USING THE OB-8 MIDI INTERFACE

MIDI

MIDI is an acronym for Musical Instrument Digital Interface. It is a serial computer interface which enables synthesizers and computers to communicate. MIDI was designed to be a universal computer interface through which synthesizers and computers could communicate regardless of manufacturer. Any synthesizer or computer having a MIDI interface will connect to an OB-8.

MIDI CONNECTORS

MIDI CONNECTORS are located on the rear panel of the OB-8 or, on the left end bell of an OB-8 with a MIDI retrofit. The MIDI IN connector receives MIDI information. The MIDI OUT connector transmits MIDI information from the synthesizer. Keyboard information, patch changes, and bend lever/modulation lever changes generated on an OB-8 will be sent to the MIDI OUT connector. The MIDI THRU connector is used to pass MIDI information which was generated by another synthesizer/computer. Information played on an OB-8 is not available at it's own MIDI THRU connector.

BASIC CONNECTION

The simplest application is to connect 2 OB-8's together. The Master OB-8 will be referred to as Synthesizer A and will, for the following demonstrations, be the controller. The second OB-8 will be referred to as Synthesizer B or the Slave, and will be controlled by the Master OB-8. We will use this configuration to explain MIDI operation and associated controls.

NOTE: WHEN CONNECTING COMPUTER BASED PRODUCTS TOGETHER, MAKE SURE POWER IS OFF ON BOTH UNITS.

Using a cable with 5 pin male DIN connectors on each end, connect MIDI OUT on the master OB-8 to MIDI IN on the Slave OB-8. Turn power on and press auto tune. Notes played on the Master OB-8 will also be played by the Slave OB-8.
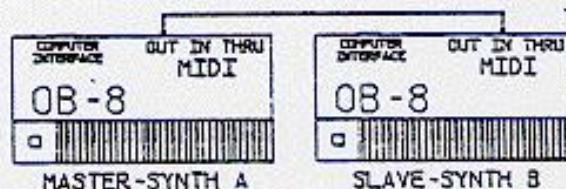
(Figure 1.)

MIDI SWITCHES AND FUNCTIONS
        All MIDI SWITCHES are located in the PAGE 2 feature of the OB-8.
        Enter PAGE 2 by rapidly pressing the PAGE 2 switch twice. The Led
        for the PAGE 2 switch will light signifying that you are in PAGE
        2. Most of the MIDI related switches are located in the programmer
        section.
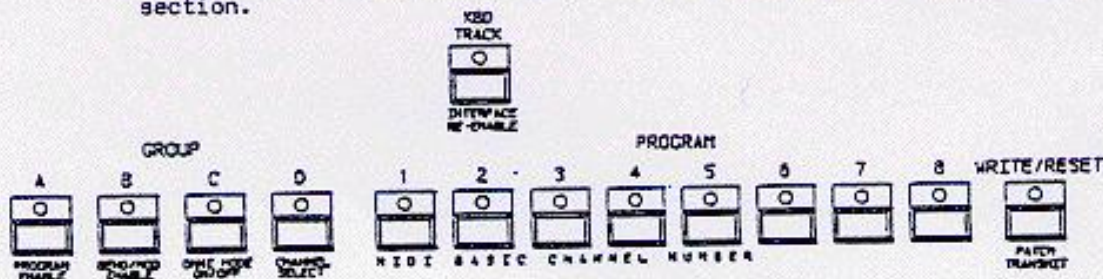
(Figure 2.)

PROGRAM ENABLE / DISABLE — SWITCH "A" (Page 2)
        This switch enables and disables two patch related functions: patch
        select, and patch data transfer. When the OB-8 is powered up these
        functions are disabled.

        SELECTING PATCHES — In PAGE 2 on both OB-8's, press the A switch.
        The A Led will light, indicating the ability to transmit/receive
        program information. Selecting a patch program in PAGE 1 on the
        Master OB-8 will select the same patch program on the Slave OB-8.
        (EXCLUDING SPLITS & DOUBLES).

