

# Upgrade your Yamaha DX7 II-D to Yamaha DX7 II-FD

February 2009

By CloudsWalker

[www.cloudswalker.com](http://www.cloudswalker.com)

## Missing Parts on the Yamaha DX7 II-D :

- IC5 Integrated Circuit 16 pin DIL : TC40H174P  
6 x D-Flip-flop, can be replaced by 74HC174
- IC6 Integrated Circuit 14 pin DIL : 7405 (TTL)
- IC22 Integrated Circuit 28 Pin DIL : HM65256BLP12  
SRAM, can be replaced by HM62256LP12 or equivalent
- IC23 EPROM 27512 or 27C512 for the new Operating System
- IC24 Integrated Circuit 28 Pin DIL : WD1772-PH (1986)  
Western Digital Floppy Disk Controller
- RM5 1k pull-up resistor pack
- !!! 3,5 inch Floppy Disk with Drive Select 0 !!!
- CN1 34 pin Floppy Disk Male Connector  
  
34 pin flat cable between Main Board and Floppy Disk  
  
Power cable between Power Supply Board and Floppy Disk

**Parts collecting :**

74HC174 is easy to found and found also one IC socket 16 pin DIL

7405 is easy to found and found also one IC socket 14 pin DIL

HM62256LP12 or equivalent is relatively easy to found and found also one IC socket 28 pin

EPROM 27C512 is relatively easy to found and found also one IC socket 28 pin DIL

WD1772 can be found on the Web ... or removed from one Atari ST !!! + IC socket 28 pin

1kohm pull-up resistor pack (or 5 x 1kohm 1/4W resistors)

The floppy Disk can be 1.44Mb/720kb new ... BUT with Drive Select 0

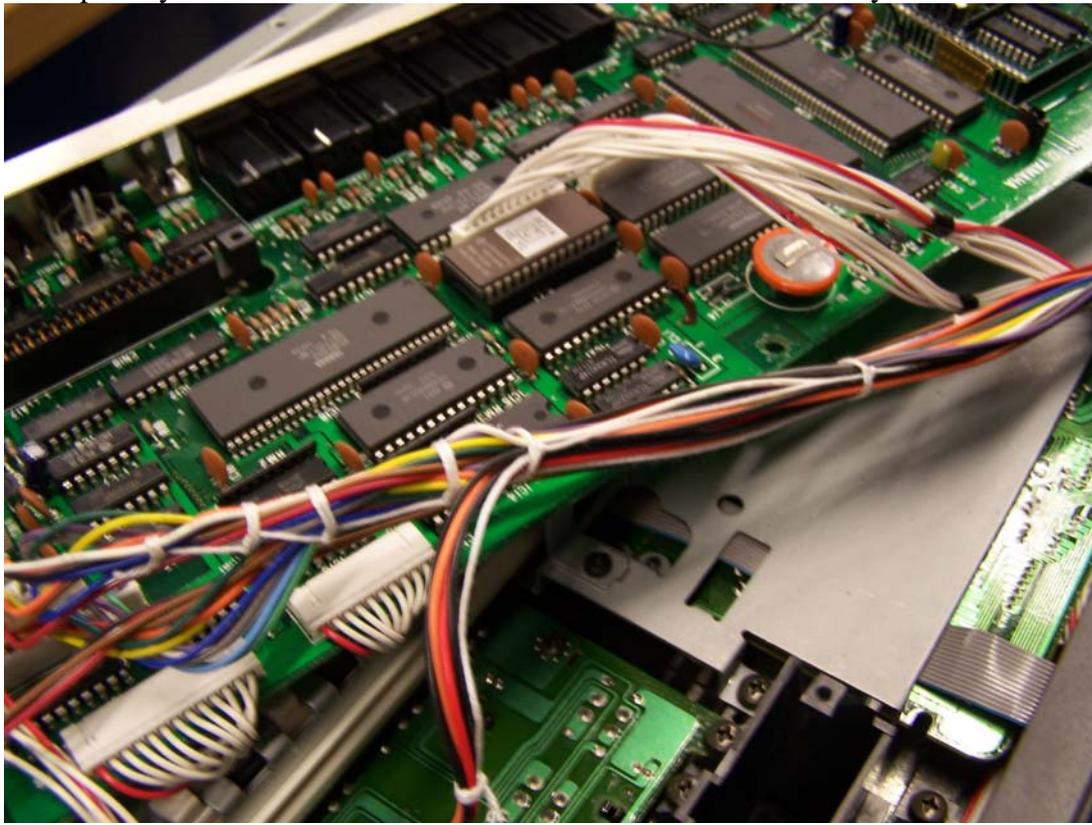
**Battery replacement :**

It will be judicious at this Time to change your Backup Battery ( 3V CR2032 )

