

# UPDATE GUIDE

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**FA-9500**

Frame Synchronizer

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**FA-95RU**

Remote Control Unit

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**FA-95D-D/DE-E**

Dolby Decoder/Encoder Option

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**FA-95AIO**

Analog Component I/O Option

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5<sup>th</sup> Edition – Rev. 1

# Edition Revision History

## FA-9500/FA-95RU Update Guide Revision History

Edit.	Rev.	Date	Description	改訂箇所
1	-	2011/10/11	First edition	
2	-	2012/02/6	Added FA-95D-D and FA-95DE-E options	
3		2012/02/29	Added FA-95AIO option	
4		2012/03/14	Added Logo feature	
4	1	2012/04/06	Amended FPGA update descriptions.	
5		2012/07/03	Added one FA-95LG GUI Troubleshooting item Added "Loading Older Version Data from FA-9500"	8, 9
5	1	2012/07/27	Added FA-9500 software version and FPGA information	

## FA-9500 Operation Manual Revision History

Edit.	Rev.	Date	Description
Preliminary	-	2010/08/03	Preliminary edition (V0010)
Preliminary		2010/09/07	Preliminary edition (V0020)
1		2010/09/08	First edition (V0100)
1	1	2011/01/20	Added FA-95DACBL option, color correction description. Other text amendments.
2		2011/03/23	Added 3G-SDI, Second Converter, and Auto Video Optimizer features, and FA-95PS option. Other text amendments.
3		2011/06/14	Added FA-95RU option. (Issued the separate FA-95RU Operation Manual)
4		2011/08/19	Added FA-95CO Option Added the login page and Logout button
4	1	2011/10/18	Revised AVO Scene Cut Detection frame delay, and Forced Field frame delay settings
5		2011/11/28	Closed captioning CEA608, S334-1, CEA708 compatible
6		2011/12/16	Added FA-95D-D and FA-95-DE-E options. Enhanced Audio processing feature Added PAL-M support
7		2012/02/16	Added FA-95AIO option
7	1	2012/03/06	Deleted NTSC SETUP exceptional condition
8		2012/03/14	Added Logo feature
9		2012/07/03	Enhanced FA-95DE-E option. Added AFD support. (S2016/VI/WSS) CONV2 modified to Up/Down/Cross converter.
9	1	2012/07/27	Added SD-SDI VITS output support

## FA-95RU Operation Manual Revision History

Edit.	Rev.	Date	Description
1	-	2011/05/20	First Edition (V 1.00) Corresponding with FA-9500 Operation Manual 3 <sup>rd</sup> or later.
2		2011/08/19	Added FA-95CO option
2	1	2011/9/30	Revised AVO Scene Cut Detection frame delay, and Forced Field frame delay settings
3		2011/12/07	Closed captioning CEA608, S334-1, CEA708 compatible
4		2011/12/16	Added FA-95D-D and FA-95-DE-E options. Enhanced Audio processing feature Added PAL-M support
5		2012/02/16	Added FA-95AIO option
5	1	2012/03/06	Deleted NTSC SETUP exceptional condition
6		2012/03/14	Added Logo feature

7		2012/07/03	Enhanced FA-95DE-E option. Added AFD support. (S2016/VI/WSS) CONV2 modified to Up/Down/Cross converter.
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#### FA-9500/FA-95RU Software Version and Supported Options

FA-9500	FA-95RU	Supported Feature/Option	Note
FPGA1: 1.36 or higher FPGA2: 1.27 or higher FPGA3: 1.01 or higher SOFT: 1.13 or higher	-	FA-95PS FA-953G FA-95SCNV FA-95AVO FA-95DACBL	First edition
FPGA1: 1.40 or higher FPGA2: 1.28 or higher FPGA3: 1.01 or higher SOFT : 2.00 or higher	FPGA: 1.00 SOFT: 1.00	FA-95RU	Supports FA-95RU option.
FPGA1: 1.51 or higher FPGA2: 1.29 or higher FPGA3: 1.01 or higher SOFT: 2.10 or higher	FPGA1:1.00 or higher SOFT: 1.10 or higher	FA-95CO	Supports FA-95CO option
FPGA1:1.55 or higher FPGA2: 1.30 or higher FPGA3: 1.01 or higher SOFT: 2.22 or higher	FPGA1: 1.00 or higher SOFT: 1.20 or higher	FA-95AVO Scene Cut Detection	Modified frame delay settings for Forced Field function. Corrected a bug on AUTO LOAD
FPGA1:1.58 or higher FPGA2: 2.00 or higher FPGA3:1.01 or higher SOFT: 2.30 or higher	FPGA1: 1.00 or higher SOFT: 1.30 or higher	Closed captioning	CEA608, S334-1, CEA708 compatible
FPGA1: 2.08 or higher FPGA2: 3.00 or higher FPGA3: 1.01 or higher SOFT: 3.00 or higher	FPGA1: 1.00 or higher SOFT: 2.00 or higher	FA-95D-D FA-95DE-E PAL-M	
FPGA1: 2.28 or higher FPGA2: 4.00 or higher FPGA3: 1.01 or higher SOFT: 4.00 or higher	FPGA1: 1.00 or higher SOFT: 3.00 or higher	FA-95AIO	
FPGA1: 2.30 or higher FPGA2: 4.10 or higher FPGA3: 1.02 or higher SOFT: 5.00 or higher	FPGA1: 1.00 or higher SOFT: 4.00 or higher	Logo Generator	
FPGA1:3.14 or higher FPGA2: 5.02 or higher FPGA3: 1.02 or higher SOFT: 6.00 or higher	FPGA1:1.00 or higher SOFT: 5.00 or higher	Added performance features	S2016/VI/WSS AFD support, CONV2 Up/Down/Cross converter support, and FA-95DE-E option enhanced encoding function. FA-95RU ver 5.00 or higher-compatible
FPGA1:3.15 or higher FPGA2: 5.10 or higher FPGA3: 1.02 or higher SOFT: 6.01 or higher	FPGA1:1.00 or higher SOFT: 5.00 or higher	Added performance features	SD-SDI VITS output support

#### IMPORTANT

Event data created by an earlier version of software than 6.00 and files saved by the backup parameter function of the former version FA-9500 may not recall images as saved before.

Make sure to reset settings by referring to section 8 "Loading Older Version Data from FA-9500" when loading events or files created by earlier version software.

However, Event data files created on software earlier than version 6.00 and that created on versions 6.00 and later cannot be shared due to a file format difference.

The resets are required for each piece of event data.

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# 1. Equipment and System Requirements

Required Materials	Performance
ByteBlaster II or USB Blaster	3. FA-95RU PM Data Update
FA9500Updater.exe (Version 2.0.0)	4. FA-9500 PM Data Update
Quartus II Programmer and PC with web browser such as Internet Explorer.	2-2) Back up setting and event data
LAN cable (straight through or crossover)	3. FA-95RU PM Data Update
Hub (for straight through LAN cable connection)	4. FA-9500 PM Data Update
3 x 6 Phillips screwdriver	5. Hardware Option Data Update
	6. Software Option Installation
	3-1. FPGA Update
	4-1. FPGA3 Update

## System requirements for Software updates

OS	Windows® XP operating system SP3 Professional (32bit) Windows® 7 operating system SP1 Professional (32bit) Windows® 7 operating system SP1 Professional (64bit)
Web browser	Windows® Internet Explorer7/8, Firefox® 12.0
.NET *1	.NET 3.5 or higher required (.NET 3.5 included in Windows® 7)
CPU	Pentium® 4 processor 2.8GHz or faster (Windows® XP) Intel® Core™2 Duo processor 2GHz or higher (Windows® 7)
Memory	Pentium® 4 processor 512 MB or more Intel® Core™2 Duo processor 2GB or more
Display	Resolution of 1280 x 1024 pixels or better Must be capable of full color (24-bit) display
Network port	Ethernet, at least one port 100BASE-TX/1000BASE-T
Network cable	Enhanced category 5 or better

\*1 .NET can be downloaded from the Microsoft website.

## System requirements for Software installation

OS	Windows® XP operating system SP2 or later Professional (32bit)	Windows Vista® operating system Business (32bit)	Windows® 7 operating system Professional (32bit/64bit)
Web browser	Windows® Internet Explorer 7/8, Firefox® 12.0	Windows® Internet Explorer 8, Firefox® 12.0	Windows® Internet Explorer 8, Firefox® 12.0
CPU	Pentium® 4 processor 2.8GHz or faster	Intel® Core™2 Duo processor 2GHz or faster	Intel® Core™2 Duo processor 2GHz or faster
Memory	512MB or more	2GB or more	2GB or more
Display	Resolution of 1280 x 1024 pixels or better Must be capable of full color (24-bit) display		
Network port	Ethernet, at least one port 100BASE-TX/1000BASE-T		
Network cable	Enhanced category 5 or better		

### IMPORTANT

When using Internet Explorer 8, Windows Updates after 6/13/2011 must be downloaded for proper performance. It is highly recommended to keep your computer up-to-date with the latest Windows Updates.

Some versions of Internet Explorer may not save data having long file names properly. In such case, save data in Internet Explorer using a short file name, then rename the file in Windows Explorer. A data file can also be saved under its default file name in any version of Internet Explorer.

## 2. Workflow

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- 1) Note the version of installed software before updating.  
If you are going to perform updates for several units, use the check list provided in the appendix.
- 2) Back up the setting and event data:  
Back up the setting and event data before updating software.  
See the respective operation manuals for details on the backup procedure.  
(If you receive approval for initialization after the update from the user, skip this step and go to step 4).)

### ◆ 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-9500:       How to open associated web browser pages → 9-6. Utility Settings  
                  How to save setting data → 9-6-2.Backup Parameter  
                  How to save event data → 9-6-4.Backup Event Data

FA-95RU:       How to open associated web browser pages → 11-6.Backup & Restore  
                  How to save setting data → 11-6-1. Configuration Data Backup  
                  How to save event data → 11-6-2. Event Data Backup

Required equipment: PC, LAN cable (one crossover LAN cable, or 2 straight through LAN cables), and hub (for straight-through LAN cable use)

(Note: When data cannot be saved, check if your PC meets the system requirements for software updates shown in Section 1. “Equipment and System Requirements”.)

- 3) Install hardware option/s  
When installing any additional hardware options on-site, follow the instructions given in the following sections.

FA-95D-D → 5-1-1 FA-95D-D Installation  
FA-95DE-E → 5-1-2 FA-95DE-E Installation  
FA-95AIO → 5-2-1 FA-95AIO Installation

- 4) Update software  
Update the PM data of the FA-9500 and FA-95RU as instructed in the following sections.

FA-95RU → **3. FA-95RU PM Data Update** (FPGA Update: 3-1, Software Update: 3-2)  
FA-9500 → **4. FA-9500 PM Data Update** (FPGA3 Update: 4-1, FPGA1,2 Update: 4-2, Software Update: 4-3)  
FA-95D-D/FA-95DE-E → **5. Hardware Option PM Data Update** (FPGA Update: 5-1-3, FPGA2 Update: 5-1-4 )  
FA-95AIO → **5. Hardware Option PM Data Update** (FPGA Update: 5-2-2, FPGA2 Update: 5-2-3 )

- 5) Install software option/s  
When installing an additional software option on-site, follow the instructions given in Section 6. “Software Option Installation”.  
If no additional software installation is required, move on to step 6).

- 6) Initialize the unit  
Turn the power on while pressing down the UNITY buttons under F2 and F4 to initialize the unit.  
(Be aware that initializing the unit will reset all settings including network settings to factory default.)

7) Reinstall backup data

Reinstall the backup data saved in step 2) to the FA-9500 and FA-95RU.

Refer to the sections in respective operation manuals provided under “Reference in Operation Manuals” in step 2) for details on how to reinstall backups.

(If the user has approved the unit for initialization after update, the procedure is complete in step 5).

8) Verify the result

After the update, verify software versions and installed software options as described below.

(If you are going to perform updates for several units, use the check list provided in the appendix.)

- To verify FA-9500 software versions and installed options
  - (1) Press the **VIDEO/AUDIO** button on the front panel, so that the button lights orange.
  - (2) Press the **STATUS/OTHER** button on the front panel.
  - (3) Press the single-down-arrow button 4 times to display version information. Verify the updated version is displayed.
  - (4) Press the single-down-arrow button 4 or 5 more times to display the state of software options. Check that all installed options are indicated as **INSTALL**, and absent options are indicated as **NONE**.
- To verify FA-95RU software versions
  - (1) Hold down the **MU SELECT** button on the front panel at least 3 seconds to turn the button orange light on.
  - (2) Press the single-down-arrow button once to display the software versions. Verify the updated versions are displayed.
- To verify FA-95D-D/FA-95DE-E versions
  - (1) Press the **VIDEO/AUDIO** button on the front panel, so that the button lights orange.
  - (2) Press the **STATUS/OTHER** button on the front panel.
  - (3) Press the single-down-arrow button 5 times (if it is installed in Option slot A. 6 times if it is in slot B) to display version information. Verify NAME under OPTION A VER is displayed as “FA-95D-D” and that the indicated version is correct.
- To verify FA-95AIO versions
  - (1) Press the **VIDEO/AUDIO** button on the front panel, so that the button lights orange.
  - (2) Press the **STATUS/OTHER** button on the front panel.
  - (3) Press the single-down-arrow button 5 times (if installed in Option slot A, 6 times if installed in slot B) to display version information. Verify that NAME under OPTION A VER is displayed as “FA-95AIO” and that the indicated version is correct.

Note: If the connection between FA-9500 and FA-95RU cannot be established after the update, connect the FA-9500 to a PC to check if TCP Port Number under NETWORK SETTING is set to 50010. If it is set to a different value, reset to 50010 and click Submit. Then restart the unit and check if the connection can be established. Also check if CONTROL is set to REMOTE under CONTROL SETTING which is menu 194 in the FA-9500.

- To open the CONTROL SETTING menu
  - (1) Press the **VIDEO/AUDIO** button on the front panel, then the button will light orange.
  - (2) Press the **STATUS/OTHER** button on the front panel to open the CONTROL SETTING menu.

## 3. FA-95RU PM Data Update

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### ◆ Equipment

- ByteBlaster II or USB Blaster download cable
- A PC with Quartus II Programmer (11.1 sp2) installed
- FA9500Updater.exe (Version 2.0.0) [SOFT PM Data Update tool]
- LAN cable(s) (1 crossover cable, or 2 straight through cables)
- Hub (needed when using straight-through LAN cables)
- 3 x 6 Phillips screwdriver (needed to update FPGA)

### 3-1. FPGA Update (PM9074)(Required Time: approx. 30 sec.)

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\* The PM data update procedure was tested using the Operation Systems.  
Windows XP / Windows Vista (32bit OS) / Windows 7 (32bit / 64bit OS)

1. Open the top panel of the FA-95RU.
2. Connect the ByteBlaster II cable 25-pin male plug to the parallel port of a PC (or USB Blaster cable to a USB port).
3. Connect the ByteBlaster II 10-pin female plug to CN1(Card address: X.0, 1.5) (Fig. 1)

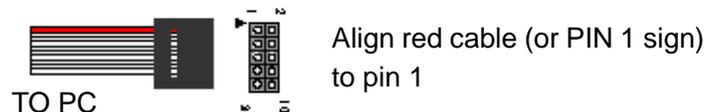


Fig. 1 ByteBlaster II (or USB Blaster) connection

4. Start Quartus II Programmer (11.1 sp2).
5. Check that ByteBlaster II (or USB Blaster) is selected (Fig. 2. (2)).  
If ByteBlaster II that is connected to PC is not selected, or "No Hardware" is displayed, click [Hardware Setup](Fig. 2. (2)) and select the connected ByteBlaster II.  
\* USB Blasters will not appear in the [Hardware Setup] list, unless they have been connected beforehand.
6. Select [JTAG] under [Mode] (Fig. 2. (3)).
7. Turn the power of the FA-95RU on.
8. Go to [File] > [Open], then open FPGA.cdf. (Fig. 2. (4)).  
\* Keep FPGA.cdf and PM9074-x.pof files in the same folder.
9. Click Quartus II Programmer [Start] to update (Fig. 2. (5)).
10. If [Progress] indicates 100% and no error sign (in red) appears on the status bar at the bottom of the window, the update is complete.
11. Turn the power of the FA-95RU off, and disconnect the cable from CN1.
12. Close the top panel of the FA-95RU.

