

KURZWEIL

MUSICIAN'S GUIDE

Ensemble Grande Piano *EG20*

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FCC VERIFICATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Relocate the EG 20 with respect to the receiver.
- Move the EG 20 away from the receiver.
- Plug the EG 20 into a different outlet so that the EG 20 and receiver are on different branch circuits.

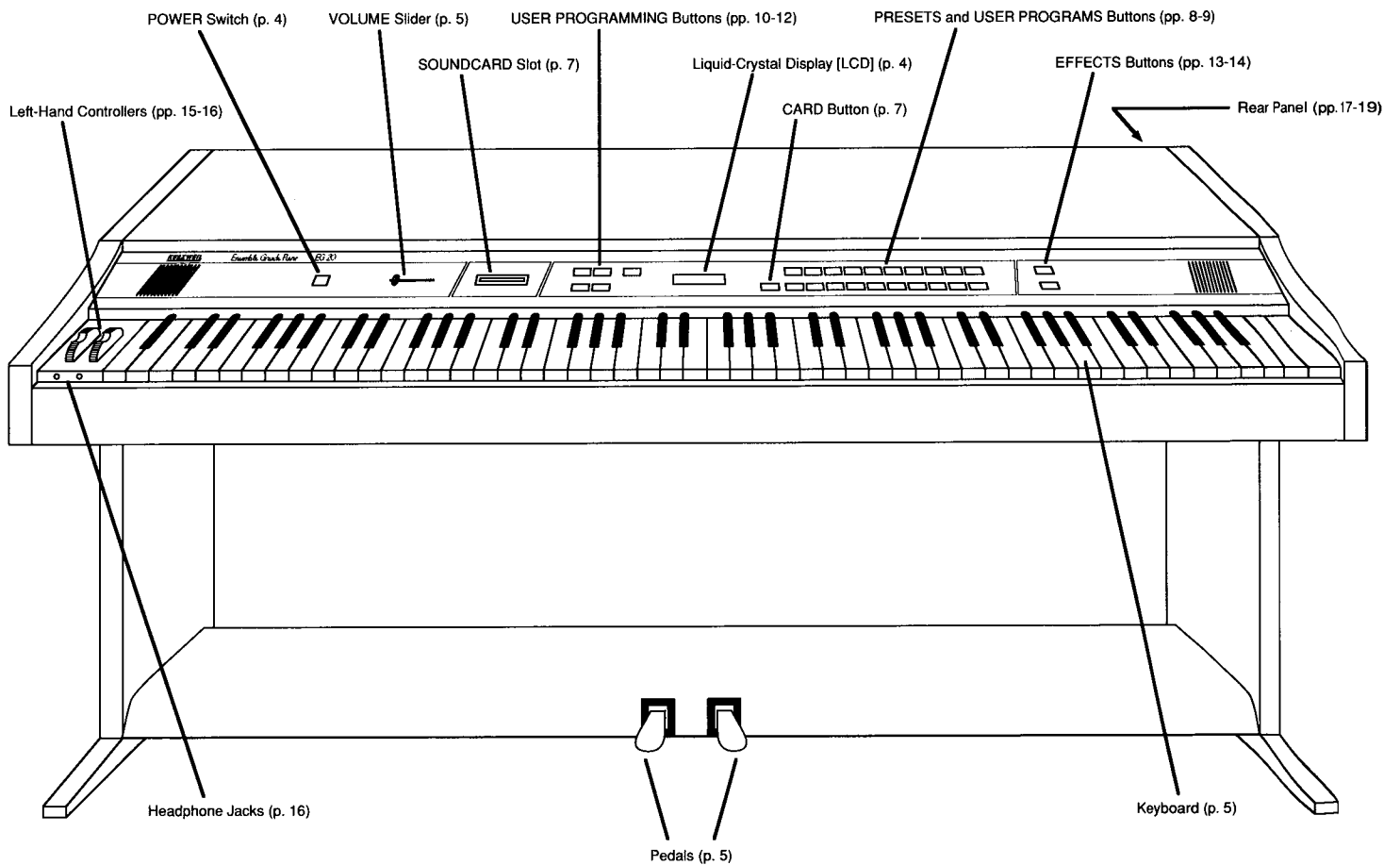
If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

**Kurzweil Music Systems
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ABOUT THE EG 20

THE KURZWEIL ENSEMBLE GRANDE PIANO EG 20



INTRODUCTION

Welcome to the world of the Kurzweil Ensemble Grande Piano EG 20!

The EG 20 represents a simple, affordable way to bring the quality of Kurzweil sound technology to your home. In these pages we'll guide you through the use of your EG 20. In just a short time you'll be enjoying a level of musical realism you may not have thought possible from electronic musical instruments.

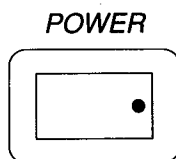
The EG 20 is specifically designed to create authentic simulations of musical instrument sounds. This is accomplished through an exclusive Kurzweil process called "Contoured Sound Modeling." We take electronic "pictures"—tens of thousands per second—of real acoustic instrument sounds, and store them in computer memory. The EG 20 reproduces every detail of the original sounds, including the way they change over time. You'll even hear differences in tone as you play from bass to treble and from soft to loud. Our Contoured Sound Modeling process is a unique feature that provides expressive, realistic sound using a minimum of computer memory.

The instrument is multitimbral, meaning that you can play different sounds at the same time. Up to 12 notes can be played at one time, with unsurpassed fidelity.

POWER

The Kurzweil EG 20 operates on 100-120 Volts AC. A power cord is included with the instrument to connect it to an AC outlet. If your power supply is higher than 120 Volts, you must use a transformer to reduce the voltage of the power supply. Attempting to operate the EG 20 at greater than 120 Volts will damage the instrument.

Before connecting the power cord, make sure the POWER switch, found at the left end of the control panel, is OFF.



Connect the female end of the cord to the power connector on the back of the EG 20. Plug the male end into an AC outlet.

NOTE: To avoid possible injury or electrocution, do not remove any screws or panels. There are no user-serviceable parts inside your EG 20.

Once connected, you can turn the POWER switch ON. The following should appear in the liquid-crystal display (LCD):

I02 Stereo Grand

The instrument is now ready to play. If you don't see anything in the LCD, check to see that the POWER switch is actually ON; that the power cord is connected firmly to the instrument and to an AC outlet; and that the outlet itself is working. If, after making sure that these things are done, the instrument still doesn't function, call your Kurzweil dealer for assistance.

KEYBOARD AND PEDALS

The keyboard of the EG 20 consists of 88 weighted keys, with an action designed to simulate the feel of an acoustic piano. Just as with an acoustic piano, the harder you press the keys of the EG 20 (more precisely, the faster you press them), the louder and brighter the resulting sound is. In technical terms, this is called “velocity sensitivity.” It makes the EG 20 a truly expressive instrument.

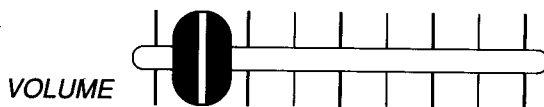
To complement the piano-like look and feel of the instrument, when you first turn the EG 20 on, the Stereo Grand sound (or “Program”) is automatically active and ready to play.

In addition to the expressiveness offered by the keyboard, there are two pedals that provide you with further control over the sounds of the EG 20. The default (preset) setting of the right pedal is as a sustain pedal, just like that on an acoustic piano. Pressing it down causes notes to sustain even when you lift your fingers from the keys. The use of this pedal will be covered in greater detail in the section of this book on PLAYING THE EG 20, in the discussion of playing the PIANO sound.

The default setting for the left pedal is as a *sostenuto* pedal. Again, this functions exactly like the *sostenuto* pedal on an acoustic piano: Keys that are already held down at the time this pedal is pressed will sustain, while any keys played once the pedal is depressed will not sustain.

The pedals can be assigned to functions other than the default settings. This is explained in the section on EDIT MODE, page 31.

