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08BH188AT processor board replacement notes

A newly designed processor board (08BH188AT and its futrure successors) is now available to replace the 08BHEPxx processor board.
This board was used on EPXpress and EPPlus machines for a number of years.

The new board is only compatible with display boards that use a RS485 serial data connection. Older displays that use TTL connections (3 wires on a small white plug) will not be compatible with the new processor. So, a new display will have to be retrofitted to machines with TTL only displays.

Some older displays have both TTL connections and RS485 connections. If the TTL connection was used on the older processor board it is possible to use the RS485 connection with the new board IF you make or buy a RS485 cable (pn 10Y75V7JDS – 72" long).

Some older switch panels will have the 14 conductor Ribbon cable soldered to the board. This will require a new 14 pin ribbon cable with 14 pin DIP connectors attached to both ends. This part number is 09VF1428. Look at your current display / switch panels to determine if you will need to replace the ribbon cable.

The new processor board has screw terminals to replace some of the connectors and pins used before. This requires the installer to cut the ends of the wire from the connector and attach the wire directly to the board screw terminal.

A schematic for the machine would be useful when replacing the old board, but it should be this simple...
1. The 5VDC (103), GND (0), 12VDC (104), SER- (106) and SER+(107) wires are cut from the connector M1, stripped and placed on the new board screw terminals. Cut and strip the wires one at time and connect to the new processor board.
2. The temp probe wires on M4 are cut at the connector and tied to the screw terminals at the new M4 header.
3. The 5VDC and ground wires are not used on M4 and can be cut and capped.

The EXT-SIGNAL connector is not used.

Set the 12VDC power to 12.3 volts. The new board has onboard 5VDC regulation so there is no need to adjust the 5 volt supply.
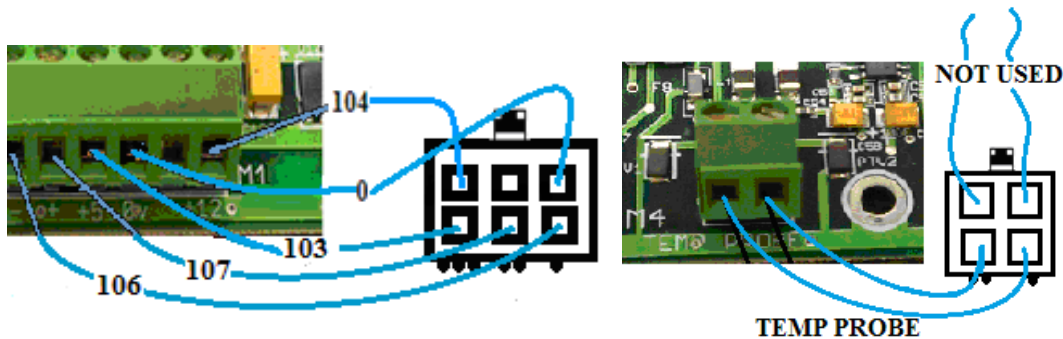
HARDWARE for mounting the new board:

The new board is thicker than the old. The standoffs for the old board will not lock to the new board, so, screws and nuts are provided for the attachment. If you use metal screws, only use them on the edge of the new board, not in the middle.
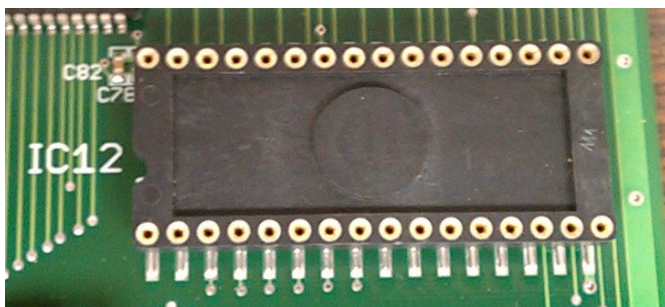
Replacing the processor:
The wiring connections can be referenced from the old board to the new board. See the markings on the old and new board. New board connections are shown below.

CAUTION: before applying power to the new processor board, install the EPROM (IC12) aligning the notch in the end of the chip with that of the socket and connect ONLY the power (M1), Temp Probe (M4) and the display (M22). With these connections made apply power and check the display. If the board is correctly connected and the EPROM installed correctly, the display should show normal text, typically "DIP SWITCH CHANGED NEXT TO DEFAULT 30 FORMULAS". This proves that all th wiring is correct. Remove the power to the machine and complete the wiring of the processor board.

