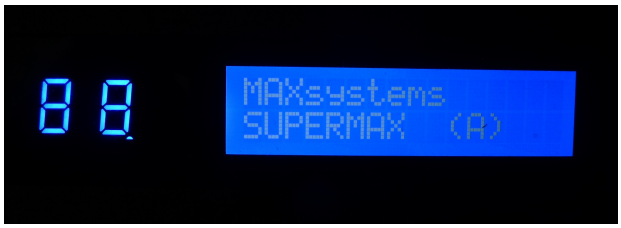
Music Technologies Group



Yamaha DX7 SuperMAX
Installation Guide

Version 1.00
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CONTENTS

1: Introduction 3

Precautions! 3
Tools Required 3
Condition of DX7 4

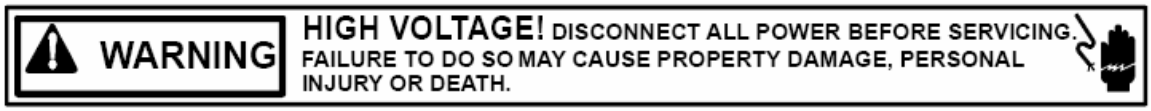
2: Installation 4

Open the DX7 4
Remove the Keyboard Rail (Recommended but Optional) 4
Remove the EPROM and SRAM ICs 5
Install SuperMAX Board 6
Reassembly 7
Test 7

1: Introduction

The SuperMAX is a very powerful do-it-yourself option that provides increased memory and greater control of the DX7. While the installation is fairly simple, it still requires some patience and general electronics knowledge. We accept no responsibility for the work you perform on your DX7. Read over the following installation description and if you feel you are not capable of the work required, turn the project over to a qualified technician.

Precautions!



High Voltage Safety Warning

Turn the DX7 power switch OFF and disconnect the AC power cable before opening the DX7.

ESD Precautions and Proper Handling Procedures

You should observe standard static-safe handling behavior when working with sensitive electronic equipment such as synthesizers:

- Avoid carpets in cool, dry areas.
- Dissipate static electricity before handling any system components by touching a grounded metal object.
- If possible, use anti-static devices, such as wrist straps and floor mats.
- Take care when installing the board. A damaged pin can render the board unusable.
- Prevent damage to the connectors by aligning connector pins before you apply pressure. A damaged pin can render the board unusable and can cause damage to system components at power-on.
- If disconnecting a cable, always pull on the cable connector, not on the cable itself.

Tools Required

- Standard flat-head screwdriver (small).
- Standard Philips screwdriver.

Condition of DX7

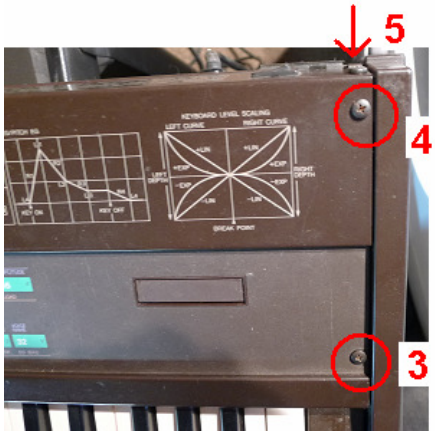
While the SuperMAX will replace the functionality of damaged or missing EPROM and/or SRAM chips, it will not correct other problems your vintage synthesizer may have. It is recommended that the synth be in otherwise good condition before beginning the installation. For instance, the battery voltage should be checked and the battery replaced if necessary. Sockets for the EPROM and SRAM chips should be in good working order and not be dirty, oxidized, rusted or otherwise compromised. If repair is required, do it before installing SuperMAX.

2: Installation

Open the DX7

Using a Philips head screwdriver, remove the 5 screws from the front panel. Two are located on the left front. Two are located on the right front. A final one is located on the right rear. Set the screws aside, noting that the rear panel one is the shortest.

