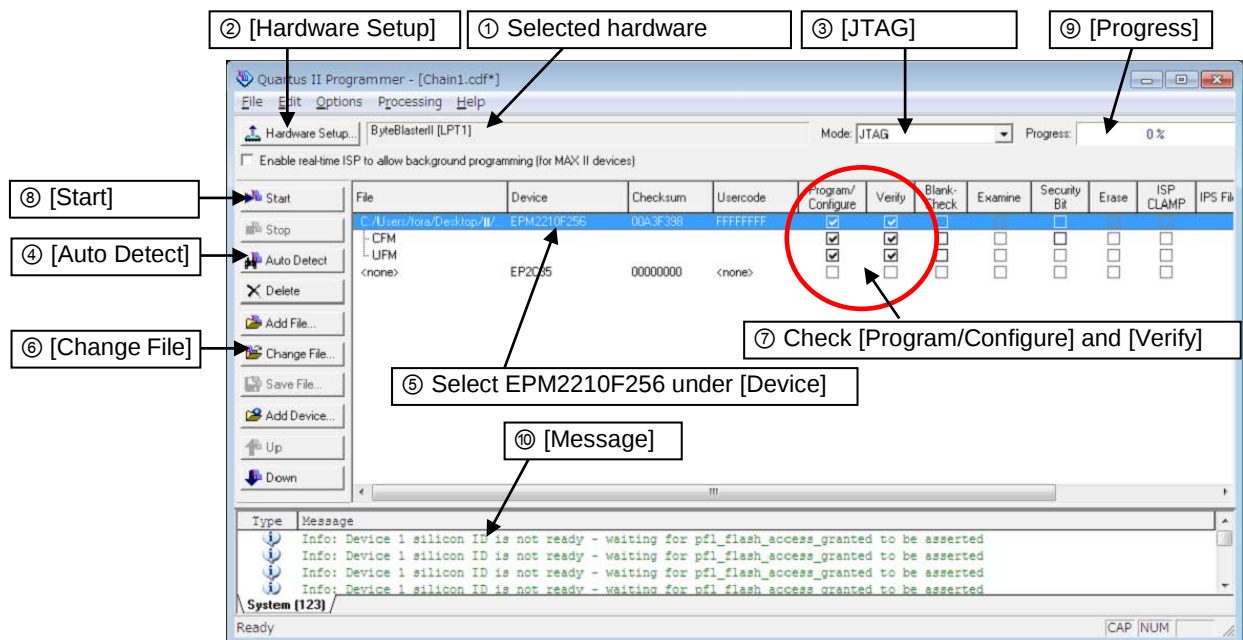
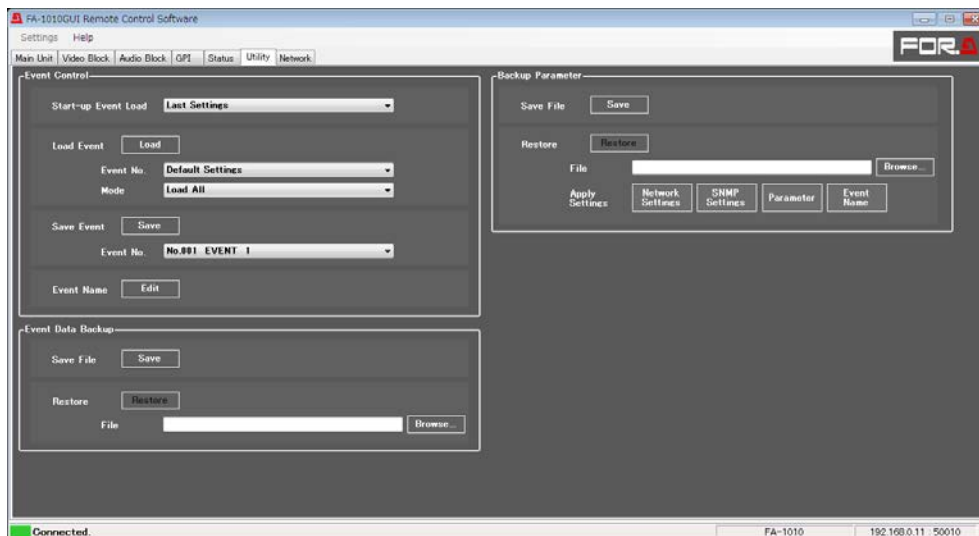


Fig. 22 CPLD Update Screen (FA-10AES)

Appendix A. Creating FA-1010 Backup Data

A-1. Utility

Click the **Utility** tab at the top of the page to open the Utility page.



A-1-1. Event Control

FA-1010 can save setting data in 100 event memories. The desired settings can be immediately recalled by loading a saved setting data.

