

Master Menu



Warning: Master Menu changes are automatically saved when you exit the module. If the power is turned off before you exit the module any changes you have made will be lost.

The Master menu contains functions that affect the overall operation of Proteus 2000. For example, changing the Master Tune parameter changes the tuning of all the presets, not just the one currently displayed.

► To enable the Master menu

Press the Master button, lighting the LED. The Master Menu screen displays the menu page most recently selected since powering up Proteus 2000. The cursor appears below the first character of the screen heading on line one.

► To select a new screen

Press the Home/Enter button or press the Cursor button repeatedly until the cursor is below the screen title heading. Rotate the Data Entry Control to select another screen.

► To modify a parameter

Press either Cursor button repeatedly (or hold down the right cursor button while turning the Data Entry Control) until the cursor is below the desired parameter value. Rotate the Data Entry Control to change the value.

► To return to the main screen

Press the Master button, turning off the LED.

Defining Master Parameters

Transpose/Tune

Master setup parameters affect overall performance, range, and global effects. This section describes the Master parameters and how to define them.

The Transpose parameter transposes the key of all presets, in semitone intervals. The transpose range is ± 24 semitones.

Master Tune adjusts the fine tuning of all presets so that you can tune Proteus 2000 to other instruments. The master tuning range is ± 1 semitone in 1/64th semitone increments (1.56 cents). A master tune setting of “+00” indicates that Proteus 2000 is perfectly tuned to concert pitch (A=440 Hz).

MASTER TRANSPOSE +00 semitones	TUNE +00
--	--------------------

Bend Range

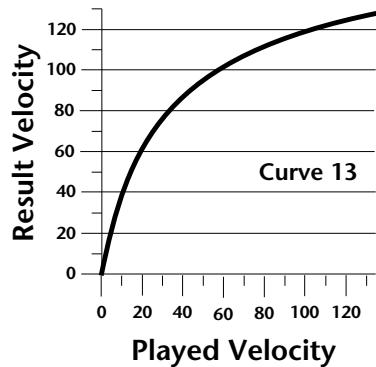
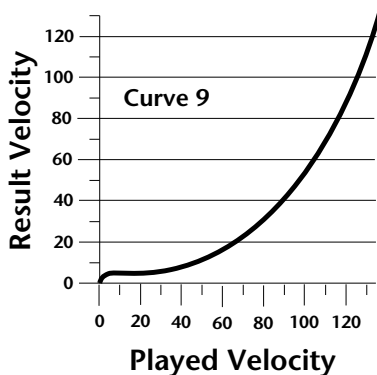
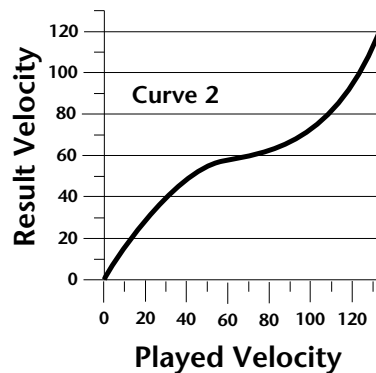
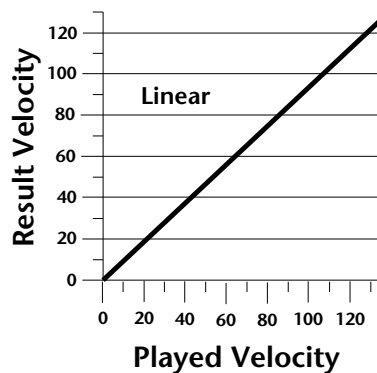
The Bend Range parameter sets the range of the pitch wheel. This affects only presets that have their individual Pitch Bend range (defined in the Edit menu) set to Master. The maximum pitch bend range is ± 12 semitones or one octave in each direction.

MASTER BEND RANGE +/- 7 semitones

Velocity Curve

You can modify incoming velocity data by a velocity curve in order to provide different types of dynamics in response to your playing, or to better adapt to a MIDI controller. The Master Velocity Curve page lets you select one of thirteen master velocity curves or to leave the data unaltered (linear).

