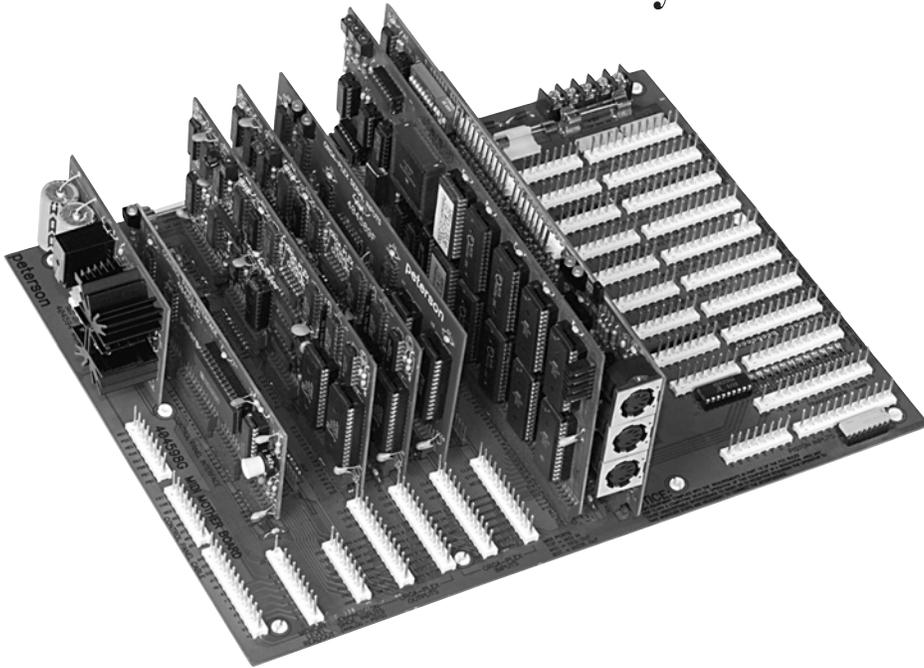


MIDI Resource System™



The Peterson MIDI Resource System™ brings the advantages of “Musical Instrument Digital Interface” technology to organists in a most intuitive way. This versatile interface system may be configured to allow organists to record and play back performances, operate sound modules via standard organ console controls, and even interact with commonly available music editing and transcribing software. The MIDI Resource System is compatible with nearly all pipe organs that have electric key and stop action.

In its most basic form, the MIDI Resource System can be provided as an “out only” system to send digital messages to MIDI compatible devices such as sound modules. When configured as a “record/playback only” system, status change information about all keys, stops, expression contacts, and miscellaneous controls can be recorded onto a floppy disk via a MIDI sequencer. The recorded data files may then be selected by song name and used to play the organ exactly the way it was recorded. This makes it possible for an organist to review and evaluate the performance from various vantage points in the room, and is also useful for pre-recording music for such events as wedding rehearsals or choir practices so that the organist need not actually be present.

A proprietary stop encoding protocol developed by Peterson makes it possible to use disks recorded on one organ to appropriately register other MIDI Resource System equipped instruments, even though the stop lists will almost certainly be different. By using any of several MIDI software programs on a personal computer, the recorded files can be edited to correct mistakes, quantize notes to various degrees to smooth out any rhythm irregularities, or manually add notes. The music can then be printed on an organ-standard

three staff score. A DOS based program developed by Peterson may be used to insert, edit, or delete organ stop registrations and expression values.

A MIDI Resource System configured for “full in and out” allows record/playback functionality and also provides a wide selection of features for conveniently controlling sound modules from the console. While other MIDI interface systems for pipe organs allow an organist to send instructions to remote sound modules, the Peterson MIDI Resource System offers unprecedented flexibility in how this is accomplished.

Digital codes called “patch changes”, used to command sound modules to play desired voices in response to notes played on a particular channel (or keyboard), can be stored in memory. Patch changes may then be sent via traditional thumb or toe pistons, stop controls or buttons on the MIDI Control Panel.

Separate patches may be saved to pistons on each of 32 or 99 memory levels, which may be selected independently or linked to the memory levels of a Peterson Duo-Set™ or MSP-1000™ combination action. MIDI General pistons can each send as many as 16 separate patch changes virtually at once, through a process called “layering”. Layered patches allow controlling multiple voices on the same or different keyboards and may include “Bank Select” messages to access more than the normal 128 voices. MIDI Divisional pistons can each send two patches in quick succession. MIDI pistons are programmed by simple procedures just like the capture or tripper methods of setting a combination action. Pistons then operate in an intuitive and “organ-like” manner.

As an alternative to MIDI pistons, patch changes may be sent from traditional stop controls, usually engraved

- Compatible with virtually all pipe organs with electric key and stop action.
- Highly intuitive for organists to use.
- Control panel puts main functions at an organist's fingertips.
- Send commands to sound modules from pistons or stops and the control panel.
- MIDI couplers are supported for each division.
- Proprietary “stop mapping” for compatibility of recordings with other organs is available.
- Sound module volume or velocity can be controlled from organ's expression shoes.
- Sustain or sostenuto function is supported for sound modules that respond to these messages.
- Extensive built-in self-diagnostics are provided.
- Traditional Peterson modular base system design.

