KURZWEIL™

Music Systems

Mark 6

Digital Piano

OWNER'S MANUAL

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GENERAL MIDI

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HAL•LEONARD® CORPORATION
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P/N 910326, Rev. A

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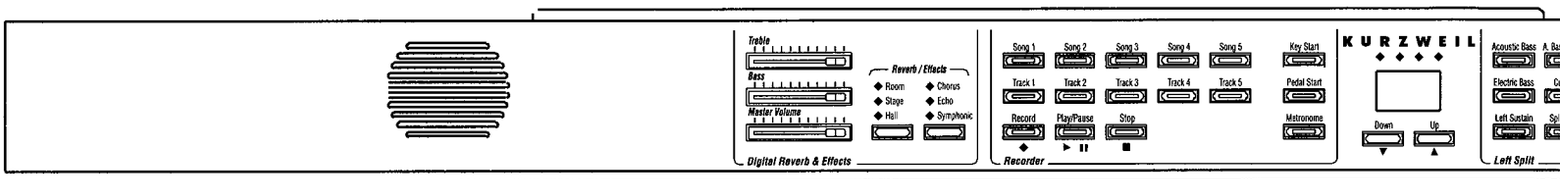
THE FRONT PANEL OF



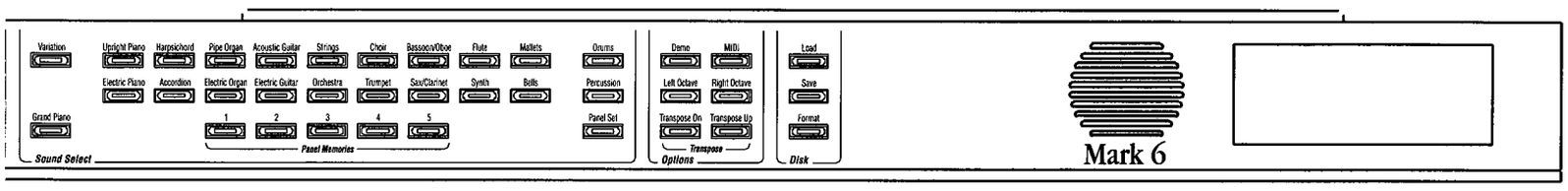
1. **Digital Reverb & Effects**
   Tailor the overall sound of the Mark 6.
   See pages 18–19.

2. **Recorder**
   Record and play back multitrack songs.
   See pages 21–24.

3. **Tempo**
   Regulate the speed of your performances.
   See page 20.

4. **Left Split**
   Divide the keyboard into two different sounds.
   See pages 16–17.

THE KURZWEIL MARK 6



5. **Sound Select**
   Enliven your music with dozens of stunningly realistic sounds and memorize panel settings.
   See pages 8–15.

6. **Options**
   Transpose the keyboard, and more.
   See pages 29–35.

7. **Disk**
   Load and save songs, and panel settings.
   See pages 25–29.

8. **Disk Drive**
   Access unlimited amounts of music.
   See page 25.

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 different from 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.

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About The Mark 6

Introduction

Welcome to the world of the Kurzweil Mark 6 Digital Piano!

The Mark 6 gives you easy, affordable access to Kurzweil's high-quality sound technology. Authentic digital representations of musical instrument sounds are the starting point. The Mark 6 reproduces the finest details of the original sounds; you'll even hear differences in tone as you play from bass to treble and from soft to loud—just as in the originals.

These instruments are also *multitimbral,* meaning that you can play different sounds at the same time. This capability is especially significant as you use the built-in recorder, which allows you to create your own tapeless multitrack recordings.

The Mark 6 has digital reverb and effects to tailor your sound; a built-in disk drive to store your music and to load in new songs; and much more.

About This Manual

This manual serves as both a guided tour for the new owner and a reference for later use. The different features of the instrument are discussed one at a time in a logical order. Throughout the manual you will find a special kind of "sidebar"—a section that supplements the main explanation of the features:

Try It 

The "Try It" sidebar gives you an opportunity to try a particular feature for yourself, so that you can better understand how it works.

NOTE: Occasionally, while pressing certain combinations of buttons, you may see lights appear in another section of the front panel. This is normal behavior and will not affect the operation of the instrument.

This manual is divided into three main sections: About The Mark 6; Music; and MIDI.

Demo Disk

Included in this manual is a demo disk which contains the following data:

- The six songs printed in the MUSIC section of the manual, which you can load into the Recorder of the Mark 6 (see page 26). You can then play back, play along, change the tempo, silence parts, and more (see page 21). The songs, and the file names that appear in the Tempo display of the Mark 6, are as follows:

Song	File Name
Casper the Friendly Ghost	001
Dance of the Sugar Plum Fairy	002
Some Enchanted Evening	003
Speak Softly, Love (Love Theme)	004
Yellow Submarine	005

- One set of five Panel Memories. These duplicate the Panel Memories programmed into the instrument at the factory (see page 14). If you program your own Panel Memories into the Mark 6, you can restore the original factory Panel Memories by loading them from this disk (see page 27). The Panel Memories file has the file name 020.

Setting Up The Instrument

See the "Important Safety And Installation Instructions," on the inside front cover of this manual, for information regarding installing the Mark 6. For the best sound, you should position the instrument 6 to 8 inches from a wall, and 2 feet or more from a corner. If this is not possible, you can use the Treble and Bass controls to compensate for the location and restore tonal balance to the sound. (These controls are discussed on page 18.)

Sliding Key Cover And Music Rack

The sliding key cover helps to keep dust and dirt off of the keyboard and the front panel when the instrument is not in use. Use two hands to open and close it. The music rack is hinged and must be raised up to use. Be sure the hinged braces on the back of the music rack are folded down and in one of the two locking positions.

Care Of Your Instrument

To dust the Mark 6 Digital Piano, use a soft dry cloth. DO NOT use aerosol sprays on or near the instrument. If the keys should need cleaning, a soft damp (NOT wet) cloth will usually suffice. If necessary, dampen the cloth in a solution of dish soap and water. NEVER use solvents such as alcohol or benzene.

IMPORTANT: Before shipping the Mark 6 anywhere, see page 29.

Power

The Mark 6 operates on AC power, and has been manufactured specifically for the main supply voltages used in your area. A power cord is included with the instrument to connect it to an AC outlet. If you should move to another country, or if you should have any doubts about voltages, see your local Kurzweil dealer.

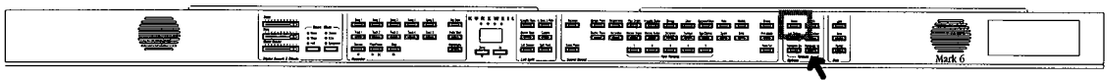
Before connecting the power cord, make sure the Power switch on the bottom panel is OFF. The power cord is made so that one end of it plugs into the power socket on the rear panel of the Mark 6, and the other end plugs into an AC outlet. Connect the cord to the instrument first, then the AC outlet. Once the power cord is connected, you can turn the Power switch ON. (NOTE: Make sure you do not step on any of the pedals when you power-up the Mark 6; if you do, that pedal will operate in reverse. To correct this, turn the instrument off, then back on.) After a brief self-check on power-up, the instrument is ready to play.

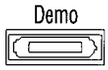
NOTE: The first time the Mark 6 is turned on, it should be left on for one hour, to charge the internal battery, which enables the memory to retain its contents (songs recorded or loaded from disk into the Recorder, Panel Memories, and settings in MIDI Edit Mode). When the battery is fully charged, the Mark 6 will retain the contents of the memory for about one week after the power is turned off. If you do not use the Mark 6 for a week, you can extend the memory of your data and settings by turning the power on for one hour and then off again. Otherwise, after a week or so, your Recorder and Panel Memory data will be forgotten and your settings will be restored to the factory defaults. To avoid losing data, you can save them to a disk.

To make sure that you can hear the instrument, move the Master Volume slider (on the left end of the front-panel controls) to the middle of its range. This should provide a reasonably comfortable level of volume, which you can adjust if you wish the sound to be louder or softer.

WARNING: To avoid possible injury or electrocution, do not remove any screws or panels. There are no user-serviceable parts inside the Mark 6.

Demo





The Mark 6 Digital Piano contains a number of built-in demonstrations to acquaint you with the sounds and capabilities it possesses.

To access these demonstrations, press the Demo button, which is located near the right end of the front-panel controls, in the Options section. The button lights up to show that the Mark 6 is in the demonstration mode.

In this mode, buttons on the front panel blink. Press a blinking button in the Sound Select or Left Split section to hear a demonstration of the sound. Press a blinking button in the Recorder section to hear a complete demonstration song.

After a demonstration is finished playing, the buttons blink once again. To stop a demonstration before it finishes playing, press any button.

While in the "buttons blinking" mode, pressing the Variation button in the Sound Select section will play all of the Sound Select demos, followed by all of the Left Split demos, one after the other, in a continuous loop. Pressing the Play/Pause button in the Recorder section will play all of the song demos in a continuous loop.

Press the Demo button a second time to exit demonstration mode.

TRY IT

- Press the Demo button to enter the demonstration mode.
- Press one of the blinking Sound Select buttons to hear a demo for that sound.
- Press the Demo button again to exit the demonstration mode.

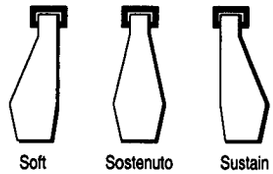
The Keyboard

The keyboard of the Mark 6 Digital Piano 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 Mark 6 Digital Piano (more precisely, the faster you strike them), the louder and brighter the resulting sound is. In technical terms, this is called "velocity sensitivity." It makes the Mark 6 Digital Piano a truly expressive instrument. See page 31 for information on adjusting the velocity sensitivity to suit your preference. (NOTE: The organ and harpsichord sounds purposely aren't velocity-sensitive, in order to be more realistic; real organs and harpsichords aren't velocity-sensitive.)

When you turn the Power switch ON, the Grand Piano sound is automatically active and ready to play.

The Pedals

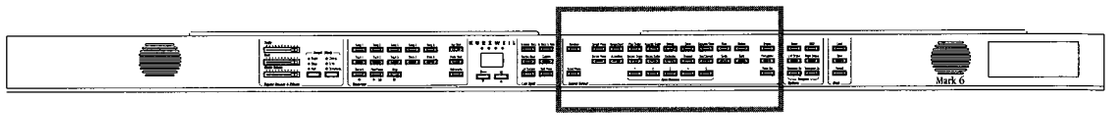
In addition to the expressiveness offered by the keyboard, there are three pedals that provide you with further control over the sounds of the Mark 6 Digital Piano. These pedals generally have the same functions as those on a grand piano. Those functions are as follows, from right to left:

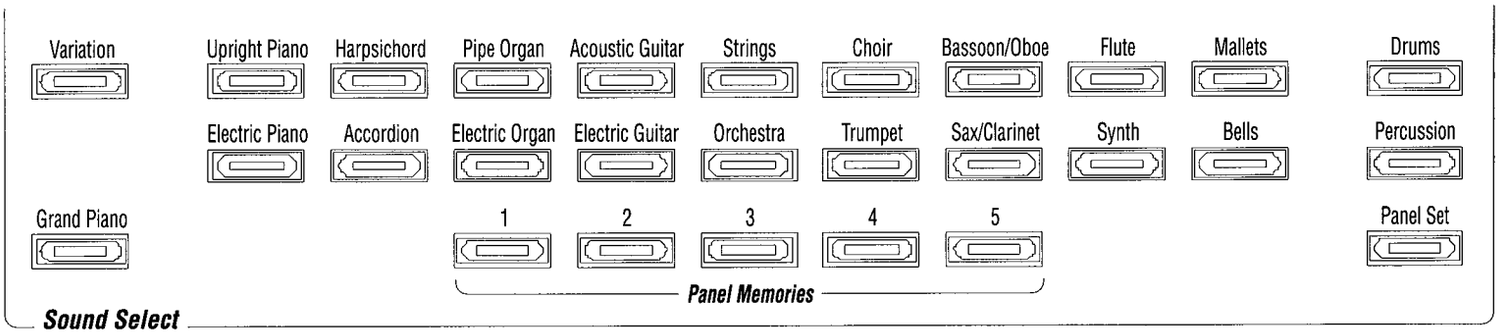


- SUSTAIN. Pressing this pedal causes notes to sustain even when you lift your fingers from the keys.
- SOSTENUTO. Keys that are already held down at the time this pedal is pressed will sustain, while any keys played after the pedal is down will not sustain.
- SOFT. Notes played while this pedal is down will sound softer and more muted than those played when the pedal is up.

  NOTE: The left and middle pedals have different functions for some sounds. For example, with the Electric Organ sound, the left pedal controls a rotating-speaker effect. Try these pedals with the different sounds to hear what effect they have, if any.

Sound Select





The Sound Select portion of the front panel contains buttons used for selecting the individual sounds available on the Mark 6 Digital Piano. You select a sound by pressing the corresponding button; the light in the button illuminates to show you which sound is selected.

There are 21 Sound Select buttons. On power-up, the Grand Piano is selected.

VARIATION

Each sound button actually can select two different sounds. To access the second sound, press Variation; the light in the Variation button will illuminate, indicating that now the second sound for the active sound button is selected.

Pressing Variation again will select the original sound.

Each of the Sound Select buttons "remembers" whether or not Variation was ON the last time that sound was selected; so if you select the variation for a particular sound, then select a different sound button, then return to the first sound, the variation will automatically be selected again. (This variation memory is reset when the power to the Mark 6 is turned on.)

TRY IT (☛)

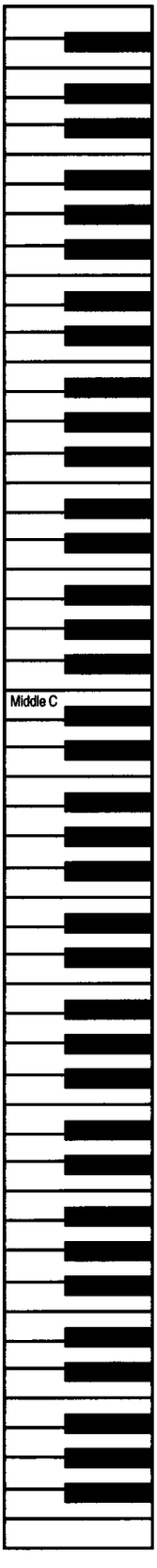
- Press the Pipe Organ button. Play a few notes on the keyboard.
- Press the Variation button. Notice that the button illuminates. Play a few notes again to hear the difference in the sound.
- Press the Electric Organ button. Notice that the Variation button is no longer illuminated. Play a few notes.
- Press the Pipe Organ button again. Notice that the Variation button re-illuminates. Play a few notes to hear the sound.