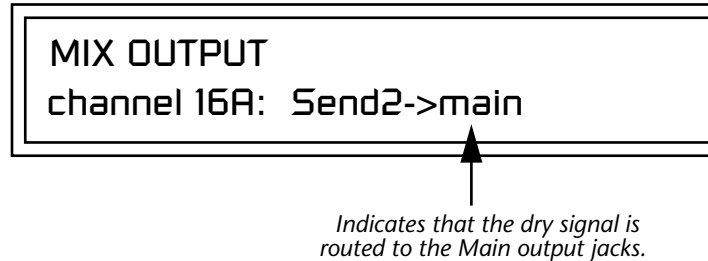
MASTER VELOCITY CURVE 13



For a complete list of all available velocity curves, see "Velocity Curves" on page 177 of the Appendix.

Mix Output

The Mix Output parameter allows you to override the routing assignments made in each preset and instead assign the outputs according to MIDI channel. For each of the 32 MIDI channels, you can select Send 1-4, or Preset. When Preset is selected, the output assignment defined in the Preset Edit menu is used.



The **Output Routing** field (pointed to by the arrow) reflects the true routing of Send 2 or Send 3 to either:

1) the effects processor input or... 2) the rear panel submix jacks.

Since the Sub 1 output is NOT being used, the signal is routed through the effects processors, then on to the main outputs. If a plug were inserted into one of the Sub 1 jacks the destination field would read "Sub1" and the dry signal would be routed directly to the Sub 1 outputs on the back panel.



