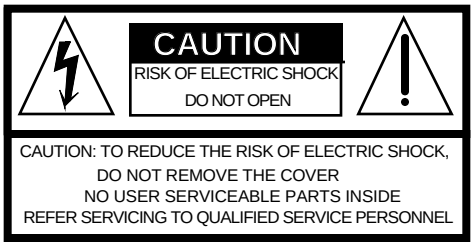
K2500

Reference Guide

KURZWEIL
Music Systems

Part Number: 910252 Rev. F



The lightning flash with the arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

IMPORTANT SAFETY & INSTALLATION INSTRUCTIONS

INSTRUCTIONS PERTAINING TO THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read all of the Safety and Installation Instructions and Explanation of Graphic Symbols before using the product.

2. This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a power supply cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet which is properly installed and grounded in accordance with all local codes and ordinances.

DANGER - Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Do not modify the plug provided with the the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician. Do not use an adaptor which defeats the function of the equipment-grounding conductor. If you are in doubt as to whether the product is properly grounded, check with a qualified serviceman or electrician.

3. **WARNING** - This product is equipped with an AC input voltage selector. The voltage selector has been factory set for the mains supply voltage in the country where this unit was sold. Changing the voltage selector may require the use of a different power supply cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified maintenance personnel.

4. Do not use this product near water - for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.

5. This product should only be used with a stand or cart that is recommended by the manufacturer.

6. This product, either alone or in combination with an amplifier and speakers or headphones, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.

7. The product should be located so that its location or position does not interfere with its proper ventilation.

8. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.

9. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.

10. This product may be equipped with a polarized line plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.

11. The power supply cord of the product should be unplugged from the outlet when left unused for a long period of time. When unplugging the power supply cord, do not pull on the cord, but grasp it by the plug.

12. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

13. The product should be serviced by qualified service personnel when:

- A. The power supply cord or the plug has been damaged; or
- B. Objects have fallen, or liquid has been spilled into the product; or
- C. The product has been exposed to rain; or
- D. The product does not appear to be operating normally or exhibits a marked change in performance; or
- E. The product has been dropped, or the enclosure damaged.

14. Do not attempt to to service the product beyond that described in the user maintenance instructions. All other servicing should be referred to qualified service personnel.

15. **WARNING** - Do not place objects on the product's power supply cord, or place the product in a position where anyone could trip over, walk on, or roll anything over cords of any type. Do not allow the product to rest on or be installed over cords of any type. Improper installations of this type create the possibility of a fire hazard and/or personal injury.

RADIO AND TELEVISION INTERFERENCE

Warning: Changes or modifications to this instrument not expressly approved by Young Chang could void your authority to operate the instrument.

Important: When connecting this product to accessories and/or other equipment use only high quality shielded cables.

Note: This instrument has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This instrument generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this instrument does cause harmful interference to radio or television reception, which can be determined by turning the instrument off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the instrument and the receiver.
- Connect the instrument into an outlet on a circuit other than the one to which the receiver is connected.
- If necessary consult your dealer or an experienced radio/television technician for additional suggestions.

NOTICE

This apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

AVIS

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la class B prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

SAVE THESE INSTRUCTIONS

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Young Chang Distributors

Contact the nearest Young Chang office listed below to locate your local Young Chang/ Kurzweil representative.

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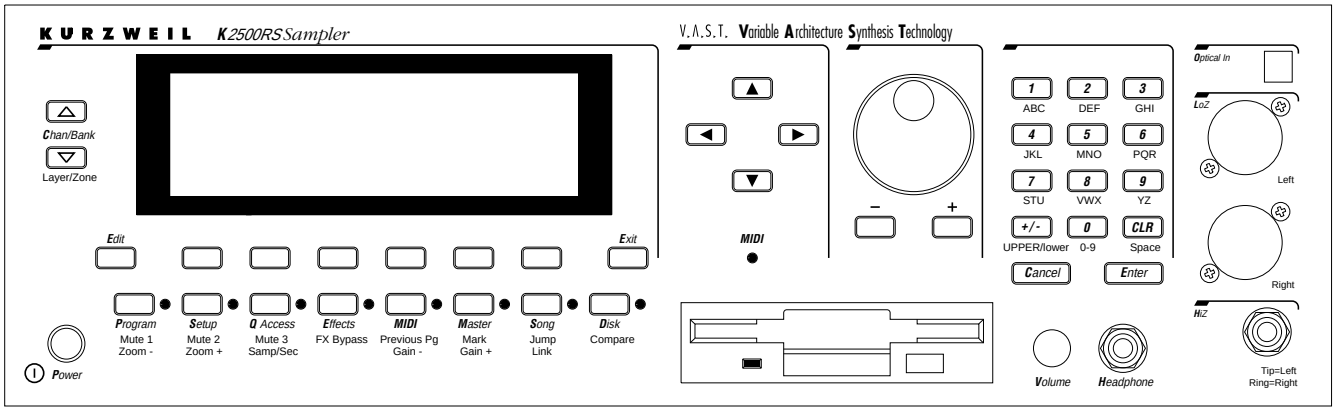
Chapter 1
Front Panel

Front Panel Quick Reference

This section describes features common to both the rack versions of the K2500 (K2500R and K2500RS) as well as the keyboard versions of the K2500 (K2500, K2500S, K2500X, and K2500XS). The buttons and sliders that are unique to the keyboard models are described on page 1-4.



Volume Knob/ Slider

Controls mixed audio outputs and headphone jack only. Does not send MIDI Volume (MIDI 07).

Mode Buttons

Press any of these eight buttons to enter the corresponding mode.

Chan/Bank Buttons

Scroll through the layers of the current program while in the Program Editor. Scroll through the zones in the current setup while in Setup mode. Scroll through the Quick Access banks while in Quick Access mode.

Edit Button

Functional in most modes. Press Edit to modify the currently selected object or parameter. If it's not editable, pressing Edit will do nothing.

There are editors available from every mode but Disk mode. The effect of pressing Edit in each of the modes is listed below.

When in this mode—Pressing the Edit button…

Program mode—	…enters the Program Editor, where you can edit the currently selected program. Chapter 6 in the *Performance Guide* covers the Program Editor.
Setup mode—	…enters the Setup Editor, where you can edit the currently selected setup. Chapter 7 in the *Performance Guide* describes the Setup Editor.
Quick Access mode—	…enters the Quick Access Editor, where you can change the program or setup assigned to the bank slot that was selected when you entered the Quick Access Editor. See Chapter 8 in the *Performance Guide*.
Effects mode—	…enters the Effects Editor, where you can edit the currently selected effects preset. Chapter 9 in the *Performance Guide* explains the Effects Editor.
MIDI mode—	…enters the Velocity Map or Pressure Map Editor if the Velocity or Pressure Map parameter is selected on either the XMIT page or the RECV page. See Chapter 17 in the *Performance Guide*. Enters the Program Editor if the Program parameter is selected on the CHANLS page. See Chapter 6 in the *Performance Guide*.
Master mode—	…enters the Velocity Map, Pressure Map, or Intonation Table Editor if the VelTouch, PressTouch, or Intonation parameter is selected.
Song mode—	…enters the Song Editor. The Song Editor is discussed in Chapter 12 in the *Performance Guide*. Enters the Program Editor if the Program parameter is highlighted when Edit is pressed.
Disk mode—	…has no effect.

Soft Buttons

Functions change depending on current display page. Function of each button is displayed on bottom line of display.

EXIT Button

Press to leave various editors. If you've made any changes while in the editor, you will be prompted to save them.

Cursor Buttons

Press the corresponding button to move the cursor up, down, left, or right in the display. Different parameter values will be highlighted as buttons are pressed.

Alpha Wheel

For data entry. Rotate clockwise to increase value of currently selected parameter, counterclockwise to decrease.

Plus / Minus Buttons (- and +)

Under the Alpha Wheel. Press to increase or decrease the value of the currently selected parameter by the smallest possible amount.

Alphanumeric Pad

For Numeric Characters

Enter the value numerically instead of using the Alpha Wheel or Plus/Minus buttons. Press ENTER when finished. Press CANCEL to restore a parameter to its previous value. Pressing CLEAR is equivalent to pressing 0 without pressing ENTER.

For Alphabetic Characters

When naming objects, you can use the alphanumeric pad to enter letters instead of numbers. If you're renaming a program, for example, just position the cursor under the character you want to change, then press the corresponding numeric button, as labeled. Press the button as many times as necessary to enter the desired character. Pressing CLEAR will enter a space before the selected character. The "0" button will enter the numerals 0–9 when pressed repeatedly.

Here's an example. To enter the letter "C" in a blank space, press "1" three times. You can press the +/- button before or after entering the letter.

The CANCEL button is equivalent to the soft button, and ENTER is the same as OK. The CLEAR button replaces the currently selected character with a space. The "+/-" button toggles between uppercase and lowercase letters.

When you press the +/- button on the alphanumeric pad, the currently selected character (the one with the cursor under it) will switch from upper case to lower case, and vice versa. The +/- button is a toggle; that is, if you switch from lower to upper case, all further entries will be in upper case until you press the +/- button again.

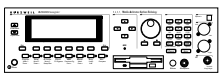
There are several punctuation characters available as well, but they can be entered only with the Alpha Wheel or Plus/Minus buttons. The punctuation characters are between "z" (lower case) and "0."

Special Alphanumeric Pad Functions

When you're in Quick Access mode, the Alphanumeric pad can be used to select the entries in the current Quick Access bank. The layout of the alphanumeric pad corresponds to the layout of Quick Access bank entries as seen on the Quick Access mode page.

There's also a shortcut for selecting different QA banks while in QA mode. Just press the +/- or CLEAR button on the alphanumeric pad, and you'll be prompted to enter a bank number. Type the desired number on the alphanumeric pad, then press ENTER. The bank will be selected, and you'll return to the Quick Access page.

You can also use the alphanumeric pad to select strings to search for in the currently selected list of objects, and to enter new strings to search for. The search function is described fully in Chapter 3 in the *Performance Guide*.



Lastly, rack users can play notes from the numeric keypad by holding down the Cancel button while pressing alphanumeric buttons. This, too, is described fully in Chapter 3 in the *Performance Guide*.

The Display

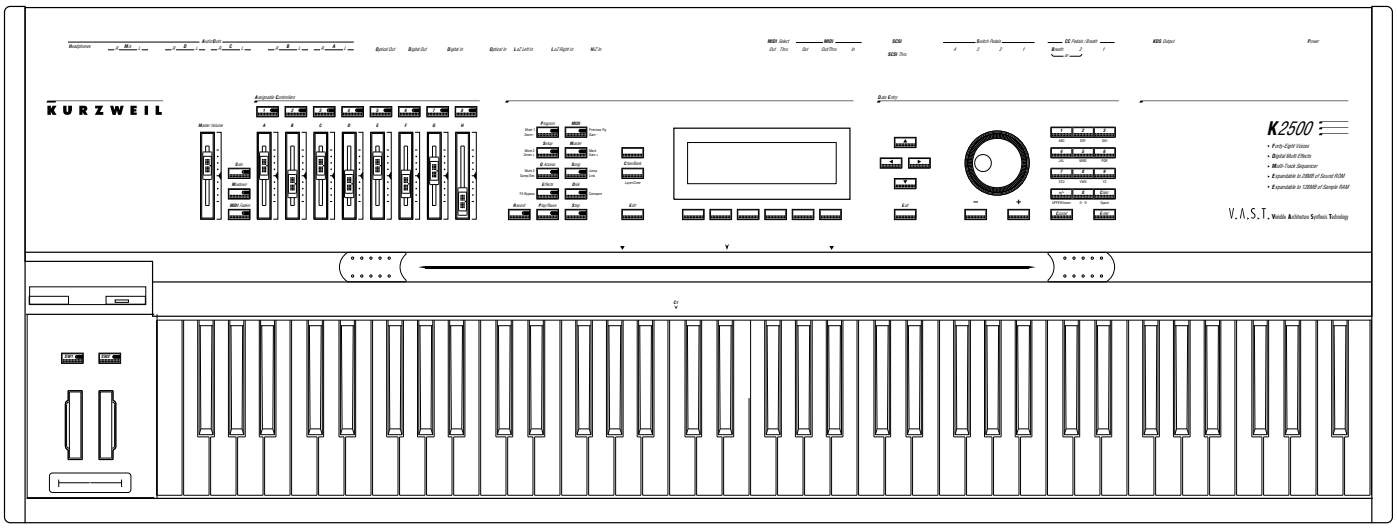
You may want to adjust the contrast of the display for different lighting conditions. The Contrast parameter in Master mode lets you set the contrast to your liking.

MIDI LED

Lights when the K2500 is receiving MIDI information at its MIDI In port.

Special Keyboard Functions

This section describes the buttons and sliders that are unique to the keyboard models of the K2500. Features common to both rack and keyboard models are described starting on page 1-1.



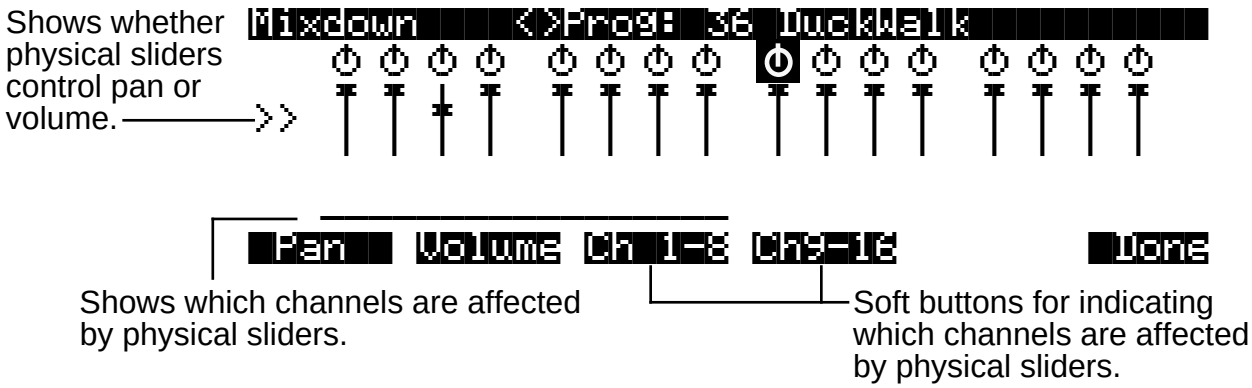
Solo button

Mutes all zones in Setup except the current one. The button of the zone being soloed glows red.

Mixdown button

Brings up the Mixdown screen, as shown below. From this screen you can choose how the K2500's physical sliders will function during MIDI mixdown. In the example below, the physical sliders A-H will control the volume level of MIDI channels 1-8. By pressing the **Pan** soft button, you would change the function of the physical sliders to control panning for channels 1-8; or, you could press the **9-16** soft button to have the physical sliders affect channels 9-16.

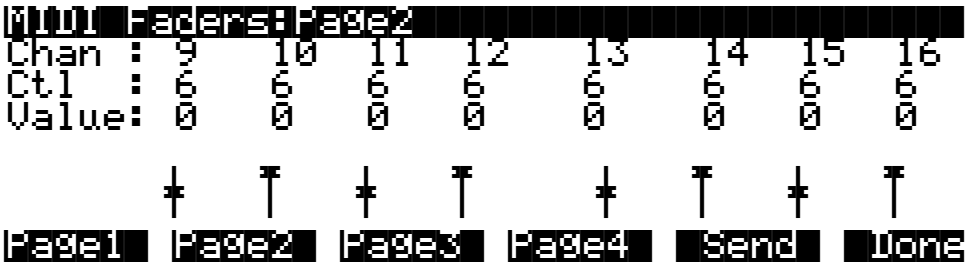
You can also use the cursor buttons to highlight the pan or volume control for a channel and use the alpha wheel or increment/decrement buttons to change the pan or volume level. In the screen below, for example, you could use the alpha wheel to control panning on channel 9 at the same time that you are using the physical sliders to control volume on channels 1-8.



MIDI Faders button

When you press the MIDI Faders button, the K2500's physical sliders will take on the functions assigned on the current MIDI Faders page. From the MIDI Faders display you can define four different "pages" that define how the K2500's physical sliders will work. In the display shown below, for example, the eight sliders are each defined to send controller 6 (data) on the channels 9 through 16. Press one of the page soft buttons to use (or create) a different page of MIDI fader assignments. Use the **Send** soft button to transmit values without moving the faders.

The MIDI Faders pages will be saved with the Master table object.



Assignable Controllers (buttons 1-8 and sliders A-H)

The function of these controllers will depend on how they've been defined within a setup.

SW1, SW2

The function of these controllers will depend on how they've been defined within a setup.

Record, Play/Pause, Stop

These buttons duplicate their namesake soft buttons in Song mode, allowing you to conveniently record, play, pause, and stop the current song.

Special Button Functions

The mode buttons, as well as few of the other buttons, have additional functions, as described below. When you're in the Program or Setup Editor, they have special functions, as indicated by the green labeling under each button, and they also work as track mutes on the Mixer page of Song Mode.

Program / Mute 1 — When you're in the Program Editor, this button will mute Layer 1 of the current program or the currently displayed layer for drum programs. While in the Setup Editor, it will mute Zone 1 of the current setup, if the setup has three or fewer zones; mutes current zone in setups with more than three zones. On MIXER page of Song mode, mutes either track 1 or 9.

Setup / Mute 2 — When you're in the Program Editor, this button will mute Layer 2 of the current program, if any. For drum programs, solos currently displayed layer. While in the Setup Editor, it will mute Zone 2 of the current setup, if the setup has three or fewer zones; solos current zone in setups with more than three zones. On MIXER page of Song mode, mutes either track 2 or 10.

Q Access / Mute 3 — When you're in the Program Editor, this button will mute Layer 3 of the current program, if any. For drum programs, solos currently displayed layer. While in the Setup Editor, it will mute Zone 3 of the current setup, if the setup has three or fewer zones; solos current zone in setups with more than three zones. On MIXER page of Song mode, mutes either track 3 or 11.

Effects / FX Bypass — When you're in the Program Editor, pressing this button will bypass (mute) the preset effect assigned to the current program, letting you hear just the sound of the layer(s) you want to hear. On MIXER page of Song mode, mutes either track 4 or 12.

MIDI / Prev pg — In the Program Editor, pressing this button will take you to the previously selected editing page. The K2500 remembers the four most recently selected pages, so you can press this button up to four times to backtrack through the pages you've viewed. Pressing it a fifth time will take you back to the ALG page. On MIXER page of Song mode, mutes either track 5 or 13.

Master / Mark — This is handy for marking Program Editor pages that you use frequently. Pressing this button will mark the currently selected page. You can mark as many pages as you like. Then you can use the Jump button to select the marked pages in the order you marked them. Marked pages will show an asterisk in the top line of the display, just before the name of the page. A marked page can be unmarked by pressing the Mark button while the page is visible. On MIXER page of Song mode, mutes either track 6 or 14.

Song / Jump — Use this button to jump to pages in the Program Editor that you've marked with the Mark button. This will cycle through all the currently marked pages in the order they were marked. On MIXER page of Song mode, mutes either track 7 or 15.

Disk / Compare — This button works in most editors, and lets you compare your edits with the original version of the object you're editing. When you press the Compare button, the display changes to remind you that you're listening to the original version. Press any button to return to the currently selected page of whatever editor you're in. On MIXER page of Song mode, mutes either track 8 or 16.

Chan/Bank / Layer/Zone — In the Program Editor, these buttons let you scroll through the layers in the currently selected program. In the Setup Editor, you can scroll through the zones. In the Effects Editor, you can scroll through the effect configurations. In the Quick Access Editor, they scroll through the entries in the currently selected Quick Access bank. In the Keymap Editor, they scroll through the velocity levels of multi-velocity keymaps. In Song mode, switches record track.

Edit — Whenever the selected parameter's value is an editable object or a programmable parameter, pressing the EDIT button will take you to that object's editor, or to the parameter's programming page.

Special Button Functions: Double Button Presses

Pressing two or more related buttons simultaneously executes a number of special functions depending on the currently selected mode. Make sure to press them at exactly the same time.

In This Mode:	*These Buttons:* (Pressed simultaneously)	*Will Do This:*
PROGRAM MODE	**Octav-, Octav+**	Reset MIDI transposition to 0 semitones. Double-press again to go to previous transposition.
	Chan-, Chan+	Set current MIDI channel to 1.
	Plus/Minus	Step to next Program bank (100, 200, etc.)
MASTER MODE	**CHAN/BANK**	Enables Guitar/Wind Controller Mode.
SONG MODE	**left/right cursor buttons**	Toggle between Play and Stop.
	up/down cursor buttons	Toggle between Play and Pause.
	Plus/Minus	Select Quantize Grid values on MISC page and Edit Song:TRACK Quantize page. Select duration for a step on Edit Song:STEP page. Increment GateTime by 20% intervals on Edit Song: STEP page.
	CHAN/BANK	Select all tracks on any Edit Song:TRACK page.
DISK MODE	**2 leftmost soft buttons**	Issue SCSI Eject command to currently selected SCSI device.
	CHAN/BANK	Hard format SCSI device. List selected objects when saving objects.
	left/right cursor buttons	Select all items in a list. Move cursor to end of name in naming dialog.
	up/down cursor buttons	Clear all selections in a list. Move cursor to beginning of name in naming dialog.
PROGRAM EDITOR	**CHAN/BANK**	Select Layer 1.
KEYMAP EDITOR	**Plus/Minus**	With cursor on the Coarse Tune parameter, toggles between default Coarse Tune of sample root and transposition of sample root.
SAMPLE EDITOR	**2 leftmost soft buttons**	Toggle between default zoom setting and current zoom setting.
	Plus/Minus	Set the value of the currently selected parameter at the next ***zero crossing.***

Special Button Functions: Double Button Presses

In This Mode:	*These Buttons:* (Pressed simultaneously)	*Will Do This:*
ANY EDITOR	**Plus/Minus**	Scroll through the currently selected parameter's list of values in regular or logical increments (varies with each parameter).
	2 leftmost soft buttons	Reset MIDI transposition to 0 semitones. Double-press again to go to previous transposition.
	Center soft buttons	Select Utilities menu (MIDIScope, Stealer, etc.).
	2 rightmost soft buttons	Sends all notes/controllers off message on all 16 channels (same as Panic soft button).
	left/right cursor buttons	Toggle between Play and Stop of current song.
	up/down cursor buttons	Toggle between Play and Pause of current song.
SAVE DIALOG	**Plus/Minus**	Toggle between next free ID and original ID.

Chapter 2
Programs, Setups, and Keymaps

K2500 Program List

The 200 preset programs in the K2500 are organized by instrument category. You will find a few representatives of each instrument sampled for the base ROM soundset, as well as synthesized instrument emulations, commonly used synthesizer timbres, and templates for new programming. We hope you find it a good starting point for your own work.

There are many ways to put expressivity and variety in a single program by assigning MIDI controllers to the various DSP functions in its layers. This list describes how each of the 200 factory preset programs can be modulated or altered by the various MIDI controls. Only those controls which may not be immediately evident are listed. Controls such as attack velocity and keynumber are understood to be assigned to most programs.

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
	KEYBOARDS				
1	**Acoustic Piano**				Soft Ped.
2	**Stage Piano**				Soft Ped.
3	**BriteGrand**				Soft Ped.
4	**ClassicPiano&Vox**	Choir Balance			Soft Ped.
5	**Ballad Pno&Str**	Strings Balance			Soft Ped.
6	**Rock Piano 1**				
7	**Honky-Tonk**	Tremolo			
8	**E Grand & Pad**	Pad Balance			
9	**Classic E Piano**				Soft Ped.
10	**Dyno E Piano**	Tremolo			
11	**E Piano PF**				
12	**Suitcase E Pno**	Vibrato Depth	Vibrato Rate		
13	**Brite Klav**	Layer Balance	8vb		
14	**Match Stick**	Vibrato		Vibrato, W/D Mix	
	COMPING SYNTHS				
15	**Big PWM**	Vibrato	Filter & Env Ctl	Vibrato	
16	**Matrix 12**	Vibrato	Filter & Env Ctl	Vibrato	
17	**OBX Braz 4**	Vibrato	Filter & Env Ctl	Vibrato	
18	**Memorymoog 4**	Vibrato	Filter & Env Ctl	Vibrato	
19	**Prophet Pulse 2**	Vibrato	Filter & Env Ctl	Vibrato	
20	**Prophet Square 2**	Vibrato	Filter & Env Ctl	Vibrato	

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
21	**New Shaper**	Vibrato	Env Ctl	Vibrato	
22	**Klicomp tree**	Vibrato, Filter Env	Detune, Env Ctl	Vibrato, Filter Env	
23	**Digicomp**	Vibrato	Env Ctl	Vibrato	
24	**Da Clav**		Env Ctl		
25	**Simpilton**	Vibrato	Env Ctl	Vibrato, Filter Ctl	
26	**Synth Caliope**	Vibrato	Env Ctl		
27	**Chiffloots**	Vibrato	Chiff Pitch	Vibrato	
28	**Bamboo Voices**	Vibrato	Alt Atk	Vibrato	
29	**Hyper Guitar**	Dly Vib		Dly Vib	
30	**Dreamers**	Tremolo		Tremolo	
31	**Pluxichord**	Env Ctl			
	LEAD SYNTHS				
32	**Fluty Lead**	Vibrato		Vibrato	
33	**Gooshy Lead**	Distance	W/D Mix		
34	**Orient Wind**	Vibrato	W/D Mix	Vibrato, Filter Ctl	
35	**DC Lead**	Vibrato	Timbre Ctl	Vibrato	
36	**Duke's lead**	Vibrato	W/D Mix, Filter	Vibrato	
37	**FM Harmonica**	Vibrato		Tremolo	
38	**Mini Lead Poly**	Vibrato	Pitch	Vibrato	
39	**AlaZawi**	Timbre Ctl	Filter, Resonance	Vibrato	
40	**JR's Lead**	Vibrato	Timbre Ctl	Feedback	
41	**Funky Lead**	Vibrato	W/D Mix	Vibrato	
42	**Hammeron Synth**	Filter 1		Filter 2	
43	**Synthitar Lead**	Vibrato	W/D Mix	Vibrato	
44	**Modular Lead**	Vibrato	8 ve's	Vibrato	
45	**Prophet Sync**	Vibrato	Slave Osc Pitch		
46	**Brt Saxy Lead**	Vibrato	W/D Mix	Vibrato	
47	**Don Corllione'**	Vibrato		Vibrato	
	DRUMS				
48	**Studio Kit 1**		W/D Mix		
49	**Studio Kit 2 MW**	Alt Atk	W/D Mix		
50	**2 Live Kits MW**	Alt Kit	W/D Mix		
51	**Rock Kit**	Alt Toms	W/D Mix		
52	**Jazz Kit**	Alt Atk	W/D Mix		Att Vel controls Hi Hat's decay
53	**Reggae Kit**		W/D Mix		Att Vel controls Hi Hat's decay
54	**Light Kit**		W/D Mix		

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
55	**Garage Kit MW**	Alt Kit	W/D Mix		Att Vel controls Hi Hat's decay
56	**Techno Kit**	Alt Kick	W/D Mix(Flange)		
57	**General MIDI Kit**		W/D Mix		
58	**Slam'n Drums**		W/D Mix(Flange)		
59	**Perc Section MW**	Add Cowbell, Shaker	W/D Mix		
60	**Industry Set**	Resonance (A#4-C5)		Resonance (A#4-C5)	
61	**Techno Loops**	Loop Tempo	Loop Tempo		
62	**Rhythmatic**	Disable Multilay-er	Rhythm Tempo		
	PERCUSSION				
63	**Dualimba**	Vibrato	Amp	Vibrato	
64	**TouchDrums**	Vibrato	Amp	Vibrato, Pitch	
65	**Hand Drums**		W/D Mix, Pitch Envelope		
66	**Dynamic Perc**	Heartbeat (C2) Filter	W/D Mix, Heartrate (C2)		Mod Wheel Engages Non-tracking Congas
67	**Mark Tree**		W/D Mix, Env Ctl		
68	**Bell Player**	Vibrato		Vibrato	
69	**Marimba**	EQ Amp			
70	**Excited Marimba**	Alt Atk			
	BASSES				
71	**Dual E Bass**	Vibrato		Vibrato	
72	**Warm Bass**	Vibrato		Vibrato	
73	**Sustain E Bass**	Vibrato		Vibrato	
74	**Ripper Bass**	Vibrato		Vibrato	
75	**Yama Bass**		Layer Balance		
76	**Synth Fretless**	Vibrato		Vibrato	
77	**Fretless Lead**	Vibrato		Vibrato	
78	**Moogy Bass 1**	Vibrato	Filter	Vibrato	
79	**Moogy Bass 2**	Filter Depth	Resonance Depth	Vibrato	
80	**Mix Bass**	Filter Depth	Layer balance		
81	**Tite Rave Bass**	W/D Mix	Filter, Depth		
82	**Synth Bass**	Filter Ctl			
83	**House Bass**	Vibrato	Filter	Vibrato	
	GUITARS				
84	**Acoustic Guitar**				SoftPd
85	**Steel Str Guitar**	Vibrato	EQ	Vibrato	

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
86	**12-str Guitar**		EQ		SoftPd
87	**Strummer Guitar**	Vibrato	EQ	Vibrato	
88	**Slo Chorus Gtr**	Tremolo	EQ		
89	**Captain Crunch**	Vibrato	Filter , W/D Mix	Vibrato	PBend goes +2 and -12ST
90	**Smooth Lead**		Shaper, W/D Mix	Feedback	
91	**Dist Harmonics**	Tremolo		W/D Mix	
92	**Kotolin**	EQ		Vibrato	
93	**Cee Tuar**	Vibrato	Alt Sound	Vibrato	
94	**Green Acres**				
	ORGANS				
95	**Perc Organ 2500**	Rotary Speaker	Perc Balance		
96	**Ballad Organ 2**	Rotary Speaker			
97	**Gospel Organ**	Rotary Speaker	Perc Balance		
98	**Drive Organ**	Rotary Speaker	Distortion Ctl		
99	**Rotating B's & M's**	Rotary Speaker			
100	**Cheeze**	Vibrato Depth	Env Ctl	Vibrato Depth	
101	**Tamborgan**	Vibrato	Perc Pitch	Vibrato	
102	**Organ Pad**	Tremolo			
103	**Chiffy Pipes**	Decrescendo			
104	**Offertory**	Layer Balance			
105	**Pedal Pipes**	Decrescendo			
106	**Church Organ**	Vibrato	Layer Balance	Vibrato	Velocity Sensitive
107	**Resorgan**	Dynamics			Sost Pdl Does Release Ctl
	STRINGS/CHOIR				
108	**Fast Strings**	Filter			
109	**Att ctl Fast Str**	Filter			For Fast Solo Lines& Active Comping
110	**Att ctl Med Str**	Env Ctl			For Med or Slow (MW) Solo Lines
111	**SfzTrem Strings**				Sfz Envelope Triggered by Increased Att Vel
112	**ClassicalStrings**			Vibrato Depth	For Light, Active Comping
113	**SloClassical Str**	Decrescendo			For Chordal Comping
114	**Silk Strings**	Decrescendo	W/D Mix	Vibrato Depth	For Chordal Comping
115	**Fast Violin**			Vibrato Depth	
116	**Slo Solo Cello**	Quick Fade	W/D Mix	Vibrato Depth	
117	**Stereo Slo Str**	Filter			Velocity Controls Timbre Shift

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
118	**Cathedral Choir**	Decrescendo			Att Ctl Allows Smooth Voice Leading in 4-Part Playing
119	**Mixed Choir**	Layer Balance			
120	**The Choir**	Vibrato	Release Env	Vibrato	
	WINDS				
121	**Wendy's Flute**				Higher Att Vel = Less Tremolo
122	**Treble Flute**				
123	**Baroque Flute**				
124	**Soft Tenor Sax**		W/D Mix	Vibrato, Filter	
125	**Fast Solo Tenor**	EQ		Vibrato	For Fast Legato Lines
	BRASS				
126	**Dynamic Trumpet**	Swell	W/D Mix	Vibrato	
127	**Miles Unmuted**	Vibrato	Timbre Ctl	Vibrato	
128	**Strght Mute Trpt**	Vibrato Defeat	W/D Mix	Vibrato Rate	
129	**Almost Muted**	Vibrato, Amp	Timbre Ctl	Vibrato	
130	**Solo Trombone**		W/D Mix	Vibrato Depth	
131	**Sfz Bone**				
	ENSEMBLES				
132	**Trumpet Section**			Swell	
133	**Hip Brass**	Vibrato	W/D Mix	Swell	
134	**Brt Miami Brass**	Bright Swell			
135	**Orchestral Brass**			Swell	
136	**Sax Section**	Swell	W/D Mix	Swell	Sfz Envelope
137	**Dyn Big Band**	Softer		Swell	Sfz Envelope
138	**Flute & Slo Str**	Solo String Swell		Vibrato Depth	SostPd disables Solo Str. Release Velocity Controls Strings Release
139	**Horn&Flute w/ Str**	Strings Balance			Rel. Velocity Controls Strings Rel.
140	**DynamicOrchestra**	Light playing engages a horn, flute & string ensemble. SostPed holds a chord and engages an ensemble suited to solo lines. At forte, bigger brass is enabled, with pressure controlling a swell.			
141	**Touch Orchestra**	Mod wheel replaces RH trumpets with solo flute. Each Velocity level brings in a new instrument: At forte, horns are doubled; at double forte, kettle drums play; at *fff*, crash cymbal plays.			
142	**Slo Ensemble**	Synstring Res	Synstring Filter	Vibrato Depth	

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
143	**W Tell Orchestra**	Swell		Swell	For Active Marcato Comping SostPD Latches and Disables Brass
144	**Jazz Band**	LH Bass layered with ride for walking rhythm section. Data slider switches from guitar to horn section; SostPed holds brass and adds solo Tenor. Throw the ModWhl for drum solo.			
145	**Rock Quartet**	LH Bass layered with hihat for driving rhythm section. At forte, kick, snare, and rhythm guitar are added. Mod wheel does rotary speakers for the organ.			
	HYBRID SYNTHS				
146	**Gargantuanism**	Vibrato	Layer Balance	Vibrato	SostPd Disables Strings
147	**Tranquil Pluck**	Vibrato	Release Ctl	Vibrato	
148	**The Chase**	Vibrato	W/D Mix	Vibrato	
149	**Enterprize**	Tremolo	Bell Pitch	Tremolo	
150	**Magic Orchestra**		Piano Balance		SostPd Disables Cymbal
151	**Passion Source**	Detune		Detune, Swell	
152	**Microwave**	Vibrato	Release Ctl	Vibrato	
153	**Fuzz Lite**	Vibrato	Release Ctl	Vibrato	
154	**Solina Phaze**	Vibrato	Phaser Rate	Vibrato	
155	**Arystal**		Layer Balance		
156	**Timershift**	Vibrato	Release Ctl	Vibrato	
157	**Aurora**	Mod Speed	W/D Mix		
158	**Gongers**	Vibrato	Pitch, W/D Mix	Vibrato	
159	**Arrakis Grand**	Vibrato Depth	Detune	Vibrato Depth	
160	**Sisternal**	Vibrato	Release Ctl	Vibrato	
161	**PPG 4**	Vibrato	W/D mix, Env Ctl	Vibrato	
162	**Pseudomento MW**	Pseudomento Rate			
163	**Big Strings**	Vibrato		Vibrato	
164	**Spaced**	Dly Sweep	Mod Rate		
165	**Digital Choir**	Res Mod	Filter Ctl		
166	**Meditation Pad**	Res Mod	Filter Ctl	Vibrato	Move data slider from top to bottom and throw the MW for best resonance effect.
167	**The Cymbal Sings**	Vibrato		Filter	
168	**Slo FlangeStrngs**	Flange Rate			Template: Using allpass to create flanging within a layer

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
169	**Lushlife**				
170	**Crystal too**	Vibrato	Sine Wave Pitch	Vibrato	
171	**Multi Marimba**	Vibrato	Delay Time	Vibrato	
172	**Wave Power**	Vibrato		Vibrato	
173	**Noo Mutes**	Pitch Effect	Filter Ctl, W/D Mix		
174	**Hammer Violin**	Pitch Effect	Env Ctl, W/D Mix	Vibrato	
175	**Mallet Flutes**	Chiff Pitch	W/D Mix		
176	**Malletoo**	Pitch Mod Depth	Pitch Mod Rate		
177	**Ethereal Echoes**	Disable Bell			
	PAD SYNTHS				
178	**Padifier**	Vibrato	Filter	Vibrato	
179	**Spaced Inn**	Vibrato		Vibrato	
180	**Glass Bow**	Vibrato	Env Ctl	Vibrato	
181	**Angel Pass**				
182	**In the Air**	Vibrato	Filter Ctl	Vibrato	
183	**Matrix Mellostr**	Vibrato	Env Ctl	Vibrato	
184	**Ethereal Strings**	Filter Sweep		Filter	
185	**Dawning**	Sweep Fade			
186	**Synth Strings**				
187	**Choir Fixer**	Vibrato, Pan	W/D Mix	Vibrato	
188	**Shine On**	Vibrato	Filter Ctl	Vibrato	
189	**ChoirStrings**				
190	**Launch Pad**	Timbre Ctl		Timbre Ctl	
	EFFECTS SOUNDS				
191	**cymbal thing**				
192	**a no way CS**	Mod Depth	Mod Rate		
193	**Environments**				
194	**Gremlin Group**	Timbre Ctl, Env Ctl	Vibrato>Pitch, Resonance		
195	**Thunder Storm**				Play Sparse Staccato Notes in LH for Thunder. RH is Rain
196	**Northern Winds**			Pan Rate, Filter	
197	**Doomsday**	Pitch			
	UTILITY				
198	**Click**				Assigned to output group B (dry)
199	**Default Program**				Used in New Lyr, Sample audition, and Preview Program

Setup List

The Performance Setup, or "Setup" is a combination of up to eight zones, each with independent MIDI channel and controller transmission assignments. Setups can be played on a K2500R via the Local Keyboard Channel feature: Find this parameter in MIDI mode on the RECV page, change it from None to a channel of your choice, and set your controller to send on only that channel. Now, any note that comes in on that channel will be re-mapped according to the display channel (in program mode) and according to the Setup (in Setup mode).