The following page lists the preset sounds and their variations.

List Of Preset Sounds And Their Variations

Mark 6 Button Label	Program Name And Number		Variation Program And Number	
Grand Piano	Warm Piano	(2)	Grand Piano	(1)
Upright Piano	Ragtime Piano	(5)	Rock Piano	(3)
Electric Piano	Electric Piano 1	(7)	Electric Piano	(9)
Harpsichord	Harpsichord	(17)	Forte Harspichord	(18)
Accordion	Accordion	(65)	Harmonica	(66)
Pipe Organ	Pipe Organ 1 (Full)	(13)	Soft Hollow Pipes	(16)
Electric Organ	Electric Organ (Jazz)	(11)	Rock Organ	(12)
Acoustic Guitar	Acoustic Guitar	(51)	12 String Guitar	(52)
Electric Guitar	Electric Guitar	(55)	Jazz Guitar	(53)
Strings	Fast Strings 2	(22)	Panning Slow Strings	(24)
Orchestra	Orchestra	(25)	Slow Attack Orchestra	(26)
Choir	Choir	(19)	Cathedral Voices	(20)
Trumpet	Trumpet	(39)	Trumpet Section	(40)
Bassoon/Oboe	Bassoon/Oboe	(31)	Bassoon/Oboe 2	(32)
Sax/Clarinet	Saxophone 1 (Dual)	(35)	Vibrato Clarinet	(30)
Flute	Flute	(27)	Mellow Flute	(28)
Synth	Tingle Lead	(72)	Square-Wave Lead	(70)
Mallets	Vibraphone	(59)	Marimba	(61)
Bells	Bells	(49)	Bells & Strings	(50)
Drums	Drums 1 (Clean)	(75)	Ambient Drums	(76)
Percussion	Percussion	(79)	Orchestral Percussion	(80)

Drum Kits



Drums 1 (Clean)	Drums 1 Variation (Ambient)
Kick Drum	Ambient Kick Drum
Kick Drum	Ambient Kick Drum
Kick Drum	Ambient Kick Drum
Kick Drum	Ambient Kick Drum
Sidestick	Sidestick
Floor Tom	Ambient Floor Tom
Floor Tom	Ambient Floor Tom
Floor Tom	Ambient Floor Tom
Lo Tom	Ambient Lo Tom
Lo Tom	Ambient Lo Tom
Mid Tom	Ambient Mid Tom
Mid Tom	Ambient Mid Tom
Hi Tom	Ambient Hi Tom
Hi Tom	Ambient Hi Tom
Dual Snare	Ambient Snare
Dual Snare	Ambient Snare
Dual Snare	Ambient Snare
Closed Hi Hat	Closed Hi Hat
Closed Hi Hat	Closed Hi Hat
Closed Hi Hat	Closed Hi Hat
Slightly Open Hi Hat	Slightly Open Hi Hat
Slightly Open Hi Hat	Slightly Open Hi Hat
Slightly Open Hi Hat	Slightly Open Hi Hat
Open Hi Hat	Open Hi Hat
Open Hi Hat	Open Hi Hat
Fully Open Hi Hat	Fully Open Hi Hat
Fully Open Hi Hat	Fully Open Hi Hat
Pedal Hi Hat	Pedal Hi Hat
Crash Cymbal	Crash Cymbal
Crash Cymbal	Crash Cymbal
Crash Cymbal	Crash Cymbal
Crash Cymbal	Crash Cymbal
Crash Cymbal	Crash Cymbal
Crash Cymbal	Crash Cymbal
Crash Cymbal	Crash Cymbal
Crash Cymbal	Crash Cymbal
Dual Ride (Rim>Bell)	Dual Ride (Rim>Bell)
Ride Rim	Ride Rim
Dual Ride	Dual Ride
Ride Bell	Ride Bell
Lo Conga Tone	Lo Conga Tone
Mid Conga Tone	Mid Conga Tone
Conga Buba Stroke	Conga Buba Stroke
Conga Tone	Conga Tone
Conga Tone	Conga Tone
Conga Tap (Tap>Howl Tone)	Conga Tap (Tap>Howl Tone)
Conga Slap	Conga Slap
Cabasa	Cabasa
Cabasa	Cabasa
Shaker	Shaker
Shaker	Shaker
Claves	Claves
Lo Timbale	Lo Timbale
Lo Timbale	Lo Timbale
Hi Timbale	Hi Timbale
Hi Timbale	Hi Timbale
Lo Cowbell	Lo Cowbell
Lo Agogo	Lo Agogo
Lo Agogo Muted	Lo Agogo Muted
Mid Agogo	Mid Agogo
Mid Agogo Muted	Mid Agogo Muted
Hi Agogo	Hi Agogo
Hi Agogo Muted	Hi Agogo Muted
Long Guiro	Long Guiro
Long Guiro	Long Guiro
Short Guiro	Short Guiro
Tambourine	Tambourine
Tambourine	Tambourine
Triangle	Triangle
Triangle	Triangle
Triangle Muted	Triangle Muted
Lo Woodblock	Lo Woodblock
Hi Woodblock	Hi Woodblock
Lo Samba Whistle	Lo Samba Whistle
Mid Samba Whistle	Mid Samba Whistle
Hi Samba Whistle	Hi Samba Whistle
House Kick	House Kick
House Stick Click	House Stick Click
Hi House Snare	Hi House Snare
Hi House Snare	Hi House Snare
Lo House Snare	Lo House Snare
Lo House Snare	Lo House Snare
Lo Hand Claps	Lo Hand Claps
Hi Hand Claps	Hi Hand Claps
House Cowbell	House Cowbell
House Cowbell	House Cowbell
Metal Clank	Metal Clank
Vibraslap	Vibraslap
Glass Break	Glass Break

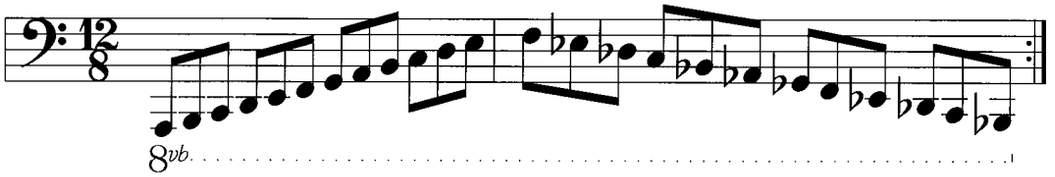
PERCUSSION

The Percussion button gives you access to a variety of Ethnic Percussion sounds—a combination of cowbells, congas, and shakers—uniquely designed to allow you to play authentic Latin, Cuban, and African rhythms using simple scales. You can also easily create your own authentic sounding rhythms using this same technique. The scales below, when played correctly, will sound the traditional rhythms indicated just above them. You need only be sure to play them in the octave indicated and use an even eighth-note rhythm throughout. The rest is taken care of for you!

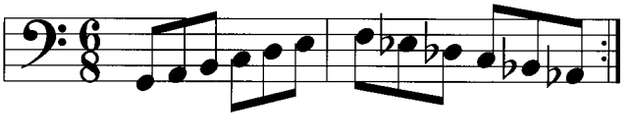
You may notice that some keys are silent; this is to allow for the natural silences in the rhythms being used. You should still play these keys with an equal eighth-note duration.

If you're recording using the internal Recorder of the Mark 6 or an external MIDI sequencer and can't play these rhythms as quickly as you'd like, record them at a slower tempo and increase the tempo on playback (see page 23).

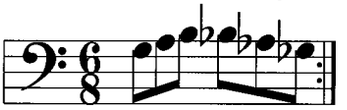
African Durah Bah (first note = lowest key on keyboard)



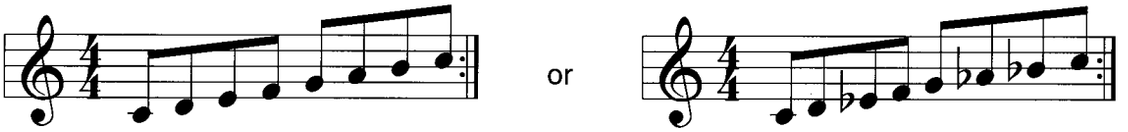
African Bricambo



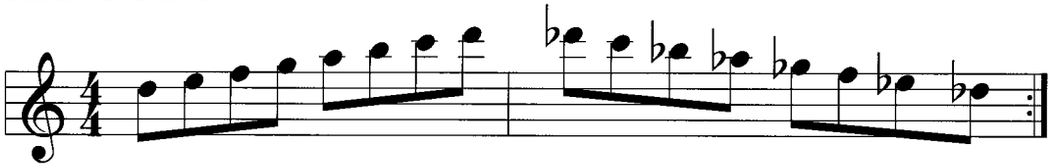
Three-Against-Two Rhythm



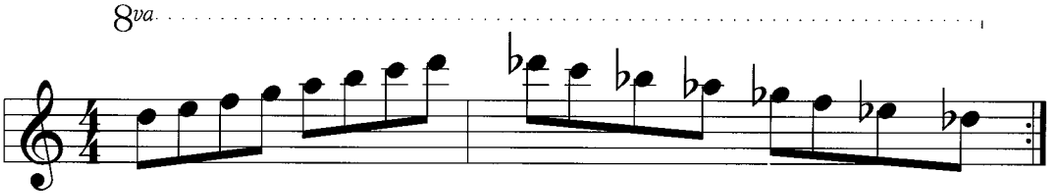
Latin Tumbao



Cuban Cha Cha



Cuban Mambo

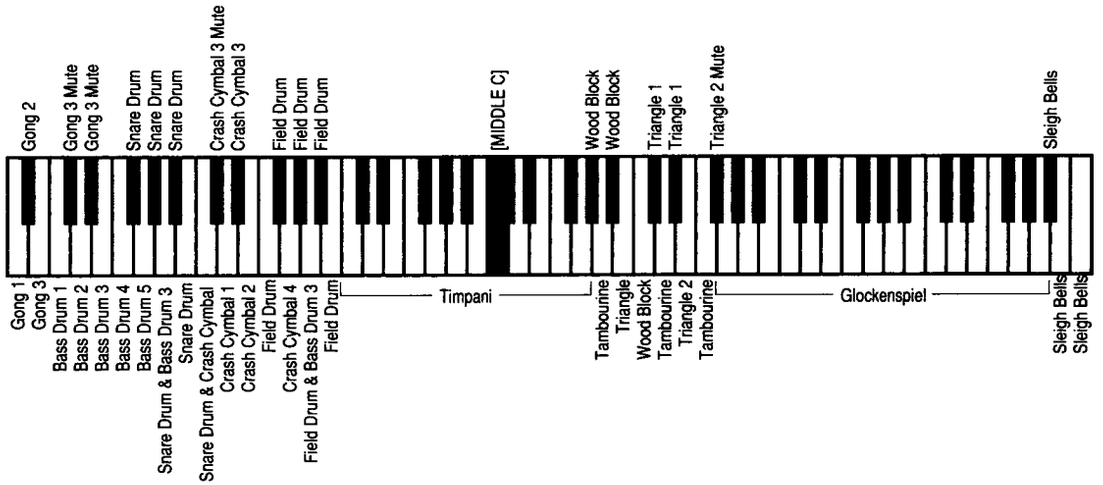


To make up your own rhythms, simply play an even eighth-note scale of your own liking anywhere on the keyboard. You can also try playing a different scale down than you play up, or even try playing arpeggios. Have fun!

Orchestral Percussion

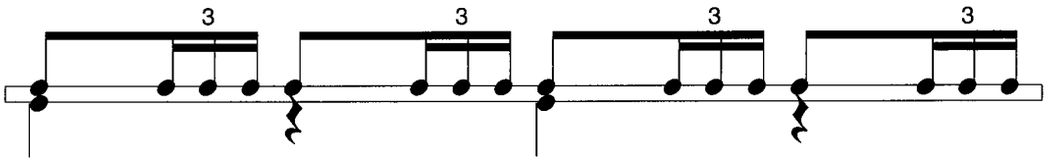
With Variation ON, Percussion provides an array of Orchestral Percussion sounds.

Notice that many of these sounds are duplicated on adjacent keys, to make it easy to play patterns such as rolls (fast repeated drumstrokes) and flams (fast double strokes), simply by playing trills and grace notes.



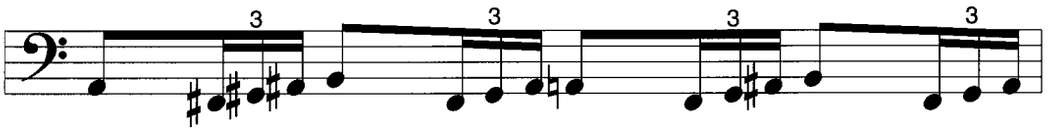
For example, to play this typical march pattern:

Field Drum

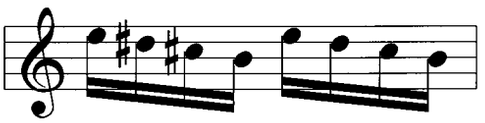


Bass Drum

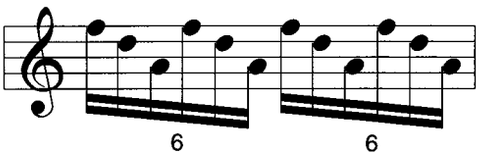
play the following on the keyboard:



For a triangle roll, play:



For a tambourine roll, play



LAYERING SOUNDS

For even more variety and richness of sound, you can *layer* two sounds across the keyboard—that is, each key of the keyboard will play two different sounds at the same time. The result is similar to having two different sections of an orchestra play the same notes.

To select the two sounds that you wish to layer, press and hold one Sound Select button and then press another. The buttons for both sounds will illuminate. If a sound variation was remembered for either of the sounds, it will be used in the layer. If the variation was enabled for the first sound selected, the Variation button will be lit.

Layering is reset to OFF when the power to the Mark 6 is turned on.

Adjusting The Balance In A Layer

You can adjust the balance between the two sounds in a layer, while creating the layer, by making the second sound softer. To do this, press and hold the button for the first sound, and press the button for the second sound repeatedly; each press of the second button will lower the volume of that sound by a small amount.