Send Routings

Send 1 - Main Outputs

Send 2 - Subout 1 or Main Outs

Send 3 - Subout 2 or Main Outs

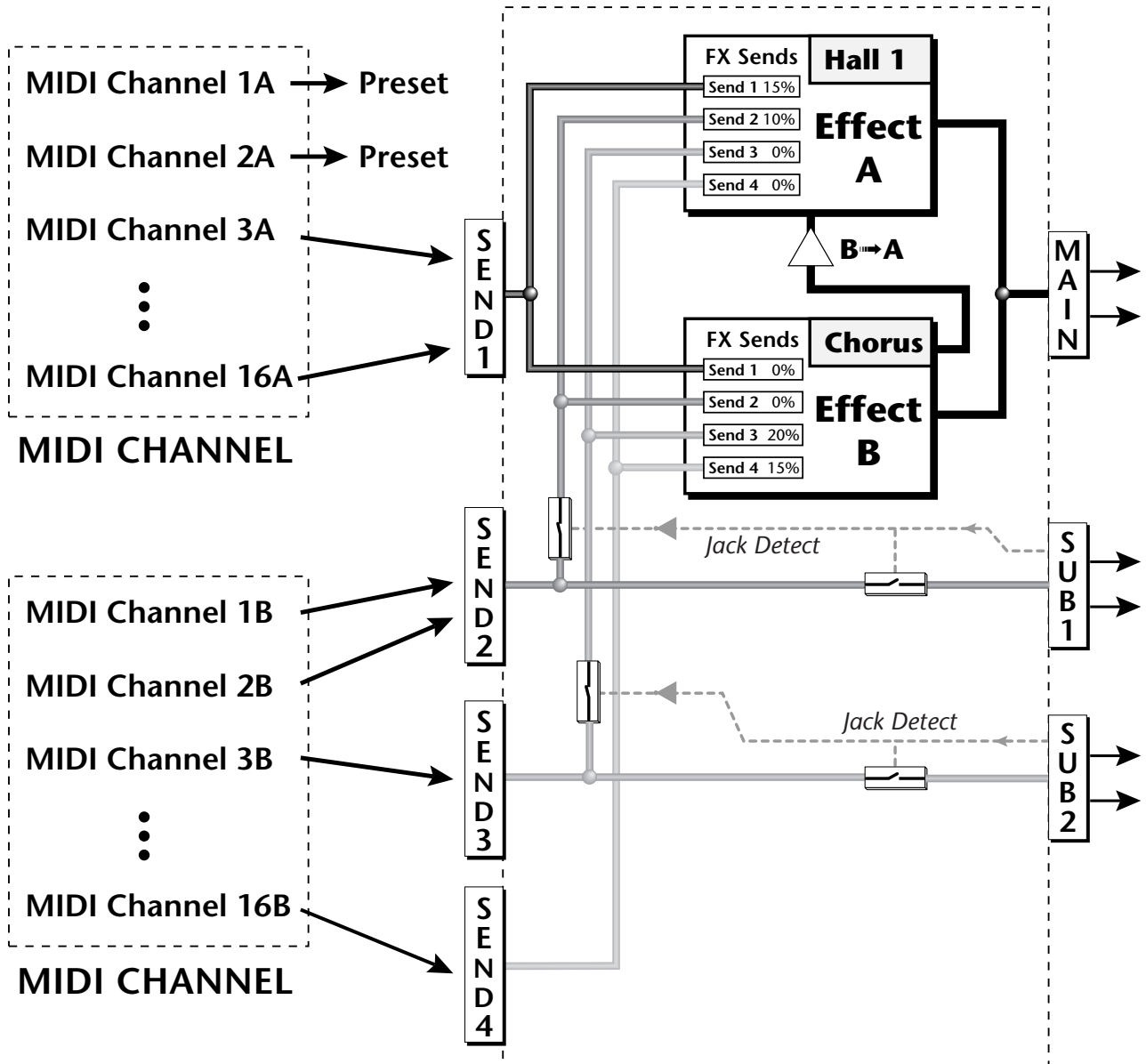
Send 4 - Main Outputs

The Sends function as effect processor inputs (effect sends). Send 2 and Send 3 are also used to route sounds to the Sub 1 and 2 outputs on the back panel. When a plug is inserted into the associated Submix jack on the back panel, **the Dry portion of the Send is disconnected** from the effects processor and the signal is routed directly to the output jack. The actual output routing is shown in parentheses in the display. If you don't want the wet portion of the signal in the main mix, turn down the Send Level. *The entire Send is disconnected from the Effects Processors even if only one plug is inserted into the Submix jack.*

The four Effect Sends allow you to get the most out of the two effect processors. For example, with Effect B set to an echo algorithm, you could route one MIDI channel to Send 3 and set the effect amount to 80%. Another MIDI channel could be routed to Send 4 with an effect amount of only 5%. This is almost like having two different effects!

The Mix Output function is also useful when sequencing since it lets you route specific MIDI channels (and thus sequencer tracks) to specific Sub outputs (on the back panel) where there they can be processed with EQ or other outboard effects.

OUTPUT SECTION & EFFECTS PROCESSORS



Sends 2 and 3 can be routed to the effects processors or to rear panel submix jacks. When a plug is inserted into a Submix jack, the Send is disconnected from the effects processor and is routed **directly** to the Submix output jacks.

Master Effects

The digital effect processors can be programmed as part of the preset (using the Edit menu) so that effects will change along with the preset. However, there are only two effect processors, and so you cannot have a different effect on each preset when in Multi mode.

The Master Effects settings assign the effect processors “globally” for all presets to provide a way to use the effects in Multi mode. Detailed information is presented in the Effects chapter (see Effects on page 137).

Effects Mode

The FX Mode page enables or bypasses the effects. When the FX Mode is set to “bypass,” the effects are turned off on a global scale. This includes Effects programmed in the preset.

FX MODE
enabled

Effects Multi Mode Control

The routing scheme for the two stereo effects processors provides a lot of versatility. When in multi mode, you can “use master settings” which applies the Master menu effects settings to all 32 MIDI channels.

FX MULTIMODE CONTROL
use master settings

If you want more control, you can use the “channel” setting which applies the effects settings of the preset on a specified channel to all the other channels. Changing the preset on the specified channel changes the effect.

FX MULTIMODE CONTROL
preset on channel 1A

If you are in Omni or Poly modes this parameter is disabled and the message in parentheses explains that Proteus is currently in Omni mode.

FX MULTIMODE CONTROL
(using Omni mode)

Master FXA Algorithm

This function selects the type of effect used for the “A” effect. The following effect types are available.