13. Hold down the **MU SELECT** button for at least 3 seconds and the button will light orange. Press the single-down-arrow button once, and verify the latest FPGA version is being displayed.

(4) Go to [File]>[Open], and select FPGA.cdf

(2) Hardware Setup

(1) Selected hardware

(3) [JTAG]

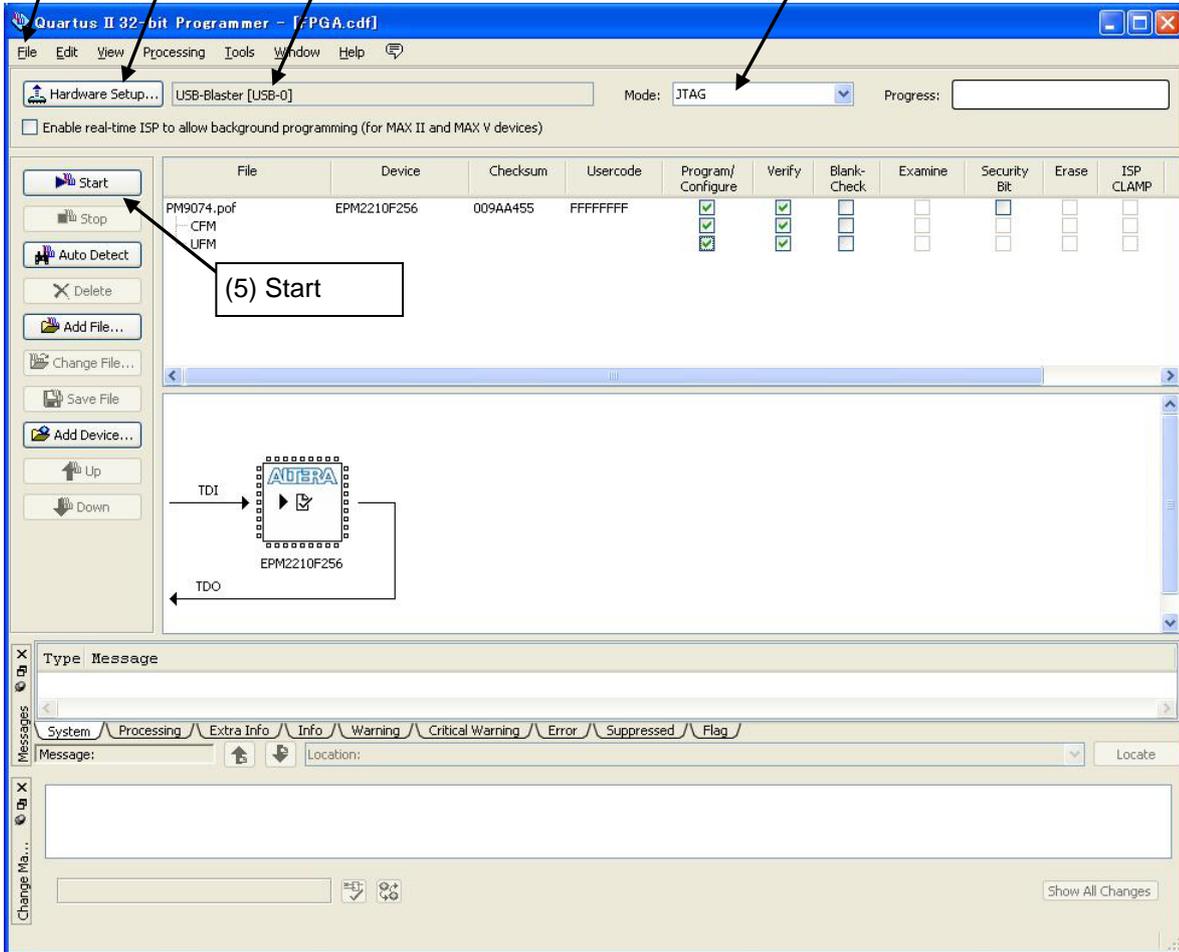


Fig. 2. CPLD Setting window

## 3-2. Software Update (PM9073)( Required Time: 1 min.)

1. Connect the FA-95RU and PC using a LAN cable.
2. Start the FA9500Updater.exe file (Fig. 3).



Fig. 3. FA9500Updater.exe icon

3. Enter the IP address (default IP address: 192.168.0.100)(Fig. 4.(1)).
4. Check FA-95RU in the Target section (Fig. 4. (2)). To automatically restart the FA-95RU after update, check Restart after update (Fig. 4.(3)).
5. Select the latest DSP data under Update File (Fig. 4.(4)).  
\* Select a file with a filename that starts with "FA-95RU\_".
6. Click Update to start updating (Fig. 4.(5)).
7. A message appears when the update is complete. Two messages appear if Restart after update is checked when both update and restart are complete.
8. Hold down the **MU SELECT** button for at least 3 seconds and the button will light orange. Press the single-down-arrow button once, then check that the latest software version is displayed.

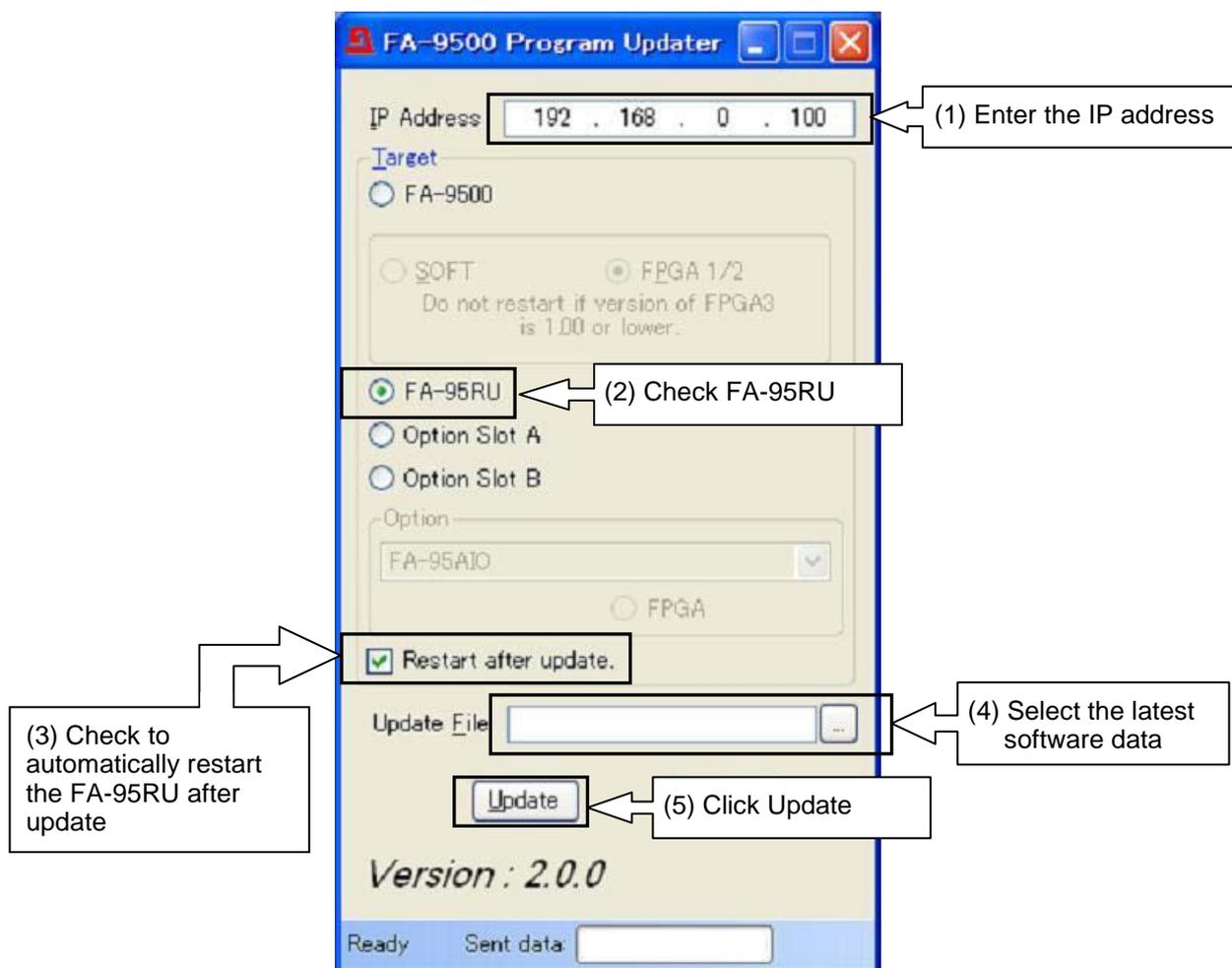


Fig. 4 FA9500ProgramUpdater window for FA-95RU software settings

The update is complete.

## 4. FA-9500 PM Data Update

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### ◆ Equipment

- ByteBlaster II or USB Blaster download cable
- A PC with Quartus II Programmer (11.1 sp2) installed
- FA9500Updater.exe (Version 2.0.0) [Software, and FPGA PM Data Update tool]
- LAN cable(s) (1 crossover cable, or 2 straight-through cables)
- Hub (needed when using straight through LAN cables)
- 3 x 6 Phillips screwdriver (needed to update FPGA3)

### 4-1. FPGA3 Update (PM8949) Required Time: 30 sec.)

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\* The PM data update procedure was tested using the Operation Systems.  
Windows XP / Windows Vista (32bit OS) / Windows 7 (32bit / 64bit OS)

1. Open the top panel of the FA-9500.
2. Connect the ByteBlaster II cable 25-pin male plug to the parallel port of a PC (or USB Blaster cable to a USB port).
3. Connect the ByteBlaster II 10-pin female plug to CN8(Card address: R.1, 1.5) (Fig. 5).

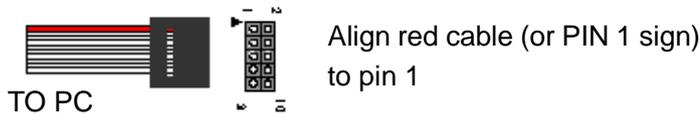


Fig. 5 ByteBlaster II (or USB Blaster) connection

4. Start Quartus II Programmer(11.1 sp2).
5. Check that ByteBlaster II (or USB Blaster) is selected (Fig. 6. (1)).  
If ByteBlaster II that is connected to PC is not selected, or "No Hardware" is displayed, click [Hardware Setup](Fig. 6. (2)) and select the connected ByteBlaster II (or USB Blaster).  
\* USB Blasters will not appear in the [Hardware Setup] list, unless they have been connected beforehand.
6. Select [JTAG] under [Mode] (Fig. 6. (3)).
7. Turn the power of the FA-9500 on.
8. Go to [File] > [Open], then open FPGA3.cdf. (Fig. 2. (4)).  
\* Keep FPGA3.cdf and PM8949-x.pof files in the same folder..
9. Click Quartus II Programmer [Start] to update (Fig. 6. (5)).
- 10.If [Progress] indicates 100% and no error sign (in red) appears on the status bar at the bottom of the window, the update is complete.
- 11.Turn the power of the FA-9500 off, and disconnect the cable from CN8.
- 12.Close the top panel of the FA-9500.

13. Press the **VIDEO/AUDIO** button, then the button lights orange. Press the **STATUS/OTHER** button, and press the single-down-arrow button 4 times, then verify the latest FPGA3 version is being displayed.

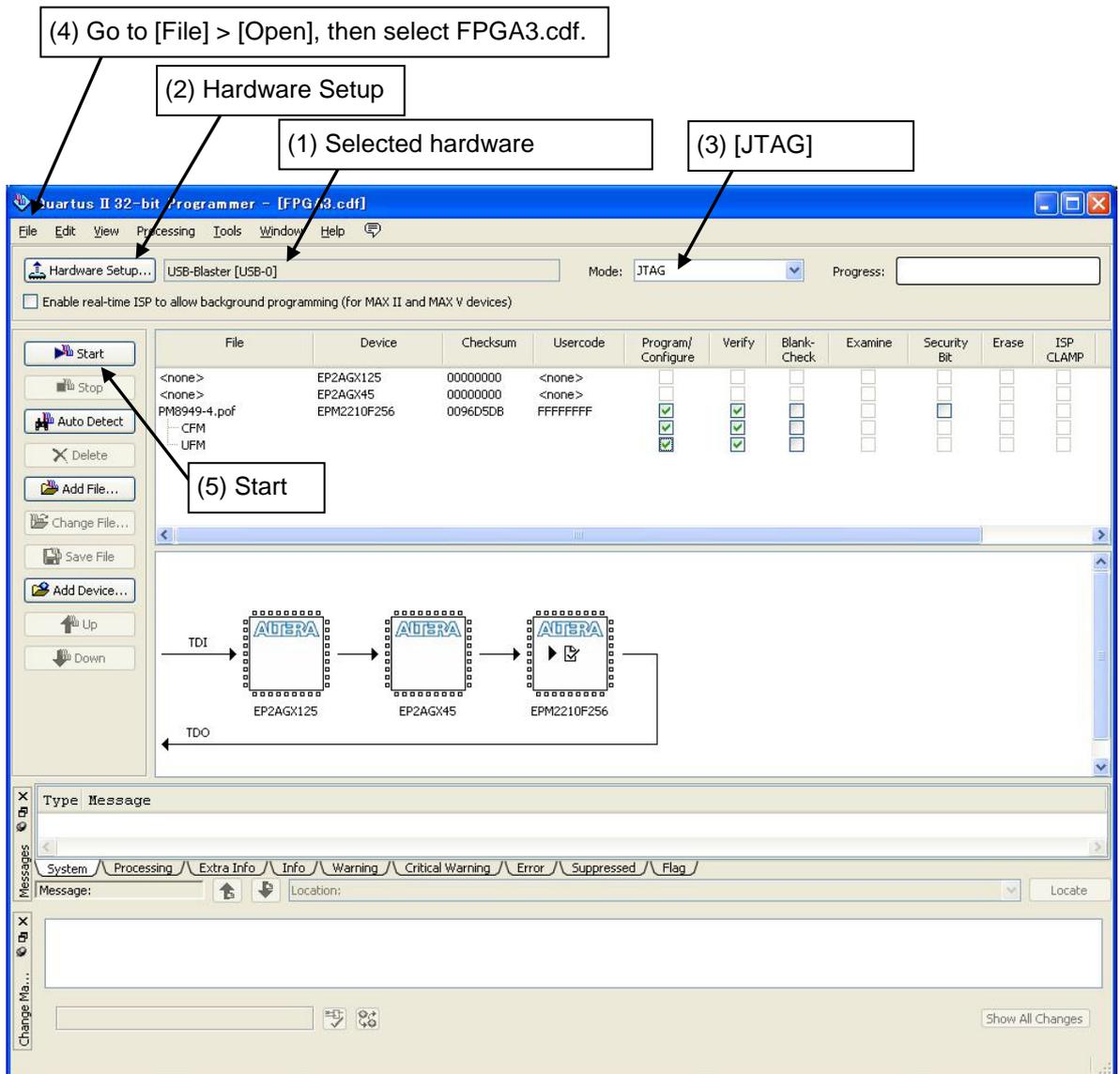


Fig. 6 CPLD Setting window

## 4-2. FPGA 1/2 Update (PM8950)(Required Time: 3 min.)

1. Connect the FA-9500 and PC using a LAN cable.
2. Start **FA9500Updater.exe**.



Fig. 7 FA9500Update.exe icon

3. Enter the IP address (default IP address: 192.168.0.10)(Fig. 8.(1)).
4. Check **FA-9500** in the Target section (Fig. 8. (2)).
5. Check **FPGA1/2** in the Target section (Fig. 8. (3)). To automatically restart the FA-9500 after update, check **Restart after update** (Fig. 8. (4)).
6. Select the latest FPGA data under **Update File** (Fig. 8. (5)).
  - \* Select a file with a filename that starts with "FA-9500\_".
  - \* Both FPGA 1 and 2 will be updated by this update.
7. Click **Update** to start updating (Fig. 8. (6)).
8. A message appears when the update is complete. Two messages appear if Restart after update is checked when both update and restart are complete.
9. Press the **VIDEO/AUDIO** button, then the button lights orange. Press the **STATUS/OTHER** button, and press the single-down-arrow button 4 times, then verify the latest FPGA1/2 versions are being displayed.