For example, if you layer Grand Piano and Electric Organ (in that order), you can make the organ softer in relation to the piano. If you wish the organ to be *louder* in relation to the piano, then select the organ first, and lower the volume of the piano.

Strings And Choir

Two favorite sounds for use in layered combinations are strings and choir. In combinations like piano and strings, guitar and strings, and organ and choir, they provide what's known as a "pad" sound—a soft cushion on which the music rests.

Because these two sounds are so important in this context, Kurzweil has designed specially optimized versions of them for use in layered combinations. Say, for example, that you layer piano and strings, by pressing and holding the Grand Piano button and pressing Strings. The string sound you'll hear will not be the normal Strings, but a special strings sound tailored for layering. You can think of it as the "and Strings" sound, as in "Piano and Strings," "Harpsichord and Strings," etc. There is also a similar "and Choir" sound. (NOTE: These special layer sounds are available only when layering Strings or Choir with Variation OFF.)

These special sounds have been adjusted so that the attacks are neither too fast nor too slow, and so that they fade out realistically as you approach the top of the keyboard, so that high notes are not strident.

To use the "original" Strings or Choir in a layered combination, press and hold that button *first,* then press the button for whatever other sound you wish to layer with it.

TRY IT

- Press and hold the Strings button, making sure Variation is OFF.
- While holding the Strings button, press the Grand Piano button twice. This layers the Strings with the Grand Piano and lowers the volume of the latter slightly.
- Release the Strings button and play some notes or chords to hear both sounds. Note that the strings have a slow attack on soft notes and a fast attack on loud notes.
- Now press and hold the Grand Piano button and press the Strings button.
- Release the Grand Piano button and play up and down the keyboard. Notice that the attack of the strings is slow on loud notes as well as on soft ones, and that the strings fade out toward the top of the keyboard.

Grand Piano

The Grand Piano and Grand Piano Variation are tuned differently than other sounds on the Mark 6; they use what is known as "stretch tuning." In this tuning, which is employed on acoustic pianos, octaves are slightly wider than theoretically pure, so that the notes on the keyboard line up more precisely with each other's overtones. (The overtones are farther apart than theoretically pure because of the stiffness of piano strings.) This makes for a more agreeable sound.

But when you layer Grand Piano or Grand Piano Variation with another sound, the Mark 6 substitutes a special version of the piano sound that is *not* stretch-tuned, so that it is in tune with the other sound in the layer.

The following programs are selected as follows when layered:

Mark 6 Button	Layered Program (#)	
Grand Piano	Equal Tempered Bright Piano	(90)
Grand Piano (var)	Equal Tempered Piano	(89)
Choir	Choir Layer	(83)
Strings	Fast Strings 4	(86)
Strings (var)	Stereo Strings 2	(88)

PANEL MEMORIES

The Mark 6 has five panel memories, each of which allows you to store the settings of the front panel controls for recall at the touch of a button. This lets you save your favorite combinations of sounds and settings that you use frequently for playing or recording.

Each of the five panel memories stores the following settings:

Panel Section	**Setting Stored**
Sound Select	Main Sound (including Variation)
	Layer Sound (including Variation)
	Layer Volume Adjust
Left Split	Left Sound
	Split Point
	Left Sustain
Digital Reverb & Effects	Reverb
	Effect Type
Tempo	Tempo
Options	Left Octave Shift
	Right Octave Shift
	Transpose Setting

The Mark 6 comes with five default panel memories, which are typical examples of useful combinations for playing. When you create your own panel memories, you overwrite the default memories set at the factory. To restore these default memories, either load them from the disk that accompanies this manual (see pages 5 and 27) or use the Reset Parameters function (see page 30).

Panel Recall

To change the front panel settings to those stored in one of the panel memories, press the desired Panel Memory button. This will recall the settings stored in it.

Panel Set

To set (store) a panel memory, first set the front panel controls as you wish to store them.

Next press the Panel Set button. The five buttons in the bottom row of the Sound Select section, labeled Panel Memories, begin blinking. In addition, the Metronome button will blink, and if there is a song selected in the Recorder section, all of the Track buttons in which something has been recorded will also blink.

Pressing one of the Panel Memory buttons stores the current panel settings in that panel memory.

Changing Track Or Metronome Sounds

After initially pressing the Panel Set button, you have the option of pressing one of the blinking Track buttons, or the blinking Metronome button, instead of one of the Panel Memories buttons. Pressing one of the blinking Track buttons changes the initial sound for that track to the sound currently selected on the front panel (including any split or layer sounds). Pressing the blinking Metronome button changes the metronome sound to the sound currently selected in the Sound Select section of the panel.

Pressing the Panel Set button a second time before pressing a blinking Panel Memory, Track, or Metronome button will cancel the set operation.

The Mark 6 retains your panel memories, even when the power is turned off.

TRY IT

- In the Sound Select section, select Electric Piano, and turn Variation on. Then press and hold Electric Piano while selecting Choir.
- In the Digital Reverb & Effects section, select the Stage reverb and the Chorus effect.
- Press the Panel Set button.
- Press the Panel Memory 1 button to store the panel setting.
- Select a different Sound, to change the panel settings.
- Press the Panel Memory 1 button; your previous settings will be restored.

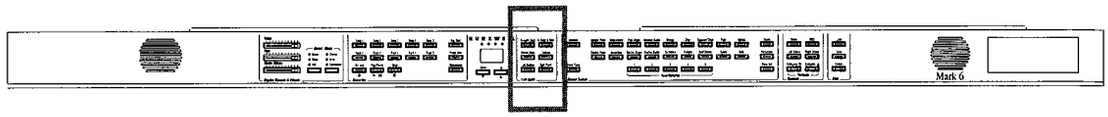
POLYPHONY

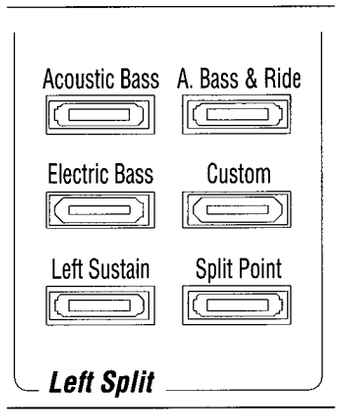
The Mark 6 Digital Piano has a maximum *polyphony* of 32 notes. That means that it can play as many as 32 notes at one time. This allows you to play from the keyboard and use the sustain pedal freely with little worry about running out of notes, or to use the Recorder to create songs with lots of parts.

You should know, however, that when two sounds are layered, each key you press actually plays two notes. Furthermore, some of the individual sounds themselves are already made up of two layers; layering these sounds with others will further reduce polyphony.

The Mark 6 employs a sophisticated method of "note allocation," so that your playing will sound natural even if more than 32 notes are played at one time.

Left Split





The buttons in the Left Split section of the panel allow you to "split" the keyboard into two parts. Splits are an easy way to make one performer sound like two. When you play the keyboard, your right hand plays one sound and your left hand plays another. The right-hand part of the keyboard plays whatever sound is currently selected in the Sound Select section; the left-hand part plays a bass or a Custom sound, selected by pressing one of the Left Split buttons. The buttons illuminate to indicate what is active.

Press a different Sound Select button while a split is active to change the right sound but not the left one. Press a different Left Split button while a split is active to change the left sound but not the right one. Press the active Left Split button a second time to cancel a split.

The left split is reset to OFF when power to the Mark 6 is turned on.

Split Point

The *split point* is the point on the keyboard where the left sound and right sound meet. The default split point set at the factory is E below middle C.

To change the split point, press the button with the label Split Point; the light in the button will blink. Then press the key you wish to be the split point. (The key you press will be the top key of the left sound.) This split point is now used for all Left Split sounds until you change it or turn off the Mark 6; the Split Point is reset to E below middle C when power to the Mark 6 is turned on.

To cancel selecting the split point while the Split Point light is blinking, press any button on the control panel.

NOTE: It is possible to set a split point higher than some left sounds will play. If you do this, those keys to the left of the split point that are above the range of the left sound won't play any sound.

TRY IT

- Press the Grand Piano button.
- Press the A. Bass & Ride button. Play some notes up and down the keyboard, noticing the Grand Piano in the right part of the keyboard and the A. Bass & Ride in the left part.
- Press the Split Point button. The light begins flashing.
- Press middle C. The light will stop flashing. Play the keyboard again, noticing that the A. Bass & Ride now plays up through middle C.
- Press A. Bass & Ride again to remove the left split.

LEFT SUSTAIN

When using the Left Split sounds, most music and playing styles require the sustain pedal to be ignored for the left half of the split. Should you wish to have the sustain pedal affect the left sound (for example, in a Custom split), you can do so by pressing the Left Sustain button; the button lights up to show that Left Sustain is ON. Press the button again to turn Left Sustain OFF.

Left Sustain is reset to OFF every time the power to the Mark 6 is turned on.

CUSTOM

You can optionally select any available sound to be the left sound. You accomplish this by pressing and holding the Custom button, pressing the desired Sound Select button, and releasing the Custom button. The selected sound will become the left split sound. This sound is "remembered," and if the Custom button is selected later, the same sound will be used. (The Custom sound is reset to Grand Piano when the power to the Mark 6 is turned on.)

The Custom button will also remember a Variation of a sound.

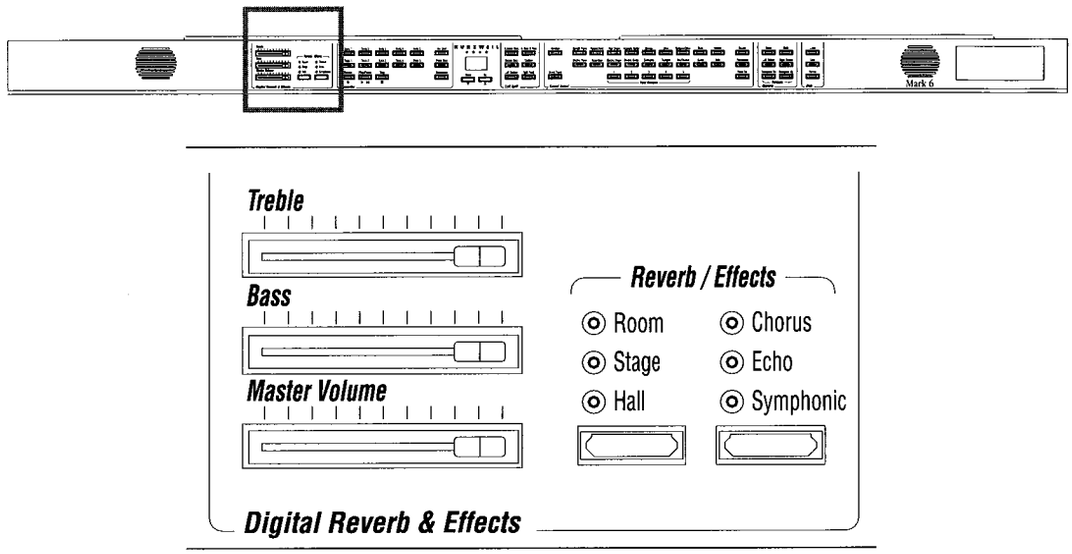
TRY IT

- Press the Choir button.
- Press and hold the Custom button.
- While holding the Custom button, press the Harpsichord button.
- Release the Custom button.
- Play the keyboard. Notice that Harpsichord is the left sound and Choir is the right sound.

OCTAVE SHIFT

In setting up a left split, you may wish to make the right or left sound higher or lower—especially if you use a Custom left split to play duets at the keyboard (e.g., piano on the left and strings on the right). The Mark 6 Digital Piano gives you the ability to shift the octave in which each part sounds. See page 29 for details on how to use the Left Octave Shift and Right Octave Shift functions.

Digital Reverb & Effects



The Digital Reverb & Effects section of the panel contains controls that affect the sound of the instrument as a whole.

Master Volume

The Master Volume slider controls the overall volume (loudness) of the Mark 6 Digital Piano. Move it to the right to increase the volume, and to the left to decrease the volume; when moved all the way to the left, it silences the instrument. As in most home stereos and televisions, it is possible to adjust the volume and tone controls such that the resulting sound does not suit some personal tastes.

Master 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 page 36).

CAUTION: Turn the Master Volume down before connecting headphones or using the Audio Out jacks.

CAUTION: Master Volume does NOT affect the volume of the sound coming in from the Audio In jacks.

Treble And Bass

The Treble and Bass sliders are tone controls, allowing you to adjust the tonal balance of the overall sound to your liking. Treble controls high frequencies, and Bass controls low frequencies.

When the controls are centered, they have no effect on the sound. (The center position is identified by both a heavy line and a detent that catches the slider.) Moving the Treble slider to the *right* boosts treble frequencies; moving it to the *left* cuts treble frequencies. The Bass slider operates in the same way on bass frequencies.

The Treble and Bass sliders affect the sound produced by the internal speakers, the Headphone jacks, and the Audio Out jacks. They do NOT affect the sound coming in from the Audio In jacks.

Reverb And Effect

For a heightened sense of sonic realism, the Mark 6 Digital Piano provides you with two independent types of digital signal processing: reverb and effects.

Reverb, or reverberation, occurs naturally when sound undergoes multiple reflections off the walls of an enclosed space. These reflections blend together into a "wash" of sound that adds warmth and ambience to music.

Press the Reverb button to turn reverb off (no light illuminated) or to cycle among different room sizes (indicated by the lights above the button):

- Room—The intimacy of a chamber-music room.
- Stage—The ambience of a performance stage.
- Hall—The spacious atmosphere of a concert hall.

The effects, which you select by pressing the Effect button, are as follows:

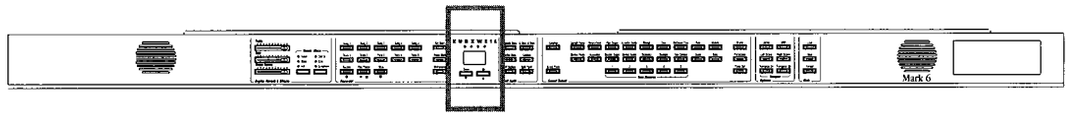
- Chorus—The effect of many instruments playing together instead of one.
- Echo—A repetition of the sound, as if it were bouncing off a wall.
- Symphonic—When used by itself, a unique combination of Chorus and Echo. When used in combination with Room, Stage, or Hall Reverb, it slightly increases the level of the reverb that is already present.