VOLUME



The VOLUME slider controls the overall volume (loudness) of the instrument. Move it to the right to increase volume, and to the left to decrease volume; when moved all the way to the left, it silences the instrument.

VOLUME affects not only the volume produced by the internal sound system, but also the volume produced by equipment connected to the HEADPHONE or AUDIO OUT jacks (see pages 16 and 18).

The VOLUME slider does not affect volume information sent by the EG 20 over MIDI.

SOUNDS

As mentioned earlier, when you first turn on the EG 20, the LCD looks like this:

I02 Stereo Grand

This tells you that Internal sound number 2, Stereo Grand, is currently selected. Let's take a closer look at the sounds the instrument has to offer.

INTERNAL, SOUNDCARD™

There are two sources of sounds available to the EG 20: those that are built into its internal memory, and those available on SoundCards, which can be plugged into the instrument to supplement the internal sounds.

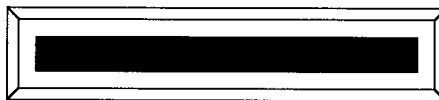
The easiest way to access all of the available sounds (both internal and SoundCard) is to scroll through them using the PROGRAM/SELECT buttons, found to the left of the LCD. Pressing the right button scrolls forward through the available sounds; pressing the left buttons scrolls backward. The list of sounds "wraps around" from end to end, so that when moving forward through the sounds, for example, after passing the last available sound you will start over with the first sound.

INTERNAL

The EG 20 provides 60 internal sounds, or Programs. Internal Programs are identified by the letter "I" in the LCD. They are grouped into four main categories: Piano (I01-I30), Electric Piano (I31-I40), Strings (I41-I51), and Bass, Split sounds, and Layered sounds (I52-I60).

I01 Grand Piano	I16 Bowed Piano	I31 Elec Piano 1	I46 Attack Strgs
I02 Stereo Grand	I17 Piano Lead	I32 Elec Piano 2	I47 Octave Strgs
I03 Bright Piano	I18 Super Sine	I33 Chorus E Pno	I48 Bright Strgs
I04 Hall Piano	I19 Octave Piano	I34 Fluid E Pno	I49 Mellow Strgs
I05 ExtDyn Piano	I20 Piano Organ	I35 Trem E Pno	I50 Flanged Strg
I06 Ragtime Pno	I21 Chorus Grand	I36 Grand & Elec	I51 Stereo Strgs
I07 Mellow Piano	I22 Gym Piano	I37 Digital Pno	I52 Orchestra
I08 Slapback Pno	I23 Studio Pno	I38 Flooty Piano	I53 Synth Horns
I09 Pluck Piano	I24 Prepared Pno	I39 Rock Piano	I54 Bass&Strings
I10 Funky Piano	I25 Tubular Keys	I40 Pan Piano	I55 Acous Bass
I11 Tack Piano	I26 Eastern Pno	I41 Fast Strings	I56 Synth Bass 1
I12 Sft Tack Pno	I27 New Age Pno1	I42 Medium Strgs	I57 Synth Bass 2
I13 Chamber Pno	I28 New Age Pno2	I43 Slow Strings	I58 A Bass/Piano
I14 Toy Piano	I29 Dynamic Grand	I44 Vel Strings	I59 A Bass/E Pno
I15 Elekto Pno	I30 Hard Piano	I45 Hall Strings	I60 SloStr & Pno

SOUNDCARD



When a SoundCard is inserted in the SOUNDCARD slot in the front panel of the EG 20, it gives you access to approximately 30 additional Programs. You can access these Programs either by scrolling with the PROGRAM/SELECT buttons or by using the lower row of 10 buttons to the right of the LCD (labeled USER PROGRAMS) when the LED (light-emitting diode) in the CARD button is lit.



SoundCard Programs are identified by the letter "A" in the LCD.

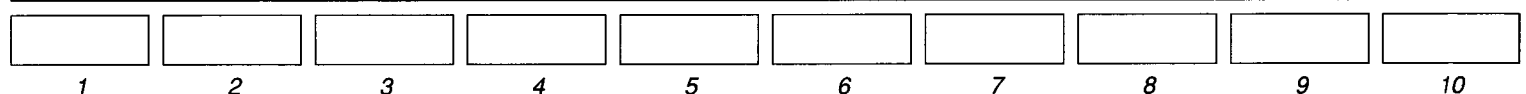
The growing library of SoundCards includes collections of Strings, Guitar, Choir & Harp, and Harpsichord & Celeste.

PRESETS, USER PROGRAMS

PRESETS



USER PROGRAMS



The sounds of the EG 20 are most easily selected with the two rows of 10 buttons to the right of the LCD.

PRESETS

The top row, labeled PRESETS, contains buttons to which certain Programs are permanently assigned. The names of the Internal presets appear below these buttons.

Each SoundCard also has a set of presets, which are selected by pressing the buttons in the *lowerrow* when the SoundCard is in the SOUND CARD slot and the CARD button is ON.

BASS/SPLIT

The last button in the top row, BASS/SPLIT, lets you create a “split keyboard”: you can play the Acoustic Bass with your left hand and another sound with your right. To use this feature:

- Activate the Program (internal or SoundCard) that you wish to occupy the right-hand part of the keyboard. This can be done by pressing one of the PRESETS or USER PROGRAMS buttons, or by scrolling with the two PROGRAM/SELECT buttons.
- Press and hold the BASS/SPLIT button. The LCD shows:

Strike a key...

- Press the key you wish to be the split point—the highest note that the Acoustic Bass will play. If you don't strike a key, C3 (an octave below Middle C) becomes the split point.
- Release the BASS/SPLIT button. The display shows:

I64 ABassXXXXXXXX

“XXXXXXXX” is the name (or an abbreviation of the name) of the sound that occupies the right-hand part of the keyboard.

This split Program is stored in user memory (RAM), and is retained until the next split or layer (see page 10) is created—even when the power is turned off.

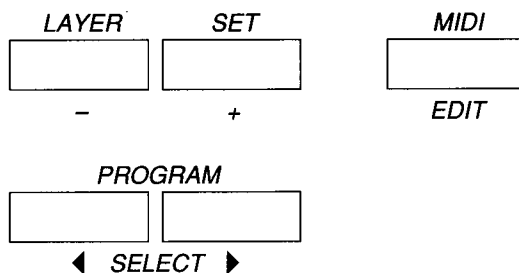
USER PROGRAMS

The bottom row of 10 buttons, labeled **USER PROGRAMS**, puts 10 additional Programs at your fingertips. But unlike the **PRESETS**, you can determine what Programs are assigned to these buttons. The procedure for doing so is described in the section on the **SET** button (page 11).

If a SoundCard is inserted into the **SOUNDCARD** slot, and if the **CARD** button is **ON**, a set of 10 Programs on the current SoundCard will be active instead of the internal Programs.

You can also use the two **PROGRAM/SELECT** buttons to scroll through the Programs one at a time.

USER PROGRAMMING



The buttons in the USER PROGRAMMING section of the panel give you additional control over the EG 20 in three different areas:

- LAYER: Layering sounds on top of one another, so that when you press a key it produces two or more sounds at once.
- SET: Setting the sounds assigned to the 10 USER PROGRAMS buttons.
- MIDI/EDIT: Customizing the way the EG 20 responds to your playing.

LAYER

The LAYER button allows you to place two sounds on top of one another. To use this function, do the following:

- Select a Program (internal or SoundCard) from among the Presets or User Programs, or by using the PROGRAM/SELECT buttons.
- Press the LAYER button. The LCD shows:

```
Select 2nd Prog
```

(If you change your mind, press the LAYER button again to exit this function.)

- Select the second Preset or User Program. The LCD shows:

```
I64 XXXXXXXXXXXXXXXX
```

“XXXXXXXXXXXX” represents the names (or abbreviated forms of the names) of the Programs that make up the layer.

Notice that the layered Program occupies the same position as the split Program—I64. Therefore, only one of these can exist at a time. Creating a new layered or split Program erases the previous contents of I64.