Below is a list of the Setups provided with V2 software; there are detailed descriptions on the pages that follow.

ID#	NAME	ID#	NAME	ID#	NAME
1	Sahara Touch	35	F1 Perc Comper	69	Digi Ensemble
2	Ethereal Split	36	Multi Chords	70	Pluck Stack
3	Slo Orchestra	37	3-Sec Talk sldrs	71	Quillmeister
4	Whirligig	38	FM Slider Play	72	Organ Select
5	Modern Harpsichord	39	E Grnd Pad	73	Perc Stack 2
6	Kogs & Things	40	BalladCompSplit	74	Action Scene
7	Desert Soil	41	Maggie May	75	Rusty Teeth
8	Mellow BigBand	42	EPnoPad rbnvel	76	Split Stack
9	Fusion Split	43	Dukes Up	77	Pulse Brass
10	Touch Rock Band	44	F1 Latin Comper	78	Majesty
11	Plucksynths	45	Floyd's Echo	79	Classy Orch
12	Big Pad RbnVel	46	Poly Portem	80	Motion Pad
13	Cembellophone	47	C2 and Lead	81	Wiry Comp 3-Sec
14	MidEast Drone	48	PowerLead	82	GrimlyFiendish
15	Ribbon Thunder	49	Big Synbrass	83	Hold & Tap
16	Press Roll Orch	50	WahPedZawiSplit	84	LayeredSnare Kit
17	C7 F7 G7 Groove	51	Clav EP Organ	85	C#2 Jam
18	Folk Comper	52	Toxic Cheese	86	PassionPad
19	Extra Perc Drums	53	Floyd Wheel	87	Fusioner
20	Chiffer Lead	54	Under Water	88	Duo
21	Slider Play 1	55	Lullaby	89	A2 Foot Drummer
22	Mist Strings	56	Alazawilude	90	Aqua Choir
23	New Pulsar	57	Three Leads	91	Massy Orch
24	It's Coming	58	News Room	92	Mechanical Mike
25	Summer Snows	59	Aqua Ribbon	93	Haunted House
26	OrchScape	60	New Age Organ	94	All Alone 3
27	Threeway Xfade	61	Drum Arps	95	Witchcraft
28	Royal Dyn Brass	62	Perc Stack	96	Fallout
29	Fairlite Stack	63	3-Sec E Pno	97	Control Setup
30	Mr. Wiz	64	Touch Stick	98	Clear Setup
31	New Dawn	65	Ballad Comp	99	Default Setup
32	Sudden Horrors	66	Dual Synth		
33	Cisco Kid	67	C2 Jam		
34	ToyBuphone	68	Hertz		

Version 2 Setups with Controller Assignments

To take advantage of Version 2's eight zone setup capability, there are 100 new setups in the Version 2 Factory Objects. You will find unique internal program combinations, arpeggiator examples, special ribbon and controller functions, and templates for user created setups. With as many as 24 assignable controllers shared among 8 independent zones, K2500 MIDI setups can be quite powerful, and they require some experimentation to find all their features and nuances. In order to make this process easier, many setups are programmed according to the certain conventions. The sliders generally provide mixing capabilities either as group faders or individual zone faders. They also provide control over timbre, effects mix, and clock tempo. Other conventions include:

Slider F: Arp Vel
Slider G: Wet/Dry mix
Slider H: Tempo
PSw 1: Arp Switch
PSw 2: Latch2
Footswitch 1: Sustain
Footswitch 2: Sostenuto
Footswitch 3: Soft Pedal
Large Ribbon: Aux Bend 1
Small Ribbon Press: Mono Pressure
Small Ribbon Pos: Aux Bend 2
Mod Wheel: Mod Wheel
MPress: MPress

MIDI notes can be triggered from many controllers including pedals, switches, sliders and the ribbons.

Special Purpose Setups

There are three special setups at the end of the bank:

97 **Control Setup** lets you define controller assignments in program mode. You can customize and select the Control Setup on the MIDI Xmit page.

98 **Clear Setup** is a template for creating your own control assignments from a clear palette.

99 **Default Setup** lets you create your own setups from our common settings. The NewZn parameter uses this setup as its template for creating new zones.

The complete list of controller assignments for the setups in Version 2 is on the following pages.

1	**Sahara Touch**	Sliders: A timbre, B-E zone faders; PSw: 1 arp sw, 2 mute group
2	**Ethereal Split**	Sliders: A port time for bass, B-E zone faders; PSw: 2 port sw for bass; FootSw: 1 sost & enables fretless bass, 2 enables drums
3	**Slo Orchestra**	Sliders: A-E zone faders; L Rib: cymbal roll; Press: cym roll vel
4	**Whirligig**	Sliders: A-F zone faders; L Rib: 1 aux bend, 2 pan, 3 pan
5	**ModernHarpsichord**	Sliders: A-E zone faders
6	**Kogs & Things**	Sliders: A-E zone faders; PSw 2: group mute
7	**Desert Soil**	Sliders: A-C group faders, D timbre control, E detune; L Rib: pan
8	**Mellow BigBand**	Sliders: A-C zone faders
9	**Fusion Split**	Sliders: A-D zone faders
10	**Touch Rock Band**	Sliders: A-E group faders, F snare balance; PSw 2: group mute
11	**Plucksynths**	Sliders: A-F zone faders; L Rib: filter freq; PSw 2: group mute
12	**Big Pad RbnVel**	Sliders: A-C zone faders; L Rib: filter freq, pan, arp vel, & fx depth; PSw 2: group mute
13	**Cembellophone**	Sliders: A-E zone faders; L Rib: group mutes
14	**Mideast Drone**	Sliders: A-F group faders; L Rib: tempo
15	**Ribbon Thunder**	Sliders: A-C zone faders, D filter freq, H key vel for thunder; L Rib: thunder; ModWh timbral modulation
16	**Press Roll Orch**	Sliders: A-B zone faders; L Rib & MPress: arp vel for drum roll on keys G1 to F#2; PSw2: mute group
17	**C7 F7 G7 Groove**	Sliders: A-F group faders; FootSw: 1 crash cym, 2 ride cym; L Rib: pitch bend for bass; PSw: 1 arp latch, 2 panic
18	**Folk Comper**	Sliders: A zone fader, B group fader, C guitar timbre; PSw: 1 arp sw & zone mute, 2 latch2; L Rib: arp pan
19	**Extra Perc Drums**	Sliders: A-B group faders; Mod Wh: drum timbre
20	**Chiffer Lead**	Sliders: A-B group faders
21	**Slider Play 1**	Sliders: B velocity, C pitch bend, D pan, E expression; Slider A & L Rib: key num; PSw2: panic; FootSw2: latch2
22	**Mist Strings**	Sliders: A-C zone faders, D timbre, E pan
23	**New Pulsar**	Sliders: A-B group faders; PSw: 1 arp latch, 2 group mute
24	**It's Coming**	Sliders: A-D zone faders; FootSw1: arp latch
25	**SummerSnows**	Sliders: A-B group faders, C timbre; FootSw1: arp latch; L Rib: arp vel and pitch bend for bass
26	**OrchScape**	PSw: 1 group mute, 2 group mute
27	**Threeway XFade**	Slider A & L Rib: three way crossfade; Mod Wh: strings balance
28	**Royal Dyn Brass**	Sliders: A-B group faders, C release time
29	**Fairlite Stack**	Sliders: A-C group faders, D filter sweep, E key num, F key vel; PSw2: panic
30	**Mr. Wiz**	Sliders: A-B group faders; FootSw2: latch2; Mod Wh & L Rib: filter sweep
31	**New Dawn**	Sliders: A pad fade, B balance for pad and timbral modulation; L Rib: pad pan and pitch bend
32	**Sudden Horrors**	Sliders: A-C zone faders; L Rib: pitch bend and pan
33	**Cisco Kid**	Sliders: A-C group faders, PSw2: group mute; FootSw1: arp latch; L Rib: pan
34	**ToyBuphone**	Sliders: A-D zone faders
35	**F1 Perc Comper**	Sliders: A-B group faders; PSw1: arp latch

36	**Multi Chords**	Sliders: A-B group faders; L Rib: filter sweep
37	**3-Sec Talk Sldrs**	Sliders: A key num, B key vel; FootSw3: arp latch; PSw2: panic; L Rib Sect1 & Slider F: pitch bend; L Rib Sect2 & Slider C: timbre; L Rib Sect3 & Slider D: filter modulation speed
38	**FM Slider Play**	Sliders: B key vel, C pitch bend, D timbre, F expression; L Rib and Slider A: key num; PSw2: panic
39	**E Grand Pad**	Sliders: A-B group faders, C Pad balance; Higher velocity enables zones 3 and 4
40	**BalladCompSplit**	Sliders: A-B group faders, C release env & balance; L Rib: 1 bass pitch bend, 2 timbre, 3 bass timbre; FootSw3: mute zone 1
41	**Maggie May**	Sliders: A-C mute groups, D attack time; PSw2: mute group
42	**EPno Pad RbnVel**	Sliders: A-C zone faders; L Rib: arp vel, pan, fx depth, timbre; PSw1: arp sw & group mute
43	**Duke's Up**	Sliders: A-B zone faders, C pan; L Rib: arp vel
44	**F1 Latin Comper**	Sliders: A-C group faders, D timbre; FootSw2: group mute; L Rib: bass pitch bend; ModWh: extra perc enable; PSw1: arp latch
45	**Floyd's Echo**	Sliders: A-B group faders; ModWh: pitch transpose, tremolo, & mod
46	**Poly Portem**	Sliders: A port time, B-C group faders; PSw2: port enable
47	**C2 and Lead**	Sliders: A-E zone faders; PSw1: arp latch
48	**PowerLead**	Sliders: A port time, B staggered port time, C-F zone faders; L Rib: timbre and pitch bend; ModWh: timbre; PSw: 1 port switch, 2 momentary bend
49	**Big Synbrass**	Sliders: A-B group faders, C & E bass timbre, D comp timbre
50	**WahPedZawiSplit**	Sliders: A-E zone faders; L Rib: filter sweep (LH pad); S Rib: filter; PSw: 1 arp latch, 2 panic; FootSw4: modulation (zone 6); CC Pedal 1: filter sweep
51	**Clav EP Organ**	Sliders: A-C zone faders, D timbre (zone 2); PSw1: arp latch
52	**Toxic Cheese**	Sliders: A-C group faders; FootSw1: arp latch; L Rib: arp vel, pan (mallet sound), filter sweep freq/res
53	**Floyd Wheel**	Sliders: A-B group faders, C timbre; FootSw2: arp latch; L Rib: filter sweep & zone fader (zone 4); ModWh: filter sweep
54	**Under Water**	Sliders: A-C zone faders for zones 2-4, D detune piano & increase volume of pad, FootSw1: arp latch, L Rib: zone fader for arpeggiated zone
55	**Lullaby**	Sliders: A-B group faders; ModWh: filter sweep (strings); PSw2: octave transpose (flute and choir)
56	**Alazawilude**	Sliders: A-B group faders, E portamento time (RH lead); FootSw: 3 mute zone, 4 arp latch; ModWh: filter; PSw2: portamento switch (RH lead)
57	**Three Leads**	Sliders: A-B group faders, C decay time (flute), timbre (RH lead), L Rib: vibrato; ModWh: timbre
58	**News Room**	Sliders: A-E group faders, F key vel; FootSw2: latch2; L Rib: theramin & pitch bend; ModWh: filter sweep/res (bass)
59	**Aqua Ribbon**	Sliders: A-B zone faders, C filter sweep; L Rib: filter; PSw2: arp latch; ModWh: filter
60	**New Age Organ**	Sliders: A-C group faders, D timbre
61	**Drum Arps**	Sliders: A-B group faders, PSw1: arp latch
62	**Perc Stack**	Sliders: A-B group faders; FootSw4: arp latch; PSw2: mute zones 2&3 (percussives); Press: arp vel
63	**3-sec E Pno**	CC Pedal 1: filter; L Rib: 1 filter sweep, 2 tremolo rate, 3 tremolo amount; PSw2: arp latch

64	**Touch Stick**	Sliders: A-B zone faders; Press: tremolo (EPiano)
65	**Ballad Comp**	Sliders: A-B zone faders
66	**Dual Synth**	Sliders: A-E zone faders; PSw2: zone mutes toggle
67	**C2 Jam**	Sliders: A-C group faders, D timbre (drums), E timbre (bass), F timbre (RH comp); L Rib:1 pitch (drums), 2 timbre (bass) & octave transpose (RH comp), 3 bend (RH comp); PSw1: arp latch
68	**Hertz**	Sliders: A-C group faders; L Rib: timbre (bass)
69	**Digi Ensemble**	Sliders: A-C zone faders; FootSw2: arp latch
70	**Pluck Stack**	Sliders: A-B group faders; PWhl: pan (cymbal)
71	**Quillmeister**	Sliders: A-D zone faders; PSw: 1 group mute (zones 1&2), 2 group mute (zones 3&4)
72	**Organ Select**	Sliders: A-D zone faders
73	**Perc Stack 2**	Sliders: A-C zone faders
74	**Action Scene**	Sliders: A-C group faders; L Rib: pan (clav arps.); filter/res (pad); ModWh: filter sweep/res (pad); PSw1: arp latch
75	**Rusty Teeth**	Sliders: A-C zone faders; FootSw 2: octave transpose; Breath: filter res; L Rib: 1 bend, 2 filter res & distortion, 3 filter res; PSw2: arp latch
76	**Split Stack**	Sliders: A-C group faders
77	**Pulse Brass**	Sliders: A-B group faders
78	**Majesty**	Sliders: A-B group faders, C piano balance, D timbre
79	**Classy Orch**	Sliders: A-D zone faders
80	**Motion Pad**	Sliders: A-B group faders; FootSw: 1: arp latch; L Rib: arp vel
81	**Wiry Comp 3-Sec**	Sliders: A-C zone faders; L Rib: 1 pitchbend, 2 distortion, 3 filter
82	**GrimlyFiendish**	Sliders: A-D zone faders; L Rib: 1 pitchbend, 2 pitchbend, 3 release time
83	**Hold & Tap**	Sliders: A-B zone faders, C perc vel; L Rib: filter and perc trigger
84	**LayeredSnare Kit**	Sliders: A-E group faders
85	**C#2 Jam**	Sliders: A-C group faders; FootSw2: arp latch; L Rib: 1 perc pitch, 2 filter, 3 pitch bend
86	**PassionPad**	Sliders: A-B zone faders, C filter; L Rib: filter
87	**Fusioner**	Sliders: A-D group faders; L Rib: bass pitch bend
88	**Duo**	Sliders: A-D zone faders; FootSw2: arp latch;
89	**A2 Foot Drummer**	Sliders: A-C group faders; FootSw 1: kick drum; L Rib :1 pitch bend perc, 2 pitch bend perc, 3 pitch RH drum
90	**Aqua Choir**	Sliders: A-B zone faders, C release time; L Rib : filter & pan; FootSw 1: arp latch
91	**Massy Orch**	Sliders: A-C group faders
92	**Mechanical Mike**	Sliders: A-E group faders
93	**Haunted House**	Sliders: A-D group faders; PSw 1 arp latch, 2 ghost whistle enable; Above G5: skeletons
94	**All Alone**	Sliders: A-E zone faders; L Rib: wind; PSw: 1 arp latch, 2 panic; Press: pitch bend
95	**Witchcraft**	Sliders: A key vel, timbre, B group fader, C mod rate, D wind key num, E zone fader; L Rib: voice trigger; Sm Rib: thunder trigger; ModWh: filter; PSw2: panic
96	**Fallout**	Sliders: A-C group faders, D piano detune; L Rib: wind; PSw2: panic
97	**Control Setup**	Slider A: data; FootSw4: arp latch; CPed2: breath; PSw2: panic
98	**Clear Setup**	nothing assigned
99	**Default Setup**	defaults

Storing Objects in the Memory Banks

The number of available IDs differs between object types, and depending on whether you are storing the object to the Zeros bank or one of the other 9 banks.

OBJECT TYPE	NUMBER OF OBJECTS AND ID RANGE	
	IN ROM	IN RAM
Sample, Keymap, Program, Setup	100 1—99	100 200—299
	100—199	300—399 . . 900—999
A total of 999 objects of these types can be stored, 99 of each type in the Zeros bank, and 100 of each type in every other bank.		
Quick Access Banks, Songs, Velocity Maps, Pressure Maps, Intonation Tables	75 1—75	20 100—119
		200—219 . . 900—919
A total of 255 objects of these types can be stored, 75 of each type in the Zeros bank, and 20 of each type in every other bank.		
Preset Effects	37 1—37	10 100—109
		200—209 . . 900—909
A total of 127 preset effects can be stored, 37 in the Zeros bank, and 10 in every other bank.		

K2500 ROM Keymaps

ID#	Keymap	ID#	Keymap	ID#	Keymap	ID#	Keymap
0	None	55	Dry Snare 2	104	Jazz Guitar Atk	151	Sawtooth
1	Grand Piano	56	Dry Snare 3	105	Steel Guitar Atk	152	Dull Sawtooth
2	Dual Elec Piano **	57	Ambient Snare 1	106	Perc Atk 1	153	Very Dull Saw
3	Hard Elec Piano	58	Ambient Snare 2	107	Perc Atk 2	154	Square Wave
4	Soft Elec Piano	59	Ambient Snare 3	108	Perc Atk 3	155	Dull Square
5	Voices	60	Cross Stick	109	Wood Bars	156	Very Dull Square
6	Ensemble Strings	62	10in Dry Tom	110	Solo Strings	157	Buzzy Square
7	Elec Jazz Guitar	63	12in Dry Tom	111	Six String Mutes	158	Buzz Wave
8	Acoustic Guitar	64	15in Dry Tom	112	Oboe Wave	159	Hi Formant Wave
9	5 String Guitar	65	13in Amb Tom	113	Clav Wave	160	PrimeNumberWave
10	Dual E Bass **	66	15in Amb Tom	114	Elec Piano Wave	161	Triangle Wave
11	Elec Pick Bass	67	16in Amb Tom	115	Bell Wave	162	Third Wave
12	Elec Slap Bass	68	Reversals	116	Ping Wave	163	Sine Wave
13	Finger Atk Bass	69	Reverse Bell	117	Drawbars 1-3	164	ExtDynPrtls1 ***
14	Flute	71	Bidir Amb Kick 1	118	Drawbars 1-4	165	ExtDynPart2 ***
15	Tenor Saxophone	72	Reverse Snare	119	Drawbars 1-3 Dist	166	ExtDynSaw ***
16	Sax no Altissimo	73	Conga Bass	120	Full Drawbars	167	Mellow Vox
17	Trumpet	74	Conga Slap	121	Drawbars 1-4,8	168	Silence
18	Trombone	75	Conga Tone	122	Organ Wave 1	169	Synflute Brt
19	Trombone/Trumpet	76	Syn Conga Tap	123	Organ Wave 2	170	Synflute mello
20	Bone/Trp 2	77	Timbale	124	Organ Wave 3	171	SlapBass/Guitar
21	Trombet	78	Timbale Shell	125	Organ Wave 4	172	Mello Vox 2
22	Trumpbone	79	Cabasa	126	Organ Wave 5	173	Shift Guitar 2
23	Preview Drums	80	Clave	127	Organ Wave 6	174	Single Mute
24	Dry Kit1	81	Cowbell	128	Organ Wave 7	177	Fingered Bass 2
25	Dry Kit2	82	Tambourine	129	Partials 1-3	178	Ext Dual Bass **
26	Amb Kit 1	83	Handclaps	130	Partials 4-7	179	Syn Bass Pick
27	Amb Kit 2	84	Reverse Crash	131	Partials 8-12	180	Syn Bass Slap
28	Amb Kit 3	85	Reverse Clsd Hat	132	Partials 13-20	181	Shift Guitar
29	2 8ve Dry Kit	86	Reverse Open Hat	133	Partials 21-30	182	Syn Guitar
30	General MIDI Kit	87	Reverse hat loop	134	Partials 1&2	183	Syn Voices
39	Ride Rim Cymbal	88	Chiff	135	Partials 3&4	184	Syn Voices 2
40	Ride Bell Cymbal	89	Chirp	136	Partials 5-7	185	Perc Voice
41	Crash Cymbal	90	FM Bell Trans	137	Partials 8-10	186	Synstrings 1
42	Closed Hihat	91	Waterphone	138	Partials 11-15	187	Synstrings 2
43	Slt Open Hihat	92	Metal Clank	139	Partials 16-21	188	Syn Piano
44	Open Hihat	93	TimbaleShell Atk	140	Partials 2-4	189	Funny Perc
45	Open>Close Hihat	94	Cowbell Atk	141	Partials 5,7,9,11	190	TechnoLoops
46	Foot Close Hihat	95	Timbale Atk	142	Partials 1,2,4	191	Hat Loop
47	Dry Kick 1	96	Bell Attack	143	Partials 1,2,4,6	199	Silence
48	Dry Kick 2	97	Clave Atk	144	Partials 3-5		
49	Amb Kick 1	98	Wood Bar Atk	145	Partials 1-3		
50	Amb Kick 2	99	Conga Tone Atk	146	Partials 1,3,5		
51	Amb Kick 3	100	Conga Slap Atk	147	Partials 1&4		
52	DrySnare 1 Soft	101	Elec Pno Atk	148	Partials 1&6		
53	DrySnare 1 Hard	102	Brass Attack	149	Partials 1&8		
54	Dual Dry Snare 1 **	103	Bow Attack	150	Partials 1&12		

** dual-velocity keymaps
*** triple-velocity keymaps

Chapter 3
Effects

List of Factory Preset Global Effects and Their Configurations

ID#	Name	Configuration
1	Sweet Hall	Ultimate Reverb
2	Small Hall	Room Simulator
3	Medium Hall	Ultimate Reverb
4	Large Hall	Ultimate Reverb
5	Big Gym	Room Simulator
6	Bright Plate 1	Ultimate Reverb
7	Opera House	Ultimate Reverb
8	Live Chamber	Room Simulator
9	Bathroom	Ultimate Reverb
10	Med Large Room	Room Simulator
11	Real Room	Ultimate Reverb
12	Drum Room	Room Simulator
13	Small Dark Room	Room Simulator
14	Small Closet	Ultimate Reverb
15	Add Ambience	Room Simulator
16	Gated Reverb	Gated Reverb
17	Reverse Reverb	Reverse Reverb
18	Non-Linear	Ultimate Reverb
19	Slapverb	Room Simulator
20	Full Bass	Chorus+Delay+Room+Mixer
21	Room & Delay	Delay+Room+Mixer
22	Delay Big Hall	Delay+Hall+Mixer
23	Chorus Room	Chorus+Room+Mix
24	Chorus Smallhall	Chorus+Hall+Mix
25	Chorus Med Hall	Chorus+Hall+Mix
26	Chorus Big Hall	Chorus+Hall+Mix
27	Chor-Delay Room	Chorus+Delay+Room+Mixer
28	Chor-Dly Hall	Chorus+Delay+Hall+Mixer
29	Flange-Dly Room	Flange+Delay+Room+Mixer
30	Flange-Dly Hall	Flange+Delay+Hall+Mixer
31	Stereo Chorus	Stereo Chorus
32	Stereo Flanger	Stereo Flange
33	Stereo Delay	4-Tap Delay
34	4 Tap Delay	4-Tap Delay
35	Chorus Delay	Parametric EQ+Chorus+Delay+Mixer
36	Flange Delay	Parametric EQ+Flange+Delay+Mixer
37	Chorus 4 Tap	EQ+Chorus+4 Tap Delay+Mixer
100	Flange 4 Tap	EQ+Flange+4 Tap Delay+Mixer
101	Chorus Echo	EQ+Chorus+4 Tap Delay+Mixer
102	Chorus Echoverb	EQ+Chorus+4 Tap Delay+Mixer
103	Fast Flange	Stereo Flange
104	Wash	Chorus+Delay+Hall+Mixer
105	Into the Abyss	Chorus+Delay+Hall+Mixer
106	Space Flanger	EQ+Flange+4 Tap Delay+Mixer
107	Flange Room	Flange+Delay+Hall+Mixer
108	Predelay Hall	Delay+Hall+Mixer
109	Flange Echo	EQ+Flange+4 Tap Delay+Mixer

Effects Controller Numbers

The K2500 uses the Digitech 256 chip for its effects processor. When in Program Mode, the operating system allows you to assign any MIDI controller to Wet/Dry Mix plus two additional parameters related to the effect. (The choice of controllable parameters changes depending on the effect configuration. They are the parameters you see when you go to edit the effect.)

But if the FX Mode parameter on the Effects page is set to Master, then the remapping that takes place within the program is not applied. Instead, you use a predefined set of controller numbers. So to control the effects processor in real time when FX Mode is set to Master, you must use the following controller numbers.

To control the effects processor in this manner, press the EFFECTS button. Change FX Mode to Master, and set FX Chan to the channel you will use to send the controller info. (You can also send program changes on this channel to switch effects, so it is usually best to pick a channel that is not being used for notes.) These settings are remembered as long as the Power Mode parameter on the MIDI receive page is set to User. Otherwise, you will have to re-enter the settings each time you power up.

In the following chart, the parameters are grouped by Configuration. Multi FX will contain parameters found in more than one configuration.

Ultimate Reverb

Decay time	77
Room volume	78
HF damping	14
Envelopment	32
Early Delay	29
Early Diffusion	30
Later Delay	n/a
Later Diffusion	93
Dry Level	28
Early Level	31
Later Level	92

Room Simulation

Gross Size	90
Decay Time	15
Listening Position	79
HF Damping	14
Dry Level	28
Reverb Level	88

Reverb in Multi FX

RevPre-Delay	80
Hi-Freq Damp	83
Reverb Decay	82
Revin dry	86
Revin flange	87
Revin Delay	85

Gated Reverb

Pre-Delay	80
Decay Time	38
Envelope	39
Accent Dly	01
Dry Level	57
Accent Level	02
Right Level	62
Left Level	94

Reverse Reverb

Pre-Delay	80
Reverse Time	89
Accent Delay	01
Accent Level	02
Dry Level	57
Right Level	66
Left Level	65
Accent Lvl L	50
Accent Lvl R	51

Parametric EQ

Band 1 Freq	03
Band 1 level	04
Band 2 Freq	05
Band 2 level	06
Band 3 Freq	07
Band 3 level	08
EQ level	58

Graphic EQ

63 Hz	41
125 Hz	43
250 Hz	45
500 Hz	47
1.0 Khz	42
2.0 Khz	44
4.0 Khz	46
8.0 Khz	48

Stereo Chorus

Chorus Delay	10
LFO Speed	13
LFO Depth	12
Dry Level	57
Right Level	54
Left Level	52
Chorus Level	53

Stereo Flange

Flange Delay	33
LFO Speed	37
LFO Depth	36
Feedback	35
Dry Level	57
Right Level	61
Left Level	59
Flange Level	60

Stereo Delay

Delay Time	22
Feedback	17
Dry Level	57
Right Level	56
Left Level	55
DelayDry In	19
Delay Chr In	18
Delay Flg In	21
Delay EQ In	20
Delay EQ Src	16

4 Tap Delay

Tap 1 Delay	24
Tap 2 Delay	25
Tap 3 Delay	26
Tap 4 Delay	27
Feed Delay	23
Feedback	17
Dry Level	57
Tap 1 Level L,R	67, 68
Tap 2 Level L,R	69, 71
Tap 3 Level L,R	72, 74
Tap 4 Level L,R	75, 76
Tap 2 Level	70
Tap 4 Level	73

Other

Wet/Dry Mix	91
Bypass	09
LowPass Filter	49

NOTES:

In the interest of signal to noise performance, the effects dry level parameter should be left at 0 and the Wet/Dry mix (91) should be used instead.

Some of the above parameters may only be found in a Multi FX patch.

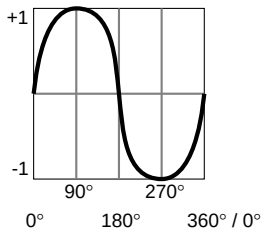
Chapter 4
LFOs

LFO Shapes

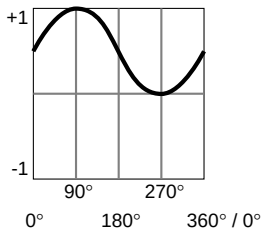
LFO Shape	Displayed:
Sine	Sine
Positive Sine	+Sine
Square	Square
Positive Square	+Squar
Triangle	Triang
Positive Triangle	+Trian
Rising Sawtooth	Rise S
Positive Rising Sawtooth	+Rise
Falling Sawtooth	Fall S
Positive Falling Sawtooth	+Fall
3 Step	3 Step
Positive 3 Step	+3 Ste
4 Step	4 Step
Positive 4 step	+4 Ste
5 Step	5 Step
Positive 5 Step	+5 Ste
6 Step	6 Step
Positive 6 Step	+6 Ste
7 Step	7 Step
Positive 7 Step	+7 Ste
8 Step	8 Step
Positive 8 Step	+8 Ste
10 Step	10 Ste
Positive 10 Step	+10 St
12 Step	12 Ste
Positive 12 Step	+12 St

LFO Shapes

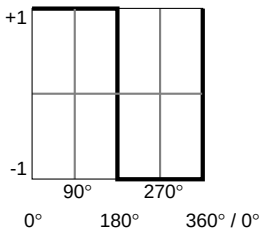
Sine



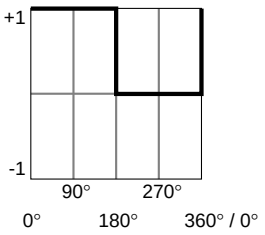
Positive Sine



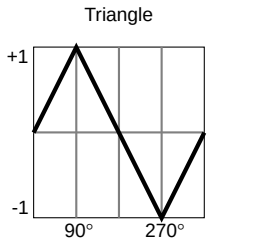
Sq uare



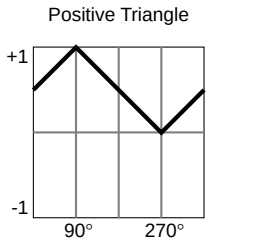
Positive Sq uare



Triangle

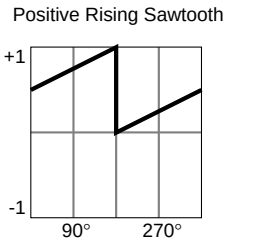


Positive Triangle

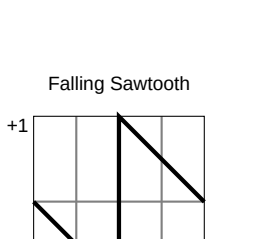


Rising Sawtooth

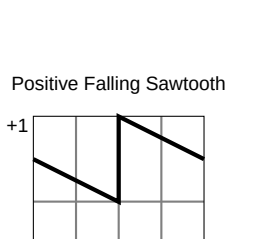
Positive Rising Sawtooth



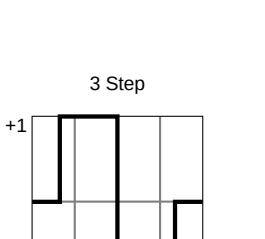
Falling Sawtooth



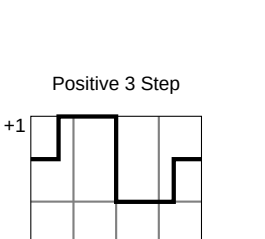
Positive Falling Sawtooth



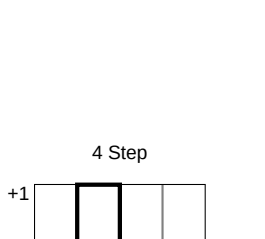
3 Step



Positive 3 Step

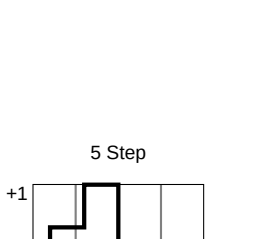


4 Step

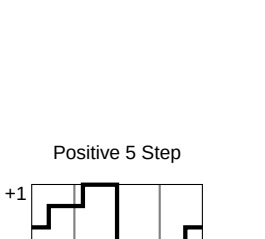


Positive 4 Step

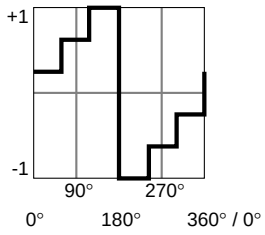
5 Step



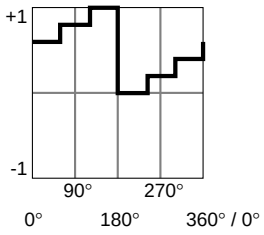
Positive 5 Step



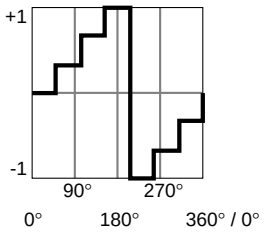
6 Step



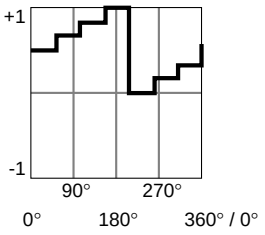
Positive 6 Step



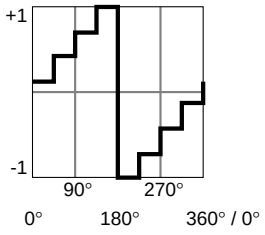
7 Step



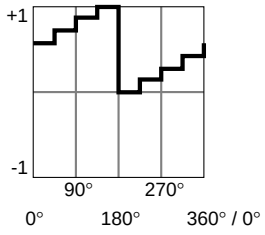
Positive 7 Step



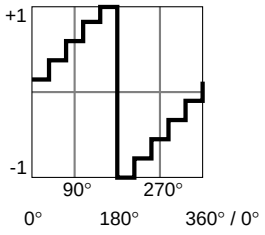
8 Step



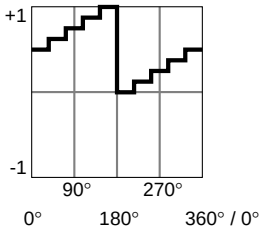
Positive 8 Step



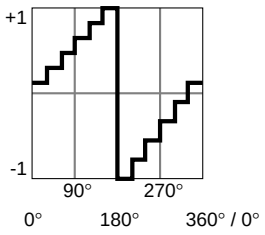
10 Step



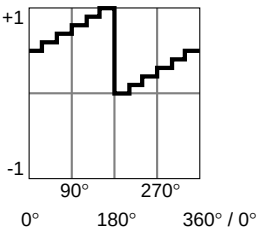
Positive 10 Step



12 Step



Positive 12 Step



LFO Shapes

Chapter 5
Note Numbers and Intonation Tables

K2500 Note Numbers and MIDI Note Numbers

K2500	MIDI
C -1—B -1	0—11
C 0—B 0	12—23
C 1—B 1	24—35
C 2—B 2	36—47
C 3—B 3	48—59
C 4 (Middle C)—B 4	60—71
C 5—B 5	72—83
C 6—B 6	84—95
C 7—B 7	96—107
C 8—B 8	108—119
C 9—G 9	120—127

You can assign samples to keymaps in the range from C 0 to G 9. The K2500 will respond to MIDI events in the octave from C -1 to B -1. If a Note On event is generated in the range from C -1 to B -1, the K2500 will respond by setting the Intonation key correspondingly (C -1 will set it to C, C# -1 will set it to C#, etc.)