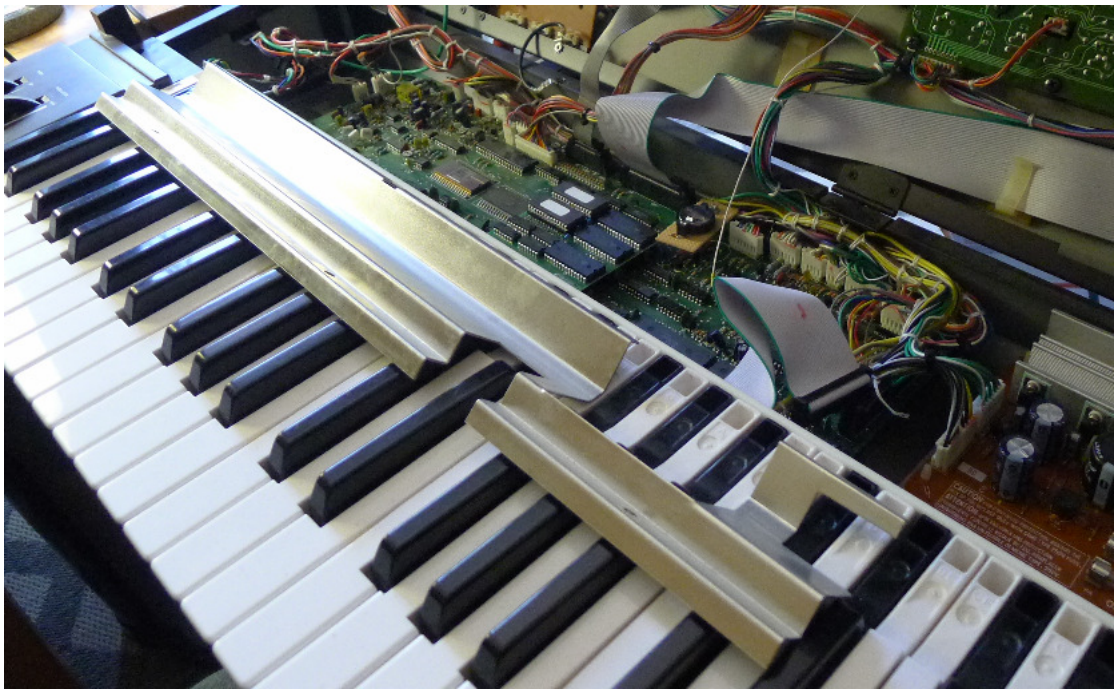




Remove the Keyboard Rail (Recommended but Optional)

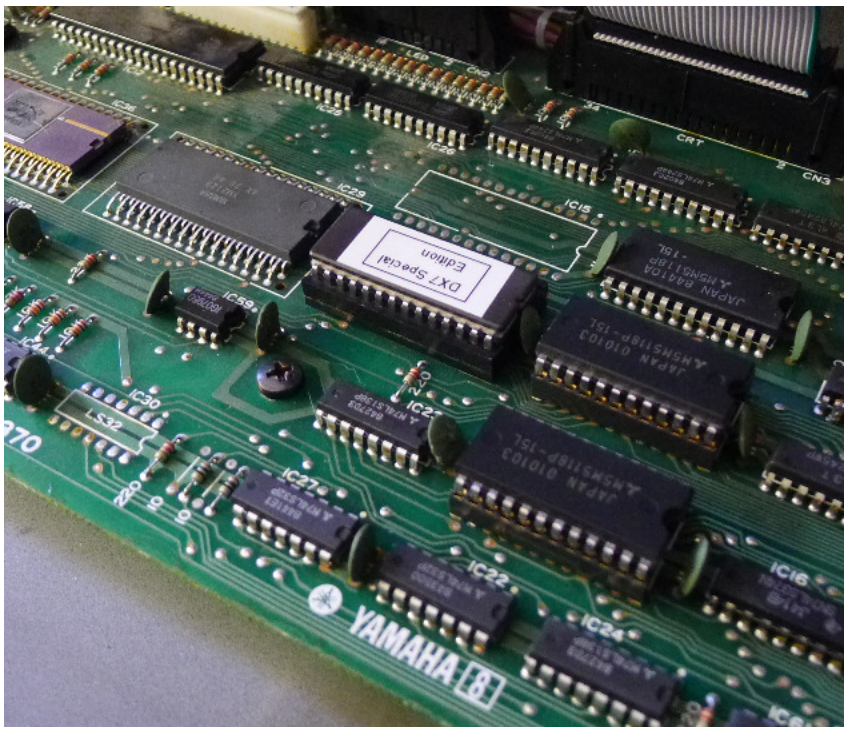
It can be difficult to see the pins when installing the SuperMAX board. By removing the keyboard rail, you will have better sight lines and freedom of movement when installing the board.

Remove the four (4) screws from the underside of the keyboard. Loosen the 3 internal screws at the extreme right and left ends that hold the keybed in place. Lift the keybed slightly up and forward an inch or so. This will give you access to the 3 screws holding the keyboard rail in place. Remove those three screws. The removed rail is visible in the next photograph.