NOTE: Layered Programs reduce the number of keys you can play at one time, since each key produces at least two sounds. Note also that it is possible to create a layered Program, and then to create a split Program from that, by using the BASS/SPLIT button.

SET

The SET button allows you to assign internal and SoundCard Programs to the 10 USER PROGRAMS buttons. To use this feature, do the following:

- Press the PROGRAM/SELECT buttons to scroll through the available Programs. The right button scrolls to higher Program numbers, the left button scrolls to lower numbers. The list “wraps around” from end to beginning. (Pressing both buttons simultaneously scrolls through I01, 164 if a split or layered Program exists, A01 if a SoundCard is inserted, and “Channel Disabled.”)

As you scroll, the Program number and name appears in the LCD, and the Program can be played from the keyboard.

- Once you arrive at a Program you wish to assign to a USER PROGRAM button, press the SET button. The LCD shows:

Select 1 thru 10

- Then press the USER PROGRAM button (1-10) to which you wish to assign that sound.

The Program is now assigned to that button.

The EG 20 cannot assign Programs that you have split or layered. If you select one of these Programs, then press the SET button, the LCD will show:

Can't set I64

You should then select another Program.

There are two sets of user Programs—one for internal Programs and one for SoundCard Programs. You can switch back and forth between them by pressing the CARD button.

A SoundCard must be inserted and the CARD LED must be lit in order to alter the User Program settings for the SoundCard.

User Programs remain in RAM, even when the power is turned off.

MIDI/EDIT

Pressing the MIDI/EDIT button causes the EG 20 to enter Edit Mode. Pressing it again exits Edit Mode. In this mode you can set many functions involved with the operation of the instrument, including its use of MIDI.

For more information on MIDI, see pages 19-23.

HARD RESET

When you turn the power to the EG 20 off, many of the settings you make remain in memory—they are not lost. These settings, which include User Programs, any split or layered Program you may have created, and settings made in Edit Mode, are the same when you turn the instrument back on as they were when you last turned it off.

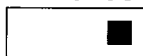
But there may be occasions when you wish to return the instrument to its default (factory-preset) settings. This is known as a “hard reset.” A hard reset will erase any Program stored in location I64, but will not affect any SoundCard that may be inserted in the instrument.

To perform a hard reset:

- Turn the POWER switch OFF,
- Hold down any one of the five buttons to the left of the LCD in the USER PROGRAMMING section, and while holding it down,
- Turn the POWER switch back ON.

EFFECTS

TRANSPOSE



REVERB



The two buttons in the EFFECTS section make your playing more versatile.

TRANSPOSE

TRANSPOSE allows you to play the keyboard in one key and have the notes sound in another. This is useful when accompanying singing, if the key of the written music is too high or too low for the voice, or when playing music written for a transposing instrument, such as the clarinet.

The TRANSPOSE button works similarly to the BASS/SPLIT button:

- Press and hold the TRANSPOSE button. The LCD shows:

Strike a key...

- The key you strike determines the amount of transposition. Strike a key, then release the button, and the keyboard will be transposed so that the pitch of the key you struck will now be triggered by Middle C (C4). The LED in the TRANSPOSE button will also be lit, to indicate that the keyboard is transposed. (The LED will not light if the key struck is Middle C, since in that case the keyboard is not transposed.)

For example, to transpose up from the key of C to the key of F, strike the F above Middle C while holding the TRANSPOSE button. To transpose from G to B^b (up a minor third), strike E^b above Middle C.

- If the button is pressed again, the transposition is cancelled (the keyboard is returned to normal pitch) and the LED is turned off. But the transposition setting is kept in memory.
- Now if the TRANSPOSE button is pressed again, the memorized transposition will be activated again and the LED will be lit.

You can transpose the pitch up or down as far as you wish, although pitches outside the normal range of the keyboard will generally not play.

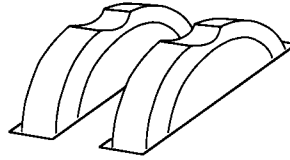
The TRANSPOSE setting affects both the pitch at which the EG 20 sounds and the note messages that the instrument transmits via MIDI.

REVERB

Reverb, or reverberation, is a lingering of sound that is characteristic of a large acoustical space. The REVERB button on your EG 20 duplicates this effect electronically, giving your music a more spacious ambience.

- Press the REVERB button to turn the effect ON. The LED will light, and the first letter of the Program shown in the LCD (“I” for internal Programs, “A” for SoundCard Programs) will be underlined.
- Press the button again to turn reverb OFF. The LED will go out, and the underline will disappear.

LEFT-HAND CONTROLLERS



To the left of the keyboard are two wheels that provide additional expressive control over your playing. Together they are known as left-hand controllers.

The left controller is the pitch bend wheel. The right one is the modulation wheel, or “mod wheel” for short.

The indentations in the wheels allow you to use your thumb or index finger to control them easily.

PITCH BEND WHEEL

The pitch bend wheel is used to bend the pitch of any notes being played. At rest, the wheel is centered—representing normal pitch.

The default setting for the pitch bend wheel causes it to raise the pitch when it is moved up (away from you), and lower the pitch when it is moved down (toward you). But this can be changed in Edit Mode (see page 27). The range (how far the pitch bends) can also be changed.

The wheel is spring-loaded, so when it is released it returns to its centered position.

Pitch bend is useful in duplicating the sounds of many non-keyboard instruments. Strings, for example, often “slide into” a note. To duplicate this effect on the EG 20:

- Move the pitch bend wheel down before playing the note.
- Play the note, and then immediately...
- Return the pitch bend wheel to center while holding the note.

The wheel can be released by simply letting go of it, or (for more control), by relaxing the tension of the hand somewhat and letting the spring pull it back to center.

Other techniques include bending a note as it is released, and a bend-and-return during a note.

MOD WHEEL

The mod wheel has a center detent, causing it to “click into place” at its centered position, although it is not spring-loaded. This wheel is actually two controllers in one: It provides one effect when moved up from center (away from you) and another when moved down from center (toward you). These effects differ for different Programs, but typically are:

- Up: vibrato—a wavering in pitch.
- Down: tremolo—a wavering in volume.

The farther the wheel is moved, the greater the intensity of the effect. Because the wheel is not spring-loaded, it can be set for a certain level of effect and left there.

The mod wheel also can be assigned to control different functions, internally and via MIDI. For an explanation of this, see pages 30-31.

When you turn the EG 20 on, the instrument performs an automatic self-calibration of the pitch bend wheel, mod wheel, and the two pedals: wherever a controller is set when the instrument is turned on, that position becomes the “normal” point for as long as the instrument remains on. If you notice any unexpected effects (e.g., vibrato or tremolo), try centering the wheels, releasing the pedals, and turning the EG 20 off and then back on.

HEADPHONE JACKS

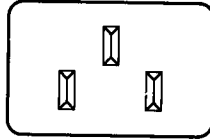


On the front of the EG 20, just below the left-hand controllers, are two headphone jacks. Each of these jacks can accept a standard 1/4" plug from a pair of stereo headphones. Plugging a set of headphones into the right jack will silence the EG 20's speakers. Plugging a set of headphones into the left jack will not alter the EG 20's sound.

REAR PANEL

The rear panel of the EG 20 features all of its connectors and a tuning adjustment knob.

AC POWER



AC POWER

The AC POWER connector accepts the female end of the power cord. The male end plugs into a standard AC outlet.

TUNE ADJUST



TUNE
ADJUST

The TUNE ADJUST control allows you to raise or lower the pitch of the EG 20 as much as half a semitone, in increments of a cent (one hundredth of a semitone). This is valuable when playing along with recordings, or with other instruments that cannot be tuned easily. Turning the knob clockwise raises the pitch; turning it counterclockwise lowers the pitch. In its center position, the knob tunes the instrument to normal “A-440” pitch. By the way, one of the many advantages of the EG 20 over an acoustic piano is that it never goes out of tune!