        PATCH TRANSMIT — "WRITE/RESET" SWITCH (Page 2)
        The program enable switch also allows you to transfer patches
        from the Master OB-8 to the Slave OB-8. (NOTE: Memory Protect
        must be off on the Slave OB-8.) In PAGE 1 on the Master OB-8,
        select patch D-1. Now, enter Page 2 and press the WRITE button on
        the Master OB-8. After a short delay, the WRITE Led will light,
        indicating that the program Patch D-1 has been transferred from
        the memory of the Master OB-8 to memory location D-1 in the Slave
        OB-8. To play this patch on the Slave OB-8, you must return to
        PAGE 1 and re-select Patch D-1, or select a different patch on the
        Master OB-8 then select D-1. Now both OB-8's will play Patch D-1.

PITCH BEND AND MODULATION LEVER ENABLE / DISABLE — "B" SWITCH (Page 2)
        When the OB-8 is powered on, the pitch bend and modulation levers
        are not sent or received over MIDI (disabled). They must be enabled
   on both units each time power is turned on.

        In PAGE 2 on both OB-8's, press the B switch. The B Led will
        light, indicating the ability to transmit and receive pitch
        bend/modulation information. When the Slave OB-8 receives pitch
        bend/modulation information, it uses that information based on the
        settings on it's own Performance/Modulation Panel. In other
        words, if the slave machine is set to bend a semi-tone, it will
        bend at that interval regardless of the bend setting of the master
        machine.

OMNI MODE ON / OFF — "C" SWITCH (Page 2)
          The power up or default condition is OMNI MODE on, C Led lit.

          When OMNI MODE is on, the OB-8 receives on ALL MIDI channels and
          transmits all data on Basic Channel N only.
          When OMNI MODE is off, the OB-8 receives on MIDI Basic Channel N
          only. When OMNI MODE is off in the transmitting OB-8, it will
          transmit on two MIDI channels. Notes above the split-point are sent
          on Basic Channel N. Notes below split-point are sent on the Basic
          Channel plus one. Example: When power is turned on the Basic
          Channel is always channel 1. After OMNI MODE is turned OFF, the
          upper half of keyboard is sent on channel 1, and the lower is sent
          on channel 2. If the Basic Channel is changed to channel 5, the
          upper will be channel 5 and the lower will be channel 6.
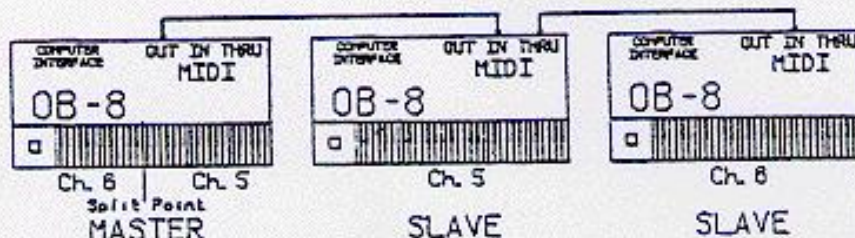
(Figure 3.)

MIDI BASIC CHANNEL SELECT / DISPLAY — "D" SWITCH (Page 2)
          The power up or default MIDI Basic Channel is channel 1. To change
          the Basic Channel, PRESS & HOLD the D switch. The D Led the 1 led
          will light, indicating that the Basic Channel is channel 1. If you
          select 5, the 5 led will light, indicating that the Basic Channel is
          now channel 5.

     NOTE: Do not attempt to change MIDI channels while notes are playing.
          This may cause a note to get "stuck" ON. If this happens, try the
          DSX RE-ENABLE / TURN OFF MIDI NOTES switch (see next section) or
          switch in & out of cassette mode or power OFF/ON to reset.

DSX RE-ENABLE / TURN OFF MIDI NOTES — "TRACK" SWITCH (Page 2)
   The hardware design of the OB-8 does not allow MIDI IN and the DSX
          COMPUTER INTERFACE to be used at the same time without possible
          MIDI errors. The OB-8 receives information from the DSX sequencer
          thru the 40 pin connector on the rear panel of the OB-8. Any time
          MIDI IN information is detected by the OB-8, the DSX interface is
          DISABLED and the DSX RE-ENABLE Led will light. While the DSX RE-
          ENABLE Led is on, the DSX cannot play the OB-8. Pressing the DSX
          RE-ENABLE switch causes the Led to go out and re-enables the
          parallel interface.