Item		Default	Setting range	Description
Start-up Event Load		Last Setting	Last Setting Default Settings Event1-100	Last Setting: Starts up with the last set settings. Default Settings: Starts up with default settings. Event1 to 100: Starts up with the settings saved as an event among events 1 to 100.
Load Event	Load	-	-	The Load button allows you to load an event.
	Event No.	Default Settings	Default Settings Event1-100	Allows you to select an event number to be recalled.
	Mode	Load All	Load All Load FS(1-10) Only	Allows you to select how to load event data. ^{*1} Load All: Loads all data in the event. Load FS1-10 Only: Loads only the selected FS event data.
Save Event	Save	-	-	The Save button allows you to save an event to the FA-1010.
	Event No.	Event 1	Event1-100	Allows you to select an event number to be saved
Event Name		-	-	The Event button allows you to open the Event Name setting screen. ^{*2} (See Sec. A-1-1-1. "Event Name Edit".)

^{*1} See Sec. 9. "Menu List" of FA-1010 Operation Manual for details on the event loading in different modes.

^{*2} Event names will be displayed for Event Load/Event Save settings.

WARNING

Note that selected Default Settings reset settings, and that all data except Event data and network settings will be lost every time the FA-1010 is powered on.

A-1-1-1. Event Name Edit

Events 1 to 100 can be named in this page.

The 'Event Name Edit' dialog box displays a grid of 100 events, organized into four columns. Each row contains an 'Event No.' and a 'Name' field. The events are numbered sequentially from 001 to 100. The 'Name' field for each event is pre-filled with the word 'EVENT' followed by the event number (e.g., 'EVENT 1', 'EVENT 2', etc.). At the bottom of the dialog, there are 'OK' and 'Cancel' buttons.

A-1-2. Backup Parameter

The FA-1010 settings can be saved to a file, and the saved settings in a file can be loaded.

The 'Backup Parameter' dialog box contains several sections. The 'Save File' section has a 'Save' button. The 'Restore' section has a 'Restore' button. Below these, there is a 'File' section with a text box showing the path 'C:\Users\fora\Desktop\FA-1010_Parameters_2013' and a 'Browse...' button. At the bottom, there are five buttons: 'Apply Settings', 'Network Settings', 'SNMP Settings', 'Parameter' (which is highlighted in blue), and 'Event Name'.

◆ Saving the FA-1010 Settings to a File

Click **Save**. A window to save a file to as shown below opens.

The image shows a Windows File Explorer window titled 'Select the Parameter Backup File you want to restore'. The address bar shows the current location is 'Desktop'. The left sidebar shows the 'Favorites' section with 'Desktop' selected. The main pane displays a list of system folders: Libraries, Desktop, Downloads, Recent Places, Documents, Music, Pictures, Videos, Computer, Win7-EN 32 (C:), WinXP-JP 32 (D:), and WinVista-JP 32 (E:). The 'File name' field is empty, and the file type is set to 'Parameter Backup File (*.csv)'. 'Open' and 'Cancel' buttons are at the bottom.

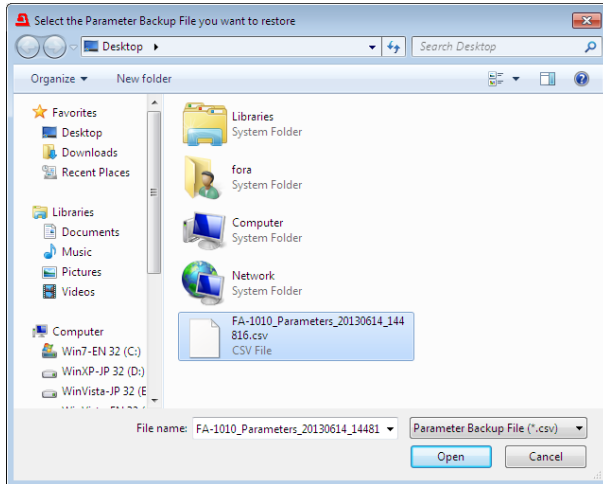
Specify the destination directory and file name, then click **Open**. A “Saving in progress” message box appears.

A “Saving complete” message box appears after the file is saved.

◆ Loading the data saved in a file

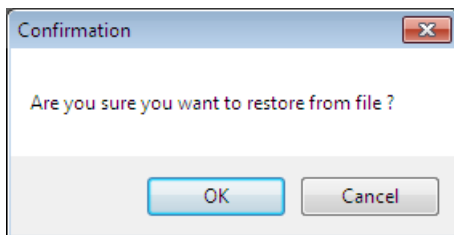
Press a button to select settings to load under Apply Setting. The button will light blue. If no button is selected, no data will load.

Click **Browse**. A “Select the Parameter Backup File you want to restore” window opens.



Specify a destination directory, and click **Open**.

Click **Restore**. A confirmation message as shown below opens.



Click **OK** to start transferring file material to the FA-1010. To stop the file transfer, click **Cancel**.

- * Some parameters such as By-pass and Freeze settings are not stored in any Backup Parameter.

IMPORTANT
The FA-1010 uses the CSV file format to backup the configuration data which enables commercially available spreadsheet software to edit the data. However, Unit ID or event names that consist only of numbers may be recognized as numeric values by such software and appear differently after being recalled to the FA-1010. It is recommended that alphabetical values be included in names to enable editing using such software.

