

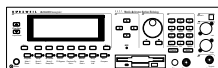
Chapter 2 Startup

If hooking up new gear is familiar to you, and you just want to get going, here's a quick description of all the basic things you need to cover to get started with your K2500. The procedure is pretty much the same whether you have a rack or a keyboard model. If you need more information, thorough descriptions of each step follow. In either case, check out "Playing the Presets," later in this chapter.

Basic Startup Checklist:

- Install the supplied batteries (if they are packaged separately). See "Battery Installation" on page 2-2.
- Mount your K2500R securely in a standard 19-inch MIDI rack, or set it on a hard flat surface. Keyboard models should either be placed on a sturdy keyboard stand or table. In either case, make sure to leave plenty of room for ventilation.
- Connect the power cable.
- Make sure your sound system is at a safe volume level.
- Plug in a pair of stereo headphones or run standard (1/4-inch) audio cables from your amplifier or mixer to the MIX audio outputs on the K2500 (Use the MIX L out for mono). It's good practice to make the cable connection to the K2500 (or any instrument) last, since this will reduce the chance of creating static electricity that can cause an audible "pop" (and, in extreme cases, cause equipment damage).

K2500R Only



- **IMPORTANT:** If you will be transporting the rack containing the K2500R, you must support the back of the unit. It's fairly heavy, and you don't want your K2500R to get damaged when you move the rack around.
- Most likely, you will connect a MIDI controller to your K2500R. Connect a MIDI cable from the MIDI Out port of your MIDI controller to the MIDI In port of the K2500R.
- If your MIDI controller can transmit on more than one MIDI channel, check out Setup mode by pressing the Setup mode button. Then use the Alpha Wheel to select tri-zone setups with independent programs, MIDI channels and controller assignments in each zone.

Start Jamming!

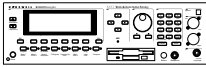
- Power up your K2500 and begin making some music.
- If you hear distortion, reduce the gain on your mixing board, or use the pad if it has one.
- Scroll through the Program list with the Alpha Wheel (the large knob to the right of the display).
- Press the Quick Access mode button and use the numeric keys to select from programmable banks of ten programs or setups.
- If you don't hear anything, review these steps, or check the Troubleshooting section in the *Reference Guide*.

Startup—the Details

This section will walk you through the hookup of your K2500. We'll take a look at the rear panel, then describe the power, audio, and other cable connections.

Before You Start...

Don't connect anything until you make sure your K2500 is properly and safely situated. Also, if your K2500 has been out in the cold, give the unit a little time to warm up to room temperature before starting it, since condensation may have formed inside the K2500.



You'll probably be mounting a K2500R in a standard 19-inch MIDI rack (it takes up three rack spaces). If you will be transporting the rack containing the K2500R, be sure to support the back of the K2500R within the rack. If you're not installing the K2500R in a rack, it should rest on a hard flat surface. In this case, it *must* rest on its rubber feet (supplied in the packing carton), and **NOT** on the bottom panel.

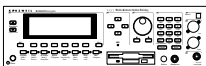
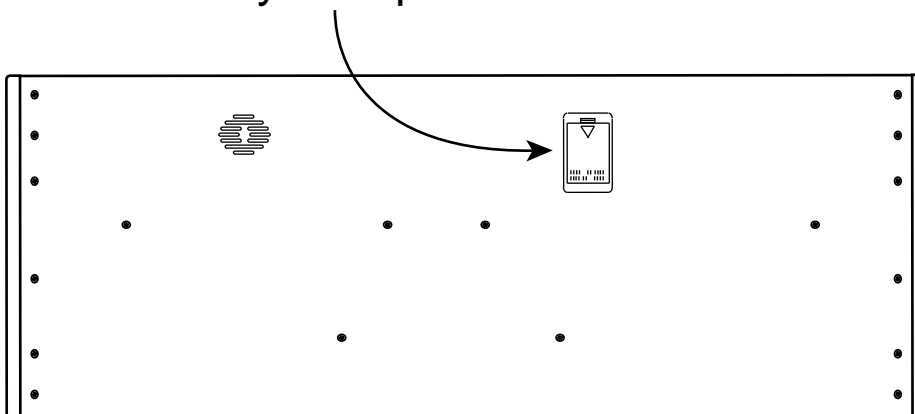
NEVER block the ventilation openings on the bottom or rear panels; doing so can cause overheating and serious damage. To provide adequate ventilation, the rear panel should be at least four inches from any vertical surface. **There are no user-serviceable parts in the K2500.** Under no circumstances should you attempt to remove any panels (except for battery installation or replacement). If you attempt to open your K2500, you'll risk electric shock, and you'll void your product warranty.