MASTER FXA ALGORITHM Room 1

A Effect Types

- | | |
|---------------------|-----------------------|
| 1. Room 1 | 23. BBall Court |
| 2. Room 2 | 24. Gymnasium |
| 3. Room 3 | 25. Cavern |
| 4. Hall 1 | 26. Concert 9 |
| 5. Hall 2 | 27. Concert 10 Pan |
| 6. Plate | 28. Reverse Gate |
| 7. Delay | 29. Gate 2 |
| 8. Panning Delay | 30. Gate Pan |
| 9. Multitap 1 | 31. Concert 11 |
| 10. Multitap Pan | 32. Medium Concert |
| 11. 3 Tap | 33. Large Concert |
| 12. 3 Tap Pan | 34. Large Concert Pan |
| 13. Soft Room | 35. Canyon |
| 14. Warm Room | 36. DelayVerb 1 |
| 15. Perfect Room | 37. DelayVerb 2 |
| 16. Tiled Room | 38. DelayVerb 3 |
| 17. Hard Plate | 39. DelayVerb 4 Pan |
| 18. Warm Hall | 40. DelayVerb 5 Pan |
| 19. Spacious Hall | 41. DelayVerb 6 |
| 20. Bright Hall | 42. DelayVerb 7 |
| 21. Bright Hall Pan | 43. DelayVerb 8 |
| 22. Bright Plate | 44. DelayVerb 9 |

*FXA Parameters:
Decay/HF Damping
FxB -> FxA*

This page lets you define the parameters of the selected Effects algorithm. Use this page to setup the effect decay, high frequency damping amount and to route "B" effects through the "A" effects. See "Effect Parameters" on page 139 for more details.

FXA	DECAY	HFDAMP	FxB>FxA
	040	096	001

FXA Send Amounts

These parameters set the effects amounts for each of the four stereo effects busses. See "Master Effects" on page 142 for detailed information.

FXA SEND AMOUNTS	1:100%
2: 50%	3: 10%
	4: 0%

*Master FxB
Algorithm*

This parameter selects the type of effect used for the "B" effect. The following effect types are available.

MASTER FxB ALGORITHM
Chorus 1

B Effect Types

- | | |
|----------------|------------------------|
| 1. Chorus 1 | 17. Ensemble |
| 2. Chorus 2 | 18. Delay |
| 3. Chorus 3 | 19. Delay Stereo |
| 4. Chorus 4 | 20. Delay Stereo 2 |
| 5. Chorus 5 | 21. Panning Delay |
| 6. Doubling | 22. Delay Chorus |
| 7. Slapback | 23. Pan Delay Chorus 1 |
| 8. Flange 1 | 24. Pan Delay Chorus 2 |
| 9. Flange 2 | 25. Dual Tap 1/3 |
| 10. Flange 3 | 26. Dual Tap 1/4 |
| 11. Flange 4 | 27. Vibrato |
| 12. Flange 5 | 28. Distortion 1 |
| 13. Flange 6 | 29. Distortion 2 |
| 14. Flange 7 | 30. Distorted Flange |
| 15. Big Chorus | 31. Distorted Chorus |
| 16. Symphonic | 32. Distorted Double |

FXB Parameters: Feedback/LFO Rate Delay Time

The FXB parameters setup the characteristics of the effect. Use this page to define the feedback amount, the LFO rate and delay amount for the selected type “B” effect. See “Effect Parameters” on page 139 for details.

FXB	FEEDBK	LFORATE	DELAY
	000	003	0

FXB Send Amounts

These parameters set the effects amounts for each of the four stereo effects busses. See the Effects chapter for detailed information.

FXB SEND AMOUNTS	1:100%
2: 50%	3: 10% 4: 0%

MIDI Parameters

MIDI Mode

MIDI parameters control how the Proteus 2000 sends and receives MIDI data.

MIDI Mode selects one of the three MIDI modes: Omni, Poly or Multi mode.

MIDI MODE omni	CHANGE ignored
--------------------------	--------------------------

The **MIDI Mode Change** parameter specifies whether mode changes made through an external MIDI controller are accepted or ignored.

The MIDI modes are as follows:

Omni

Responds to note information on all MIDI channels and plays the preset currently displayed in the main screen.

Poly

Responds only to note information received on the currently selected MIDI channel (on the preset selection screen) and plays that channel's associated preset.

Multi

Responds to data on any combination of MIDI channels and plays the specific preset associated with each of the MIDI channels. You must select multi mode for multitimbral operation.

MIDI SysEx ID



WARNING: When transferring SysEx data from one Proteus 2000 to another, the ID numbers of both units must be the same.

This page defines the MIDI system exclusive (SysEx) device ID number. The SysEx ID lets an external programming unit to distinguish between multiple Proteus 2000 units connected to the same preset editor. In this case each unit must have a unique SysEx ID number.

