MIDInet

NS-03-0691

Overview

This section introduces you to the capabilities of MIDInet, a multiport MIDI routing and processing unit designed to interface with the Synclavier and Direct-to-Disk systems.

About MIDInet

The MIDInet unit has eight input ports and eight output ports located at the rear of the unit to connect with MIDI devices. A Syncnet port connects the unit to the Synclavier; there is also an expansion port to connect additional MIDInet units. Expansion units are available to provide up to 128 MIDI input and output ports. With MIDInet, the Synclavier or Direct-to-Disk can function as the master controlling device in any MIDI setup.

MIDInet receives MIDI data from the Synclavier, processes it, and sends the result to MIDI output ports. It can also receive data from MIDI input ports, process it and send it to the Synclavier and/or MIDI output ports. As many as 128 Synclavier tracks can be addressed.

The MIDInet window controls all routing and processing. You can create an archive of MIDInet routings by storing either complete setups or setup selections as MIDInet files. The current MIDInet file is linked to the current sequence. When you save a sequence in the usual way (see *Sequence Editing* or *Sequence Editing from the Keyboard*), the name of the current MIDInet file is saved with it. When you recall a linked sequence with MIDInet running, you can automatically recall its linked MIDInet file.

Displaying MIDInet

To use MIDInet, MultiFinder must be running. If you don't know how to set MultiFinder, see the section "Running other software" in the *Introduction* manual.

MIDInet is displayed in a separate window with a set of pulldown menus that appear in the menu bar at the top of the screen. To open the MIDInet window from the Finder, double-click the MIDInet icon. If the RTP window is already open, select Transfer to Applications from the Window menu.

If ⇆ is visible in the upper right corner of the MIDInet window, your Macintosh is successfully communicating with the Synclavier computer and MIDInet module. If it is not visible, the comunications link is incomplete. Check that the cables have been properly connected and the correct software has been installed.

If the RTP window is displayed in mid- or half-size, you can view the RTP window and the MIDInet window at the same time.

Use the Scroll Bars to scroll to any areas of a MIDInet file that are not visible in the window.

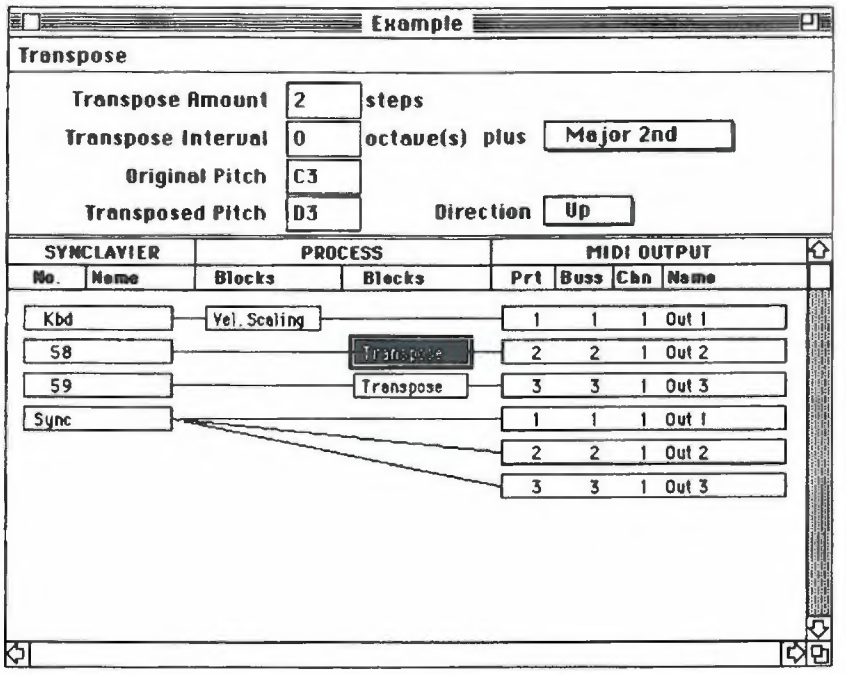
Displaying MIDInet (con't)

When the MIDInet window is active, you can customize it for optimum use with the **Display Preferences . . .** command from the Special menu.

You can adjust the width of any column heading by dragging the lower part of the vertical dividing lines.

The **Save Display Preferences . . .** command from the Special menu allows you to make the current display setup the default.

MIDI data "flows" through MIDInet from left to right. When two or more routings connect to the left (input) side of a single block, the MIDI data from all paths is automatically merged. When two or more routings connect to the right (output) side of a single block, the MIDI data from the block is automatically duplicated and sent along all the paths.