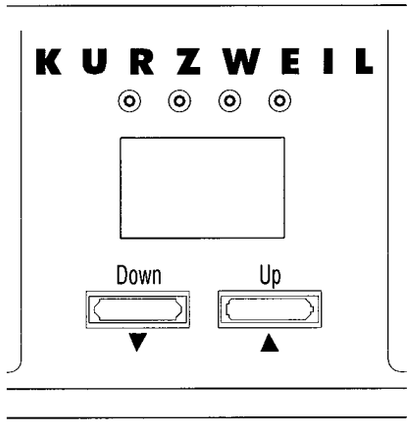
Each of the Sound Select buttons can remember its own reverb and effect settings, just as it can remember the status of the Variation button. So you can give each sound a different combination of reverb and effect, which will be recalled whenever you press that Sound Select button. These settings are reset to factory defaults when the power is turned on.

Try It

- Press the Electric Piano button.
- Press the Reverb button until none of the lights above it is lit.
- Do the same with the Effect button.
- Play the keyboard, paying close attention to the sound.
- Press the Reverb button twice, to select Stage.
- Press the Effect button once, to select Chorus.
- Play the keyboard again, noticing the difference in the sound.

Tempo



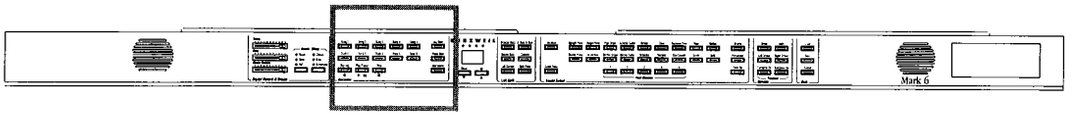


The Tempo display shows the tempo of the current song, or of the metronome in the Recorder section. It also displays values and messages during certain operations.

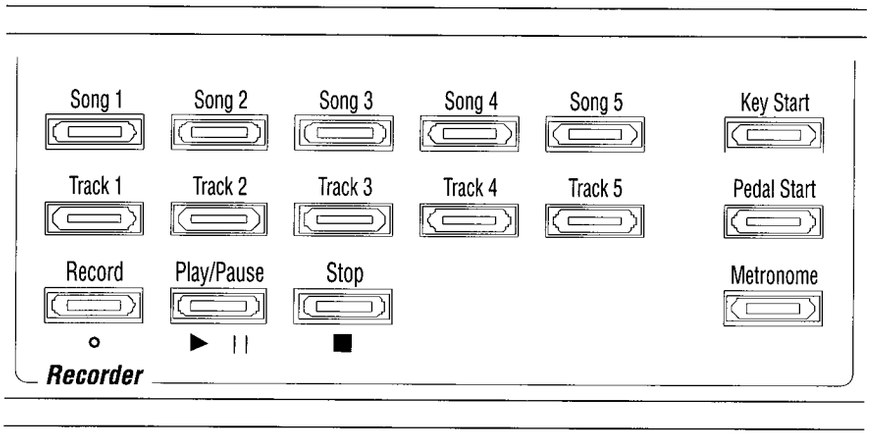
When the Mark 6 is powered up, the Tempo display shows a tempo of 140 beats per minute.

Above the Tempo display are four lights, which show the beats while songs play. The leftmost light, which is red, shows the downbeat of each measure.

Below the Tempo display are two buttons, Down and Up. Pressing Down slows down the tempo; pressing Up speeds it up. Pressing both simultaneously resets the original tempo for the current song. You'll also use these buttons in entering values during certain operations.



Recorder



The Recorder records and plays back your musical performances, like a tape recorder, but with several advantages:

- You can change the tempo without affecting the pitch. This lets you record difficult passages slowly, for example, and play them back at the desired speed.
- You can record using one sound and replace it with another (see page 23).
- Using the MIDI Out port, you can connect other MIDI instruments to the Mark 6, and play them from the Recorder as well. (To do this, you must set the Mark 6 to transmit sequencer data. See page 34 for details.) In addition, using the MIDI In port, you can use the Recorder to record external controllers. (See pages 24 and 48–66 for additional information.)

Song Buttons

Use the five Song buttons to select a song for recording or playback (only one can be selected at a time). Each song can be as long as 10,000 notes, or as short as you wish, up to the limits of the memory of the Mark 6. (Depending on the combined length of the songs, there may not be room for five songs in memory.)

Track Buttons

Each song consists of up to five tracks, which can be selected or silenced using the five Track buttons. Once a track has been recorded on, the track button illuminates to show that it contains data. When a song is recording, playing, or stopped, use the track buttons to turn playback of the individual tracks off (unlit) or on (lit). When you have pressed the Record button to record a track, but have not yet begun recording, you can press a Track button to determine which track you wish to record (this lets you record over a previous track, for example); if you don't make a selection, the next empty track is automatically selected for you—or track 1, if all tracks have been recorded onto. The track that is being recorded has a blinking button; that track cannot be turned off during recording. When a track is recorded, the sound that was used during recording is remembered with the track. You can change this sound using the Panel Set function (see page 15).

Track 1 can only be turned on or off before playback begins; this track has special properties.

RECORD

Pressing Record while a song is stopped will put the song in record-ready mode; the Record button blinks. Select the track on which to record as described in the discussion of the Track buttons. Press Record again, or Stop, to cancel recording. An open track (one that has nothing recorded on it) is automatically selected each time you choose to record. You can select a different one if you desire.

NOTE: You can use Key Start or Pedal Start. As an alternative to pressing the Play/Pause button to start recording or playback, see "Key Start and Pedal Start" below.

Once you start recording (by pressing Play/Pause, or by using Key Start and Pedal Start), the Record button stays lit continuously. Press Stop to stop recording.

Erasing A Track

To erase a track on which something is recorded, you simply record "nothing" over it; that is, you select the track for recording, start and stop the Recorder, but don't play any notes or touch any controllers while recording.

PLAY/PAUSE

Press Play/Pause to start playback or recording.

If the Recorder is in Record (this button was blinking before Play/Pause was pressed), then recording begins on the specified track (the one with the blinking button). All other active tracks play back (those whose buttons are lit).

NOTE: You can use Key Start or Pedal Start. As an alternative to pressing the Play/Pause button to start recording or playback, see "Key Start and Pedal Start" below.

Pressing Play/Pause while recording or playback is going on will pause the recording or playback. The Play/Pause button blinks to show that the song is paused. Pressing Play/Pause again will resume recording or playback.

KEY START AND PEDAL START

The Key Start and Pedal Start buttons let you choose how to start the Recorder. Pressing one of these buttons selects that option, causing the button to light. Pressing the button again cancels the option. There are three possible start modes:

- Normal (no light). Press the Play/Pause button to start the song.
- Key Start. After pressing Play/Pause, strike any key on the keyboard to start the song.
- Pedal Start. After pressing Play/Pause, press the left pedal to start the song.

STOP

Pressing Stop will stop recording or playback of a song and reset the location to the beginning of the song (instant rewind). Pressing Stop while Record is blinking (record-ready mode) will cancel recording.

TRY IT

- Select an empty song (one in which no Track buttons are lit).
- Turn Key Start on.
- In the Recorder, press Record and Play/Pause. The Track 1 button blinks.
- Play a short song. Recording starts as soon as you play the first note.
- Press Stop in the Recorder section; recording stops.
- Turn Key Start off.
- Press Play/Pause in the Recorder to hear your recording play back.
- The Recorder will stop by itself after playback finishes. To stop it sooner, press Stop.
- Press Record; the button blinks, as does the Track 2 button.
- Press the Track 1 button to record over Track 1. The button will blink.
- Press Play/Pause to start recording, and then press Stop to stop recording—without recording anything on the track. The Track 1 button will now be unlit; the track is erased.

CHANGING TRACK SOUNDS

You can change the sound used for a track with the Panel Set feature (see page 15). In addition, you can use the Sound Select buttons to change sounds while you are recording a track.

CHANGING TEMPO OR REVERB

Tempo and reverb settings are recorded for each song. But after you have recorded one or more tracks, you may decide to change either or both of these settings. For example, you may decide that a larger or smaller reverb room size sounds better; or you may purposely have recorded a song at a slow tempo for accuracy's sake, but now wish to set the song to a faster tempo for playback. To record the new tempo or reverb setting, make sure there is at least one empty track. Turn off Key Start and Pedal Start. Set the tempo or reverb as you want it. Press Record; the button for the lowest available empty track will blink. Press Play/Pause to start recording, then Stop to stop recording. The track button will be unlit—this is the same procedure you use for erasing a track—but in fact, the new tempo or reverb setting is now recorded with the song. NOTE: This empty track is still available for recording after changing the tempo or reverb.

TEMPO MESSAGES

The Recorder recognizes tempo messages in Standard MIDI Files (type 0 only) and Disk Orchestra files that you load into the instrument (see page 26). (It will not record tempo changes for songs you record.) The tempo display will NOT change. Tempos are changed relative to the currently displayed tempo. For example, let's say that you began the song at 100 bpm and during the song you increased the tempo to 150 bpm. When you select the song, the display will show "100". If you decreased the tempo to 50 bpm before starting playback, then at the tempo change the song would speed up to 75 bpm.

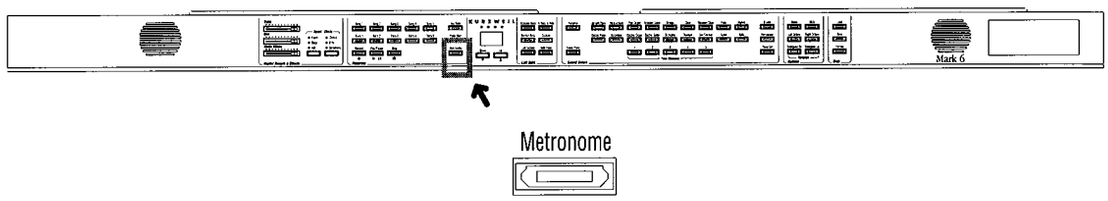
SONG CHAIN

Your songs can be played in a "chain." Press Demo and then Metronome (in the Recorder section). All songs (1 though 5) that you have recorded or loaded from disk will now be played, back to back. If a song is a General MIDI (GM) song, the Mark 6 will automatically go into GM mode (see page 51). If it does not, it is because the song does not contain the "General MIDI On" message. Refer to page 34 to find out how to set the song to be a GM song. The chain play can be stopped by pressing any button on the front panel, which puts you back into Demo mode. You can exit Demo mode by pressing the Demo button.

RECORDING FROM MIDI IN

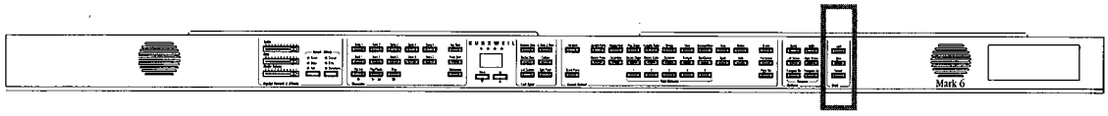
The MIDI Basic Channel for the Mark 6 keyboard is set to 1 when the instrument is turned on, and Recorder tracks 1–5 are set to channels 2–6. If you use the Recorder to control an external module that has specific limitations on MIDI channels, you can override the default channel settings of the Mark 6 in MIDI Edit Mode (see page 32) by setting the Basic Channel of the Mark 6 to the desired channel before recording the track in question. For example, if you want track 1 to transmit on channel 10, record the track with the Basic Channel set to 10. Remember to set the Mark 6 back to channel 1 when you are finished. If you wish to record from an external controller, set it to transmit on channel 1; the Mark 6 will record it using the default channel for the track onto which it is recorded. If you wish to record it on a different channel, set the Basic Channel of the Mark 6 to match the transmit channel of the external controller before recording the track; the track will then be recorded on that channel. Remember to set the Mark 6 back to channel 1 when you are finished.

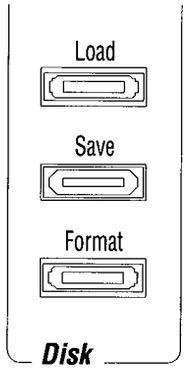
METRONOME



You'll find the Metronome button in the Recorder section. Press this button to hear the tempo of a song in the Recorder. You can also use it as a stand-alone practice aid if no tracks in the Recorder are on. The default Metronome sound is Drums, and the default note is the highest C# on the keyboard (Click). You can choose your own sound and note for the Metronome, if you like. To choose the note, hold down the Metronome button and play the note on the keyboard that you wish the Metronome to use; the velocity with which you play the note determines how loud the Metronome will be. To change the sound, use the Panel Set function (see page 15): First select the sound you desire from the Sound Select section, then press the Panel Set button, and finally press the blinking Metronome button. The Mark 6 retains the note and sound settings for the Metronome, even when the power is turned off.

The metronome has its own MIDI channel. Hold down the Metronome button; the Tempo display shows the channel. Use the Down and Up buttons to change the channel. The default channel for the Metronome is 16.





The Mark 6 has a built-in high-density disk drive, located at the right end of the front panel. The disk drive allows you to save information onto disks for storage for an indefinite period of time, and to load information from disks into the Mark 6. What kind of information? Songs for the Recorder and Panel Memories.

In addition to its own disk libraries, the Mark 6 can load most disks from the Yamaha PianoSoft, PianoSoft Plus, and Disk Orchestra libraries, as well as the PianoDisc Music Library.*

If you are unfamiliar with disks, a few basics are in order:

- The disks used are sometimes called "floppy disks," although they have a hard-shell case.
- Don't open the sliding shutter of the disk case or touch the actual disk inside.
- Disks are a magnetic storage medium, like recording tape. If you put them on or near something that produces a strong magnetic field (such as a television set or a loudspeaker), you may lose the information (data) stored on them.
- Insert a disk into the disk drive with the label side up and the sliding shutter away from you. Push the disk all the way into the drive until it snaps into place.
- Eject a disk from the drive by pressing the button on the drive so that the edge of the disk pops out; then pull the disk the rest of the way out.
- The drive holds only one disk at a time.
- Never eject a disk while the light on the drive is on. This light means the drive is active; ejecting the disk could result in loss of data or damage to the disk.
- The information on the disk is stored in files. Each file is one packet of information that belongs together. For example, each song is one file.
- Saving data to the disk is also called storing, or writing. Writing is only possible when the "write/protect" tab in the corner of the disk is in the "write" position—toward the metal shutter. When you want to protect the data on the disk from accidental erasure, move the tab into the "protect" position. HINT: If you can see through the hole in the write/protect window, the disk is write-protected.
- Loading data from the disk—also called retrieving, or reading—is possible regardless of the position of the write/protect tab.
- In this drive you can use high-density disks to store up to 1440 kilobytes (kB) of data—the equivalent of about 700 typewritten pages—or double-density disks to store up to 720 kB of data. The drive uses standard MS-DOS* formatting and file storage conventions. For advanced users, this means that Mark 6 disks can be read by MS-DOS computers.
- Label your disks, so that you know what they contain. This is especially important since a single disk can hold several different kinds of files (songs, etc.).
- Save an extra copy of any file that you don't want to lose. This is called "backing up" your data. Simply load the file into the Mark 6 and then save it onto a different disk.