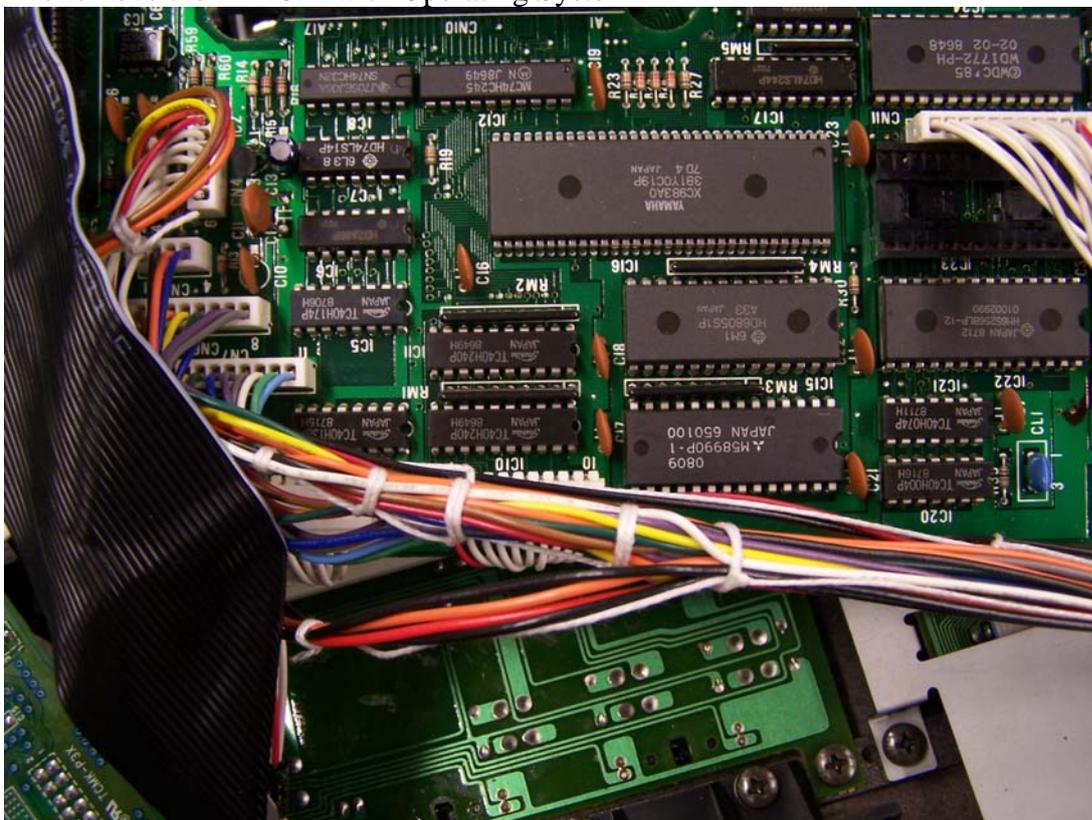
It's better to solder a socket. This socket can be removed from an old PC Mother Board