MIDI SYSEX ID 000

MIDI Enable

MIDI Enable lets you turn each MIDI channel on and off independently when in Multi mode. This feature is helpful when you have other devices connected to the same MIDI line and do not want the Proteus 2000 unit to respond to the MIDI channels reserved for the other devices.

MIDI ENABLE
channel 01A: On

Because the MIDI Enable function only makes sense if you are in Multi mode, Proteus 2000 disables this feature when in Omni or Poly mode.

In Multi
Mode

MIDI ENABLE
channel 16B: On

In Omni
Mode

MIDI ENABLE
(using Omni mode)

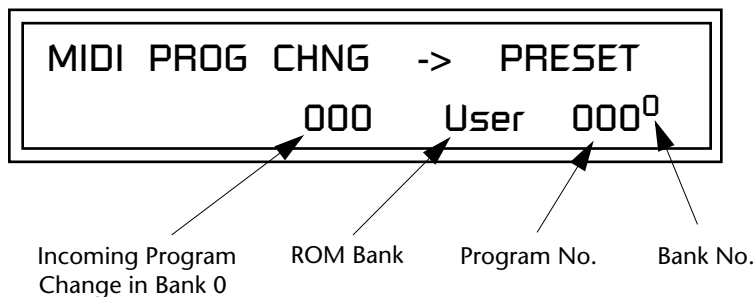
MIDI Program Change -> Preset

You can also remap incoming MIDI program changes to a different numbered preset. This is a handy feature when your master keyboard cannot send a bank change or you want to reorder preset numbers. Any preset can be mapped to any incoming MIDI program change number.

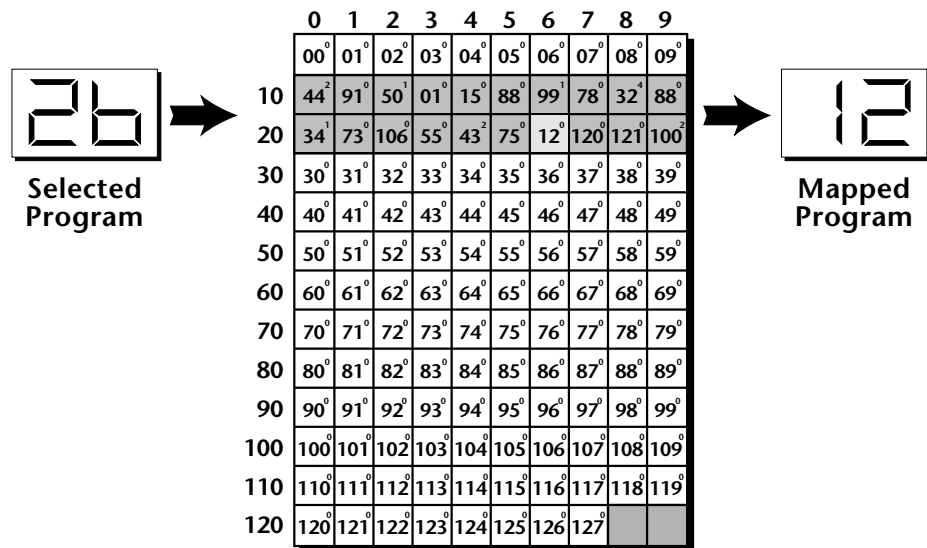
For example, you could set up the Program -> Preset map to call up preset #12 whenever Proteus 2000 receives MIDI program change #26.

The four fields shown below are editable.

 The Program->Preset Change only works for program changes received in Bank 0.



 Programs and presets are the same thing. "Preset" is the E-mu term for MIDI Program.



In this chart, program changes 10-29 have been remapped to new preset numbers. All other presets are selected normally.

Receive Program Change

Use this function to instruct the Proteus 2000 to utilize or ignore incoming MIDI preset changes or Bank Select commands for each channel. Use the cursor buttons to select the channel number field, then use the Data Entry Control to select a channel number. Use the cursor button again to select the On/Off field and the Data Entry Control to change the value.