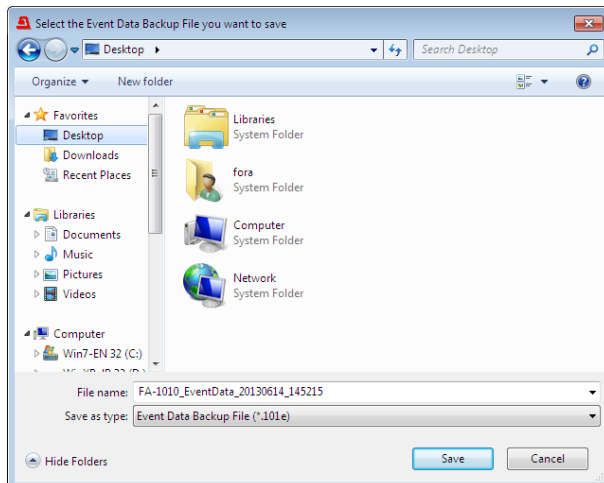
A-1-3. Event Data Backup

Event Memory data (Events 1 through 100) can be saved in a file on the computer as a backup. The backup data can be moved to another FA-1010.



◆ Save File

Click **Save**. A window as shown below opens.

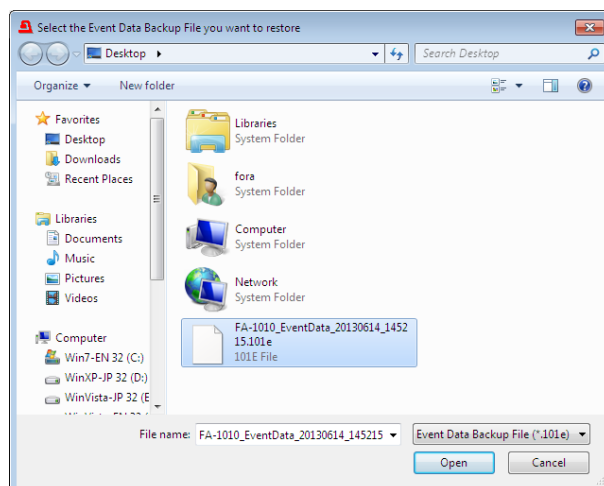


Specify a destination directory and file name, then click **Save**. A “Saving in progress” message box appears.

Once the file has been saved, a “Saving complete” message box appears.

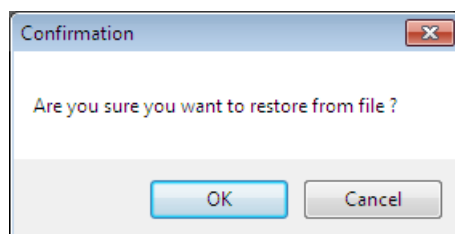
◆ Restore File

To load a backup file on the computer, click **Browse**. The “Select the Event Data Backup File you want to restore” window appears.



Specify the directory and the file name and click **Open**. The destination path will be displayed on screen.

Click **Restore**. A confirmation dialog box as shown below appears.



Click **OK** to start loading. To stop the data upload, click **Cancel**.

Appendix B. Creating FA-10RU Backup Data

B-1. Backup & Restore

Clicking **Backup & Restore** opens the dialog box as shown below.

FA-10RU

Information
Network Settings
User Account Settings
Unit ID Assignment
Event Naming
Salvo Naming
Backup & Restore
Restart

Backup Config Data

Save File:

Restore:

☐ Network Settings
☐ Unit ID Assignment
☐ Event Name
☐ Salvo
☐ GPI Settings
☐ Front Panel Settings

Backup Event Data

Save File:

Restore:

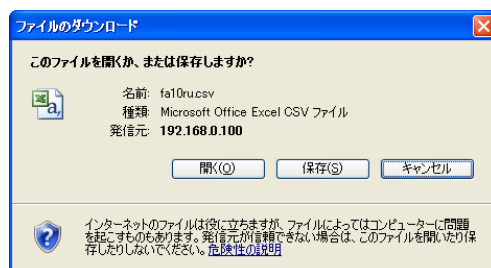
This dialog box allows you to save the FA-10RU settings and event data to a PC. The saved data can be recalled.

B-1-1. Configuration Data Backup

The FA-10RU configuration data can be saved/recalled to/from a PC as a CSV file.

◆ Saving Configuration Data to a PC

Click Save File: **Save** under “Backup Config Data”.



Click **Save** to save the data to a desired folder.

◆ Recalling the Saved Configuration Data from a PC

(1) Select items in the configuration data to be recalled.

Item	Description
Network Settings	Recalls settings that are set in the Network Settings menu. See Sec. 10-2. “Network Settings” of FA-10RU Operation Manual for details.
Unit ID Assignment	Recalls settings that are set in the Unit ID Assignment menu. See Sec. 10-4. “Unit ID Assignment” of FA-10RU Operation Manual for details.
Event Name	Recalls settings that are set in the Event Naming menu. See Sec. 10-5. “Event Naming” of FA-10RU Operation Manual for details.
Salvo	Recalls settings that are set in the Salvo Naming menu. See Sec. 10-6. “Salvo Naming” of FA-10RU Operation Manual for details.
GPI Settings	Recalls GPI settings. See sections 9-1-2 to 9-1-4 of FA-10RU Operation Manual for details on GPI settings.
Front Panel Settings	Recalls front panel operational settings. See sections 9-1-5 and 9-1-6 of FA-10RU Operation Manual for details.