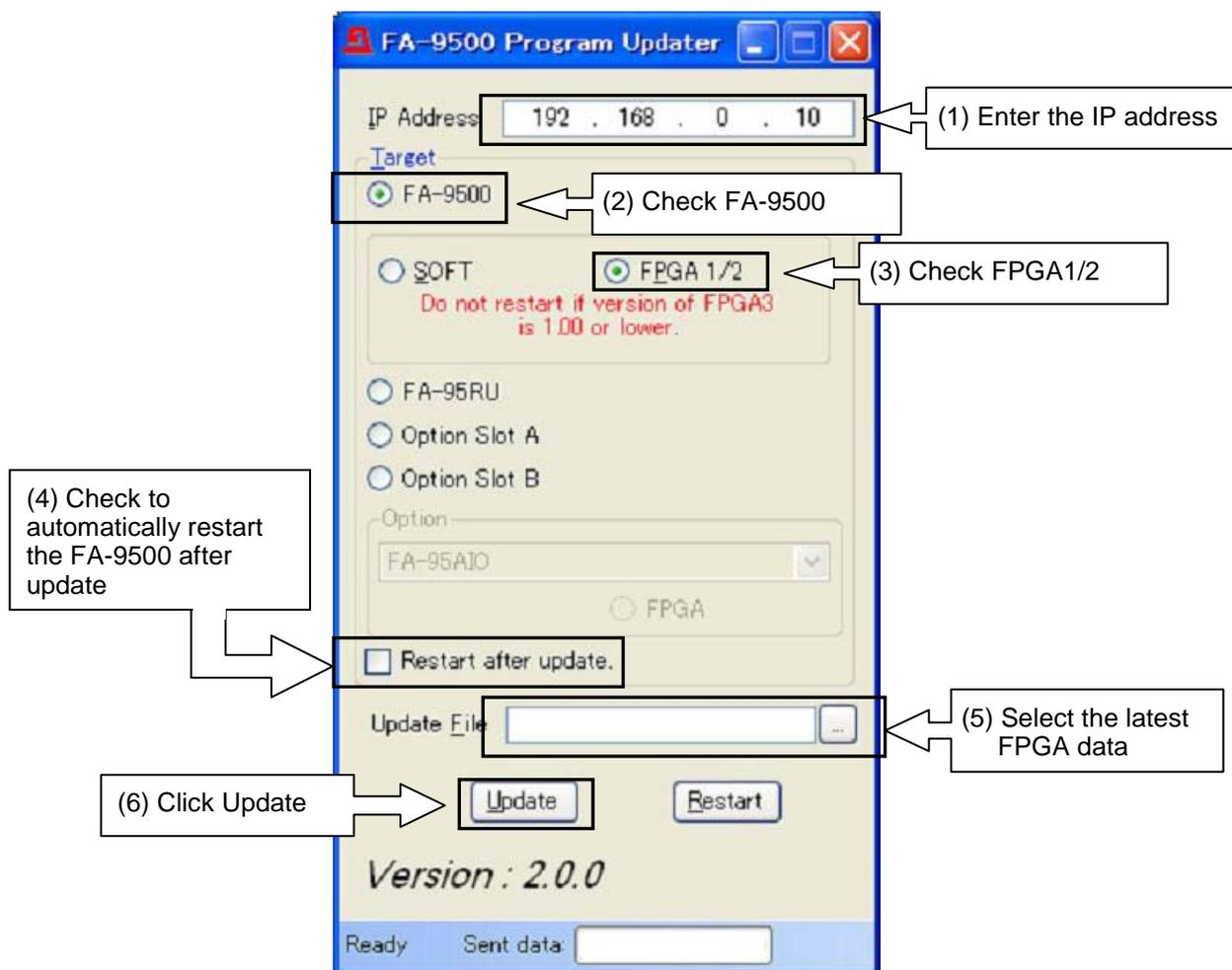


Fig. 8 FA9500ProgramUpdater window for FPGA update

### 4-3. Software Update (PM8951)(Required Time: 3 min.)

1. Connect the FA-9500 and PC using a LAN cable.
2. Start **FA9500Updater.exe** (Fig. 7).
3. Enter the IP address (default IP address: 192.168.0.10)(Fig. 9.(1)).
4. Check **FA-9500** in the Target section(Fig. 9.(2)).
5. Check **SOFT** in the Target section (Fig. 9.(3)). To automatically restart the FA-9500 after update, check Restart after update (Fig. 9.(4)).
6. Select the latest Software data under Update File (Fig. 9. (5)).  
\* Select a file with a filename that starts with "FA-9500\_".
7. Click Update to start updating (Fig. 9.(6)).
8. A message appears when the update is complete. Two messages appear if Restart after update is checked when both update and restart are complete.
9. Press the **VIDEO/AUDIO** button, then the button lights orange. Press the **STATUS/OTHER** button, and press the single-down-arrow button 4 times, then verify the latest software version is being displayed.

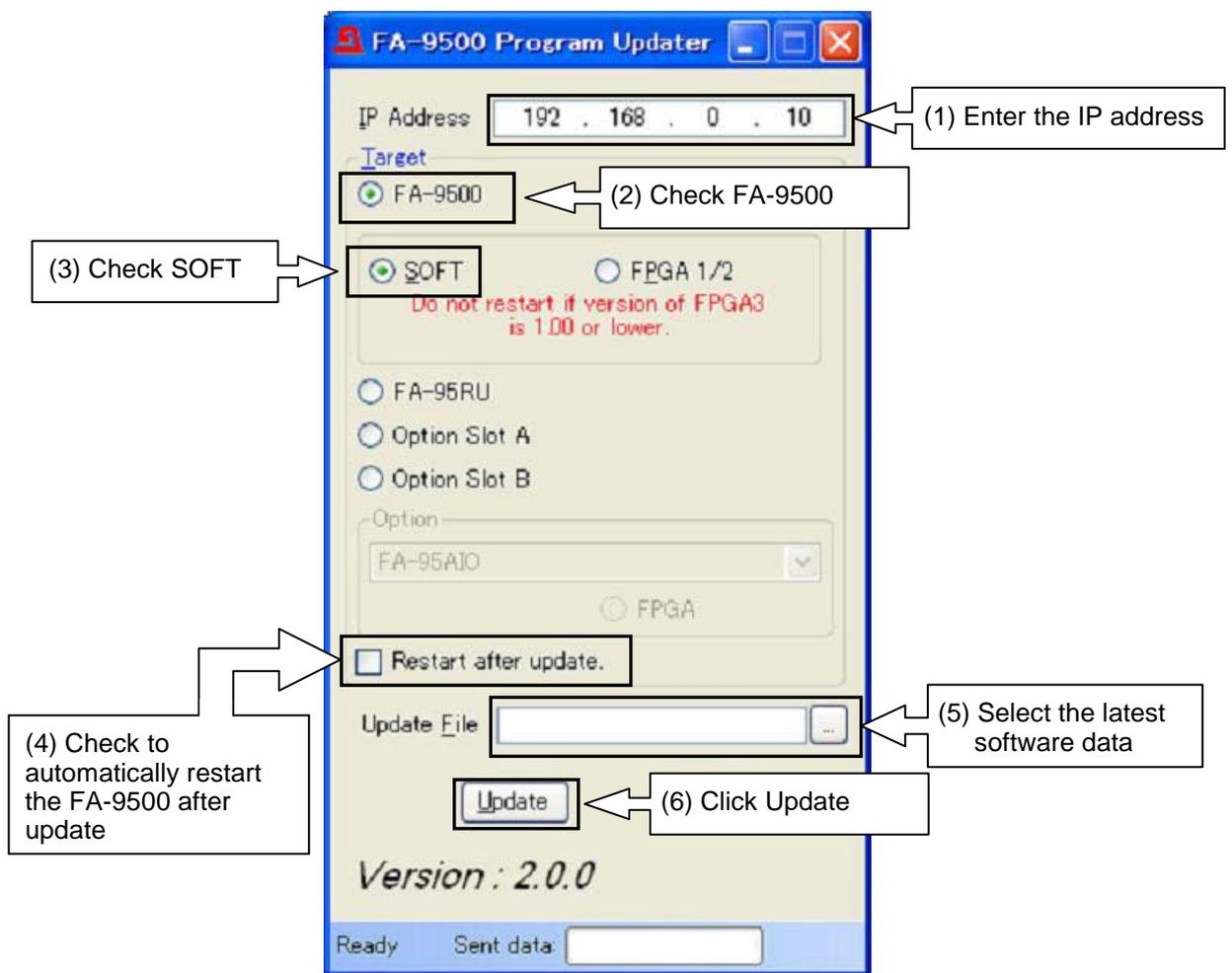


Fig. 9 FA9500ProgramUpdater window for Software update

## 5. Hardware Option Installation / PM Data Update

### 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 Slot B can be performed in the same manner.

### 5-1. FA-95D-D / FA-95DE-E

#### 5-1-1. FA-95D-D Installation

1. Remove the top panel from the FA-9500. (Remove the 3 screws on the top panel, and 2 screws each from both side panels. Remove rack ears if attached.)
2. Remove the blank panel attached to the slot into which you are going to install the option card. (Fig. 10.)

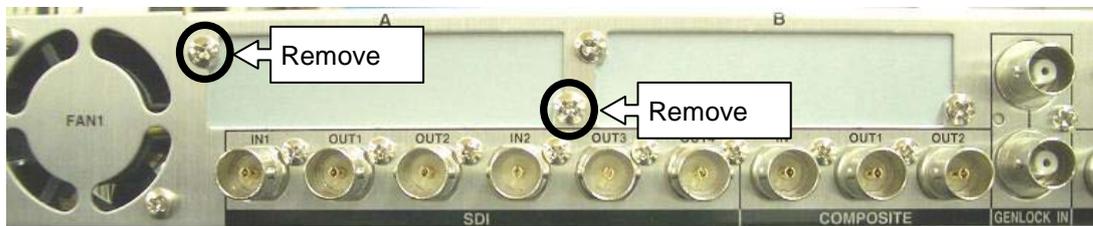


Fig. 10 Blank panel removal

- \* When removing screws securing the blank panel, hold the blank panel so that it does not fall inside the casing. (Fig. 11) **Turn the power of the unit off** before doing this.

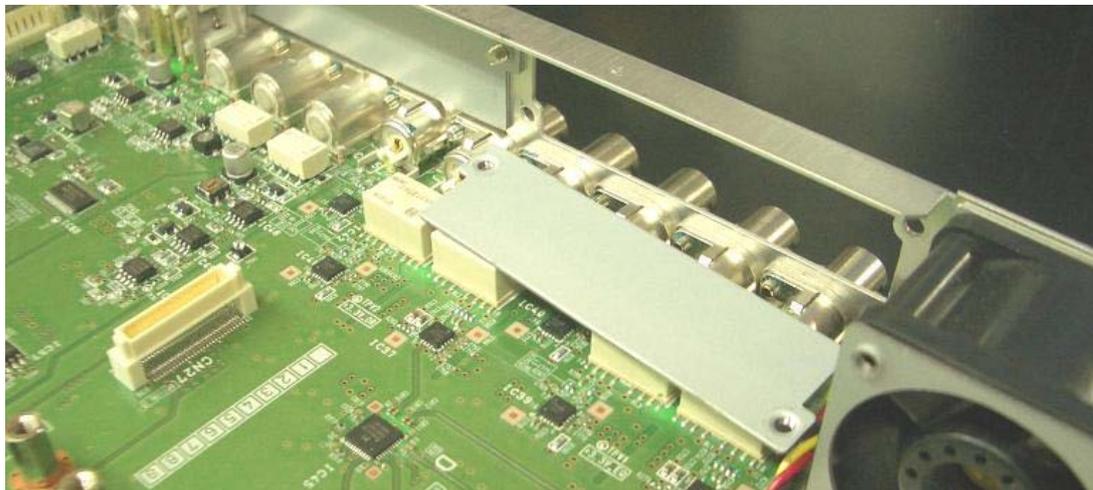


Fig. 11 Blank panel disengagement

3. Replace the 3 standoffs securing the main card with the circuit board standoffs supplied with the FA-95D-D/DE-E. (Fig. 12 (1))  
Replace 1 standoff securing the main card with the supplied screw (double-SEMS screw). (Fig. 12 (2))

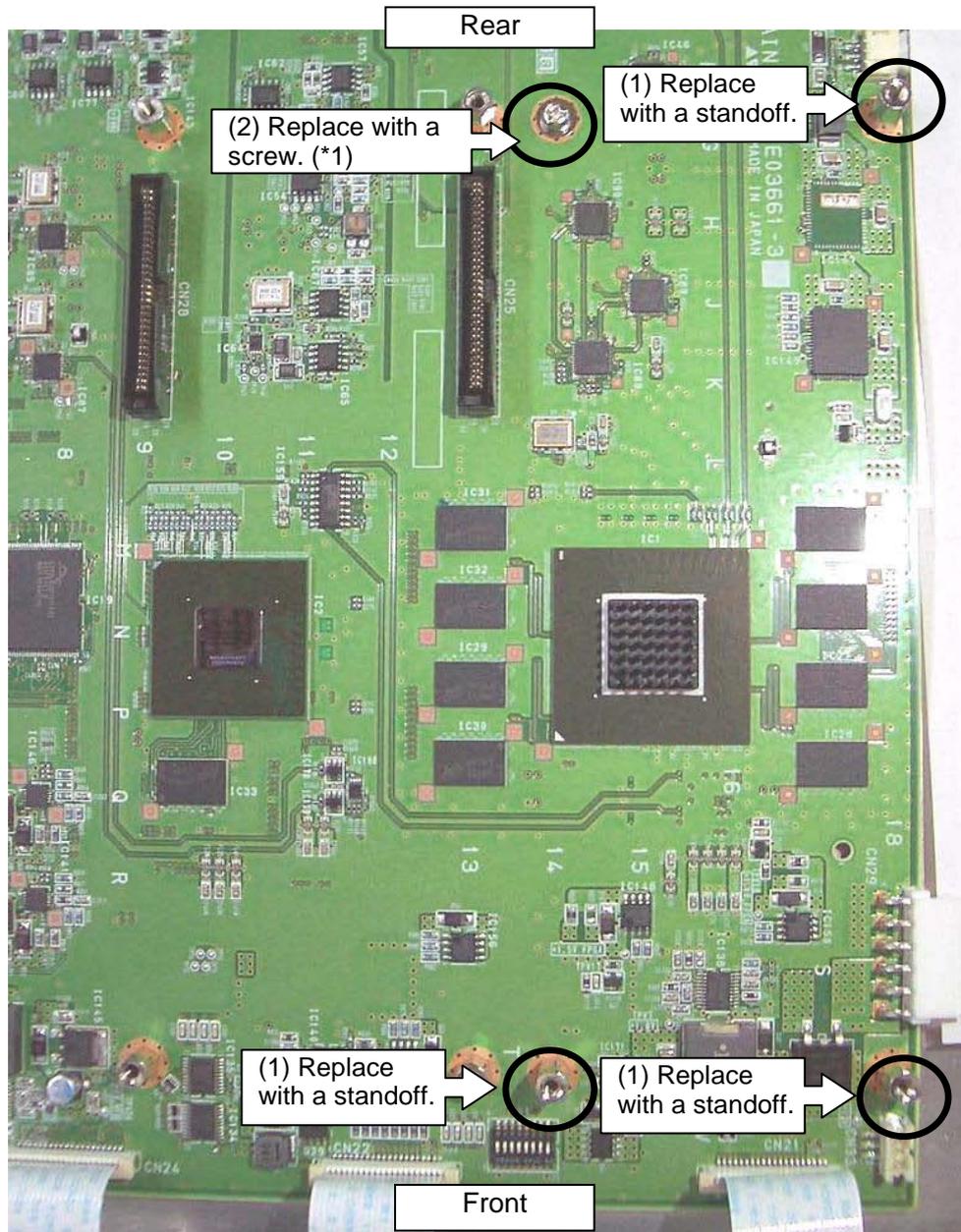


Fig. 12 Main card standoff replacement

\*1 Be sure to replace with the supplied double-SEMS screw to protect the Dolby option card from being damaged.