The socket for the machine software is shown below. Be careful not to bend pins when inserting the software in this socket! Check your work!

08BH188AT processor board replacement notes (cont.)

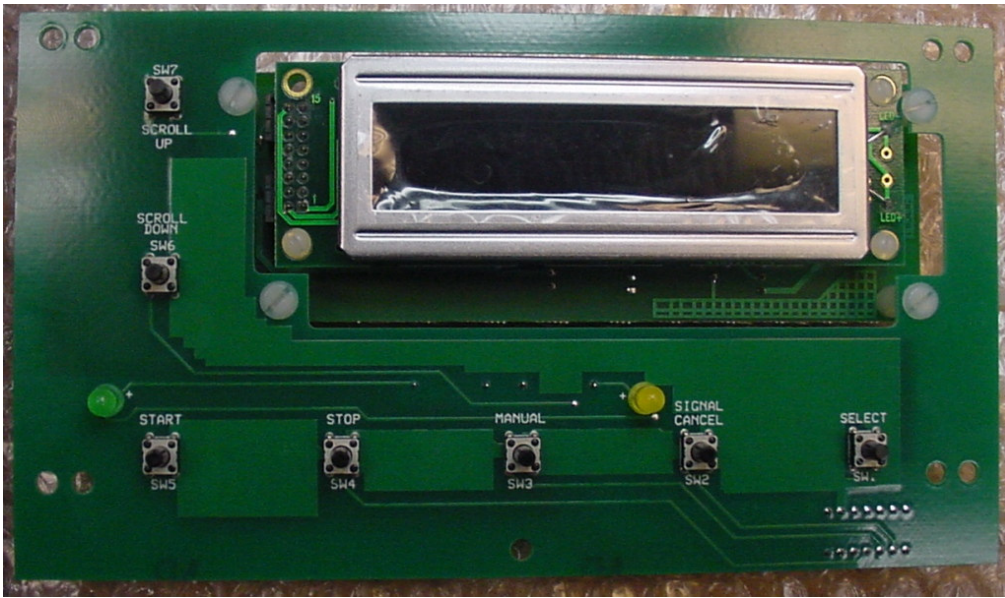**How to determine if your display is compatible:**

As mentioned above, the display requires a RS485 connector. See the display boards and notes below to determine if you can use your existing display. If you cannot use your existing display, use display part number 08BHEPSPCT (or replacement). One way to know if the display uses the TTL connector is to look at the processor card for M21. If there is a wire on this connector then the machine is equipped with a TTL compatible display and you will have to determine which one below to know if the display is to be replaced for compatibilty with the new processor.

In the worst case scenario, you will need a new display and switch panel (08BHEPSPCT and RS485 harness 10Y75V7JDS). It is possible to use a new display on an old switchpanel. For example, you could install a 08BSELCD2T on an older switch panel board. This may help avoid changing the switch enclosure and overlay.
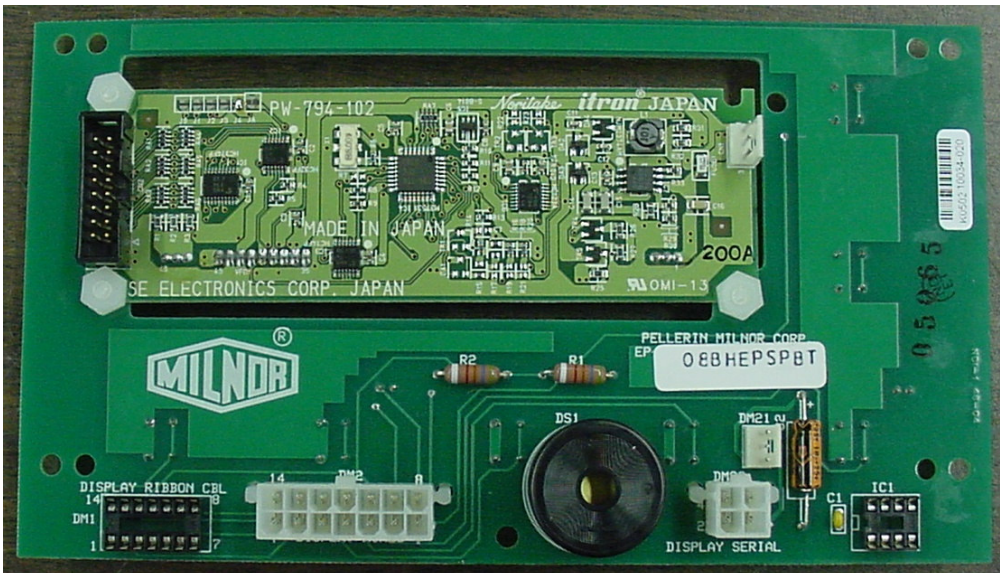

08BSELCD2S BACK SIDE REV B. This has TTL connections only, no 485 Serial connections so, this cannot be used with the new 08BH188AT processor board.