(2) Click **Browse** under Backup Config Data to select a file in which the configuration data is saved.

* The control from the FA-10RU is disabled while saving or recalling configuration data.

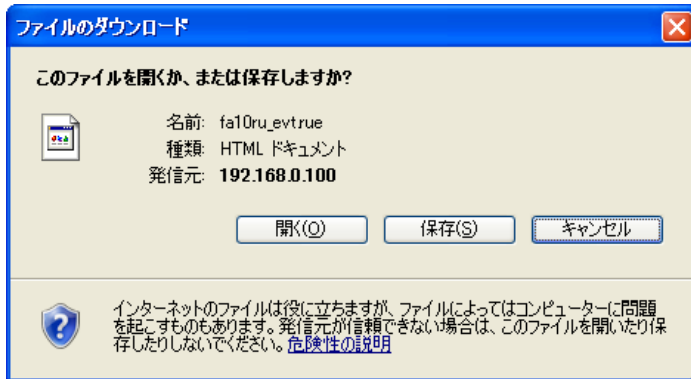
IMPORTANT
Network settings will be applied after restart. Be sure to perform restart as described in Sec. 10-8. “Restart” of FA-10RU Operation Manual.

B-1-2. Event Data Backup

The event data saved in the FA-10RU can be saved/recalled to/from a PC.

◆ Saving Configuration Data to a file

Click Save File: **Save** under “Backup Event Data”.



Click Save to save the data to the desired folder.

◆ Recalling the Saved Event Data from a PC

Click Browse under Backup Event Data and select a file in which event data has been saved.

* The control from the FA-10RU is disabled while saving or recalling the configuration data.

Appendix C. Creating FA-10DCCRU Backup Data

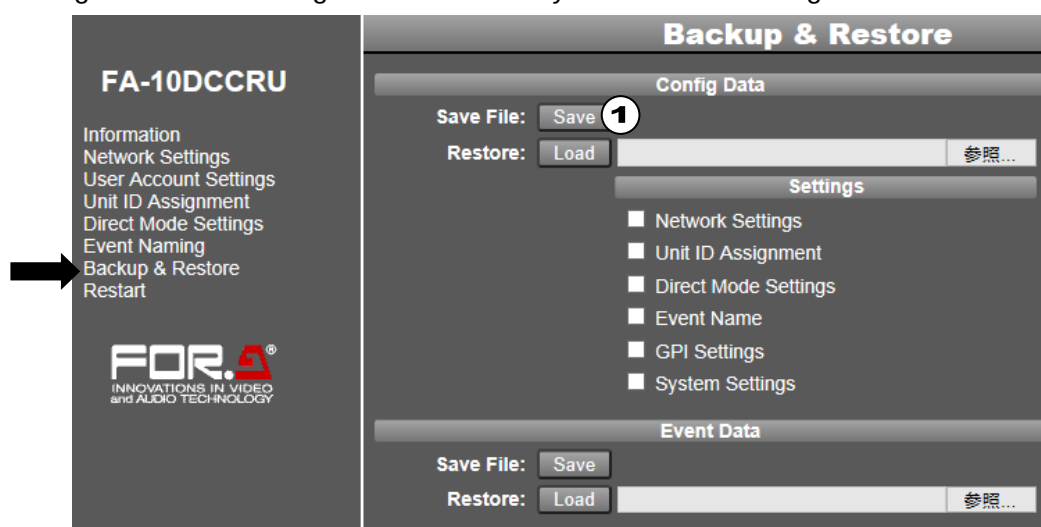
C-1. Backup & Restore

Click **Backup & Restore** in the left pane to display the Backup & Restore page. This page allows you to perform the following backup and restoration tasks.

- Backup and restore **Network Settings**, **Unit ID Assignment**, **Direct Mode Settings**, and **Event Name** pages, and **GPI** and **System** settings.
- Backup and restore **Event** data
- Copy settings to another FA-10DCCRU unit.

◆ Backing Up All FA-10DCCRU Settings (excluding Event Data)

Clicking **Save** in the Config Data area allows you to save all settings as shown below.



(1) Click **Save** in the Config Data area to display the Download dialog.

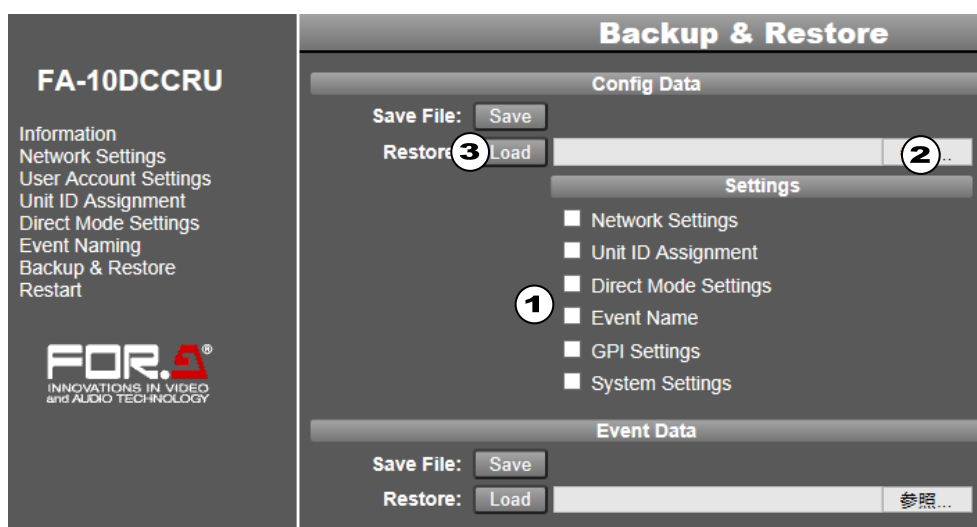
(2) Click **Save** in the dialog.