The TUNE ADJUST setting is reflected in the value of the Tune parameter in Edit Mode.

PEDALS



PEDALS

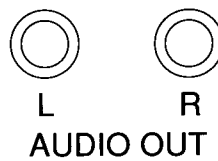
The PEDALS jack accepts the stereo plug from the base of the EG 20, providing the connection of the pedals to the instrument.

AUDIO IN



The AUDIO IN jacks allow you to connect a tape player, electronic musical instrument, or other line-level sound source to the instrument and play it through the built-in sound system.

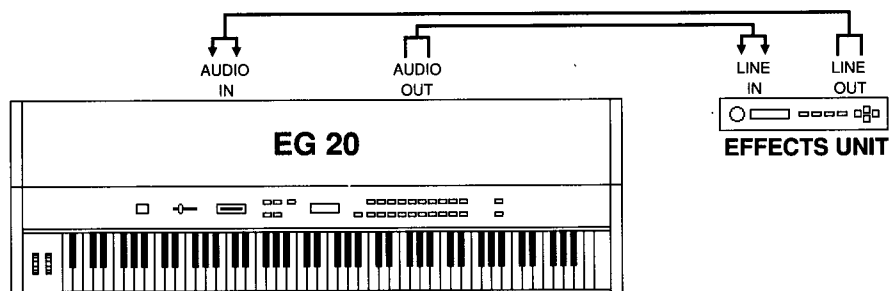
AUDIO OUT



The AUDIO OUT jacks allow you to connect the EG 20 to an external amplification system, a tape recorder, or another device that accepts a line-level sound source.

Signals connected to the AUDIO IN jacks are not passed along to the AUDIO OUT jacks; only the sound of the EG 20 itself is put out.

One application that combines the use of the AUDIO OUT and AUDIO IN jacks is to connect a delay unit or a digital signal processor to the EG 20. This allows you to add echo, delay, or other effects to the sound.

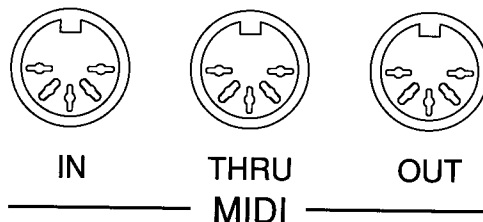


MIDI

MIDI stands for Musical Instrument Digital Interface. It is an international, standardized “language” that allows electronic musical instruments and other equipment to “communicate” with one another, using a simple cable connection. It ensures that your EG 20 will remain compatible with the instruments of today and tomorrow.

MIDI CONNECTIONS

On the rear panel of the EG 20 are three five-pin MIDI jacks, or “ports”: IN, THRU, and OUT.

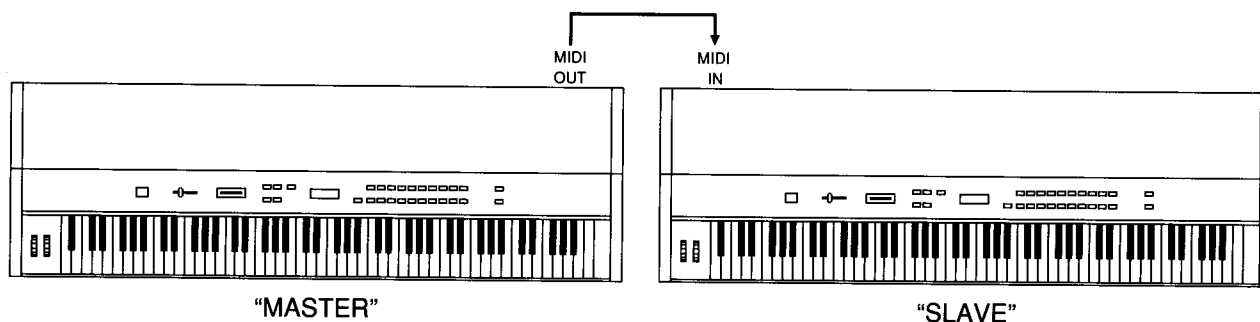


IN receives MIDI information from other equipment.

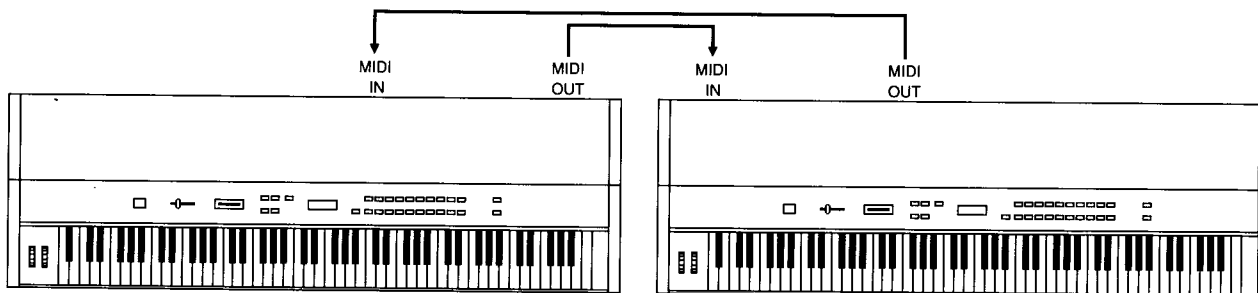
THRU provides a duplicate of information received by IN, to pass along to other equipment.

OUT sends MIDI information from the EG 20 to other equipment.

The simplest use of MIDI is to play two instruments at a time from the keyboard of one of them. This is known as a “master-slave” connection. Use a MIDI cable to connect the MIDI OUT port of the master (the one whose keyboard you’ll play) to the MIDI IN port of the slave.



If you connect IN to OUT, rather than OUT to IN, the other instrument becomes the master. If you use two cables, you can use either instrument as the master.

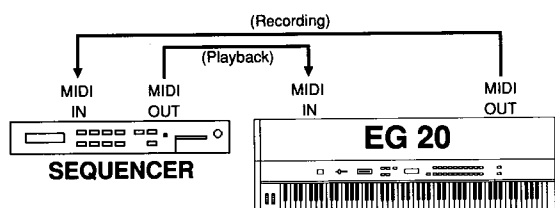


You probably will want to use the EG 20 as your master keyboard.

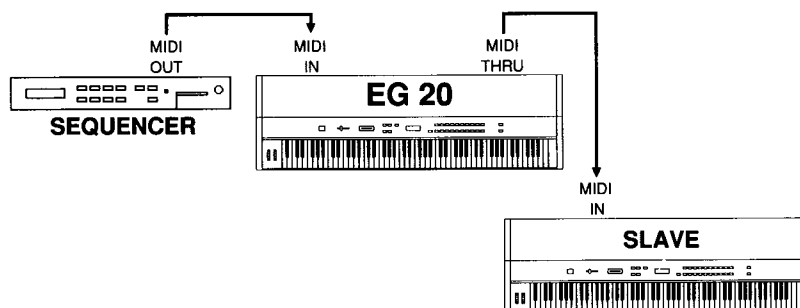
What is sent over the MIDI cable is **information**, not sound. In fact, the usefulness of this kind of setup lies in having each instrument produce a different sound.

The slave instrument can be a MIDI organ, portable keyboard, synthesizer, or tone module. If the slave doesn't have built-in amplification and speakers, you can connect its audio outputs to the AUDIO IN jacks on the EG 20.