## Procedure :

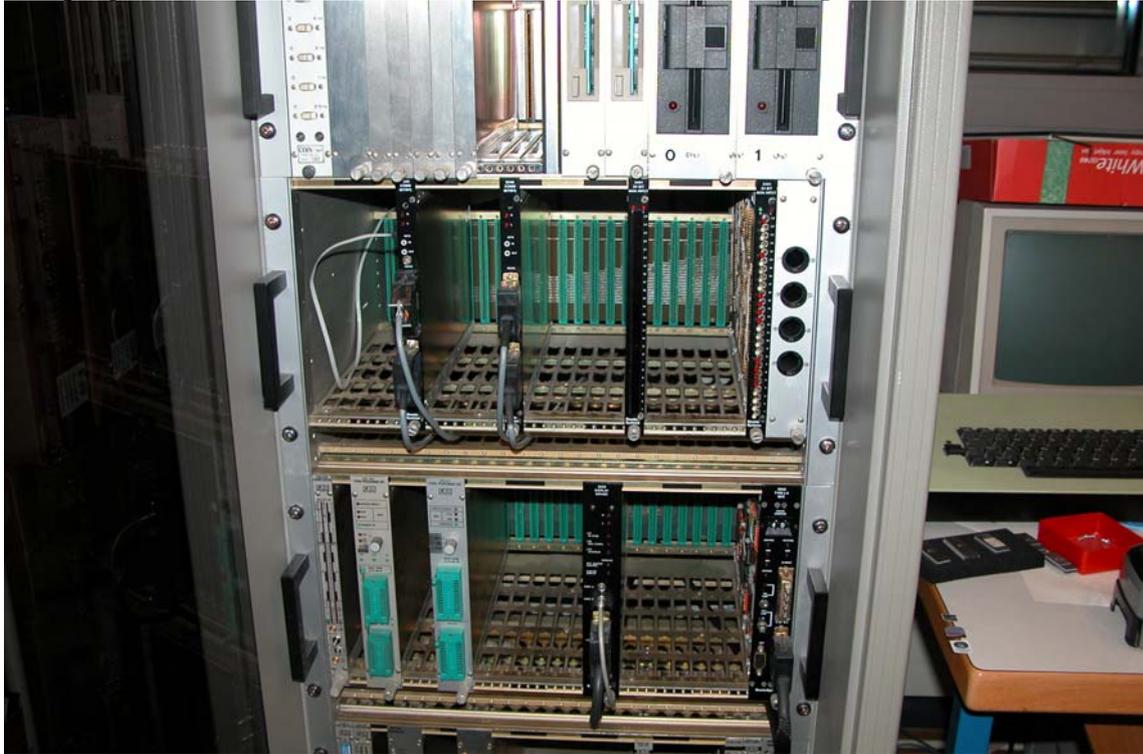
I've open my Yamaha DX7 II-FD and we can see a soldered Battery



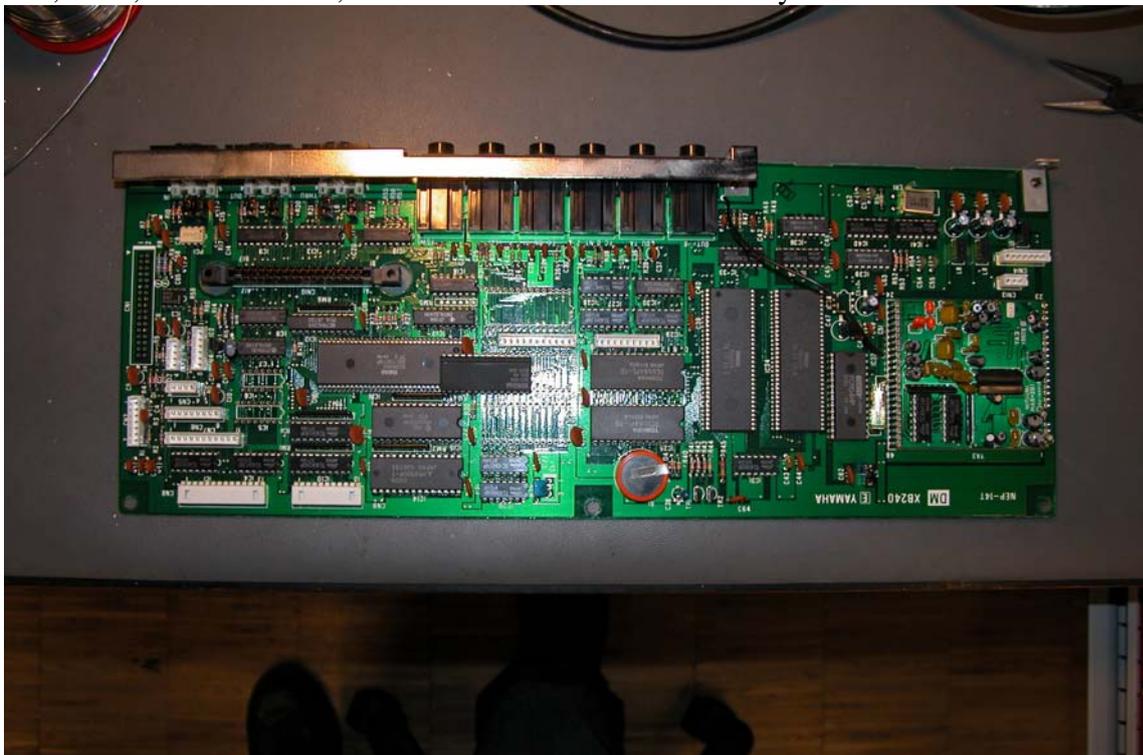
I've remove the EPROM with Operating System