* PianoSoft is a trademark of Yamaha Corporation. PianoDisc is a trademark of the PianoDisc company. MS-DOS is a registered trademark of Microsoft Corporation. For PianoDisc disks, the Mark 6 loads only the piano track.

Two different file types can be stored on a single disk: song files and panel memory files; in addition, Standard MIDI Files can be loaded from a disk into the Recorder, and played. (NOTE: These file types are differentiated internally by the file extensions [suffixes] .SNG, .MEM, and .MID, respectively. The file extensions are only of concern to advanced users who use Mark 6 disks with MS-DOS computers.)

The buttons in the Disk section of the front panel, located immediately to the left of the disk drive itself, allow you to perform several operations:

- Load songs or panel memories from disk into the Mark 6.
- Save songs or panel memories from the Mark 6 onto disk.
- Format a disk—prepare it for storage of information.

Pressing one of the Disk buttons presupposes that a disk is in the disk drive. If no disk is in the drive, the Tempo display will show an error message (see Disk Errors, later in this section). Press any button to remove the error message from the display and return the Mark 6 to normal operation.

Load Songs

To load a song, press the Load button. The disk will spin briefly and then the Mark 6 will display a list of all files in the Tempo display. You can "scroll" through this list, displaying items one at a time in the Tempo display, by using the Down and Up buttons beneath the display. The first item in the list is always "ALL," which indicates all song files. Subsequent items in the list are the names of the individual files (only the first three characters of each name are shown in the display).

Since different kinds of files can be stored on a single disk, and since the Load button is used to load songs and Panel Memories, the Mark 6 tells you what kind of file is currently shown in the Tempo display by blinking the appropriate kind of button elsewhere on the panel. The Song buttons (in the Recorder) blink if the file is a song file, and the Panel Memory 1 button (in the Sound Select section) blinks if the file is a Panel Memories file.

While the list is shown in the Tempo display, the five Song buttons in the Recorder section show which songs already have data in them (the Song button is lit continuously) and which are empty (the Song button blinks). Press one of the Song buttons to select a destination for the song currently showing in the Tempo display. If the Song button already had data, it will be overwritten by the song from the disk. If "ALL" was showing, pressing any one of the Song buttons will load the first five songs on the disk into Songs 1 through 5. If one song name was showing in the display, that song will be loaded into the Song button that you pressed. (If the Mark 6 does not have room to load the song, it will display an error message. See Disk Errors, later in this section. To make more room in internal memory, you can delete a song from the Recorder—see page 31.) Press any other button to cancel the load operation.

In addition to Mark 6 song files and Standard MIDI Files, the Mark 6 can load song files from the Yamaha PianoSoft, PianoSoft Plus, and Disk Orchestra libraries, as well as the PianoDisc Music Library. NOTE: On Yamaha disks, there is one file that you will be unable to load: the directory file, which lists the song files on the disk. If you attempt to load this file, the Mark 6 will display an error message (see Disk Errors, later in this section). Press any button to clear the error message and return the Mark 6 to normal operation.

Standard MIDI Files, Yamaha files, and PianoDisc files load more slowly than Mark 6 song files, but once they are loaded, you can save them back to a Mark 6-formatted disk for quicker reloading.

Save Songs

Before you can save a song, you must have a Mark 6-formatted disk. See page 28 for information on formatting disks.

To save a song, press the Save button. The disk will spin briefly and then the Mark 6 will display a list of all song files in the Tempo display. This list shows the song files to which a song in the Recorder can be saved. You can scroll through this list using the Down and Up buttons beneath the display. If a song file on the disk already has data in it, dots in the Tempo display will light, along with the file number.

All of the Song buttons in the Recorder section that have data in them are blinking. When you reach the file number in the display onto which you wish to save a song, press the desired Song button. If the disk file currently has data in it (the file name in the display had dots), the display will show "Y n", giving you a choice to overwrite the existing file with the new data (by pressing the button under "Y", for "Yes") or to cancel the save (by pressing the button under the "n", for "no). If the disk file does not currently have data in it, the selected Song is saved to disk without the "Y n" display.

If you press any of the blinking song buttons while the display shows "ALL", the five songs will be saved into files named xxx.SNG, where xxx is the number of the Song button from which the data came (001–005). Pressing any other button will cancel the save. If any of these disk files currently has data in it, the "Y n" display will appear before saving begins.

If there was a disk error or if there was not enough room on the disk to save the songs, the Tempo display will show the error message (see Disk Errors, later in this section). Press any button to clear the error message and return the Mark 6 to normal operation.

If you load Standard MIDI Files or songs in other manufacturers' formats into the Recorder, you can save them onto a Mark 6-formatted disk for quicker reloading.

Load Panel Memories

Panel Memories store the front panel settings of the Mark 6 for recall at the touch of a button. For more information, see pages 14 and 15.

You can load Panel Memories using the Load button. All five Panel Memories are loaded from a single file. Insert a disk that has memories saved onto it, and press Load. Scroll through the list using the Down and Up buttons beneath the Tempo display until the display shows the file you wish to load. (NOTE: The first item on the list, "ALL", does not apply to panel memories—only to songs.)

Since different kinds of files can be stored on a single disk, and since the Load button is used to load songs and Panel Memories, the Mark 6 tells you what kind of file is currently shown in the Tempo display by blinking the appropriate kind of button elsewhere on the panel—the Song buttons (in the Recorder) blink if the file is a song file, and the Panel Memory 1 button (in the Sound Select section) blinks if the file is a Panel Memories file.

When the Tempo display shows the Panel Memories file that you wish to load, press the Panel Memory 1 button. The memories will load. Once the memories are loaded, you can use them as explained on page 15.

Save Panel Memories

Before you can save Panel Memories, you must have a Mark 6-formatted disk. See page 28 for information on formatting disks.

You can save Panel Memories by pressing the Save button. The Panel Memory 1 button will blink. The disk will spin briefly and the Mark 6 will display a list of all available files in the Tempo display. (NOTE: The first item on the list, "ALL", does not apply to panel memories—only to songs.) You can scroll through this list using the Down and Up buttons beneath the display. If a file on the disk already has data in it, dots in the Tempo display will light.

When you reach the file in the display into which you wish to save the memories, press the Panel Memory 1 button. If the file currently has data in it (the file name in the display had dots), the display will show "Y n", giving you a choice to overwrite the existing file with the new data (by pressing the button under "Y", for "Yes") or to cancel the save (by pressing the button under the "n", for "no). If the disk file does not currently have data in it, the Panel Memories are saved to disk without the "Y n" display. All five Panel Memories are saved in one file.

If there was a disk error or if there was not enough room on the disk to save the memories, the Tempo display will show the error message (see Disk Errors, later in this section). Press any button to clear the error message and return the Mark 6 to normal operation.

FORMAT

CAUTION: Formatting a disk erases all information on the disk. Formatting generally is only necessary for new blank disks, and then only once: the first time the disk is used, to prepare it for storing data. Disks that already contain Mark 6 data—such as the disk that came with this manual—do not need to be formatted; DO NOT format them, or you will erase all the data on them.

If the write/protect tab on a disk is in the protect position (window open), the disk cannot be formatted. This is the best protection against accidental formatting.

To Format a disk, press the Format button. The display will show "Y n". Press the button under "Y" to continue with the formatting procedure; press the button under "n" to cancel. (Pressing any other button will also cancel.)

After you press "Y", the display shows "H L". Press the button beneath "H" to format a high-density disk, or the button beneath "L" to format a low-density (double-density) disk. (If you aren't sure which kind of disk you have, you can eject it from the drive and look at it; high-density disks are usually labeled as such on the sliding metal shutter, and they also have an extra square hole punched out of the case—in the corner across from the write-protect tab—that double-density disks lack. Put the disk back in the drive after making sure what kind it is.) NOTE: Formatting a disk using the wrong density will likely fail.

The Tempo display reads "For" while the Mark 6 formats the disk, followed by "vEr" while it verifies (checks) the disk, then "dir" briefly while it creates a directory, before returning to normal. If an error occurs, the display will show the error message (see Disk Errors, below). In this case, press any button to clear the message from the display and the return the Mark 6 to normal operation.

DISK ERRORS

If a disk error occurs, an error number appears in the display and all of the periods in the display blink. Press any button to return the Mark 6 to normal operation.

Following is a list of error messages and their meanings:

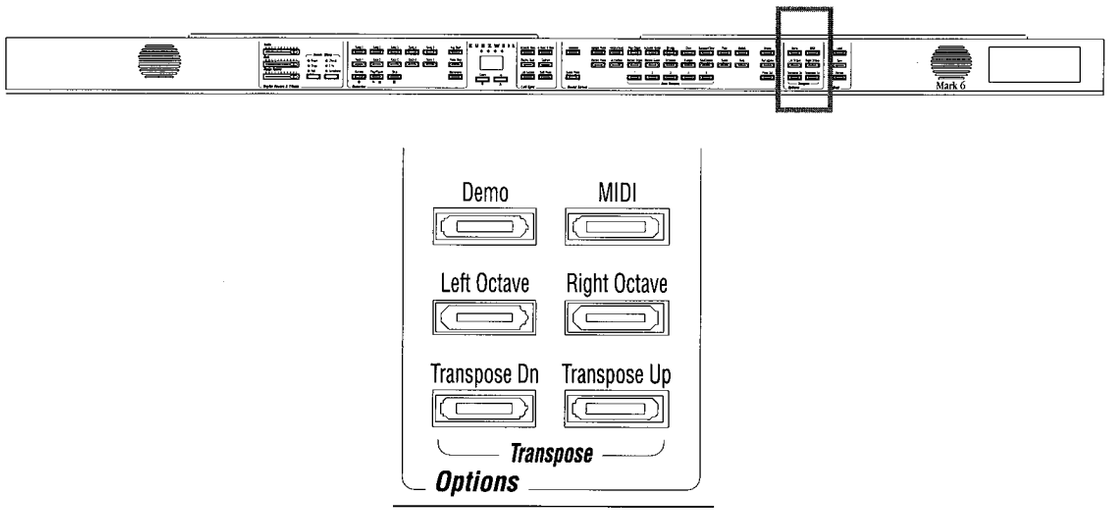
MESSAGE	Meaning
E01	Cannot initialize disk
E02	Cannot open disk
E03	Cannot open file
E04	Cannot read file
E05	Cannot write file
E06	Cannot close file
E07	Cannot close disk
E08	No disk in drive
E09	Disk is write-protected
E10	Cannot format disk
E11	Cannot verify disk
E12	Cannot write disk directory
E13	File not found
E14	Unknown disk type
E15	Insufficient space on disk to save
E16	No songs to save or load
E17	Cannot delete file
E18	Mark 6 memory is full
E19	Cannot load directory file

Protecting The Disk Drive During Shipping

IMPORTANT: The following procedure should be executed whenever the Mark 6 is to be shipped anywhere. The purpose of this procedure is to park the heads in the disk drive, to prevent damage to the drive in transit. This procedure should be executed at the factory before shipping, and also by the distributor if the unit has been powered up. It should be executed by the dealer if they have applied power to the unit.

Without inserting a disk into the drive, press the Load button. An error message, E08, will appear in the Tempo display. Turn off the power to the Mark 6. The unit is now prepared for shipping.

Options



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 two low for the singer, or when playing music written for a transposing instrument, such as a clarinet.

To change the transposition, press the Transpose Up button to raise the pitch by a half step, or press Transpose Down to lower the pitch.

To cancel the transposition, press both Transpose buttons simultaneously.

Transposition is reset to OFF when power to the Mark 6 is switched on.

Left Octave

Use the Left Octave shift setting to change the octave range in which left sound in a split plays. Press Left Octave; the button blinks. The Tempo display shows the current transposition of the left sound; the default when power to the Mark 6 is turned on is always 0. Use the Up and Down buttons beneath the display to lower or raise the transposition in increments of an octave (12 half steps); press Up and Down simultaneously to reset the transposition to 0. Press Left Octave a second time to accept the current value. If the left octave value is not 0, the Left Octave button will remain lit.

Right Octave

The Right Octave shift works just the same as the Left Octave shift, except that it affects the sounds in the right portion of a split. The Right Octave value is reset to 0 every time the power to the Mark 6 is turned on.

Demo

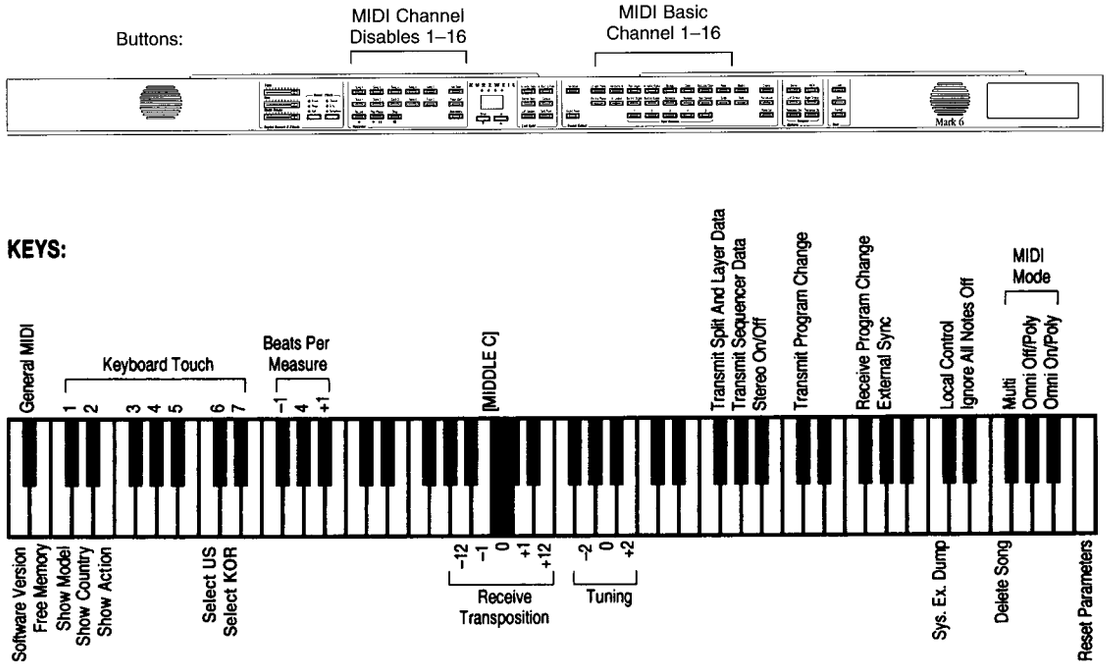
The Mark 6 contains many built-in demonstrations. See page 7 for instructions on listening to them.