(3) A Select Destination dialog will appear. Specify the destination folder and click **Save**.

The FA-10DCCRU settings are automatically stored in the backup file named "**fa10dccru.csv**." Change the file name as necessary.

◆ Restoring Settings

To restore the stored settings, proceed as follows.

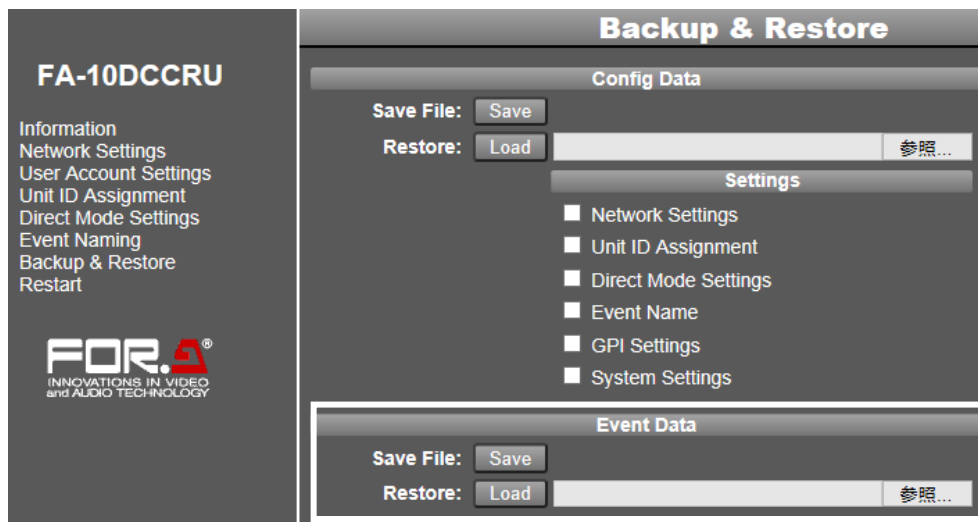


- (1) Check on the checkboxes in the Config Data area to select data.
- (2) Click **Browse** to select the backup file.
- (3) Click **Load**. A confirmation dialog will appear. Click **OK** to load the settings.
To cancel the process, click **Cancel**.

IMPORTANT
After loading network settings, restart the FA-10DCCRU.

◆ Saving Event Data

This procedure allows you to save all event data (1 – 100) in a file.



- (1) Click **Save** in the Config Data area to display the Download dialog.
- (2) Click **Save** in the dialog.
- (3) Specify the destination folder and click **Save**. All event data are automatically stored in the file named **fa10dccru_evt.1re**. Change the file name as necessary.

◆ Restoring Event Data

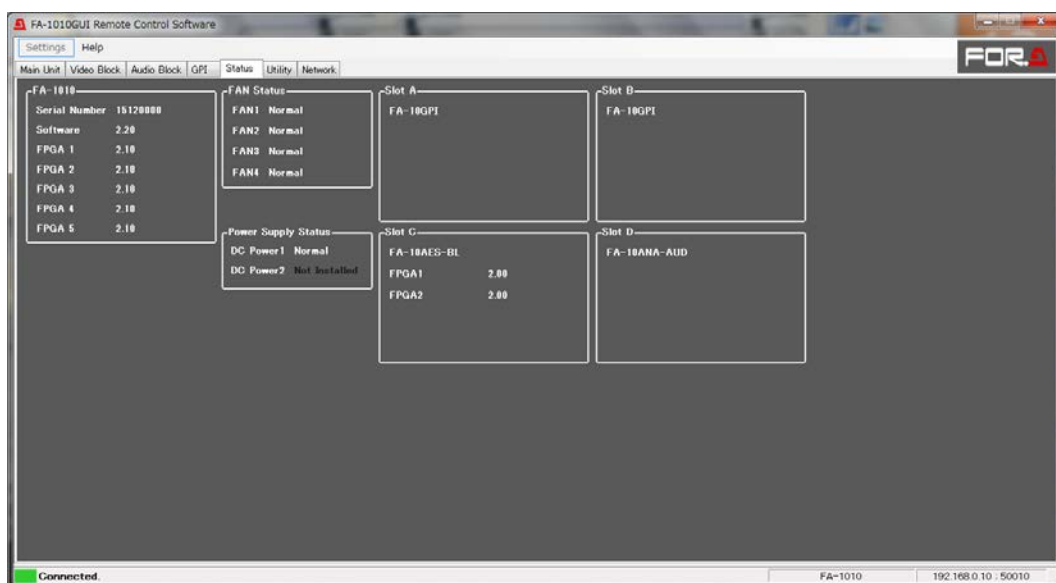
- (1) Click the browse button in the Event Data area and select the event backup file.
- (2) Click **Load**. All event data stored in the file are loaded.

