Agilent Technologies

E7400A Firmware Upgrade Procedure

Purpose:

The purpose of this document is to provide a step-by-step procedure for obtaining, and installing the latest revision of firmware and EMI Measurement software into an Agilent E7400A EMC Analyzer.

Procedure:

Be sure to follow all of the parts of this procedure to complete this upgrade process:

- Create The Firmware Upgrade Disk Set
- Install Firmware into the Agilent E7400A EMC Analyzer
- Restore the system defaults
- Performing the Instrument Self Alignment Routine
- Verifying the Installed Versions of Firmware & EMI Measurement Software

A. Create The Firmware Upgrade Disk Set:

NOTE: **It is important to point out that the seven disks which will be used to transfer the firmware to the analyzer should be freshly formatted diskettes!**

The seven disks can be labeled ahead of time as follows:

1. EMC Loader
2. EMC Firmware 1 of 5
3. EMC Firmware 2 of 5
4. EMC Firmware 3 of 5
5. EMC Firmware 4 of 5
6. EMC Firmware 5 of 5
7. EMI Measurements

1. Download the executable file to start the firmware upgrade procedure.
   Select the latest EMC Firmware Version download from the upgrade web page. A "Save As" dialogue text box will appear, as shown in **Figure 1**. This will allow you to store the Firmware Upgrade Executable in a directory of your choice.
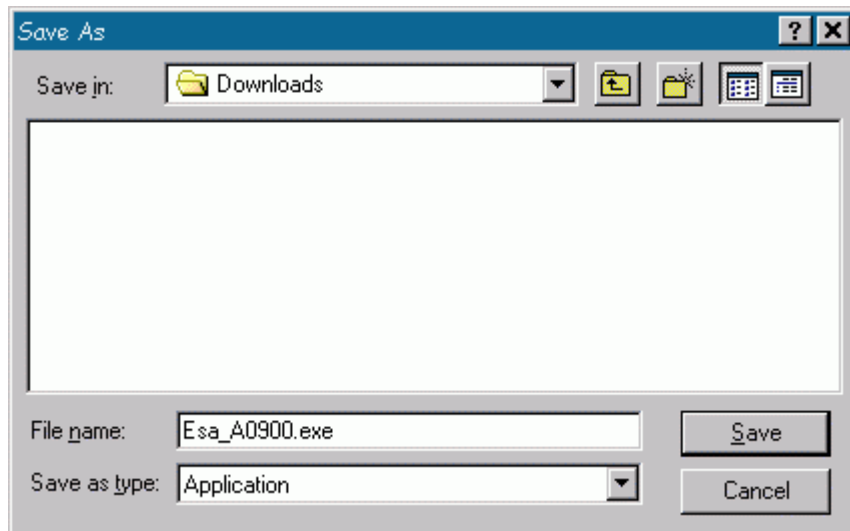
Figure 1

2. Double click on the Firmware Upgrade Executable file which was stored locally.
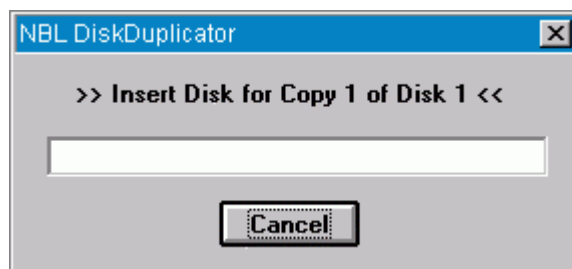The text box shown in **Figure 2** will briefly flash on the display.