RECEIVE PROGRAM CHANGE
channel 01A : on

Real-time Controller Assignment

Use these three pages to assign twelve real-time control sources. Each MIDI Controller is assigned a letter (A - L). The front panel Controller Knobs *and* twelve MIDI controller numbers share the A-L controller routings. **These screens let you select which MIDI real-time controllers numbers will be received (from 1 to 31 and from 64 to 119) and which controller numbers will be transmitted over MIDI if the front panel controls are turned.** The PatchCord routing and amount in the Edit menu determine what effect the controller has on each preset. Real-time controllers are shown in the PatchCord menu as MIDI A through MIDI L.



Proteus 2000 factory presets have certain synth parameters assigned to each controller letter and so these are "Global" controller assignments.

For example, assigning a MIDI controller to "A" in this screen would let you control filter Fc for all the factory presets. See "Front Panel Knob Functions" on page 155.

The Real-time Controller assignment also specifies which controller numbers are transmitted when the "Knobs MIDI Out" is enabled (see "Knobs/Riff MIDI Out" on page 49).

REALTIME CONTROLLER

A: 21 B: 22 C: 23 D: 24

REALTIME CONTROLLER

E: 25 F: 26 G: 27 H: 28

REALTIME CONTROLLER

I: 80 J: 81 K: 91 L: 93

Note: Controllers 7 and 10 are already assigned to Volume and Pan for each MIDI channel. Controllers 91 & 93 are the standard controller numbers for reverb and chorus send amounts.

Following are a few of the standardized MIDI Controller numbers as defined by the MIDI manufacturers association. The controllers shown in **Bold** are automatically routed to the destination (volume & pan) or have their own PatchCord source. Others, such as Portamento Time, can be routed using a PatchCord to have the desired effect.

1 - Modulation Wheel	7 - Volume
2 - Breath Controller	8 - Balance
3 - Old DX7 Aftertouch	9 - Undefined
4 - Foot Pedal	10 - Pan
5 - Portamento Time	11 - Expression
6 - Data Entry	

MIDI Footswitch Assign

Like the MIDI Controllers, you can assign three MIDI footswitches to MIDI footswitch numbers. Footswitches numbers are from 64-79. Destinations for the footswitch controllers are programmed in the PatchCord section of the Edit menu.

FOOTSWITCH CONTROLLER

1: 64 2: 65 3: 66

Following are a few of the standardized MIDI Switch numbers.

- | | |
|------------------------------|----------------------------|
| 64 - Sustain Switch (on/off) | 67 - Soft Pedal (on/off) |
| 65 - Portamento (on/off) | 69 - Hold Pedal 2 (on/off) |
| 66 - Sostenuto (on/off) | |

Tempo Controller

This function allows a MIDI controller to change the Master Tempo. The Global Tempo is used for the clock divisor PatchCords, tempo-based envelopes and synced LFOs. You can assign any controller number from 0-31, mono key pressure, or the pitch wheel to change the Global Tempo. A different controller can be used to change the tempo up or down. The Pitch Wheel can be assigned to both the up and down parameters to vary the tempo up and down from a single controller. If any other controller is assigned to both the up and down parameters, Proteus 2000 redefines the center of the controller's range as zero.

MIDI Controller values are added to the Base Tempo with an offset range of ± 64 . When the controller is set to "off" the tempo returns to its original setting. This control has no effect when using an external clock.

TEMPO CONTROLLER#		CHAN
Up: 03	Down: 09	16A

Knob Preset Quick-Edit

"Quick-Edit" changes the initial controller setting in the preset whenever you move a Control Knob. This parameter selects whether or not the front panel Controller Knobs are used to Quick-Edit the currently selected preset. See "Controller Knobs" on page 23 in the Operations chapter for more details.



Quick Edit does not work while in the Edit menu with "Knobs Deep Edit" enabled.

KNOBS PRESET QUICK-EDIT disabled

*Knobs
Deep Edit*

This parameter specifies whether or not the front panel controller knobs can be used to edit parameter values in the Master or Edit menus. This is called “Deep-Editing.” With Knob Deep Edit disabled, the front panel controller knobs retain their function as real-time controllers even when in the Master or Edit modes.

KNOBS DEEP EDIT
disabled

Knobs/Riff MIDI Out

This function allows you to select whether or not MIDI controller data is transmitted when you turn the front panel Controller knobs. The knobs transmit on the controller numbers defined by the Real-time Controller Assign parameter (see page 46). This function also enables or disables transmission of Riff note data over MIDI when the Audition button is pressed.