IMPORTANT
Note that once event data are loaded, all settings in the FA-10DCCRU are replaced.

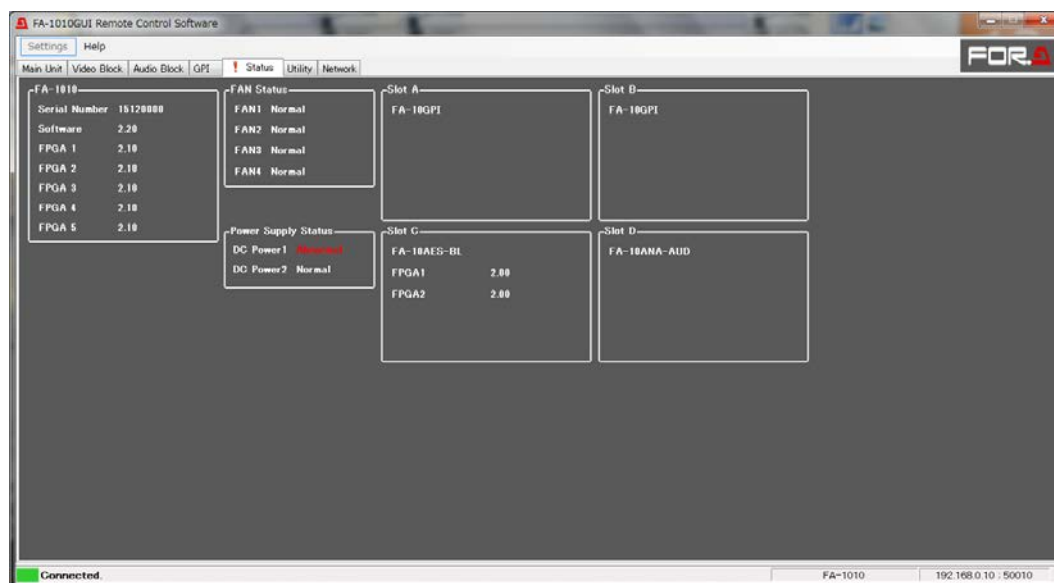
Appendix D. Verifying the FA-1010 Version

D-1. Status (GUI)

Click the **Status** tab at the top of the page to open the status page.



- * An exclamation mark (!) is displayed on the Status tab, if an error occurs in a FAN or power supply unit.



◆ FA-1010

Item	Indication
Serial Number	Displays the serial number of the unit.
FPGA 1- 5	Displays the version of each FPGA.
Software	Displays the software version.

◆ Fan Status

Item	Indication	Description
FAN 1-4	Normal Stopped	Displays the status of FAN 1-4 respectively. Normal: Operating normally. Stopped: The FAN has stopped. Turn the unit power off, and contact your dealer for assistance.

◆ Power Supply Status

Item	Indication	Description
DC Power1 DC Power2	Normal Abnormal Not Installed	Displays the status of power supply units respectively. Normal: Normal Abnormal: Error state An error has occurred in the power supply unit. Although operation can be continued, replacement of the power supply unit is recommended. To do so, contact your dealer. Not Installed: The power supply unit is not installed.

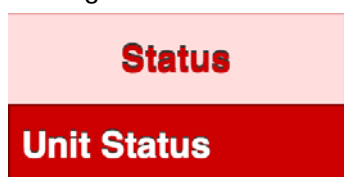
◆ Slot A-D

Item	Indication	Description
Slot A-D	FA-10AES-BL FA-10AES-UBL FA-10AES-UBL/UBLC FA-10ANA-AUD FA-10GPI	Displays the installation state and versions of installed option cards.

* The installed FA-10AES-UBLC is displayed with the FA-10AES-UBLC to which it is connected as "FA-10AES-UBL/UBLC". The status display of the slot where the FA-10AES-UBLC occupies does not change.

D-2. Status (Web)

Clicking the Status tab on the menu bar opens the dropdown menu as shown below.



D-2-1. Unit Status

FA-1010	Serial Number: 15120000
	Software: 2.20
	FPGA 1: 2.10
	FPGA 2: 2.10
	FPGA 3: 2.10
	FPGA 4: 2.10
	FPGA 5: 2.10
FAN Status	Power Supply Status
FAN 1: Normal	DC Power 1: Normal
FAN 2: Normal	DC Power 2: Normal
FAN 3: Normal	
FAN 4: Normal	
Slot A	Slot B
Name: FA-10GPI	Name: FA-10GPI
Software: ----	Software: ----
FPGA 1: ----	FPGA 1: ----
FPGA 2: ----	FPGA 2: ----
Slot C	Slot D
Name: FA-10AES-BL	Name: FA-10ANA-AUD
Software: ----	Software: ----
FPGA 1: 2.00	FPGA 1: ----
FPGA 2: 2.00	FPGA 2: ----
Refresh	

◆ FA-1010

Item	Description
Serial Number	Displays the serial number of the unit.
Software	Displays the software version.
FPGA 1- 5	Displays the version of each FPGA.