I've program one new EPROM 27C512 with my Personal Computer



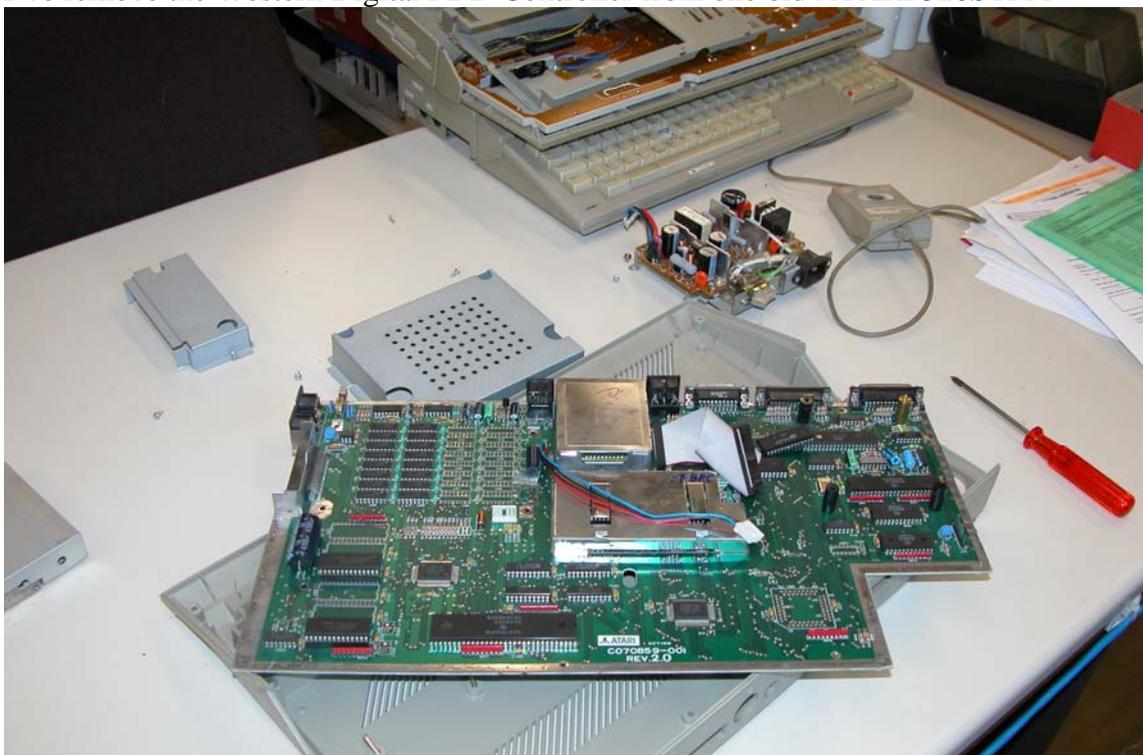
I've remove the soldered ROM in my Yamaha DX7 II-D and remove solder in holes for IC5, IC6, IC22, IC24 and CN1, we can also see a soldered Battery



I've remove the Battery socket and the plastic (only the plastic) from the FDD Controller on an old PC Mother Board