MIDI

The MIDI button gives you entry to MIDI Edit Mode, where you access and alter MIDI settings, as well as other settings that affect the Mark 6 as a whole. MIDI itself, and the MIDI connections on the Mark 6, are explained on pages 48–66.

Entering MIDI Edit Mode

To enter MIDI Edit Mode, press and hold the MIDI button. The button lights up. Releasing the MIDI button will exit MIDI Edit Mode. While in MIDI Edit Mode (while the MIDI button is held down), you change settings by pressing buttons or keys on the keyboard. The following illustration shows which buttons and keys correspond to each setting:



Settings controlled by keys on the keyboard are shown in the Tempo display when the keys are pressed.

The MIDI Basic Channel setting is reflected by the lights in the buttons in question, and also in the Tempo display when one of these buttons is pressed.

The MIDI Channel Disables settings are reflected in the lights above the buttons in question.

All of these settings are explained in the discussion that follows.

NOTE: The Mark 6 "remembers" changes to many of these settings, even when you turn the power off. It retains these changes in memory for about one week after the power is turned off. If you do not use the Mark 6 for a week, you can turn the power on for one hour and then off again to extend the memory of your settings. If your settings are forgotten, they will be reset to the factory defaults.

Reset Parameters

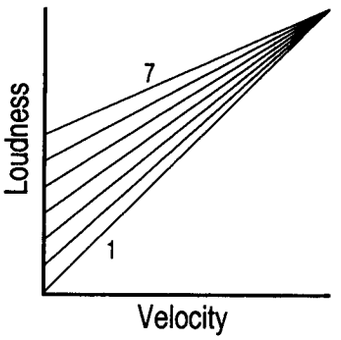
Pressing the Reset Parameters key while in MIDI Edit Mode will return all of the settings to the factory defaults. It also deletes all user songs and panel memories.

Tuning

The Mark 6 will never go out of tune. However, when playing with other instruments, you may want the ability to shift the tuning. You can do so by as much as a quarter tone (half a half step) up or down. Three keys affect tuning while in MIDI Edit Mode. The middle one resets the tuning to standard concert pitch (A 440). The key to the right raises the pitch; the key to the left lowers the pitch. You can change the tuning in increments of two cents (two hundredths of a half step) by pressing the appropriate key repeatedly to raise or lower the pitch. The Mark 6 retains the Tuning setting, even when the power is turned off.

Keyboard Touch

You can adjust the sensitivity of the keyboard touch (how the dynamics of the sounds respond to key velocity) by pressing one of the seven keys that govern this setting. A setting of 1 has the greatest dynamic range, but requires high key velocities to obtain loud notes; a setting of 7 has a narrower range, but makes it easier to play moderately loud notes (see the graph at right). For example, a high setting is suggested for a child beginning piano lessons, while an experienced player may prefer a lower setting. The default setting is 4.



The Mark 6 retains the Keyboard Touch setting, even when the power is turned off.

Stereo On/Off

When this function is ON, the audio outputs are stereo. When it is OFF, they are monaural.

Stereo On/Off is reset to ON every time the Mark 6 is turned on.

Delete Song

Pressing the Delete Song key causes all Song buttons with user data in them to blink. Press the one that you wish to delete; all of the others will stop blinking. The Tempo display shows "Y n". Press the button under "Y" to delete the song or style, or press the button under "n" to cancel the deletion. NOTE: You cannot delete the factory demo songs; they reside in permanent memory (ROM), and are unaffected by the Delete Song function.

Beats Per Measure

Three keys allow you to set Beats Per Measure. This setting affects only the "wrapping" of the Beat lights above the Tempo display. To change the Beats Per Measure of the currently selected Song in the Recorder:

- Press the –1 key—repeatedly, if you wish—to lower the Beats Per Measure. (The minimum is 2.)
- Press the +1 key—repeatedly, if you wish—to raise the Beats Per Measure. (The maximum is 7.)
- Press the 4 key to reset to the default of 4.

The Tempo display shows the Beats Per Measure.

The Mark 6 retains the Beats Per Measure setting, even when the power is turned off.

MIDI Basic Channel

The MIDI Basic Channel is the channel on which the keyboard transmits MIDI messages. In addition, in Omni Off/Poly mode, it is the channel on which the instrument responds to MIDI messages; all other channels are ignored. (In Omni On/Poly mode, the instrument responds to all channels as if they were the Basic Channel. In Multi mode, the instrument responds to channels independently.)

The button in the Sound Select section that is lit in MIDI Edit Mode shows the Basic Channel. (The top row of buttons indicates channels 1–8, the bottom row channels 9–16.) Press a different Sound Select button to change the channel. When you press one of these buttons, the Tempo display shows that channel number.

There are at least three ways to change the sound selection for a given channel:

- If you are using the Mark 6 as a MIDI slave of an external sequencer or another instrument, use the MIDI Basic Channel buttons to select the channel you desire. Then release the MIDI button and select the sound(s) for that channel using the Sound Select and Left Split buttons. Repeat this procedure for each channel whose sounds you wish to set.
- As an alternative to the procedure above, simply send the appropriate program change message to the Mark 6 on the channel in question. (See page 55 for a list of sounds and their program numbers.)
- If what you really want to do is change the sound for a track of a song in the Recorder, exit MIDI Edit Mode (release the MIDI button) and use the Panel Set function (see page 15).

The Basic Channel is reset to 1 every time the Mark 6 is turned on.

MIDI Channel Disables

In Multi mode, you can disable response to any MIDI channel except the Basic Channel by pressing the corresponding button. (Songs 1-5 indicate channels 1-5; Key Start indicates channel 6; Track 1-5 → 7-11; Pedal Start → 12; Record → 13; Play → 14; Stop → 15; Metro → 16) The channel is enabled (ON) if the button is lit; it is disabled (OFF) if the button is blinking. Disabling a channel causes the Mark 6 to ignore incoming MIDI messages on that channel. (Pressing the button again re-enables response on that channel.) This is useful if you have an external MIDI tone generator, and wish to dedicate one or more MIDI channels to the tone generator. NOTE: You can disable playback of tracks from an external sequencer by disabling the appropriate channels.

The Mark 6 retains channel disable settings, even when the power is turned off.

MIDI Mode

The three MIDI Modes available on the Mark 6 (Omni On/Poly, Omni Off/Poly, and Multi) are explained on page 50. Multi, the default Mode set at the factory, is the Mode to use when recording tracks in the Recorder or sequencing independent parts with an external MIDI sequencer. Press the appropriate key of the three available to select the MIDI Mode you desire.

The Mark 6 retains the MIDI Mode, even when the power is turned off.

Ignore All Notes Off

The MIDI All Notes Off message fulfills a useful purpose: to silence notes that have inadvertently gotten "stuck on." Unfortunately, some MIDI devices, such as some Roland* equipment, use this message in a non-standard way: they transmit it every time all the keys on the keyboard are released. In some situations, this can cause notes to be cut off when you don't want them to be. If you hear notes on the Mark 6 cutting off abruptly when using it as a MIDI slave or when connected to a sequencer, try turning ON the Ignore All Notes Off setting.

The Mark 6 retains the Ignore All Notes Off setting, even when the power is turned off. (The default setting for this feature is OFF.)

*The name Roland is a trademark of Roland Corporation.

Local Control

Local Control is the connection between the keyboard of the Mark 6 and the internal sound-producing circuitry of the instrument. Normally, Local Control is ON; in fact, every time you power-up the Mark 6, it is automatically set to Local Control ON, so you can play the keyboard and hear the sounds of the instrument. But there are reasons for setting Local Control to OFF—especially when MIDI connections bring output of the Mark 6 back to the instrument's In port. One example of this is when using an external sequencer whose MIDI Out port has been set to function as both a MIDI Out and a MIDI Thru—a function known as "soft thru." (See pages 64–65 for more about sequencers and sequencing.) In such a case, you can eliminate the doubling of notes by setting Local Control to OFF. Press the appropriate key on the keyboard in MIDI Edit Mode to do so. To turn Local Control back ON, press the Local Control key again in MIDI Edit Mode.

When Local Control is ON, the MIDI button is lit continuously when it is held down; when Local Control is OFF, the MIDI button blinks when it is held down.

Receive Transposition

Receive Transposition lets incoming MIDI messages be transposed. You should usually use the Transpose buttons on the front panel instead (see page 29); these transpose the MIDI messages transmitted from the Mark 6, and if these messages are recorded by a sequencer, they won't need transposing on reception (during playback). The middle Receive Transposition key resets the transposition to 0. The keys to the immediate left or right transpose down or up by one half step, respectively. The keys to the left and right of those will transpose down or up by one octave (12 half steps), respectively. You can press the transposition keys more than once to transpose by multiple half steps or multiple octaves.

The Mark 6 retains the Receive Transposition setting, even when the power is turned off.

Transmit Program Change

Ordinarily, when you press a program select button, the instrument transmits the corresponding program change message. You can disable this function by pressing the Transmit Program Change key while in MIDI Edit Mode. This can be useful if, for example, you want to change sounds on your master instrument (the Mark 6), but not on any slaves that are connected to it. To re-enable transmission of program change messages, press the Transmit Program Change key in MIDI Edit Mode again.

The Mark 6 retains the Transmit Program Change setting, even when the power is turned off.

Receive Program Change

The Receive Program Change key functions just as the Transmit Program Change key does, except that it affects whether or not the instrument *receives* program change messages (more accurately, whether it *responds* to program change messages that it receives). This key alternately disables and enables reception of program change messages.

The Mark 6 retains the Receive Program Change setting, even when the power is turned off.

External Sync

When External Sync is OFF, the Mark 6 transmits MIDI clock messages, Start, Stop, and Continue messages when the Recorder is started and stopped. When External Sync is turned ON, the Mark 6 waits to receive MIDI clocks, and Start, Stop, and Continue messages, in order to run the Recorder—so the Recorder will be synchronized with the external MIDI device. Without these messages, the Recorder will not run.

To start the Recorder when External Sync is turned on, press Play/Pause and then start your external sequencer.

External Sync is reset to OFF every time power to the Mark 6 is turned on.

Transmit Split And Layer Data

When Transmit Split And Layer Data is ON, MIDI controller messages are transmitted when you press a Left Split button, select a split point, layer two sounds, adjust the layer volumes, or change the Left Sustain setting. When it is OFF, the Left Split sound and layered sound are transmitted as MIDI program change messages. This can be useful if you record using an external sequencer.

The Transmit Split And Layer Data setting is reset to ON every time the power to the Mark 6 is turned on.

Transmit Sequencer Data

When Transmit Sequencer Data is ON, the data from the Recorder is transmitted out the MIDI Out port. When it is OFF, the data is used to play the internal sounds only.

The Transmit Sequencer Data setting is reset to OFF every time the power to the Mark 6 is turned on.

General MIDI

General MIDI (GM) allows sequencer data from different sources to be played back with predictable results, by specifying the sounds that Program Change messages select, the channel (10) for drum and percussion sounds, and the "mapping" of those sounds across the keyboard. The Mark 6 implements General MIDI, so you can play General MIDI sequences and automatically hear the correct sounds. These sequences can be played from an external sequencer controlling the Mark 6 via MIDI, or from disk files that you load into the internal Recorder.

When you set the Mark 6 to General MIDI ON, program changes received at the MIDI In port or from the Recorder will select the appropriate internal sounds. The General MIDI Drum Kit is also assigned to channel 10, and external program changes for that channel select GM Kits. The front panel is not affected. Besides letting you set General MIDI ON in MIDI Edit Mode, the Mark 6 responds to external system exclusive messages to turn General MIDI ON and OFF.

When the Mark 6 is in GM mode, the last decimal point on the Tempo display will be lit.

If you load a General MIDI song into the Recorder, GM mode will automatically turn on when the song is played. If the song you loaded is supposed to be a GM song, but the GM display does not turn on when you play the song, you can set the song to turn on GM mode automatically whenever you select it. To do this, turn on GM mode while the song is selected. (To erase this, turn off GM mode while the song is still selected.) From now on, whenever you select that song, the GM mode will automatically turn on. This is useful for the Song Chain feature (see page 23). Whenever any song is deselected (by pressing the same song button as the currently selected song, or by selecting another song), GM mode will turn off.

NOTE: If General MIDI is ON, sounds selected by songs recorded with General MIDI OFF, will be incorrect. You should only set the Mark 6 to General MIDI ON when playing songs recorded for General MIDI sound mapping.

General MIDI is set to OFF every time power to the Mark 6 is turned on.

Software Version

Pressing this key will cause the display to show the current version of Mark 6 software that has been installed in your instrument.

Free Memory

Pressing this key will cause the display to show, in kilobytes, how much memory is left in the Mark 6 for loading of songs and styles. When the Mark 6 has been reset and has no songs or styles loaded, the number is 105 kilobytes.

Select US

Pressing this key allows you to set the US program list for your Mark 6. This is useful if you have previously selected the Korean program list and you want to change back. See page 55 for the program lists in the US and Korean modes.

Any songs that you create while in US mode will automatically select US mode when you play them back.

Select Korean

Pressing this key allows you to set the Korean program list for your Mark 6. This allows you to access certain sounds via MIDI that are not available in the US mode, but it will disable certain sounds as well. See page 55 for the program lists in the US and Korean modes.

Any songs that you create while in Korean mode will automatically select Korean mode when you play them back.

Show Model

Pressing this key will cause the display to show the model of your instrument. It will always display "M 6".

Show Country

Pressing this key will cause the display to show the factory selected default program list for the Mark 6. It will always display "uSA". You can change the program list of your instrument to the Korean list by using the "Select Korean" function, described earlier in this section. See page 55 for the program lists in the US and Korean modes.

