Toshiba HX-MU900 Music Module Expander
256 kB Sample RAM, MSX-Audio Basic, original software
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⚠️ **Warning:**

The most important part in the Music Module is the printed circuit board (PCB). Parts can be replaced, but not the PCB. Do not try to unsolder the parts, but cut them loose and then remove the solder pins. The use of IC sockets is recommended.

Upgrade package contents:
- Completely pre-assembled expansion board with 256 kB Sample RAM
- EPROM containing MSX-Audio Basic and adjusted original software
- SRAM memory chip (SRM2264C)
- 74LS139
- 1 KΩ resistor (2 pieces)
- 47 µF capacitor
- 0,1 µF capacitor
- Wire
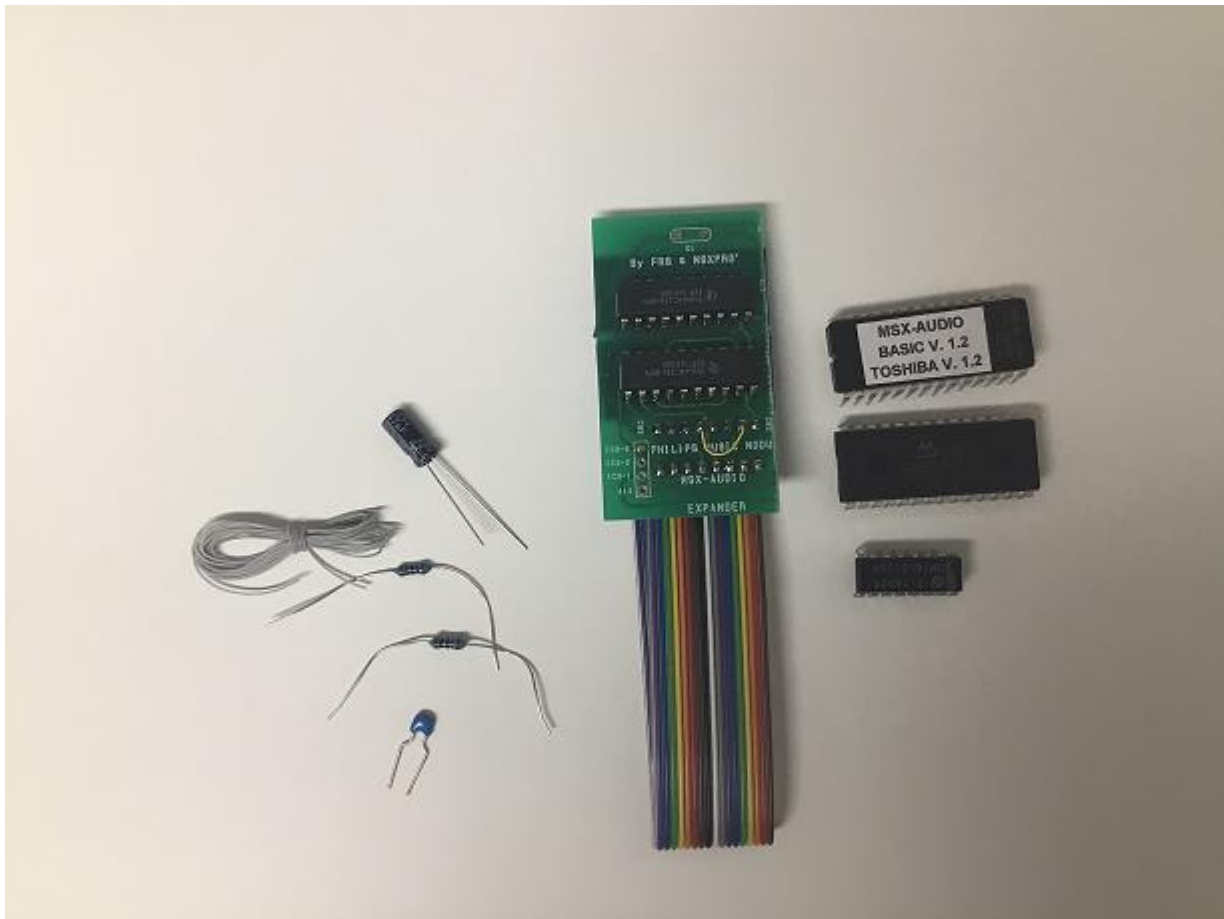
The contents of the upgrade package.

Preparation:

- Remove IC2 (EPROM on IC socket).
- Remove the solder tin from the pin holes at the empty place of IC3.
- Remove the solder tin from the pin holes at the empty place of IC6.
- Remove the solder tin from the pin holes at the empty place of C21.
- Remove wire bridge J2.
- Remove wire bridge J8.