Battery Installation

We've included three AA batteries for your K2500's battery-backed RAM. Depending on when your K2500 was shipped, we may not have installed the batteries at the factory because they would drain during shipping. If you've found three batteries shipped in the box with your unit, you should install the batteries before you start up your K2500. Otherwise, continue on to the next section.

Locate the battery compartment in the lower right-hand corner of the rear panel of the K2500R (refer the illustration on the following page) or the small door on the bottom of the K2500 keyboard models, as shown below.

Battery Compartment



Remove the battery compartment cover by inserting a flat-head screwdriver or coin into its slot, then turning it counterclockwise until it pops out. Slide the three batteries, all positive side out, into the compartment. Install the battery compartment cover by lining up the tabs, pushing the cap inward, then turning it 90°.

When you start up your unit for the first time after installing the batteries, it will take a few minutes to initialize all of its memory. This will not happen on every power up.

Connecting the Power Cable (Line Cord)

The K2500 runs on 100-, 120-, 220-, or 240-Volt AC power at 50–60 Hz. Your dealer will set the voltage switch to match the voltage in your area. The voltage level is set with a selector on the rear panel of the keyboard models of the K2500. On the K2500R, however, the voltage setting can only be changed by an authorized Kurzweil service center.

When you've connected the cable at the K2500 end, plug it into a grounded outlet. If your power source does not have the standard three-hole outlet, you should take the time to install a proper grounding system. This will assure you of avoiding problems with audio hum, and will reduce the risk of a shock hazard.



Connecting the Audio Cables

Did you turn down the level on your PA yet?!

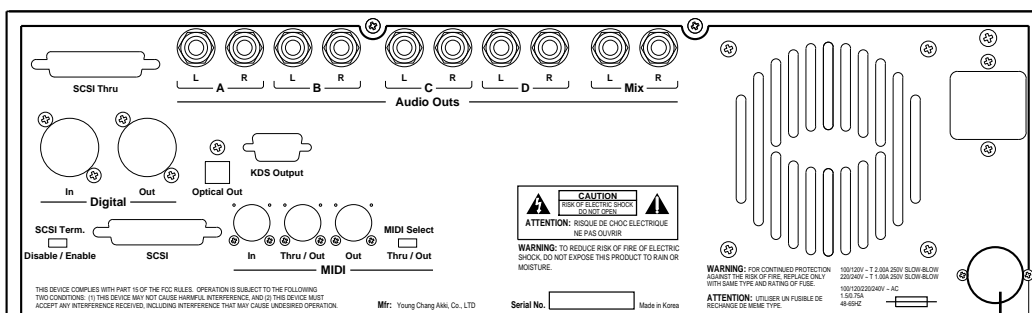
After you've turned down the level on your sound system, you can rig the K2500's audio connections using a pair of mono audio cables. You'll find ten 1/4-inch jacks near the top of the rear panel. For now, connect one end of each audio cable to your mixing board or PA system inputs, and connect the other end to the jacks marked MIX L and R on the rear panel of the K2500. If you have only one input available, use the K2500's MIX L output to get the full signal in mono.

It's always a good idea to make the cable connection to the K2500 (or any instrument) after you've made your other audio connections, since this will reduce the chance of creating static electricity that can cause an audible "pop" (and, in extreme cases, cause equipment damage). Turn to Chapter 18 for more detailed information about the K2500's audio configuration.