Figure 2

NOTE: This flashing text box will be replaced with the text box shown in Figure #3 if a disk is not inserted within approximately 10 seconds
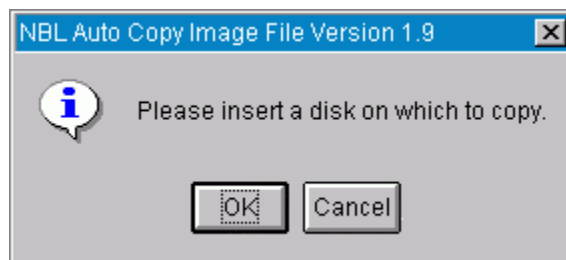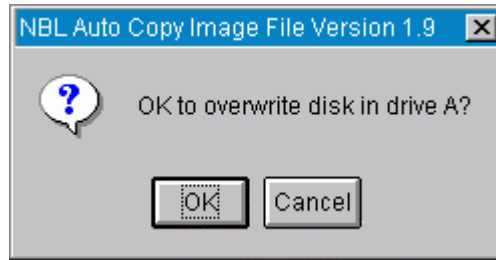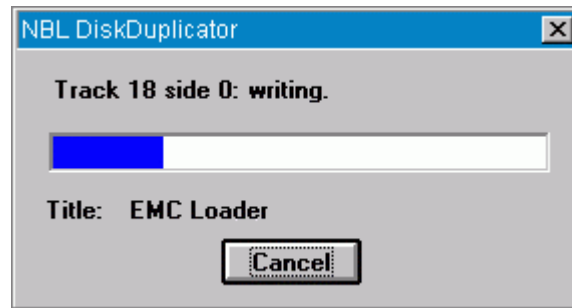

Figure 3

3. Insert the floppy diskette labeled "EMC Loader" into the disk drive and click on "OK".
   The text box shown in **Figure 4** will be displayed which verifies if it is OK to overwrite the diskette.

Figure 4

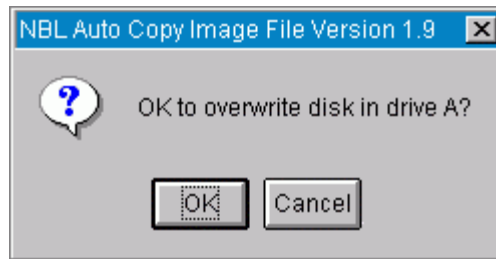4. Click on "OK" and wait for the Firmware Upgrade Executable to create the "EMC Loader".
   The text box shown in **Figure 5** will be displayed as the tracks are recorded onto the diskette.

Figure 5

5. Wait for the Firmware Upgrade Executable to display the text box which verifies that it is OK to overwrite the next diskette.
   The text box will look like the one shown in **Figure 6**.

Figure 6

6. Insert the floppy diskette labeled "EMC Firmware 1 of 5" into the disk drive and click on "OK". The text box shown in **Figure 7** will be displayed as the tracks are recorder onto the diskette.
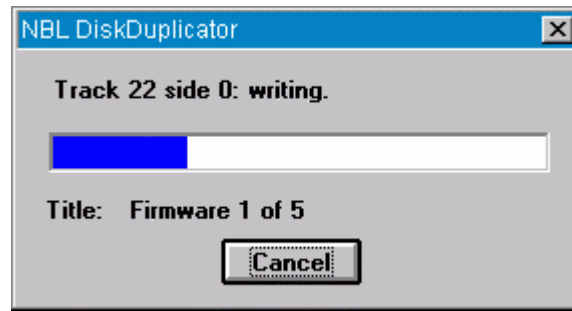
Figure 7

NOTE: Once the second diskette is created, the Firmware Upgrade Executable will again prompt you to insert the next diskette, and ask if it is OK to overwrite. To proceed, insert the next diskette and click OK.

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7. Create the remaining five diskettes, "EMC Firmware 2 of 5", "EMC Firmware 3 of 5", "EMC Firmware 4 of 5", "EMC Firmware 5 of 5", and "EMI Measurements" using the same process for generating the previous diskettes. After all seven firmware upgrade diskettes have been created, the text box shown in **Figure 8** will be displayed.
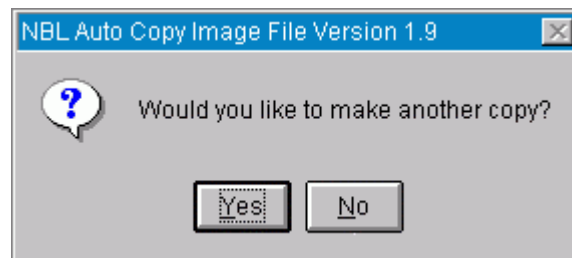
Figure 8