Another use of MIDI is in using a *sequencer* to record and play back your performances. The sequencer can be a hardware unit made for that purpose, such as the Kurzweil MS-1, or it can be a general-purpose microcomputer running special sequencing software. In either case, the MIDI connections are the same:

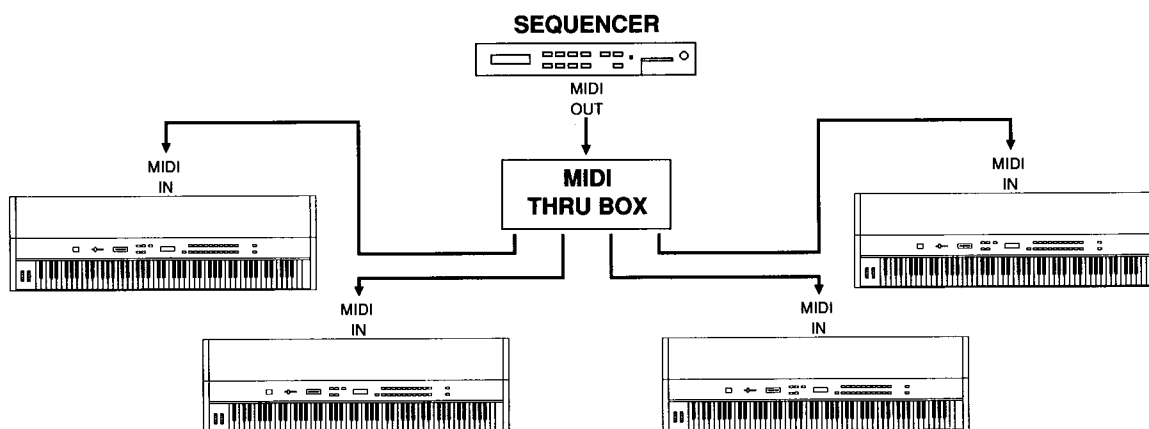


The MIDI THRU port on the EG 20 allows you to form a "chain" of instruments, so that a sequencer can control not only the master instrument, but a slave as well:



When the sequencer plays back, the information is sent not only to the master, but also—via the THRU port—to the slave. If the slave has a THRU port, *another* slave can be added to the end of this chain, and so on. Practically speaking, though, three or four instruments in a chain are as many as you'd want. Beyond that, transmission becomes unreliable.

The solution to the problem of too long a chain lies in using a sequencer with multiple MIDI OUTs, or (what amounts to the same thing) using a *MIDI THRU box*, which produces several parallel THRU signals from one IN:



It should be mentioned that MIDI slave instruments can be not only keyboards and tone modules, but also drum machines, effects devices, and more.

MIDI CHANNELS

MIDI can be used to control several instruments, each playing a different part at the same time. This is done by using a different *MIDI channel* for each instrument.

MIDI channels can be compared to TV channels: an instrument must be tuned to the correct one or it won't receive what is being transmitted. There are 16 channels, and each one can transmit any number of notes to any number of instruments, over the same MIDI cable.

On the EG 20, the Basic Channel (the channel on which the instrument transmits and receives) can be set to any one of the 16 MIDI channels, 1-16. And for receiving, there are four *MIDI modes* available that affect how the EG 20 responds to different MIDI channels:

- **OMNI.** The EG 20 responds to all 16 MIDI channels.
- **POLY.** The EG 20 responds to the Basic Channel only.
- **MULTI.** The EG 20 responds to five channels independently.

Further information on the Basic Channel, MIDI mode, and assignment of Programs to different channels, as well as other settings, can be found in the section on **EDIT MODE**.

WHAT MIDI TRANSMITS

For the EG 20, MIDI information falls into five categories:

- **NOTE ON and NOTE OFF.** When you press a key on the EG 20, it sends a message that says a note has begun, what MIDI channel it's on, what note it is, and the velocity with which the key was pressed. When you release a key, a similar message is sent saying that a note has ended, on which channel, what note, and the velocity with which the key was released (most MIDI instruments ignore release velocity). If you were to play your EG 20 while a MIDI sequencer recorded your performance, you could play it back and the instrument would respond as if the keys themselves were being played again.
- **CONTROLLERS.** Any changes in the positions of the pedals or the left-hand controllers results in special MIDI controller messages being sent.
- **PROGRAM CHANGE.** Selecting a Program results in a *program change* message that corresponds to the number of the Program selected. The internal Programs on the EG 20 are numbered from 1 to 60, with higher numbers going to the custom split or layer Program (64) and SoundCard Programs, if a SoundCard has been inserted.
- **CHANNEL (MONO) and KEY (POLY) PRESSURE.** Although the keyboard of the EG 20 does not transmit pressure (also called after touch), the instrument will respond to it if it is received from another MIDI instrument or sequencer.
- **SYSTEM EXCLUSIVE.** System Exclusive allows for specialized communication between your EG 20 and a personal computer or other MIDI storage device.

Page 23 shows the complete MIDI Implementation Chart for the EG 20.

NOTES ON SEQUENCING

More and more musicians are using MIDI sequencers as “tapeless recording studios.” The advantages over tape recording include the abilities to change individual notes, alter tempo, and substitute different sounds on playback.

The following notes will help you get the most from the MIDI capabilities of the EG 20.

- Set the instrument to *Multi mode*. (See the section on *EDIT MODE* for instructions.) This allows you to play back sequences using different sounds on different MIDI channels.
- Set the *Basic Channel* for the part you wish to record. (See the section on *EDIT MODE* for instructions.) Each part that uses a different sound should be recorded on a different channel. Think of the channels as different sections of an orchestra. Note, however, that if you wish to record several parts that call for the same sound (such as four string lines), you can record them on the same MIDI channel.
- Select the *Program* for the part *after* you have started recording. Give yourself an empty measure or two before the music starts in which to do this. This ensures that every time you play the sequence back, it will call up the right sounds, even if you have since changed some of the sounds assigned to some of the MIDI channels (as described in the section on *EDIT MODE*).

On the other hand, if you wish to experiment with using different sounds on playback, don't press any *Program* buttons during recording; then no program change messages will be recorded. You can then freely assign different sounds to different MIDI channels, as explained in the section on *EDIT MODE*. If you choose this option, however, it is up to you to either keep a record of the sounds you finally decide upon, or (if your sequencer permits) add the appropriate program change messages to the recorded sequence after the fact.

NOTE: If you are using your EG 20 with a Kurzweil MS-1 Micro Sequencer, follow the setup and recording instructions given in the MS-1 Musician's Guide.

Manufacturer:
KURZWEIL

MIDI Implementation Chart

Digital Keyboards

Model: Ensemble Grande EG 20

Date: 06 30 89

Version: 1.0

FUNCTION	TRANSMITTED	RECOGNIZED	REMARKS
BASIC CHANNEL Default Changed	1 1 - 16	1 1 - 16	memorized
MODE Default Messages Altered	Mode 3 X	Mode 1* Mode 1 & 3, Multi	memorized
NOTE NUMBER True Voice	0 - 127 12 - 120	0 - 127 12 - 120	key range: C0 - C8
VELOCITY Note ON Note OFF	O O	O O	
AFTER TOUCH Keys Channels	X X	O O	
PITCH BENDER	O	O	
CONTROL CHANGE 1 - 31 64 - 95	O O	O O	Continuous controls Switch controls
PROGRAM CHANGE True #	O 0 - 127 1 - 128	O 0 - 127 1 - 128	
SYSTEM EXCLUSIVE	X	O	
SYSTEM COMMON Song Pos Song Sel Tune	X X X	X X X	
SYSTEM REAL TIME Clock Messages	X X	X X	
AUX MESSAGES Local Control All Notes Off Active Sense Reset	X X X X	X O** O X	
<p>NOTES</p> <p>*Use MULTI Mode to assign different Programs to each MIDI Channel</p> <p>**Can be disabled in Edit Mode</p>			

Mode 1: OMNI ON, POLY
 Mode 2: OMNI ON, MONO
 Mode 3: OMNI OFF, POLY
 Mode 4: OMNI OFF, MONO

O = yes
 X = no

EDIT MODE

The EG 20 is designed to give you maximum playing enjoyment with minimal effort. Most of what you need for making music with it is accessible as soon as you turn it on. But there are a few additional important features that the instrument offers. These features make the EG 20 more versatile musically, and provide greater flexibility in using it as part of a MIDI system.

Edit Mode is the mode in which you access the additional functions.