Note Numbers for Percussion Keymaps

Most of the K2500's percussion programs have keymaps that place the various percussion timbres at standardized key locations. There are eight drum keymaps: Preview Drums, five 5-octave kits (two dry and three ambient), a 2-octave kit, and the General MIDI kit. The keymap 30 General MIDI Kit adheres as closely as possible to the General MIDI standard for placement of timbres. As a rule, programs that use this keymap can be assigned in percussion tracks for prerecorded sequences and will play appropriate timbres for all percussion notes.

The timbres are located consistently within the 5-octave kit keymaps so you can interchange keymaps within percussion programs freely without changing the basic timbres assigned to various notes (snare sounds will always be at and around Middle C, for example). The note assignments for the timbres in the 5-octave kit and 2-octave kit keymaps are listed below. MIDI note number 60 (Middle C) is defined as C 4.

5-Octave Percussion Keymaps (C2 - C7)

MIDI NOTE NUMBER	KEY NUMBER	SAMPLE ROOT
36-37	C2-C#2	Low Tom
38-39	D2-D#2	Low Mid Tom
40-41	E2-F2	Mid Tom
42-43	F#2-G2	Hi MidTom
44-45	G#2-A2	Mid Hi Tom
46	A#2	Hi Tom
47–51	B 2–D# 3	Kick
52–54	E3–F#3	Snare (Sidestick)

55-56	G3-G#3	Low Snare (dual vel. on Dry Kit 1)
57-59	A3-B3	Mid Snare (dual vel. on Dry Kit 1)
60-61	C4-C#4	Hi Snare (dual vel. on Dry Kit 1)
62–64	D 4–E 4	Closed HiHat
65–67	F 4–G 4	Slightly Open HiHat
68–69	G# 4–A 4	Open HiHat
70–71	A# 4–B 4	Open to Closed HiHat
72	C 5	Foot-closed HiHat
73-74	C#5-D5	Low Crash Cymbal
75-78	D#5-F#5	Pitched Crash Cymbals
79	G5	Splash Cymbal
80	G#5	Ride Cymbal (Rim)
81-82	A5-A#5	Ride Cymbal (Rim and Bell)
83-84	B5-C6	Ride Cymbal (Bell)
85	C# 6	Cowbell
86	D 6	Handclap
87	D# 6	Timbale
88	E 6	Timbale Shell
89	F 6	Conga Tone
90	F#6	Conga Bass Hi
91	G 6	Conga Slap
92	G#6	Conga Bass Low
93	A 6	Clave
94	A# 6	Cabasa
95–96	B 6–C 7	Tambourine Shake

2-Octave Percussion Keymaps (C3 - C5)

MIDI NOTE NUMBER	KEY NUMBER	SAMPLE ROOT
48–49	C 3–C# 3	Kick
50	D 3	Low Tom
51	D# 3	Cowbell
52	E 3	Low Tom
53	F 3	Mid Tom
54	F# 3	Cowbell
55	G 3	Mid Tom
56	G# 3	Timbale
57	A 3	High Tom
58	A# 3	Snare (Sidestick)
59	B 3	High Tom
60-61	C4-C#4	Snare (dual velocity)
62	D 4	Closed HiHat
63	D#4	Ride Cymbal (Rim and Bell)
64	E 4	Closed HiHat
65	F 4	Slightly Open HiHat
66	F# 4	Crash Cymbal
67	G 4	Slightly Open HiHat
68	G# 4	Crash Cymbal
69	A 4	Open HiHat
70	A# 4	Crash Cymbal
71	B 4	Open to Closed HiHat
72	C 5	Foot-closed HiHat

List and Description of Intonation Tables

1	Equal	No detuning of any intervals. The standard for modern western music.
2	Classic Just	Tunings are defined based on the ratios of the frequencies between intervals. The original tuning of Classical European music.
3	Just ♭7th	Similar to classic Just, but with the Dominant 7th flatted an additional 15 cents.
4	Harmonic	The perfect 4th, Tritone, and Dominant 7th are heavily flatted.
5	Just Harmonic	
6	Werkmeister	Named for its inventor, Andreas Werkmeister. It's fairly close to equal temperament, and was developed to enable transposition with less dissonance.
7	1/5th Comma	
8	1/4th Comma	
9	Indian Raga	Based on the tunings for traditional Indian music.
10	Arabic	Oriented toward the tunings of Mid-Eastern music.
11	1Bali/Java	Based on the pentatonic scale of Balinese and Javanese music.
12	2Bali/Java	A variation on 1Bali/Java, slightly more subtle overall.
13	3Bali/Java	A more extreme variation.
14	Tibetan	Based on the Chinese pentatonic scale.
15	CarlosAlpha	Developed by Wendy Carlos, an innovator in microtonal tunings, this intonation table flats each interval increasingly, resulting in an octave with quarter-tone intervals.
16	Pyth/aug4	This is a Pythagorean tuning, based on the Greek pentatonic scale. The tritone is 12 cents sharp.
17	Pyth/dim5	This is a Pythagorean tuning, based on the Greek pentatonic scale. The tritone is 12 cents flat.
18	Obj v*n.n*	Not an intonation table; indicates version number of K2500 ROM objects.

In general, you should select a non-standard intonation table when you're playing simple melodies (as opposed to chords) in a particular musical style. When you use intonation tables based on pentatonic scales, you'll normally play pentatonic scales to most accurately reproduce those styles. An excellent reference source for further study of alternative tunings is *Tuning In: Microtonality in Electronic Music*, by Scott R. Wilkinson.

Chapter 6
Control Sources

Control sources are assigned as values for control source parameters, like Src1 and Src2, Depth Control for Src2, and LFO rate control. Assigning a control source to one of these parameters is like connecting control source outputs to various inputs on early modular synthesizers. You can think of each control source parameter as the input to a synthesizer module, and the values for those parameters as the outputs of modules generating control signals.

For the control sources to have an effect, two things have to happen. First, the control source must be assigned as the value for (patched to) a control source parameter like Src1. In other words, for a control source parameter to have an effect, it must be programmed to respond to a particular control message. Second, the control source must generate a signal. The level of the control source's signal determines how much effect it has on the control source parameter to which it's assigned.

In terms of generating signals, there are two types of control sources. The first, which might be called hardware control sources, require some physical movement to transmit them. The control source called MWheel (MIDI 01) is probably the most prominent example of this type of control source. When you move your MIDI controller's Mod Wheel, it sends a Modulation message (MIDI 01), unless you've programmed it to send something else. By default, when the K2500 receives a MIDI 01 message, it responds by sending a control signal to whatever control source is assigned as the value for the ModWhl parameter on the MIDI mode RECV page. Of course, you can program the Mod Whl parameter to send any available control source signal in response to MIDI 01 messages.

Some of these hardware control sources have physical controls "hard-wired" to transmit them. That is, there are certain physical controls that *always* generate these control signals. Every time you strike one of your MIDI controller's keys (or pluck a string, or whatever), for example, a Note on message is generated, along with an Attack velocity message. So any time you strike a key, any control source parameter that has AttVel assigned as its value will be affected by the Attack velocity message. Similarly, every time you move the physical Pitch Wheel, a PWheel message is generated. Whether this affects anything depends on whether you have assigned any control source parameters to respond to the PWheel message (in other words, whether any control source parameter has PWheel assigned as its value).

On the MIDI XMIT page (and in the Setup Editor) you'll find six parameters that correspond to the standard physical controls found on many keyboard controllers: Mod Wheel, Foot Switches 1 and 2, the Control Pedal (CPedal), the Controller Slider (Slider), and mono pressure (Press). As long as the LocalKbdCh parameter on the RECV page in MIDI mode matches the transmit channel of your MIDI controller, these parameters will always respond to specific MIDI control messages: ModWhl always responds to Modulation messages (MIDI 01); FtSw1 always responds to Sustain (MIDI 64); FtSw2 always responds to Sostenuto (MIDI 66); CPedal always responds to Foot (MIDI 04); Slider always responds to Data (MIDI 06); Press always responds to mono pressure.

The values you assign for these six parameters determine which control messages will be transmitted to the K2500 and to its MIDI Out port when you move the corresponding controls on your MIDI controller. If you look at the MIDI XMIT page, you'll see that the parameter called ModWhl has a default value of MWheel. You can interpret this as follows: "Moving the Mod Wheel on my MIDI controller sends the MWheel (Modulation, MIDI 01) message to the

K2500's sound engine, and, if the K2500's LocalKbdCh parameter matches my controller's transmit channel, to the K2500's MIDI Out port."

If you change the value of the ModWhl parameter, the Mod Wheel will no longer send the MWheel message, and any control source parameter with MWheel assigned as its value will no longer respond to movement of the Mod Wheel. All of the control assignment parameters on the MIDI mode XMIT page (and in the Setup Editor) can be programmed to send any of the MIDI controller numbers. For example, if you assign Foot (MIDI 04) as the value for the Press parameter , then generating mono pressure messages from your MIDI controller will send a Foot (MIDI 04) message to the K2500's sound engine, and will affect any control source parameter that has Foot assigned as its value. If the value for the K2500's LocalKbdCh parameter matches your MIDI controller's transmit channel, then in this case the Foot message will be sent to the K2500's MIDI Out port as well, when you generate mono pressure messages from your MIDI controller.

The other type of control source is independent of the movement of physical controls. These control sources generate their control signals internally, and might be called software control sources. They either run automatically (like A Clock and RandV1), or they're programmed to generate their signals according to parameters of their own (as with the LFOs and FUNs). The software control sources must have some non-zero value set for one or more of their parameters before they'll generate control signals.

To summarize, there are two different cases in which you'll assign control sources. One, the transmit case, determines what control message will be sent by a particular physical control. For example, MWheel is set by default to be transmitted by the Mod Wheel. The other case, the receive case, determines which control message will activate a particular control source parameter. For example, if you assign MPress as the value for the Src1 parameter on the PITCH page in the Program Editor, then that layer's pitch will be affected whenever an MPress message is generated by any physical control.

Control Source Lists

There's one long list of control sources stored in the K2500's memory, although not all control sources are available for all control source parameters. With time you'll become familiar with the types of control sources available for various control source parameters.

The available list of control sources varies depending on the type of control source parameter you're programming. There are four basic types: MIDI control sources, local control sources, global control sources, and FUNs.

When you're setting the control assignment parameters on the MIDI mode XMIT page or in the Setup Editor, you'll see only the portion of the Control Source list that has values appropriate to MIDI controller messages. Consequently we refer to this subset of the Main Control Source list as the MIDI Control Source list.

You'll see variations on the Main Control Source list as you program the other control source parameters. We'll explain these variations, but it's not important that you memorize each variation. The lists differ to prevent you from assigning a control source where it would be ineffective. All you have to do is to scroll through the list of control sources available for any given control source parameter, and choose from the available values.

If you're programming one of the FUNs, you'll see the Main Control Source list, which includes almost every control source from the MIDI Control Source list (with the exception of Data Inc, Data Dec, and Panic, which belong exclusively to the MIDI Control Source list). The list for the FUNs also includes a set of constant values, that set an unvarying control signal level for one or both of the FUN's inputs.

For most other control source parameters, you'll see the Main Control Source list (without the FUN constants and the three special MIDI control sources we mentioned above). There are two

exceptions to this rule, which have to do with global control source parameters. Globals affect every note in each program's layer(s). Consequently they can't use local control sources as their values, since local control sources affect each note independently.

Four of the control source parameters are always global: the Enable parameter on the LAYER page (Program Editor), and the three control source parameters on the EFFECT page, (Program Editor). When programming these parameters, you'll see the Main Control Source list minus the three special MIDI control sources, minus the following local control sources:

Note St
Key St
KeyNum
BKeyNum
AttVel
InvAVel
PPress
BPPress
RelVel
Bi-AVel
VTRIG1
VTRIG2
RandV1
RandV2
ASR1
LFO1
FUN1
FUN3
Loop St
PB Rate
AtkSt
Rel St

Finally, if you've turned on the Globals parameter on the COMMON page in the Program Editor, the available values for GLFO2, and the values for GASR2's trigger will lack the local control sources listed above, as well as the three special MIDI control sources and the FUN constants. The available values for GFUN2 and GFUN4 will exclude the same list of local control sources, but will include the FUN constants.

Descriptions of Control sources

This section is organized into two sets of descriptions: the MIDI Control Source list, and the rest of the control sources. The numeral preceding the name of each control source can be entered on the alphanumeric pad to select the control source directly (press ENTER after typing the numeral).

Many of the MIDI control sources are assigned as default values for the control assignment parameters on the MIDI mode XMIT page and the Setup Editor page. We'll indicate these assignments as they appear, simply by mentioning that they're the default control source for a control assignment parameter.

MIDI Control Source List

With a few exceptions, the MIDI control sources correspond to the standard MIDI controller numbers used by every MIDI device.

128 OFF

This value eliminates the effect of any control source parameter to which it's assigned.

0, 33 MONO PRESSURE (MPress)

Many of the K2500's factory programs are assigned to modify parameters such as pitch, filter cutoff frequency, and depth control when MPress messages are received. The mono pressure (Press) control assignment parameters in MIDI and Setup modes are set by default to transmit MPress messages when mono pressure messages are received from a controller.

1 MIDI 01 (MWheel)

Many factory programs are assigned to respond to MWheel messages. The Mod Whl parameter in MIDI and Setup modes is set by default to transmit MWheel.

2 MIDI 02 (Breath)

3 MIDI 03

4 MIDI 04 (Foot)

This is the standard MIDI controller number for continuous control foot pedals. It's the default value for the CPedal control assignment parameter, so a control pedal on your MIDI controller which sends MIDI controller 04 messages will send MIDI controller 04 messages to the K2500 by default.

5 MIDI 05 (PortTim)

This is the standard MIDI controller number for portamento time control. The K2500 always responds to this control message. For any program that has portamento turned on (on the COMMON page in the Program Editor), MIDI Portamento Time messages received via MIDI will affect the rate of the program's portamento.

6 MIDI 06 (Data)

MIDI 06 is the standard MIDI controller number for data entry. The Slider parameter on the MIDI mode XMIT page and in the Setup Editor is set by default to trans-

mit this message, and can be used to select programs and edit parameters on MIDI slaves if your controller can send it.

7 MIDI 07 (Volume)

This is the standard MIDI controller number for volume. The Volume parameter on the CHANLS page in MIDI mode will respond to MIDI controller 07 unless the VolLock parameter is turned on.

8 MIDI 08 (Balance)

9 MIDI 09

10 MIDI 10 (Pan)

MIDI controller 10 is defined as Pan control. The Pan parameter on the CHANLS page in MIDI mode will respond to MIDI controller 10 unless the PanLock parameter is turned on.

11 MIDI 11 (Express)

12—14 MIDI 12—14

15 MIDI 15 (AuxBend2)

The K2500 interprets MIDI controller 15 as AuxBend2, which is assigned by default to the short ribbon (below the pitch and mod wheels) on keyboard models of the instrument. A value of 64 is centered.

16—19 MIDI 16—19 (Ctl A—D)

20 MIDI 20

21 MIDI 21 (AuxBend1)

The K2500 interprets MIDI controller 21 as AuxBend1, which is assigned by default to the long ribbon (above the keyboard) on keyboard models of the instrument. A value of 64 is centered.

22—31 MIDI 22—31

64 MIDI 64 (Sustain)

This is the standard MIDI controller number for Sustain. The control assignment parameter FootSw1 is set by default to MIDI controller 64, so a switch pedal on your MIDI controller which sends MIDI 64 will send sustain messages to the K2500 by default. The K2500 will always respond to sustain messages by sustaining currently active notes.

65 MIDI 65 (PortSw)

This is the standard MIDI controller number for Portamento Switch. The Portamento parameter on the COMMON page in the Program Editor always responds to this controller, and will turn Portamento on for monophonic programs when the controller signal is at 64 or above. It won't affect polyphonic programs.

66 MIDI 66 (SostPD)

MIDI controller 66 is defined as Sostenuto Switch. The control assignment parameter FootSw2 is set by default to MIDI controller 66, so a switch pedal on your MIDI controller which sends MIDI 66 will send sostenuto messages to the K2500 by default. The K2500 will always respond to sostenuto messages.

67 MIDI 67 (SoftPd)

This is the standard MIDI controller number for Soft Pedal. The K2500 will always respond to Soft pedal messages.

68 MIDI 68

69 MIDI 69 (FrezPd)

The K2500 will always respond to this message. It causes all notes to be frozen at their current amplitude levels while the function is on.

70—74 MIDI 70—74

75 MIDI 75 (LegatoSw)

The K2500 always responds to this message. When a MIDI controller 75 message with a value above 64 is received, the K2500 will force polyphonic programs to be monophonic.

76—79 MIDI 76—79

80—83 MIDI 80—83 (Ctl E—H)

84—90 MIDI 84—90

91 MIDI 91 (FXDep)

The MIDI specification defines this controller as External Effects Depth. If the FX Mode parameter is set to Master, and the FX Channel parameter is set to a specific MIDI channel, the K2500 will respond to this message when it is received on the FX channel. It responds by adjusting the Wet/Dry mix of the current preset effect.

92—95 MIDI 92—95

96 MIDI 96 (DataInc)

This is defined as Data Increment. It's intended to be assigned to a switch control. When the control is on (value 127), the currently selected parameter's value will be increased by one increment. This could be assigned to FootSw2, for example, to scroll through the program list while in Program mode.

97 MIDI 97 (DataDec)

This is defined as Data Decrement. It's intended to be assigned to a switch control. When the control is on (value 127), the currently selected parameter's value will be decreased by one increment.

123 MIDI 123 (Panic)

The K2500 always responds to this message by sending an All Notes Off and All Controllers Off message on all 16 MIDI channels.

Main Control Source List

This list contains all but the last three control sources in the MIDI Control Source list. It also contains the following control sources. All are local unless specified as global.

32 Channel State (Chan St)

Chan St refers to whether any notes are currently active on a given MIDI channel. Chan St switches on whenever a note is started, and switches off when a Note Off has been received for each current note on that channel, even if notes are sustained.

33 Mono pressure (MPress)

This is the same as the MPress control source in the MIDI Control Source list, but is assigned by entering 33 on the alphanumeric pad when used with a parameter that takes its values from the Main Control Source list.

34 Bipolar mono pressure (BMPress)

This control source generates a control signal of -1 when the value of the control to which it's assigned is at its minimum, and +1 when the control is at its maximum. For example, if you had the MPress control assignment parameter assigned to send BMPress, and you had Src1 on a program layer's PITCH page assigned to BM-Press, with its depth parameter set to 1200 cents, then the layer would be transposed down an octave when no pressure (value 0) was applied to your controller's keys (assuming it sends mono pressure). Maximum pressure (value 127) would transpose the layer up an octave, while a pressure level of 64 would leave the pitch unchanged.

35 Pitch Wheel message (PWheel)

The K2500 is hard-wired to respond to this message. Any parameter with PWheel assigned as its value will be affected when your MIDI controller's Pitch Wheel is moved.

36 Bipolar Mod Wheel (Bi-Mwl)

This control source will always respond to MIDI controller 01 (MWheel). Control source parameters set to this value will generate control signals of -1 when the MIDI controller 01 message value is 0, and will generate a control signal of +1 when the MIDI controller 01 message is at 127, scaling all values in between. For example, you might set Src1 on a program layer's PITCH page to a value of Bi-Mwl, and its depth parameter to 1200 cents. Then as long as the ModWhl control assignment parameter is set to a value of MWheel, your controller's Mod Wheel will be bipolar; in this case it will bend the layer's pitch down as you move the Mod Wheel toward minimum, and bend the pitch up as you move the Mod Wheel toward maximum.

37 Absolute value of Pitch Wheel (AbsPwl)

This control source always responds to movement of your MIDI controller's Pitch Wheel, but makes the Pitch Wheel unipolar. Whereas pulling the Pitch Wheel fully down usually generates a control signal value of -1, this control source generates a value of +1 when the Pitch Wheel is pulled fully down.

38 Global ASR (GASR2)

When the Globals parameter on the COMMON page is turned on, ASR2 becomes global, and is labeled GASR2. The functions of ASRs are explained in Chapter 6 in the *Performance Guide*, in the section "The ASR Page." This control source does not appear in the Control Source list for parameters whose functions are local.

39 Global FUN2 (GFUN2)

When the Globals parameter on the COMMON page is turned on, FUN2 becomes global, and is labeled GFUN2. The functions of FUNs are explained in Chapter 16 in the *Performance Guide*. This control source does not appear in the Control Source list for parameters whose functions are local.

40 Global LFO (GLFO2)

When the Globals parameter on the COMMON page is turned on, LFO2 becomes global, and is labeled GLFO2. The functions of LFOs are explained in Chapter 6 in the *Performance Guide*, in the section "THE LFO PAGE." This control source does not appear in the Control Source list for parameters whose functions are local.

41 Global LFO Phase (GLFO2ph)

When the Globals parameter on the COMMON page is turned on, LFO2 becomes global, and is labeled GLFO2. The functions of LFOs are explained in Chapter 6 in the *Performance Guide*, in the section "THE LFO PAGE." This control source does not appear in the Control Source list for parameters whose functions are local.

42 Global FUN 4 (GFUN4)

When the Globals parameter on the COMMON page is turned on, FUN 4 becomes global, and is labeled GFUN4. This control source does not appear in the Control Source list for parameters whose functions are local.

43 Volume Control (VolCtl)

This control source will always respond to MIDI controller 07 messages. Assign this value to a parameter when you want MIDI volume messages to affect the parameter.

44 Pan Control (PanCtl)

This control source always responds to MIDI controller 10 messages. Assign this value to a parameter when you want MIDI pan messages to affect the parameter.

45 Balance Control (BalCtl)

This control source will always respond to MIDI controller 08 messages. Assign this value to a parameter when you want MIDI balance messages to affect the parameter.

46 Channel Count (ChanCnt)

This control source keeps track of the total number of active voice channels (how many notes are playing), and converts the number into a control signal between 0 and +1. The control signal's value is 1 when all 48 voice channels are active, and 0 when no voice channels are active.

You can use this control source in several ways. One example is to limit the volume of each note so that you have a more nearly constant volume regardless of how

many notes you're playing (this is independent of the effect of attack velocity on volume). To set this up, you would go to the F4 AMP page in the Program Editor, and set the Src1 parameter to a value of ChanCnt. Then set the Depth parameter to a negative value. This will decrease the overall amplitude of each note as you play more simultaneous notes. This example works best with short-release sounds. It's great for an organ program, for example.

Channel count is also useful for controlling the modulation applied to a sound. For example, you may have a sound what you use both as a lead and for rhythm. Suppose you want a deep vibrato when you're soloing, but less vibrato when you're playing chords. Set up the vibrato by using LFO1 as the value for the Src2 parameter on the PITCH page in the Program Editor. Set the MinDpt parameter to 72 cts, and the MaxDpt parameter to 12 cts. Then set the value of the DptCtl parameter to ChanCnt, and You'll get maximum vibrato depth when only one note is active. (Channel count outputs a control signal of 0 when no notes are playing, so with only one note playing, its value is near 0, which causes the DptCtl parameter to generate a value near its minimum: 72 cents in this case.)

If you want to increase the depth of the vibrato as you increase the number of active notes, set the value of the MaxDpt parameter higher than that of the MinDpt parameter.

NOTE: There are no control sources that correspond to the numeric entries 47—54.

55 Sync State (SyncSt)

This unipolar control source responds to MIDI clock messages received from an external MIDI device. Sync State switches on (+1) at each clock start, and switches off (0) with each clock stop.

56 A Clock

This is a unipolar square wave that responds to MIDI clock messages. It switches to +1 and back to 0 with every clock beat. This control source looks first for externally received MIDI clock messages, and if none is received, it responds to the K2500's internal clock, which is always running. The internal clock speed is set with the Tempo parameter in Song mode.

57 Negative A Clock (~A Clock)

This is the opposite of A clock, that is, it switches from 0 to +1 with every clock beat (the square wave is 180 degrees out of phase with that of A Clock).

58 B Clock

This is similar to A Clock, but it's bipolar—it switches from +1 to -1 with every clock beat.

59 Negative B Clock (~B Clock)

The opposite of B Clock, this bipolar control source switches from -1 to +1 with every clock beat (the square wave is 180 degrees out of phase with that of B Clock).

60, 61 Global Phase 1 and 2 (G Phase 1, G Phase 2)

These bipolar global control sources are both rising sawtooth waves that rise from -1 to +1 with each MIDI clock beat. Like A Clock and B clock, they look for an external clock signal, and if none is received, they respond to the K2500's internal clock.

62, 63 Global Random Variant 1 and 2 (GRandV 1, GRandV 2)

These are also bipolar and global, and generate random control signal values between -1 and +1 when assigned to a control source parameter. There is a subtle difference in the randomness of the signals they generate, therefore choosing between them is a matter of preference.

96 Note State (Note St)

At any moment, any given note is either on or off; this is its Note State. Note State can be used as a unipolar control source that responds to each note that's played. It switches to +1 when the note starts, and stays on as long as the note is held on (by the sustain pedal, for example), or by holding down the trigger for that note. It switches to 0 when the note is no longer sustained by any means. For example, if you play a note, then hold it with the sustain pedal, its Note State is still on (+1) even if you've released the key that triggered the note. As soon as you release the sustain pedal, the note's Note State switches to off (0), even if it has a long release and you can still hear the release section of the note.

97 Key State (Key St)

This is a unipolar control source that responds to the motion of your MIDI controller's keys. It switches to +1 when a key is pressed, and switches to 0 when the key is released. Its effect differs from Note State in that when the key that switched it on is released, it will switch off even if the note is sustained. If you're using a non-keyboard MIDI controller, Key State will switch to 0 when the equivalent of a key release is sent.

98 Key Number (KeyNum)

This is a unipolar control source that generates its signal value based on the MIDI key number of each note triggered. That is, it generates a value of 0 in response to MIDI key number 0, a value of 64 in response to MIDI key number 64, and so on. Note that some parameters, such as Enable Sense on the Program Editor Layer Page, will not accept this parameter. GKeyNum, controller number 129, would be acceptable however.

99 Bipolar Key Number (BKeyNum)

This is like KeyNum, but generates a signal value of -1 in response to MIDI key number 0, a value of 0 in response to MIDI key number 64, and a value of +1 in response to MIDI key number 127.

100 Attack Velocity (AttVel)

This unipolar control source responds to Attack velocity values received at the K2500's MIDI In port. Velocity values of 0 cause it to generate a signal value of 0, while velocity values of 127 will generate a value of +1. All other velocity values will result in signal values proportionally scaled between 0 and +1. Note that some parameters, such as Enable Sense on the Program Editor Layer Page, will not accept this parameter. GAttVel, controller number 130, would be acceptable however.

101 Inverse Attack Velocity (InvAttVel)

This is the opposite of AttVel, generating a signal value of 0 in response to attack velocity values of 127.

102 Polyphonic pressure (PPress)

This unipolar control source responds to poly pressure (aftertouch) messages received via MIDI. It generates a signal value scaled from 0 to +1 based on the poly pressure value range of 0—127.

103 Bipolar polyphonic pressure (BPPress)

This is like PPress, but scales its signal value from -1 to +1.

104 Release Velocity (RelVel)

Also unipolar, this control source scales its signal value from 0 to +1 in response to release velocity values from 0—127.

105 Bipolar Attack Velocity (Bi-AVel)

This is similar to AttVel, but scales its signal values from -1 to +1.

106, 107 Velocity Triggers 1 and 2 (VTRIG1, VTRIG2)

These unipolar control sources are switch controls, that is, they generate signal values of either 0 or +1. These must be programmed in order to have an effect; their programming parameters are found on the VTRIG page in the Program Editor. When a VTRIG's Sense parameter is set to normal, it switches to +1 when a note plays at a dynamic level exceeding the dynamic level set for its Level parameter. See "THE VTRIG PAGE" in Chapter 6 in the *Performance Guide* for more information.

108, 109 Random Variants 1 and 2 (RandV1, RandV2)

These are similar to GRandV1 and GRandV2, but are local, so will affect each control source parameter independently.

110, 111 ASR1, ASR2

These are programmable envelopes with three segments, Attack, Sustain, and Release. Their control source signals are unipolar. See "The ASR Page" in Chapter 6 in the *Performance Guide* for a thorough explanation.

112, 113 FUN1, FUN2

These generate their control source signals by combining the control signal values of two programmable inputs, and performing a mathematical function on the result. Their control signals can be unipolar or bipolar, depending on the control sources assigned as their inputs. See "The FUN Page" in Chapter 6 in the *Performance Guide*. FUN2 becomes global (GFUN2) when the Globals parameter on the COMMON page in the Program Editor is set to On.

114 LFO1

LFO1 can be unipolar or bipolar depending on the value set for the Shape parameter on its programming page. See "The LFO Page" in Chapter 6 in the *Performance Guide*.

115 LFO1 Phase (LFO1ph)

This bipolar control source generates it signal based on the cycle of LFO1. When the phase of LFO1 is 0 degrees, the signal value of LFO1ph is 0. When the phase of LFO1 is 90 degrees, the signal value of LFO1ph is 1. When the phase of LFO1 is 180

degrees, the signal value of LFO1ph is 0. When the phase of LFO1 is 270 degrees, the signal value of LFO1ph is -1.

116 LFO2

This functions exactly the same as LFO1, when the Globals parameter is set to Off (on the COMMON page in the Program Editor). When the Globals parameter is set to On, LFO2 becomes global (GLFO2).

117 LFO2 Phase (LFO2ph)

This functions exactly the same as LFO1ph, responding to the cycle of LFO2.

118, 119 FUN3, FUN4

These function exactly the same as FUNs 1 and 2, when the Globals parameter is set to Off (on the COMMON page in the Program Editor). When the Globals parameter is set to On, FUN4 becomes global (GFUN4).

120 Amplitude Envelope (AMPENV)

This programmable unipolar control source lets you vary the effect of a control source parameter over time. See "The AMPENV Page" in Chapter 6 in the *Performance Guide*.

121, 122 Envelopes 2 and 3 (ENV2, ENV3)

These are programmed in the same way as AMPENV, but they can be bipolar.

123 Loop State (Loop St)

This unipolar control source switches to +1 when the currently playing sample reaches its LoopStart point. If you've programmed a sound with a User amplitude envelope, Loop St will always be on (+1) for that sound. See Chapter 15 in the *Performance Guide* for more about sample loops.

124 Sample Playback Rate (PB Rate)

The signal value of this bipolar control source is determined by the sample playback rate of each note. The playback rate is a function of the amount of transposition applied to a sample root to play it at the proper pitch for each note. If you trigger a note where a sample root is assigned, the PB Rate signal value for that note is 0. If the note is above the sample root, the sample is transposed upward, and its playback rate is higher than that of the sample root. Consequently the PB Rate signal value for that note will be positive. If the note is below the sample root, the PB Rate signal value will be negative.

125 Attack State (Atk State)

This unipolar control source switches to +1 and back to 0 very quickly with each note start.

126 Release State (Rel State)

This unipolar control source switches to +1 when a note is released, and stays on until the note has completed its release (faded to silence), then it switches to 0. It will stay on if a note is sustained, even if its trigger (key, string, whatever) is released.

127 ON

This generates a constant control signal value of +1.

128 -ON

This generates a constant control signal value of -1 (the numeric entry 128 selects a value of OFF in the MIDI Control Source list).

129 GKeyNum

Uses the key number (global) to modify whatever it is patched into. Higher notes will have a very different effect than will lower notes. Users can use this new Source to control any K2500 parameters such as F/X depth, or to scale amplitude or pitch.