Show Action

Pressing this key will cause the display to show the keyboard action that is installed in your instrument. It will always show "AbS" or "bAY".

System-Exclusive Dump

Pressing this key allows you to "dump" songs or panel memories via MIDI system exclusive messages. This is an advanced MIDI feature for users with external sequencers. These users can store songs into their sequencers as system exclusive messages, and later dump them back into the Mark 6 for playback using the internal Recorder. Most users will not need this feature, since the Mark 6 can also transfer songs to an external sequencer by playing them (using the Transmit Sequencer Data parameter), or by saving them to floppy disk.

Miscellaneous

This section of the manual discusses three main areas: 1) Connections to the Mark 6 Digital Piano; 2) Service; and 3) Specifications.

Headphone Jacks

Two stereo headphone jacks are located underneath the keyboard on the left side, next to the power switch, providing you with a means to play or practice at the Mark 6 in privacy. Inserting a plug into either jack disables the internal speakers.

Bottom/Rear Panel

The rear panel of the Mark 6 is the location of connectors for such things as AC power, audio inputs and outputs, and MIDI.

AC In

One end of the power cord fits in the AC In receptacle on the Mark 6; the other end of the cord plugs into a standard AC wall outlet.

MIDI Ports

The functions of the three MIDI ports are discussed on page 48.

Audio Jacks

Two RCA jacks provide audio output to external equipment, such as a home stereo, a PA system, or a tape recorder. They provide line-level signals.

The Audio Out jacks are useful for tape recording with headphones plugged in, or if you wish to mute the internal speaker system (by inserting a "dummy" plug—one that is not connected to anything—into the headphone jack) while using a more powerful external amplifier system. (IMPORTANT: The dummy plug must be a stereo plug. A monaural plug inserted into the headphone jack will not only shut off the speakers, but it will also completely disable the right audio channel.)

There are two RCA jacks available for audio input from external equipment, such as a tone module, a CD player, or a tape recorder. These inputs are directed to the Left and Right channels of the internal audio system.

These inputs are inserted after the digital reverb and delay effects; that is, the internal effects will not be applied to the signal from an external source.

WARNING: The signal that is input via these jacks will play at full volume! These inputs are not affected by the Master Volume, Treble, and Bass controls of the Mark 6. If you wish to be able to control the level of the external device connected to these inputs, the device must have an output level control of its own.

The Audio In jacks accept line-level signals. (In order to use a microphone, you must boost the signal by passing it through a preamplifier.)

Service

The Mark 6 Digital Piano contains no user-serviceable parts. In the event that you should experience a problem with the operation of the instrument, see your local Young Chang/Kurzweil dealer.

Following are physical, audio, electrical, and environmental specifications for the Mark 6 Digital Piano.

SPECIFICATIONS

Physical

■ Height:	32.5"	(82.5 cm)
■ Width:	56.9"	(144.4 cm)
■ Depth:	19.3"	(48.9 cm)
■ Weight:	140 lbs.	(63.5 kg)

Audio

■ 80-Watt Amplification:	2 x 40 watts (L/R)
■ 2-Way Speaker System:	2 x 5.25" (130 mm) woofers/midrange 2 x 1" (25 mm) dome tweeters
■ Audio Outputs:	0.25 volts RMS for ff piano music with Master Volume slider at maximum and Treble and Bass sliders centered. Output impedance = 500 ohms. Loading of these outputs will not affect the sound of the internal speakers.
■ Audio Inputs:	0.5 volts RMS will produce a level equivalent to ff piano music. Input impedance = 300K ohms. Master Volume, Treble, and Bass sliders do not affect the signal delivered through these inputs.
■ Headphone Output(s):	Source impedance = 47 ohms; recommended load impedance = 50 ohms or greater. Level is 0.5 volts RMS = 1 mW at 100 ohms for ff piano music with Master Volume slider at maximum and Treble and Bass sliders centered; 8 volts RMS = 280 mW absolute maximum. Plugging in headphones switches off the internal speakers.

Electrical

	120VAC	**240VAC**
■ Voltage Range:	100–125 volts RMS	200–250 volts RMS
■ Frequency Range:	48–65 Hz	48–65 Hz
■ Power Consumption:	1.3 Amps nominal	0.7 Amps nominal

Environmental

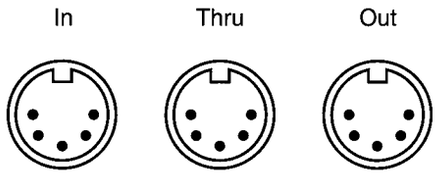
■ Temperature (Operating):	5 to 40°C	(40 to 104°F)
■ Temperature (Storage):	–25 to 85°C	(–13 to 185°F)
■ Relative Humidity (Operating and Storage):	5 to 95% non-condensing	

MIDI

"MIDI" stands for "Musical Instrument Digital Interface." It is an international specification that allows electronic musical instruments to communicate with each other, using a simple cable connection. It ensures that the Mark 6 Digital Piano will remain compatible with the instruments of today and tomorrow.

MIDI Connections

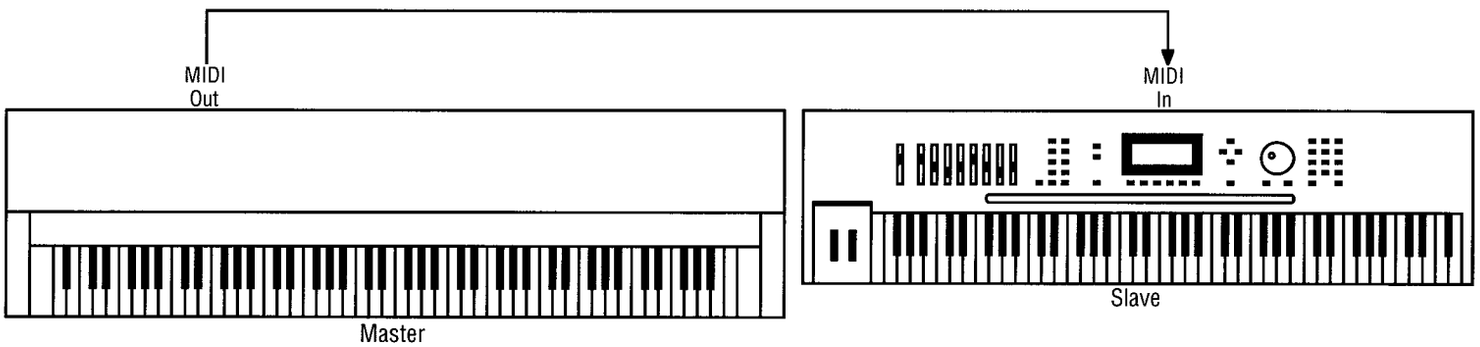
On the rear panel are three MIDI ports:



- In receives MIDI information from other equipment.
- Thru duplicates the MIDI information received by In and passes it to other equipment.
- Out sends MIDI information to other equipment.

MIDI cables provide the connections between the MIDI ports of one piece of equipment and those of another. To keep things simple, there are only two valid MIDI connections: Out to In and Thru to In.

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 instrument whose keyboard you'll play) to the MIDI In port of the "slave."



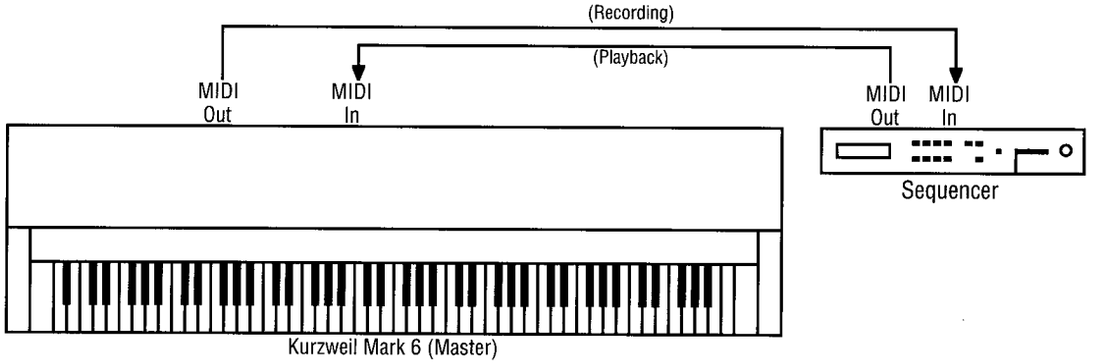
If you connect In to Out, rather than Out to In, the other instrument becomes the master. And if you use two cables, connecting In to Out and Out to In, you can use either instrument as the master.

You probably will want to use the Mark 6 Digital Piano as your master keyboard.

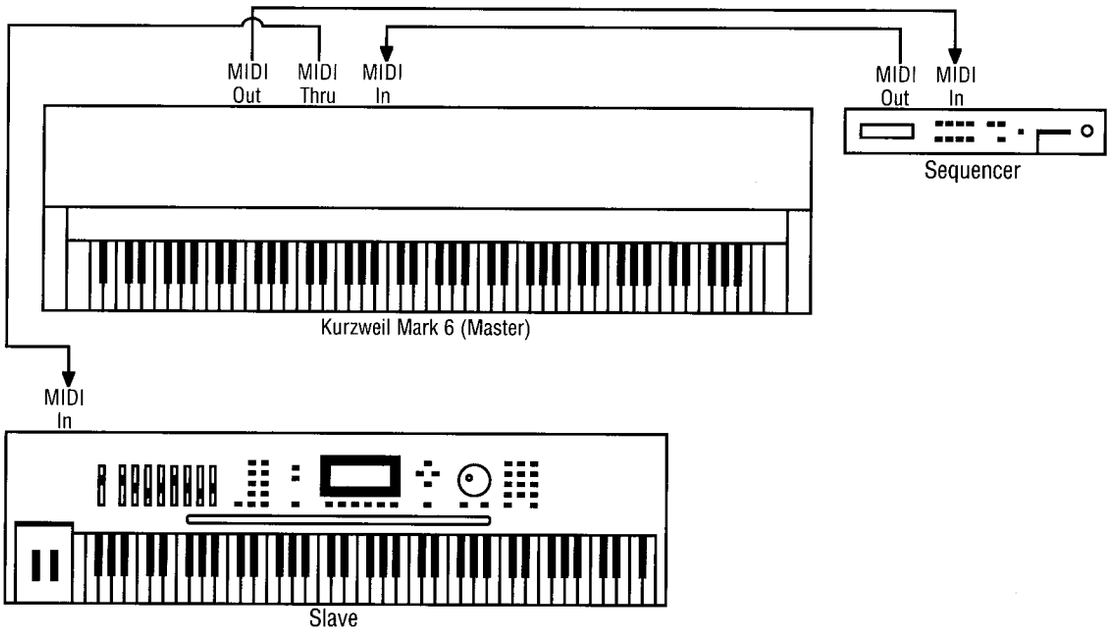
It is important to explain that what is sent over the MIDI cable is information (data), not sound. In fact, the usefulness of master-slave setups lies in having each instrument produce a different sound, resulting in a layering of sounds that expands on the layering that is possible within the Mark 6 itself.

The slave can be a MIDI organ, portable keyboard, synthesizer, tone module, drum machine, or effects device. If it doesn't have built-in amplification and speakers, connect its audio outputs to the Audio In jacks on the Mark 6.

Another application of MIDI is in using a sequencer to record and play back your performances. The Recorder on the Mark 6 is actually a sequencer, but some advanced users may wish to connect an external sequencer as well, to make use of features that go beyond what the built-in Recorder provides. An external sequencer can be a special hardware unit designed for that purpose, or it can be a home computer running special sequencing software. In either case, the MIDI connections are the same—Out to In and In to Out.

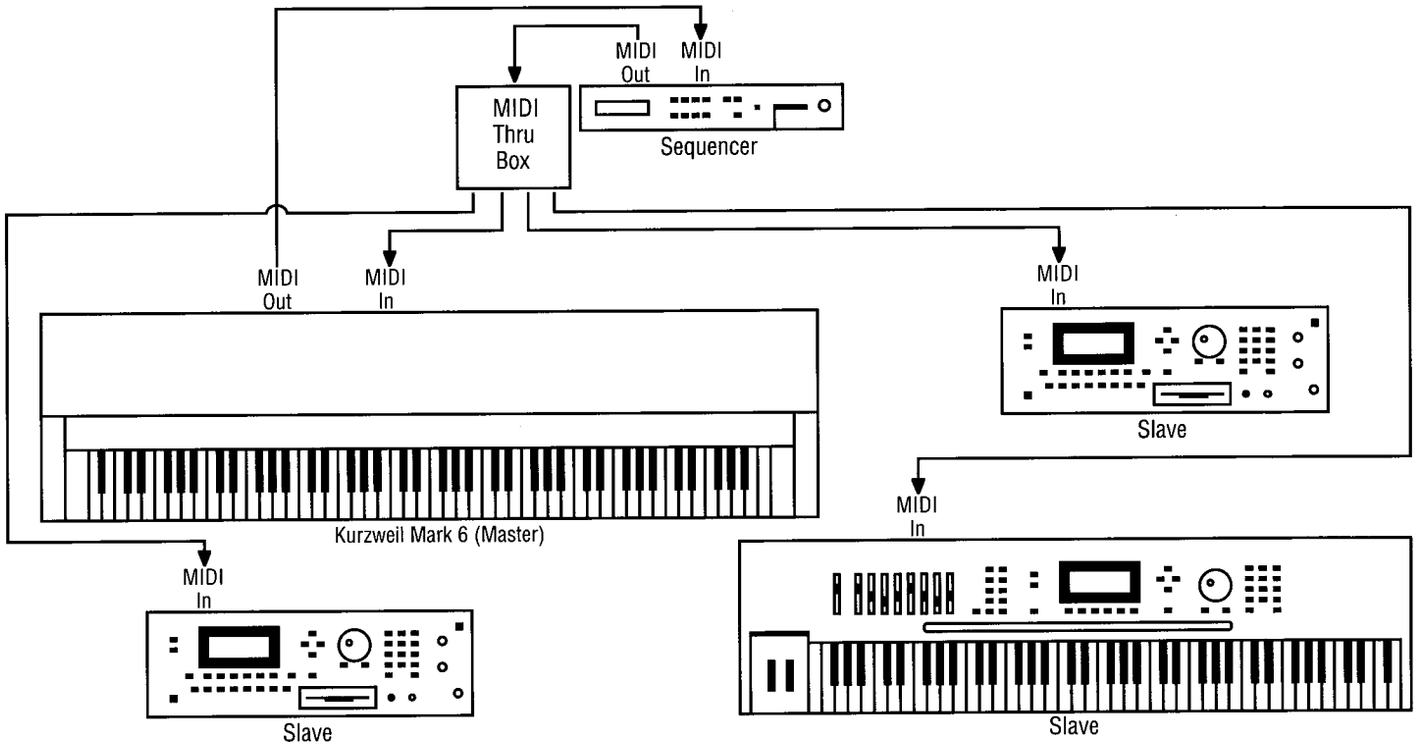


The MIDI Thru port on the Mark 6 Digital Piano allows you to form a "chain" of instruments, so that a sequencer can control not only the master instrument, but a slave as well.