◆ FAN Status

Item	Indication	Description
FAN 1-4	Normal Stopped	Displays the status of FAN 1-4 respectively. Normal: Operating normally. Stopped: The FAN has stopped. Turn the unit power off, and contact your dealer if a replacement is needed.

◆ Power Supply Status

Item	Indication	Description
DC Power1 DC Power2	Normal Abnormal Not Installed	Displays the status of power supply units respectively. Normal: Normal Abnormal: Error state Turn the unit power off, and contact your dealer if a replacement is needed. Not Installed: The power supply unit is not installed.

◆ Option Slot Status

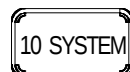
Item	Indication	Description
Slot A-D	Name	Displays the type of installed option card.
	Software	Displays the software version.
	FPGA 1, 2	Displays the version of each FPGA.

Appendix E. Verifying the FA-10RU Version

E-1. FA-10RU INFORMATION (Front Panel)

Displays the FA-10RU version information and FA-10RU FAN unit status.

```
--- FA-10RU INFORMATION --- P833
FPGA1 Version: 1.00
FPGA2 Version: 1.00
SOFT Version : 1.00
FAN Status   :Normal
```



E-2. Information (Web)

Click **Information**. The **information** page as shown below appears.

FA-10RU
[Information](#)
[Network Settings](#)
[User Account Settings](#)
[Unit ID Assignment](#)
[Event Naming](#)
[Salvo Naming](#)
[Backup & Restore](#)
[Restart](#)

Unit Information
Serial Number : 15440001
FPGA1 Version : 1.00
FPGA2 Version : 1.00
Soft Version : 1.00
Network Information
IP Address : 192.168.0.100
Subnet Mask : 255.255.255.0
Default Gateway : Unused
MAC Address : 00-10-B1-09-40-01
TCP Port Number : 50010
Connection Status
Status : Connect
Unit ID : 1
Host Address : 192.168.0.10
Unit Name : FA-1010

◆ Unit Information

Item	Description
Serial Number	Displays the serial number of the FA-10RU.
FPGA1 Version	Displays the version of the FA-10RU FPGA1.
FPGA2 Version	Displays the version of the FA-10RU FPGA2.
Soft Version	Displays the version of the FA-10RU Software.

◆ Network Information

Item	Description
IP Address	Displays the IP address of the FA-10RU.
Subnet Mask	Displays the subnet mask of the FA-10RU.
Default Gateway	Displays the gateway of the FA-10RU.
MAC Address	Displays the MAC address of the FA-10RU.
TCP Port Number	Displays the TCP port number of the FA-10RU.

◆ Connection Status

Item	Description
Status	Displays the status of connection with FA-1010.
Unit ID	Displays the registered ID number if the connected FA-1010 IP address is registered using Unit ID Assignment *1. Displays an "IP Address Select" message, if the connection is established via the IP ADDR SEL menu *2.
Host Address	Displays the IP address of the connected FA-1010.
Unit Name	Displays the unit name of the connected FA-1010.

*1 See Sec. 10-4. "Unit ID Assignment" of FA-10RU Operation Manual for details.

*2 See Sec.5-2-2. "Connecting in IP Address Selection Mode" of FA-10RU Operation Manual for details.

Appendix F. Verifying the FA-10DCCRU Version

F-1. SYSTEM Setting (Front Panel)

Press and hold the **GRP ADJ/SYSTEM** button to enter System Setting mode.

The **GRP ADJ/SYSTEM** button flashes in this mode.

Pressing the flashing **GRP ADJ/SYSTEM** button exits System Setting mode and the button functions as a Group ADJ On/Off.

The **SELECT** button allows you to select a setting. Successively pressing the button scrolls setting items in the following order. When the end setting is reached, the display returns to the top item.

- ① Unity Mode: Unlinked
↓
- ② Front Buzzer: Enable
↓
- ③ GPI Buzzer: Enable
↓
- ④ Display Mode: Full
↓
- ⑤ Display BRIGHT: 30%
↓
- ⑥ GPI 1 No.1-10
↓
- ⑦ GPI 2 No.11-20
↓
- ⑧ GPI 3 No.21-30
↓
- ⑨ IP: 192.168.0.100
↓
- ⑩ Subnet 255.255.255.0
↓
- ⑪ Gateway 0.0.0.0
↓
- ⑫ FAN: Normal
↓
- ⑬ Soft Ver: 1.00
↓
- ⑭ FPGA1 Ver: 1.00
↓
- ⑮ FPGA2 Ver: 1.00
↓
- Unity Mode: Unlinked (Back to the top)

IMPORTANT

Note that in System Setting mode system settings can be checked and changed without a main unit connection. Other settings cannot be performed in this mode.
--