08BH188AT processor board replacement notes (cont.)

08BHEPSPAT FRONT SIDE
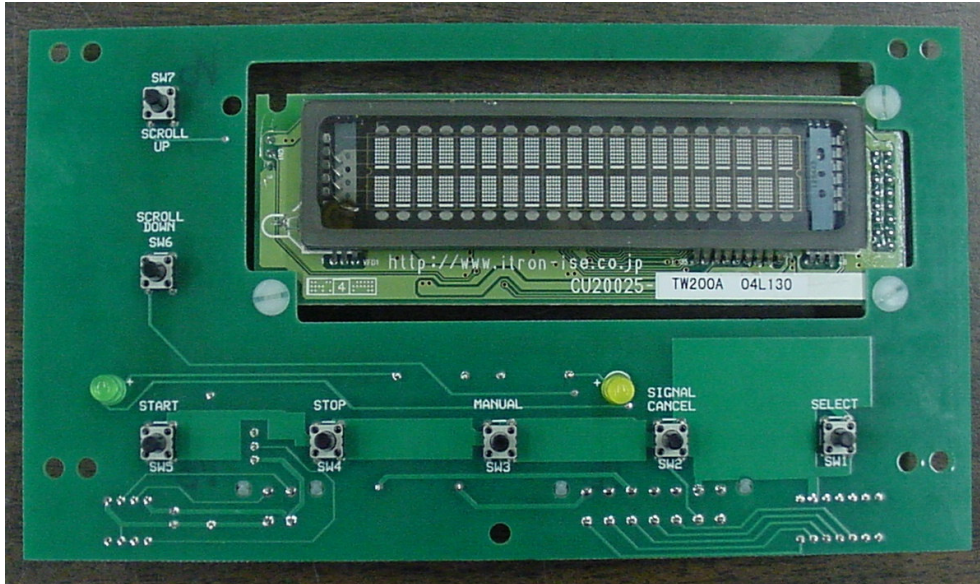This board can be handled just like the 08BHEPSPBT board below.

08BHEPSPBT BACK SIDE - This board has both a RS 485 connector and a TTL connector. If the previous processor was wired with a TTL cable, you will need a RS485 cable and also to jump the TTL wiring from the switch panel connector DM21 to the similar connector on the back of the display.
CAUTION: the TTL cable must be pinned in reverse order... pin 1 to pin 3 and pin 3 to pin 1. Otherwise the RS485 transceiver in IC1 will be destroyed.
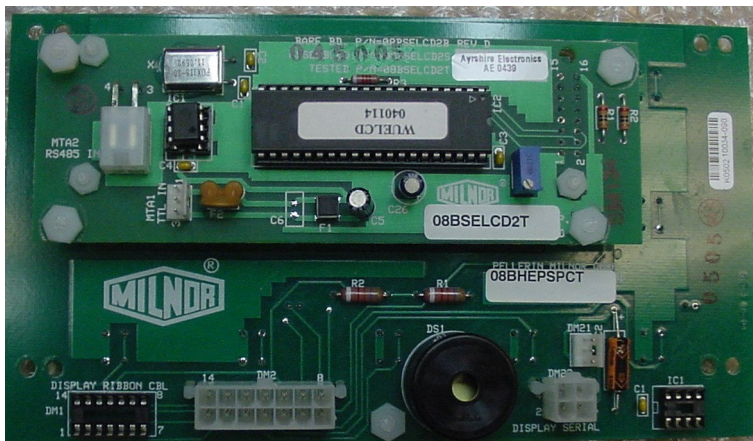Never connect any wires to CON2 on the display board.

08BH188AT processor board replacement notes (cont.)