MIDInet window

Dialog area

Column headings

Routing area

In the illustration above, the Synclavier keyboard and sequencer tracks 58 and 59 are routed through process blocks to MIDI output ports 1-3. Synclavier synchronization signals are routed to the same output ports.

The dialog area shows a dialog for the **selected block**.

Unused elements of the display to the left of the Synclavier columns have been removed using the **Display Preferences** dialog from the Special menu.

Plug cursor

Double-plug cursor

Creating blocks

Click where you want a new block and the target block moves to that position. Or move the target block in any direction using the arrow keys. When the target block is where you want it, press Return to create the block.

Hold down the option key (the cursor turns into a plug) to create a new block connected to an already created one.

Hold down the control key (the cursor turns into a double-plug) to create an output block connected through an automatically inserted process block to an already created input block.

Selecting and assigning blocks

Select a single block by clicking on it; select a group of blocks by dragging; add or remove random blocks from the selection by Shift-clicking. Selected blocks can be edited using the commands on the Edit menu.

When you select an input, output or Synclavier block, assignment fields appear in the dialog area. Press Tab to move the cursor from field to field; press Return to complete the data entry.

Input and output block assignments include name, port and channel. Buss assignments are automatic for eight ports or fewer. When necessary, one buss can be assigned to drive two or more ports. Use different channels to direct data from one buss to the desired destination device.

Synclavier assignments include track name, track number and timbre name; you can use K for keyboard or S for synchronization in the Track Number field.

Creating multiple blocks and assigning them later

You can create multiple blocks one after the other and make their assignments later by pressing Return instead of Enter after creating the block. The assignment field does not appear and the cursor advances down the column to the next position.

Connecting blocks

Connect existing blocks by dragging from the right side of one block to the left side of the other. Create and route blocks simultaneously by dragging from the right side of any column or block to another column.

Connect multiple blocks to a single block or vice versa using the **Connect From** and **Connect To** commands on the Edit menu. Select the source block(s), select Connect From, select the destination block(s), select Connect To. Complete the operation by selecting the Connect From command again. Remove multiple connections by reversing the process.

Connect multiple input blocks to multiple output blocks through automatically inserted process blocks using the **Insert Source** and **Insert Destination** commands on the Edit menu. Select the source blocks, select Insert Source, select the destination blocks, select Insert Destination.

Rearranging blocks

Hand cursor

Hold down the Command key (the cursor turns into a hand) to rearrange blocks with the routings automatically following.

You can "clean up" the MIDI network by sorting any input or output column by port, channel, name or (output only) buss. The Synclavier column can be sorted by track name or number. Click the subhead in the desired column. Blocks in the column are sorted alphabetically or numerically and other columns are rearranged so that connections are straight across. Duplicate blocks are added or removed as required.

Synclavier tracks

Each Synclavier track addressed is assigned its own routing and timbre, even if it is an empty timbre.

MIDInet routing remains with the timbre when Synclavier track changes are made. For example, if you bounce track 3 to track 5, any MIDInet routing for track 3 is also bounced to track 5.

Similarly, MIDInet routings set up for the Synclavier keyboard are applied to the track selected automatically for recording.

Timbres moved by SMT or SKT also retain their routings. When necessary, additional blocks are created automatically to accommodate the added routings.

When the **Show All Active Tracks** feature on the Special Menu is selected, MIDInet automatically shows all active tracks at each occurrence of the following:

Create new file
Open file
Revert to saved
New tracks created/deleted in Synclavier
New sequence recalled
MIDInet module started

When a track routing is deleted by the Synclavier, either by erasing a track or replacing its contents with SKT or SMT, all MIDInet blocks (except the track blocks themselves) which are a part of that routing are deleted automatically.

Tracks which are erased when **Show AllActive Tracks** is selected cause the corresponding track blocks in MIDInet to be deleted.

MIDInet process blocks

Process blocks are used to change and manipulate MIDI data as it passes through MIDInet. Any routing can include one or more of these blocks with processes selected from the Process menu. When you select a process, a dialog allows you to set parameters exactly to your needs.

Detailed information for the **Controller Filter, Controller Map** and **Velocity Scaling** processes is given in the Basic Techniques section.