130 GAttVel

This is updated every time you strike another key (kind of a multi- trigger function). Users can patch this new Source to control parameters such as F/X Depth.

In addition to enabling (triggering) layers from any controller (works like an on/off switch), users may now set the assigned controller's threshold (value, or range of values from 0-127), thus defining the controller's active range where it will enable the layer.

For example, you could create a 32 layer nylon guitar where each layer is assigned to a different V.A.S.T. Algorithm and each layer is enabled by discrete narrow velocity ranges. This would produce 32 different sounding layers with 32 cross switch points emulating a picked guitar where no two attacks are exactly alike. If the layers' velocity ranges were very close together yet not overlapping, you could create very subtle non-repeating changes. This kind of power usually eludes most sample playback devices, as this technique uses only one layer of polyphony, due to cross switching versus cross fading.

131, 132 GHiKey, GLoKey

These control sources work the same as GKeyNum except that they track the highest key currently held and the lowest key currently held respectively. By using one of these as the only source for pitch tracking, you can create "mono-like" layers within a polyphonic program.

Constant Control Sources

The remaining control sources are constants, which appear only when you're assigning control sources as inputs for the FUNs. Assigning one of these values fixes the input's control signal value at a steady level.

133	-0.99
134	-0.98
135	-0.97
136-140	-0.96 to -0.92
141	-0.91
142	-0.90
143-145	-0.88 to -0.84
146-150	-0.82 to -0.74
151-155	-0.72 to -0.64
156-160	-0.62 to -0.54
161-165	-0.52 to -0.44
166-170	-0.42 to -0.34
171-175	-0.32 to -0.24
176-180	-0.22 to -0.14
181	-0.12
182	-0.10
183	-0.09
184	-0.08
185	-0.07
186-190	-0.06 to -0.02
191	-0.01
192	0.00
193	0.01
194	0.02
195	0.03
196-200	0.04 to 0.08
201	0.09
202	0.10
203	0.12
204	0.14
205	0.16
206-210	0.18 to 0.26
211-215	0.28 to 0.36
216-220	0.38 to 0.46
221-225	0.48 to 0.56
226-230	0.58 to 0.66
231-235	0.68 to 0.76
236-240	0.78 to 0.86
241	0.88
242	0.90
243	0.91
244	0.92
245	0.93
246-250	0.94 to 0.98
251	0.99

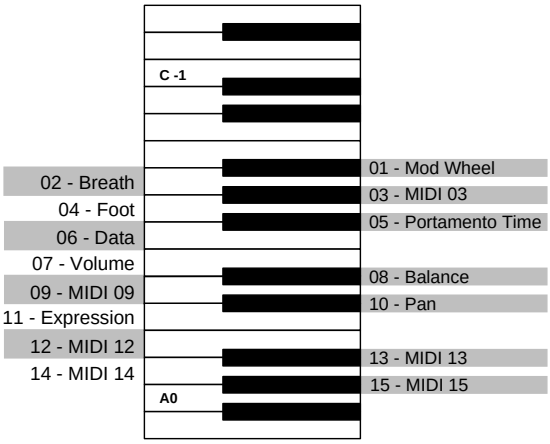
Note: There are no control sources that correspond to numeric entries 252—254.

256	OFF

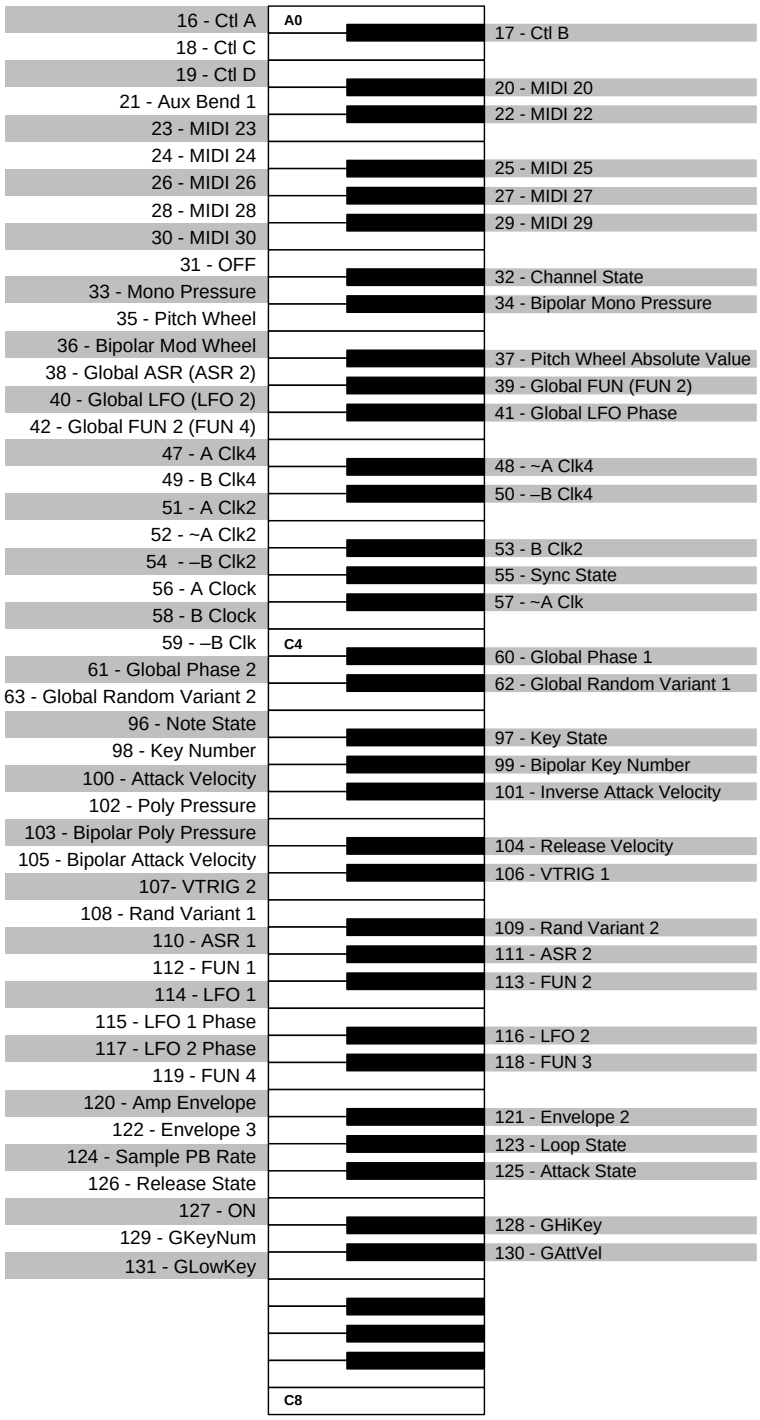
Keyboard Shortcuts for Control Sources

You can use the keyboard of your MIDI controller to choose control sources, since most key numbers correspond to a value on the control source list. If you have a certain control source that you use over and over (for example, LFO1), this can be the quickest way to enter its value. To do this: highlight a parameter which uses a value from the control source list, hold down ENTER, then strike the key corresponding to the control source you want to choose. LFO1, for example, is assigned to B5.

C-1 to A0
(Below Standard 88-note Keyboard)



A0 to C8
(Standard 88-note Keyboard)



Chapter 8
Memory Upgrades and Other Options

Program RAM vs. Sample RAM

If you're creating a lot of your own programs, and using samples loaded from disk, there are a few things you should be aware of to avoid perplexity. First of all, there's an important distinction between what we call Sample RAM and what we call Program RAM. Sample RAM refers to any SIMMs you may have had installed in your K2500. This RAM is reserved exclusively for sample storage; nothing else is stored there. Sample RAM is volatile; that is, when you power down your K2500, the data stored there will "evaporate" almost immediately. That's why you have to load RAM samples every time you power up.

The amount of sample RAM in your K2500 is indicated in the center of the top line of the Disk mode page. If the center of the display's top line is blank when you're on this page, it means that there is no sample RAM installed in your K2500 (or that the K2500 isn't recognizing it, in which case you should see your dealer or service center).

Program RAM is where all the other RAM objects you create (programs, setups, QA banks, songs, keymaps, etc.) are stored. The K2500 comes from the factory with approximately 240K of available Program RAM. The amount of free Program RAM is indicated at the right side of the top line of the display in Song mode and Disk mode. You can add a Program RAM (P/RAM) option to increase your total available Program RAM to about 1250K. Ask your dealer.

Program RAM is battery-backed, so anything that's stored there will be preserved even when you power down (as long as your batteries have enough juice). Fresh alkaline batteries will last up to two years, so you'll have very few worries about losing your RAM program information. Nonetheless, we recommend that you back up your programs, songs, etc. by saving them to disk. This offers insurance in case the RAM becomes corrupted. This is unlikely, but still a possibility.

If you create a program that uses a disk-loaded sample, the program information (number of layers, keymap assignment, output group, algorithm, etc.) is stored in Program RAM. All RAM samples associated with the program are stored in Sample RAM. This means that when you power down, the RAM samples associated with your programs will disappear. The program information, however, will remain in Program RAM indefinitely. When you power up again, your RAM programs will still appear in the display as you scroll through the program list, but they won't play if they use RAM samples, because the RAM samples are lost when you power down.

Viewing RAM Objects

If you're a heavy Disk mode user, you'll often be faced with the decision to overwrite, merge, or append objects when you load files from disk. If you're loading into a memory bank that's nearly full, this can be a tricky call, because if you decide to merge or append, there may not be enough open slots in the memory bank to accommodate the objects you load. In this case, the extra objects will be loaded into the next-higher memory bank.

Things get even trickier if you save dependent objects when you save to disk. (A dependent object is any object that's associated with another object stored in a different memory bank—for example, a RAM sample with ID 301 that's used in a program with ID 200. See the discussion of dependent objects in Chapter 13 in the *Performance Guide*.) If you load a file that contains a number of dependent objects, some of them may be loaded into a higher memory bank than

the one you specified in the Bank dialog before you loaded the file. A quick way to see where the objects you loaded ended up is to use the “Objects” Utility function in Master mode.

Select Master mode and press the **Utility** soft button. Press the **Objects** soft button, and a list of RAM objects will appear. Use the Alpha Wheel to scroll through the list of objects. You’ll see the type, ID, name, and size (in bytes) of each object.

Choosing SIMMs for Sample RAM

Single In-Line Memory Modules, commonly referred to by the acronym "SIMM", are the small memory cards that the K2500 uses for Sample RAM. You can add up to eight SIMMs to your K2500, and since they range in available size up to 16 Megabytes, that means you can add up to 128 Megabytes of Sample RAM to your machine.

The K2500 will accept 30-pin non-composite SIMMs, in sizes of 1 Megabyte, 4 Megabytes, and 16 Megabytes, in either 8-bit or 9-bit configurations. The SIMMs must have an access time of 80 nanoseconds (ns) or faster. The maximum height and width of a SIMM for the K2500 is 30mm x 90mm (approximately 1.2 inches x 3.5 inches). Below is a list of some SIMMs that will work with your K2500:

Hitachi HB56A48A; 4Mx8

Hitachi HB56A49A; 4Mx9

TI TM124EU9B, TM124EU9C; 1Mx9

TI TM497EAD9B, TM4100EAD9; 4Mx9

TI TM4100GAD8, TM497GAD8A; 4Mx8

TI TM16100GBD8;16Mx8

TI TM16100EBD9;16Mx9

NEC MC-421000A8B; 1Mx8

NEC MC-424100A8B; 4Mx8

NEC MC-421000A9B; 1Mx9

NEC MC-424100A9B; 4Mx9

Tosh THM81000AS, Tosh THM81000BS, Tosh THM81070AS; 1Mx8

Tosh THM91000AS, Tosh THM91000BS, Tosh THM91070AS; 1Mx9

SIMMs are always installed in adjacent pairs, and must be installed by an authorized Kurzweil facility.

CAUTION: *You must not use composite SIMMs in your K2500. A composite SIMM is one that uses a PAL or other additional circuitry to make multiple DRAM chips act like bigger chips. Non-composite SIMMs (the kind you may use in your K2500) have no chips other than DRAM memory chips soldered to the board. SIMMs with PALs, buffers, or other logic components will not work in your K2500, and must not be used.*

Using Headphones with the K2500

A good pair of headphones can be indispensable when you want to play but need to keep the volume down. You’ll get optimum performance from headphones with at least 50 ohms impedance, but anything over 8 ohms is adequate. Headphone volume decreases as the impedance decreases.

Finally, magnetic fields can be a source of interference. The area surrounding the K2500's Alpha Wheel and alphanumeric pad is sensitive to fields from large transformers in power amps; keep them at least a foot away from the K2500's front panel. Smaller gear like drum machines and hardware sequencers can also cause interference.

Power Problems and Solutions

The K2500 is quite tolerant of voltage fluctuations, noise, and transients in the AC power it receives. The input line filter and grounded power cable will protect against even large amounts of noise from motors and the like while the built-in filter coupled with the fuse will protect against all but the largest transients. If your installation is actually suffering from line noise or transients, most likely your other equipment will be suffering more than your K2500.

Very low line voltage or severe voltage dips are a problem for any computer-based instrument. When the K2500 is set for 120 volt input (the normal North American setting), it should function down to 90 volts. If the line voltage drops below 90 volts, a special circuit halts all activity to protect against software crashes or damage. When the line voltage returns to and stays at an acceptable level for at least one second, the computer will automatically restart. The net effect is just as if you had performed a soft reset. Continuous low line voltage or transient dips will never produce symptoms other than unexpected soft resets as just described. Any other problems such as distortion, disk errors, or lost data are caused by something other than line voltage fluctuations.

Soft resets from line voltage dips are most common. These are easily identified because the reset occurs coincident with the building lights dimming, stage lights or power amps being switched on, or air-conditioning equipment starting up. The solution in all cases is to get a more direct connection between your K2500 (and any other computer-based equipment) and the building's power. Floodlights, large power amplifiers, and motor-operated devices should use a separate extension cord; preferably they should be plugged into a separate outlet.

Chronic low line voltage is best confirmed by measurement. Readings below 100-105 volts mean that even small dips could cause resets, while readings below 95 volts (accounting for meter inaccuracies) are a definite problem. Again, the best solution is to separate your heavy lighting and amplifier loads from your K2500 and other synths on separate extension cords or separate circuits when possible. If the actual building voltage is that low, use of an external step-up transformer or voltage regulator is recommended. We DO NOT recommend changing the line voltage selector to 100 volts (or 220 volts in Europe) because overheating or blown fuses may occur if you leave the K2500 at the lower setting and use it later at a normal voltage level.

Troubleshooting

Naturally, we've done everything possible to ensure that your K2500 arrives free of defects. And there's a good chance that there's nothing wrong, even if you're not seeing the proper display or hearing the sounds. Carefully check the following things:

Make sure that your power supply is at the right voltage, and is functioning properly.

Make sure the power cable is connected properly.

Adjust the display contrast if necessary (with the Contrast parameter in Master mode). If for some reason you have trouble reading the display, even after adjusting the Contrast parameter, you can also adjust the contrast by holding down the ENTER button and turning the Alpha Wheel. If this improves the contrast, immediately return to the Contrast parameter and adjust it slightly. This will cause the K2500 to remember the current display contrast level, and should take care of any difficulties you may have been having. If this procedure doesn't work, it's time to contact your dealer.

Make sure your audio cables are fully connected to the K2500 and to your sound system. You may want to switch your audio cables, unless you're sure they're functioning properly.

Make sure that your MIDI connections are correct, and that your MIDI cables are functional. You should have at least one MIDI cable, which should be connected from the MIDI Out port of your MIDI controller to the MIDI In port of the K2500.

Check that the K2500's Volume slider is at least partially up.

Check the volume level of your sound system.

Lower the volume of your sound system, and turn the K2500 off, then on again (this is called a power cycle).

Press the +/-, 0, and Clear buttons (on the alphanumeric pad at the far right of the front panel) at the same time. This is called a soft reset.

As a last resort, save to disk any RAM objects you've created, and perform a hard reset. Do this by pressing the Master Mode button, then pressing the "Reset" soft button (at the lower right of the display). The K2500 will warn you about deleting everything (only RAM objects will be deleted). Press Yes. After a few seconds, the power-up display should appear.

Also check the suggestions on the following pages. If it's still not happening, the next step is to shut off the power and call your dealer.

Other Possible Problems

Condition	Possible Cause
No sound, no display, no LEDs illuminated.	
	1 AC line cord not fully inserted into outlet or unit. If using a multiple outlet box, check its plug.
	2 Power not on at AC power source (wall outlet). Check with a different appliance.
	3 Power switch not on (either the unit or multiple outlet box).
	4 Incorrect voltage selection setting. REFER TO QUALIFIED SERVICE PERSONNEL.
No sound.	
	1 Volume control turned all the way down on the K2500 or on amplifier or mixer.
	2 Amplifier or mixer not turned on.
	3 Cabling is not correct - see Chapter 2 in the *Performance Guide* - Startup, and Chapter 18 in the *Performance Guide* - Audio Outputs. Also check that amplifier, mixer and speaker cabling is correct.
	4 MIDI volume has been assigned to a control source which has sent a value of 0. Pressing the Panic soft button will reset all controls, and resolve this problem.
No sound at MIX outputs or headphones.	
	1 Audio cables are plugged into some or all of the separate outputs. Cables plugged into of the separate outputs will remove some or all of the audio signal from the MIX and headphone outputs. See Chapter 18 in the *Performance Guide*—"Audio Output" for output configurations.

Left MIX output seems louder than Right MIX output when used individually.

1 This is normal. When a cable is plugged into the left MIX output alone, both the left AND the right audio signals are routed to the jack. When a cable is plugged into right MIX output alone, only the right channel audio signal is heard.

Volume knob has no effect.

1 Separate outputs are in use - the volume knob does not affect the separate outputs.

2 MIDI volume has been assigned to a control source which has sent a value of 0.

Programs, Setups, Songs, etc. are missing.

1 Batteries have run down or have been disconnected. If the batteries have failed, the message "Battery voltage is low - X.X volts" (where X.X is less than 3.0) will appear in the display on power-up. All user data will be permanently lost if this occurs. See the information on battery selection and replacement elsewhere in this manual.

LCD is too dark or too light to read.

1 Contrast not adjusted. Select Master mode and adjust the Contrast parameter. If this fails, hold the ENTER button and turn the alpha wheel clockwise to make display darker; counterclockwise to make it lighter. Then adjust the Master mode Contrast parameter to a higher value if the LCD was too light, or to a lower value if it was too dark.

Cannot mount or read disk.

1 Disk is not MS-DOS (or Akai, Ensoniq, or Roland) format.

2 Disk is damaged.

Cannot write floppy disk.

1 Disk is not MS-DOS formatted.

2 Disk write protected.

3 Sample is copy protected.

4 Disk is damaged.

Cannot format disk.

1 Disk is damaged.

2 Disk is write protected.

3 You have instructed the K2500 to format a Double density (720K) disk as a high-density (1.4M) disk. NOTE: Punching a hole in a double-density disk case to try to make the K2500 read it as a high-density disk is not recommended.

Chapter 10
MIDI, SCSI, and Sample Dumps

SCSI Guidelines

The following sections contain information on using SCSI with the K2500, as well as specific sections dealing with the Mac and the K2500.

Disk Size Restrictions

The K2500 accepts hard disks with up to 2 gigabytes of storage capacity. If you attach an unformatted disk that is larger than 2 gigabytes, the K2500 will still be able to format it, but only as a 2 gigabyte disk. If you attach a *formatted* disk larger than 2 gigabytes, the K2500 will not be able to work with it; you could reformat the disk, but this - of course - would erase the disk entirely.

Configuring a SCSI Chain

Here are some basic guidelines to follow when configuring a SCSI chain:

1. According to the SCSI Specification, the maximum SCSI cable length is 6 meters (19.69'). You should limit the total length of all SCSI cables connecting external SCSI devices with Kurzweil products to 17 feet (5.2 meters). To calculate the total SCSI cable length one must add up the lengths of all SCSI cables, plus 8" for every external SCSI device connected. No single cable length in the chain should exceed 8 feet.

2. The first and last device in the chain must be terminated.

   The K2500 comes with SCSI termination enabled. You must disable this termination if the K2500 will be in the middle of a SCSI chain or if you are installing a hard drive into the K2500.

   There are three ways to disable the K2500's termination, depending on the manufacture date of the unit. Newer K2500's have an external "SCSI Termination Enable/Disable" switch on the rear panel. Older K2500's require either the removal of SCSI termination resistors or a jumper setting; these modifications can only be performed by an authorized service center.

   Poor termination is a common cause of SCSI problems. Having more than two terminators on the bus will overload the bus drivers, but this should not cause permanent damage to the hardware. Poor termination can corrupt the data on your disk, however, as can bad SCSI cables.

   For the K2500R, if it is not located at one end of a SCSI chain all internal termination, including the terminator resistor network on the K2500 Engine Board plus terminator resistors in the internal SCSI drive must be removed. It is much simpler to just make sure that the K2500 is at one end of the SCSI chain.

   For a K2500 keyboard model, it must be at the end of the SCSI chain if it has an internal disk drive.

   A note about active termination - The K2500 uses active termination of the SCSI bus. Active termination has some benefits over traditional passive termination. Some people have positioned active termination as a panacea for SCSI problems, but this is more hype than reality. Active terminators are available to be used at the end of one's SCSI chain and

all APS SR2000 series external drives use internal active termination that can be switched on or off.

3. Each device in the chain (including internal hard drives) must have its own unique SCSI ID. The default K2500 ID is #6. Macintoshes use ID #7 & #0.

4. Use only true SCSI cables - high quality, twisted pair, shielded SCSI cable. Do not use RS432 or other non SCSI cables.

   The majority of SCSI cables we've tested were poorly made and could damage data transferred to and from the disk. Nearly all the SCSI data problems Young Chang's engineering department has had have been due to bad cables that didn't twist pairs of wires properly. Correctly made SCSI cables have one ground wire for every signal wire and twist them together in signal/ground pairs. Cables made by APS Technologies (800-233-7550) are very good and are highly recommended. Young Chang manufactures 1 and 2 meter 25-25 SCSI cables, that we can also recommend. Good cables are essential to reliable data transfers to and from the disk drive.

5. You should buy all SCSI cables from a single source to avoid impedance mismatch between cables.

6. Theoretically all eight SCSI IDs can be used. However, feedback from users has shown us that many people have problems with more than 5-6 devices in a chain. If you have 7 or 8 devices and are having problems, your best bet is to make sure you have followed all of the previous information, especially with respect to cables.

7. Connect all SCSI cables before turning on the power on any equipment connected by SCSI cables. Plugging or unplugging SCSI cables while devices are powered on can cause damage to your devices or instrument.

8. Authorized service centers should remove termination from the K2500 when installing an internal drive, set its ID correctly, and terminate the drive.

9. When using a Macintosh, power up the K2500 and other devices first.

10. The K2500 file format is a proprietary format; no other device will be able to read or write a Kurzweil file.

11. The floppy disk format of the K2500 is DOS. The SCSI disk format is a proprietary form that is close to DOS, but it is not DOS. Nonetheless, the K2500 can read and write to a DOS formatted disk provided it was formatted on the PC with no partitions.

12. It is possible to view, copy, move, name, delete files on a K2500 formatted floppy disk or removable media hard drive, with a PC or Macintosh running a DOS mounting utility program such as Access PC.

13. As long as the SCSI bus is properly terminated there is no way you can damage your hardware simply by operating it. There are a few hazards K2500 users should be aware of, however:

    The only damage that usually occurs to SCSI hardware comes from static electricity "zapping" SCSI connector pins when the cables are disconnected. The silver colored shell of the SCSI connector on the end of the cable is connected to ground and is safe to touch, but the brass colored pins inside eventually lead to the SCSI interface chip and are vulnerable. You should discharge static from your body before touching SCSI connectors by touching the 1/4" jacks on the rear of the K2500 or another grounded metal object. Any devices connected to the SCSI bus should be turned off when plugging or unplugging SCSI cables.

If the K2500 is connected to a Macintosh or PC you should make sure that the computer cannot access a SCSI disk at the same time the K2500 does (see below for more information on this). Those who occasionally want to share a drive, but don't want to take any risks would be best served by disconnecting and connecting devices as needed. If you want to share drive(s) often and cannot constantly disconnect and reconnect devices, make sure the Mac or PC is really done with the disk before using the K2500. Furthermore, you should quit or exit from all running programs and disable screen savers, email, network file sharing, and any INITs or TSR's that run in the background. If the computer and K2500 access the disk at the same time there will be no damage to the hardware, but the bits on the disk, K2500, and computer memory can easily be corrupted. You may not know that damage has been done to these bits until weird things start to happen for no apparent reason.

K2500 and Macintosh Computers

1. The Mac really does not like having another SCSI master on the bus (i.e., the K2500). It assumes that it owns the bus and its drives, therefore it will not tolerate the situation where the K2500 is trying to talk to its (the Mac's) disk. This suggests that you never want to select the ID of any drive mounted on the Mac's desktop. Even more fundamental is the problem that the Mac assumes that the bus is always free, so if it tries to do anything via SCSI when the K2500 is doing anything via SCSI, the Mac will freak. The only solution is, wait until your Mac is completely idle before accessing SCSI from the K2500.

2. The Mac and the K2500 cannot share a drive in any way, with or without partitions. If you are using a drive with removable media, you cannot easily switch back and forth between a Mac formatted volume and a K2500 formatted volume. To prevent problems, you will need to unmount the drive from the Mac desktop before switching to a K2500 format volume. The Mac will basically ignore the volume if it's not Mac format, but once you insert a Mac format volume, the Mac owns it. Don't forget about #1 above; inserting a cartridge will cause the Mac to access SCSI, so don't try to use the K2K at that moment.

3. The only good reason for connecting the Mac and the K2K on the same SCSI bus is to use Alchemy or equivalent. If you're using a patch editor or librarian, you can just hook up via MIDI. Connecting via SCSI will allow fast sample transfers through the SMDI protocol. In this type of configuration the easiest solution is to let the K2K have its own drive, and the Mac have it's own drive.

   However, we have discovered that when using a K2500 with a Mac and a removable media drive in the middle of the chain, the following scenario will work:

   Start with a Mac formatted cartridge in the drive. When you want to use the K2500, put the drive to sleep from the K2500. You can then change to a K2500 formatted cartridge and perform whatever disk operations you need. When you want to go back to the Mac, put the drive to sleep again, switch cartridges, and then wake up the disk by pressing **Load**. Of course the K2500 will tell you it can't read the cart, but the Mac will now access it fine.

Accessing a K2500 Internal Drive from the Mac

Access PC is one of the many programs for the Mac which allow it to format, read, and write to DOS floppy disks and removable SCSI cartridges. However, we have discovered that it is possible to format internal K2500 hard drives, even though the documentation claims to only support removable media (not a fixed drive). Because the program claims not to be able to do this, we do not necessarily recommend it.

The main thing to remember is:

Never change the disk contents (i.e., save or delete files) from the K2500 when the disk is mounted by the Macintosh. If you do, this could easily lead to trashed files, directories, or even the entire disk. Access PC has no way of knowing when the K2500 has modified the disk structure, and it can just overwrite any state of the disk it thinks should be there. The safest thing is to connect a drive to either the K2500 or the Mac, but not both at the same time. Of course, you can't always predict when a Mac will access its drive, and it doesn't do SCSI bus arbitration, so using the Mac while using the SCSI bus from the K2500 (e.g., doing a disk mode operation) is also a bad idea, and can cause the Mac to hang.

The MIDI Sample Dump Standard

Samples can be transferred between the K2500 and most other samplers and computer sampling programs using the MIDI Sample Dump Standard.

Due to the relatively slow transfer rate of MIDI data, transferring samples into the K2500 via the MIDI Sample Dump Standard can take a long time, on the order of a coffee break for a long sample. Most samplers, synthesizers, and computer software will "freeze up" during this process, preventing other features of the machine or program from being used. Your K2500, however, will allow you to continue playing the instrument or using any of its sound editing features during a MIDI Sample Dump! The transfer takes place in the background; the MIDI mode LED on the K2500's front-panel will flash repeatedly during the transfer, so you will always know if the MIDI Sample Dump is still proceeding. The MIDI mode LED will flash only when the K2500 is transmitting or receiving a MIDI Sample Dump, or when it receives a MIDI System Exclusive message.

Note: if you're using Sound Designer® to transfer samples, you'll have to offset the sample number by 2 to transfer the right sample. For example, if you want to dump sample ID 208 from the K2500, then when you begin the sample fetching command from Sound Designer, instruct it to get sample 210.

Loading Samples with the MIDI Standard Sample Dump

To load a sample into the K2500 from an external source such as a computer or sampler, first connect the MIDI Out port of the sampler (or computer) to the K2500's MIDI In port, and connect the K2500's MIDI Out to the MIDI In of the sampler. This is known as a closed-loop configuration.

Next, access the Sample Dump facility on the sampler. In addition to selecting which sample you wish to transfer over MIDI, you will need to set the correct sample dump channel number and destination sample number. The channel number should match the K2500's SysX ID parameter (on the RECV page in MIDI mode). If the sampler has no facility for setting the Sample Dump channel number, try setting the K2500's SysX ID parameter to 0 or 1. Alternatively, if you set the SysX ID to 127, the K2500 will accept a MIDI Sample Dump no matter what Sample Dump channel is used to send the sample dump.

If the sampler has a provision for setting the destination sample number, you can use it to specify the ID the K2500 will use for storing the sample. The K2500 sample number is mapped from the destination sample number as follows:

Sample Number	K2500 ID
0	uses lowest unassigned ID between 200 and 999.
1-199	adds 200 to the ID (i.e. 5 becomes 205 in the K2500.)
200-999	ID is the same number.

If the sample number maps to a number already assigned to a RAM sample in the K2500, the RAM sample will be deleted prior to the K2500's accepting of the new sample load. The K2500 will always map sample number zero to an unassigned ID, and therefore no samples will be overwritten when zero is specified.

Some computer-based sample editing software limits the sample numbers to a low range such as 1-128. This conflicts with the K2500, which reserves IDs 1-199 for ROM samples, which cannot be loaded or dumped. To get around this, the K2500 adds 200 to any numbers between 1 and 199. Therefore, if you want to load a sample into the K2500 at number 219, but your program can't transfer samples at numbers greater than 128, specify number 19 (There's an exception to this; please see "Troubleshooting a MIDI Sample Dump" later in this section).

At this point, you're ready to try loading a sample. See "Accessing a New K2500 Sample" later in this section to learn how to use samples once they've been dumped to the K2500.

Getting a Sample into a Sample Editor from the K2500

Connect the MIDI ports of the K2500 and the computer/sampler in a closed-loop configuration as described for the Sampler/Computer to K2500 procedure above.

Access the computer software's "Get Sample" page (it might be called something different). As with loading a sample into the K2500, the K2500 adds 200 to dump request sample numbers between 1 and 199. K2500 samples with IDs from 1 to 199 are ROM samples, and cannot be dumped. Therefore, if you want to get sample number 219 from the K2500 but your program can't transfer samples at numbers greater than 128, specify number 19 (There's an exception to this; please see "Troubleshooting a MIDI Sample Dump" later in this section).

Loading a Sample into the K2500 from another K2500

Connect the MIDI ports of the two K2500s in a closed-loop configuration as described for the Sampler/Computer to K2500 procedure above.

On the source K2500, go to the Sample Editor and select the sample you wish to transfer. To do this, start in Program mode and press EDIT, followed by the KEYMAP soft button. Now you should be on the KEYMAP page. Now move the cursor to the Sample parameter, use any data entry method to select the desired sample, then press EDIT.

To start the sample transfer, press the Dump soft button. A dialog will appear, suggesting the ID for the sample to be dumped to the destination K2500. The source K2500 will suggest the same ID as it uses for the sample, but you can change the destination ID with any data entry method. If you choose the default by pressing Yes, the sample will transfer to the same ID on the destination K2500 as it is on the source K2500.

Dumping from the K2500 to a Sampler

This procedure is the same as dumping a sample from one K2500 to another. This will work only if the sampler supports the MIDI Sample Dump Standard.

Dumping a Sample from the K2500 to a MIDI Data Recorder

This can be accomplished in an open-loop configuration, by connecting the MIDI Out port of the K2500 to the MIDI In port of the MIDI Data Recorder. Go to the Sample Editor and select the K2500 sample you wish to transfer. Set up the MIDI Data Recorder to begin recording, and press the Dump soft button on the Sample Editor page. This will bring up a dialog allowing you to change the sample number in the dump if you wish. In most cases, you will just use the default value. The K2500's MIDI mode LED will flash while the data transfer is in progress.

Loading a Sample into the K2500 from a MIDI Data Recorder

Connect the MIDI Out port of the Data Recorder to the MIDI In port of the K2500. Load the appropriate file containing the MIDI Sample Dump data into the Data Recorder, and send the file. The K2500's MIDI mode LED will flash during this procedure.

Accessing a New K2500 Sample

First, select the K2500 program you wish to play the new sample from, and press the EDIT button. Then select the layer you wish (using the CHAN/BANK buttons if necessary), press the

KEYMAP soft button, and select a keymap. Use the default keymap called “168 Silence” if you don’t want to alter any existing keymaps.

Now, enter the Keymap Editor by pressing EDIT once again. Use the Sample parameter to select the new sample. If the new sample was loaded from another K2500, it will have the same ID as it did on the other K2500. If the sample was loaded from any other source, its ID will be defined as described above (in the section called “Loading Samples with the MIDI Standard Sample Dump”).

The name of the sample will be assigned by the K2500 if the sample has been assigned to a previously unused ID. In most cases, the sample will have a name of “New Sample - C 4”.

The name will be “New Sample! - C 4” (note the exclamation point) if checksum errors were detected by the K2500. Checksum errors are usually not serious, since they may just mean the source sampler doesn’t adhere to the MIDI Sample Dump Standard checksum calculation. In other cases, a checksum error could indicate that the MIDI data flow was interrupted during the sample transfer.

You can now press EDIT to edit the parameters of the new sample such as Root Key, Volume Adjust, Pitch Adjust, and Loop Start point. You can also rename the sample. Be sure to save the parameters you change when you press EXIT. Once the sample is adjusted to your liking, you can assign it to any Keymap.

Troubleshooting a MIDI Sample Dump

This section will help you identify what has gone wrong if your MIDI sample dumps fail to work.

WHEN LOADING SAMPLES TO THE K2500

There are two reasons a K2500 will not accept a MIDI Sample Dump. First, a dump will not be accepted if the destination sample number maps to a K2500 sample that is currently being edited—that is, if you’re in the Sample Editor, and the currently selected sample has the same ID as the sample you’re trying to dump. Second, a dump will not be accepted if the length of the sample to be dumped exceeds the available sample RAM in the K2500. There may be samples in the K2500 RAM that you can save to disk (if not already saved) and then delete from RAM to free up sample RAM space. You can delete the current sample by pressing the Delete soft button while in the Sample Editor.