If needed, add RS485 Transceiver 08CIF3696T into the IC1 socket. The TTL jumper from the Switchpanel to the LCD display is pn. 10YBHELCDS.
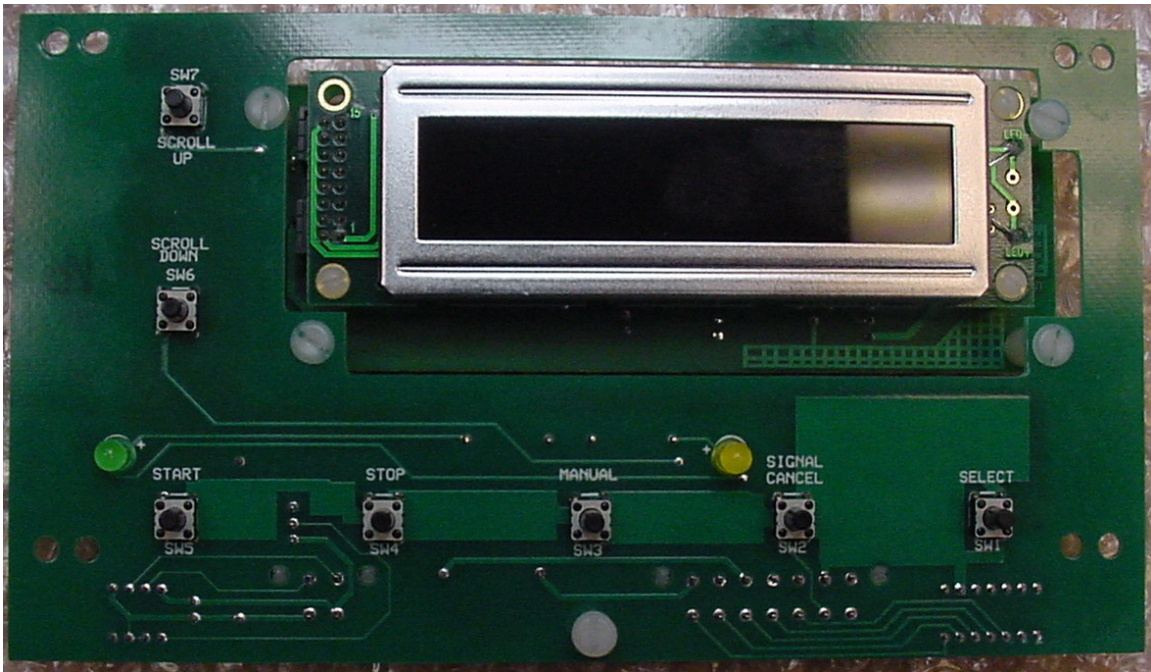

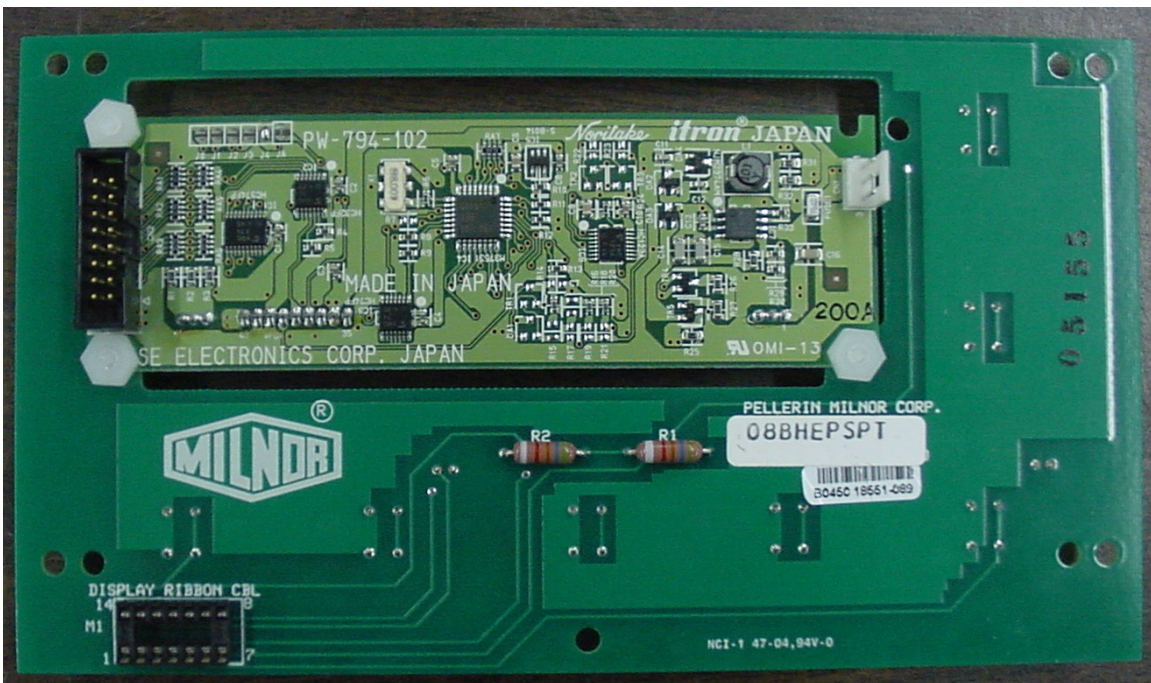08BHEPSPBT FRONT SIDE (Noritake)