F-1-1. System Settings

No.	Menu item	Setting buttons	Description
①	Unity Mode	☐ , ☐ buttons	☐ Unlinked: UNITY is applied only to the relevant FS channel. ☐ Linked: UNITY is applied to all linked FS channels.
②	Front Buzzer	☐ , ☐ buttons	☐ Disable: Disables the front buzzer. ☐ Enable: Enables the front buzzer.
③	GPI Buzzer	☐ , ☐ buttons	☐ Disable: Disables the buzzer for GPI settings. ☐ Enable: Disables the buzzer for GPI settings.
④	Display Mode	☐ , ☐ buttons	☐ Full: Displays settings in detailed format. ☐ Simple: Displays settings in short format.
⑤	Display BRIGHT	☐ , ☐ buttons	Sets front panel brightness. Options are 1.7%, 3.3%, 5%, 6.7%, 8.3%, 11.7%, 15%, 18%, 23%, 30%(default), 37%, 47%, 60%, 80% and 100%
⑥	GPI1 No.1-10	Rotary encoder ^(*1)	Sets brightness for GPI OUT LED indicators (No1 – 10) from 0 to 255. (Default: 50)
⑦	GPI2 No.11-20	Rotary encoder ^(*1)	Sets brightness for GPI OUT LED indicators (No11 – 20) from 0 to 255. (Default: 50)
⑧	GPI3 No.21-30	Rotary encoder ^(*1)	Sets brightness for GPI OUT LED indicators (No21 – 30) from 0 to 255. (Default: 50)
⑨	IP:192.168.0.100	(Display only)	Displays the FA-10DCCRU IP address.
⑩	Subnet 255.255.255.0	(Display only)	Displays the FA-10DCCRU subnet mask.
⑪	Gateway 0.0.0.0	(Display only)	Displays the FA-10DCCRU default gateway.
⑫	FAN ^(*2)	(Display only)	Displays the FA-10DCCRU fan status. Normal: The fan is functioning normally. Stopped: The fan has stopped.
⑬	Soft Ver:1.00	(Display only)	Displays the software version.
⑭	FPGA1 Ver:1.00	(Display only)	Displays the FPGA1 version.
⑮	FPGA2 Ver:1.00	(Display only)	Displays the FPGA2 version.

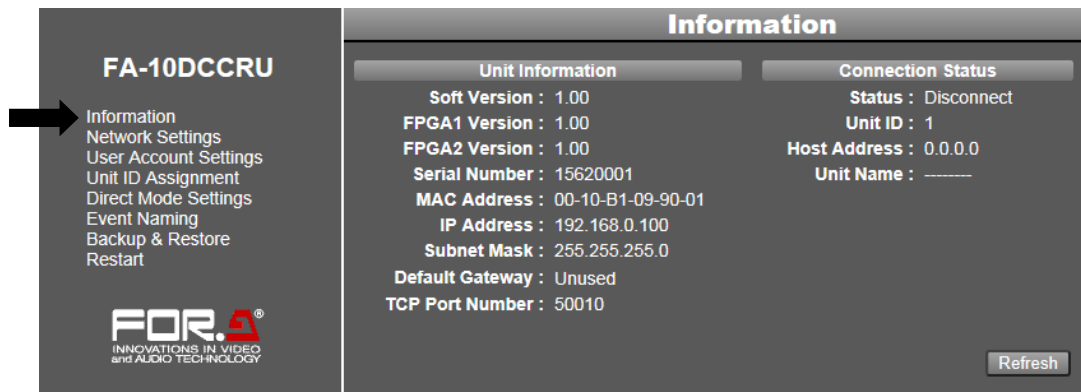
(*1) See section 8-2. "GPI OUT LED Indicator Brightness Settings." in the FA-10DCCRU Operation Manual.

(*2) When the fan has stopped, turn off the unit power, notify your FOR-A reseller or supplier and change the fan.

F-2. Information (Web)

Click **Information** in the left pane to display the Information page, in which Unit Information and Connection Status details of the FA-10DCCRU are displayed.

- FA-10DCCRU version, serial number and network setting details
- Main Unit information



The screenshot displays the web interface for the FA-10DCCRU. On the left, a sidebar menu lists various settings, with 'Information' highlighted and an arrow pointing to it. The main content area is titled 'Information' and contains two tabs: 'Unit Information' and 'Connection Status'. The 'Unit Information' tab is active, showing details such as Soft Version, FPGA versions, Serial Number, MAC Address, IP Address, Subnet Mask, Default Gateway, and TCP Port Number. The 'Connection Status' tab shows Status, Unit ID, Host Address, and Unit Name. A 'Refresh' button is located at the bottom right of the main content area.

Information	
Unit Information	Connection Status
Soft Version : 1.00	Status : Disconnect
FPGA1 Version : 1.00	Unit ID : 1
FPGA2 Version : 1.00	Host Address : 0.0.0.0
Serial Number : 15620001	Unit Name : -----
MAC Address : 00-10-B1-09-90-01	
IP Address : 192.168.0.100	
Subnet Mask : 255.255.255.0	
Default Gateway : Unused	
TCP Port Number : 50010	

Click **Refresh** to refresh the page.



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