Connecting MIDI

The simplest MIDI configuration uses a single MIDI cable, from the MIDI Out port of your MIDI controller to the MIDI In port of the K2500. There are all sorts of possible configurations, including additional synths, personal computers, MIDI effects processors, and MIDI patch bays. Depending on your system, you may want to use the K2500's MIDI Thru port to pass MIDI information from your MIDI controller to the K2500 and on to the next device in your system. You can also connect MIDI devices to the K2500's MIDI Out port, which can send channelized MIDI information from your MIDI controller. See the discussion of the Local Keyboard Channel parameter in Chapter 10.

NOTE: You can perform a quick check of the K2500R and your audio system without a MIDI controller connected to the K2500R. Hold down the CANCEL button on the alphanumeric pad and press any other alphanumeric button, and you should hear notes. See "The Panel Play Feature" in Chapter 3 for more information about this feature.



Battery Compartment

Connecting SCSI

You may not have a hard disk or other SCSI device to connect to your K2500 right away, but if you do, you can connect it to either of the SCSI ports. Please read the following information carefully; it's very important. Also, there's a collection of SCSI tips in Chapter 10 of the *Reference Guide*.



CAUTION: *If you plan to connect more than one SCSI device to the K2500 (including an Apple Macintosh®), you must terminate your SCSI chain properly. Turn to Chapter 13 and read the section called "SCSI Termination." You can lose data, and possibly damage your K2500 and SCSI devices if they're not terminated properly.*

Switching On the Power

The power switch is located at the lower left of the front panel. When you power up, the display will briefly say "Welcome to the K2500!" The Program Mode display will then appear. It looks like the diagram below (the programs shown in the diagram don't necessarily exist):

```

ProgramMode   XPose:091   <>Channel:1
-----
KeyMap Info   198 James Jams
Grand Piano   199 Default Program
              1 Righteous Piano
              2 Mondo Bass
              3 Killer Drums
              4 Weeping Guitar
Octav- Octav+ Panic Sample Chan- Chan+

```

Set the volume at a comfortable level. You'll get the best signal-to-noise ratio if you keep the K2500 at full volume (turn the volume knob fully clockwise), and adjust the level from your mixing board. You may also want to adjust the display contrast. This is done with the Contrast parameter in Master mode. See Chapter 11. As you trigger notes from your MIDI controller, you'll see the MIDI LED flash. If it doesn't flash, check your MIDI cables and connections.

Playing the Presets

There are three things you'll want to check out right away: programs, setups and Quick Access banks. In performance situations, you'll be selecting your sounds using one of these three methods.

Programs

The K2500 powers up in Program mode, where you can select and play programs stored in *ROM* or *RAM*. Programs are preset sounds composed of one to three layers of samples or waveforms—they're called patches, voices, and presets on other instruments. If you've left Program mode, just press the Program mode button to return.

Take a minute to familiarize yourself with the Program mode display. It gives you some helpful basic information, like the MIDI transposition, what MIDI channel you're on, and which program is currently selected. The box at the left of the display tells you which keymap is used by each layer of the current program (a keymap is a collection of samples). The line under each keymap name gives a rough indication of the keyboard range of the layer. In the figure below, the Grand Piano keymap covers the full range from C 0 to C 8. You can change MIDI channels with the Chan- and Chan+ buttons under the display. You can transpose by octaves by pressing the Octav buttons under the display (if the LocalKbdCh parameter on the RECV page in MIDI mode matches the transmitting channel of your MIDI controller—see Chapter 10). The bottom line of the display identifies the function of each of the buttons beneath the display.

```

ProgramMode      XPose:051  <>Channel:1
199 Default Program
KeyMap Info      200*Crystal Horn
  Grand Piano    1 Righteous Piano
                2 Mondo Bass
                3 Killer Drums
                4 Weeping Guitar
Octav- Octav+ Panic Sample Chan- Chant

```

When you want to change programs, you have several options. The K2500 has six different settings for responding to MIDI program change commands. These are explained in Chapter 10, so we won't go into them here. You should be able to change programs by sending program change commands from your MIDI controller. Of course, you can always change programs from the K2500's front panel using the Alpha Wheel. Turning it left or right will scroll through the program list. You can also change programs using the cursor buttons, or the Plus/Minus buttons under the Alpha Wheel. You can also use the CHAN/BANK buttons or the cursor buttons while in Program mode.

