DDRC-88A

MAIN BOARD FIRMWARE UPDATE PROCEDURE

⚠️ NOTICE

This procedure updates the main board firmware of DDRC-88A units shipped prior to August 2016. **Do not apply this procedure unless instructed by miniDSP Support.**

If you have think that you have a DDRC-88A that requires this update, contact miniDSP support to verify before starting.

**Revision history**

<table>
<thead>
<tr>
<th>Revision</th>
<th>Description</th>
<th>Date</th>
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<tr>
<td>1.0</td>
<td>Split from Legacy DDRC-88A User Manual</td>
<td>31 July 2020</td>
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1 SUMMARY

The main board firmware of the DDRC-88A was updated in August 2016 to support the DDRC-88BM plugin. Units shipped prior to that should have been updated by now. If they have not, then this document describes the procedure.

Do not apply this procedure unless instructed by miniDSP Support.

If you have think that you have a DDRC-88A that requires this update, contact miniDSP support to verify before starting.

To perform the upgrade, you will need to follow these steps:

1. Install the DDRC-88BM plugin, as described in the DDRC-88A User Manual.
2. Upgrade the main I/O board firmware. See Section 2 starting on page 4.
3. Upgrade the SHARC daughterboard firmware, as described in the Section “MCU Firmware update” in the DDRC-88A User Manual.

You must update all firmware and software for the DDRC-88A to function correctly afterwards. This applies whether or not you are using the plugin in enhanced/bass management mode. You cannot do a partial update.

If you were previously using the DDRC-88 Utility, we strongly recommend that you uninstall it after completing the upgrade to avoid the possibility of accidentally running it and corrupting the DSP code (which can potentially cause damage to your system).
2 MAIN I/O BOARD FIRMWARE UPDATE

The procedure described in this section is a necessary update for all DDRC-88A units loaded with main board firmware less than Version 2.2. These units were shipped prior to August 2016.

2.1 PREPARE FOR INSTALLATION

Place the DDRC-88A on a flat level surface. Remove power and all other connections.

1. Remove the six cross-head screws (two on the rear, and two on each side on the rack ears). Hinge up the top panel from the rear and then lift it up to remove it completely from the unit.

2. With the front panel of the DDRC-88A facing you, view the DSP daughterboard and the connecting cables. The location of the connector that will need to be moved is indicated in this diagram and photograph:

3. Carefully unplug the connector (the one closest to the bottom of the photograph above) from the daughterboard. *Grasp it by the connector body to remove it. Do not simply pull on the wires.* You may need to wriggle it *slightly* to help ease it off.
4. Reconnect the plug to the 5-pin header on the main board, labeled “J34,” below and to the right. This is shown in the photograph below (two different views). **Ensure that the five pins are correctly seated.**

Note carefully the orientation of the connector: the red wire is nearest to the DSP daughterboard.

*View from top of board*

*View from front panel*

**Do not force the connector.** If it does not slide on with a small amount of pressure, you have not positioned the connector correctly and will damage it if you try to force it on.
2.2 UPDATE THE MAIN I/O BOARD FIRMWARE - WINDOWS

1. Apply power to the DDRC-88A and connect the rear panel USB port to your computer with a USB cable.
2. Navigate to the Plugins folder of the software download and then to the Windows folder.
3. Double click on the MiniDSP_8x8_IO_v2.3.exe installer and step through it.
4. The MiniDSP-8x8-IO utility will automatically run when the installer completes:

5. Click on the Connect button.
   a. If your unit does not require a firmware upgrade, the connect button will change to a green tick. Jump ahead to step 1.
   b. If your unit does require a firmware upgrade, a warning dialog will pop up. Click OK:

   ![MiniDSP-8x8-IO Utility](image)

   ![Upgrade Firmware](image)

   ![Device attached](image)

   ![DDRC-88A boot loader mode](image)

   c. The DDRC-88A will automatically be put into boot loader mode and the miniDSP upgrade utility will start. The status area should display “Device attached”.

   ![MiniDSP upgrade utility](image)
d. Click on the **Open Hex File** button and select the `miniDSP_2x8_8x8_v2.10_release.hex` file in the **firmware** folder of the download.

⚠️ **You must** select the correct firmware file. Check the file name carefully.

e. Click on the **Program/Verify** button. The status bar will indicate progress. **Do not disconnect the USB cable or remove power** from the processor while this runs!

f. After the status indicates that the verify has completed successfully, click on the **Reset Device** button, and then quit the upgrade utility.

g. Return to the MiniDSP-8x8-IO utility. (If there is a dialog informing "Connection to DSP closed," click on **OK.**) Click on the **Connect** button. It will change to a green tick.

1. Click on “Load Factory Default to the Board.” At the warning, click Yes.

2. When the completion message below displays, click on **OK** and then quit the program.

3. Click on the **About** button to confirm the new firmware version.

4. You can now uninstall the MiniDSP-8x8-IO program, as it is no longer needed. Use the Uninstall feature of the Windows Control Panel.
2.3 **UPDATE THE MAIN I/O BOARD FIRMWARE - MAC**

1. Apply power to the DDRC-88A and connect the rear panel USB port to your computer with a USB cable.
2. Navigate to the **Plugins** folder of the software download and then to the **Mac** folder.
3. Double-click on the **MiniDSP_8x8_IO_v2.3.pkg** installer program to run it.
4. The MiniDSP-8x8-IO utility will automatically run when the installer completes:

   ![MiniDSP-8x8-IO Utility](image)

5. Click on the **Connect** button.
   
   a. If your unit does **not** require a firmware upgrade, the connect button will change to a green tick. Jump ahead to step 6.
   
   b. If your unit **does** require a firmware upgrade, a warning dialog will pop up. Click OK.
   
   c. The DDRC-88A will automatically be put into boot loader mode and the miniDSP upgrade utility will start. The status area should display “Device attached” and then “Device Ready.”

   ![USB Bootloader v2.9](image)
d. Click on the **Import Firmware Image** button and select the `miniDSP_2x8_8x8_v2.10_release.hex` file in the **firmware** folder of the download.

![](danger.png) You must select the correct firmware file. Check the file name carefully.

e. Click on the **Erase/Program/Verify Device** button. The status bar will indicate progress. **Do not disconnect the USB cable or remove power** from the processor while this runs!

f. After the status indicates that the verify has completed successfully, click on the **Reset Device** button, and then quit the upgrade utility.

g. Return to the MiniDSP-8x8-IO utility. (If there is a dialog informing "Connection to DSP closed," click on **OK.**) Click on the **Connect** button. It will change to a green tick.

6. Click on “**Load Factory Default to the Board.**” At the warning, click Yes.

7. When the completion message below displays, click on OK and then quit the program.

8. Click on the **About** button to confirm the new firmware version.

9. You can now uninstall the MiniDSP-8x8-IO program, as it is no longer needed. Locate it in the Applications/MiniDSP folder and drag it to the Trash.
2.4 **RESTORE THE CONNECTORS AND CLOSE UP**

1. Remove power from the DDRC-88A.

2. Grasp the body of the five-pin connector and pull it straight up. *Do not pull on the wires.*

3. Reposition the connector as shown in the photographs below, and push it onto the five-pin header until it has seated properly. Note carefully the orientation of the connector: the red wire is nearest to the other connector.

*View from top of board*

4. Replace the lid and re-install the six screws.

2.5 **COMPLETING THE UPGRADE**

Now upgrade the SHARC daughterboard firmware, as described in the Section “MCU Firmware update” in the [DDRC-88A User Manual](#).