I've remove the Western Digital FDD Controller from one old ATARI 520STFM

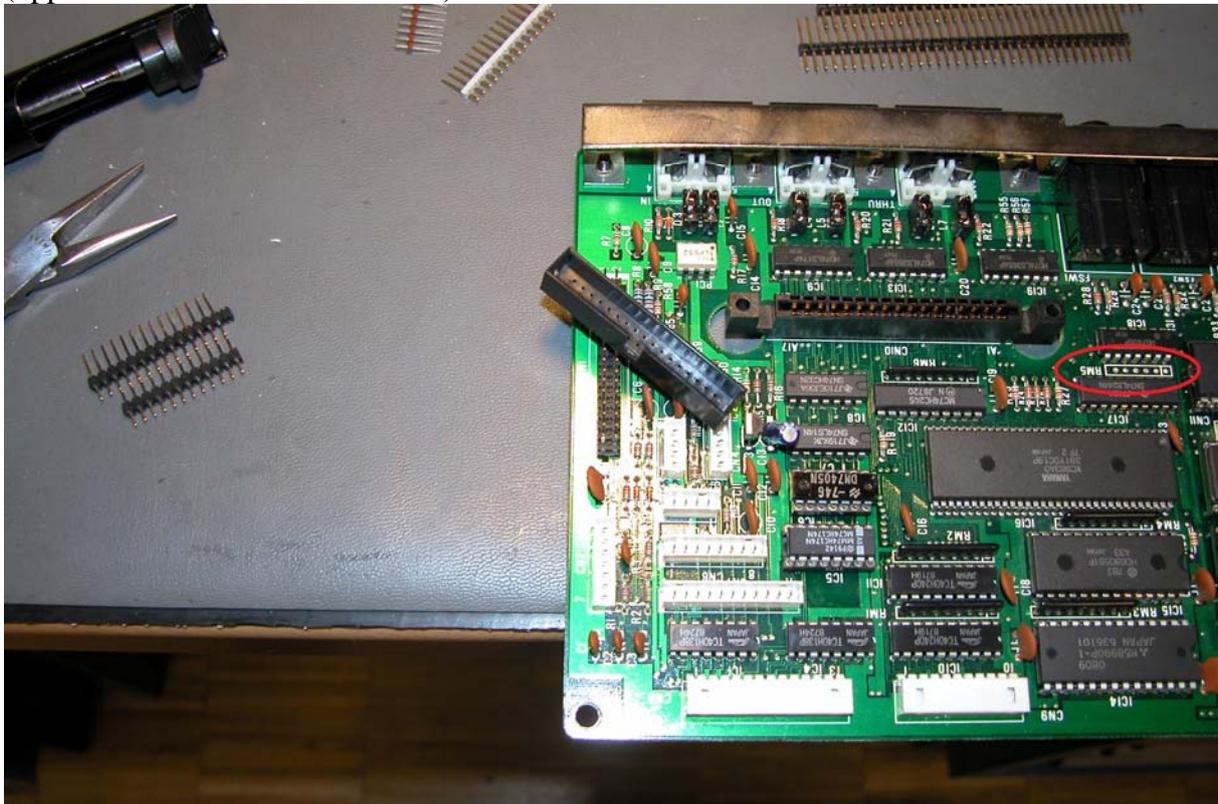


We must take care to not destruct IC and the Atari Mother Board

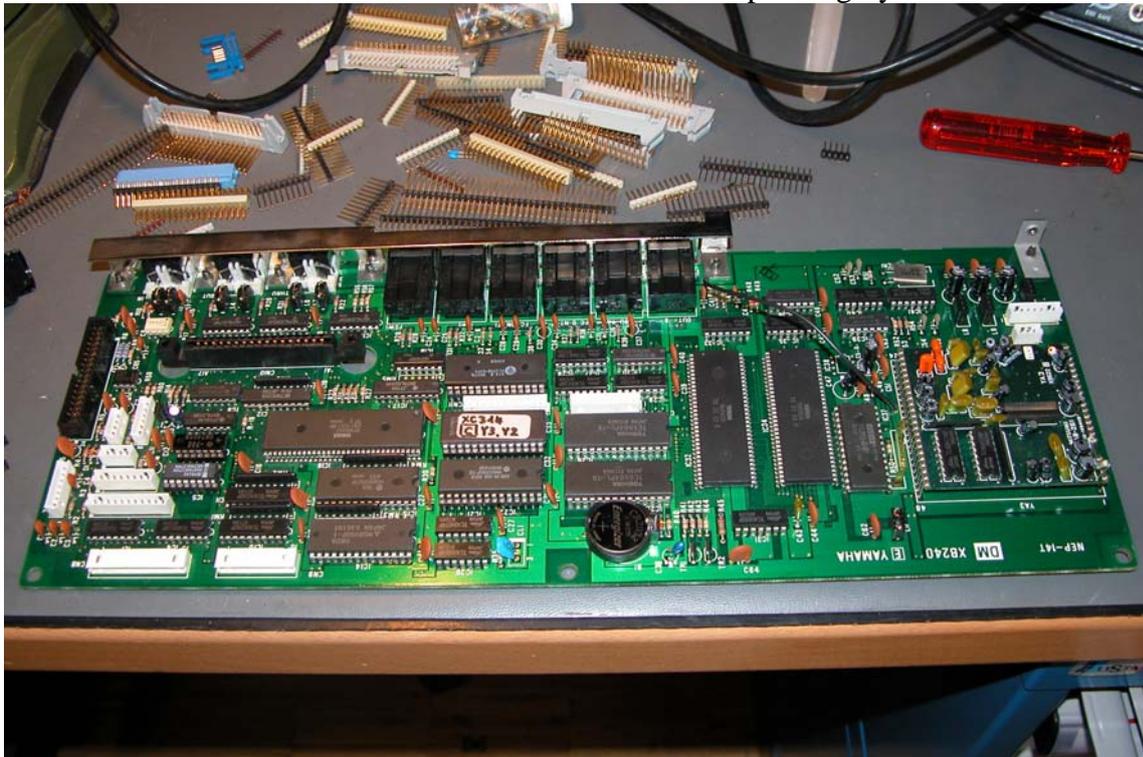
\*\*\* LATER I'VE BUYS SOME WD1772 ON THE WEB AND REPLACE IT \*\*\*



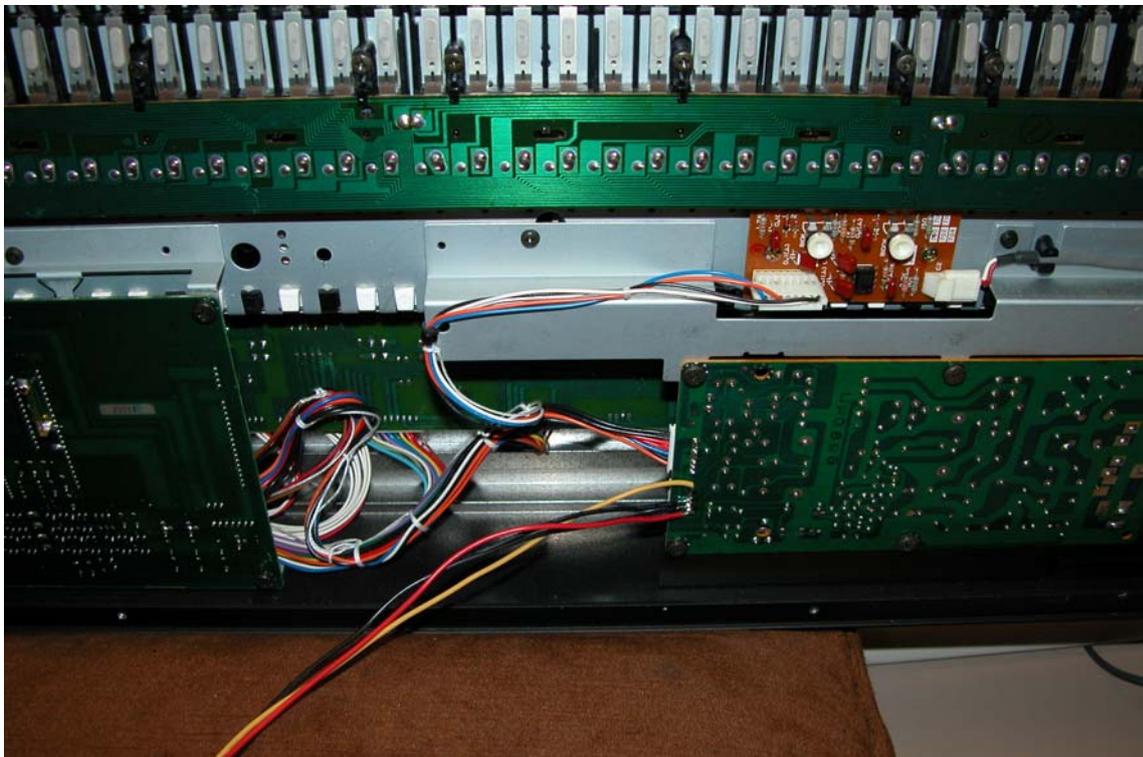
After soldering the dual in line FDD connector I've insert the plastic for the FDD Connector. You can see the location of a missing 1kohm pull-up resistor pack "RM5". You must solder this resistor pack or 5 x 1khm resistors with the common at the right side of the picture (opposite to the "RM5" indication)



