

Here is information related to some questions that have come up during installation of the new MIDI board:

It seems that later OSCar's were shipped without zener diode D9 being installed on the processor board. It's located just above the 4 MHz crystal and below TR2. This diode is an important part of the reset circuit and prevents excessive voltage from being applied to the SRAM VDD pin. Please make sure your OSCar has it in place before installing the new MIDI board. (I have added a place for this diode on the v2 MIDI board, in case you would rather put it there. If it's already on the processor board, then you don't need to install it on the MIDI board)

The 2764 EPROM on the processor board must be removed to use the new MIDI board, which has a 27C256 on it. The M2 firmware would not make any sound if installed on the new MIDI board (in the 27C256), but with a one-byte edit it would work normally. Better to use the new firmware, since it has new features.

The 8-pin header for the MIDI jack signals on the new MIDI board is laid out the same as on the original MIDI board. Some boards did not use a header, and simply soldered the ribbon cable directly to the pcb. Anyway, the holes are in the same position on the new board.

The new MIDI board supports an optional uProc supervisor/reset generator IC (U10). If this part is installed, R15 must not be installed. R15 is a shorting jumper, and would be installed only if the supervisor IC is not used. The pullup resistor R12 is not needed in either case, and should not be installed. (This resistor was removed from the v2 MIDI board)

The UART chip used on the new MIDI board is the same as on the original board. This chip can have several different part numbers, such as MC6850, HD46850P, etc. A 68A50 or 68B50 could also be used. These are higher speed grades of the same chip.

The OSCar used a Z80A CPU, which is the 4 MHz version of the chip. A chip with the label "Z80" would be the 2.5 MHz version, which would not work. A Z80B is the 6 MHz version and this should be fine in the OSCar, but has not been tested. The NEC Z80A clone is called D780C-1. This is a 4 MHz part that was used in many OSCars, and will work fine on the new MIDI board.

The logic chips used on the new MIDI board must be 74LS types. Do not use 74HC, or 74C series chips.

Ceramic capacitors do not have polarity.

When the new firmware detects that SRAM contents have been lost, it loads what we believe to be the factory patches from the EPROM into RAM. When you power up the OSCar for the first time after installation, leave it on for about 10 seconds, then power it off. The second time you power it up, you should get sound, although you may have to set the filter drive level by pressing Store and turning the volume pot.