"MIDI On..." a division name or "MIDI A", "MIDI B", etc. and located within each division's stop group.

MIDI coupler tabs or drawknobs are also supported. Special coupler controls for each division, usually engraved "MIDI To..." the division name, allow quick enabling or silencing of the sound module voices played from each individual keyboard. Unison, Sub, and Super MIDI couplers may be utilized.

The MIDI Resource System's control panel allows selection and display of the MIDI channel and program numbers that are to be assigned to each keyboard. A patch change channel and program combination may be sent directly from the control panel, or saved on a piston or stop control for convenient use later. The control panel also includes an All Notes Off ("ANO") button to instantly cancel all notes on all connected sound modules without changing any other settings; an On/Off switch for the MIDI Interface in its entirety; and a tuning knob for adjusting the pitch of any sound modules that are compatible with remote tuning instructions.

Expression shoes on a console may be configured to control the volume or velocity of sound module voices in various divisions. Sustain or sostenuto function is supported, as are alternate program number banks now found on many MIDI sound modules.

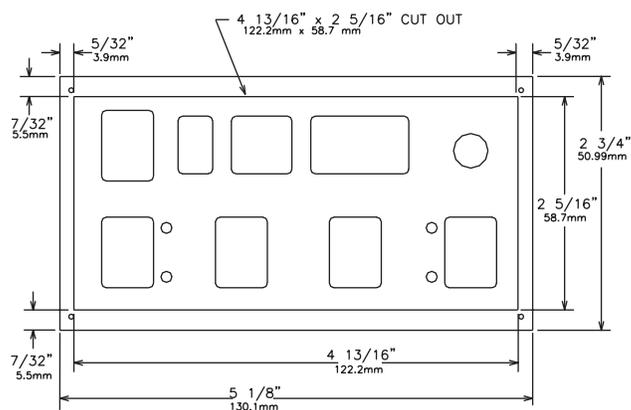
Each MIDI Resource System is provided to the organ builder with the circuit board modules required for the capacity and options specified. There is no job-by-job factory software programming involved; the operating software is standard and identical for all systems except as backwards-compatible improvements are made. Special "Diagnostics" and "Assign Stops" menus allow an installer to configure and test all functions by following step-by-step instructions and viewing displays on the main control panel. A comprehensive array of color-coded diagnostic LEDs monitor the operation of the circuitry.

Using a MIDI Resource System in conjunction with a Peterson OrgaPlex™ switching and coupler system is preferred but not required. Note, stop, expression, and miscellaneous control data that is already in OrgaPlex serial form can be translated to and from the MIDI system with the least hardware required, but encoder boards are available at a modest additional cost when installing MIDI on a non-OrgaPlex-equipped instrument. All contacts must be fed from organ positive polarity. Flyback spike protection, standard on the coil drivers of virtually all solid state pipe organ control systems, must be provided for all coils. In certain cases, such as where some coils in the organ are still operated by non solid state relays, discrete diodes must be added either directly across the coils or on circuit boards available from Peterson that may be plugged onto Peterson junctions.

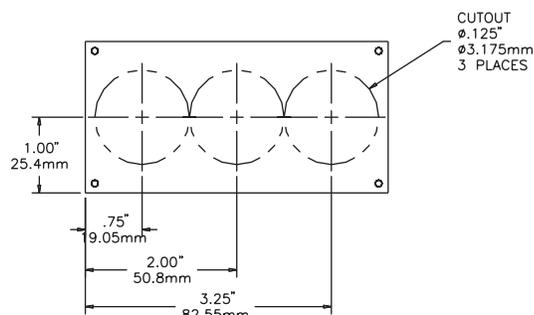
Versatile, full-featured, and easy to use, the MIDI Resource System by Peterson is truly a useful addition to new and rebuilt pipe organs alike.



TECHNICAL INFORMATION



MIDI Main Control Panel



MIDI Connector Panel with Brass Bezel

Specifications

Operating Voltage: Organ rectifier 12 -18 VDC. Supplied Class 2 transformer or optional Peterson Console AC Control System must be plugged into a 117 VAC 50/60 Hz always-on outlet.

Organ Data: Preferred connection is via OrgaPlex™ serial data lines. Alternate methods using DC Encoder boards require positive keying and positive stop common.

MIDI Data: MIDI-standard 5 pin DIN connectors are provided.

Capacities: Up to 5 keyboards using parallel format or 7 keyboards in OrgaPlex serial format are supported, plus 288 Stops and 72 pistons.

Transposer: Can interface with OrgaPlex or Diode Matrix switching systems.

Inputs: Lock Out, Set, Cancel, Start, Stop, Continue, All Stops Off, Auto Resend, and Sustain (Sostenuto).