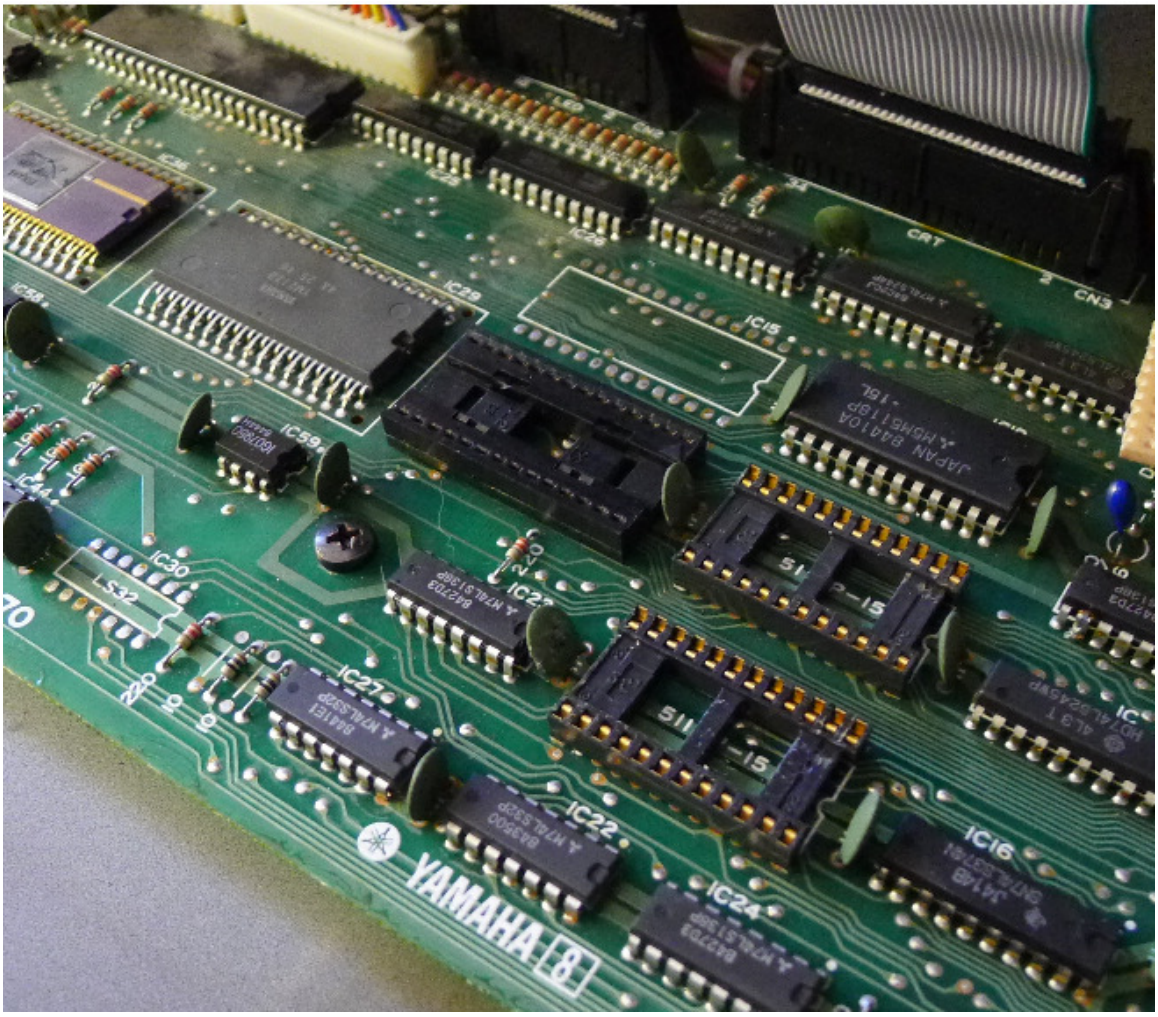
Remove the EPROM and SRAM ICs

The next step is to remove the one EPROM and two SRAM ICs. The EPROM is found in location IC14 and the two M5M5118P SRAM chips are located at IC21[1] and IC20. Place them safely aside on anti-static foam. You can use the reverse side of the foam shipped with the SuperMAX.



These two photos show the 3 chips in place and then removed.

[1] Some models of DX7 use different IC numbering schemes. Refer to the photographs if in doubt.