4. Nest connectors on the option card into the slot, align screw holes, then lightly secure the card with the supplied double-SEMS screws (Fig. 13(1)). Verify that SW2 DIP switch #1 is set to ON (Fig 13 (2)). Secure the option card to the rear panel using the binding screws removed in step 2 (Fig. 14). Tighten all screws.

\* Set SW2 switch #1 to ON if only FA-95D-D is installed. Set SW2 switch #1 and #2 to ON if both FA-95D-D and FA-95DE-E options are installed.

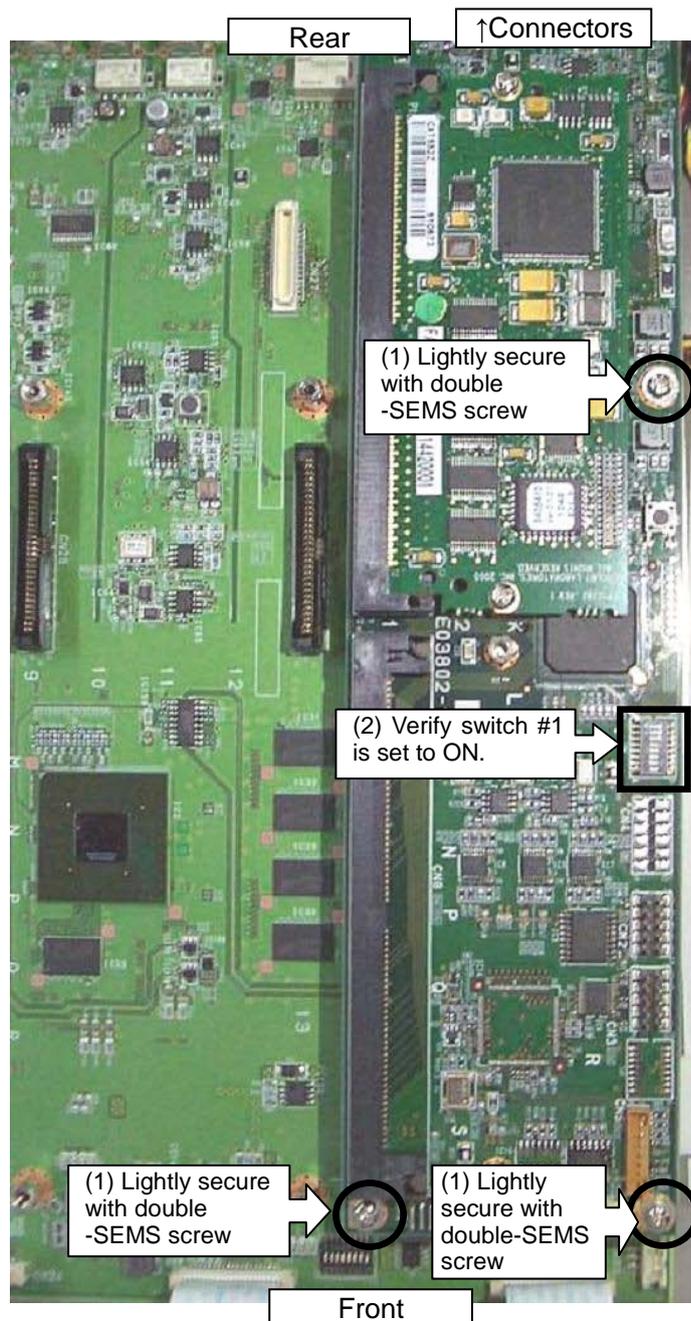


Fig. 13 Dolby Option installation

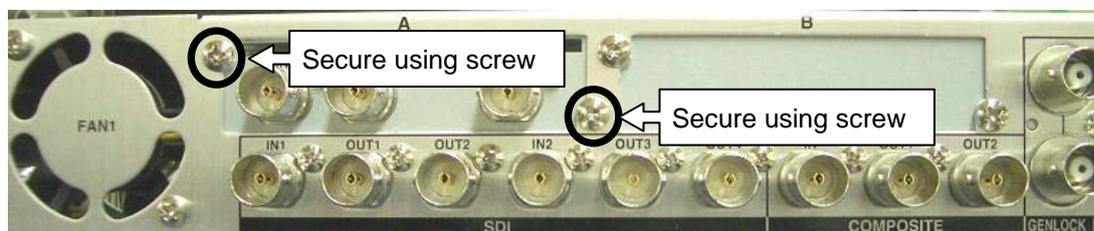


Fig. 14 Attachment to the rear panel

5. Turn the power of the unit ON. Press the VIDEO/AUDIO button to light the button LED orange. Press the STATUS/OTHER button, press the single-down-arrow button 5 times (if the Dolby option card is installed into Option slot A. Press 6 times if it is installed into Option slot B.), then check if OPTION A VER NAME is indicated as FA-95D-D.  
 \* Indication will be FA-95DE-E if both the FA-95D-D and FA-95DE-E option cards are installed.

## 5-1-2. FA-95DE-E Installation

1. Remove the top panel from the FA-9500. (Remove the 3 screws on the top panel, and 2 screws each from both side panels. Remove rack ears if attached.)  
(Installing the FA-95DE-E) Tilt the FA-95DE-E option card 45 degrees and insert into the slot (CN8: SIMM connector) (Fig 15 (1)) on the FA-95D-D option card. Slowly push the empty space on the other side of the FA-95DE-E card down until it becomes even, and locked by the locks (Fig. 15 (2)) on both sides (of the slot).

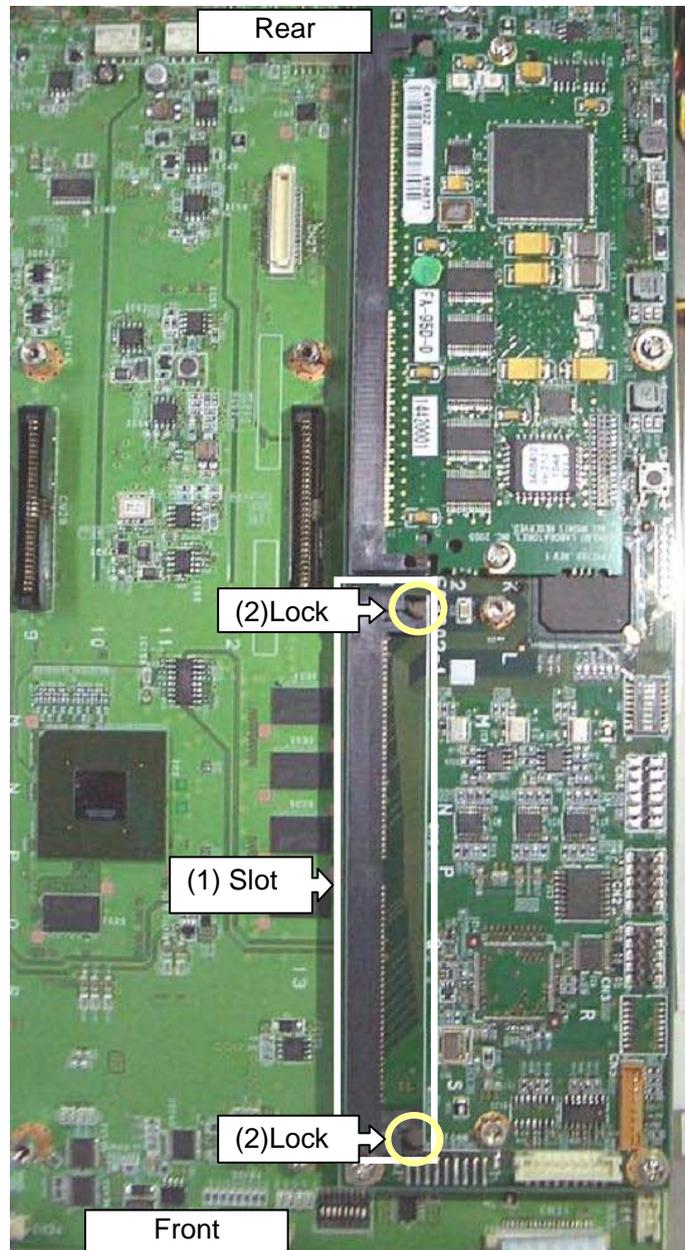


Fig. 15 FA-95DE-E installation slot

- Secure the FA-95DE-E onto the FA-95D-D card using the supplied double-SEMS screws. (Fig. 16 (1)) Also, set SW2 DIP switch #1 and #2 to ON. (Fig. 16 (2))

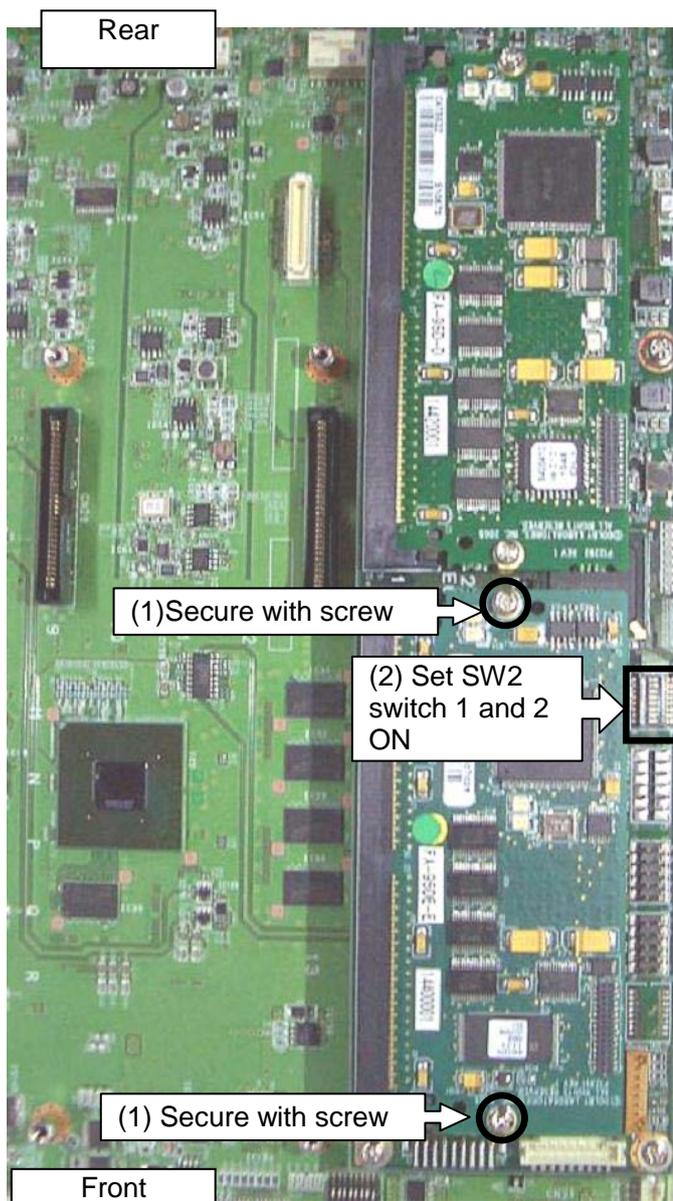


Fig. 16 FA-95DE-E card fixing

- Turn the power of the unit ON. Press the **VIDEO/AUDIO** button to light the button LED orange. Press the **STATUS/OTHER** button, press the single-down-arrow button 5 times (if the FA-95DE-E is installed into Option Slot A. If installed in Slot B, press 6 times), then verify **OPTION A VER NAME** is indicated as FA-95DE-E.

### 5-1-3. FA-95D-D/DE-E FPGA1 Update (PM9118)(Required time: 30 sec.)

\* The PM data update procedure was tested using the Operation Systems.  
Windows XP / Windows Vista (32bit OS) / Windows 7 (32bit / 64bit OS)

1. Open the top panel of the FA-9500.
2. Connect the ByteBlaster II cable 25-pin male plug to the parallel port of a PC (or USB Blaster cable to a USB port).
3. Connect the ByteBlaster II 10-pin female plug to CN3 (Card address: Q.1, 5.0) (Fig. 17).

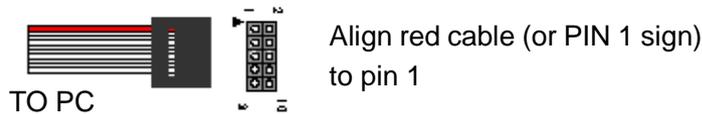


Fig. 17 ByteBlaster II (or USB Blaster) connection

4. Start Quartus II Programmer (11.1 sp2).
5. Check that ByteBlaster II (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 ByteBlaster II (or USB Blaster).  
\* USB Blasters will not appear in 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-9500 on.
8. Go to [File] > [Open], then open FPGA1.cdf. (Fig. 18. (4)).  
\* Keep the FPGA1.cdf and PM9118-x.pof files in the same folder.
9. Click Quartus II Programmer [Start] to update (Fig. 18. (5)).
10. If [Progress] indicates 100% and no error sign (in red) appears on the status bar at the bottom of the window, the update is complete.
11. Turn the power of the FA-9500 off, and disconnect the cable from CN3.
12. Close the top panel of the FA-9500.
13. Press the **VIDEO/AUDIO** button, then the button lights orange. Press the **STATUS/OTHER** button, and press the single-down-arrow button 5 times (if the card is installed into Option Slot A. If it is in Slot B, press 6 times), then verify the updated OPTION A VER FPGA 1 version is being displayed.