Note that when you’re loading a sample to an ID that’s already in use, the K2500 will not accept a MIDI Sample Dump if the length of the sample to be loaded exceeds the amount of available sample RAM *plus* the length of the existing sample. If the K2500 accepts the sample load, the previously existing sample will be deleted.

Also note that certain computer-based editing programs will subtract one from the sample number when performing MIDI sample transfers to remote devices. So if you instruct these programs to send a sample to the K2500 as sample ID 204, the program will send the sample as 203. The only way to know if your program behaves in this manner is to try a MIDI Sample Dump and see what happens.

WHEN DUMPING SAMPLES FROM THE K2500

Certain computer-based sample editing programs subtract one from the sample number when performing MIDI Sample transfers to remote devices. For instance, if you tell these programs to get sample number 204, the programs will request that the K2500 dump sample ID 203, which would ordinarily dump a different sample from the one you intended, possibly causing the dump to fail. The K2500 automatically counteracts this offset by adding a number to sample requests. This was done because more sample editing programs create this offset than do not. If

you find that the K2500 is sending samples with higher IDs than the ones you requested, you can compensate by requesting the sample ID one lower than the one you want. For example, if you want the K2500 to dump sample 205, ask for sample 204.

Some samples in the K2500 are copy-protected. These include all ROM samples and possibly some third-party samples. The K2500 will not dump these samples.

Aborting a MIDI Sample Dump

The Abort soft button in the Sample Editor can be used to cancel any sample load into the K2500 from an external source (e.g. a computer or a sampler). This button will also halt a sample dump from the K2500. The K2500 will ask for confirmation before it aborts the sample dump.

SMDI Sample Transfers

You can use Passport's Alchemy® and Opcode's Max® SMDI-capable Macintosh® software packages to transfer mono and stereo samples to and from the K2500. These applications use the SMDI data transfer format (SMDI stands for SCSI Musical Data Interchange—pronounced *smiddy*. SMDI is parallel, not serial, so sample transfers can be made much faster than with the MIDI sample dump standard.

Each of these applications has commands for getting and sending samples, which is how you'll make the transfer from your offline storage to the K2500. Once the samples have been loaded to the K2500, you can use the Keymap and Sample Editors as you would with any other sample. Check your manuals for Alchemy or Max for the specifics.

Keep in mind that when transferring samples via SMDI, the K2500's sound engine is disabled, so you can't play it during a SMDI transfer as you can during a MIDI sample transfer. The average SMDI sample transfer time is about 20K per second.

As of this writing, the latest versions of Alchemy and Max are the only software packages supporting SMDI sample transfers to and from the K2500. SMDI is a new technology, however, and many software developers are working on packages that will support K2500 SMDI sample transfers. Your Kurzweil/Young Chang dealer can let you know about new developments.

Chapter 11
System Exclusive Protocol

K2500 System Exclusive Implementation

The MIDI System Exclusive capabilities of the K2500 allow you to manipulate objects in the K2500's memory from a computer system, another K2500, or a MIDI data recorder. The following is a reference to the SysEx protocol used by the K2500. This information can be used to build a simple object librarian software program. A word of advice—before you begin experimenting with SysEx, make sure you have saved anything of value in RAM to disk.

NOTE: *To support new features and changes in the K2500 line of products, the internal program structure has been changed from that of the K2000. Due to these changes, you cannot transfer a K2000 program to a K2500, or a K2500 program to a K2000 via MIDI system exclusive. The K2500 software will continue to be enhanced, and in the future the K2500 will be capable of accepting K2000 programs over MIDI. As a result of this, computer based K2000 editor/librarians will not currently work with the K2500, unless they have been revised to accommodate the changes.*

Common Format

In the following discussion, the fields of the K2500 System Exclusive Protocol messages are notated as…

field(length)

…where 'field' is the name of the particular information field in the message, and 'length' is either 1, 2, 3, or n, representing the number of sequential MIDI bytes that make up the field. A length of 'n' means that the field is of a variable length that is determined by its contents or sub-fields.

All K2500 SysEx messages have the common format:

sox(1) kid(1) dev-id(1) pid(1) msg-type(1) message(n) eox(1)

'sox' is always F0h, and represents start of System Exclusive.

'kid' must be 07h, and is the Kurzweil Manufacturer ID.

'dev-id' is Device ID. The K2500 will recognize a SysEx message if the 'dev-id' is the same is the SysX ID parameter from the MIDI Receive page (from the top level, press the MIDI mode button and the RECV soft button.) If the K2500's SysX ID parameter is set to 127, it will recognize SysEx messages no matter what the 'dev-id' is.

'pid' is the Product Identifier, and must be 78h (120 decimal), indicating the SysEx message is for the K2500.

'msg-type' is the identifier of one of the K2500 SysEx messages defined below, and 'message' is the variable-length message contents.

'eox' is always F7h, for end of System Exclusive.

Data Formats

K2500 SysEx messages are subdivided into fields that contain data in different formats. The various fields are shown in the Messages section below. Within a message, any fields for values that can be bigger than 7 bits are broken into 7 bit chunks. Thus two MIDI bytes gives 14 bits, three bytes gives 21 bits. The significant bits are right justified in the field. All bytes in a field must be present no matter what the value is. For example, an object type of 132 would be split into two MIDI bytes in a 'type' field as 01 04:

decimal:	132
binary:	10000100
binary encoding for type(2) field:	0000001 0000100
decimal encoding for type(2) field:	1 4

Object name fields are sent as a string of ASCII values in a 'name' field, with one MIDI byte of zero as a string terminator. For example, the name "Glass Kazoo" would be sent as letters:

	G	l	a	s	s	_	K	a	z	o	o	<null>
hex encoding for 'name' field:	47	6C	61	73	73	20	4B	61	7A	6F	6F	00

Data sizes and offsets are sent in the 'size' and 'offs' fields.These values refer to quantities of 8-bit bytes in the K2500's memory, which is packed in the 'data' field.

Binary data in the 'data' field is sent by in one of two formats, according to the value of the 'form' field. If the 'form' field equals zero, the data is transmitted as 4 bits or one "nibble" in every MIDI byte. If the 'form' field equals one, then the data is sent as a compressed bit-stream, with 7 bits per midi byte. The bit-stream format is more efficient for data-transmission, while the nibble format is easier to read (and write software for).

For example, to send the following four K2500 data bytes,

hex:	4F	D8	01	29
decimal:	79	216	1	41
binary:	01001111	11011000	00000001	00101001

eight MIDI bytes are sent in "nibble" format:

hex:	04	0F	0D	08	00	01	02	09
decimal:	4	15	13	8	0	1	2	9
binary:	0000100	0001111	0001101	0001000	0000000	0000001	0000010	0001001

five MIDI bytes are sent in bit-stream format:

hex:	27	76	0	12	48
decimal:	39	118	0	18	72
binary:	0100111	1110110	0000000	0010010	1001000

The bit-stream format can be thought of as taking the binary bits of the K2500 data and, starting from the left, slicing off groups of 7 bits. Note that the trailing bits are set to zero.

After the 'data' field, there is another field, 'xsum'. This is a checksum field which is calculated as the least significant 7-bits of the sum of all of the MIDI bytes that make up the 'data' field.

Messages

This section defines the K2500 System Exclusive message formats. Each message has a message type (that goes in the 'msg-type' field; see Common Format, above), followed by the field definitions of the message.

DUMP = 00h type(2) idno(2) offs(3) size(3) form(1)

…requests the K2500 to send a data dump of an object or portion thereof. 'type' and 'idno' identify the object. 'offs' is the offset from the beginning of the object's data and 'size' describes how many bytes should be dumped starting from the offset. 'form' indicates how the binary data is to transmitted (0=nibblized, 1=bit stream). The response is a LOAD message:

LOAD = 01h type(2) idno(2) offs(3) size(3) form(1) data(n) xsum(1)

…which writes data into the specified object, which must exist. Both load and dump operate on the object data only. The response to a load message will be

DACK = 02h type(2) idno(2) offs(3) size(3)

…meaning "load accepted", or

DNAK = 03h type(2) idno(2) offs(3) size(3) code(1)

…meaning "load not accepted." The 'code' field indicates the cause of the failure, as follows::

code	meaning
1	Object is currently being edited
2	Incorrect checksum
3	ID out of range (invalid)
4	Object not found (no object with that ID exists)
5	RAM is full

To request information about an object, use:

DIR = 04h type(2) idno(2)

The 'type' and 'idno' identify the object. The response is an INFO message:

INFO = 05h type(2) idno(2) size(3) ramf(1) name(n)

This is the response to DIR, NEW, or DEL. If object is not found, 'size' will be zero and 'name' will be null. 'ramf' is 1 if the object is in RAM.

NEW = 06h type(2) idno(2) size(3) mode(1) name(n)

…creates a new object and responds with an INFO message of the created object. The object's data will not be initialized to any default values. If 'idno' is zero, the first available object ID number will be assigned. If 'mode' is 0, the request will fail if the object exists. If 'mode' is 1, and the object exists in ROM, a RAM copy will be made. If 'mode' is 1, and the object exists in RAM, no action is taken.

DEL = 07h type(2) idno(2)

…deletes an existing object and responds with an INFO message for the deleted object. If there is only a RAM copy of the object, the response will indicate that the object doesn't exist anymore. However, if the deletion of a RAM object uncovers a ROM object, the INFO response will refer to the ROM object. A ROM object cannot be deleted.

CHANGE = 08h type(2) idno(2) newid(2) name(n)

…changes the name and/or ID number of an existing object. If 'newid' is zero or 'newid' equals 'idno', the ID number is not changed. If 'newid' is a legal object id number for the object's type , then the existing object will be relocated in the database at the new ID number. This will cause the deletion of any object which was previously assigned to the 'newid'. If the 'name' field is null, the name will not change. Otherwise, the name is changed to the (null-terminated) string in the 'name' field.

WRITE = 09h type(2) idno(2) size(3) mode(1) name(n) form(1) data(n) xsum(1)

…writes an entire object's data directly into the database. It functions like the message sequence DEL followed by NEW followed by a LOAD of one complete object data structure. It first deletes any object already existing at the same type/ID. If no RAM object currently exists there, a new one will be allocated and the data will be written into it. The object name will be set if the 'name' string is non-null. The response to this message will either be a DACK or a DNAK, as with the load message. The 'offs' field of the response will be zero. The K2500 will send a WRITE message whenever an object is dumped from the front-panel (using a "Dump" soft-button), or in response to a READ message.

The 'mode' field is used to determine how the 'idno' field is interpreted.

If 'mode' = 0:

The 'idno' specifies the absolute ID number to write to, which must exist.(must be valid)

If 'idno' equals zero, write to the first available ID number.

If 'mode' = 1

The object is written at the first available ID number after what is specified by 'idno'.

It doesn't matter if 'idno' is a legal ID number. Remember that for certain object types, the 100s through 900s banks allow fewer than 100 objects to be stored (for example, the 100s bank will store preset effects at IDs 100—109 only). In this mode, if 'idno' was 313, the object would be written to ID 400 if available.

READ = 0Ah type(2) idno(2) form(1)

…requests the K2500 to send a WRITE message for the given object. No response will be sent if the object does not exist.

READBANK = 0Bh type(2) bank(1) form(1) ramonly(1)

…requests the K2500 to send a WRITE message for multiple objects within one or all banks.

'type' and 'bank' specify the group of objects to be returned in WRITE messages. The 'type' field specifies a single object type, unless it is zero, in which case objects of all user types will be returned (see object type table below). The 'bank' field specifies a single bank, 0-9, unless it is set to 127, in which case objects from all banks will be returned.

'form' requests the format of the binary data in the WRITE messages. If 'ramonly' is one, only objects in RAM will be returned. If 'ramonly' is zero, both RAM and ROM objects are returned.

The responses, a stream of complete WRITE messages, will come out in order of object type, while objects of a given type are in order by ID number, from lowest to highest. If no objects are found that match the specifications, no WRITE messages will be returned. After the last WRITE message, an ENDOFBANK message (defined below) is sent to indicate the completion of the bank dump.

The K2500 will insert a small delay (50ms) between WRITE messages that it issues in response to a READBANK message.

A bank dump can be sent in its entirety to another K2500, which will add all of the objects contained in the dump to its own object database. IMPORTANT: If the K2500 receives a large bank dump for a bank or banks that already contain objects, errors may result unless the sender waits for the DACK message before sending the next object's WRITE message. One way to avoid transmission errors such as this is to make sure that the bank being dumped is clear in the K2500 before sending the dump, so that the K2500 will not miss parts of the dump while its CPU is busy deleting already existing objects. This can be done using the DELBANK message (defined below). If the destination bank in the K2500 is pre-cleared, it is not necessary to wait for the DACK before sending. Even if the sender chooses not to wait for the DACK before sending the next message, it may be necessary to preserve the 50ms delay between the WRITE messages.

Due to the large amount of incoming data during a bank dump containing many objects, the receiving K2500 may have a more sluggish response to front-panel use and keyboard playing during the data transfer. This is normal behavior and the machine will become fully responsive as soon as the dump is finished.

DIRBANK = 0Ch type(2) bank(1) ramonly(1)

This is similar to the READBANK message. The DIRBANK message requests an INFO message (containing object size, name, and memory information) be returned for each object meeting the specifications in the 'type' and 'bank' fields. Following the last INFO response will be an ENDOFBANK message.

ENDOFBANK = 0Dhtype(2) bank(1)

This message is returned after the last WRITE or INFO response to a READBANK or DIRBANK message. If no objects matched the specifications in one of these messages, ENDOFBANK will be the only response.

DELBANK = 0Eh type(2) bank(1)

This message will cause banks of objects (of one or all types) to be deleted from RAM. The 'type' and 'bank' specifications are the same as for the READBANK message. The deletion will take place with no confirmation. Specifically, the sender of this message could just as easily delete every RAM object from the K2500 (e.g. 'type' = 0 and 'bank' = 127) as it could delete all effects from bank 7 (e.g. 'type' = 113, 'bank' = 7.)

MOVEBANK = 0Fh type(2) bank(1) newbank(1)

This message is used to move entire banks of RAM objects from one bank to another. A specific object type may be selected with the "type" field. Otherwise, if the "type" field is unspecified (0), all object types in the bank will be moved. The "bank" and "newbank" fields must be between 0 and 9. The acknowledgement is an ENDOFBANK message, with the "bank" field

equal to the new bank number. If the operation can't be completed because of a bad type or bank number, the ENDOFBANK message will specify the old bank number.

LOADMACRO = 10h

…tells K2500 to load in the macro currently in memory.

MACRODONE = 11h code(1)

…acknowledges loading of macro. Code 0 indicates success; code 1 means failure.

PANEL = 14h buttons(3n)

…sends a sequence of front-panel button presses that are interpreted by the K2500 as if the buttons were pressed at its front-panel. The button codes are listed in a table at the end of this chapter. The K2500 will send these messages if the Buttons parameter on the XMIT page in MIDI mode is set to On. Each button press is 3 bytes in the message. The PANEL message can include as many 3-byte segments as necessary.

Byte 1	Button event type:
08h	Button up
09h	Button down
0Ah	Button repeat
0Dh	Alpha Wheel
Byte 2	Button number (see table)
Byte 3	Repeat count (number of clicks) for Alpha Wheel; the count is the delta (difference) from 64—that is, the value of the byte minus 64 equals the number of clicks. A Byte 3 value of 46h (70 dec) equates to 6 clicks to the right. A Byte 3 value of 3Ah (58 dec) equates to six clicks to the left. For example, the equivalent of 6 clicks to the right would be the following message: (header) 14h 0Dh 40h 46 (eox)

For efficiency, multiple button presses should be handled by sending multiple Button down bytes followed by a single Button up byte (for incrementing with the '+' button, for instance.)

Object Types

These are the object types and the values that represent them in 'type' fields:

Type	ID (decimal)	ID (hex)	ID(hex, 'type' field)
Program	132	84h	01h 04h
Keymap	133	85h	01h 05h
Effect	113	71h	00h 71h
Song	112	70h	00h 70h
Setup	135	87h	01h 07h
Soundblock	134	86h	01h 06h
Velocity Map	104	68h	00h 68h
Pressure Map	105	69h	00h 69h

Quick Access Bank	111	6Fh	00h 6Fh
Intonation Table	103	67h	00h 67h

Master Parameters

The Master parameters can be accessed as type 100 (00h 64h), ID number 16. Master parameters cannot be accessed with any of the Bank messages.

Button Press Equivalence Table

Button	Code (hex)	Button	Code(hex)
Alphanumeric pad		***Soft-Buttons 'A-F'***	
zero	00	A '(leftmost)	22
one	01	B	23
two	02	C	24
three	03	D	25
four	04	E	26
five	05	F (rightmost)	27
six	06	AB	28
seven	07	CD (two center)	29
eight	08	EF	2A
nine	09	YES	26
+/-	0A	NO	27
Alphanumeric pad		***Edit/Exit***	
CANCEL	0B	EDIT	20
CLEAR	0C	EXIT	21
ENTER	0D		
Navigation		***Mode Selection***	
Plus (+)	16	PROGRAM	40
Minus (-)	17	SETUP	41
Plus and Minus	1E	QUICK ACCESS	42
CHAN/BANK Inc	14	EFFECTS	47
CHAN/BANK Dec	15	MIDI	44
CHAN/BANK Inc/Dec	1C	MASTER	43
Cursor Left	12	SONG	46
Cursor Right	13	DISK	45
Cursor Left/Right	1A		
Cursor Up	10		
Cursor Down	11		

Cursor Up/Down	18

The next four commands allow you to read the screen display, both text and graphics layers.

ALLTEXT = 15h

…requests all text in the K2500's display.

PARAMVALUE = 16h

…requests the current parameter value.

PARAMNAME = 17h

…requests the current parameter name.

GETGRAPHICS = 18h

…requests the current graphics layer.

SCREENREPLY = 19h

This is the reply to ALLTEXT, PARAMVAL, PARAMNAME, GETGRAPHICS, or SCREENREPLY.

The reply to ALLTEXT will be 320 bytes of ASCII text (the display has 8 rows of 40 characters each). If you receive less than that, then the screen was in the middle of redrawing and you should request the display again.

The reply to PARAMVALUE will be a variable length ASCII text string. Some values (like keymaps, programs, samples, etc.) include their ID number in the text string (e.g., "983 OB Wave 1"). Some messages are also padded with extra spaces.

The reply to PARAMNAME will be a variable length ASCII text string. In cases where there is no parameter name (like on the program page) there will just be the single 00 null terminator.

The reply to GETGRAPHICS will be 2560 bytes of information. The 6 least significant bits of each byte indicate whether a pixel is on or off. If pixels are on over characters, the text becomes inverted. Characters on the K2500 display are a monospaced font with a height of 8 pixels and a width of 6 pixels.

Chapter 12
Glossary

Algorithm — In the K2500, a preset configuration of programmable digital signal processing functions. Each of a program's layers uses its own algorithm, which determines the type of synthesis each layer uses to generate its sound.

Aliasing — A type of distortion that occurs in digitally sampled sounds when higher pitches (increased sample playback rates) introduce partials that were not present in the original sound. These partials may or may not be musically useful.

Amplitude — The intensity of a signal, perceived as loudness in the case of audio signals.

Analog — A term used widely in electronics-related fields to describe a method of representing information, in which the method of representation resembles the information itself. Analog synthesizers, for example, use gradual variations in electrical voltage to create and modify sounds. The oscillations in voltage are analogous to the waveforms of the sounds they generate. Compare Digital.

Bandwidth — In terms of sound generation, the range of frequencies within which a device functions. The human ear has a "bandwidth" of almost 20 KHz (it can distinguish sound at frequencies from 20 Hz to 20KHz). The K2500's 20KHz bandwidth enables it to produce sounds that span the entire range of humanly audible sound.

Bank — There are two types of banks in the K2500's memory: memory banks, which store and organize the programs and other objects you create, and Quick Access banks, where you can store programs and setups for one-button access while in Quick Access mode.

Cent — 1/100th of a semitone. The standard increment for fine adjustment of pitch.

Continuous control — A device that converts motion into a range of 128 possible values that can modulate a sound source. The Mod Wheel, a standard volume pedal, and controllers like Breath and Aftertouch are continuous controls. Compare switch controls.

Control Source — Anything that can be used to modify some aspect of a program's sound. LFOs, envelopes, Mod Wheel messages (MIDI 01), and FUNs are just a few examples of the K2500's control sources.

DSP — Digital signal processing (see)

DSP Functions — The K2500's collection of digital signal processing functions are what give the Variable Architecture Synthesis system its flexibility. Within each layer's algorithm, you can select from a long list of DSP functions like filters, EQ, oscillators, and a few that are unique to the K2500. Each DSP function has a corresponding page that enables you to assign numerous control sources to define how the DSP functions affect the sound of the program you're editing.

Default — The starting condition of a system. The settings for the K2500's parameters are at their defaults when you unpack it, and they stay there until you change them. A hard reset will erase RAM and restore all parameters to their defaults.

Dialog

A page that prompts you to enter information that the K2500 needs in order to execute an operation. Dialogs appear, for example, when you initiate a Save or Delete operation.

Digital

A term used widely in electronics-related fields to describe a method of representing information as a series of binary digits (bits)—1s and 0s. Digital computers process these strings of 1s and 0s by converting them into an electrical signal that is always in one of two very definite states: "on" or "off." This is much more precise than the analog method, therefore digital computers can operate at speeds unattainable by analog devices. Digital synthesizers like the K2500 are actually computers that process vast strings of digital information signals, eventually converting them (at the audio output) into the analog signals that flow into PAs and other audio systems. See also Analog.

Digital Signal Processing

The term "Signal processing" refers to a vast range of functions, all of which have in common the fact that they act upon an electric current as it flows through a circuit or group of circuits. A simple form of signal processing is the distortion box used by many guitarists. *Digital* signal processing refers to similar processes that are performed by digital (see) circuitry as opposed to analog (see) circuitry. Many of the effects devices available today use digital signal processing techniques.

Drum Program

The only difference between a drum program and an ordinary program is that a drum program can contain up to 32 layers instead of the usual maximum of three. Since each layer has its own keymap and algorithm (not to mention all the other control sources), this gives you enormous control over whatever sounds you assign to the layers in a drum program.

Editor

The complete set of parameters used to modify a particular aspect of the K2500, for example, the currently selected Program, which is modified with the Program Editor. The Program Editor spans several display pages, which can be viewed by using the soft buttons (the ones labeled "<more>."

Envelope

An aperiodic modifier. In other words, a way to cause a sound to change over time without repeating the change (unlike periodic modifiers like LFOs, which repeat at regular intervals).

File

A group of objects stored to a floppy or hard disk, or loaded into the K2500's RAM from disk.

Global

In this manual, used primarily in reference to control sources. A global control source affects all notes in a layer uniformly. If a layer uses a global control source, that control source begins to run as soon as the program containing it is selected. Its effect on each note will be completely in phase, regardless how many notes are being played. Compare Local.

Hard Reset

Resets all parameter values to their defaults, and completely erases the contents of RAM. Press the Reset button in Master mode to do a hard reset. This is a quick way to restore the factory defaults to your K2500, but EVERYTHING in RAM (all the objects you've created) will be erased, so objects you wish to keep should be saved to disk or SyxEx dump. A hard reset should not be used to recover if your K2500 is hung up, except as a last resort. See Soft Reset.

Keymap

A keymap is a collection of samples assigned to specific notes and attack velocities. Keymaps usually contain numerous sample roots pitch-shifted across a range of several notes. When you trigger a note, the keymap tells the K2500 what sound to play, at what pitch, and at what loudness.

LFO

Low frequency oscillator. An oscillator is an electrical signal that cycles regularly between a minimum and maximum amplitude. The simplest oscillating waveform is the sine wave, but an LFO waveform can have almost any shape. The number of times each second that an oscillator repeats itself is called its frequency, which is measured in Hertz (Hz). Anything up to 50 Hz is considered low-frequency in musical applications. Use an LFO whenever you want to generate a *periodic* (repeating) effect. Adjusting the rate of the LFO will change the repetition rate of the effect.

Layer

A layer consists of a keymap processed through an algorithm. Layers can be stacked together within a program. Each layer uses one of the K2500's 48 available voices. Each K2500 program can contain up to three layers—except drum channel programs, which can contain up to 32 layers.

Leslie effect

This classic vibrato effect was originally created by mounting a speaker in its cabinet so the speaker could be rotated at varying speeds. This applied a vibrato of varying rate to all sounds played through the rotating speaker.

Local

In this manual, used primarily in reference to control sources. A local control source affects each note in a layer independently. For example, if a local LFO is used as a control source, a separate LFO cycle will begin with each note start. The LFOs don't run in phase unless notes are started simultaneously. Compare Global.

Memory banks

The K2500's memory is divided into ten spaces where you can store any object you edit. These spaces are called banks. Each bank can hold up to 100 objects of each type, so we refer to them as the 100s bank, the 200s bank, and so on. The ID of an object determines which bank it's stored in. An object with an ID of 399, for example, would be stored in the 300s bank. ROM objects are stored in the Zeros and 100s banks. RAM objects can be stored in any bank.

MIDI

Musical Instrument Digital Interface. A specialized format for representing musical information in terms of standardized computer data, which enables electronic musical instruments to communicate with computers

MIDI device

Any device—keyboard, computer, wind instrument, etc.—which is capable of transmitting and receiving MIDI messages.

MIDI Master

A MIDI device that is configured to control one or more other MIDI devices. The MIDI Out port of the master is connected by cable to the MIDI In port(s) of the slave device(s).

MIDI Slave

A MIDI device that is configured to receive MIDI messages from a master device. The MIDI In port of the slave is connected by cable to the MIDI Out port of the master.

Non-linear DSP Function

Without getting technical, non-linear DSP functions like SHAPER and WRAP add waveforms to those already present in a sound, while linear DSP functions act upon the existing waveforms without adding new ones.

Note State

Any K2500 note is either on or off; this is its note state. Normally, any given note's Note State switches on when you strike the key for that note. It switches off when you release the key, and any sustain controls you may have applied to the note (Sustain or Sostenuto pedal, etc.). Also see the index entry for Note State.

Object

A chunk of information stored in the K2500's memory. Programs, setups, keymaps, and samples are all objects. There are several others as well. Also see the index entry for "Objects."

Page — A set of performance or programming parameters that appear as a group in the display. The entry level page for each mode appears when you select the mode. Most other pages are selected with the soft buttons, from within an editor.

Parameter — A programming feature. The name of the parameter describes the function it controls—transposition, for example. Each parameter has a value associated with it, which indicates the status of the parameter.

Pixel — A contraction of "picture element." The K2500's display consists of a screen with small square dots (the pixels). Each pixel lets light through or blocks it depending on whether it is receiving an electrical charge. The combination of light and dark dots creates a pattern that you recognize as text or graphics. The K2500's display is 240-by-64 pixels, in other words, 64 horizontal rows, each containing 240 pixels, for a total of 15360 pixels.

Program — The K2500's basic performance-level sound object. Programs can consist of up to 3 layers (32 layers for programs on the drum channel); each layer has its own keymap (set of samples) and sound-processing algorithm.

Program Editor — The set of parameters that lets you modify the sound of ROM or RAM programs. Enter the Program Editor by pressing the EDIT button while in Program mode, or any time the currently selected parameter has a program as its value.

RAM — Random Access Memory, one of the two basic types of computer memory. RAM can be both read from and written to. When you load samples into the K2500, or save a program you've created, you're writing to RAM. Compare ROM.

ROM — Read Only Memory, one of the two basic types of computer memory. You can retrieve the information stored in ROM, but you can't write (save) new information to it. The onboard sounds of your K2500 are stored in ROM.

Sample — A digital recording of a sound that can be assigned to a keymap as part of the process of building a program. Samples are stored in ROM (factory-installed) or in RAM (loaded from disk).

SCSI — Pronounced "scuzzy," this acronym stands for Small Computer Systems Interface. It's simply a standardized form of information exchange that allows any SCSI equipped device to communicate with any other SCSI device. Two or more SCSI devices—they can be computers, hard disks, printers, just about anything that sends or receives information in standardized form—are connected via special cables to their SCSI ports. This configuration is much faster than serial information exchange, the precursor to SCSI.

SMDI — Pronounced "smiddy," this acronym stands for SCSI Musical Data Interchange. It's a new format for data transfer, based on the SCSI format, which uses parallel input/output rather than serial, as used by MIDI and standard SCSI operations. This enables data to flow much faster. You can use SMDI to transfer samples to and from the K2500 using software packages from Passport and Opcode.

SMF — Standard MIDI File. MIDI Type 0 files are single track, while MIDI Type 1 files are multi-track. The K2500 can read and write Type 0 files and read Type 1 files.

Semitone — In "Western" music, the standard interval between the twelve notes in the scale. There are twelve semitones to an octave. The interval between C and C# is one semitone.

Setup

A multi-timbral performance object. A setup consists of three zones, each of which can be assigned its own program, MIDI channel, and control assignments. These assignments control the K2500's operation while in Setup mode, as well as determining the Program Change numbers and controller messages the K2500 sends via MIDI.

Soft Reset

Returns the K2500 to Program mode without affecting the contents of RAM. Press the +/-, 0, and CLEAR buttons to do a soft reset. If your K2500 is hung up for some reason, this will usually get take care of the problem. See Hard Reset.

Switch control

A device that converts motion into discrete on/off signals. A switch control, like the Sustain pedal, is either on or off. Compare continuous control.

Toggle

As a verb, to switch between (usually) two conditions using a device that makes the switch. As a noun, the device that makes the switch. For example, pressing the "View" soft button on the top level Program mode page toggles between small-type and large-type views of the current Program.

Value

The current setting of a parameter. Each parameter has a range of available values, one of which you select while editing. The Transposition parameter on the Program mode page, for example, has a default value of 0. Change the value to change the parameter's effect on the current program.

Variable Architecture Synthesis Technology (V. A. S. T.)

The term created by Kurzweil engineers to describe the multi-faceted capabilities of the K2500, combining sample playback (ROM and RAM), and waveform generation with a broad array of processing functions. This architecture provides preset algorithms created by Kurzweil sound engineers, which include filters, distortion, panning, EQ, waveform oscillators, waveform shaper, hard sync oscillators, amplitude modulation, gain, crossfade, and more. V. A. S. T. is a registered trademark of Young Chang Akki Co. Ltd.

Zero Crossing

Any of a number points in the digital representation of a sound's waveform where the digital signal is neither positive or negative. When looping samples, starting the loop at one of these points will reduce or eliminate the click or change in timbre that can occur in sample loops.

Chapter 13
Specifications

K2500 FEATURES

- 240 x 64-pixel backlit fluorescent graphic display with adjustable contrast
- 3.5-inch floppy disk drive, for DD or HD disks, DOS compatible
- MIDI In, Thru, and Out with selectable second MIDI Out
- MIDI LED to indicate MIDI activity

- 48-note polyphony with dynamic voice allocation
- Multi-timbral, for multi-track sequencing and recording
- 199 factory preset programs, and 100 factory preset setups
- Up to 3 layers per program, up to 32 layers for programs on drum channels
- Receives mono (channel) pressure and poly (key) pressure
- 8-zone setups transmit on8 MIDI channels with independent programmable controls
- Fully featured onboard sequencer for recording from keyboard or via MIDI; loads and plays MIDI Type 0 sequences
- Easy-to-use programming interface including soft buttons, Alpha Wheel, and alphanumeric pad

- 8 Megabytes of 16-bit sample ROM, including acoustic instrumental sounds, waveforms, and noise
- 20 KHz maximum bandwidth
- Optional stereo sampler with analog and digital inputs
- AES/EBU I/Os and optical I/O
- Sound ROM expandable to a total of 28 Megabytes
- 8 SIMM sockets for optional sample RAM—up to 128 Megabytes
- Stereo sample playback capability
- Akai® S1000 sample disk compatibility

- Two 1/4-inch mixed audio outputs (stereo pair)
- Eight 1/4-inch audio outputs programmable as four stereo pairs or as eight separate outputs, with insert capability for effects patching
- Stereo headphone jack
- Optional effects board with direct digital out and digital stereo insert

- 240K battery-backed RAM for user programs, setups and other objects, expandable to 1256K
- Two SCSI ports for connection with external SCSI disks, CD-ROM drives, or Macintosh® personal computers
- Optional internal hard disk
- Optional 8 channel interface to AES, ADAT, DA-88

- Realtime DSP for each voice: 31 programmable DSP algorithms incorporating filters, EQ, distortion, panning, pulse width modulation, and more; up to 3 programmable DSP functions per voice

- Filters: Lowpass, Highpass, Allpass, Bandpass, Notch, programmable resonance
- Programmable stereo multi-effects on MIX outputs, including simultaneous reverb, chorus, delay, flanging, EQ—and more
- Realtime internal and MIDI control of effects parameters

- MIDI standard sample dump/load capability
- SMDI sample dump/load capability
- System Exclusive implementation
- MIDIScope™ for analyzing MIDI events

Environmental Specifications

Temperature ranges

For operation:	minimum	41° F (5° C)
	maximum	104° F (40° C)
For storage:	minimum	-13 ° F (-25° C)
	maximum	186° F (85° C)

Relative humidity ranges (non-condensing)

Operation and storage: 5—95%

Physical Specifications

Overall dimensions	**K2500R**		**K2500**		**K2500X**	
Width	16.9 in.*	43 cm.	47.8 in.	121.4 cm.	54.3 in.	137.9 cm.
Depth	13.9 in.	35.4 cm.	17.8 in.	45.1 cm.	17.8 in.	45.1 cm.
Height	5.1 in.	13 cm.	4.8 in.	12.2 cm.	4.8 in.	12.2 cm.
Weight:	24.65 lb.	11.2 kg.	55.5 lb.	25.2 kg.	72 lb.	32.7 kg.

* Excluding the rack-mount brackets

Electrical Specifications

AC supply: selectable; 100V, 120V, 220V, or 240V. 1.0 amps at 120 volts nominal

Safe voltage ranges

Voltage setting:	**100V**	**120V**	**220V**	**240V**
Safe voltage range:	85—107	95—125	180—232	190—250
Safe frequency range:	48—65	48—65	48—65	48—65

If the voltage drops below the minimum safe level at any voltage setting, the K2500 will reset, but no data will be lost. If the voltage exceeds the maximum safe level, the K2500 may overheat.

MIDI Implementation Chart

Model: K2500

Manufacturer:
Young Chang

Date: 3/21/95
Version 1.0

Digital Synthesizers

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	1	1	Memorized
	Changed	1 - 16	1 - 16	
Mode	Default	Mode 3	Mode 3	Use Multi mode for multi-timbral applications
	Messages			
	Altered			
Note Number			0 - 127	0-11 sets intonation
	True Voice	0 - 127	0 - 127	Key
Velocity	Note ON	O	O	
	Note OFF	O	O	
After Touch	Keys	X	O	
	Channels	O	O	
Pitch Bender		O	O	
Control Change		O 0 - 31 32 - 63 (LSB) 64 - 127	O 0 - 31 32 - 63 (LSB) 64 - 127	Controller assignments are programmable
Program Change		O 1 - 999	O 1 - 999	Standard and custom formats
	True #	0 - 127	0 - 127	
System Exclusive		O	O*	
System Common	Song Pos.	O	O	
	Song Sel.	O	O	
	Tune	X	X	
System Real Time	Clock	O	O	
	Messages	O	O	
Aux Messages	Local Control	O	O	
	All Notes Off	O	O	
	Active Sense	X	X	
	Reset	X	X	
Notes		*Manufacturer's ID = 07 Device ID: default = 0; programmable 0 - 127		

Mode 1: Omni On, Poly
Mode 2: Omni On, Mono
Mode 3: Omni Off, Poly
Mode 4: Omni Off, Mono

O = yes
X =no

Numerics

A

B

C

N

O

P

Q

R

S

T

V

W

Y

Appendix A
K2500 Program Farm

The K2500 Program Farm, included on one of the accessory disks, provides you with a large collection of additional programs. You can either use these programs as they are, or edit them further to suit your own tastes.