Be sure to try whatever performance controls your MIDI controller has: the Pitch Wheel, Mod Wheel, and switch or control pedals—different programs respond to them in different ways. Attack velocity and aftertouch also have varying effects. Check the tear-out sheets at the back of this manual for lists of factory programs and setups. There's also a list of programs in the *Reference Guide*, describing how each program responds to specific MIDI control messages.

If you don't hear anything, see the troubleshooting section in the *Reference Guide*.

Setups

Setups are preset combinations of programs. Starting with V2 software, setups can have up to eight zones, each of which can be assigned to any range of the keyboard (overlapping or split). Each zone can have its own program, MIDI channel, and MIDI control assignments. You can make use of setups even if your MIDI controller can transmit on only one MIDI channel at a time. See the *parameter* called Local Keyboard Channel in Chapter 10.

Press the Setup mode button to the left of the display. Its LED will light, telling you that you're in Setup mode. Notice that the Setup mode display is similar to the Program mode display. If the setup has three or fewer zones, the box at the left shows you the programs assigned to each of the setup's three zones, and which MIDI channel is used for each program. If the setup is composed of more than three zones, then the box displays a series of horizontal lines illustrating the approximate key ranges of the zones.

```

SetupMode      XPose:051
Chan/Program Info 201*Friday Gig
1   9 Cool Traps  1 Jazz Trio
2  18 Sly Acoust  2 All Percussion
3  22*Izitt Jimmy 3 Heavy Metal
Octav- Octav+ Panic Sample

```

Quick Access

A really convenient way to select programs and setups is to use Quick Access mode, where you select a Quick Access *bank* from a list of factory preset or user-programmed banks. Each bank contains ten memory slots, or entries, where you can store any combination of programs or setups. While you're in Quick Access mode, any program or setup can be selected with the numeric buttons 0 through 9.

The K2500 comes with a few Quick Access banks already programmed so you can get an idea of how they work. You'll probably create your own Quick Access banks to help you select programs and setups with a minimum of searching. Press the Quick Access mode button to the left of the display. Its LED lights, to tell you you're in Quick Access mode. You'll see a display that looks like this:

```
QuickAccessMode  <>Bank:1 For Show 1
Silk Rhodes     POLY TOUCH      Voice+String
NastyTrombone  SINK MONSTA       Waterflute
Soon           Jazz Trio 2       Fretless Bas
                VELVETEEN

Xpose:0ST      SINK MONSTA          Chan:1
Octav- Octav+ Panic Sample Chan-  Chant+
```

The top line of the display tells you which Quick Access bank is selected. Use the CHAN/BANK buttons (to the left of the display) to scroll through the banks. The names of each of the ten entries in the bank are listed in the center of the display. Many of their names will be abbreviated. The currently selected entry's full name is shown near the bottom of the display. The amount of transposition is displayed to the left of the entry name. If the current entry is a program, you'll see the current keyboard (MIDI) channel displayed to the right of the entry's name. If it's a setup, you'll see the word "Setup."

The entries on the Quick Access page are arranged to correspond to the layout of the numeric buttons on the alphanumeric pad. On the page above, for example, the program "SINK MONSTA" is entry 5, and can be selected by pressing 5 on the alphanumeric pad.

The Panic button (the button below the word "Panic" in the bottom line of the display) will send an All Notes Off and an All Controllers Off message to the K2500, and over all 16 MIDI channels. Press the View button to show the currently selected bank entry in large type. Press it again to return to the normal view.

When you're ready to create your own Quick Access banks, turn to Chapter 8 to learn about the Quick Access Editor.

Performance Controls

From your MIDI controller

The K2500 responds to attack velocity and release velocity, as well as mono and poly pressure (aftertouch) messages. It will also respond to most standard MIDI control parameters; see "MIDI and Setup Control Parameters" below.

Volume knob

The Volume knob controls the volume at the MIX (stereo) audio outputs and at the headphone jack. The individual outputs and MIDI volume are not affected by this knob.