MIDI monitor

The MIDInet monitor displays all incoming MIDI events for the selected block in the dialog area. You can use the monitor scroll bar to scroll forward and backward through the data. A bullet marks each eighth event.

```
Note On          C3    Chn 01   Vel 127
Note Off         C3    Chn 01   Vel 000
Program Change   001
Control Change   007   Chn 01   Val 064   Main Volume
```

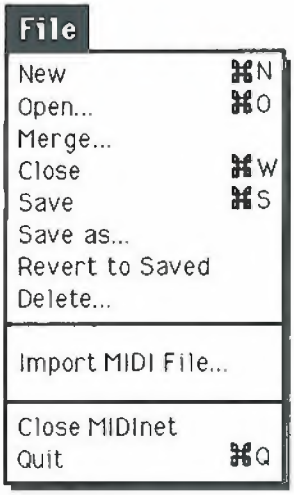
The data displayed is always that which is **received** at the selected block location. For example, if the selected block is a transpose block, the MIDI events are displayed before the transposition is applied. To see the results of the transposition, monitor the next block in the chain.

You can scroll through the monitor, viewing up to eight events at one time; the window then scrolls to additional events. So long as the monitor is active, you can move around the routing area and monitor activity at any location.

To turn the monitor on or off, select **Monitor** from the **Special** menu.

MIDInet menus

This section briefly describes each MIDInet menu command.



File menu

New creates a new, blank MIDInet file which replaces the current file.

Open... opens a previously-created file which replaces the current file.

Merge... adds the contents of a designated MIDInet file to the current MIDInet file at the target block location.

Close... closes the current file.

Save saves the current file to disk. A previously-saved file has its changes saved; the Save As dialog appears for an untitled file.

Save As... lets you name and save an untitled file or rename a previously-saved current file.

Revert to Saved replaces the edited version of the current file with the version that was last saved on disk.

Delete... deletes the designated file.

Import MIDI files lets you import conductor tracks and/or note tracks from a standard multitrack MIDI file. Conductor tracks become tempo/meter maps; note tracks become sequences.

Close MIDInet closes MIDInet while remaining in the RTP.

Quit closes MIDInet and returns to the Finder.

Edit menu

Undo reverses the last editing action in the file. Note: SKT, SMT or any Sort cannot be undone.

Cut removes the selected block(s) along with their assignments and connections and places them on the clipboard.

Copy places a copy of the selected block(s) along with their assignments and connections on the clipboard.

Paste pastes the clipboard contents at the selected block or target block.

Clear removes the selected block(s) without placing them on the clipboard.

Select All selects all MIDI blocks.

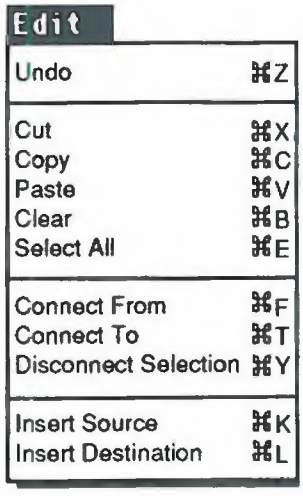
Connect From designates block(s) from which a multiple connection is to be made. Also use to complete multiple routing.

Connect To designates block(s) to which a multiple connection is to be made.

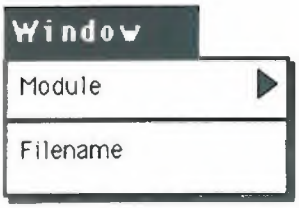
Disconnect Selection disconnects selected blocks from the network.

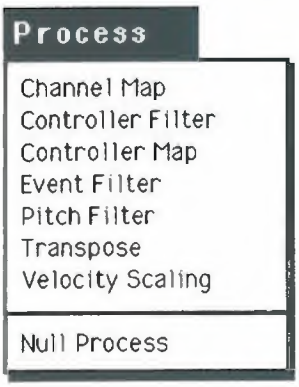
Insert Source designates block(s) from which a multiple connection with process blocks is to be made.

Insert Destination designates blocks from which a multiple connection with process blocks is to be made.



MIDInet menus (con't)





Window menu

Module lists available modules on a pop-up menu. Select the desired module from the menu.

✓ **Filename** shows the name of the file currently displayed.

Process menu

Channel Map changes the channel of a MIDI signal.

Controller Filter removes or passes selected MIDI controller data.

Controller Map connects any controller input to any controller.

Event Filter removes selected MIDI events.

Pitch Filter removes any pitch or group of pitches.

Transpose alters the pitch values of MIDI data.

Velocity Scaling changes the relationship of velocity input to velocity output.

Null Process erases a process from the selected process block.

Special menu

Clean Up Window rearranges the routing area so that all connections are straight across. Duplicate blocks are created or removed as required.