Installation (upper side PCB):

- Shorten pin 1 of the new EPROM.
- Place the new EPROM with the remaining pins in the empty IC socket (IC2).
- Place the SRAM memory chip (SRM2264C) in the empty slot of IC3.
- 74LS139, shorten pins 1, 2, 3, 13, 14 and 15.
- Place the 74LS139 with the remaining pins in the empty place of IC6.
- Place the 47 µF capacitor in the empty place of C21.
- Place the 0.1 µF capacitor between pin 8 of IC6 (74LS139) and the right side of R1.
- Connect the right side of J6 to the right side of J9.
- Connect pin 1 of IC6 (74LS139) to pin 14 of the slot connector.
- Connect pin 2 of IC6 (74LS139) to pin 3 of IC6 (74LS139) and the left side of J3.
- Connect pin 4 of IC6 (74LS139) to the right side of J4.
- Connect pin 7 of IC6 (74LS139) to the left side of J1.
- Connect pin 13 of IC6 (74LS139) to pin 26 of IC3 (SRM2264C).
- Connect pin 14 of IC6 (74LS139) to pin 2 of IC3 (SRM2264C).
- Connect pin 15 of IC6 (74LS139) to pin 1 of IC2 (EPROM) and pin 9 of IC1 (Y8950).
- Connect pin 26 of IC1 (Y8950) to the right side of J7.

MSX-Audio Basic with accessory components.

Installation (bottom side PCB):

- Connect pin 3 of IC8 (74LS05) to pin 36 of IC1 (Y8950).
- Place a 1 KΩ resistor between pin 9 of IC1 (Y8950) and GND of C1 or C2.
- Place a 1 KΩ resistor between pin 4 of IC8 (74LS05) and pin 14 of IC8 (74LS05).

## Installation of expansion board with 256 kB Sample RAM:

- The PCB is provided with an adhesive layer and must be attached to IC1 (Y8950). The flat cable should be positioned at the right side and fits exactly between the resistors.
- Cut the flat cable to a sufficient length, after which all wires can be stripped and coated with tin. The white wire is not used.
- The outer brown wire is wire 1 and the outer purple wire is wire 17.
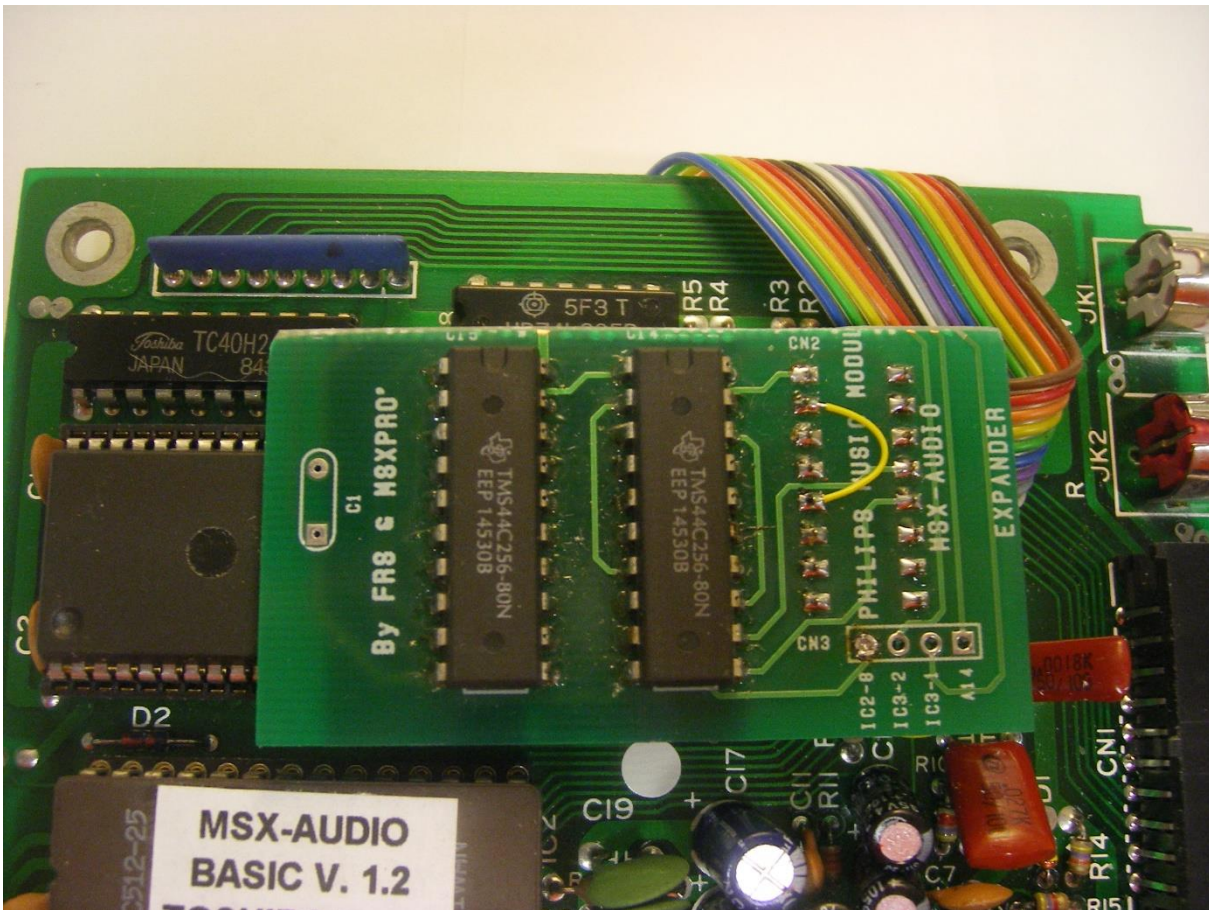
Expansion board with 256 kB Sample RAM.