MIDI and Setup Control Parameters

The K2500 responds to most standard MIDI control messages, including Pitch Wheel, Mod Wheel, switch pedals, control pedals, and control sliders. The K2500's response to these controls is set on the XMIT (Transmit) page in MIDI mode, and works in conjunction with the Local Keyboard Channel parameter on the RECV (Receive) page in MIDI mode. This is described fully in Chapter 10. For now, you'll probably find that the K2500 responds predictably to most of these controls. If you want to change its response, turn to Chapter 10 and read the section covering the Local Keyboard Channel parameter.

You can also use the K2500 to relay control messages from your MIDI controller to other MIDI devices connected to the K2500's MIDI Out port. This is also controlled by the Local Keyboard Channel parameter (MIDI RECV page) in combination with the settings for the control parameters on the MIDI XMIT (transmit) page or the Setup mode page.

K2500 Boot Loader

The Boot Loader lets you install a new K2500 operating system and /or new K2500 ROM objects, from a SCSI device or the floppy drive into flash ROM. The Boot Loader also provides hard reset and diagnostics options.



Note: Your K2500 comes from the factory with the operating system and ROM objects already installed. You do not need to run the K2500 Boot Loader to start up a new K2500.

Starting the Boot Loader

When you start the K2500, it displays a "Please wait..." message and waits for approximately 2 seconds. Press and release the **Exit** key while the "Please wait..." message is displayed to start the boot loader. Otherwise, the K2500 will start up normally.

The Boot Loader's Menus resemble K2500 dialog boxes. That is, they consist of a series of labels and a highlight bar that is used to select one of the labels. You can use the arrow keys to move the highlight bar up, down, right, and left. Press the **OK** soft button to invoke the highlighted menu option. Additionally, the data wheel and **Enter** key may be used to move the highlight bar and invoke the selected action.

Boot-loader Main Menu

When the boot loader is first invoked, its main menu is displayed, as shown below.

```

----- K2500 Boot Loader v1.01 -----
      Install System      Hard Reset
      Install Objects     Run Diags
      Run System          Fixed Diags
                               [OK]

```

Initially, the "Install System" option is highlighted. After invoking various actions, however, other options may be selected by default, as the context suggests, upon returning to this menu.

Install System / Install Objects

Use "Install System" to install the K2500 operating system and diagnostics by loading them from a floppy or from a SCSI device and programming them into Flash ROM. Use "Install Objects" to install ROM objects into Flash ROM. After either option is invoked, a dialog box such as the following will be displayed.

```

Device to install from:  floppy
      SCSI ID of this unit:  N/A
                               [Cancel] [OK]

```

From this dialog box, you can select which device contains the system or ROM-objects file. This is done using the alpha wheel, the + and - keys, and the cursor control keys in the same way that the K2500 engine software does. If you choose to install from a SCSI device, the SCSI ID of this unit will change from "N/A" to "SCSI 6." If there is another device on your SCSI bus with

an ID of 6, you will need to change the SCSI ID of this unit to a free SCSI ID. At this point you can continue by hitting the **OK** soft-button or abort the operation by pressing the one labeled **Cancel**. Canceling the operation will return you to the Boot Loader menu, and the "Run System" option will be highlighted.

When you press **OK**, the K2500 will try to access the drive in question and scan it for files. If it is successful, a screen such as the following will then appear:

```

                                FILE1.KOS
                                DIR1   <DIR>
                                FILE1.K25
File to Install:  FILE1.KRZ
                                VLABEL  <VOL>

NewDrv Root Parent Cancel OK

```

While this screen is displayed, you can use the up and down cursor keys, the alpha wheel, or the + and - keys to highlight different items in the file list. Names that have "<DIR>" displayed to their right are sub-directories. If the disk has a volume label, it will be displayed in the list, marked with "<VOL>." Operating system files typically have a ".KOS" extension, while ROM object files have a ".KRZ" extension. The **OK** soft-button selects the highlighted file for loading, or changes to the highlighted directory. The **Cancel** button aborts the installation and returns to the menu. **Parent** changes to the current directory's parent directory, while **Root** changes to the disk's root directory. The **NewDrv** button returns to the previous screen, allowing you to choose a different drive from which to install.