When you turn on your EG 20, it always starts up in what is called “Play Mode.” This is the mode you will use most often. In Play Mode, the instrument lets you play it and change Programs—either directly or via MIDI.

- To enter Edit Mode, press the MIDI/EDIT button.
- To exit Edit Mode, press the MIDI/EDIT button again.

When the instrument enters Edit Mode, the LCD shows:

Basic Channel 1

This is the first of several parameters that are available in this mode for you to modify.

- To access different parameters, press one of the SELECT buttons.

Pressing the right button scrolls forward through the available parameters; pressing the left button scrolls backward. Pressing both buttons simultaneously jumps forward among the following parameters: Basic Channel, MIDI Mode, and Kbd Chan (Keyboard Channel).

You can continue to scroll or jump through the parameters by pressing or holding these buttons. The list of parameters “wraps around” from end to end, so you can keep scrolling in one direction indefinitely.

- To change the value of the parameter that is currently shown in the LCD, press either the “-” button (to lower the value) or the “+” button (to raise the value).

Changing the value of a parameter is the procedure for changing the way the EG 20 operates and responds.

Following is a complete list of parameters, in the order in which they appear in Edit Mode. Included with each parameter is the name that appears in the LCD, the range of values available, the default (factory-preset) value, and an explanation of the function of the parameter.

Basic Channel

RANGE: 1-16

DEFAULT: 1

The Basic Channel is normally the MIDI channel over which the EG 20 transmits and receives. Related settings are MIDI Mode and Kbd Chan (Keyboard Channel).

Each press of the “-” or “+” button changes the channel by 1. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “-” and “+” returns to the default value of 1.

Tune

RANGE: ± 50 cents

DEFAULT: 0

Tune allows you to adjust the pitch of the instrument in cents (hundredths of a semitone).

Each press of the “-” or “+” button changes the tuning by 1 cent. In scrolling through the values, the range does not wrap around from end to end. Simultaneously pressing “-” and “+” jumps to the next highest multiple of 10 cents, wrapping around from 50 to -50.

The value of this parameter reflects any changes made using the TUNE ADJUST knob on the rear panel.

Transpose

RANGE: ± 60 semitones (half steps)

DEFAULT: 0

With Transpose, you can shift the pitch of the instrument in increments of a semitone, to as many as 5 octaves higher or lower than normal.

Each press of the “-” or “+” button changes the tuning by 1 semitone. In scrolling through the values, the range does not wrap around from end to end. Simultaneously pressing “-” and “+” jumps to the next highest multiple of 12 semitones, wrapping around from 60 to -60.

This parameter affects only the internal working of the EG 20, not the note messages transmitted via MIDI. (The TRANSPOSE button on the front panel affects both.)

The settings of the Transpose parameter in Edit Mode and the TRANSPOSE button on the front panel can be combined. For example, if you set the TRANSPOSE button to transpose from C up to F (up a fourth), and set the Transpose parameter to 7 (up a fifth), the EG 20 will play up an octave (a fourth plus a fifth).

As with the TRANSPOSE button, pitches transposed outside the normal range of the keyboard will generally not play.

SysEx ID

RANGE: 0-126
DEFAULT: 0

The EG 20 is capable of communicating its internal data, such as User Programs and split or layer settings, via MIDI to a personal computer, sequencer, or other MIDI storage device. This is done with MIDI System Exclusive commands. As a way of differentiating commands intended for different instruments, you can assign your EG 20 a unique System Exclusive ID number.

Each press of the “-” or “+” button changes the number by 1. In scrolling through the values, the range does not wrap around from end to end. Simultaneously pressing “-” and “+” jumps to the next highest multiple of 16, wrapping around from 112 to 0.

Outputs

RANGE: Stereo, Mono
DEFAULT: Stereo

Although the two outputs of the EG 20 are ordinarily set for stereo output in order to give you the most realistic sound possible, there may be occasions in which a monophonic output is desirable. One such case would be if you needed additional amplification, but the amplifier at hand had only one input channel.

Each press of the “-” or “+” button changes the output setting. Simultaneously pressing “-” and “+” returns to the default setting of Stereo.

AllNotesOff

RANGE: Hard, Ign (Ignore), Soft
DEFAULT: Hard

This parameter controls the response of the EG 20 to the MIDI “All Notes Off” command, which some instruments transmit when all of the keys on the keyboard are released:

- “Hard” responds to the message by turning off all notes on the EG 20.
- “Ign” causes the EG 20 to ignore the message.
- “Soft” responds by turning off any notes for which the keys are being held down, but not notes being sustained by the sustain pedal or other control.

If you use the EG 20 as a MIDI slave and find that it doesn’t behave as you think it should with regard to notes turning off (especially with sustained notes), try changing this setting to “Ign” or “Soft”.

Each press of the “-” or “+” button changes to the next value. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “-” and “+” returns to the default setting of “Hard”.

MIDI Mode

RANGE: Omni, Poly, Mult (Multi), Mono

DEFAULT: Omni

The MIDI Mode, together with the Basic Channel setting, determines how the EG 20 responds to MIDI messages received on different channels:

- “Omni” mode causes the EG 20 to respond to all 16 MIDI channels, regardless of what its Basic Channel is. It plays the currently active Program.
- In “Poly” mode, the EG 20 plays the Basic Channel only, using the current Program.
- In “Multi” mode the EG 20 responds to 5 channels individually—the Basic Channel and those upward from it—with different sounds, if you wish. This uses the *multitimbral* capabilities of the EG 20, making it equal to several MIDI slaves in one package.

The Programs the different channels play are set in the Edit Channels parameter in Edit Mode. The channels use notes as they need them, to the limit of 12 simultaneous notes.

- “Mono” mode is the same as Multi, but the instrument plays only one note at a time on each channel (monophonic response).

Each press of the “–” or “+” button changes to the next setting. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “–” and “+” returns to the default setting of “Omni”.

MIDI Volume

RANGE: On, Off

DEFAULT: On

This parameter determines whether the EG 20 responds to MIDI Volume (Controller 7). It controls reception on all channels activated by the Basic Channel and MIDI Mode settings.

Each press of the “–” or “+” button changes the setting. Simultaneously pressing “–” and “+” returns to the default setting of “On”.

Bend Range

RANGE: Prog, ± 4 quarter tones

DEFAULT: Prog

Bend Range controls how far the pitch bend wheel can change the pitch of instrument. “Prog” allows each sound to respond to the wheel with whatever range is programmed for that sound. The other settings impose a uniform range for all sounds, on all active channels.

Settings are in quarter tones (halves of semitones; a setting of ± 4 equals 2 semitones). Positive numbers yield direct response to the wheel (moving it up raises the pitch, moving it down lowers the pitch); negative numbers yield inverse response.

Each press of the “–” or “+” button changes the setting by 1. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “–” and “+” returns to the default setting of “Prog”.

Lowest Key

RANGE: C0-C8

DEFAULT: C0

Highest Key

RANGE: C0-C8

DEFAULT: C8

Lowest Key and Highest Key together determine the range of notes to which the EG 20 will respond, both from its own keyboard and via MIDI. These settings apply to all MIDI channels.

The Lowest Key cannot be set higher than the Highest Key, and the Highest Key cannot be set lower than the Lowest Key.

Each press of the “-” or “+” button changes the key by 1. In scrolling through the values, the range does not wrap around from end to end. Simultaneously pressing “-” and “+” jumps to the next highest C key, wrapping around from the highest C possible to the lowest C possible.

Edit Channels?

This not a single parameter, but a group of them, which exist in a “submode” of the Edit Mode. They allow you to assign a Program to each MIDI channel available in Multi mode (see the explanation of MIDI Mode for more information).

To enter this submode, you answer “yes” to the question “Edit Channels?” by pressing the “+” button. If you press the “-” button instead, the LCD will change to show the next parameter in Edit Mode, in the direction in which you were moving through the parameters (VelMap if you were moving forward, Highest Key if you were moving backward).