B. Install Firmware into the Agilent E7400A EMC Analyzer:

1. Insert the floppy diskette labeled "EMC Loader" into the disk drive and cycle power.
   After several seconds the EMC Firmware Loader utility window will appear on the display of the Agilent E7400A. It will prompt you for the first of the firmware diskettes.

2. Insert the floppy diskette labeled "EMC Firmware 1 of 5" into the disk drive and press **{CONTINUE}**.
   After several seconds the analyzer will display the revision of firmware which will be loaded into the analyzer (A.06.00), along with the number of firmware diskettes that you should have (5). It will again ask you to press **{CONTINUE}** if you would like to proceed with the firmware upgrade.

3. Press **{CONTINUE}** and wait for the first firmware disk to load.
   It will take approximately 5 minutes for this disk to load into the analyzer.

4. When prompted, insert the floppy diskette labeled "EMC Firmware 2 of 5" into the disk drive and press **{CONTINUE}**.
   It will take approximately 5 minutes for this disk to load into the analyzer.

5. When prompted, insert the floppy diskette labeled "EMC Firmware 3 of 5" into the disk drive and press **{CONTINUE}**.
   It will take approximately 5 minutes for this disk to load into the analyzer.

6. When prompted, insert the floppy diskette labeled "EMC Firmware 4 of 5" into the disk drive and press **{CONTINUE}**.
   It will take approximately 5 minutes for this disk to load into the analyzer.

7. When prompted, insert the floppy diskette labeled "EMC Firmware 5 of 5" into the disk drive and press **{CONTINUE}**.
   It will take approximately 3 minutes for this disk to load into the analyzer. After the firmware has been loaded off of the fifth diskette, the Firmware Installation Verification window will be displayed on the analyzer.

8. Press **{CONTINUE}** and wait for the analyzer to copy the firmware into Flash memory.
   It will take approximately 3 minutes for this process to take place.

NOTE: It is extremely important to **NOT CYCLE POWER** while the process being performed in this step is taking place. Doing so will disrupt the installation of the firmware and will prevent the firmware from making a proper installation.

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9. Once the copying of the firmware to Flash memory has completed, cycle the power of the analyzer.
   When the instrument boots back up you will be prompted to install the latest version of the EMI Measurement software, if it is not already installed.

10. If prompted to do so, insert the floppy diskette labeled "EMI Measurement" into the disk drive and press **{Okay}**
    It will take approximately 5 minutes for this disk to load into the analyzer.

11. When the "EMI Measurement" diskette has finished loading cycle the power of the instrument.

C. Restore System Defaults:

After the firmware has been upgraded the instrument needs to have the system defaults restored to accommodate any new features that may use these. To restore these defaults perform the following these keystrokes:

[System] {More} {Restore Sys Defaults} {Restore Sys Defaults}

D. Performing the Instrument Self Alignment Routine:

After the firmware has been upgraded the instruments internal alignment routine will need to be run. To perform the alignment follow these keystrokes:

[System] {Alignments} {Align Now} {All}

NOTE: It is necessary to connect the calibration cable and adapters provided with your E7400A EMC Analyzer between the AMPTD REF OUT and the INPUT, for all models except the E7401A.

E. Verifying the Installed Versions of Firmware & EMI Measurement Software:

1. In order to verify the revision of firmware, follow these keystrokes:

    Press [System]
    Press {More}
    Press {Show System}

    The 5th line down on this screen should now display the version of firmware that was just loaded.

2. In order to verify the revision of the EMI Measurement software, follow these keystrokes:

    Press [System]
    Press {More}
    Press {Personalities}

    The EMI Measurements version should now be: **A.08.01**

Last Update: **10 September 2004**