If Deep Edit is enabled, “Knobs MIDI Out” does not work while in any of the editing menus (Master, Edit, Save/Copy).

KNOBS/RIFF MIDI OUT
don't transmit

*Preset Edit All Layers
Enable*

This function allows you to turn the Edit All Layers feature on or off. “Edit All Layers” is an Edit menu feature which allows you to select all layers (A) in order to edit all four layers simultaneously. Because this feature can be confusing to the beginning programmer, it can be disabled here in the Master menu. Check this feature out when you're ready. It's great!

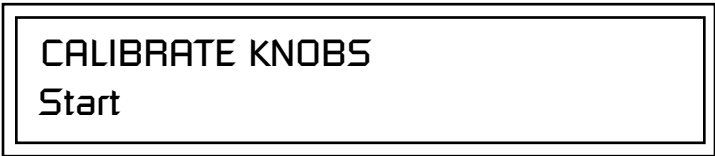
PRESET EDIT ALL LAYERS
enabled

Front Panel Knob Calibration

This function calibrates the minimum and maximum values for the five front panel knobs. The controls should be calibrated periodically in order to compensate for normal wear and tear on the controls themselves or if the controls behave strangely. Before calibration, it's usually a good idea to let the unit warm up for about half an hour to ensure you have the maximum range on all the front panel controls.

► To Calibrate the Front Panel Control Knobs

1. Press the Master menu button and advance to the Calibrate Knobs page.



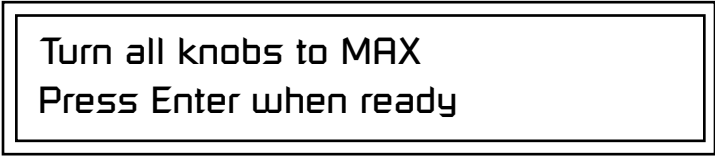
CALIBRATE KNOBS
Start

2. Press the Enter button to begin the calibration process. The following screen appears.



Turn all knobs to MIN
Press Enter when ready

3. Turn all knobs to their minimum value (which is pegged in the counter-clockwise direction), then press the Enter button. The screen briefly flashes, "Reading Values....," then displays:



Turn all knobs to MAX
Press Enter when ready

4. Turn all knobs to their maximum value (pegged in the clockwise position), then press the Enter button. The display shows, "Reading Values... Done." Calibration is complete.

MIDI SysEx Packet Delay

Sometimes errors occur if the computer or sequencer to which you are sending MIDI SysEx data is faster or slower than the Proteus 2000. The MIDI SysEx Packet Delay command lets you specify the amount of delay between MIDI SysEx packets so the input buffer of your computer does not overflow, causing an error. The value range is from 0 through 8000 milliseconds. A delay value of zero allows full speed MIDI transfer. If you are experiencing data transmission errors, try increasing the delay value until the problem disappears.

MIDI SYSEX PACKET DELAY
300 milliseconds

Send MIDI System Exclusive Data

This command transmits MIDI System Exclusive (SysEx) data to the MIDI Out port of Proteus 2000. The MIDI data can be sent to a computer, sequencer or to another Proteus 2000. When transferring data between two Proteus 2000s be sure both units have the same SysEx ID number! See "MIDI SysEx ID" on page 44 to learn how to change the SysEx ID.

Using the cursor key and the Data Entry Control, select the type of MIDI data you want to transmit. Following are descriptions of the types of MIDI data that can be transmitted.

Current Multisetup

Transmits all parameters in the Master menu except Tuning Tables, Program/Preset Map and Viewing Angle.

Program /Preset Map

Transmits the MIDI Program -> Preset Map.

All User Tuning Tables

Transmits all 12 user User Tuning Tables.

Multimode Map

Transmits the following parameters:

- Multimode Basic Channel
- Multimode Effects Control Channel
- Multimode Tempo Control Channel

and for each MIDI Channel...

- Preset, Volume, & Pan
- Mix Output
- Multimode Channel Enable
- Multimode Bank Map
- Multimode Receive Program Change



The Preset, Volume, and Pan information for all 32 channels is included when the Multi mode Map settings are transmitted or received.



WARNING: When transferring SysEx data from one Proteus 2000 to another, the ID numbers of both units must match.