Overview of Program Files

ANACOMPS.K25
Analog Comping Sounds

- Prophets
- PWM Synth
- Saws w/ Resonance
- Sawtooth
- Synth Brass
- Vintage Synths
- Mellotrons

ANALEADS.K25
Analog Lead Sounds

- Fusion
- Intervals
- Minimoog
- Pseudamentos
- Rock Leads
- Syncro Sounds

ANAPADS.K25
Analog Pads

- Analog String Pads
- Classic Pads
- Philtered Pads
- Soft Sawtooth Pads

BASS.K25
Bass

- Dual Basses
- Picked or Fingered Basses
- Slap Basses
- Stylized Basses
- Analog Synth Basses
- House Basses

BELLS.K25
Bell Sounds

- Bell Pads
- Percussive Bell Comps

BRASS.K25
Brass & Winds

- Solo Trumpets
- Muted Trumpet Emulations
- Solo Trombones
- Bass Horn Emulations
- Solo Flutes
- Piccolo Emulations
- Sax Emulations
- Sax Sections
- Brass Sections
- Brass and Strings

DIGITAL.K25
Digital Sounds

- Digital Leads
- AM Sounds
- DigiBuzz
- Digital Clavs
- DigiDistort
- PPG's
- Miscellaneous Digital Sounds

DKICKSNR.K25
Individual Kicks And Snares

- Kicks
- Snares

DRUMS.K25
Drum Kits And Percussion Sounds

- Techno sounds
- Percussion
- Drums Kits
- Toms
- Mallet Sounds
- Multi Taps

ENSEMBLE.K25
Acoustic Ensembles

- Orchestral Ensembles
- Layered w/ Guitar
- Jazz and Rock Combos

ETHEREAL.K25
Ethereal

- Stepped Pads
- Vocal Pads
- Air Pads
- Glassy Pads
- Pads w/ Partials
- Hybrid Strings and/or Vocal Pads
- Generic Ethereal Sounds

FXSOUNDS.K25
Effects Sounds/Textures

- Sawtalk
- Water Sounds
- Weather Emulations
- Weird Percussive Things
- Natural Sounds
- Strange Loops

GUITARS.K25

Guitars

- Steel String Guitars
- 12-String Guitars
- Stylized Steel String Guitars
- Guitars w/ Strings or Pads
- Combination Guitars
- Jazz Guitars
- Guitar Mutes
- Distorted Emulations
- Exotic Plucked Things

HYBPERC.K25

Percussive Hybrids

- Percussive Comps
- Percussive Pads

HYBRIDS.K25

General Hybrid Sounds

- Hybrid String Pads
- Hybrid String Pads w/ Resonance
- Hybrid Stacks
- Flute-Like Hybrids

ORGANS.K25

Organs

- Clean Rock Organs
- Clean Percussive Organs
- Pipe Organs
- Velocity Sensitive Organs
- Organ-Like Synths

PNOEPNO.K25

Piano & E Pianos

- Classical Pianos
- Rock Pianos
- Pianos w/ Strings or Choir
- Bright and House Pianos
- Stylized Pianos
- Electric Grands
- Rhodes Pianos
- Dyno Pianos
- FM Pianos
- Clavinet Emulations
- Harpsichord Emulations

STRINGS.K25

Strings

- Straight Strings
- Attack Velocity Strings
- Sfz Strings
- Ensemble Strings
- Layered Solo and Ensemble Strings
- Solo Violin and Cello
- Pizz Emulations
- String Pads

VOX.K25

Vocal Sounds

Programs Within the Files

The complete list of programs in the K2500 Program Farm is provided on the following pages. Each program is numbered as if it were loaded into the 200's bank.

ANACOMPS.K25

Analog Comping Sounds

(88 Programs)

Prophets
200-Prophet Clav
201-Prophet Clav #3
202-Prophet Disco
203-Prophet Disco 2
204-Prophet Fuzz
205-Prophet Fuzz #2
206-Prophet Piano 1
207-Prophet Pulse 1
208-Prophet Pulse 2
209-Prophet Pulse 3
210-Prophet Pulse 4
211-Prophet Pulse 5
212-Prophet PWM Clav
213-Prophet Square 1
214-Prophet Square 2
215-Prophet Square 3
216-Prophet Square 4
217-Prophet phase
218-Brightsaw Prophet
219-Neo-Prophet
220-Mellow Prophet
221-70's Synth
PWM Synth
222-Big Mondo PWM
223-Big PWM
224-Big PWM #2
225-Big PWM #5
226-Env PWM
227-PWM Ags
228-Journey Synth
Saws w/ Resonance
229-Ana's Saws
230-OB-8 1
231-Obyrez #1
232-R&B Synth
233-Clean Sweep
234-Alaska
235-Analog Saw Pad
236-Poly Analog 1
237-Poly Analog 2
238-Poly Analog 5th
239-Bright and Fat
240-Saw Teeth
241- 9 Osc Sweep
242-Big Synthy #1
243-Saw Repeater
Sawtooth
244-Sawz
245-Big Jupiter
246-Dry Pluck Pad
247-o b Waves
248-Polysynth
249-Thick Osc
250-Oh Bee !!!
Synth Brass
251-OBX Braz #1
252-OBX Braz #2a
253-OBX Braz #4
254-Synth Brass
255-Real OBX Braz
256-Synbrass Sect
257-Synth Brass 1
258-Synth Brass 2
259-Mellow Synbrass
260-Dyno Synbrass
261-Analog Brazz
Vintage Synths
262-Memorymoog #4
263-Memorymoog Split
264-Poly 2600 #1
265-Poly ARP #1
266-Poly ARP #2
267-Elka 4
268-Elka II
269-Univox Piano #2
270-Univox Piano #3
271-Matrix 12
272-Matrix 12 2
273-Matrix 12 House
274-Matrix 12 Rez 5
275-Matrix 12 Soft 5
Mellotrons
276-Chiffatron
277-Mellotron
278-Mellotron 1
279-Mellotron 2
280-Mellotron 3
281-Tron Flutes
282-Tron Flutes 2
283-Tron Vox
284-Tron Vox 2
285-Tron Tapes
286-Tron Tapes 2
287-Tron Strings

ANALEADS.K25

Analog Lead Sounds

(73 Programs)

Fusion
200-Chick Lead 1
201-Chick Lick
202-Duke Lead 1
203-Duke Lead 2
204-Duke's Lead 3
205-Control Formants
206-Ewi Lead
207-Ewi Lead 2 (CS)
208-Porta Lead (CS)
209-Ballad Lead
Intervals
210-Wakeman #2
211-Wakeman #3
212-Duo Synth
213-Zawinul 2600
214-Zawinul 2600 #2
215-Quadra #1
216-Quadra #2
217-Quadra #3
218-Maj/Min Break
219-Dr. Dre Lead
220-Lonely 5ths
Minimoog
221-Mini Lead #1
222-Mini Lead #2
223-Mini Lead #3
224-Mini Lead #4
225-Mini Lead #5
226-Mini Lead #6
227-Mini Lead #7
228-Mini Lead #8
229-Poly Mini
230-Mini 2
231-Poly Mini 2
Pseudamentos
232-PseudamentoCS
233-Pseudamento 2
234-Pseudamento 3
235-Pseudamento 5
236-Pseudamento 6
237-Pseudamento 7
238-MonoLead 1
239-PRS Wow Lead
Rock Leads
240-Rich Raunch 1
241-Rich Raunch 2
242-Wakeman
243-Wakeman#1
244-Wakeman#4
245-JR Lead 2
246-Later Emerson
247-DC Lead
248-Modular Lead
249-Lucky Lead
250-Mono Brass
251-OB Brass
252-SynBass Lead PRS
253-Clock S&H Lead
254-Fun Delay Square
255-Square Pad
256-TimsDukeyDick 1
257-TimsDukeyDick 2
258-AlaZawinul
259-Lead Program
260-Lead Program 2
261-RezoLead Program
262-Skinny Lead
Syncro Sounds
263-Car's Sync
264-Car's Sync 2
265-Classic Sync
266-Sync
267-Sync It !
268-Prophet Sync 2
269-Yo Mama !
270-Velocitync 2
271-Prophet Sync
272-Velocitync 3

ANAPADS.K25

Analog Pads

(47 Programs)

Analog String Pads
200-Orch Pad 4
201-Lore Pad
202-MatrixMelostring
203-String Like 2
204-Eerie Synth Pad
205-Resonator
206-ARP Omni
207-String Machine 1
208-Synstring
209-Mixpad
Classic Pads
210-Mello Analog
211-Oberheim Pad
212-Prophet Pad
213-Memorymoog #2
214-Mister Softy
215-OB-8 Pad
216-Slo Generic OBX
217-Prophet 5 Mello
218-Prophet 5 Mello5
219-Slo PWM
220-Soft PWM
221-Soft PWM 7
Philtered Pads
222-Slow Filter
223-JB Synth Pad
224-Sawphaze
225-Sawphaze 7th
226-Solina Phaze
227-Solina Phaze 2
228-Solina Phaze 7th
229-Sweep Pad
230-AM Square Synth
231-Matrix 12 Pad
232-Matrix 12 Pad 5
233-Matrix 12 Pad 5 II
234-Slo SawPad
235-Pad 5th
Soft Sawtooth Pads
236-Another Pad
237-Bag Slush Pod
238-Big Lush Pad
239-Slo Lush Pad
240-Lo Pad 7 Split
241-Matrix SoftPad
242-Matrix SoftPad 5
243-In the Air
244-Ride Sweep
245-Pulsar
246-Scanners

BASS.K25

Bass

(61 Programs)

Dual Basses
200-Dual E Bass 1
201-Dual E Bass 2
202-Warm Dual Bass
Picked or Fingered Basses
203-Sustain EBass 2
204-Fingered Bass
205-Fingered Bass 2
206-Picked Bass
207-Finger Bass
208-Warm Bass
209-E Bass & Ride
210-Ripper
Slap Basses
211-Slap Bass 1
212-Slap E Bass Prs
213-Funk Me Bass
Stylized Basses
214-Hammer Bass
215-Too Bad Bass
216-Walking Bass
217-No Frets
Analog Synth Basses
218-Big Lo Bass
219-Big Mono Bass
220-2 Big Basses
221-Bass & Lead
222-Bass & Rhodes
223-Dubb Bass
224-Mooger Bass
225-Big Res Bass
226-AnalogBass D
227-Saw Bass
228-Synth Bass 1
229-WonderSynth Bass
230-Mondo Bass
231-Mogue Bass 2
232-Mogue Bass 3
233-Doom Bass
234-Matrix Big Bass
235-Matrix BigBass 3
236-Moogy Bass #1
237-Moogy Bass #2
238-Moogy Bass #3
239-Moogy Bass #4
240-Moogy Bass #5
241-Moogy Bass #6
242-Moogy Bass #8
243-ProphetPulsBass 2
244-ProphetPulsBass 3
245-ProphetPulseBass
246-Synth Bass 2
247-Synth Bass 3
248-Tuch Bass
249-Tuch Bass 2
House Basses
250-Unison House
251-Pop Attack Bass
252-Slap House Bass
253-AnaHouse Bass
254-House Bass #3
255-House Bass #4
256-House Bass #5
257-House Bass #6
258-House Bass #7
259-Low BigBass 3
260-Low BigBass 4

BELLS.K25

Bell Sounds

(28 Programs)

Bell Pads
200-Larabell
201-Space Bell 1
202-Metallic Pad
203-Fantasia
204-Space Bell 6
205-d50 Voce 2
206-Leningrad
207-With Tinklers
208-Lullaby
209-Tranquility
210-Tranquil Bell
211-PM'S Bell Pad
212-Digiphaze
213-Blistener
214-Simmbell
215-Bell Tree > Big Bell
Percussive Bell Comps
216-Crystal
217-DigiBell
218-Wave Bells
219-Little Metals
220-Clangorous
221-Gong Layers
222-Mallet Pad
223-Clockbells
224-Balarimba
225-Pinger
226-Belles
227-Toy Box

BRASS.K25

Brass & Winds

(68 Programs)

Solo Trumpets
200-Dynamic Trumpet
201-Solo trp mw vib
202-Miles Unmuted
203-Gentle trumpet
Muted Trumpet Emulations
204-Strght Mute Trpt
205-Muted trumpet 2
206-Sfz "mute" trp
207-20's Trumpet
208-Almost Muted
Solo Trombones
209-Trombone
210-Solo Trombone
211-Sfz Bone
Bass Horn Emulations
212-Tuba
213-Solo Bass Horn
Solo Flutes
214-Legato Flute
215-Legato Flute(prs)
216-Orchestral Flute
217-fast orch flute
218-wendy's Flute 2
219-Treble Flute
220-Jethro's Flute
221-JethroFlute(prs)
222-Baroque Flute 1
223-Baroque Flute 2
224-EchoFlute
Piccolo Emulations
225-Piccolo
226-Orch Piccolo 3
Sax Emulations
227-Tenor Sax
228-Kenny's Tenor
229-StreetCorner Sax
230-Get Real Bari
Sax Sections
231-Fake Sax
232-Hybrid Sax
233-Reed Section
234-Sax Section 8ve 1
235-Section Sax 2
Brass Sections
236-Tijuana Brass
237-Trp Section 1
238-Trps & Bones
239-Bri Trp & Bone
240-Trumpet & Bone
241-Hip Brass
242-Brass Section
243-Brass Band
244-Dyn Hi Brass B
245-Dyn Lo Brass B
246-Dyn Tbn & Hrn
247-Huge Brass 2
248-Huge Brass Too
249-SoftLowBrass B
250-Hall Horns
251-Mello Orch Brass
252-Chorale Brass 4
253-Soft Section 1
254-Soft BigBand 2
255-Big Band 3
256-Big Band 4
260-Trombone Section
261-Braz Sect
262-Orchestral Brass
263-SoftLowBrass
264-Spit Brass
Brass and Strings
265-Stacc. Brass & St
266-Brass & Strings
267-Huge Brass

DIGITAL.K25

Digital Sounds

(63 Programs)

Digital Leads
200-Carrie or Maud
201-FM Guitar 1
202-FM Guitar 2
203-FM Guitar 3
204-FM Guitar 5
205-FM Harmonica
206-FM Lead
207-Funfare Leadelay
208-Monolead 1
AM Sounds
209-Shape Mod Rules !
210-VS-Type
211-Wave Table II
212-Velveteen
213-Digi Strange
DigiBuzz
214-Buzz-a-Loo Too
215-Buzz-a-Loo
216-Digi Wet 2
217-The Buzz
218-Hybrid Sweep
219-Buzz Ofe
220-Cycler
221-Fuzz Lite 2
222-Growl
223-Cycler 2
224-Farr Feesah
225-Rezzysteppy
226-Whipstep
227-Deetuara II
228-Shap Mod Oscar
229-Backwards 2
230-Backwards 3
231-Backwards 4
Digital Clavs
232-Klikomp too
233-Klikomp tree
234-CS Clav
235-Talking Clav 3
236-Klav Ennette
237-Shape 3
238-Shape 1
DigiDistort
239-New Shaper
240-RAD wave 2
241-Buzz Slap
242-Rizzak
243-Chorusar II
244-Lowteeth
245-Digi Power
246-Microwave 2
247-Insect Klav Rise
248-Insectrise
249-FuzzFall
250-EP Lead
251-Ep Lead Too
PPG's
252-PPG 9
253-Slo PPG 10
254-PPG 1
255-PPG 2
256-PPG 4
257-PPG 8
258-Shape 2
259-Shape 4
Miscellaneous Digital Sounds
260-Cricketar
261-Piano Ring
262-StringBell

DKICKSNR.K25

Individual Kick And Snare Programs

(95 Programs)

These are single layer kicks and snares ready to be imported into your own custom drum programs. Programs whose names are in all capital letters are the unmodified kick and snare samples.

Kick Drums
200-AMB KICK 1
201-Tight Amb Kick 1
202-Sharp Amb Kick 1
203-AMB KICK 2
204-Room Kick Drum 2
205-Big Kick Drum 2
206-Dyn Kick Drum 2
207-Gate Kick Drum 2
208-Rock Kick Drum 2
209-Amb Kick DR 2eKT
210-Crack Kick 2
211-AMB KICK 3
212-Fat Kick Drum 3
213-Pad Kick Drum 3
214-DRY KICK 1
215-Beater Kick Drum
216-Soft Kick Drum1
217-Low Kick 1
218-Dance Kick 1
219-Dead Kick 1
220-DRY KICK 2
221-HighnDry Kick Dr
222-SoftnDry Kick Dr
223-Sub Kick Drum 2
224-Noise Kick Drum
225-High'n Low Kick
226-Noisy Kick 2
227-Fried Kick 2f
228-Jazz Kick Drum 1
229-Jazz Kick Drum 2
230-Techno Kick 1
231-little kick
232-Klik Kick
233-Cut Kick
SNARES
234-Kick Drums
235-AMB SNARE 1
236-Rock Snare 1
237-Pop Snare
238-Dance Snare
239-Sharp Snare
240-AMB SNARE 2
241-Big Snare 2
242-Short Snare 2
243-Deep Cut Snare 2
244-Low Snare 2
245-AMB SNARE 3
246-Big Hall Snare 3
247-Metal Snare 3
248-High Snare 3
249-Hard Snare 3
250-sLow Snare 3
251-Tight Snare 3
252-Gated Snare 3
253-Amb/Dry Snare MW
254-DRY SNARE 1SOFT
255-Short Soft Snare
256-Dyn Dry Snare 1
257-Deep Dry Snare 1
258-DRY SNARE 1HARD
259-Hard Attk DrySna
260-Cracked Dry Snar
261-Snappy Dry Snare
262-DRY SNARE 2
263-Open Snare 2
264-PunchySnare 2
265-Studio Snare2
266-DRY SNARE 3
267-Ringer Snare
268-Roll Snare
269-Harm Snare3
270-Dual Dry Snare 1
271-Dual Dry Snare 2
272-Dual Dry Snare 3
273-Snare Drum 1
274-Snare Drum 2
275-Brush 1
276-Brush 2
277-Brush 3
278-Deep Brush
279-Hard Brush
280-Sharp Brush
281-Harmful Brush
282-Techno Snare 1
283-Techno Snare 2
284-Res Snare
285-Snare w/Ring
286-Res Snare 2
287-Deep Snare
288-Deep Snare 2
289-Deep Snare 3
290-Deep Snare 4
291-Deep Snare 5
292-Dual Deep Snare
293-Ringy Snare
294-Snare Program

DRUMS.K25

Percussion Sounds

(83 Programs)

Techno Sounds
200-CR 78 III
201-CR 78 J
202-CR 78 Kick
203-CR 78 Snare 2
204-CR 78 Hat
205-CR 78 Hat 2 o
206-CR 78 Hat o/c
207-CR 78 Splish
208-Fake Snare
209-Fake Toms
210-Fake Toms 2
211-Fake Hat
212-Fake Hat Open
213-Fake Hat o/c
214-Fake Splash
215-Rezit Klik
216-Rezit Tick
217-Rezit Klave
218-Rezit Bongos
219-Rezit Guiros
220-Rezit Guiros 2
221-Rezit Guiros 3
222-Rezit Sidestick
223-Kowbell 1
224-Kowbell 2
225-Kowbell 3
226-Kewbell 1
227-Kipbell 1
228-Tekno Kick
229-Tryangle 1
230-Tryangle 2
231-808 Toms
232-Noised
233-Noised Sweep
234-Zing 1
235-Zing 2
236-Thwick 1
237-Klap 1
238-Klap 2
239-Simmons
240-Synth Tom
Percussion
241-Log Drum 2
242-Shaker Thing
243-High Shaker
244-Native Drum
245-Dyn Perc
246-5 Drums Low
Drum Kits
247-Dyn Snare Kit
248-LightAmb DynKit
249-New Dance Kit
250-J Bottham
251-1 Layer dry kit
252-1 Layer dry kit2
253-1 Layer Amb kit1
254-1 Layer Amb kit2
255-1 Layer Amb kit3
256-Drums Program 1
257-Drums Program 2
258-Drums Program 3
259-Drums Program 4
260-Drums Program 5
Toms
261-Toms 1
262-Toms 2
263-Toms 3
Mallet Sounds
264-Malletone
265-Wood Bars
266-Metal Bars
267-Glockenspiel
268-Tine Mariba
269-Marimba Vibe
270-JARO bell Ens
271-JARO bell Ens 3
272-Cym Roll!
273-Gong Release
274-Cym Roll 2 Cmplx
Multi Taps
275-TouchmTones
276-Snappy JR
277-Perky Lizards
278-Touchy Rezoid
279-Killamon-Jaro
280-STEP-OOO-DOO
281-Multipercs
282-Killamon-Jaro 2

ENSEMBLE.K25

Acoustic Ensembles

(21 Programs)

Orchestral Ensembles
200-Flute & Slo str
201-Horn&Flute w/Str
202-Winds&Strings 2
203-W Tell Orchestra
204-Touch Orchestra
205-Orch Hit
206-Slo Ensemble
207-Mello Slo Ens
208-Voice w/ upper Str
209-ChoirStrings 1
210-St Choir&Strings
211-Syn Orch Winds
212-Syn Orch Pad
Layered w/ Guitar
213- 12 Str Rhodes
214-Williamsong
215-40 Something
216-Guitar / Flute
217-Piano / Cello
Jazz and Rock Combos
218-A.Bass&Ride/ Piano
219-Jazz Club
220-Trio 1

ETHEREAL.K25

Ethereal Sounds

(74 Programs)

Stepped Pads
200-Aurora Part 2
201-Choir Jumps
202-Hipass Pad 6
203-Putthings
204-Smoothings
205-Stutterer
206-Timbre Steps
207-Solar System
208-Solar System 2
209-Solar System 3
210-Space Moves
211-Time Traveler 2
212-Bell Steps
213-Spac'd 1
214-Spac'd 2
215-Star Theme
216-Stringer W/01
217-Pair o' Pads
218-Soft fm 2
219-Wind Vox
220-Shimmerling
221-Stereo Sweeps
222-Multi-Texture
223-Touch Down
224-Choir Things
225-Heavens Voxx
226-Tinglethings
227-Mallet Choir 3
Vocal Pads
228-World's Order 1
229-World's Order 4
230-Angelia
231-DreamVox 2
232-Low World Vox
233-Enya Vocal Pad
234-Slo Syn Pad
235-DreamVox
Air Pads
236-Sisternal II
237-Sisternal 3
238-SloSynPad 2 (CS)
239-Snare Thing Pad
240-Flatliners
241-Fair Breath
242-Flutevox
243-Flutevox 2
244-Passion Source 2
245-Passion Base
246-Launch Pad 2
Glassy Pads
247-Waterphone
248-Glass Bow 2
249-Glasswaves
250-Glassy Eyes
251-Cycle 2
252-Harmonic Synth
253-Aliens 2
Pads w/ Partials
254-SloHarm
255-Slo HiHarm
256-Slo Vox Formant
257-Vectoring
258-Vectoring 2
259-Vectoring 3
260-Syn Tambura
Hybrid Strings and/or Vocal Pads
261-LoWorld Shift 2
262- Odyssey
263-Deep Atmosphere
264-Lush Life 1
265-Lush Life 2
266-Lovershift
267-PM's Lead Pad
268-PressFor Thunder!
Generic Ethereal Sounds
269-Bone Thing
270-Disaster
271-Aliens Voice
272-Space Notch 2
273-Launch Pad Water

FXSOUNDS.K25

Effects Sounds/Textures
(47 Programs)

Sawtalk
200-Fun Program
201-Fun 2
202-Hello 2 b
203-Talk Talk
Water Sounds
204-Noise PWM Qnirp
205-NoizFalls
206-NoizFalls 2
207-Sub Space
208-Wavionics
Weather Emulations
209-Winds 2
210-Downpour
211-Press Wind
212-Thunder/Rain
213-Thunder 3
Weird Percussive Things
214-Aliens
215-Crashear
216-Pell ShakThing 2
217-Pell Thing 3
218-What!
Natural Sounds
219-Criks
220-Sinebird
221-Sinebird 2
222-Sineforest
223-RainforestCrunch
224-Chirps
Strange Loops
225-Speilbergs
226-Captain Nemo
227-Meow Scratch
228-Qnirp
229-Shape lfo 1
230-Shape lfo 2
231-Shape lfo 3
232-Shape lfo MW
233-Xylo Lore
234-Notreallyrandom
235-Subotnick (CS)
236-' ndustry 2
237-The Night Shift
238-Ffich
239-Strike 2nd
240-Slider Spaceout
241-DeathToTheVoices
242-Freddy's Hands
243-Slay Bells
244-Slay Drum
245-Dream State 2
246-Con Ed

GUITARS.K25

Guitars

(73 Programs)

Steel String Guitars
200-Acoustic Guitar
201-Steel Str Guitar
202-Steel Str Guitar 2
12-String Guitars
203-12-str Guitar 1
204-12-str Guitar 2
Stylized Steel String Guitars
205-Rich Guitar
206-Fluid Guitar
207-Fluid Guitar 2
208-Magic Guitar
209-Meditator 4
210-Atmosphere
211-Modern Harp
212-Sweetar
213-Steel String
214-12 String
215-Hybrid Guitar
216-Pluxichord 2
217-Clean Guitar
Guitars w/ Strings or Pads
218-AcGtr&StrPad
219-AcGtr&Strings 2
220-Para Gtr w/ Voice
221-Mod Lag City
222-Heaven Guitar
223-Oto Pad
Combination Guitars
224-Majic Guitar #2
225-Meditator E
226-Nylon Ensemble 2
227-A.Gtr.Ensemb.(CS)
228-3 Guitars (CS)
229-All Guitars (CS)
Jazz Guitars
230-Slo Chorus Gtr
231-Stereo Jazz Guit
232-Clean Lead Gtr
233-Jazz Dream
234-Steriojazzguitar
Guitar Mutes
235-Muted Guitar
236-Muted Guitar 2
237-Guitar Mutes 1
238-Guitar Mutes 2
239-Mutes 3
240-Mutes 4
241-Mutes 5
242-Fancy Mutes
243-Jungle Mutes
244-Press For Effect
Distorted Emulations
245-Distortion Gtr
246-xFadeDistGuitar 2
247-Nasty Lead Gtr
248-Rockin Lead
249-Press WahWah
250-HelterSkelter Gtr
251-GRUNGE
252-Attacker
253-Crank It Up
254-Harmonics Gtr.
255-Dist Harmonics
256-Soon
257-Charang
258-Smithereen
259-Guitar Lead
260-Optical Link
261-Meathead
Exotic Plucked Things
262-Kotolin
263-Twangy Lead
264-lectric twang
265-Ravitar
266-Cee Tuar
267-NewAge Guitar
268-Classical Gtr
269-Green Acres
270-Para Pick w/ Voice
271-Syncro Taps
272-Stratosphere

HYBPERC.K25

Percussive Hybrids

(38 Programs)

Percussive Comps
200-Night Ryder
201-Ethnick 1
202-Neastern
203-Zawinul
204-Industrial Komp
205-Timber Shifter
206-Mod Bel
207-Klank 1
208-Toy Store II
209-Baribun
210-Choir Stabs
211-Resimallet
212-Perc Flute
213-Gateperc Too
214-Islanders
215-Driver 4
216-Driver 5
Percussive Pads
217-D50 Voicebell
218-Vox Marimba
219-Wet Voices
220-New Dawn 2
221-Wood Pad
222-Ensamble 1
223-Perc Voices
224-Mallet Voice
225-Klakran
226-Bella Voce
227-Noo Marimbala
228-Sweet Mallets
229-Tranquil Pluck 2
230-Dyn Marimba
231-Arystal 1
232-Arystal 2
233-Arystal 3
234-Dankness
235-In the Well
236-Orchestrar
237-Orchestrar 2

HYBRIDS.K25

General Hybrid Sounds

(63 Programs)

Hybrid String Pads
200-Brt SynChoir
201-Angel Pad
202-Big TynthTex
203-Bush String Pad
204-Lush Strangs
205-Fake String
206-Stereo ChoirStr
207-Mirage Strings
208-FatMan Str II CS
209-Fatman Strings
210-Thick Low Pad
211-Synth Choir Ensemble
Hybrid String Pads w/Resonance
212-New Dawn
213-Big Single
214-Mella Tron
215-Froese String
216-String Reversal
217-DistortResonance
218-Hi Res Sweeper
219-7th World String
220-Sweeper
221-Lunar Dance
222-Stack Pad 4
223-String Machines
Hybrid Stacks
224-Fairlite Like
225-String Stack
226-Golck 'n Brass
227-Grand String
228-LA Stack
229-Rock Stack
230-All in the Fader
231-Utopian Comp
232-Gargantuan
233-Outside L/A
234-Stackoid
235-Ethnick 2
Flute-Like Hybrids
236-Hybrid Flute
237-Clave Flute
238-Xyliope
239-Fake Chiff
240-Fluty Lead 4
241-Perky Caliope
242-Koto Inside
243-Koto Inside 2
244-Chiff Lead
245-Marimba & Flutes
246-Flooter 2
247-E Pno & Lead 1
248-Bars & Lead

Altered Acoustic Sounds
249-Vibe 5th
250-7-Sax Delay
251-7-Sax Delay 2
252-Mutant Brass
253-Neu Trumps
254-New Rumpett
255-Process Sax
256-RezTouch Sax 5th
257-S+H Violin
258-String Function
259-Violastic 2
260-BushKate Cellos
261-Aliens Wood
262-A Kordian

ORGANS.K25

Organs

(41 Programs)

Rock Organs
200-Ballad Organ 2 pr
201-Ballad Organ 3
202-London Hammond
203-London Hammond 2
204-Drive Organ
205-Drive Organ 2
206-Rotating B&M's 2
Clean Percussive Organs
207-Perc Organ
208-Clav Organ MW
209-Bee3
210-Tamborgan #2
Pipe Organs
211-Pipes 1
212-Pipes 2
213-Pipes 3
214-Sanctuary Pipes
215-Sanctuary Pipes2
216-Flute Pipe1 C+MW
217-Flute Pipes 2
218-Cath.Pipes(C+MW)
219-Cathedral Pipes2
220-Pedal Pipes 2
221-Pedal Pipes 3
222-Pipes 2 (C+MW)
223-Pipes 3 (C+MW)
224-Pipes 4 (C+MW)
Velocity Sensitive Organs
225-Organ 1 (drawbar)
226-Organ 2
227-Organ 2 (perc)
Organ-Like Synths
228-Mello Perc
229-Tamb Organ
230-Organarimba
231-Organellica
232-Synth Pipe
233-Mello organ
234-Organ pad 2
235-Organ 3 (perc)
236-DrawbarPerc
237-Diver
238-Diver 2
239-Diver 3
240-Driver 3

PNOEPNO.K25

Pianos & E Pianos

(71 Programs)

Classical Pianos
200-ClassicalPiano
201-ClassPiano 2
202-DynamicPiano
203-BalladPiano 3
Rock Pianos
204-CP-70
205-CP-70 1 layer
206-Stereo Grand
207-Studio Piano 1
208-Studio Piano 3
209--Studio Piano 5
210-Rock Syn Piano
211-Rock Piano 1
Pianos w/ Strings or Choir
212-Piano&SloStrings
213-ClassPiano&Voice
214-ClassPiano&Str
215-Blld Piano & Str
216-Piano&FilterStr
217-Piano & Voicepad
218-Vox Tite Piano
Bright and House Pianos
219-Britegrand 2
220-Britegrand 3
221-Bright Piano
222-Bright Piano 2
223-House Piano
Stylized Pianos
224-Tight Piano
225-Lennon Piano 1
226-New Age CP-70
227-Honky-Tonk
228-Yama E Piano
Electric Grands
229-Electric Grand
230-Grand & Electric
231-Grand n Elec 4
232-Grando Elec 5
233-Grand&Elec&Choir
234-Warm E Grand 1
Rhodes Pianos
235-Classic E Piano
236-Classic E Pno 2
237-Fluid E Piano 1
238-Tine Waves
239-Dual Rhodes 1
240-Foster E Piano
241-Dual Rhodes 2
242-Phase Rhodes
243-EQ chrRhodes
Dyno Pianos
244-Celest EP (CS)
245-Tine Elec Piano
246-Dual Elec Piano
247-Suitcase E Pno
248-St Suitcase EP 2
249-Dyno E Piano
FM Pianos
250-Digital E Piano
251-FM EP
252-New EP
253-Yamaha E Pno 2
254-PF Elec Piano
255-Dx Rhodes
256-Dig E Piano
257-Elec Piano + Vox
258-Vollenweider
259-Dualin' pianos
260-E Gtrs & E Pno
Clavinet Emulations
261-Clavinetist
262-Brite Clav
263-DX Clav
264-ClavBassHarp
265-Clav 5
Harpsichord Emulations
266-Quillsichord
267-Harpsichord 1
268-Harpsichord 2
269-Harpschd & Str
270-Baroquen Trio

STRINGS.K25

Strings

(45 Programs)

Straight Strings
200-Straight Strings
201-Fast Strings
202-Fast Wet Strings
203-Strings eq 1
204-Strings eq 2
205-New Strings
206-New Strings 2
207-New Strings 3
Attack Velocity Strings
208-Att Ctl Fast Str
209-Very Touch Str
210-Vel Strings B
211-AttCtl Med Str 1
212-AttCtl Med Str 2
Sfz Strings
213-Sfz Strings MW
214-Sfz Trem Strings
Ensemble Strings
215-Stereo Med Str
216-Grand Strings
217-Quick Strings MW
Layered Solo and Ensemble Strings
218-Mixed Strings
219-Chmbr Strings
220-Baroque Strings
221-ClassicalStrSect
222-Silk Strings 1
223-Slo Classical St
224-Silk Strings 2
Solo Violin and Cello
225-Prs Slo Violn
226-SloViolin prs
227-Violin att vib
228-MarcatoViolin MW
229-Marcato S . Strngs
230-Elec Violin
231-Slo Solo Str 2
232-Mellow Cello
Pizz Emulations
233-Synth Pizz 1
234-Synth Pizz 2
235-Synth Pizz 3
236-Synth Pizz 4 lo
String Pads
237-String Paddy
238-String Paddy 2
239-Melle Orchestra
240-Slo Ensemble
241-MelloStr & Choir
242-Stereo Str Pad 1
243-Stereo Str Pad 2
244-Stereo Str Pad 3

VOX.K25

Vocal Sounds

(21 Programs)

200-CathedralVoice
201-Bach Fixer
202-St Slo Voices
203-Smooth Choir
204-Dream Vox 2
205-Vox 2
206-Breath Pad 1
207-The Voice
208-Angels
209-Chant
210-Belle Orchestra
211-Fake Vox 3
212-Fake Vox II
213-PM's Choir Pad
214-Voice w/ Upper Str
215-Smooth Choir 2
216-Vox Piano
217-Emu Vox
218-Flutters
219-Fake Vox
220-Passover

VOX.K25

Appendix B
K2000 Compatibility

K2000 Compatibility Files

Included as part of your K2500 accessory disks are two disks of K2000 compatibility files, for your use when playing K2000 programs on the K2500. The Kurzweil K2000 has been a widely used platform for several years, and the VAST architecture and programming interface is largely the same in the K2500. Therefore, an attempt was made to organize the K2500 factory objects in a way most compatible with existing K2000 files. However, several improvements have been made to the Base ROM objects, and therefore not all K2000 support software will play correctly in a 2500 without some minimal translation.