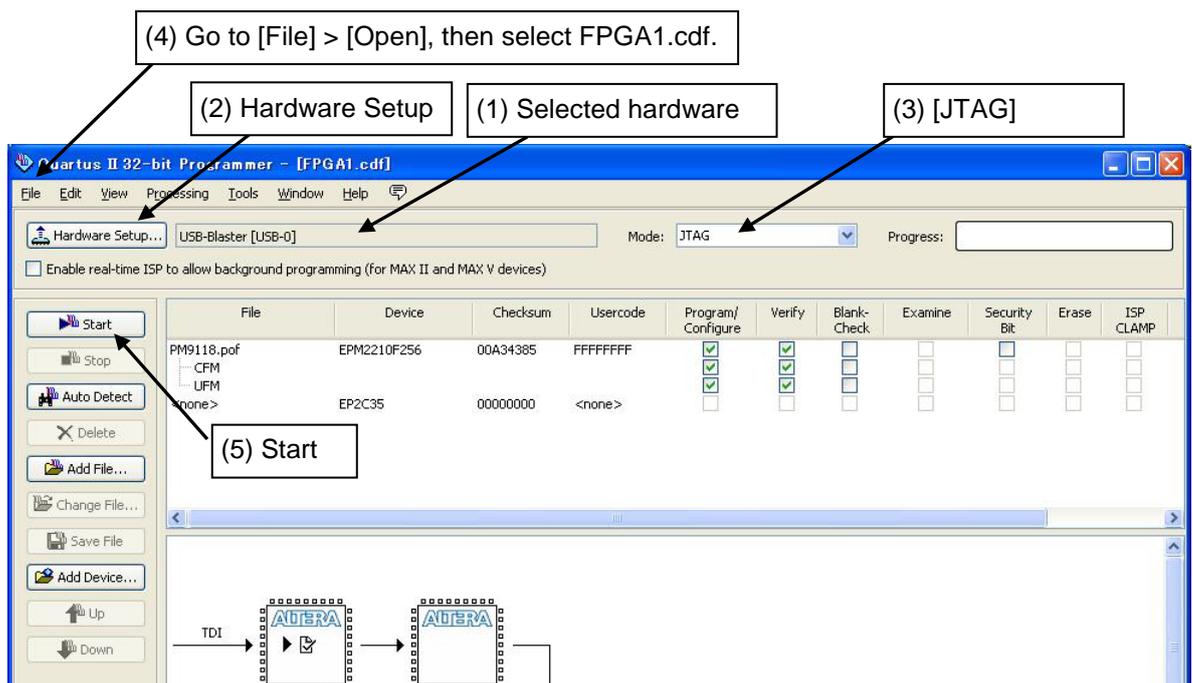


Fig. 18 CPLD Setting window

#### 5-1-4. FA-95D-D/DE-E FPGA2 Update (PM9119)(Required Time: 3 min.)

1. Connect the FA-9500 and PC using a LAN cable.
2. Start **FA9500Updater.exe**.
3. Enter the IP address (default IP address: 192.168.0.10)(Fig. 19.(1)).
4. Check Option Slot A or B in the Target section. (Fig. 19 (2))  
\* Check the slot where the option card is installed.
5. Select **FA-95D-D/DE-E** under Option, then check **FPGA**. (Fig. 19 (3)) To automatically restart the FA-9500 after update, check **Restart after update**. (Fig. 19 (4))
6. Select the latest FPGA data under **Update File** (Fig. 19 (5)).  
\* Be sure to select a file that begins its filename with 'FA95DD\_'.
7. Click **Update** to start updating (Fig. 19 (6)).
8. A message appears when the update is complete. Two messages appear if Restart after update is checked when both update and restart are complete.
9. Press the **VIDEO/AUDIO** button, then the button lights orange. Press the **STATUS/OTHER** button, press the single-down-arrow button 5 times (if the card is installed into Option Slot A. 6 times if it is in Slot B), then verify the updated FPGA2 version is being displayed.

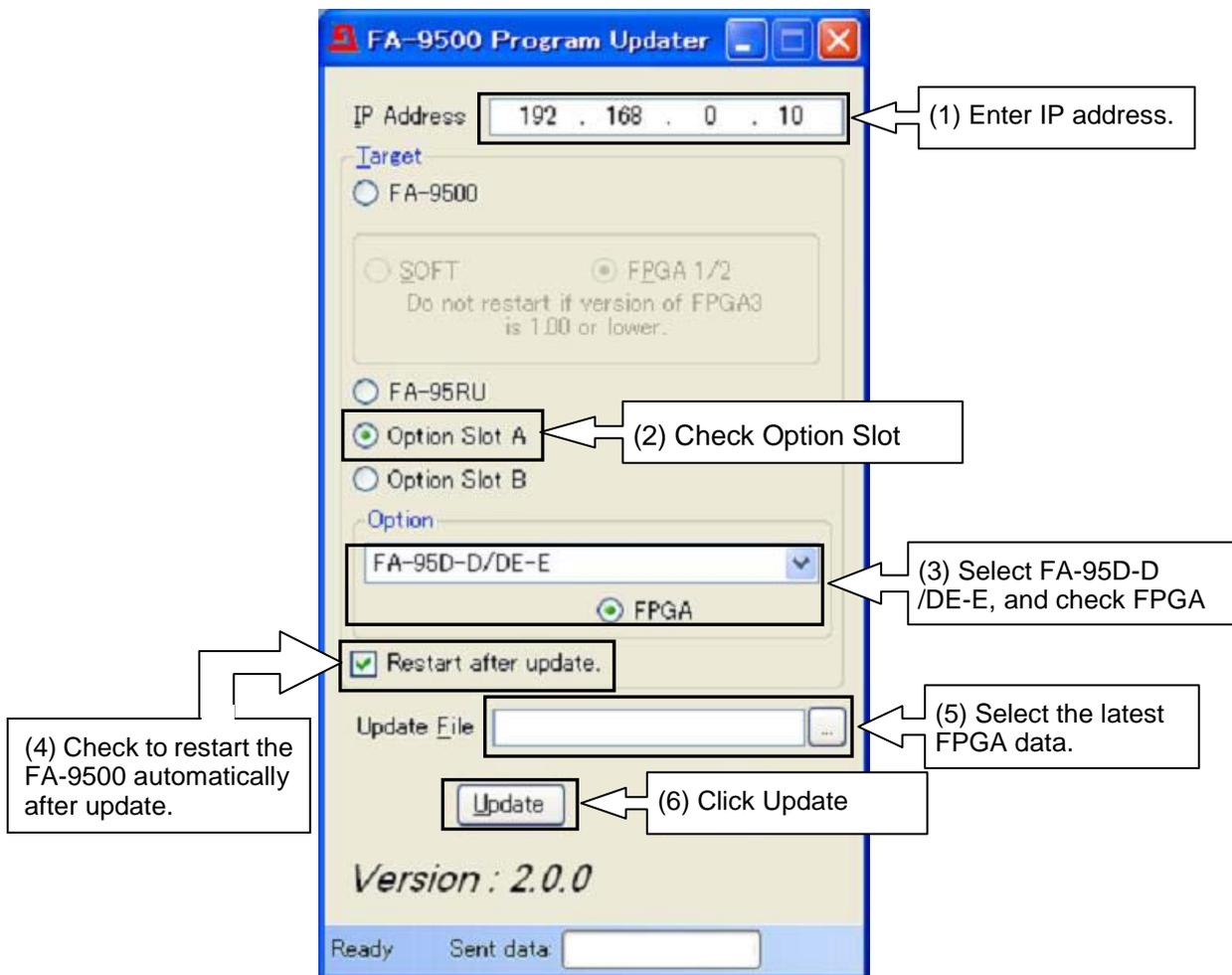


Fig. 19 FA9500ProgramUpdater window for FA-95D-D/DE-E software settings

## 5-2. FA-95AIO

### 5-2-1. FA-95AIO Installation

1. Remove the top panel from the FA-9500. (Remove the 3 screws on the top panel, and 2 screws each from both side panels. Remove rack ears if attached.)
2. Remove the blank panel attached to the slot into which you are going to install the option card. (Fig. 20.)

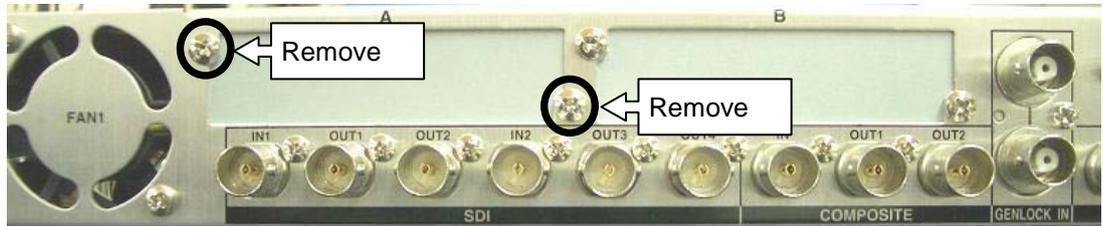


Fig. 20 Blank panel removal

- \* When removing screws securing the blank panel, hold the blank panel so that it does not fall inside the casing. (Fig. 21) **Turn the power of the unit off** before doing this.

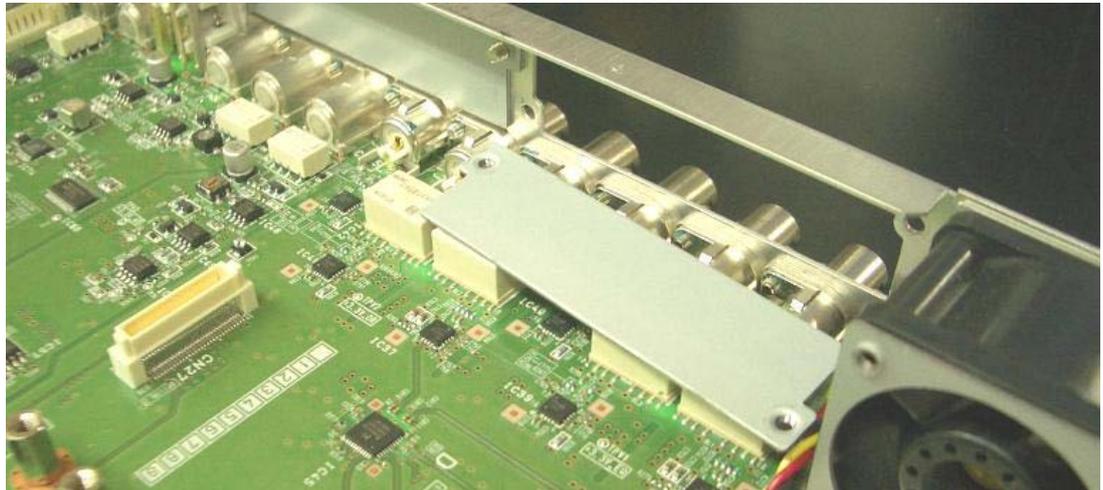


Fig. 21 Blank panel disengagement

3. Attach the supplied deflector plate (Fig. 22: with adhesive tape). (Figs.23 and 24)

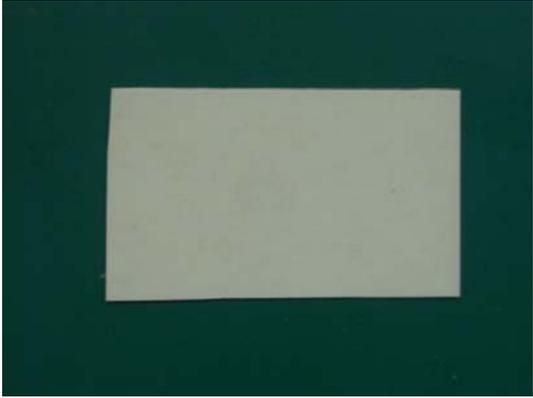


Fig. 22 Deflector plate

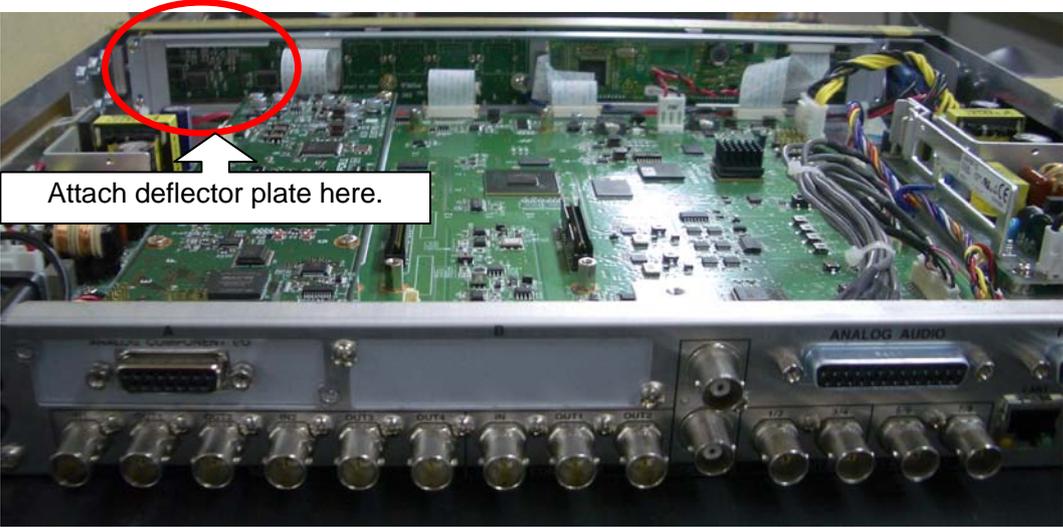


Fig. 23 Chassis interior

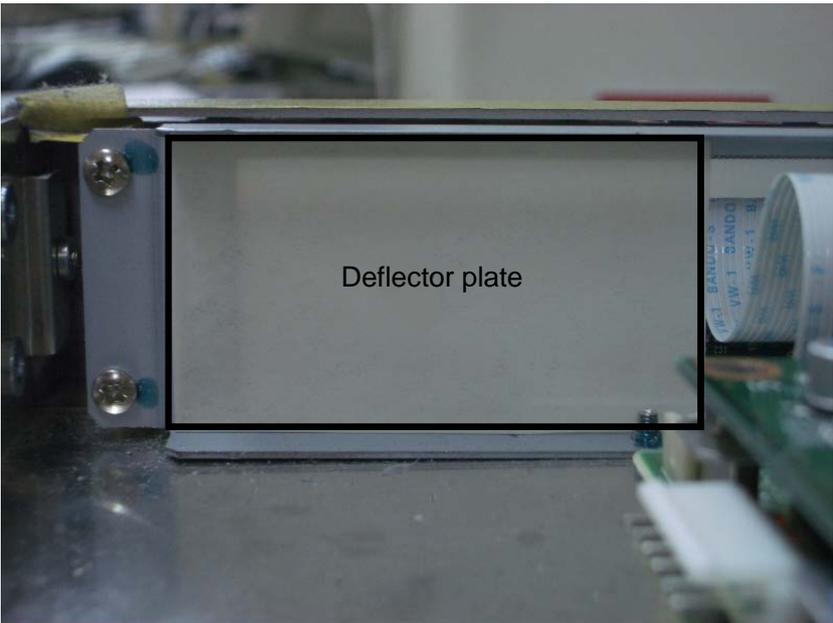


Fig. 24 Attached deflector plate

4. Replace the 4 standoffs on the main card with the taller standoffs (9mm) supplied with the FA-95AIO option card. (Fig. 25)