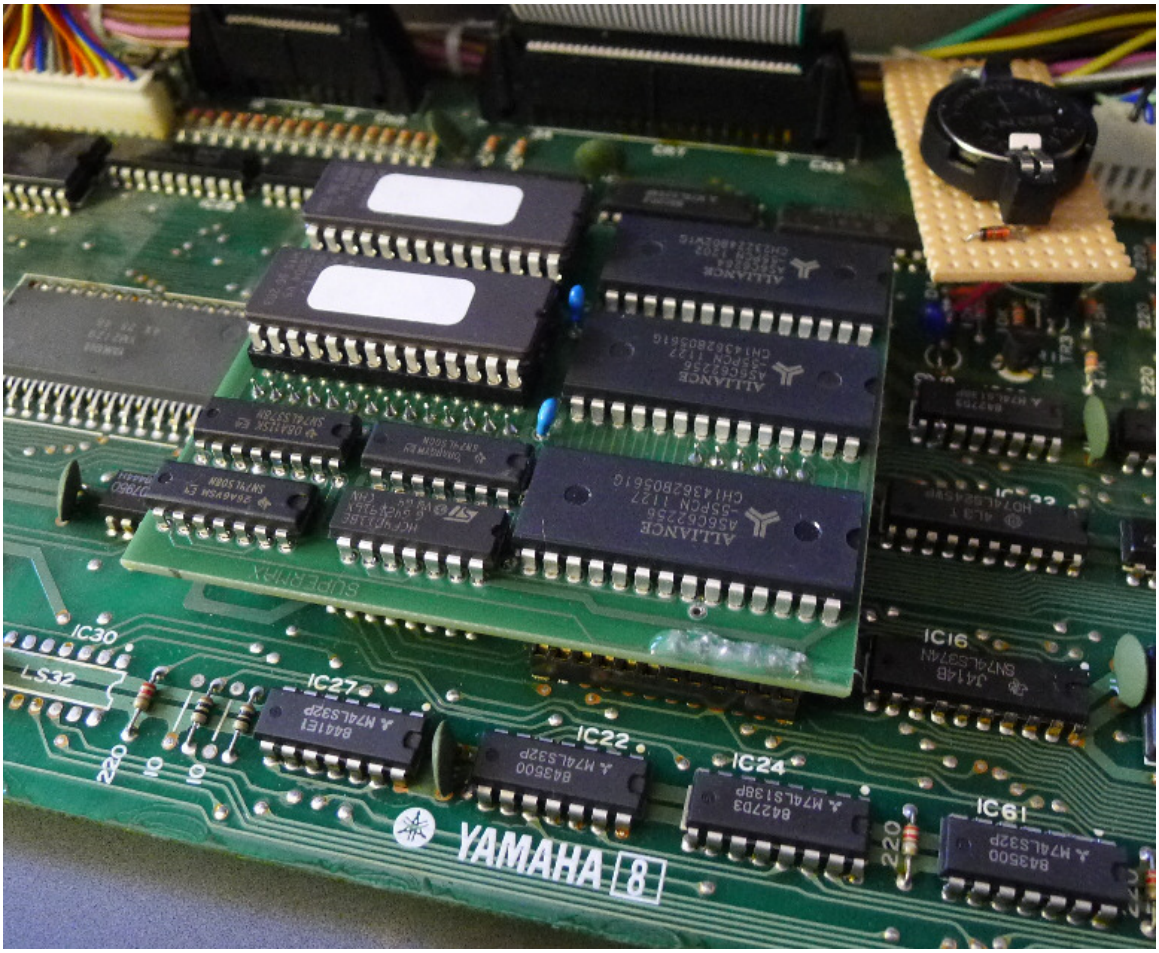


Install SuperMAX Board

Remove the SuperMAX board from it's anti-static packaging. Inspect the bottom of the board to make sure none of the pins have been damaged. You should see one collection of 28 pins (2 parallel strips of 14 pins) and then two more strips of 6 pins each (slightly staggered).

Place the SuperMAX board gently on the DX7 main board so that the 28 pins that form a DIP package align with the vacated IC14 spot. Do not press it in place yet. Make sure the two other small pin headers align correctly with spaces in IC20 and IC21. You can use a small mirror to check the pin alignment.

Once you are happy that all the pins are aligning with the desired locations, firmly and evenly press the SuperMAX board in place. Note that there are no screws holding the board in place so keep this in mind if you tour with your DX7.



Reassembly

Carefully reassemble the DX7 in the reverse order taking care to replace the correct screws in the various locations.

Test

The first time you power the DX7 on (and any time you change the battery) you will notice about a 5 second delay before the LCD shows it's initial message. Eventually you should get the message as shown on the cover page of this document. Your SuperMax'd DX7 has two factory sound banks loaded. Thirty-two banks total are available (512 patches). Consult the User Guide for more information on using your upgraded DX7.