     NOTE: The Yamaha synthesizers have a MIDI option called "active sense".
          They are ALWAYS transmitting MIDI data even if no notes are being
          played. Connecting a DX-7 to MIDI IN on an OB-8 will not allow
          you to use the DSX. The OB-8 will continually detect MIDI
          information and will keep the parallel interface disabled.

OTHER CONNECTION CONFIGURATIONS

    MASTER <=> SLAVE
        BY adding another MIDI cable, it is possible to use either OB-8 to
        control the other. Connect MIDI OUT on the Slave to MIDI IN on
        the Master. Now either OB-8 can be the Master or the Slave.
        Information received at the MIDI IN connectors is NOT available at
        the MIDI OUT connector of the same synthesizer. This prevents an
        endless loop situation from occurring which would be the MIDI
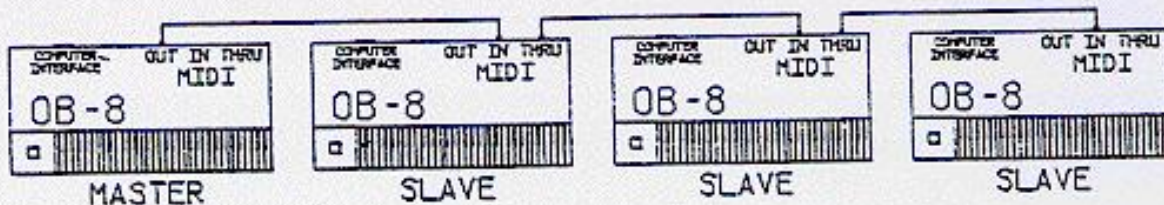   version of acoustical feedback.
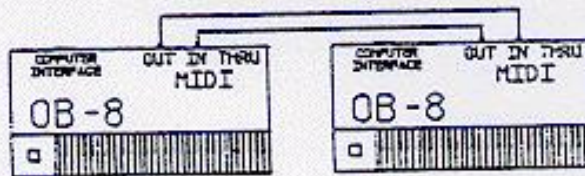
(Figure 4.)

    SIMPLE CHAIN
        It is possible to connect synthesizers together in a configuration
        known as a CHAIN. This allows one synthesizer to control many
        synthesizers. Connect them as follows:

| SYNTH A MIDI OUT	to	SYNTH B MIDI IN
SYNTH B MIDI THRU	to	SYNTH C MIDI IN
SYNTH C MIDI THRU	to	SYNTH D MIDI IN

(Figure 5.)

        If synthesizers B, C and D are in OMNI mode or are all on the same
        MIDI channel as synthesizer A, synthesizer A will control all
        synthesizers.

USING MIDI WITH THE DSX

The sequencing power of the DSX can be used with ANY synthesizer
having a MIDI interface. With a DSX sequencer playing the Master
OB-8, any synthesizer connected to the MIDI OUT connector of the
Master OB-8 will DOUBLE the notes played by the OB-8. Also, you
can use the OB-8 to merely pass the DSX information to the MIDI
OUT connector causing any synthesizer with MIDI IN to be
controlled by the DSX.
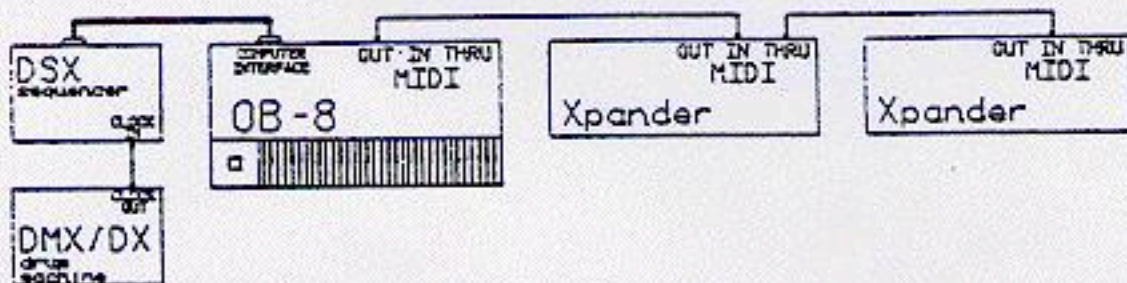
(Figure 6.)

Oberheim Electronics is excited about the future of MIDI and plans
to include MIDI on future products. With MIDI on your OB-8 you
now have a very special connection to future musical developments.