This installation guide is meant for E! boards with serial numbers higher than 11,000. Please note that while this procedure is fairly straightforward, **Grey Matter strongly recommend that you defer installation to a qualified service technician.** Certain knowledge is taken for granted regarding installation instructions. If, therefore, the instructions appear vague and unclear, you should not attempt the installation of E! yourself. Grey Matter Response, Inc. assume no responsibility for any damage that installation of the E! system may cause!

Before you even THINK of installing the E! board, you should note that all of the voices that are currently in the machine will be lost as consequence of the installation process. You should back up all voices in the machine before continuing.

You will need the following:
1. a phillips-head screwdriver
2. a regular screwdriver
3. a low-power soldering device
4. some solder
5. You may also find it useful to refer to Yamaha's DX7 service manual.

Check your DX7 serial number
If your DX7 is numbered lower than 2660 and you have NEVER had the ROM system software updated, you will need to perform some minor software modifications to the instrument before you can install your E! board. Information of the required modifications is available from YAMAHA (Service news C84-3).

Open the DX7

Use your phillip's-head screwdriver to remove the five screws that hold the DX7's "hood" in place (don't forget the screw behind the power switch).

DM board

Battery (do not touch)

Screw #1

Screw #2

IC 63

ROM IC 14   RAM IC 21
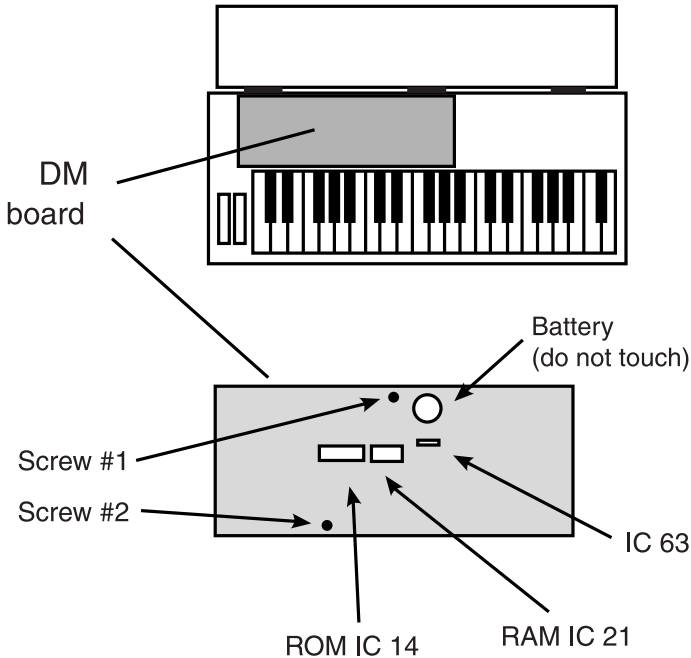
Remove IC's 14 and 21

Both chips are socketed, and therefore should be easy to remove. Simply use a small flat screwdriver to GENTLY pry the chip from its socket. Save these chips, as you will need them if your E! board should ever need to be removed (fat chance!).

Remove Screws 1 and 2.

Solder the two wires to IC 63.

The Red wire is soldered to pin #7
The Black wire is soldered to pin #10

pin #7
(Red wire)

IC 63

pin #10
(Black wire)
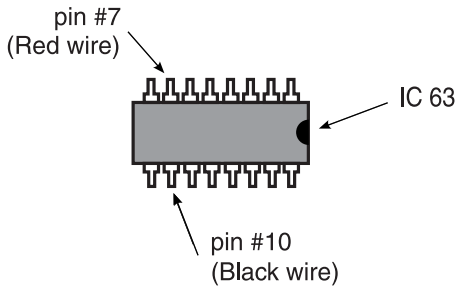
Gently insert E! into sockets 14 and 21, making sure that the pins don't get bent. Inspect the connections. When you are confident of E!'s proper placement, press down on the E! board firmly to lock the pins into place. If the board is not correctly and firmly placed, the DX7 may lose memory when power is off or memory may not be loadable.

E!