Establish the following connections at the bottom side of the PCB:

Colour	Wire no.	Connect to
Green (1)	4	IC1 (Y8950) pin 29
Blue (1)	5	IC1 (Y8950) pin 30
Brown (1)	1	IC1 (Y8950) pin 32
Yellow (1)	4	IC1 (Y8950) pin 37
Purple (1)	7	IC1 (Y8950) pin 38
Orange (1)	3	IC1 (Y8950) pin 39
Grey	8	IC1 (Y8950) pin 41
Black	10	IC1 (Y8950) pin 42
Red (2)	12	IC1 (Y8950) pin 43
Yellow (2)	14	IC1 (Y8950) pin 44
Blue (2)	16	IC1 (Y8950) pin 45
Orange (2)	13	IC1 (Y8950) pin 46
Brown (2)	11	IC1 (Y8950) pin 47
Purple (2)	17	IC8 (74LS05) pin 4
Red (1)	2	IC8 (74LS05) pin 7
Green (2)	15	IC8 (74LS05) pin 14
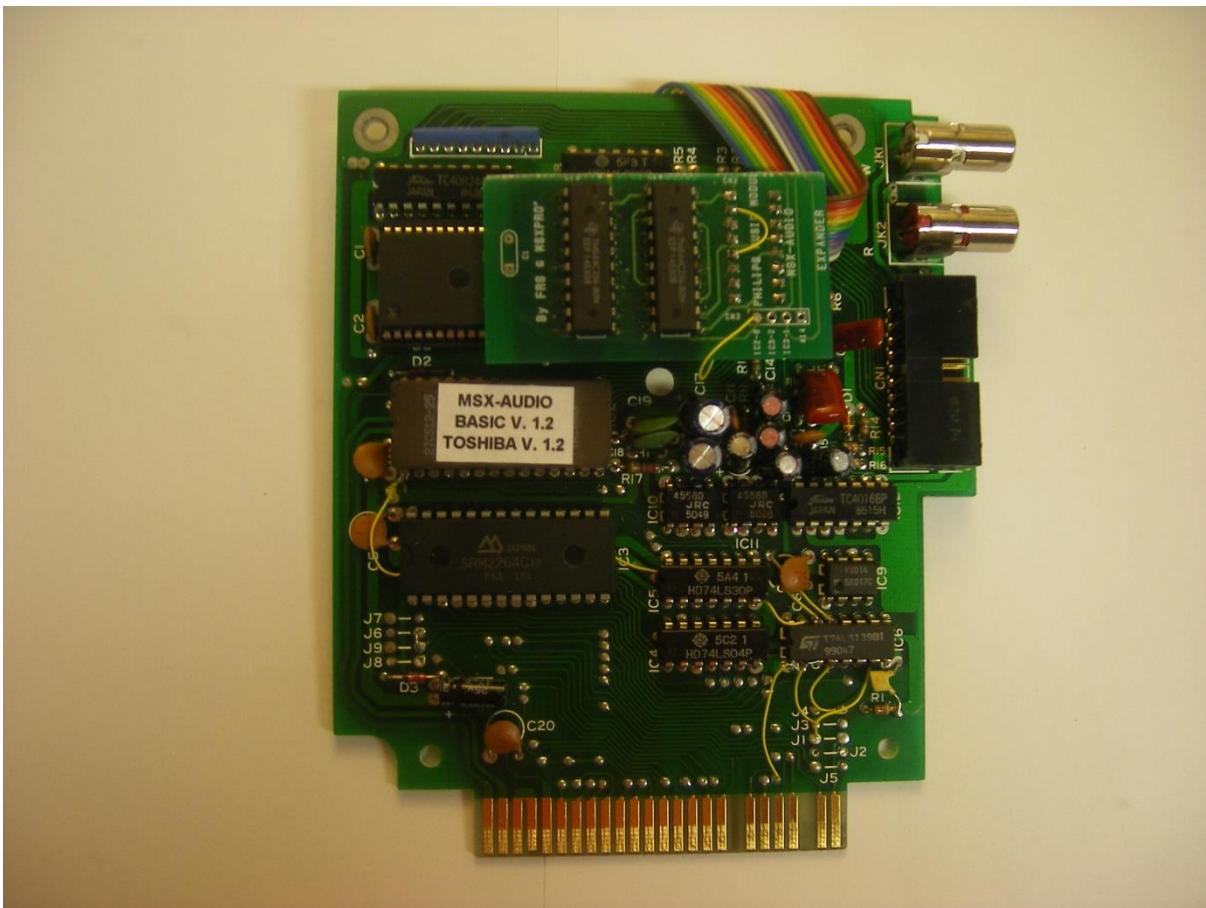
The completed conversion.

➔ **Important keys (hold during boot):**
ESC = Start original software
TAB = Disable MSX-Audio Basic