The purpose of the files on the two K2000 compatibility disks is to allow you to play programs, sequences, and other objects that were created on a K2000, so that they can be re-saved in a "native" 2500 format.

If you never owned a K2000 and you do not have existing material programmed on the K2000, you probably do not need these files.

Here are the main differences:

ROM Drum samples. While most of the samples in the base ROM are compatible between the K2000 and the K2500, the drum samples are not. The K2500 drums are made from new recordings, and a slightly different selection of drums is offered (e.g., three ambient snares instead of four). Furthermore, where all drums and percussion had been grouped in one multi-root sample (Sample #20 Drums and Percussion), they are now available as separate samples addressed by number.

ROM Effects programs. These were re-programmed for greater signal-to-noise ratio, and re-organized for ease of use. The Effect page in the program editor always points to an Effect program, and has several parameters for real-time control. Many programs developed for the 2000 series utilized those factory default effects. When these programs are loaded into a K2500, they will not call the correct effect.

ROM Keymaps. An effort was made to keep instrument keymaps in the same order as in the K2000, because the keymap must be correct for a program to sound correct. Keymaps 20-38, 61, 70, and 173-176 have been replaced or deleted, and subtle improvements in volume have been made to others.

About the compatibility files:

There is one main file on this two disk set, K2KBASE.K25. It contains all the necessary objects for a K2500 to play any program made on a late model K2000, including drum and percussion samples. If you do not have sample memory, you can still use this file for some compatibility, but the drums will not play.

The idea is to temporarily overwrite the ROM in the K2500 with these objects, so that K2000 programs can be loaded, played, and then re-saved with their dependent objects.

If you use the compatibility files often, you will find that sometimes you only need to load some of the objects from the big file. This can be done with the Load Object feature. As a convenience, we have provided a file which only contains effects programs, K2KFX.K25, for one such case.

We also included a file for Orchestral ROM compatibility, K2KROM1.K25. It should be loaded in tandem with the K2KBASE.K25 file only if you have the Orchestral ROM option installed. (There are very few differences between the 2000 and the 2500 in the Orchestral ROM bank, so this file will rarely be used.)

Converting K2000 Files to K2500 Files

There are five steps to convert a K2000 file to a K2500 file:

Before you start, make sure you have saved all user objects to disk, because memory will be cleared.

Step 1 Load the compatibility file as Everything/ Overwrite. (Everything/Merge mode will work too)

Step 2 Load the file(s) you wish to port into any memory bank from 200 through 800.

Step 3 Save these objects with dependents to new files.

Step 4 Delete everything.

Step 5 Load the new files to make sure they play correctly.

Happy porting.

Converting programs from the K2500 to K2000

There may be times when you wish to take a file you have created for your K2500 and load it into a K2000. As we have mentioned in the above section on loading K2000 files into the K2500, most objects are compatible.

There are, however, a few things of which you should be aware. The following sections will explain.

Programs using Drum samples

Since the K2500 has new drum samples, these programs will not translate correctly. The K2500 drum samples are not available on disk to be loaded into the K2000, so these programs simply can not be converted so that they will sound identical.

However, if you have some K2500 programs which take advantage of VAST programming and wish to use them in a K2000, you can load the program into the K2000, then edit the program to change the keymaps to the corresponding drum keymap. If the keymap is one of the 5 octave or 2 octave kit keymaps, you will find that for the most part, the type of percussion sound will match up, though there may be a few which don't. Keep in mind though that the sound itself may be quite different, since the samples are different.

Effects Programs

The preset effects programs in the K2500 are different than in the K2000. However, since these effects programs consist simply of different values for the various editable parameters, a K2500 effect can be loaded into the K2000.

Here is the simplest way to include a K2500 effect in your file with the program. On the K2500, call up the program that you will be porting to the K2000. Press edit and go to the EFFECT page. Press edit again to enter the Effects Editor. Now press save to save that effect to RAM. Once it is saved, press exit. You will now see that the RAM effect is assigned to the program. Press exit and save the program before leaving the editor. If the effect was saved to the same bank as the program, and you are saving the entire bank, both objects will be saved to the file. If the effect was saved to a different bank or you are selecting only individual programs to be saved to disk, be sure to answer yes to the "Save Dependent Objects?" question and the effect will be saved along with the program.

If you have a great number of programs that you want to convert and don't want to edit each of those programs, there is another method you can use. You can create your own K2500 effects compatibility file, similar to the K2000 effects file. This method will require more work initially, but once it is done, the file can easily be used again and again.

To do this, start with the K2500 cleared of all RAM objects. (Go to Master and delete Everything.) Now go to Effects Mode, call up each effect one by one, going into the Effects Editor and saving that effect to RAM. Save the effect back to the exact same number it was originally at, choosing Replace. For instance, save effect #17 back to location #17. (If you have an editor/librarian software program for your computer, you can get all the effects in one shot and save them to the same RAM locations.) Now save an Everything file to Disk. You now have a file similar to the K2KFX.K25 file on the compatibility disks. You can use the exact same set of five steps documented in the section on converting K2000 files to the K2500, but this time you will be loading the files into the K2000. (Don't forget to delete Everything in the K2500 when you are done creating the compatibility file.)

Keymaps

The following keymaps are either different in the two instruments, or they do not exist in the K2000: 20-30 & 173-191. (Keymaps 169-172 have different names in the K2500 but are identical to the ones in the K2000.) Keymaps 23-30 & 189-191 use drum samples and are therefore can not be converted to the K2000 (see the section on Drum Samples, above). But keymaps 20-22 & 173-188 can easily ported to the K2000. To do this, you will follow the same procedure used to convert effects programs, documented above. Follow those exact steps, but instead of going to the EFFECT page, go to the KEYMAP page in the Program Editor.

Additional Considerations

Impact

Impact, on the ENVCTL page, is a feature that is new with the K2500. Keep Impact set to zero if you are planning to use a program on the K2000.

Amplitude Envelopes

The K2500 Amplitude Envelope page allows for attack times that are quicker than those allowed by the K2000. Keep in mind, then, that a program with an attack amplitude faster than .02 seconds will be automatically adjusted by the K2000 to use a slightly slower attack time.

Appendix C
Stereo Piano ROM

The Stereo Piano ROM option adds 4 Megabytes of Stereo Piano samples to your K2500, and also enables you to upgrade your sounds further with the 8 Megabyte Orchestral ROM and the 8 Megabyte Contemporary ROM. The Stereo Piano Option adds objects in the 700s bank. There you will find new programs, keymaps, samples, and a new effect - "709 Soundboard/Rvb".

Monaural Piano Programs

Most of the new piano programs are set to play in stereo, though "780 MonoStudioGrand," as well as a number of programs on the accessory disk are designed for mono use. If the pianos are to be played through a mono sound system, the best results will come from these mono programs, not the stereo programs mixed to mono.

Stretch Tuning

Unless otherwise noted, piano programs are "stretch" tuned, like an acoustic piano. Since the higher harmonics of a stretched string tend to be sharper than those of the real harmonic series, stretch tuning ensures that the piano remains in tune with itself harmonically. Stretch tuning is sometimes referred to as "solo" or "beat" tuning.

Keymaps with "440" as part of their name - such as "776 Mono Piano 440" offer straight (non-stretch) tuning, where the fundamental of each note is tuned to A440. Programs that use these keymaps (e.g., "777 Piano for Layers") will mix better with other acoustic and electronic instruments. This type of tuning, therefore, is sometimes known as "ensemble" tuning.

Stereo Piano ROM Programs

As shown below, the number of programs added to the 700s bank will depend on whether you have also added the Orchestral and/or Contemporary ROM options. Contact your Young Chang / Kurzweil dealer if you are interested in these additional upgrades.

Piano ROM only		...with Orchestral ROM		...with Contemporary ROM	
770	Concert Piano 1	788	Piano Trio	794	Water Piano
771	Studio Grand	789	Pno & Syn String	795	StPno & OrchPad
772	Brt Grand & Str	790	Fluid Grand	796	Grand & Pad
773	Stereo Solo Pno	791	Haunted Piano	797	Pop Grand Stack
774	Brt Concert Pno	792	Xylopiano	798	Prepared Piano
775	Concert Piano 2	793	Grand,Harp&Lead	799	Tack Piano Stack
776	Soft Piano				
777	Piano for Layers				
778	Rok Piano				
779	RandomPan Grand				
780	MonoStudioGrand				
781	Grand & Elec 1				
782	Grand & Elec 2				
783	St Pno & Vox Pad				
784	Funky Piano				
785	E Grand Stack				
786	Way Dark Piano				
787	Piano Chase				

Stereo Piano ROM Keymaps

770	Stereo Piano	*Both sides of stereo image can be edited at the same time to preserve image stability.*
771	Piano Left	*These two keymaps are the same as 770, but either side of the stereo image may be edited independently.*
772	Piano Right	
773	Pno440 Left	*These two keymaps are non-stretched 440 tuned, for use when layering with other non-piano keymaps so that the upper notes are in tune.*
774	Pno440 Right	
775	Mono Piano	*This is a stretch tuned mono keymap consisting of the best quality samples from either left or right portions of the stereo samples.*
776	Mono Piano 440	*This is a non-stretch tuned mono keymap consisting of the best quality samples from either left or right portions of the stereo samples.*
777	Hybrid Piano 1	*This is a mono keymap consisting of samples not used in 775.*
778	Way Dull Piano	*This keymap is specifically designed for program 786 "Way Dark Piano".*

Stereo Piano ROM Samples

770	StereoPiano b0
771	StereoPiano e1
772	StereoPiano a1
773	StereoPiano d2
774	StereoPiano a#2
775	StereoPiano d3
776	StereoPiano a3
777	StereoPiano c#4
778	StereoPiano f4
779	StereoPiano b4
780	StereoPiano f5
781	StereoPiano b5
782	StereoPiano e6
783	StereoPiano a6
784	StereoPiano a6NR
785	StereoPiano e7
786	Piano Left
787	Piano Right

Stereo Piano ROM Programs with Controller Assignments

This list describes how each of the Stereo Piano ROM programs can be modulated or altered by the various MIDI controls. Only those controls which may not be immediately evident are listed. Controls such as attack velocity and keynumber are understood to be assigned to most programs.

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
770	**Concert Piano 1**				General purpose stereo piano for solo playing. Uses several layers, providing specific filter settings and curves for different key ranges and strike levels. Soft pedal replaces all layers with layer 1 - voiced to emulate *una corda (u.c.)* sound.
771	**Studio Grand**				Dynamics and brightness compressed for easy control and mixing with other instruments. Soft pedal emulates *una corda (u.c.)* sound.
772	**Brt Grand & Str**	String Balance	String Brightness		
773	**Stereo Solo Pno**				Specifically for classical solo piano, using wider dynamic range and more sustained envelope. Soft pedal emulates *una corda (u.c.)* sound.
774	**Brt Concert Pno**				Similar to Concert Piano 1, but filter velocity curves exaggerated for easy dynamics; Hard strikes very bright. Soft pedal emulates *una corda (u.c.)* sound.
775	**Concert Piano 2**				Suitable for solo playing. Easily edited, and may be played on a non-drum channel.
776	**Soft Piano**				
777	**Piano for Layers**				Import this template to other programs to create piano combinations. Its 440 tuning controls beating in the upper range when layered with other waveforms.
778	**Rok Piano**		Wet/Dry Mix		
779	**RandomPan Grand**		Wet/Dry Mix		The two sides of the stereo sample are played by independent layers. Since the layers are not synchronized, slight variations in note starts between them create an unstable stereo image.
780	**MonoStudioGrand**		Treble Boost		Monaural sample; a hybrid of the left and right channels of the stereo recording. Use mono programs such as this in live performance with mono PA systems. Soft pedal emulates *una corda (u.c.)* sound.
781	**Grand & Elec 1**	String Balance	Wet/Dry Mix		
782	**Grand & Elec 2**	Treble Boost	Wet/Dry Mix		
783	**St Pno & Vox Pad**	Vibrato	Pad Swell		
784	**Funky Piano**	Wah Rate		Filter Freq.	
785	**E Grand Stack**	Pad Balance			
786	**Way Dark Piano**				
787	**Piano Chase**	Vibrato	Wet/Dry Mix	Vibrato	

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
	Orchestral ROM Piano Programs (require Orchestral ROM)				
788	**Piano Trio**		Ride Cymbal fade	Vibrato- Bass	
789	**Pno & Syn String**	String fade	String swell		
790	**Fluid Grand**		Wet/Dry Mix		
791	**Haunted Piano**	Harp Balance	Wet/Dry Mix		
792	**Xylopiano**	Release Ctl	Wet/Dry Mix		
793	**Grand,Harp&Lead**	Lead Tremolo	Lead Fade	Lead Tremolo	Sustain pedal does not affect the lead sound
	Contemporary ROM Piano Programs (require Contemporary ROM)				
794	**Water Piano**	Vibrato	Wet/Dry Mix	Vibrato	
795	**StPno & OrchPad**	Pad Balance			
796	**Grand & Pad**	Pad Balance	Bell Release Envelope		
797	**Pop Grand Stack**	Bell Fade	Wet/Dry Mix	Vibrato	
798	**Prepared Piano**	Alt Switch - Mbira	Wet/Dry Mix		
799	**Tack Piano Stack**	Bell Fade, Wet/Dry Mix	Pitch Env - Mbira		

Appendix D
Orchestral ROM

The Orchestral ROM Soundblock option adds 8 Megabytes of samples, including a full array of winds, brass, and strings. The Orchestral ROM Upgrade adds objects in the 900s bank. There you will find programs, keymaps, samples, effects, performance setups, and QA banks. All Orchestral ROM sounds can be combined with your existing 8 Megs of base sound ROM, 4 Megs of Stereo Piano ROM, and 8 Megs of (optional) Contemporary ROM.

Orchestral ROM Effects

900	Rich Delay
901	Glass Delay
902	Real Plate
903	Real Niceverb
904	ClassicalChamber
905	Empty Stage
906	Long & Narrow
907	Far Bloom
908	New Hall w/Delay
909	With A Mic

Orchestral ROM Programs

Orchestras
900 TotalCntrl Orch1
901 TotalCntrl Orch2
902 BaroqueOrchestra
903 Oboe&Flute w/Str
904 Horn&Flute w/Str
905 Trp&Horns w/Str

Winds
906 Piccolo
907 Orchestra Flute
908 Solo Flute
909 Orchestral Oboe
910 Solo Oboe
911 2nd Oboe
912 Orch EnglishHorn
913 Solo EnglishHorn
914 Orch Clarinet
915 Solo Clarinet
916 Orch Bassoon
917 Solo Bassoon
918 Woodwinds 1
919 Woodwinds 2

Brass
920 Dynamic Trumpet
921 Copland Sft Trp
922 Orch Trumpet
923 Soft Trumpet
924 Strght Mute Trp
925 French Horn MW
926 Slow Horn
927 F Horn Con Sord
928 F Horn a2 MW
929 French Horn Sec1
930 French Horn Sec2
931 Solo Trombone
932 Tuba
933 Dyn Hi Brass
934 Dyn Lo Brass
935 Dyn Brass & Horn
936 Soaring Brass

Solo Strings
937 MarcatoViolin MW
938 Solo Violin
939 2nd Violin
940 Orch Viola
941 Solo Viola
942 Slow Viola
943 Marcato Cello MW
944 Solo Cello
945 Slow Cello
946 Arco Dbl Bass
947 Slow Arco Bass
948 Brt Dbl Bass

Section Strings
949 Touch Strings
950 Fast Strings MW
951 Chamber Section
952 Sfz Strings MW
953 Sweet Strings
954 Baroque Strg Ens
955 Big String Ens
956 Bass String Sec
957 Pizzicato String
958 Wet Pizz
959 Arco & Pizz

Plucked Strings
960 Classical Guitar
961 Virtuoso Guitar
962 Acoustic Bass
963 Snappy Jazz Bass
964 Dynamic Harp
965 Harp w/8ve CTL
966 Harp Arps

Keyboards
967 Celesta
968 Pipes
969 Pedal Pipes
970 Church Bells

Percussion
971 Glockenspiel
972 Xylophone
973 Chimes
974 Timpani/Chimes
975 Timpani
976 Timpani & Perc
977 Big Drum Corp
978 Orch Percussion1
979 Orch Percussion2
980 Jam Corp
981 Conga & Perc
982 Woody Jam Rack
983 Metal Garden
984 Hot Tamali Kit
985 Funk Kit

Synths
986 Magic Guitar
987 Glass Bow
988 Synth Orch
989 Nooage InstaHarp
990 AC Dream
991 Synth Dulcimer
992 Glistener
993 Afro Multi CTL
994 Tranquil Sleigh
995 Batman Strings
996 Ethnoo Lead
997 Orch Pad CTL
998 Choral Sleigh
999 Pad Nine

Orchestral ROM Keymaps

Reeds

900	**Oboe**
901	**English Horn**
902	**Bassoon**
903	**Clarinet**
904	Bassoon/Oboe
905	Bsn/EHrn/Oboe
906	Flute 2
907	Eng Horn/Oboe

Brass

910	**Soft Trumpet**
911	**French Horn**
912	**French Hrn Sec**
913	**Tuba**
914	Tuba/Horn
915	Tuba/Hrn Sec
916	Tuba/Sft Trmpt
917	Trombet
918	Trumpbone
919	Trombone/SftTrmpt

Orchestral Percussion

920	**Timpani**
921	**Snare Roll**
922	**Snare Hit**
923	**Orch Bass Drum**
924	**Orch Crash**
925	**Tam Tam**
926	**Triangle**
927	**Tambourine Roll**
928	**Tamb Hit**
929	**Sleigh Bells**
930	**Woodblock**
931	**Low Clave**
932	**Castanet Hit**
933	**Castanet Up**
934	Dry Snares
935	Amb Snare
936	Bass Drums
937	Orch Perc Units
938	Orch Perc Full
939	Misc Percussion
940	2Hand Amb Kit
941	2Hand Dry Kit
942	2H Kit Unit1
943	2H Kit Unit2
944	**Xylophone**
945	**Glockenspiel**
946	**Chimes**
947	2Hand DrumCorp
948	Lite Metal
949	Woody Perc
950	Celeste

Pluck

951	**Plucked Harp**
952	Harp Gliss
953	**Nylon String Gtr**
954	Nylon Str noA2
955	Nylon for dulc
957	**Acoustic Bass**
960	**Pizz Strings**
961	Full Kbd DblBass

Strings

962	**Solo Violin**
963	**Solo Viola**
964	**Solo Cello**
965	Fast Solo Cello
966	Solo Double Bass
967	Bass/Cello
968	Bass/Cello/Vio
969	Cello/Vla/Cello
970	Cello/Vla/Vln
971	Ens Strings 2
972	Solo Section 1
973	Solo Section 2
979	BassDrum/Timp

Waveforms

980	**Organ Wave 8**
981	**Buzz Wave 2**
982	**Ahh Buzz Wave**
983	**OB Wave 1**
984	**OB Wave 2**
985	**OB Wave 3**

Variations

986	Tenor tune alt
987	Dual Ride 1
988	Black Fills C
989	Orc Perc Preview
990	<GM>Standard Kit
991	<GM> Orch Kit
992	Castanets x 3
993	Tambourine x 3
994	Black Fills B
995	Black Fills A
996	2HandDrumCrp NB
997	Sleigh Loop
998	Bs Drm Rumble
999	Church Bell

Note: Items in **bold** represent the primary keymap for each instrument.

Orchestral ROM Samples

900	Oboe
901	English Horn
902	Bassoon
903	Clarinet
904	Dbl Reeds
910	SoftTrump
911	French Horn
912	FrenchHrnSect
913	Tuba
914	Synth Accord
915	Tuba % Horn
920	Timp
921	Snare Roll
922	Snare Hit
923	Orch Bass
924	Orch Crash
925	Tam Tam
926	Triangle
927	Tamb Roll
928	Tamb Hit
929	Sleigh Bells
930	Woodblock
931	Low Clave
932	Castanet Hit
933	Castanet Up
934	Bi TamTam<v2.0>
935	Orch Crash ignf
937	Dark Triangle
938	MuteTriangle
939	Triangle (rel)
944	Xylophone
945	Glockenspiel
946	Chimes
950	Celeste
951	Harp
953	Nylon String Gt
957	Acoustic Bass
960	Pizz Strings
962	Solo Violin
963	Solo Viola
964	Solo Cello
965	Fast Solo Cello
966	Solo Double Bass
967	Conga Tone ingrl
968	Amb Kick 3 va
980	Organ Wave 8
981	Buzz Wave 2
982	Ahh Buzz Wave
983	OB Wave 1
984	OB Wave 2
985	OB Wave 3
988	Jackhammer
989	Scratch
990	Zap 1
991	Alarm Bell
992	Deep House Clave
993	China Crash
994	Dry Sidestick
995	Med Open Hi Hat
996	Syn Vibra Stick
997	Sleigh Loop
998	BD Rumble <v2.0>
999	Church Bell

Orchestral ROM Programs with Controller Assignments

The preset programs in the K2500 Orchestral ROM are organized by category. You can either use them as they are or as a good starting point for your own work. There are many ways to put expressivity and variety in a single program by assigning MIDI controllers to the various DSP functions in its layers. This list describes how each of the preset programs can be modulated or altered by the various MIDI controls. Only those controls which may not be immediately evident are listed. Controls such as attack velocity and keynumber are understood to be assigned to most programs.

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
	Pianos				
788	**Piano Trio**		Ride cymbal fade	Vibrato - Bass	
789	**Pno & Syn String**	String fade	String swell		
790	**Fluid Grand**		Wet/Dry mix		
791	**Haunted Piano**	Harp balance	Wet/Dry mix		
792	**Xylopiano**	Release ctl	Wet/Dry mix		
793	**Grand,Harp&Lead**	Lead tremolo	Lead fade	Lead tremolo	Sustain pedal does not affect the lead sound
	Orchestras				
900	**TotalCntrl Orch1**	Layer bal	Adds brass & flute, boosts strings	Swell (trp out - ww solo)	
901	**TotalCntrl Orch2**	Layer bal, adds harp	Layer balance, adds horns/cuts woodwinds	Swell	
902	**BaroqueOrchestra**	None	None	Swell	Sost ped disables brass
903	**Oboe&Flute w/Str**	Strings fadeout	Disables strings	None	
904	**Horn&Flute w/Str**	Strings fadeout	Disables strings	None	
905	**Trp&Horns w/Str**	Strings fadeout	Disables strings	None	
	Winds				
906	**Piccolo**	None	Wet/Dry mix	None	
907	**Orchestral Flute**	Envelope control (slower)	Wet/Dry mix	None	
908	**Solo Flute**	Timbre (brighter)	Wet/Dry mix	None	
909	**Orchestral Oboe**	Swell	Wet/Dry mix, rate & depth	Vibrato	
910	**Solo Oboe**	Vibrato off	Wet/Dry mix	Swell	
911	**2nd Oboe**	Vibrato off	Wet/Dry mix	Swell	
912	**Orch EnglishHorn**	Swell	Wet/Dry mix, rate & depth	Vibrato	

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
913	**Solo EnglishHorn**	Vibrato off	Wet/Dry mix	Swell	
914	**Orch Clarinet**	Swell	Wet/Dry mix	Vibrato depth	
915	**Solo Clarinet**	Swell	Wet/Dry mix	Swell	
916	**Orch Bassoon**	Swell	Wet/Dry mix	Vibrato depth	
917	**Solo Bassoon**	Vibrato off	Wet/Dry mix	Swell	
918	**Woodwinds 1**	None	Wet/Dry mix	None	
919	**Woodwinds 2**	None	Wet/Dry mix, rate & depth	Swell, vibrato	
	Brass				
920	**Dynamic Trumpet**	Swell	Wet/Dry mix	Vibrato depth	
921	**Copland Sft Trp**	Vibrato off	Wet/Dry mix	Swell	
922	**Orch Trumpet**	Timbre (darker)	Envelope Control	Swell, vibrato rate & depth	
923	**Soft Trumpet**	None	Wet/Dry mix	Vibrato depth	
924	**Strght Mute Trp**	Vibrato off	Wet/Dry mix	Swell	
925	**French Horn MW**	Timbre (brighter)	Wet/Dry mix	Vibrato rate & depth	
926	**Slow Horn**	Vibrato	Wet/Dry mix	None	
927	**F Horn Con Sord**	Timbre (brighter)	Wet/Dry mix	Vibrato depth	
928	**F Horn a2 MW**	Timbre (brighter)	Wet/Dry mix	None	
929	**French Horn Sec1**	None	Wet/Dry mix	Slight swell	
930	**French Horn Sec2**	None	Wet/Dry mix	Swell	
931	**Solo Trombone**	Selects legato layer	Wet/Dry mix	Slight swell when MW is off	
932	**Tuba**	Vibrato rate & depth	Wet/Dry mix	Vibrato rate & depth	
933	**Dyn Hi Brass**	Swell, legato	Wet/Dry mix	Swell	
934	**Dyn Lo Brass**	Swell, legato	Wet/Dry mix	Swell	
935	**Dyn Brass & Horn**	Timbre (darker)	Wet/Dry mix	None	
936	**Soaring Brass**	None	Wet/Dry mix	None	
	Solo Strings				
937	**MarcatoViolin MW**	Spiccato articulation	Wet/Dry mix	Vibrato rate & depth	
938	**Solo Violin**	Delays auto-vibrato	Wet/Dry mix	Vibrato rate & depth	
939	**2nd Violin**	Envelope control	Wet/Dry mix	Vibrato rate	
940	**Orch Viola**	Release time (shorter)	Wet/Dry mix	Vibrato depth	

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
941	**Solo Viola**	Delays auto-vibrato	Wet/Dry mix	Vibrato rate & depth	
942	**Slow Viola**	Timbre (darker)	Wet/Dry mix	Swell, vibrato rate & depth	
943	**MarcatoCello MW**	Spiccato articulation	Wet/Dry mix	Vibrato rate & depth	
944	**Solo Cello**	Delays auto-vibrato	Wet/Dry mix	Vibrato rate & depth	
945	**Slow Cello**	Timbre (brighter)	Wet/Dry mix	Vibrato rate, swell	
946	**Arco Dbl Bass**	Bass boost	Wet/Dry mix	Vibrato depth	
947	**Slow Arco Bass**	Delays auto-vibrato	Wet/Dry mix	Swell, vibrato rate & depth	
948	**Brt Dbl Bass**	Decrescendo	Wet/Dry mix	Vibrato rate	
	Section Strings				
949	**Touch Strings**	Timbre (brighter)	Envelope Control	Swell	
950	**Fast Strings MW**	Selects faster strings	Timbre (darker), Wet/Dry mix	Swell	
951	**Chamber Section**	None	Wet/Dry mix	Vibrato depth	
952	**Sfz Strings MW**	Tremolo	None	Swell	
953	**Sweet Strings**	Fade out	Wet/Dry mix	Vibrato depth	
954	**Baroque Strg Ens**	Bass boost, layer delay	Wet/Dry mix	Swell	
955	**Big String Ens**	None	Wet/Dry mix	Swell	
956	**Bass String Sec**	Bass boost on solo layer	Wet/Dry mix	None	
957	**Pizzicato String**	Timbre (darker)	Wet/Dry mix	None	
958	**Wet Pizz**	Treble boost	Wet/Dry mix	None	
959	**Arco & Pizz**	Timbre (brighter), layer balance	Enables 2nd string layer, stereo panning	Swell	
	Plucked Strings				
960	**Classical Guitar**	Fade/disables key-up layer	Wet/Dry mix	None	
961	**Virtuoso Guitar**	Vibrato rate & depth	Wet/Dry mix	None	Sost ped enables staccato envelope
962	**Acoustic Bass**	Vibrato rate & depth	Wet/Dry mix	None	
963	**Snappy Jazz Bass**	Vibrato rate & depth	Pitch of snap, disables ride	Vibrato rate & depth	Sost ped disables ride cymbal

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
964	**Dynamic Harp**	Release time (longer)	Wet/Dry mix	None	
965	**Harp w/8ve CTL**	Brightness	Enables octave	None	
966	**Harp Arps**	None	Selects diminished	None	
	Keyboards				
967	**Celesta**	None	Wet/Dry mix	None	
968	**Pipes**	Timbre (hollow)	Wet/Dry mix	None	
969	**Pedal Pipes**	None	None	None	
970	**Church Bells**	Distance	Timbre (brighter)	None	
	Percussion				
971	**Glockenspiel**	None	Wet/Dry mix	None	Sus ped enables key-up layer (for rolls)
972	**Xylophone**	Timbre (fuller)	Wet/Dry mix	None	Sus ped enables key-up layer (for rolls)
973	**Chimes**	None	Wet/Dry mix	None	
974	**Timpani/Chimes**	Alt attack (timp)	Wet/Dry mix	None	
975	**Timpani**	Alt attack	Wet/Dry mix	None	Sus ped enables key-up layer (for rolls)
976	**Timpani & Perc**	Alt attack (timp)	None	None	Sost ped enables bass drum. Sus ped dampens.
977	**Big Drum Corp**	None	Enables both fill layers (black keys: f#3-a#4)	None	Sost ped switches layers. Sus ped dampens.
978	**Orch Percussion1**	None	Switches fill layers	None	Sus ped dampens
979	**Orch Percussion2**	None	Wet/Dry mix	None	Sus ped dampens
980	**Jam Corp**	Alt attack	Pitch control (black keys: f#3-a#4)	None	
981	**Conga & Perc**	Pitch control	Wet/Dry mix	None	
982	**Woody Jam Rack**	Pitch control up to 1200ct	Enables random drum layer	None	
983	**Metal Garden**	Pitch control up to 1200ct	Pitch control down to -1200ct	None	
984	**Hot Tamali Kit**	Tunes drums, alt atk on snares	Switches to old drum map	None	
985	**Funk Kit**	Tunes drums	Switches to old drum map	None	

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
	Synths				
986	**Magic Guitar**	Vibrato depth	Layer balance	Vibrato depth	
987	**Glass Bow**	Vibrato depth	None	Vibrato depth	
988	**Synth Orch**	Filter modulation	None	Vibrato depth	
989	**Nooage InstaHarp**	Vibrato depth	Echo rate	Vibrato depth	
990	**AC Dream**	Vibrato depth	Enables bell layer	Vibrato depth	
991	**Synth Dulcimer**	Filter modulation	Wet/Dry mix	None	Sus ped dampens
992	**Glistener**	Vibrato depth	None	Vibrato depth	
993	**Afro Multi CTL**	None	Pitch control	None	
994	**Tranquil Sleigh**	Panner rate	Bandpass width	None	
995	**Batman Strings**	Vibrato depth	None	Vibrato depth	
996	**Ethnoo Lead**	Vibrato depth	Pitch control	Vibrato depth	
997	**Orch Pad CTL**	Vibrato depth	Filter cutoff	None	
998	**Choral Sleigh**	Sleigh play	None	None	
999	**Pad Nine**	Vibrato depth	Filter cutoff	None	

Version 2 Orchestral ROM Setups with Controller Assignments

A setup is a combination of eight zones, each having its own MIDI channel and controller assignments. Designed initially for models with built-in keyboards, setups can be played on K2500R via the Local Keyboard Channel feature: Find this parameter in MIDI mode on the RECV page, change it from None to a channel of your choice, and set your controller to send on only that channel. Now, any notes or MIDI controller data that come in on that channel will be re-mapped according to the display channel (in program mode) and according to the setup (in Setup mode).