Display Preferences... customizes the MIDInet window. Select or deselect input, output or Synclavier columns; select the desired number of process columns.

Save Display Preferences... replaces window defaults with the current file configuration.

Show MIDInet™ Tracks Only shows Synclavier track blocks with MIDInet connections. Deletes track blocks irrelevant to MIDInet.

Show All Active Tracks adds blocks in the Synclavier column to display all currently active tracks.

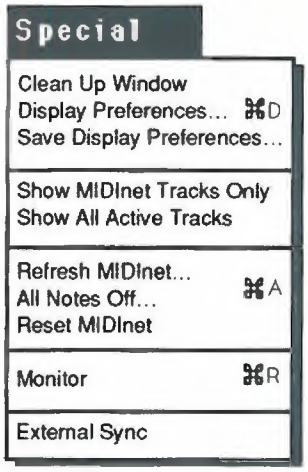
Refresh MIDInet™... re-applies the MIDInet connections of the displayed screen and sends a Note-Off message to all connected devices.

All Notes Off... sends a Note-Off message to all connected devices.

Reset MIDInet™... resets MIDInet hardware.

Monitor monitors MIDI events entering the selected block and displays them in the dialog area.

External Sync lets you select a synchronization mode: Internal, MIDI Input, MIDI Aux, or MIDInet™.



Basic MIDInet techniques

This section provides detailed instructions for performing some of the basic MIDInet operations.

Set up the display

You can customize the MIDInet window to include only those elements required by a specific operation.

1. Select **Display Preferences** from the **Special** menu.
2. Select the desired input, output and Synclavier columns.
3. Select the number of process columns.

Move the borders between column headings by dragging their lower ends to the desired position.

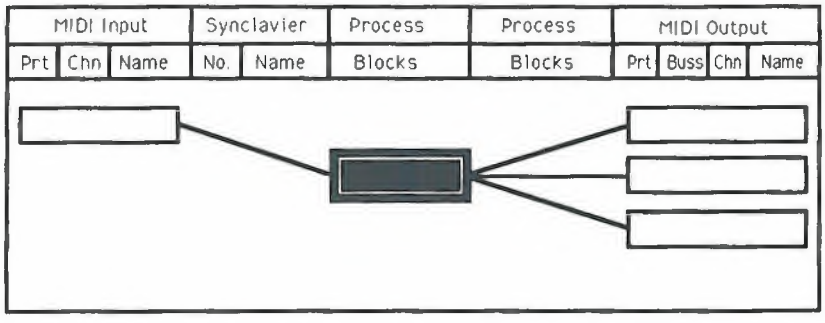
Make your customized MIDInet window the default by selecting **Save Display Preferences** from the **Special** menu.

Set up a MIDI network

You set up a MIDI network by connecting blocks for each input, output and MIDI process.

1. Create an input block by pressing Return when the target block is in the input column.
2. Create a process block connected to the input block by dragging from the right side of the input block to a position in the process column.
3. Create three output blocks by placing the target block in the output column with either the mouse or the arrow keys. Press Return and move the target block for each new output block.
4. Connect the process block to the three output blocks: Select the process block, then select **Connect From** on the Edit menu; select the three output blocks, then **Connect to** on the Edit menu. Complete the command by selecting the **Connect From** command again.

A simple MIDInet network



This simple network can be expanded to create any desired setup. Remember that block connections are always made from left to right.

Assign input, output and Synclavier block parameters

Input

1. Select the desired input block.
2. Enter the appropriate information in the dialog area. Use Tab to move from item to item.

Regardless of the number of input ports, only eight can be active at once.

Synclavier

1. Select the desired block.
2. Enter the appropriate information.

Track Number can be keyboard (Kbd or K), Synchronization (Sync or S) or track number 1 to 128.

Output

1. Select the desired output block.
2. Enter the appropriate information.

As long as only eight output ports are used, buss assignment is automatic. When there are more than eight, some busses may be assigned to drive two or more ports. Use different channels to direct data from one buss to the desired destination device.

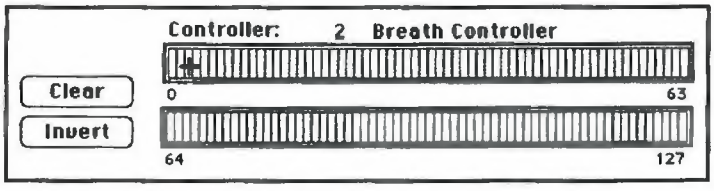
More than one buss cannot be assigned to one port.

