Title   Diamond Midi Modifications
ECN Number: ECN-0101
Equipment: Diamond MAP boards (and desk wiring)
Date: 2/11/98
Author: Adam Proffitt
Revision: 1.0

Reason for ECN: Software now supports midi control

Special Parts Required: S2L circuit board
                             Thin insulated (wire wrap) wire

Special Tools Required: None

Work Required:

The work consists of modifying the MAP board, fitting the S2L board, and
providing suitable connections from the MAP board to the MIDI connectors on
the output panel of the desk.

MODIFYING THE MAP BOARD
A pin on the 68340 processor has to be lifted clear of its socket and a thin
wire link fitted from this pin to a pin on the 96 way backplane connector.
1.   Remove desk power.
2.   Undo dzus fasteners which secure the preset panels and cardframe door
      (at rear of desk).
3.   Lift the preset panels and open the cardframe door.
4.   Loosen the M5 nuts at each end of the cardframe and raise the card
      retaining bar.
5.   Remove the MAP board.
6.   With a flat bladed screwdriver, work around the edge of the 68340
      processor (large square i.c. - IC1) in order to remove it from its
      socket. Note that one corner of the ic is flattened and its position
      corresponds with the outline on the circuit board (next to the
      identifier IC1)
7.   Locate pin A7 of the 68340 as shown in the diagram. Carefully bend this
      pin towards the outside edge of the ic so that it lies flat against the
      body. Any part of the pin extending beyond the outside edge should be
      bent away from the underside to lie flat against the body (so that it
      will not touch the 3.6864 MHz crystal when it is replaced).
8.   Solder a 15cm length of thin wire to the end of this pin.
9.   Replace the processor into the socket. Take care to align it correctly
      and that no pins are bent as it is returned. It is important that the
      new connection does not come into contact with either the 68340 socket
      or nearby crystal when it is replaced.
10.   Thread the free end of the wire through a nearby hole in the circuit
      board and connect it to pin C6 of the backplane connector J1 (after
      cutting the wire to the correct length). Pin C1 is at the end of the
      connector which is nearest to the identifier J1 on the component
      (battery) side of the board. C1 - C32 is the line of pins closest to
      the 68340.

```
IC1
68340
VIEWED FROM ABOVE

PIN A7                    3.6864
                         Mhz Xtal
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FITTING THE S2L BOARD

The S2L board has a 500kHZ oscillator which connects to pin C6 of the backplane and provides the MIDI clock. This board has a 96 pin backplane connector and needs to connect to a matching socket on the backplane. (some backplane sockets will only connect to 64 pins). The S2L board is normally fitted into cardframe position no. 5. (with MAP position no. 1 and OPX position no. 3). This board does not need any calibration in order for the MIDI function to work.

MAP BOARD TO OUTPUT PANEL (MIDI CONNECTORS) WIRING

The 8 way 'Mascon' connector connects to connector J4 on the MAP board. The Black wire (0V) connects on the pin underline furthest from LED1.
The MIDI connectors should be wired as follows:

COLOUR	MASCON PIN	MIDI CONNECTOR	
BLK OUT)	1	MIDI OUT	PIN 2 (AND LINK TO TAG ON MIDI
WT/RED	2	MIDI IN	PIN 5
WT	3	MIDI IN	PIN 4
GRY	4	MIDI OUT	PIN 5
PUR	5	MIDI OUT	PIN 4

VIEW OF DIAMOND MIDI CONNECTORS
(FROM INSIDE DESK)

(OUT) (IN)

(OUT connector)

```
    2
5       4
3       1
  TAG
```

(OUT connector)

```
    2
5       4
3       1
  TAG
```

(IN connector)

```
    2
5       4
3       1
  TAG
```