After you select a file by pressing the **OK** button, you will be asked to confirm the installation. The K2500 will display a message of the form "Ready to install operating system from *filename* on *device*" or "Ready to install ROM objects from *filename* on *device*." When it displays this message, it will fill in *filename* and *device* with the name of the file and device you have selected. To confirm that you want to proceed, press the **OK** soft-button. If you do so, you will not be able to interrupt the installation. Alternatively, the **Cancel** button will return you to the menu, or the **Choose** button will allow you to select a different device or file from which to install.

While the K2500 is installing the file into Flash ROM, the top line of the display will gradually fill to indicate the progress of the operation. Note that operating system files and ROM object files are of different formats. If you try to install a file using the incorrect menu option, the K2500 will think the file is corrupt and will refuse to install it into Flash ROM. If this happens, simply choose the correct menu option from the Boot Loader's main menu, and repeat the installation.

If there is a problem accessing the drive or installing the file, an error message will be displayed. At this point, you can (1) abort the operation with the **Abort** soft button and return to the menu, (2) press the **Retry** button to try the operation again, or (3) choose another device or file by pressing the **Choose** button.

Run System

The "Run System" option executes the engine software. When this option is invoked, the operating system and ROM setups are checked for integrity. If either does not appear to be installed, a message will be displayed explaining this. If this happens, you can (1) double press the **Run Anyhow** soft buttons and be given a chance to try to run the system anyhow, knowing that the machine might crash, (2) install the uninstalled portion with the **Instal** button, or (3) return to the menu by using the **Menu** button. If you do the latter, the menu will be displayed with the "Load System" or "Load Setups" option highlighted as appropriate.

Hard Reset

The "Hard Reset" option causes all user RAM to be erased. When you select this option, a strict warning message is displayed. You must press the up and down cursor keys simultaneously to actually erase the RAM. If you push any other button or turn the data wheel, the operation is aborted, and the menu is displayed with the "Run System" option highlighted. Otherwise, the RAM will be marked for re-initialization, and a message declaring this fact will appear prior to return to the menu. When the menu reappears, it will have the "Run System" option highlighted.

Run Diags

The "Run Diags" option executes the diagnostics that are loaded with the system. When you choose "Run Diags", the K2500 checks its operating system for integrity. If it does not appear to be installed, a message will be displayed explaining this. If this happens, you can (1) double press the **Run Anyhow** soft buttons and be given a chance to try to run the diagnostics anyhow, knowing that the machine might crash, (2) install the operating system with the **Instal** button, or (3) return to the menu by using the **Menu** button. If you do the latter, the menu will be displayed with the "Load System" or "Load Setups" option highlighted as appropriate. Some diagnostic tests erase the non-volatile user RAM, and you will be warned of this fact before continuing.

Restart your K2500 to leave the diagnostics and return to regular operation.

Fixed Diags

The "Fixed Diags" option executes the diagnostics that are contained in the boot block. Some diagnostic tests erase the non-volatile user RAM, and you will be warned of this fact before continuing.

Restart your K2500 to leave the diagnostics and return to regular operation.

Software Upgrades

Part of the beauty of the K2500 is the ease with which you can upgrade its operating system and objects (programs, setup, etc.) using the boot loader. Kurzweil and Young Chang have a long history of support for our instruments; the K250, K1000, and K2000 were continuously being improved, and these improvements were always made available to instrument owners in the form of software upgrades. Upgrades to these instruments, however, usually required replacing ROM chips, which had to be done at a service center. Even though this was usually inexpensive, it did involve some costs.

Upgrading your K2500's software is simple, painless, and – generally – free! As upgraded software becomes available, you can either get new disks from your Young Chang dealer or download the new stuff from a network bulletin board. For example, V2 software, released concurrently with the K2500 keyboards, offers a greatly enhanced Setup mode – valuable for racks as well as keyboards.

To stay in touch, check out our World Wide Web site:

<http://www.youngchang.com/kurzweil/>