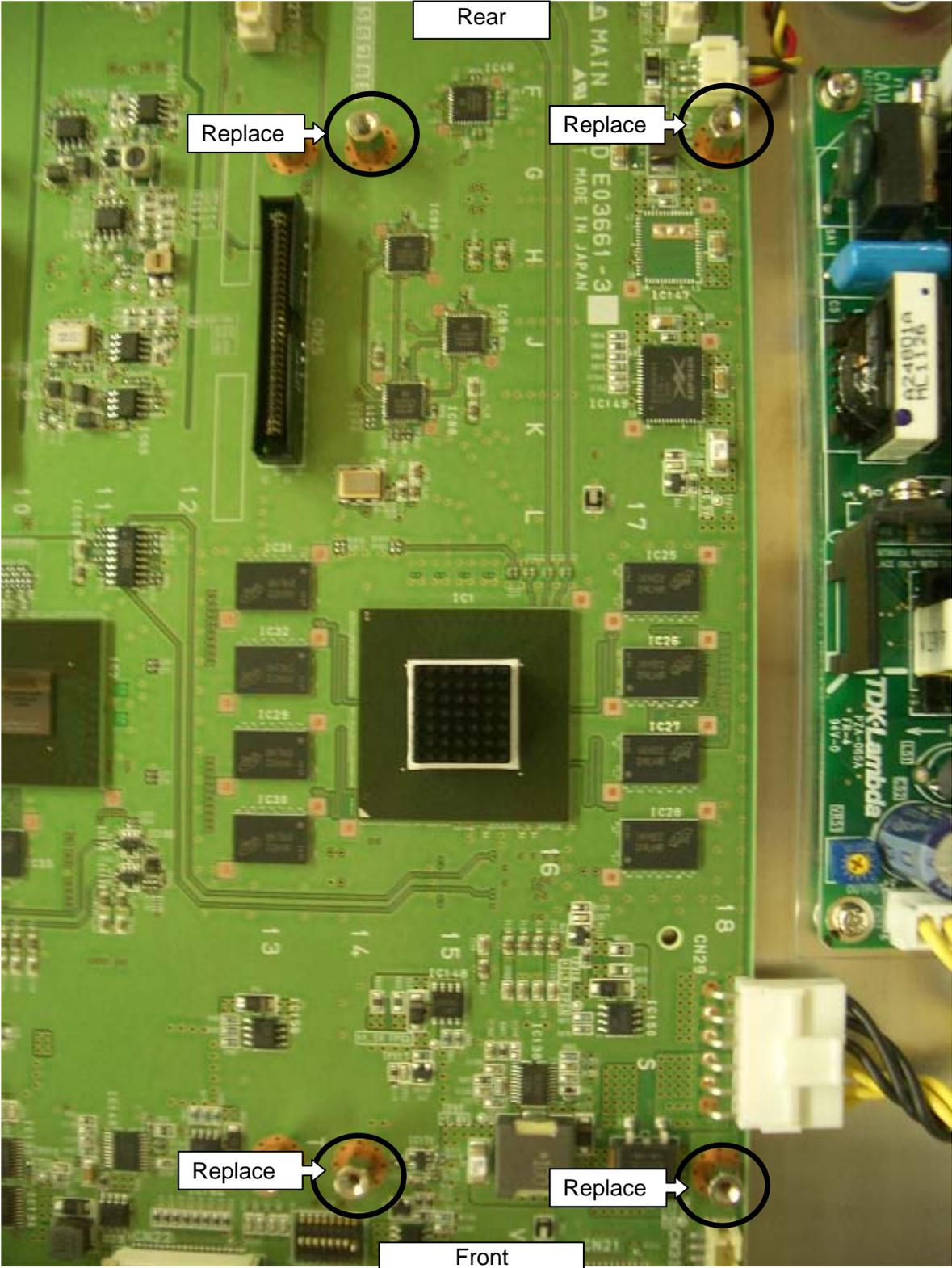


Fig. 25 Standoff replacement

5. Attach 4 heat conductive sheets (Fig. 27) to the supplied shield (Fig. 26) as shown in Figs 28 and 29.

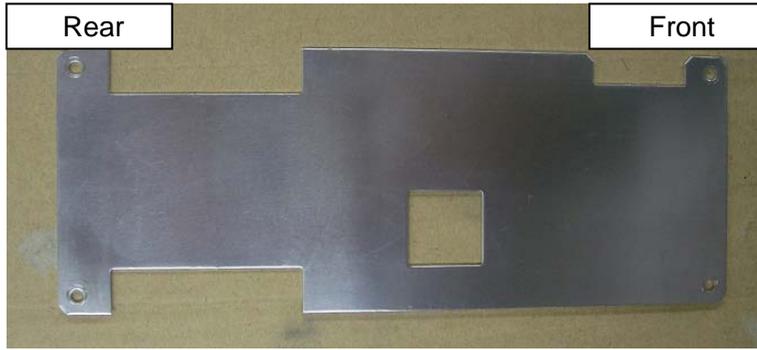


Fig. 26 Shield

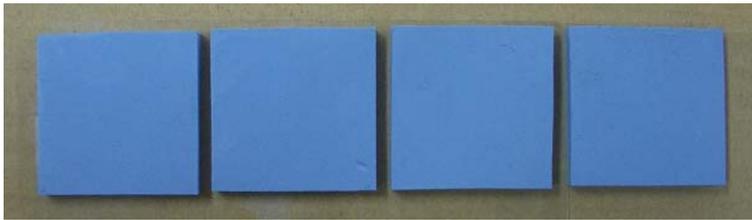


Fig. 27 Heat conductive sheets (4)

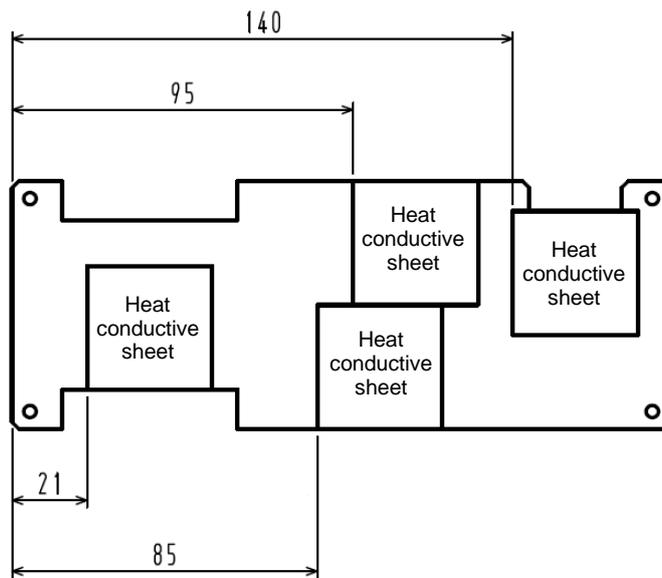


Fig. 28 Heat conductive sheet locations (in mm.)

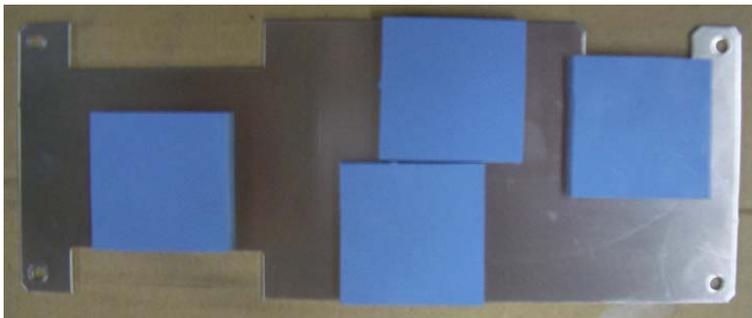


Fig. 29 Shield with heat conductive sheets

- Place the shield with the attached heat conductive sheet side up, and secure with the supplied shorter standoffs (4 mm) as shown in Fig. 30.

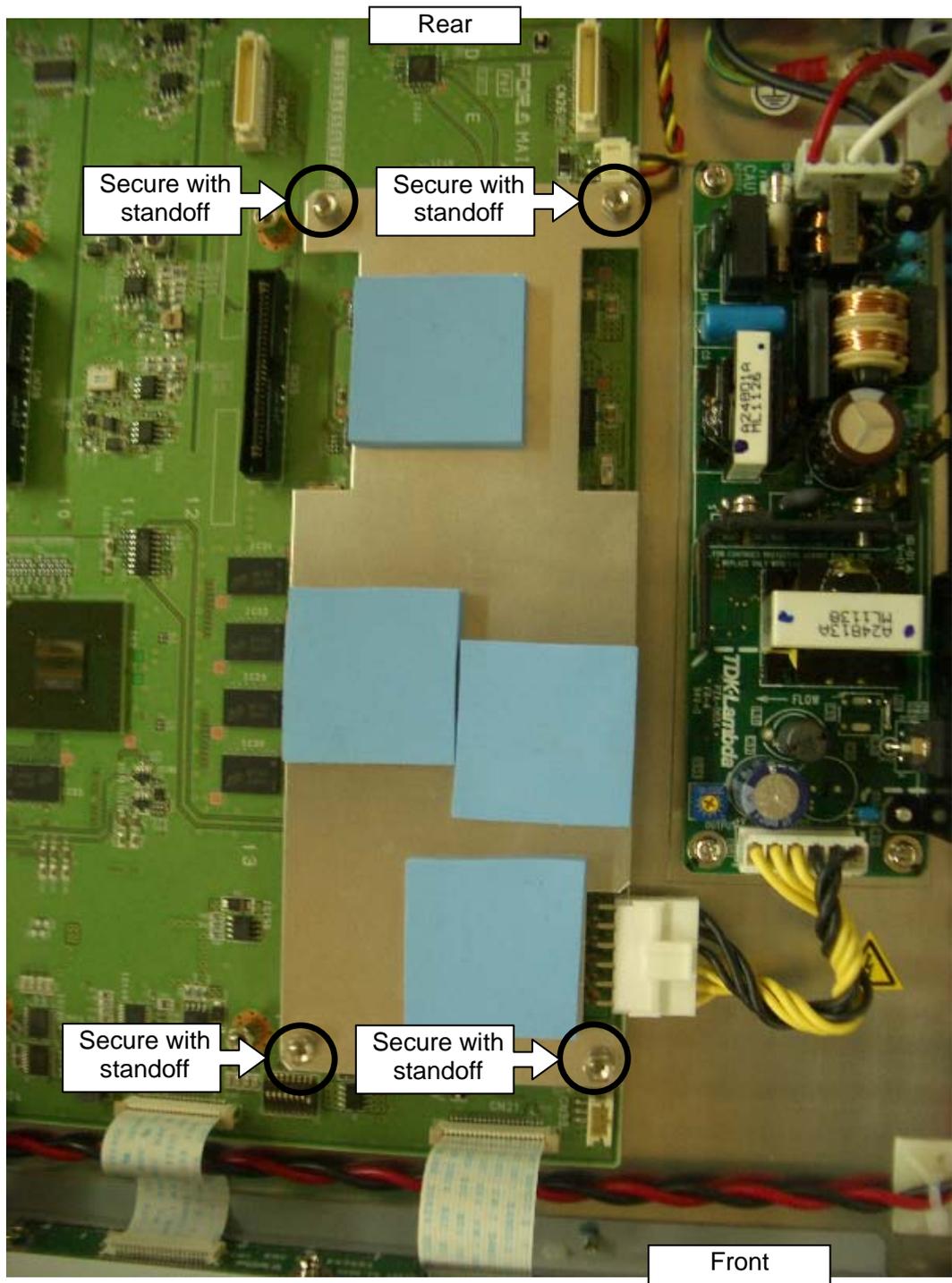


Fig. 30 Shield attachment

7. Nest the connector on the option card into the slot, align the screw holes, then lightly secure the card with the supplied screws (Fig. 31 (1)). Secure the option card to the rear panel using the binding screws removed in step 2 (Fig. 32). Tighten all screws (Fig. 31 (1)).

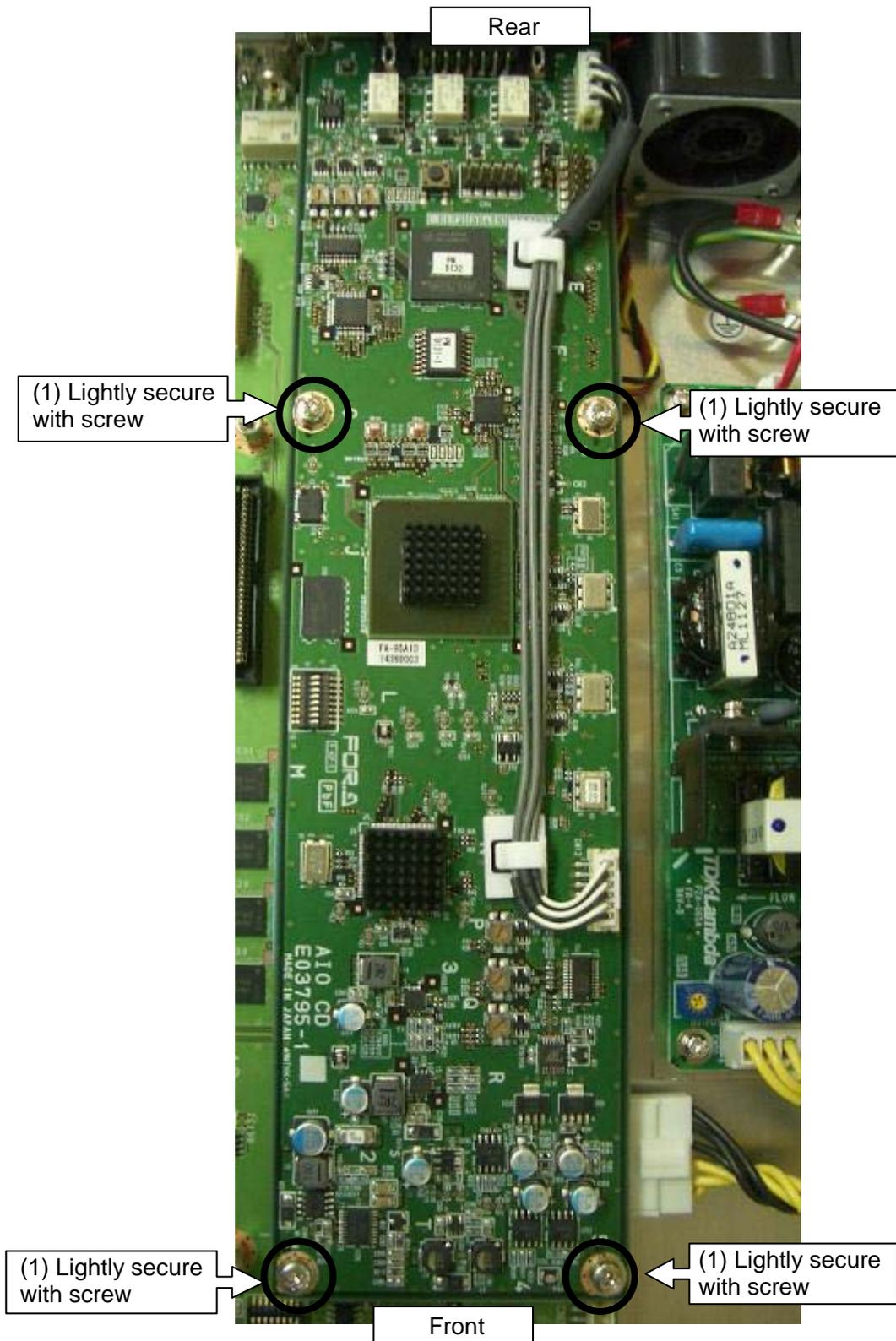


Fig. 31 FA-95AIO card installation

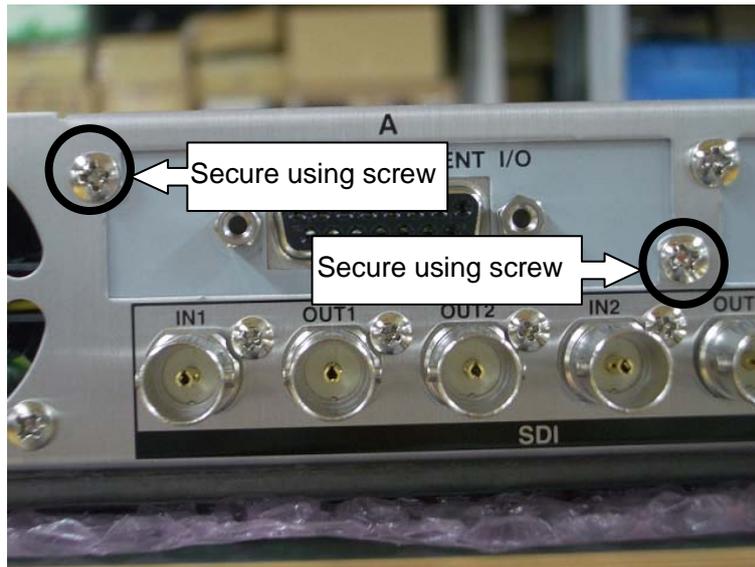


Fig. 32 Attachment to rear panel

9. Turn the power of the unit ON. Press the **VIDEO/AUDIO** button to light the button LED orange. Press the **STATUS/OTHER** button, press the single-down-arrow button 5 times (if the FA-95AIO is installed into Option Slot A. If installed in Slot B, press 6 times), then verify OPTION A VER NAME is indicated as FA-95AIO.