08BHEPSPCT BACK SIDE

This display is compatible with all processor boards. It has both TTL and RS485 connectors. Using the 08BH188AT processor, the RS485 cable should be plugged directly onto the back of the display (MTA2) rather than onto the switch panel board. You must also remove the TTL jumper wire between the display and switch panel board. Also make sure that the transceiver is installed on the display board IC1.

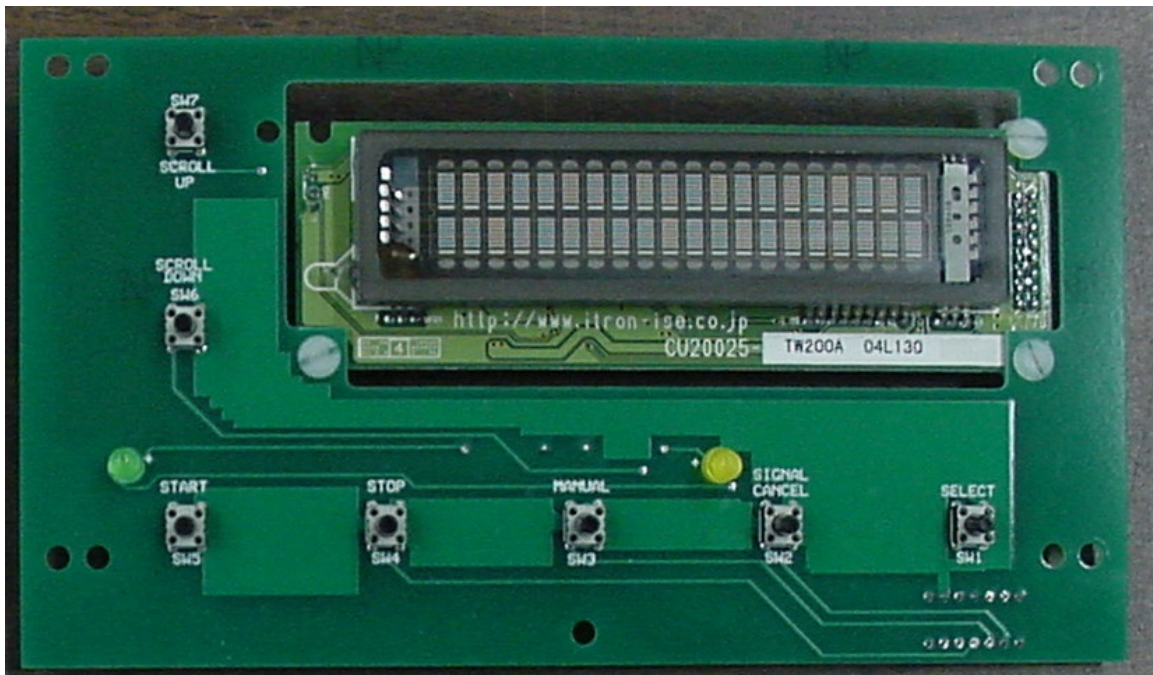**08BH188AT processor board replacement notes (cont.)**

08BHEPSPCT FRONT SIDE

08BHEPSPT BACK SIDE
This board will not be compatible with the new processor since it has no RS485 connector. It must be replaced with a 08BHEPSPCT or later board.

08BH188AT processor board replacement notes (cont.)

08BHEPSPT FRONT SIDE

For reference: Display types and usage.

VFD
08BHEPSPT   EP+ SWITCH PANEL BD>TEST   30" machines
08BHEPSPBT   BD:EP+ SW PANEL VER2->TEST 36" machines and up

LCD w/backlight
08BHEPSPAT   EP+ SWPNL BD W/LCD>TEST   30" machines
08BHEPSPCT   EP+ SWPNL VER2 W/LCD>TEST 36" machines and up