Bank 0 User Presets

Transmits all the user defined presets in Bank 0.

Bank 1 User Presets

Transmits all the user defined presets in Bank 1.

Bank 2 User Presets

Transmits all the user defined presets in Bank 2.

Bank 3 User Presets

Transmits all the user defined presets in Bank 3.

Any Individual Preset

Transmits only the selected preset.

The Enter LED will be flashing. Press the Enter button to confirm the operation. To receive MIDI data, simply send the MIDI data into Proteus 2000 from another Proteus or from a computer/sequencer.

SEND MIDI SYSEX DATA
bank 1 user presets

► To Record MIDI SysEx Data into a Sequencer:

1. Setup the sequencer to receive system exclusive data.
2. Place the sequencer into record mode, then Send MIDI Data.

► To Receive MIDI SysEx Data from a Sequencer:

Simply play back the sequence into Proteus 2000.

User Key Tuning

 The user key tuning can be used to tune individual percussion instruments.

User Key Tuning lets you create and modify 12 user definable tuning tables. The initial frequency of every key can be individually tuned, facilitating the creation of alternate or microtonal scales.

Using the cursor keys and the Data Entry Control, select the user table number, the key name, the coarse tuning and the fine tuning. The key name is variable from C-2 to G8. Coarse Tuning is variable from 0 to 127 semitones. The fine tuning is variable from 00 to 63 in increments of 1/64 of a semitone (approx. 1.56 cents). For each preset, the specific tuning table is selected in the Edit menu.

USER KEY TUNING Table:1
Key: C1 Crs: 036 Fine: 00

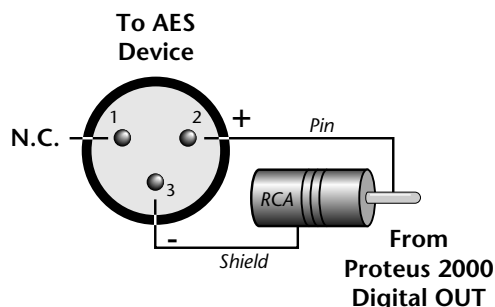
Output Format

The Output Format parameter sets the digital audio output format. The available formats are S/PDIF, and AES pro. If you are using the digital output, choose either S/PDIF or AES pro to match the format of the receiving device.

OUTPUT FORMAT
S/PDIF

 **DON'T CHEAP OUT!**
Always use high quality cable for digital audio connections.

The Proteus 2000 contains a S/PDIF digital output. The diagram below shows how an adapter cable for AES pro should be wired.



If you use an adapter cable to connect the S/PDIF digital audio output to AES gear, make sure to use high quality, low capacitance cable.

Base Tempo

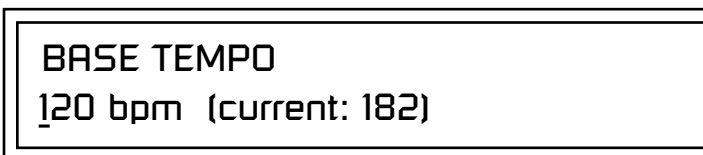
Proteus 2000 contains an internal master clock which can be used to: synchronize the LFOs when in Tempo-based mode, control the times of Tempo-based envelopes or used as a modulation source in the PatchCords section. There are two tempo values shown in the display.

- **Base Tempo** - The base tempo is the value to which the MIDI controller specified in the Tempo Controller screen will be applied. (See “Tempo Controller” on page 48.)
- **Current Tempo** - The current tempo is equal to the base tempo modulated by the MIDI controller specified in the Tempo Controller screen. If no MIDI Tempo controller message has been received since the last Base Tempo change, the Current Tempo will be equal to the Base Tempo.

Current Tempo is NOT displayed when the Base Tempo is set to “MIDI Clock”.

► To Change the Master Tempo:

1. Move the cursor to the lower line of the display.
2. Adjust the Base Tempo using the Data Entry Control.



The Master Tempo values range from 1 through 300 beats per minute (BPM) or you can select “use MIDI clock” to use an external MIDI clock source.

Screen Viewing Angle

This function changes the viewing angle of the display so that you can read it easily from either above or below the unit. The angle is adjustable from +7 to -8. Positive values will make the display easier to read when viewed from above. Negative values make the display easier to read from below.