## 5-2-2. FA-95AIO FPGA1 Update (PM9132)(Required time: 30 sec.)

\* The PM data update procedure was tested using the Operation Systems.  
Windows XP / Windows Vista (32bit OS) / Windows 7 (32bit / 64bit OS)

1. Open the top panel of the FA-9500.
2. Connect the ByteBlaster II cable 25-pin male plug to the parallel port of a PC (or USB Blaster cable to a USB port).
3. Connect the ByteBlaster II 10-pin female plug to CN5 (Card address: C.4, 4.8) (Fig. 33).

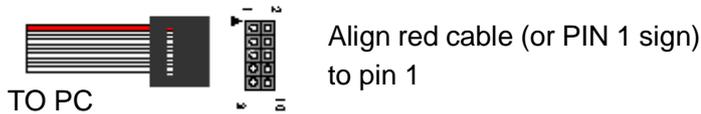


Fig. 33 ByteBlaster II (or USB Blaster) connection

4. Start Quartus II Programmer (11.1 sp2).
5. Check that ByteBlaster II (or USB Blaster) is selected (Fig. 34. (1)).  
If ByteBlaster II that is connected to PC is not selected, or "No Hardware" is displayed, click [Hardware Setup](Fig. 34. (2)) and select the connected ByteBlaster II (or USB Blaster).  
\* USB Blasters will not appear in the [Hardware Setup] list, unless they have been connected beforehand.
6. Select [JTAG] under [Mode] (Fig. 34. (3)).
7. Turn the power of the FA-9500 on.
8. Go to [File] > [Open], then open FPGA1.cdf. (Fig. 34. (4)).  
\* Keep the FPGA1.cdf and PM9132-x.pof files in the same folder.
9. Click Quartus II Programmer [Start] to update (Fig. 34. (5)).
10. If [Progress] indicates 100% and no error sign (in red) appears on the status bar at the bottom of the window, the update is complete.
11. Turn the power of the FA-9500 off, and disconnect the cable from CN5.
12. Close the top panel of the FA-9500.
13. Press the **VIDEO/AUDIO** button, then the button lights orange. Press the **STATUS/OTHER** button, and press the single-down-arrow button 5 times (if the card is installed into Option Slot A. If it is in Slot B, press 6 times), then verify the updated OPTION A VER FPGA 1 version is being displayed.

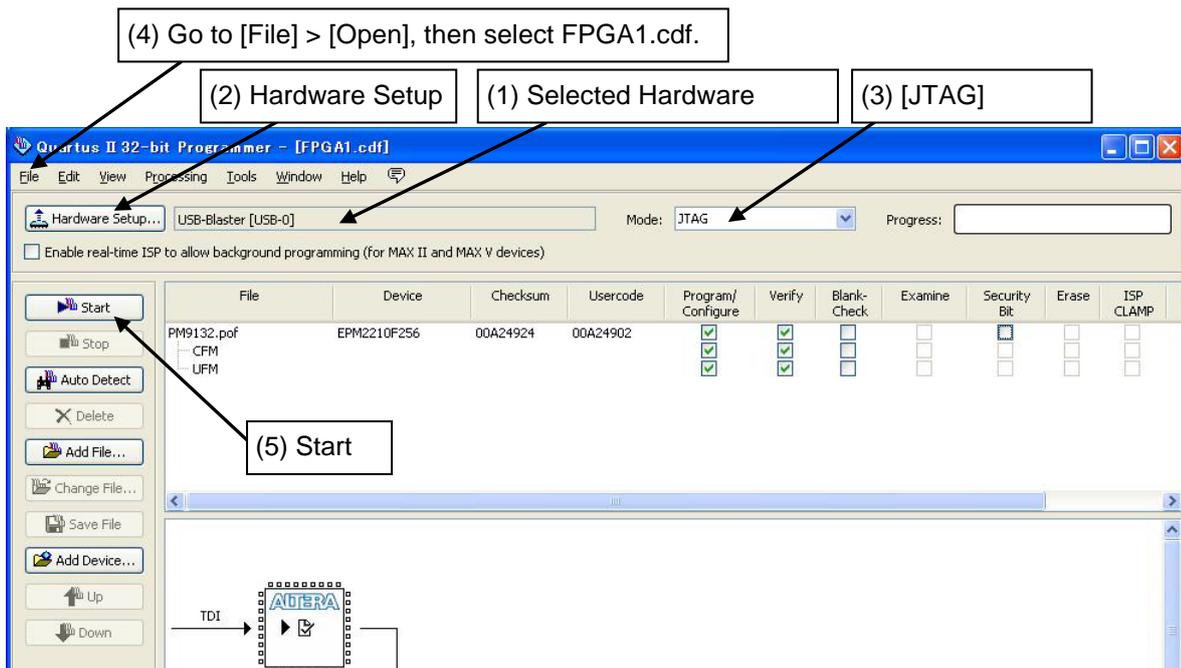


Fig. 34 CPLD Setting window

### 5-2-3. FA-95AIO FPGA2 Update (PM9131)(Required Time: 3 min.)

1. Connect the FA-9500 and PC using a LAN cable.
2. Start **FA9500Updater.exe**.
3. Enter the IP address (default IP address: 192.168.0.10)(Fig. 35.(1)).
4. Check Option Slot A or B in the Target section. (Fig. 35 (2))  
\* Check the slot where the option card is installed.
5. Select **FA-95AIO** under Option, then check **FPGA**. (Fig. 35 (3)) To automatically restart the FA-9500 after update, check **Restart after update**. (Fig. 35 (4))
6. Select the latest FPGA data under **Update File** (Fig. 35 (5)).  
\* Be sure to select a file that begins its filename with 'FA95AIO\_'.
7. Click **Update** to start updating (Fig. 35 (6)).
8. A message appears when the update is complete. Two messages appear if Restart after update is checked when both update and restart are complete.
9. Press the **VIDEO/AUDIO** button, then the button lights orange. Press the **STATUS/OTHER** button, press the single-down-arrow button 5 times (if the card is installed into Option Slot A. 6 times if it is in Slot B), then verify the updated FPGA2 version is being displayed.

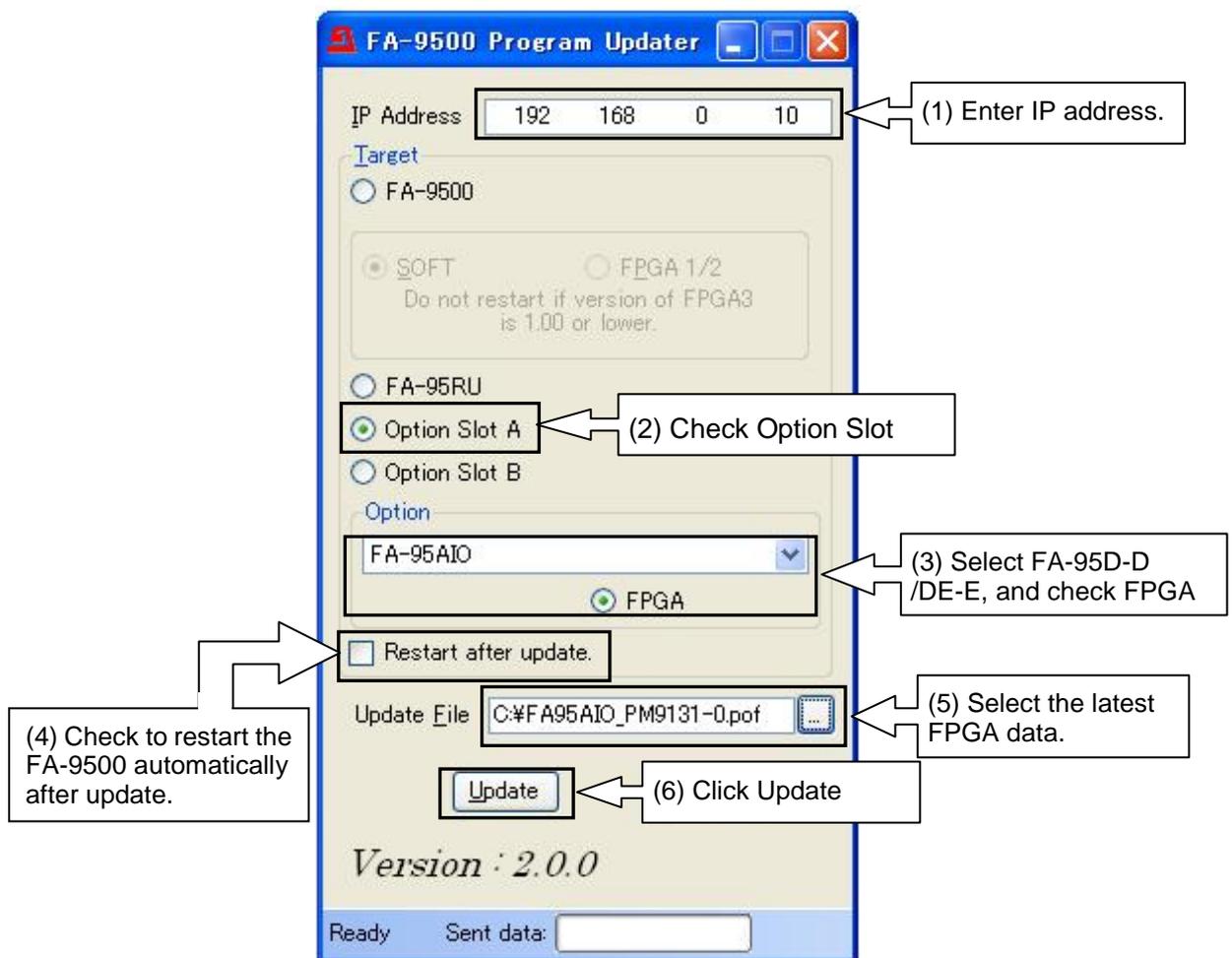


Fig. 35 FA9500ProgramUpdater window for FA-95AIO software settings

## 6. Software Option Installation

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### ◆ Equipment

- A PC with web browser, such as Internet Explorer (Firefox is recommended), installed
- LAN cable(s) (1 crossover cable, or 2 straight through cables)
- Hub (needed when using straight-through LAN cables)

### 6-1. Prior to Starting

---

Software options can be installed on-site. However, basically, we install software options at the factory to units sent back from users.

When installing on-site, send the following information for each serial number of the unit to the factory to receive an installation license code.

Required information for issuing license codes

- (1) Serial number of FA-9500
- (2) If there are software options already installed.
- (3) The name of the software option to be installed

\* Currently available software options are as shown in the table in Section 6-2, "Available Software Options".

### 6-2. Available Software Options

---

Software Option	Feature	Note
FA-95AVO	Auto Video Optimizer	Standard (Optional in Japan)
FA-95SCNV	Second Converter	
FA-95-3G	3G-SDI Support	
FA-95LG	Logo Generator	
FA-95CO	Change Over	

## 6-3. Installing Software Options

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1. Connect the FA-9500 and PC using a LAN cable.
2. Start Internet Explorer (Fig. 36).

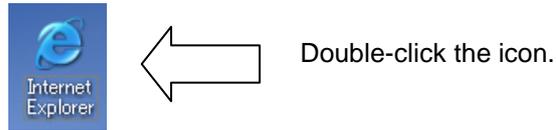


Fig. 36 Internet Explorer icon

3. Type <http://192.168.0.10/system/option.cgi> in the address bar. The confirmation dialog as Fig. 37 appears. Enter your user name and password.

\* In the underlined part of the above address, enter the IP address the user has set.  
(Default IP address is: 192.168.0.10)

User Name:	fa9500 admin (Enter a space between fa9500 and admin)
Password:	foranetwork



Fig. 37 Authentication dialog box

4. A web page similar to Fig. 38 appears. Check the options you are going to install (Fig. 38(i)).
5. Enter the issued installation licence code for the unit (Fig. 38(ii)).

6. Click **Submit** (Fig. 38 (iii)). If the installation is successfully complete, a message as shown in Fig. 39 appears. Click **OK**.

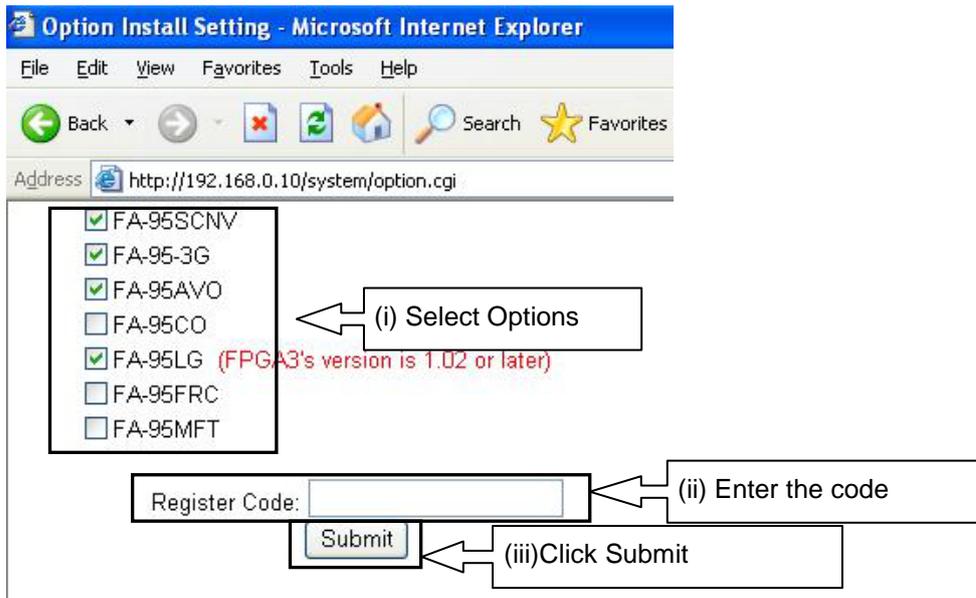


Fig.38 Software Option Installation window



Fig. 39 The installation completion message box

7. Restart the FA-9500, and press the **VIDEO/AUDIO** button on the front panel once, then the button will light orange.
8. Press the **STATUS/OTHER** button, then press the single-down-arrow button 8 to 9 times. The state of software options will be shown. Verify that the installed options are marked with "INSTALL". ("NONE" indicates uninstalled options.)

## 7. FA-95LG Data Transfer (When Replacing Unit)

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If the FA-9500 has the logo generator function supported, logo data should be stored in the FA-9500. Initializing the FA-9500 does not clear the logo data. Data clearance can be done from the FA-95LG GUI. See the FA-95LG GUI Operation Manual for details.

Find the **Save All Tool** stored on the same PC with the FA-95LG GUI, in case data backup is needed to replace the FA-9500 unit to be repaired. The **Save All Tool** allows all logo data to be transferred from the FA-9500 to the PC at once.

How to use the backup tool is given only in this Update Guide, not in the FA-9500 or FA-95LG GUI Operation Manual. Backup must be performed by qualified service personnel.