Once you are in the Edit Channels submode, you use the SELECT buttons to select the channel you wish to edit. The channel displayed in the LCD when you first enter this submode is the Basic Channel. You can scroll through the range from the Basic Channel through the following four consecutive channels, which is the range available in Multi mode. For example:

- If the Basic Channel is 1, the range of channels is 1-5.
- If the Basic Channel is 14, the range of channels is 14-16 and (wrapping around) 1-2.

For each channel, you can use the “-” and “+” buttons to assign a Program. These buttons scroll through the entire list of internal Programs, and the Programs contained in the currently inserted SoundCard. A value of “Disabled” appears between the last and first Programs in the list. The “Disabled” setting allows you to set the EG 20 so that it does not respond on that MIDI channel.

To exit the Edit Channels submode, press the MIDI/EDIT button. This returns you to the “Edit Channels?” display in Edit Mode.

VelMap

RANGE: Hardest-Easiest

DEFAULT: Medium

VelMap lets you “map,” or assign, the velocity sensitivity of the keyboard. This is potentially the most important setting for your EG 20, and the one most affected by your individual abilities and desires.

- “Hardest ” offers the greatest velocity sensitivity. It affords the broadest range of dynamics (soft and loud), but consequently demands the most controlled sense of touch.
- “Easiest” offers the least velocity sensitivity. But what it lacks in dynamic range it makes up for in ease of play.

There are 7 settings available. Each press of the “-” or “+” button changes the setting by 1. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “-” and “+” returns to the default setting of “Medium”.

Chain Link

RANGE: 1/1-12/12

DEFAULT: 1/1

In MIDI setups combining more than one EG 20, this parameter lets you have the instruments respond to different notes. With the notes distributed among multiple instruments, the total number of notes that can sound at one time (polyphony) is increased.

The Chain Link setting is a fraction. The denominator (bottom number) should be the number of EG 20s that are connected. The numerator (top number) should be different for each of the instruments. For example:

- In a group of three EG 20s linked via MIDI, one instrument would be set to 1/3, another 2/3, another 3/3.

Each press of the “-” or “+” button changes the setting by 1. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “-” and “+” jumps to the next highest denominator, wrapping around from 12 to 1.

Kbd Chan

RANGE: Basic, 1-16

DEFAULT: Basic

The Keyboard Channel is the MIDI channel over which the EG 20 transmits. When set to “Basic,” the keyboard transmits on whatever the Basic Channel is.

Each press of the “-” or “+” button changes the setting by 1. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “-” and “+” returns to the default setting of “Basic”.

Kbd Control

RANGE: On, Off

DEFAULT: On

It is useful to think of the EG 20 as being divided into two parts: a keyboard controller and a sound module. Normally, the keyboard is connected to the sound module, so that whatever keys you press on the keyboard result in notes being played. This is Keyboard Control “On.” (Keyboard Control is also known as Local Control.)

But there are circumstances in which you may wish to turn Keyboard Control “Off,” so that the keyboard does not produce notes from the sound module, but instead only transmits messages via MIDI. The sound module, in return, only responds to messages received via MIDI—not to the keyboard directly.

One common use of Keyboard Control “Off” is when recording with a sequencer that is set to “Echo Back” (also called “Soft Thru,” “Play Thru,” or “Patch Thru”). In this case, all MIDI data received at the sequencer’s MIDI IN port will be transmitted (echoed) via the sequencer’s MIDI OUT port. If the EG 20’s Keyboard Control is “On,” the result is a doubling of notes and consequent reduction in polyphony during recording. Keyboard Control “Off” avoids this doubling.

Each press of the “-” or “+” button changes the setting. Simultaneously pressing “-” and “+” returns to the default setting of “On”.

MWheelUp

RANGE: Controller source list (see below)

DEFAULT: MWheel

This lets you assign any MIDI Controller number, from 1-31 (continuous controllers) and 64-95 (on/off switches), to the motion of the mod wheel up from center. This determines both the effect of the wheel on the EG 20 and the Controller number that it sends via MIDI.

Where standard definitions exist for these controller numbers, they appear in the controller source list of the EG 20. Where no definition has been standardized, the number of the controller is given. Here is the list from which you can assign the Mod Wheel Up value:

M Wheel [MIDI 01]	Express	Sost Pd
Breath	MIDI 12-MIDI 15	Soft Pd
MIDI 03	Ctl A	MIDI 68
Foot	Ctl B	Frez Pd
PortTim	Ctl C	MIDI 70-MIDI 79
Data	Ctl D	Ctl E
Volume	MIDI 20-MIDI 31	Ctl F
Balance		Ctl G
MIDI 09	Sustain [MIDI 64]	Ctl H
Pan	Port Sw	MIDI 84-MIDI 95

Each press of the “-” or “+” button changes the controller number by 1. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “-” and “+” alternates between “M Wheel” (MIDI 01; the first of the continuous controllers) and “Sustain” (MIDI 64; the first of the on/off switches).

MWheelDn

RANGE: Controller source list (see MWheelUp)

DEFAULT: Breath

This parameter lets you assign any of the MIDI Controller numbers, from 1-31 (continuous controllers) and 64-95 (on/off switches), to the downward motion of the mod wheel from the center position. This assignment determines both the effect of the wheel on the EG 20 and the Controller number that the wheel transmits via MIDI.

Each press of the “-” or “+” button changes the controller number by 1. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “-” and “+” alternates between “M Wheel” (MIDI 01; the first of the continuous controllers) and “Sustain” (MIDI 64; the first of the on/off switches).

Pedal 1

RANGE: Controller source list (see MWheelUp)

DEFAULT: Sost Pd

This parameter lets you assign any of the MIDI Controller numbers, from 1-31 (continuous controllers) and 64-95 (on/off switches), to the left pedal. This assignment determines both the effect of the pedal on the EG 20 and the Controller number that the pedal transmits via MIDI.

Each press of the “-” or “+” button changes the controller number by 1. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “-” and “+” alternates between “M Wheel” (MIDI 01; the first of the continuous controllers) and “Sustain” (MIDI 64; the first of the on/off switches).

Pedal 2

RANGE: Controller source list (see MWheelUp)

DEFAULT: Sustain

This parameter lets you assign any of the MIDI Controller numbers, from 1-31 (continuous controllers) and 64-95 (on/off switches), to the right pedal. This assignment determines both the effect of the pedal on the EG 20 and the Controller number that the pedal transmits via MIDI.

Each press of the “-” or “+” button changes the controller number by 1. In scrolling through the values, the range wraps around from end to end. Simultaneously pressing “-” and “+” alternates between “M Wheel” (MIDI 01; the first of the continuous controllers) and “Sustain” (MIDI 64; the first of the on/off switches).

MIDIScope?

MIDIScope is a submode of the Edit Mode. When you are in this submode, any MIDI messages received by the EG 20 will be displayed in the LCD. MIDI messages transmitted by the EG 20 will also be displayed, as long as Keyboard Control is ON. While you are in the MIDIScope submode, you won't hear any sound from the EG 20; this is normal.

To enter this submode, you answer "yes" to the question "MIDIScope?" by pressing the "+" button. If you press the "-" button instead, the LCD will change to show the next parameter in Edit Mode, in the direction in which you were moving through the parameters (Show Version? if you were moving forward, Pedal 2 if you were moving backward).

Here are a few examples illustrating the appearance of different messages:

- Note on

NON	1	C#4	120
Message	Channel	Note #	Velocity

- Note off

NOF	1	C#4	63
Message	Channel	Note #	Velocity

- Pitch wheel

PWL	1	64	127
Message	Channel	LSB*	MSB*

* "LSB" = "Least Significant Byte"; "MSB" = "Most Significant Byte"

- Controller change

CCH	1	1	127
Message	Channel	Ctrllr #	Value

To exit the MIDIScope submode, press any button. This returns you to the "MIDIScope?" display in Edit Mode.

Show version?