I've insert and solder 5 IC sockets, remove the Battery and insert the Battery socket removed from the PC Main Board.  
Then I've insert the 4 IC and the EPROM with the new Operating System



I've solder a Power cable for make the first tests



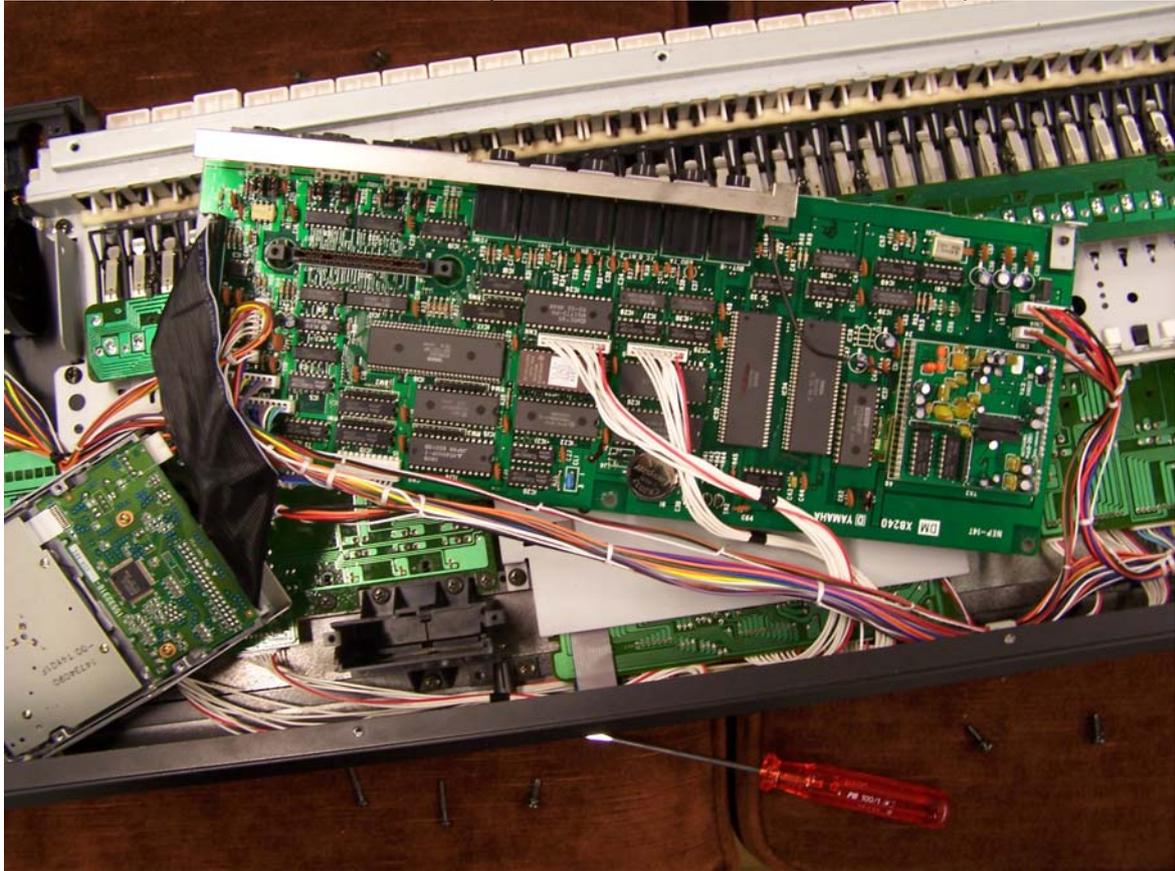
I've connect the Floppy Disk to the Main Board of my Yamaha DX7 II-D



Upgrade Done !!!



I've insert the removed EPROM in my Yamaha DX7 II-FD and my Battery is into a socket



I must make a hole for the Floppy and a little mechanic and a good Power Cable for FDD



New Floppy Disk mounts. I must still make a short flat cable and a good FDD Power Cable.



Final Result.



FD Label



DISK Label