DM
board

These pins must
line up

The right edge of
these pins must
line up
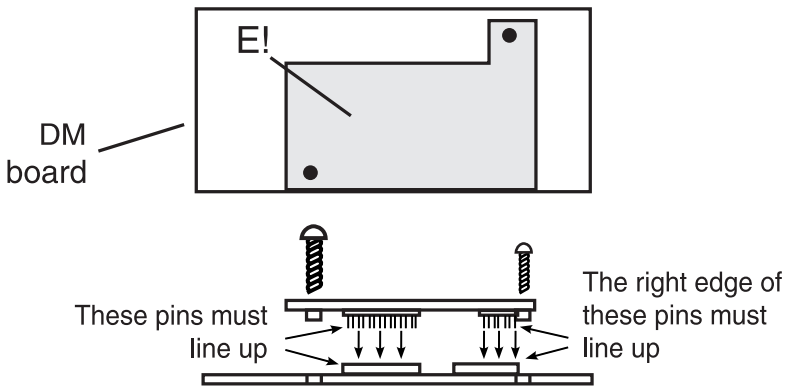
Attach the two new screws.

Before using your E!quipped DX7 it is very important that you follow this short initialization procedure very carefully. Please understand that *E! WILL NOT WORK CORRECTLY UNLESS YOU HAVE FOLLOWED THIS INITIALIZATION.* To run the procedure, turn the DX7 off and then turn it on again. Now, simply press the buttons that are listed below and use the data entry slider to set the parameters to the indicated value.

Remove the internal memory protection and set the RAM format:
   press   1. the FUNCTION button
           2. the OPERATOR Select button two times

3. button 31 two times
(turn Internal Memory Protect OFF)
4. button 20
(set RAM format to VOICE)

Now all of the voices in your DX7 must be reset. Follow this next procedure for each of the 10 banks of RAM:

(A) Choose a RAM bank. Press:
1. INTERNAL Memory Select
2. Move the data entry slide to choose a bank number
3. Choose a voice to make that bank "active".

(B) Erase that bank. Press:
4. the FUNCTION button
5. the OPERATOR Select button two times
6. button 19 three times
(answer YES to Bank Erase)

Remember to do this for ALL Voice banks

While you are still at the Data Erase parameter, you need to clear the Input Patch Map, and Keyboard Presets. Press:
1. button 19
(answer YES to Patch Map Erase)
2. button 19
(answer YES to Keyboard Preset Erase)

Insert a RAM or ROM cartridge into the cartridge slot. Press:
1. the Cartridge Memory Select button
2. Choose a voice to make the cartridge "active"

Now enter the Function Page to clear the global function data. Some buttons have more than one function - to set each parameter for these buttons, simply press the button repeatedly until the screen displays the proper function. Press:
1. the FUNCTION button
2. button 2 (set to POLY)
3. botton 3
(set the Pitch Bend Range to 12)
4. button 4
(set the Pitch Bend Step to 0)
5. button 5
(set the Portamento mode to RETAIN)

6. button 6
(set the Port/Gliss to OFF)
7. button 7
(set the Portamento Time to 00)
8. button 8
(MIDI Volume=7, DX Volume=7)
9. button 9
(AUX Patch=000, Main Patch=000)
10. button 10
(MIDI Curve=LIN1, DX Curve=LIN1)
11. button 11
(MIDI HI=127, MIDI LO=16 DX HI=127, DX LO=000)
12. button 12
(MIDI Shift=000, DX Shift=000)
13. button 13
(Keymode=NORM,Random Detune=0)
14. button 14
(MIDI Transpose=00, Timbre=63)
15. button 15
(MIDI HI=127, MIDI LO=000 DX HI=127, DX LO=000)
16. button 16
(MIDI Out channel=01)

Now clear other misc. registers. Press
1. the OPERATOR Select button
2. button7
(set the Controller Merge (CONT), the Sequencer merge (SEQ), and the Key Merge (KEY) OFF)
3. the OPERATOR Select button three times
4. button 13
(set the LED Brightness to a comfortable level)

Your E!quipped DX7 should now be properly initialized.