This parameter exists primarily as a diagnostic aid to authorized Kurzweil service technicians. The operating software for the EG 20 may be subject to changes in the future. By using this parameter, it is possible to see what version of the software the instrument has.

Answer “yes” to the question “Show version?” by pressing the “+” button. If you press the “-” button instead, the LCD will change to show the next parameter in Edit Mode, in the direction in which you were moving through the parameters (Basic Channel if you were moving forward, MIDIScope? if you were moving backward).

After pressing the “+” button, the LCD briefly displays the following:



Engine: vX.XX

“X.XX” represents the version of the operating software in the instrument:

After a few moments, the LCD returns to the Show version? display.

SPECIFICATIONS

AUDIO

- 25 watts per channel amplification
- Two 6-inch bass/mid-range speakers in tuned port enclosures
- Two ceramic high-range speakers
- Two line-level audio inputs
- Two line-level audio outputs
- Passive 12 dB crossover network on each channel

PHYSICAL

- Height: 32 3/8 inches
- Width: 57 1/8 inches
- Depth: 21 inches
- Weight: 175 pounds
- Power consumption: 40 watts

FEATURES

- 88-note velocity-sensitive lead-weighted keyboard with programmable sensitivity
- 12-note polyphony
- Kurzweil Quality sounds
- Button-selectable reverb and transposition effects
- Pitch bend wheel (range = ± 2 semitones)
- Modulation wheel (two-way programmable)
- Master Transposition function (± 88 Semitones)
- Master Tune function (± 50 cents)
- Audio outputs assignable to stereo or mono
- MIDI In, Thru, and Out ports for connection to other MIDI devices
- MIDISCOPE™—Kurzweil's proprietary MIDI data analyzer
- Two 1/4-inch stereo headphone jacks (one cancels speakers, one does not)
- Built-in Sustain and Sostenuto pedals (programmable)
- Easy-to-use front panel with 16-character backlit LCD, 20 Program selection buttons, reverb and transposition buttons, volume slider and RAM card slot for additional sounds

MIDI

- Fully multitimbral (a different Program may be assigned to each MIDI channel)
- Programmable receive mode (Omni, Poly, Multi)
- Programmable MIDI basic channel
- User-selectable Local Control Off for use as a MIDI controller

PLAYING THE EG 20

By now you're at least somewhat familiar with the many realistic sounds that your EG 20 has to offer. But when it comes to realism, the sounds themselves are only one half of the equation. The other half is that those sounds be played in a realistic way. That's what this part of the book addresses.

This section begins with a discussion of playing techniques, considering each of the major families of sound that are found in the EG 20. Then there is an overview of using layered and split sounds, and how to adapt standard sheet music to the EG 20.

After that, there is a selection of music designed to demonstrate some of these ideas.

NOTE: In *Playing the EG 20*, you may encounter the limit of 12 notes that it can play at any one time. In particular, the maximum number of *keys* that will sound at one time may be less than 12, for sometimes each press of a key actually produces more than one note. This is the case with “layered” sounds (such as *Slow Strings & Piano*), in which more than one instrument plays on each key, as well as with sounds that use built-in doubling (such as *Octave Strings*, or *Chorus Electric Piano*).

PIANO

The piano sounds are the most logical place to begin discussing playing the EG 20, for it is the piano that the instrument most resembles.

The keyboard of the EG 20 has been designed to simulate that of the piano; the default Stereo Grand Program (I02) likewise simulates the sound of a piano. Musically, what all of this means is that, when playing piano music on the EG 20, you should take advantage of the expressiveness—the variations in loudness and softness—that it offers. As mentioned in the section on Edit Mode, you should set the *VelMap* parameter to best take advantage of your abilities at the keyboard.

Another important factor of piano playing is the use of the sustain pedal. A couple of guidelines are in order here:

- Use the pedal sparingly. If used too much, the result is an indistinct wash of sound.
- Use syncopated pedaling. What this means is that, instead of putting the pedal down at the same time as you play a note, you put it down just after the note. And when you play the next note, the pedal comes up as the key goes down, and then the pedal immediately goes down again. This ensures a smooth sound that doesn't stray into either choppiness or blurriness.

The sostenuto pedal is used less frequently than the sustain pedal, and when it is used, the composer usually calls for it explicitly in the written music. Setting the left pedal to act as a soft pedal (see page 31) can give you added expressive control over your music.

Different variations of the piano sound are appropriate to different musical styles. Bright Piano (I03) is a good choice for pop or rock music; Ragtime Piano (I06) is made to order for the music of Scott Joplin.

ELECTRIC PIANO

The bell-like sound of the electric piano calls for an emphasis on sustained notes; too much movement results in a blurred sound. Aside from this, the guidelines suggested for playing piano sounds hold true for electric piano as well.

STRINGS

For the most realistic sound with the strings Programs, play “aggressive” music—emphasizing repeated attacks or moving lines. It is the attack—the beginning of a note—that identifies a sound to your ear and makes the sound seem real. If you play too many long, sustained notes, they begin to seem artificial.

Since each note you play with the strings gives you the sound of several instruments playing together, you don’t have to play many notes to achieve a full sound. When strings play chords, the sound is more natural than when they play long single notes. Open spacings of chords generally sound better than dense, close chords.

Slow Strings (I43) works well in a background part. Velocity Strings (I44) lets you obtain a slow attack when you play softly, and a fast attack when you press the keys faster. Hall Strings (I45) combines a slow attack with lots of reverberation, for a “concert hall” sound.

LAYERED SOUNDS

The easiest way to achieve a “full” sonority on the EG 20 is to use layered sounds—those in which two or more individual sounds are combined. These can be either preset Programs, such as Grand & Electric (I36), or ones you assemble yourself, using the LAYER button.

Slow Strings & Piano (I60) is an example of a layered sound in which the parts complement each other: one has a slow attack, the other a fast one; one sustains, the other decays.

Layered sounds that use octave doubling, such as Octave Piano (I19), can be used in place of the basic, undoubled sound when more power is desired.

Some preset Programs use doubling with slight delays or detuning for a variety of effects. Examples are Ragtime Piano (I06), Chorus Electric Piano (I33), and Flanged Strings (I49).

Be aware of reduced polyphony with layered sounds (especially if you use the LAYER button to assemble a sound that is itself made up of one or more layered components!). When the number of notes you play exceeds the 12-note limit, some notes will be cut off to make room for new ones. This is called “note stealing.” The EG 20 incorporates a sophisticated scheme (“algorithm” is the technical term) for note stealing, which preserves the notes that are likely to be most important—the top, bottom, loudest, and latest notes. This “softens the blow” of note stealing, but does not eliminate it.

But since layered sounds provide a fuller sound, you generally don’t need to press as many keys as you would otherwise.

SPLIT SOUNDS

Another approach to ensemble sound is the split sound, in which the Acoustic Bass plays in the left-hand part of the keyboard and another sound plays in the right-hand part.

A few words are in order about the acoustic bass sound:

- Its most prominent use is in jazz, to provide a “walking” bass line that propels the music with its quarter-note pulse. This kind of bass line moves primarily by steps and half steps.
- In slow ballads, which usually have two main beats per bar rather than four, the bass plays a simpler part, usually alternating between the root and the fifth of the current chord.

In addition to using a split sound for solo performance, playing one sound with each hand, an excellent use of splits lies in playing duets. One player can take the bass part, while the other handles the upper part.

ADAPTING SHEET MUSIC

Almost all sheet music consists of three parts: melody, chords, and bass. This simple fact makes it easy to adapt popular sheet music to the EG 20.

If you are playing a single sound, you can play the printed piano part pretty much as is, depending on the specific Program you are using. If you are using the Stereo Grand Program, you needn't change anything. On the other hand, if you wish to use the Mellow Strings Program, you may have to change some pianistic parts to something better suited to a string sound.

If you are using a split sound, whether for solo performance or for a duet, you can distribute melody and chords to the top sound, and the bass to the Acoustic Bass Program.

Since duets divide the responsibility between two players, each part can be more elaborate than would be possible in a solo.