### ◆ **Save All Tool installation path**

C:\Program Files\FOR-A\FA-95LG GUI\LogoBackup.exe (32Bit OS), or  
C:\Program Files(x86)\FOR-A\FA-95LG GUI\LogoBackup.exe (64Bit OS)  
(Normally installed in this path)

## 7-1. How to Use The Backup Tool

---

Saving or restoring logo data of maximum storage size takes about 30 minutes. It is recommended to save or restore logo data when the FA-9500 is not in use.

**Note that logo data stored in the FA-9500 will be lost if the logo data restoration is performed.**

### 7-1-1. Backing Up Logo Data to PC

---

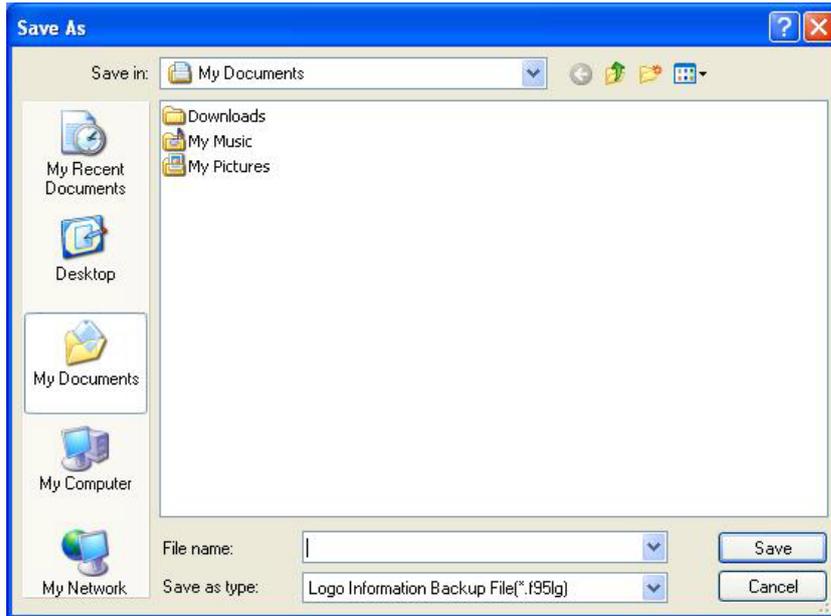
Start **C:\Program Files\FOR-A\FA-95LG GUI\LogoBackup.exe (32Bit OS)**, or  
**C:\Program Files(x86)\FOR-A\FA-95LG GUI\LogoBackup.exe (64Bit OS)**.

A window as shown below appears when the program starts.



- 1) Enter IP address and the port number of the FA-9500. The default port number is "50020". The port number, even if it is changed, can be viewed via web browser under **Logo Port Number** in the **NETWORK** tab. See the FA-9500 Operation Manual Edition 8 or later for details.
- 2) Select **Backup**.
- 3) Click **Start**.

4) Enter a filename, and select a folder to save the file to.



5) Click **Save** to save all logo data in the FA-9500 to the PC.

6) The progress window as shown below opens while saving data.



7) The progress window automatically closes when data saving process is complete.

<b>IMPORTANT</b>
Saving logo data of maximum storage size to a PC takes about 30 minutes. Although the FA-9500 can be operated while saving logo data, the processing speed is reduced. It is recommended to save logo data when the FA-9500 is not in use.

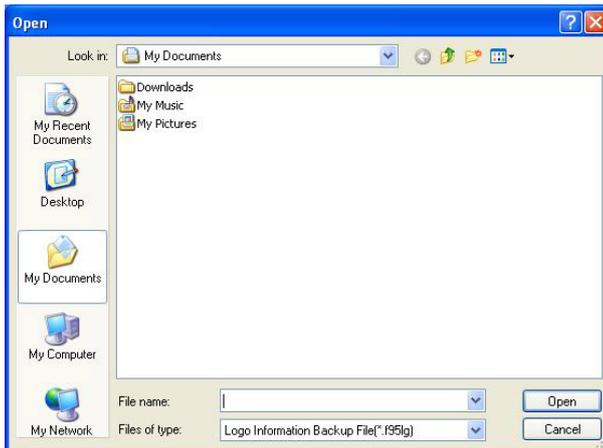
## 7-1-2. Restoring Backed Up Logo Data to The FA-9500 from PC

Start **C:\Program Files\FOR-A\FA-95LG GUI\LogoBackup.exe (32Bit OS)**, or **C:\Program Files(x86)\FOR-A\FA-95LG GUI\LogoBackup.exe (64Bit OS)**.

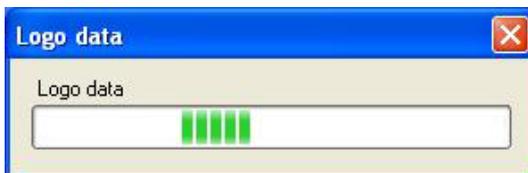
The window as shown below appears when the program starts.



- 1) Enter IP address and the port number of the FA-9500 to which to download the logo data. The default port number is "50020". The port number, even if it is changed, can be viewed via web browser under **Logo Port Number** in the **NETWORK** tab. See the FA-9500 Operation Manual Edition 8 or later for details.
- 2) Check **Restore**.
- 3) Click **Start**.
- 4) Select a folder in which logo data is saved.



- 5) Click **Open**. The progress window as shown below opens while restoring data.



- 6) The window automatically closes when data restoring process is complete.

IMPORTANT
<p><b><u>Note that logo data stored in the FA-9500 will be lost if the logo data restoration is performed.</u></b></p> <p>Restoring logo data of maximum storage size takes about 30 minutes. Although the FA-9500 can be operated while restoring logo data, the processing speed is reduced.</p> <p>It is recommended to restore logo data when the FA-9500 is not in use.</p>

## 8. Loading Older Version Data from FA-9500

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Event data created by an earlier version of software than 6.00 and files saved by the backup parameter function of the former version FA-9500 may not recall images as saved before, since software version 6.0 has been enhanced to include up/down/cross conversion in the second converter. Make sure to reset the settings shown below when loading events or files created by earlier version software.

However, Event data files created on software earlier than version 6.00 and that created on versions 6.00 and later cannot be shared due to a file format difference.

If the software of your FA-9500 is newer than version 6.00, the below resets are not required.

On the other hand, do not load event data and/or files created by software of versions later than 6.00 to FA-9500 units having software versions earlier than 6.00.

See FA-9500 Operation Manual section 9-6-2 Backup Parameter for details on the backup parameter function.

See section 8 Event Memory or 9-6-1 Event Control for details on event data creation.

Reset the following settings:

- All settings in CONV1 U/D MODE (Sec. 5-3-5)
- All settings in CONV2 U/D MODE (Sec. 5-4-1)
- ANTIALIAS H/V settings in CONV1 IMPROVE (Sec. 5-3-9)
- ANTIALIAS H/V settings in CONV2 IMPROVE (Sec. 5-4-5)
- All settings in CONV1 ANC SET (Sec. 5-10-9)
- All settings in CONV2 ANC SET (Sec. 5-10-10)
- All settings in ANC DETECT LINE (Sec. 5-10-14)
- All settings in ANC DETECT SEL (Sec. 5-10-15)
- All settings in ANC DATA EMBED (Sec. 5-10-16)
- All settings in ANC EMBED LINE (Sec. 5-10-17)
- All settings in ANC LOSS SET (Sec. 5-10-18)
- All settings in WSS AFD ERROR (Sec. 5-10-19)

The above resets are required for each piece of event data.

Older version event data saved in the FA-95RU also need their settings to be reset.

## 9. Troubleshooting

Problem	Check	Remedy
Unable to store setting and/or event data to the FA-95RU.	PC specs	Does your PC meet system requirements? Check the Software update System requirements in Section 1 "Equipment and System Requirements".
Unable to store setting and/or event data to the FA-9500.	PC specs	Does your PC meet system requirements? Check the Software update System requirements in Section 1 "Equipment and System Requirements".
Unable to update FPGA in the FA-9500.	Updating data	Is the update data selection of FPGA3 or FPGA1,2 proper? Check with the procedure shown in section 4-1 for FPGA3, and 4-2 for FPGA1,2.
Unable to install a software option.	PC specs	Does your PC meet system requirements? Check the Software update System requirements in Section 1 "Equipment and System Requirements".
	Serial number	Is the serial number of the FA-9500 you are trying to install software into correct? Installation license codes are issued for each serial number. Enter the correct license code for the corresponding serial number.
	Update item	Is the software checkbox checked? Check the software checkbox corresponding to the license code.
Unable to establish a connection between the FA-9500 and FA-95RU.	CONTROL SETTING	Is the CONTROL SETTING menu set to REMOTE? Set CONTROL SETTING to REMOTE.
	IP address	Are the FA-9500 and FA-95RU IP addresses unique? Verify and change IP addresses as necessary so that they are not identical.
	TCP Port Number	Is the set FA-9500 TCP Port Number correct? Connect the FA-9500 to a PC and verify TCP Port Number in NETWORK SETTING is 50010. If not, set TCP Port Number to 50010.
Unable to establish a connection between the FA-9500 and FA-95LG GUI.	IP address	Are the FA-9500 and FA-95LG GUI IP addresses unique? Verify and change IP addresses as necessary so that they are not identical. Also verify that no devices in the same network have identical IP addresses.
	Logo Port Number (FA-9500) Port number (FA-95LG GUI)	Are the set FA-9500 Logo Port Number and FA-95LG GUI port number correct? Login the FA-9500 via a web browser, go to Network > Network Setting, then verify Logo Port Number is 50020. Is the set FA-95LG GUI port number the same with FA-9500 Logo Port Number? If you have to change the FA-95LG GUI port number 50020 to a different number to connect to your system, make sure to set FA-9500 Logo Port Number the same.

Problem	Check	Remedy
The updated version is not displayed after an update.		Power off and on the unit, and verify the displayed version.
Unable to update using older version update data	File name	<p>Update tools version 2.00 and later are supported by the file name recognition function, which restricts and prevents unintended updates, with the introduction of FA-95D-D and FA-95DE-E. To use older version update data, change their file names.</p> <p>FA-9500 FPGA1:2.08 FPGA2: 3.00 SOFT: 3.00 To use older version FA-9500 update data, add "FA9500" to the beginning of the file name. e.g. PM8951.ais→FA9500_ PM8951.ais PM8950.pof→FA9500_ PM8950.pof</p> <p>FA-95RU SOFT: 2.00 To use older version FA-95RU update data, add "FA95FU" to the beginning of the file name. e.g. PM9073-**.ais→FA95RU_ PM9073-**.ais</p> <p><b>* Be careful when changing file names. An FA-9500 or FA-95RU that is updated using an improperly named update data file will not be able to start up. The unit will have to be returned to the factory for repair.</b></p> <p><b>If the file name is unable to be changed, use update tool 1.3.14. Do not use the update tool for FA-95AIO, FA-95D-D or F95DE-E updates, however.</b></p>

## Appendix: FA-95LG Test Logo

Test logos are provided for system adjustments as:

HD1080.tga (HD1080 test logo)

HD720.tga (HD720 test logo)

SD525.tga (SD525 test logo)

SD625.tga (SD625 test logo)

in the FA-95LG GUI standard installation path:

**C:\Program Files\FOR-A\FA-95LG GUI (32Bit OS), or**

**C:\Program Files(x86)\FOR-A\FA-95LG GUI (64Bit OS)**

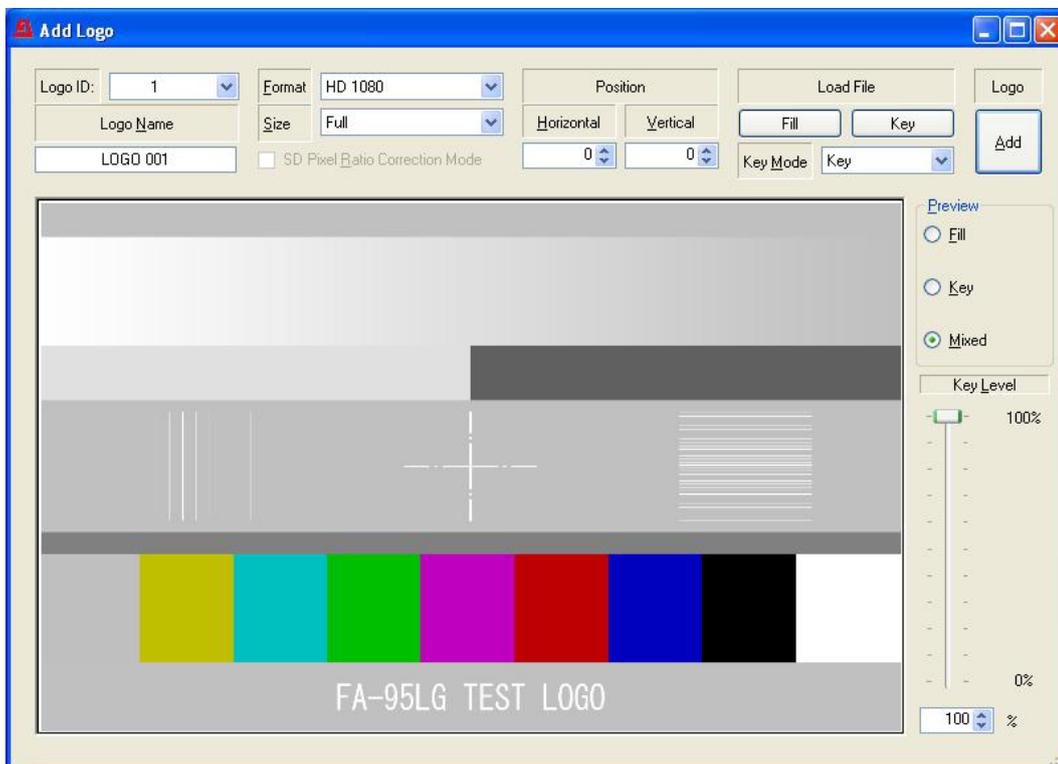
Be sure to uncheck  SD Pixel Ratio Correction Mode when loading SD525.tga or SD625.tga data to the FA-9500.

Also, set **Key Mode** to Key.

This test logo description is not provided in the FA-95LG GUI or FA-9500 Operation Manual.

Test logos are provided for the system inspection and adjustment.

Be sure to delete the test logo data from the FA-9500 when the inspection and/or adjustment have/has been completed.



A FA-95LG Test Logo sample (HD 1080)



## Appendix: FA-9500 Update Check List

FA-9500 Serial Number											
Customer facility											
Sub location											
Unit name											
Backup Yes/No											
Previous version	FPGA1										
	FPGA2										
	FPGA3										
	SOFT										
New version	FPGA1										
	FPGA2										
	FPGA3										
	SOFT										
Network	IP										
	SUB										
	GATE WAY										
Software option	FA-95AVO										
	FA-95SCNV										
	FA-95-3G										
	FA-95FRC										
	FA-95LG										
	FA-95CO										
Backup data reinstallation											
Restart											

## Appendix: FA-95RU Update Check List

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FA-95RU Serial Number											
Customer facility											
Sub location											
Unit name											
Backup Yes/No											
Previous version	FPGA										
	SOFT										
New version	FPGA										
	SOFT										
Network	IP										
	SUB										
	GATE WAY										
Backup data reinstallation											
Restart											

## Appendix: FA-95D-D/DE-E Update Check List

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FA-9500 Serial Number											
FA-95D-D/DE-E Serial No.											
Customer facility											
Sub location											
Unit name											
Previous version	FPGA 1										
	FPGA 2										
New version	FPGA 1										
	FPGA 2										

## Appendix: FA-95AIO Update Check List

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FA-9500 Serial Number											
FA-95AIO Serial Number											
Customer facility											
Sub location											
Unit name											
Previous version	FPGA 1										
	FPGA 2										
New version	FPGA 1										
	FPGA 2										





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\*The contents of this manual are subject to change without notice.