To take advantage of Version 2's eight zone setup capability, there are 51 new setups in the Version 2 Orchestral ROM Objects. You will find unique internal program combinations, arpeggiator examples, and special ribbon and controller functions. With as many as 24 assignable controllers shared among 8 independent zones, K2500 MIDI setups can be quite powerful, and they require some experimentation to find all their features and nuances. In order to make this process easier, many setups are programmed according to the certain conventions. The sliders generally provide mixing capabilities either as group faders or individual zone faders. They also provide control over timbre, effects mix, and clock tempo. Other conventions include:

Controller	Default
Slider G:	Wet/Dry mix
Slider H:	Tempo
PSw 1:	Arp on/off
Psw 2:	Latch2
Footswitch 1:	Sustain
Footswitch 2:	Sostenuto
Footswitch 3:	Soft Pedal
Large Ribbon:	Pitch
Small Ribbon Press:	Mono Pressure
Small Ribbon Lin:	Pitch
Mod Wheel:	Mod Wheel
MPress:	MPress

These are the Setups provided in the Orchestral ROM:

900	**Deep Piano Rbn**	Sliders A-C: zone faders; Lg Rib : fx depth, arp vel & pan (celeste); ModWhl: sleigh mod; PSw2: zone mute (celeste)
901	**Choir & Harp**	Sliders A-B: zone faders; FootSw1: arp latch; FootSw2: zone mute; Lg Rib: tempo; PSw2: harp octave
902	**Orchestrator**	Sliders A-D: zone faders, Slider F: key vel cym roll; FootSw3 solos vox pad; Lg Rib: cym roll; ModWhl: low string balance
903	**Piano Concerto**	Sliders A-D: group faders; FootSw1: mutes pizz; PSw1: piano solo
904	**Xmas Carols**	Sliders A-D: group faders
905	**Sideline Perc**	Sliders A-D: group faders, Slider F: key vel cym roll; FootSw1: glock roll; Lg Rib: cym roll; PSw1 & 2: mute groups

906	**TonalGroov C5->**	Sliders A-D: zone faders; FootSw1: latch; ModWhl: enables shaker & detunes conga; PSw1: mute group
907	**Exotic Grooves**	Sliders A-D: zone faders; FootSw1: arp latch; ModWhl: percussion pitch; PSw1: mute group
908	**Lunar Harp**	Sliders A-D: zone faders; Lg Rib: detuned harps; ModWhl: sleigh mod
909	**Themes**	Sliders A-D: zone faders; FootSw2: arplatch; Lg Rib: string & choir Xfade; ModWhl: string balance
910	**Wet Piano**	Sliders A-C: zone faders; ModWhl: pad balance
911	**enter the Jester**	Sliders A-D: group faders; Slider E: string balance; Lg Rib: glockenspiel trigger; ModWhl: vibrato disable
912	**Tap the Jester**	Sliders A-E: zone faders; Lg Rib: glockenspiel trigger
913	**Hybrid Strings**	Sliders A-C: zone faders, Slider D: synstring balance
914	**Wonderous Spaces**	Sliders A-D: zone faders; Lg Rib: pad balance & sleigh pitch
915	**Metal Orch Pad**	Sliders A-C: zone faders, Slider F: key vel (bells); Lg Rib: bell trigger; ModWhl: bell balance
916	**Toon prs**	Sliders A-D: zone faders, Slider F: key vel (glock); Lg Rib: glockenspiel trigger, pitch (perc); PSw2: group mute; Press: tempo
917	**Tranquil Sea**	Sliders A-D: zone faders, Slider E: piano detune; ModWhl: sleigh mod
918	**Sick Clock Jam**	Sliders A-E: zone faders; ModWhl: pitch bend clock sounds, filter mod bass; PSw1: arp latch
919	**Orc Split**	Sliders A-B: zone faders; ModWhl: RH string balance
920	**Baroque Brass**	Sliders A-B: zone faders; Lg Rib: MPress
921	**Unison Orchestra**	Sliders A -D : group faders,; FootSw1: winds solo, FootSw2: pizz; PSw1: triggers cymbal cras; PSw2: pizz
922	**Unison w/Pizz**	Sliders A-F: zone faders; FootSw: 1 winds solo
923	**Switch Orchestra**	Sliders A-E: group faders; Lg Rib: timpani roll (to B3); PSw1 & PSw2: mute group; MPress: timpani roll (to B3)
924	**Pizz/Str/Winds**	Sliders A-E: zone faders; Lg Rib: timbre ctl
925	**Harp Arps Cmaj**	Slider A: zone fader, Slider B: keyvel, Slider C: harp octave enable; FootSw1: arp latch, FootSw2: latch2; Lg Rib: harp arps; ModWhl: harp filter; PSw2: ribbon arpeggio select
926	**Desert Bloom E1**	Sliders A-F: zone faders; PSw2: zone mute (aux. percussion)
927	**Exotic Charge**	Sliders A-C: zone faders; ModWhl: timbre ctl
928	**ET Comes Home**	Sliders A-B: group faders; FootSw: 1 arp latch; Lg Rib: Expression (harp arpeggios); ModWhl: string balance

929	**Fanfare Orch**	Sliders A-C: group faders; Lg Rib: snare & timp roll (G1-F#2); ModWhl: low brass balance; PSw1: disagle snare & timp roll, PSw2: triggers Tam Tam; MPress: snare roll (G1-F#2)
930	**Switch Orch 2**	Sliders A-D: zone faders; ModWhl: fades woodwinds; PSw1: mute group, PSw2: timbre select
931	**Orbiting Venus**	Sliders A-D: group faders; ModWhl: pad LFO rate; PSw1: zone mute
932	**Glass Dulcimer**	Sliders A-D group faders, Slider F: keyvel; Lg Rib: syn. dulcimer note trigger; ModWhl: syn. dulcimer envelope filter
933	**Hybrid Reeds**	Sliders A-B: zone faders
934	**Two Hand Pizz**	Sliders A-D: zone faders; ModWhl: pizz timbre
935	**Slo Str & Horn**	Sliders A-B: group faders; ModWhl: string fade
936	**Pianist Band**	Sliders A-E: zone faders; Velocity triggers left hand kicks and RH snares
937	**Prepared Pianos**	Sliders A-C: zone faders
938	**FSW1 solo winds**	Sliders A-F: zone faders; FootSw1 holds strings & solos winds; ModWhl: string fade
939	**Strings&Winds**	Sliders A-F: group faders
940	**Str Ens Solo MW**	Sliders A-E: zone faders; ModWhl: solo strings; PSw2: slow passages
941	**Pno&Vox&Pizz**	Sliders A-E: group faders; ModWhl: timbre ctl
942	**Down Wind SmRbn**	Sliders A-D: zone faders; Sm Rib Press: wind trigger; Lg Rib: wind speed; PSw1: wind sost ped, PSw2: guitar/piano select
943	**Guitar & Piano**	Sliders A & B: group faders; ModWhl: disables classical guitar release noise
944	**Cirrus 9**	Sliders A-C: group faders; Slider D: harp octave enable; FootSw2: latch2; Lg Rib: pad filter ctl; PSw2: mute group
945	**Dry Plucks**	Sliders A-C: zone faders
946	**String Collage**	Sliders A-C: zone faders; ModWhl: string ensemble timbre
947	**Esoterica**	Sliders A-E: zone faders; MPress: sound f/x expression
948	**Poseidon**	Sliders A & B: group faders
949	**Stalkers**	Sliders A-C: group faders; FootSW: 1 arp latch; ModWhl: bell/percussion pitch bend
950	**Diabolic Trickle**	Sliders A-C: group faders; FootSw: 1 arp latch; Lg Rib sec: 1: bell pitch bend, sec 2: explosion mod, sec 3: explosion pitch; ModWhl: pad timbre; PSw2: explosion trigger

About the Control Setup

The default Control Setup (97 Control Setup) has been updated. Sliders B-H are now assigned to MIDI controller numbers 22-28. CC pedal 1 is now assigned to MIDI controller 4. These default settings will make it easier to assign control sources from within the Program editor.

Mirror Image Drum Map

The Mirror Image Drum Map is a drumkit layout that enables a natural two-hand style of playing. The Mirror Image Drum Map gets its name by its instruments being laid out in a mirror image of itself with D4 being the point of reflection.

Getting Started

Play the key, D4. You'll notice that snare drum is assigned to it. From there, play 1 semitone down (C#4), and up 1 semitone (D#4). Notice that the two are the same snare drum. Play 2 semitones down (C4) and up 2 semitones (E4). Notice that the same bass drum is assigned to both keys. (Bass drum is also repeated on E3 and C4, which is particularly useful in fast double bass drum playing.) Notes 3 semitones down, and up 3 semitones, have the same hi-hat, etc.

There are, however, two instances – G4 and E6 – where the left and right sides do not match. They deviate from the mirror image scheme to accommodate the more familiar one hand playing of hi-hat and tambourine.

The layout of the drums and various percussion instruments are easy to remember. Just keep in mind that the basic drumkit consisting of Snare, Bass Drum, Toms, and Cymbals are in the range of C3-E5, or the "inner core" range. The two remaining ranges (C2-B2 and F5-C7) which extend out to the left and right edges of the keyboard make up the "outer edge" range, and will generally consist of auxiliary percussion instruments. This "inner" and "outer" range structure is also maintained in the drum corps programs (#977, #980) and orchestral percussion programs (#978, #979).

It is easy to memorize the placement of instruments if you think of the double and triple groupings of the black keys as one instrument or instrument type. Look at the center group of black keys, C#4 and D#4. Think of that grouping as the snare drum. Fanning out on both sides to the next group of black keys, F#3, G#3, A#3 on the left hand side, and F#4, G#4, A#4 on the right hand side, are the toms. Fanning out farther to the next set of double black keys are the cymbals. The next set of triple black keys are the timbales, and the next set of double black keys are the congas. The four white keys under the toms are the hi-hats.

In the "outer edge" range, white keys are generally hand-held percussion toys or various useful articulations of the congas laid out such that one can play typical conga patterns with one hand.

Try playing in a straight eighth note beat D#2, E2, F2, D#2, E2, F2, C2, C#2 and repeat. For easy right-hand tambourine playing, try playing in the same eighth note beat C7, A6, E6, C7, A6, E6, C7, A6 and repeat. Now combine the left-hand conga part and the right-hand tambourine. A combination of easily fingered patterns will often yield a useful rhythm section.

Sostenuto Pedal

One more bonus was added to the drumkit programs—the sostenuto pedal. Just hold down the sostenuto pedal and again play in a steady eighth note beat E3, G3, A3, B3, G3, A3, B3, G3 and repeat. The sostenuto adds percussion to the white keys ranging from F3 to C4, and C#4.

Sticking

The Mirror Image Drum Map lets you simulate the sticking that a real drummer would use. Try playing a tom tom fill from hi tom to low tom using a paradiddle sticking (RLRRLRLL). This should be very easy to execute with minimal physical motion. The symmetrical inward-outward motion also feels comfortable and smooth. Doubling or layering of instruments while maintaining the beat is as easy as grabbing chords. A good example of this can be illustrated with program 977, "Big Drum Corps".

Play a steady repeating sixteenth note snare drum pattern with your left and right thumbs alternating on the keys, C#4 and D#4. Keep that same left, right, left, right hand motion going but simply add your index fingers to play the next black keys which would be A#3 in the left hand and F#4 in the right hand. Finally, add the ring finger for the low tom on F#3 and A#4. If you look at your hands now the right hand is making an E flat minor chord and its mirror image chord, F# Major, is in the left hand. After playing with the drum programs you'll notice how easy it is to play multiple drums in unison or to add or drop a tom or crash cymbal while maintaining a continuous flow of rhythm.

For those of you who prefer the old Kurzweil drum map for the drumkit programs, it is available on the Controller slider.

Drumkit Programs: 984, 985

Drum Corps Programs: 977, 980

Orchestral Percussion Programs: 978, 979

Appendix E
Contemporary ROM

The Contemporary ROM Soundblock option adds 8 Megabytes of samples to your K2500. These include ethnic percussion, electronic and processed drum sounds, electric guitars, synthesizer waveforms, contemporary keyboards, wind instruments, and much more. Combined with the powerful on-board Variable Architecture Synthesis Technology (VAST) capabilities of your K2500, this new palette of sounds gives your instrument unmatched potential.

The Contemporary ROM Upgrade adds objects in the 800s bank. There you will find 100 programs, 94 keymaps, 94 samples, 10 effects, 51 performance setups, and 11 QA banks. All new sounds can be combined with your existing 8 Megs of base sound ROM, 4 Megs of Stereo Piano ROM and 8 Megs of (optional) Orchestral ROM.

Contemporary ROM Programs

Ethnic/World Instruments

800 Jungle Jam
801 Mbira Stack
802 Ritual Metals
803 Prepared Mbira
804 Balinesque
805 Ambient Bells
806 World Jam 1
807 World Jam 2
808 India Jam
809 Slo Wood Flute
810 Hybrid Pan Flute
811 Chiff Brass Lead
812 Bell Players
813 Prs Koto
814 Medicine Man
815 Mbira
816 Kotobira
817 Cartoon Perc
818 CowGogiBell
819 Perc Pan Lead
820 Trippy Organ
821 Koto Followers
822 Hybrid Horn

Keyboards

823 Dyno EP Lead
824 ParaKoto
825 Super Clav
826 StrataClav
827 Touch Clav
828 Bad Klav
829 Rad Rotor
830 B-2001
831 Perc Organ
832 Drawbar Organ CS

Brass/Reeds

833 Bebop Alto Sax
834 Soft Alto Sax
835 Soprano Sax
836 Low Soft Sax
837 Air Reeds CS
838 Jazz Muted Trp
839 Jazz Lab Band
840 Harmon Section
841 Sfz Cres Brass
842 Neo Stabs
843 Gtr Jazz Band
844 Full Rock Band

Drum Kits

845 World Rave Kit
846 Punch Gate Kit
847 Shadow Kit
848 Fat Traps
849 Generator Kit
850 Shudder Kit
851 Crowd Stomper
852 Econo Kit
853 EDrum Kit 1
854 EDrum Kit 2

Loops

855 Dog Chases Tail
856 Saw Loop Factory

Basses

857 Two Live Bass
858 Dual/Tri Bass
859 Clav-o-Bass
860 Chirp Bass
861 DigiBass
862 Mono Synth Bass
863 Touch MiniBass
864 Ostinato Bass
865 House Bass
866 Dubb Bass

Guitars

867 Straight Strat
868 Chorus Gtr
869 Strataguitar
870 Elect 12 String
871 Dyn Jazz Guitar
872 Pedal Steel
873 Strummer DistGtr
874 Rock Axe
875 Hammeron
876 Rock Axe mono

Synth Timbres

877 Attack Stack
878 Skinny Lead
879 Q Sweep SynClav
880 Anna Mini
881 Ballad Stack
882 Big Stack
883 BrazKnuckles
884 Hybrid Breath
885 Hybrid Stack
886 Eye Saw
887 Mello Hyb Brass
888 Sizzl E Pno
889 My JayDee
890 Slo SynthOrch
891 SpaceStation
892 Glass Web
893 Circus Music

Pads

894 Mandala
895 Slow Strat
896 Fluid Koto
897 Koreana Pad
898 Tangerine
899 Planet 9

Contemporary ROM Keymaps

Synth Multi-Samples

800 Hybrid Pan
801 Glass Rim Tone
802 Synth Vox
803 Orch Pad
804 Koreana
805 Heaven Bells
806 MIDI Stack
807 Synth Brass
808 DigiBass
809 AnaBass
810 Mini Saw

Instrument Multi-Samples

811 EBass Pick
812 EBass Slap
813 Clean Elec Gtr
814 Distorted Guitar
815 Dist Harmonics
816 Clav
817 Tone Wheel Organ
818 Muted Trumpet
819 Soft Alto Sax
820 Koto
821 Mbira

Individual Percussion Roots

822 Tabla Ta
823 Tabla Tin
824 Tabla Dhin
825 Tabla/Bayan Dha
826 Bayan
827 Ghatam Bass Tone
828 Small Ghatam
829 Ghatam Shell
830 Ghatam Slap
831 Dumbek Open Tone
832 Dumbek Brt Tone
833 Dumbek Tek
834 Dumbek Snap
835 Dumbek Dry Dum
836 Djembe Tone
837 Djembe Cl Slap
838 Djembe Open Slap
839 Djembe Finger
840 Djembe w/ Stick
841 Muzhar
842 Talking Drum Lo
843 Talking Drum Hi
844 Luna Drum Dry
845 Luna Drum Hi
846 Log Drum Lo
847 Log Drum Hi
848 Shakers/Tamborim
849 Gankogui Bell Lo
850 Gankogui Bell Hi
851 Tibetan Cymbal
852 Tibetan Bowl
853 Indo Bowl Gong

Percussion Kits

854 Prev Ethnic Perc
855 Cartoon Perc
856 Prev EDrum Map
857 Toms Map
858 ProcKick/Snr Map
859 EDrum Kit 1
860 EDrum Kit 2
861 1 Lyr Proc Kit
862 Industry Perc
863 Tuned Loops

Custom Percussion Keymaps

870 PreparedMbira L1
871 PreparedMbira L2
872 World Jam 1 L1
873 World Jam 1 L2
874 World Jam 1 L3
875 India Jam L1
876 India Jam L2
877 World Jam 2 L1
878 World Jam 2 L2
879 World Jam 2 L3
880 World Jam 2 L4
881 World Jam 2 L5
882 World Jam 2 L6
883 World Jam 2 L7
884 World Jam 2 L8
885 CowGogiBell L1
886 Dual Log Drum
887 Jungle ProcDrms
888 JungleBrushTip1
889 JungleBrushTip2
890 Jungle Birds
891 Jungle Ghtm rel
892 Jungle Tabla
893 Jungle Dumbek
894 Jungle ProcDrms2
895 Jungle Ghtm Strgt

Custom Keymap

896 Syn Bass Pick

Single-Cycle Waveforms

897 ARP SAW
898 ARP PW30%
899 OB PW25%

Contemporary ROM Samples

800	Hybrid Pan
801	Glass Rim Tone
802	Synth Vox
803	Orch Pad
804	Koreana
805	Heaven Bells
806	MIDI Stack
807	Synth Brass
808	DigiBass
809	AnaBass
810	Mini Saw
811	EBass Pick
812	EBass Slap
813	Clean Elec Gtr
814	Distorted Guitar
815	Dist Harmonics
816	Clav
817	Tone Wheel Organ
818	Muted Trumpet
819	Soft Alto Sax
820	Koto
821	Mbira
822	Tabla Ta
823	Tabla Tin
824	Tabla Dhin
825	Tabla/Bayan Dha
826	Bayan
827	Ghatam Bass Tone
828	Small Ghatam
829	Ghatam Shell
830	Ghatam Slap
831	Dumbek Open Tone
832	Dumbek Brt Tone
833	Dumbek Tek
834	Dumbek Snap
835	Dumbek Dry Dum
836	Djembe Tone
837	Djembe Cl Slap
838	Djembe Open Slap
839	Djembe Finger
840	Djembe w/ Stick
841	Muzhar
842	Talking Drum Lo
843	Talking Drum Hi
844	Luna Drum Dry
845	Luna Drum Hi
846	Log Drum Lo
847	Log Drum Hi
848	Shakers/Tamborim
849	Gankogui Bell Lo
850	Gankogui Bell Hi
851	Tibetan Cymbal
852	Tibetan Bowl
853	Indo Bowl Gong
854	EDrum1 Kick
855	EDrum1 Snare
856	EDrum1 Rim
857	EDrum1 Hi Tom
858	EDrum1 Crash
859	EDrum1 Cowbell
860	EDrum1 Clave
861	EDrum1 Shaker
862	EDrum2 Kick1
863	EDrum2 Kick2
864	EDrum2 Kick3
865	EDrum2 Snare1
866	EDrum2 Snare2
867	EDrum2 Snare3
868	EDrum2 HH Open
869	EDrum2 HH Close
870	EDrum2 Clap
871	EDrum2 Conga
872	Hi Proc Tom
873	Hi Mid Proc Tom
874	Lo Mid Proc Tom
875	Lo Proc Tom
876	Syn Toms
877	Proc Kicks
878	Proc Snares
879	Rvs Proc Kicks
880	Rvs Proc Snares
881	Bayan Mute
882	Alt Muzhar Rim
883	Alt Tabla Ta
884	Alt Maracas
885	Alt Shakere
886	Syn Bass Pick
887	Alt Log Drum Lo
888	Alt Tibetan Cym
891	Dumbek Mute Slap
896	ROM Loops
897	ARP SAW
898	ARP PW30%
899	OB PW25%

Contemporary ROM Effects

800 Percussive Room
801 Brt Empty Room
802 Mosque Room
803 New Gated
804 Chorus Slap Room
805 Chorus Bass Room
806 New Chorus Hall
807 Spacious
808 Wash Lead
809 New Hall w/Delay

Contemporary ROM Programs with Controller Assignments

The 100 preset programs in the K2500 Contemporary ROM are organized by category. We hope you will find these programs to be a good starting point for your own work. There are many ways to put expressivity and variety in a single program by assigning MIDI controllers to the various DSP functions in its layers. This list describes how each of the 100 factory preset programs can be modulated or altered by the various MIDI controls. Only those controls which may not be immediately evident are listed. Controls such as attack velocity and keynumber are understood to be assigned to most programs.

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
	Pianos				
794	**Water Piano**	Vibrato	Wet/Dry mix	Vibrato	
795	**StPno & OrchPad**	Pad balance			
796	**Grand & Pad**	Pad balance	Bell release envelope		
797	**Pop Grand Stack**	Bell fade	Wet/Dry mix	Vibrato	
798	**Prepared Piano**	Alt switch - mbira	Wet/Dry mix		
799	**Tack Piano Stack**	Bell fade, Wet/Dry mix	Pitch env - mbira		
	Ethnic/World Instruments				
800	**Jungle Jam**	This program uses the mirror image drum mapping, symmetrical around D4. Identical or similar drum articulations are found at equal distances above and below D4, with extras outside the center region. Mod wheel disables layered “chirps" and fades rain stick on A0. Data slider enables "screamers" on G5-C6.			
801	**Mbira Stack**	Vibrato			
802	**Ritual Metals**	Vibrato		Vibrato	
803	**Prepared Mbira**		Pitch change		
804	**Balinesque**	Pan flute fade			
805	**Ambient Bells**	Vibrato		Vibrato	
806	**World Jam 1**		Pitch change		Mirror image drum mapping
807	**World Jam 2**		Pitch change	Layer pitch	Mirror image drum mapping
808	**India Jam**	Tablas appear at center with the mirror-image mapping, tuned to C. Pressure controls pitch for the bayan and RH lead sound. LH drone may be played as broken chord C2,G2,C3,G3 and held with sustain or sostenuto. Mod Wheel fades the drone. Data Slider controls Wet/Dry mix.			
809	**Slo Wood Flute**	Less tremolo		Filter ctl	
810	**Hybrid Pan Flute**	Tremolo		Tremolo	
811	**Chiff Brass Lead**	Vibrato, Swell	Unison layers	Vibrato, Filter	
812	**Bell Players**	Muzhar fade	Tibetan cym env ctl		
813	**Prs Koto**			Pitch mod	

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
814	**Medicine Man**				
815	**Mbira**	Release ctl	Tremolo		
816	**Kotobira**	Mbira balance			
817	**Cartoon Perc**		Wet/Dry mix		
818	**CowGogiBell**	Alt start	Layer select		
819	**Perc Pan Lead**	Vibrato			
820	**Trippy Organ**	Vibrato		Vibrato	
821	**Koto Followers**	Vibrato		Vibrato	
822	**Hybrid Horn**	Balance (bell)		Timbre ctl, Vibrato	
			Keyboards		
823	**Dyno EP Lead**	Tremolo, Env ctl			
824	**ParaKoto**	Pad tremolo			
825	**Super Clav**	Phase clav enable	Disable release	Filter rate	
826	**StrataClav**	Vibrato		Vibrato	
827	**Touch Clav**	EQ, Vibrato	Disables release	Filter control	
828	**Bad Klav**				
829	**Rad Rotor**	Rotary speaker			
830	**B-2001**	Rotary speaker	Perc balance	Rotary speaker	
831	**Perc Organ**	Rotary speaker	Perc balance	Rotary speaker	
832	**Drawbar Organ CS**	Rotary speaker	Filter ctl		
			Brass & Reeds		
833	**Bebop Alto Sax**	Attack ctl		Vibrato	
834	**Soft Alto Sax**			Vibrato, Swell	
835	**Soprano Sax**	Vibrato, Swell		Vibrato, Swell	
836	**Low Soft Sax**			Vibrato	
837	**Air Reeds CS**	Vibrato	Harmonica enable	Harmonica vibrato	
838	**Jazz Muted Trp**				
839	**Jazz Lab Band**			Vibrato, Swell	
840	**Harmon Section**	Vibrato		Vibrato, Swell	
841	**Sfz Cres Brass**	Vibrato	Wet/Dry mix	Vibrato, Swell	
842	**Neo Stabs**	Vibrato		Vibrato, Filter ctl	
843	**Gtr Jazz Band**	LH bass is layered with ride for walking rhythm section. LH hard strikes trigger kick/snare. Data slider switches RH from guitar to horn section; SostPed holds horns and adds bright tenor.			
844	**Full Rock Band**	LH bass is layered with kick/snare for driving rhythm section. At *ff*, crash cymbal is triggered. Mod wheel and pressure enable rotary speaker for RH organ. Data slider switches LH to walking rhythm section, and RH to guitar solo.			

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
			Drum Kits		
845	**World Rave Kit**	Disable chirps	Wet/Dry mix, Disable claps (G6-G#6)		
846	**Punch Gate Kit**		Wet/Dry mix		
847	**Shadow Kit**	Flanging (A#3-B3)	Wet/Dry mix		
848	**Fat Traps**	Filter (C2-A#2)	Wet/Dry mix		
849	**Generator Kit**	Disable claps (G3-G#3)	Wet/Dry mix		
850	**Shudder Kit**		Wet/Dry mix		
851	**Crowd Stomper**		Wet/Dry mix		
852	**Econo Kit**	Gate time (G3-C#4)	Wet/Dry mix		
853	**EDrum Kit 1**	Gate time (B2-D#3, G3-C#4), Pitch (D6)	Wet/Dry mix	Pitch (D6)	Sust ped chokes cymbal (F#5)
854	**EDrum Kit 2**	Filter ctl (A#1-C2, F#6-C7)	Wet/Dry mix		
			Loops		
855	**Dog Chases Tail**	Various loop effects	Tempo (pitch)		Loops below E4 are tuned to play together, as are loops above E4.
856	**Saw Loop Factory**	Layer balance	Tempo (pitch)		
			Basses		
857	**Two Live Bass**	Vibrato	Layer select	Vibrato	
858	**Dual/Tri Bass**	Vibrato	Ghost note enable	Vibrato	
859	**Clav-o-Bass**	Vibrato	Wet/Dry mix	Vibrato	
860	**ChirpBass**	Vibrato	Wet/Dry mix	Vibrato	
861	**DigiBass**				
862	**Mono Synth Bass**		Filter		Pitch bend goes +2/-12ST
863	**Touch MiniBass**	Vibrato		Vibrato, Swell	
864	**Ostinato Bass**		EQ		
865	**House Bass**	Vibrato	Release ctl	Vibrato	
866	**Dubb Bass**	Vibrato	Release ctl	Vibrato	

Prg #	Program Name	Mod Wheel	Data	MPress	Comments
			Guitars		
867	**Straight Strat**	Tremolo	EQ		
868	**Chorus Gtr**		Wet/Dry mix	Detune	
869	**Strataguitar**	Alt start			
870	**Elect 12 String**	Detune	Wet/Dry mix, EQ	Vibrato	
871	**Dyn Jazz Guitar**		Wet/Dry mix		PBend gives fretboard slide
872	**Pedal Steel**	Vibrato		Vibrato	
873	**Strummer DistGtr**	Vibrato		Vibrato	
874	**Rock Axe**	Alt start	EQ	Feedback	
875	**Hammeron**	Timbre ctl		Timbre ctl	
876	**Rock Axe Mono**	Alt start	EQ, Delay	Feedback	
			Synth Timbres		
877	**Attack Stack**	Vibrato	Wet/Dry mix	Vibrato	
878	**SkinnyLead**	Vibrato	Overdrive enable	Vibrato, Filter	
879	**Q Sweep SynClav**	Vibrato	Sweep rate ctl	Vibrato	
880	**Anna Mini**	Vibrato		Vibrato	
881	**Ballad Stack**	Swell		Swell	
882	**Big Stack**	Vibrato	Env ctl	Vibrato	
883	**BrazKnuckles**	Swell	EQ		
884	**Hybrid Breath**	Envelope ctl, EQ	Envelope ctl, Wet/Dry mix	Vibrato	
885	**Hybrid Stack**		Layer balance		
886	**Eye Saw**	Vibrato	Release ctl, Filter	Vibrato	
887	**Mello Hyb Brass**				
888	**Sizzl E Pno**	Pad balance			
889	**My JayDee**	Vibrato	Release ctl	Vibrato	
890	**Slo SynthOrch**	Filter effect			
891	**SpaceStation**	Vibrato	Envelope ctl	Vibrato	
892	**Glass Web**	EQ	Delay ctl		
893	**Circus Music**	Vibrato		Vibrato	
			Pads		
894	**Mandala**	Filter ctl	Pitch change		
895	**Slow Strat**	Vibrato	Filter sweep enable	Vibrato	
896	**Fluid Koto**	Vibrato		Vibrato	
897	**Koreana Pad**	Tremolo	Filter, Wet/Dry mix		
898	**Tangerine**	Enable 5th	Envelope Ctl	Vibrato	
899	**Planet 9**				

Contemporary ROM Setups

A setup is a combination of eight zones, each having its own MIDI channel and controller assignments. Designed initially for models with built-in keyboards, setups can be played on K2500R via the Local Keyboard Channel feature: Find this parameter in MIDI mode on the RECV page, change it from None to a channel of your choice, and set your controller to send on only that channel. Now, any notes or MIDI controller data that come in on that channel will be re-mapped according to the display channel (in program mode) and according to the setup (in Setup mode).

To take advantage of Version 2's eight zone setup capability, there are 51 new setups in the Version 2 Contemporary ROM Objects. You will find unique internal program combinations, arpeggiator examples, and special ribbon and controller functions. With as many as 24 assignable controllers shared among 8 independent zones, K2500 MIDI setups can be quite powerful, and they require some experimentation to find all their features and nuances. In order to make this process easier, many setups are programmed according to the certain conventions. The sliders generally provide mixing capabilities either as group faders or individual zone faders. They also provide control over timbre, effects mix, and clock tempo. Other conventions include:

Controller	Default
Slider G:	Wet/Dry mix
Slider H:	Tempo
PSw 1:	Arp on/off
Psw 2:	Latch2
Footswitch 1:	Sustain
Footswitch 2:	Sostenuto
Footswitch 3:	Soft Pedal
Large Ribbon:	Pitch
Small Ribbon Press:	Mono Pressure
Small Ribbon Lin:	Pitch
Mod Wheel:	Mod Wheel
MPress:	MPress

Here are the Setups provided in the Contemporary ROM:

800	**HyperGroov<-C4->**	Sliders A-D: group faders; PSw1: mute group
801	**PianoPad w/Percs**	Sliders A-C: group faders; FootSw: 1 arp latch, FootSw 2: latch2; Lg Rib: pan (perc & bells); PSw1: arp sw & mute group
802	**Slo Held Arper**	Sliders A-D: zone faders, Slider F: key vel (zone 4); Lg Rib: mark tree
803	**Don'tGetFooled**	Sliders A-B: group faders, Slider C: alternate left hand, Slider D: left hand release ctl; PSw1: RH organ select
804	**Touch Game**	Sliders A-B: group faders, Slider C: timbre (bass); PSw1: arp latch; right hand hard strikes trigger horns; left hand hard strikes enable clav
805	**BeatBoy E1**	Sliders A-C: group faders; PSw1: arp latch; Press: filter sweep (zone 6)

806	**ZawiClav Split**	Sliders A-C: group faders; PSw1: group toggle (lead)
807	**Dyn Piano Pad**	Sliders A-B: group faders
808	**Pulsar Stack**	Sliders A-B: group faders, Slider C: pulsar filter ctl, Slider D: pulsar impact, Slider E: pulsar rel ctl; Lg Rib: pulsar filter ctl; PSw 1: pulsar switch, PSw2: bass mute
809	**Mt Chicorora C2**	Sliders A-B: group faders; L g Rib sec 1: pitch (perc), sec 2: pitch (lead), sec 3: filter freq (hybrid horn); PSw1: arp latch, PSw2: latch2 & sost pedal (guitar)
810	**Hold Low 3sec Rb**	Sliders A-E: group faders, Slider F: timbre (bass); Lg Rib sec 1: arp vel, sec 2: pitch (lead), sec 3: resonance (bass); Sm Rib Press: cym sustain; ModWhl: resonance (bass); PSw1: arp latch
811	**Mettlorfus Pad**	Sliders A-B: group faders; PSw1: arp latch
812	**Black Keys xtra**	Sliders A-C: zone faders; ModWhl: release (snare) & chirp enable (zone 1)
813	**Jungle Jammer**	Sliders A-B: zone faders; FootSw1: arp latch; FootSw2: latch2
814	**Huge Rock Band**	Sliders A-C: zone faders; PSw1: guitar solo; Press: pitch up (guitar solo)
815	**Rock Ballad**	Sliders A-D: group faders
816	**Jazz Setup**	Sliders A -B: group faders (band); FootSw2: harmon sect mute; PSw2: piano solo
817	**Two Touchers**	Sliders A-D: zone faders
818	**Frontier prs**	Sliders A-C: zone faders; Press: mark tree
819	**Eclectric Grand**	Sliders A-C: zone faders
820	**Bad Trip FtSw/MW**	Sliders A-D: zone faders, SliderE: decay ctl, Slider F: key vel (mod wh bells); ModWhl: key num for bells; Lg Rib & FootSw1: vox trip; PSw2: panic (vox trip)
821	**WhirliToys**	Sliders A-C: group faders; FootSw1: arp latch; FootSw2: latch2
822	**PluckSynths Perc**	Sliders A-C: group faders; PSw2: mute group
823	**SusPed RhythmJam**	Sliders A-D: zone faders
824	**Ballad Piano Pad**	Sliders A-B: zone faders; ModWhl: bells fade
825	**Big AnaLoveVibe**	Sliders A-C: zone faders; ModWhl: port time
826	**Shock Breaks**	Slider A: fader
827	**Four Pluckers**	Sliders A-C: group faders; PSw2: zone mute
828	**WaterPiano Pad**	Sliders A-C: zone faders, Slider D: env ctl (pad); Lg Rib: pan (mbira)
829	**Padded Room**	Sliders A-E: zone faders; Lg Rib: filter sweep (pad)
830	**AtmosPolySphere**	Sliders A-E: zone faders; Lg Rib: filter sweep
831	**Breath Pad**	Sliders A-C: zone faders; PSw2: mute group

832	**Trippy Jam**	Sliders A-B: group faders, Slider F: arp vel; ModWhl: right hand flute bal
833	**MeditationGuits**	Sliders A-C: zone faders, Slider D: steel str timbre; Lg Rib: pan; Press: detune
834	**Cool Down Funk**	Sliders A-E: zone faders; PSw2: mute group; ModWhl: clav mod
835	**Tek`Groov C5->**	Sliders A-E: group faders; PSw1: arp latch; Lg Rib sec 1: aux bend (perc), sec 2: adds vocals, sec 3: bass slide
836	**Big Fat Split**	Sliders A-B: group faders, Slider C: timbre (bass)
837	**The Pump C2**	Sliders A-C: group faders; PSw1: chord select, PSw2: arp latch
838	**Ana Basses**	Sliders A-D: zone faders
839	**Multi Followers**	Sliders A-B: group faders; Lg Rib: filter sweep (pad); PSw1 & 2: zone mutes
840	**Plucksynths**	Sliders A-C: zone faders; PSw2: zone mute
841	**10 Leagues Under**	Sliders A-D: zone faders, Slider E: mandala timbre; Lg Rib: filter sweep; PSw1 & 2: mute group; ModWhl: filter sweep
842	**Gremlin Arps**	Sliders A-E: zone faders, Slider F: gremlin key vel (ribbon); PSw2: gremlin panic; Lg Rib: gremlins; FootSw1: arp latch, FootSw2: latch2
843	**Broken Toys**	Sliders A-B: zone faders; FootSw1: toy detune
844	**Two Synth**	Sliders A-B: zone faders, Slider F: arp vel
845	**Machine Shop**	Sliders A-B: group faders; FootSw1: arp latch; PSw2: mute group
846	**Farawaway Place**	Sliders A-C: zone faders, Slider D: sweep ctl; PSw2: pulsar enable
847	**BehindEnemyLines**	Sliders A-E: zone faders; ModWhl: angry static
848	**Tunnel Visionprs**	Sliders A-C: zone faders, Slider D: env cntrl (pad); Press: trippy enable
849	**Siesmic Trance**	Sliders A-C: group faders; PSw1: arp latch; FootSw1: arp latch
850	**Medal**	Sliders A-D: zone faders; Lg Rib: filter sweep

About the Control Setup

The default Control Setup (97 Control Setup) has been updated. Sliders B-H are now assigned to MIDI controller numbers 22-28. CC pedal 1 is now assigned to MIDI controller 4. These default settings will make it easier to assign control sources from within the Program editor.