Process the MIDI data

1. Select the desired process block.
2. Select a process from the Process menu.
3. Enter data in the dialog area.

Most of the process dialogs are intuitive. Detailed instructions for three processes follow.

Controller Filter



Controller Filter removes MIDI data for the selected controller. It is also used to show controller numbers for use in the Controller Map dialog.

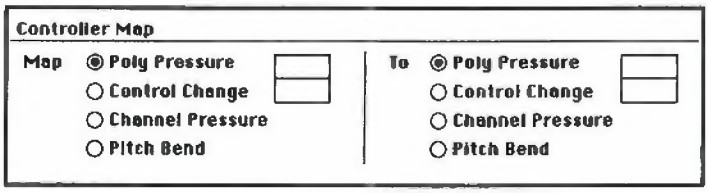
1. Move the cursor across the segmented display to view MIDI controller numbers and names.
2. Click the desired segment.

   The controller selected is filtered out.

Invert filters out non-selected controller signals. **Clear** removes all filter selections.

Process the MIDI data (con't)

Controller Map



Controller Map maps any controller to any other controller.

1. Select a controller to map by clicking one of the radio buttons in the left column.

   If you clicked Poly Pressure, also enter a note designation (C4, F# 3, etc.).

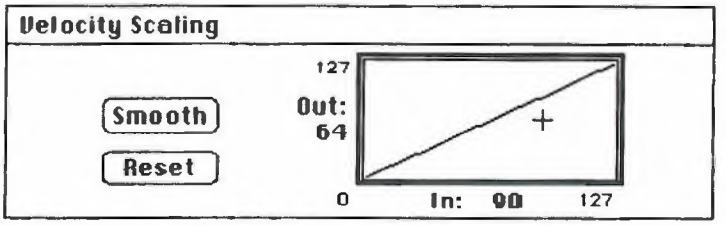
   If you clicked Control Change (for controllers other than those listed), enter the controller number. This number is obtained from the Controller Filter dialog.

2. Select the controller to be mapped to by clicking one of the radio buttons in the right column.

   If you selected Poly Pressure or Control Change enter the note designation or controller number as above.

Process the MIDI data (con't)

Velocity Scaling



Velocity Scaling changes output velocity in relation to input velocity. Zero represents no velocity, 127, the greatest velocity. The default diagonal line represents output velocity (y-axis) equal to input velocity (x-axis) throughout the entire range. **Out:** and **In:** show output and input velocity for the cursor position.

To change the relationship in a general way, drag the cursor to redraw the diagonal line. Whenever the redrawn line is above the default line, the output is greater than the input; whenever the new line is below the default line, the output is less than the input.

For more accurate settings use the following procedure.

1. Move the cursor left or right until the desired input value is displayed after "IN."
2. Move the cursor up or down until the desired output value is displayed under "OUT."
3. Click to set the displayed values.
4. Repeat for each value to be changed.

Reset restores the original diagonal line; **Smooth** smooths any jagged corners of a newly drawn line.

MIDI synchronization

To synchronize the Synclavier to an external MIDI device:

1. Select **External Sync: MIDInet** on the Special menu.
2. Create a Sync block in the Synclavier column.
3. Connect the desired MIDI device input block to the Sync block.

   MIDI clock signals from the device now control the Synclavier sequencer.

To synchronize an external device to the Synclavier:

1. Select **External Sync: Internal** on the Special menu (default).
2. Create a Sync block in the Synclavier column.
3. Connect the Sync block to the desired MIDI device output block.

   MIDI clock signals from the Synclavier now control the MIDI device.

Monitor MIDI data

You can display the MIDI data entering any MIDInet block.

1. Select the block to be monitored.
2. Select Monitor from the Special menu.

   As the MIDI network operates, the dialog area shows MIDI data entering the selected block.

Store a selected part of the setup

You can store single blocks, groups of blocks with their connections, or even whole setups.

1. Select the desired part of the file by dragging over it. Shift-click to add or remove blocks from the selection.

2. Select **Save Selection** from the File menu.

3. Enter a name for the file and select a folder and/or drive, if desired.*

4. Click the **Save** button.

   The selected part of the set-up is saved as a MIDInet file.

Merge an old file with the current file

You can place any stored file into the current file provided its columns match those at the position of the target block.

1. Select **Merge** from the File menu, or double-click at the desired location.

   The Merge dialog lists the MIDInet files available.

5. Double click the file desired file; or select it and click **Open.**

   The file is placed at the target block position.

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* If you are unfamiliar with this procedure, see your Macintosh manual.