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, in turn, has a Thru port, another slave could 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 will work effectively; beyond that, transmission becomes unreliable.

The solution to the problem of too long a chain lies in either using a sequencer with multiple MIDI Outs or using a *MIDI Thru box,* which produces several parallel Thru signals from one In (see the illustration on the following page).



MIDI Channels And Modes

For MIDI to control several instruments, each playing a different part, at the same time, it relies on different *channels.* MIDI channels are like TV channels: an instrument has to be "tuned" to the correct one or it won't receive what is being transmitted. There are 16 channels available, and each one can transmit any number of notes to any number of instruments, over the same MIDI cable.

On the Mark 6, the Basic Channel (the one on which the instrument transmits) can be set to any channel, 1–16. For receiving, there are three MIDI modes that govern how the instrument responds to different MIDI channels:

- OMNI ON/POLY. In this mode, the Mark 6 responds to all 16 MIDI channels, no matter what the Basic Channel is. It plays the sound selected for the Basic Channel.
- OMNI OFF/POLY. In this mode, the Mark 6 responds on only the Basic Channel to which it is set.
- MULTI. In this mode, the Mark 6 responds to parts on different MIDI channels independently. Each channel can play a different sound (multitimbral capability), in effect making the Mark 6 the equivalent of 16 MIDI slaves. The only limit is the number of notes that can sound at one time, the maximum of which is 32. Multi is the default mode of the Mark 6. The instrument must be in this mode to play back sequenced parts with independent sounds.

Information on setting the Basic Channel and MIDI mode of the Mark 6 Digital Piano, as well as other settings, can be found on pages 30–35.

Channel Functions

When the Mark 6 is turned on, the local keyboard and Basic Channel are set to channel 1. Recorder tracks 1–5 play on channels 2–6. Drums in General MIDI (GM) mode play on channel 10, and Metronome on 16. You may wish to change some aspects of this configuration in certain situations (e.g., if you are using an external MIDI controller or sound modules), but in general it is best to leave the channel settings at their power-up defaults.

What MIDI Transmits

The MIDI data that the Mark 6 transmits and receives falls into six categories:

- NOTE ON and NOTE OFF. When you press a key on the Mark 6, it sends a MIDI message that says a note has begun, what MIDI channel it's on (the Basic Channel), 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.
- CONTROLLERS. When any of the three pedals is pressed or released, a special MIDI controller message is transmitted. Selecting Digital Reverb & Effects or Left Split buttons, turning auto accompaniment on or off, selecting styles, selecting a layered sound, and other operations also transmit controller messages (see the MIDI Implementation Chart, on page 66, for a complete list).
- PITCH BEND. The Mark 6 receives Pitch Bend messages.
- SYNCHRONIZATION. The Mark 6 normally transmits MIDI clocks, as well as start and stop messages, so that external equipment such as sequencers or drum machines can be "slaved" to the Mark 6, to run in sync with the internal Recorder. The Mark 6 can also be set so that it does not transmit these synchronization messages (see page 33), in which case it will be the slave, running in sync with an external MIDI device.
- PROGRAM CHANGE. Selecting a sound results in a program change message that corresponds to the number of the sound selected. The sounds on the Mark 6 are numbered 1–127, as shown in the tables on the following pages.
- SYSTEM EXCLUSIVE. Whereas most other MIDI messages have to do with the performance of music, system exclusive messages are generally concerned with other aspects of the operation of the instrument. For example, on the Mark 6, system exclusive messages allow remote editing of many of the parameters encountered in MIDI Edit mode.

Standard MIDI Files And General MIDI

In addition to the specification of basic messages, MIDI also provides for some specifications that govern the way these messages may be used. The two most important of these are Standard MIDI Files and General MIDI.

Standard MIDI Files are a way for songs to be stored so that they can be played back by sequencers of different brands. The Mark 6 can read Standard MIDI Files and play them in its built-in Recorder—although it does not save songs as Standard MIDI Files.

When you go looking for disks containing Standard MIDI Files (and there are many available, with more appearing all the time), be sure they're MS-DOS-format disks (most are). It doesn't matter whether they're double-density or high-density; the Mark 6 can read both kinds.

You can load Standard MIDI Files with more than 5 tracks into the Recorder of the Mark 6. The Track 5 button can mute tracks 5–16.

General MIDI specifies what sounds correspond to what program numbers. For example, in General MIDI, program number 1 is always acoustic piano. This design allows songs created for one device to play correctly on many other devices. If your Standard MIDI File begins with a General MIDI On message, the Mark 6 will automatically switch to General MIDI mode when you play the song in the Recorder. You can also switch General MIDI mode on and off manually in MIDI Edit mode (see page 34).

MIDI Messages

The MIDI messages that the Mark 6 transmits and recognizes fall into several categories, as outlined in the MIDI Implementation Chart on page 66. This section explains those messages and how to use them.

Note On And Note Off

When you play a key on the Mark 6, it sends a MIDI message that says a note has begun, what MIDI channel it's on (the Basic Channel), 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.

After Touch

The Mark 6 recognizes channel After Touch messages. These affect different sounds in different ways.

Pitch Bender

The Mark 6 recognizes Pitch Bend messages.

Control Change

Control Change is the largest category of MIDI messages. The Mark 6 has an extensive controller implementation, to help you alter your performances and sounds flexibly as you play or in your recorded sequences. The following discussion elaborates on each of these messages.

Mod Wheel

The Mark 6 recognizes Mod Wheel messages, which affect the sounds of different programs in different ways. Controller 1 can be used by itself, or, if a finer degree of control is desired, controller 33 can be used in conjunction with it.

Volume

The Mark 6 recognizes Volume messages, which control the overall volume of the sound on the MIDI channel on which they are sent.

Controller 7 can be used by itself, or, if a finer degree of control is desired, controller 39 can be used in conjunction with it.

Moving the Master Volume slider does not transmit Volume messages over MIDI.

Pan

The Mark 6 recognizes Pan messages, which control the location in the stereo field of the sound on the MIDI channel on which they are sent.

Controller 10 can be used by itself (a value of 0 is hard left, 64 is centered, and 127 is hard right), or, if a finer degree of control is desired, controller 42 can be used in conjunction with it.

Expression

The Mark 6 recognizes Expression messages, which regulate the volume of the sound on the MIDI channel on which they are sent between a minimum of 0 and a maximum of the current Volume setting.

Controller 11 can be used by itself, or, if a finer degree of control is desired, controller 43 can be used in conjunction with it.

Sustain, Sostenuto, And Soft Pedals

The right, center, and left pedals transmit MIDI controller messages 64 (sustain), 66 (sostenuto), and 67 (soft), respectively. The Mark 6 also recognizes these messages.

A value of 0 is OFF, and a value of 127 is ON.

Right Octave Shift, Left Octave Shift

Changing the Right Octave setting (in the Left Split section) transmits a MIDI controller message 76. Changing the Left Octave setting transmits a MIDI controller message 77. The Mark 6 also recognizes these messages.

The value of the message is the number of half steps shifted up (+) or down (–), plus 64. (For example, to shift down an octave, the value would be 52.) This allows a range of –64 to +63 half steps.

Left Octave and Right Octave do not affect the MIDI note messages the Mark 6 transmits. (To do so, use the Transpose buttons, in the Options section of the panel.)

Bass Sustain

Changing the Left Sustain setting (in the Left Split section) transmits a MIDI controller message 78. The Mark 6 also recognizes this message.

A value of 0 is OFF, and a value of 127 is ON.

Split And Layer

Selecting a Left Split sound transmits two MIDI controller messages (see page 34 for more information on transmitting split and layer data): controller 80 contains the split point (Middle C is 60) and controller 81 contains the split program number.

Setting the Split Point transmits a MIDI controller 80 by itself.

Creating a layer transmits a program change message for only the first sound selected. For the second sound it transmits a MIDI controller message. Controller 82 contains the layer program number.

Adjusting the volume of the second sound in a layer transmits a MIDI controller #79 message. To use the Layer Volume Adjust controller (#79), send the controller message with a value of the number of key presses that would have accomplished the adjust. Larger numbers will reduce the volume of the layer program more.

The Mark 6 also recognizes these messages.

Reverb And Effects Settings

To change the global Reverb and Effect setting, send a controller #83 message with a value from the following table:

Value	Effect	Reverb Room Size	Reverb Quality*
65	None	None	None
66	Chorus	None	None
67	Delay	None	None
68	Symph.	None	None
69	None	Room	None
70	Chorus	Room	None
71	Delay	Room	None
72	Symph.	Room	None
73	None	Stage	None
74	Chorus	Stage	None
75	Delay	Stage	None
76	Symph.	Stage	None
77	None	Hall	None
78	Chorus	Hall	None
79	Delay	Hall	None
80	Symph.	Hall	None
81	None	None	Bright
82	Chorus	None	Bright
83	Delay	None	Bright
84	Symph.	None	Bright
85	None	Room	Bright
86	Chorus	Room	Bright
87	Delay	Room	Bright
88	Symph.	Room	Bright

Value	Effect	Reverb Room Size	Reverb Quality*
89	None	Stage	Bright
90	Chorus	Stage	Bright
91	Delay	Stage	Bright
92	Symph.	Stage	Bright
93	None	Hall	Bright
94	Chorus	Hall	Bright
95	Delay	Hall	Bright
96	Symph.	Hall	Bright
97	None	None	Warm
98	Chorus	None	Warm
99	Delay	None	Warm
100	Symph.	None	Warm
101	None	Room	Warm
102	Chorus	Room	Warm
103	Delay	Room	Warm
104	Symph.	Room	Warm
105	None	Stage	Warm
106	Chorus	Stage	Warm
107	Delay	Stage	Warm
108	Symph.	Stage	Warm
109	None	Hall	Warm
110	Chorus	Hall	Warm
111	Delay	Hall	Warm
112	Symph.	Hall	Warm

*If the Reverb Room Size is None, the Reverb Quality setting will not produce an audible difference.

Registered Parameter Number, Data Increment, Data Decrement, Data Entry

The Mark 6 recognizes these controllers. They are used to provide control of settings common to many electronic musical instruments. Controller messages 100 and 101 are sent as a pair, with values that identify the Registered Parameter as follows:

Controller 100 Value	Controller 101 Value	Registered Parameter
0	0	Pitch Bend Sensitivity
0	1	Fine Tuning
0	2	Coarse Tuning

Following the Registered Parameter Message (which identifies the parameter to be adjusted), the value of the parameter is adjusted by using either a Data Increment message (controller 96, with a value of 127, to mean "increase the previous value of the parameter by 1"), a Data Decrement message (controller 97, with a value of 127, to mean "decrease the previous value of the parameter by 1"), or a Data Entry message, as described on the following page.

Data Entry messages use controllers 6 and 38. These two controllers are usually sent as a pair, with controller 6 providing the Most Significant Byte (MSB) of the data value, and controller 38 providing the Least Significant Byte (LSB) of the data value. For each of the Registered Parameters, the values of the Data Entry messages have the following meanings:

Registered Parameter	Controller 6 (MSB)	Controller 38 (LSB)
Pitch Bend Sensitivity	Units of a semitone	Units of 1/128 of a semitone
Fine Tuning	Units of 1/64 of a semitone	Units of 1/8192 of a semitone
Coarse Tuning	Units of a semitone (Message shifts the tuning by the value –64	Not used

All Sound Off, Reset All Controllers

The Mark 6 recognizes the All Sound Off message (controller 120, with a value of 127), which silences the instrument. It both transmits and recognizes the Reset All Controllers message (controller 121, with a value of 127), which resets all controllers to their typical "unaltered" values: 0 (e.g., Mod Wheel), 64 (e.g., Pan), or 127 (e.g., Volume).

Both of these controllers are used as "panic buttons," to reset the instrument quickly.

PROGRAM CHANGE

Selecting a sound causes the Mark 6 to transmit a Program Change message, unless transmission of program change messages has been disabled (see page 33). Similarly, the Mark 6 recognizes these messages, unless reception has been disabled.

The sounds in the Mark 6 have the Program Change numbers shown in the table on the following page, depending on the Program Change Mode to which the instrument is set. This can be US, Korean, or General MIDI. See pages 34–35 for details on selecting US, Korean, or General MIDI modes.

Category	Program	US	Korean	General MIDI
Drums	Drums 1 (Clean)	75	75	
	Ambient Drums	76	76	
	Drums 2 (Electronic)	77	77	
	General MIDI Drums	78	78	
	General MIDI Drums 2	98	98	
	Small Drum Kit	101	101	
	Dream Drums 1		117	
	Dream Electronic Drums		118	
	GM Drums			0*,32*
	GM Room Set			8*
	GM Power Set			16*
	GM Electronic Set			24*
	GM Synth Set			25*
	GM Brush Set			40*
	GM Orchestral Set			48*
Piano	Grand Piano	1	1	
	Warm Piano	2	2	
	Rock Piano	3	3	
	Rock Piano 2	4	4	
	Ragtime Piano	5	5	
	Tack Piano	6	6	
	Equal-Tempered Piano	89	89	
	Equal-Tempered Bright Piano	90	90	
	Bright Piano	109		
	GM Piano 1			0
	GM Piano 2			1
	GM Piano 3			2
	GM Honky-Tonk Piano			3
Electric Piano	Electric Piano 1	7	7	
	Stereo Tremolo Electric Piano	8	8	
	Electric Piano 2	9	9	
	Soft Electric Piano	10	10	
	Dream Electric Piano		106	
	Dream Dyno Electric Piano		107	
	GM Electric Piano 1			4
	GM Electric Piano 2			5
Keyboards	Harpsichord	17	17	
	Forte Harpsichord	18	18	
	Dream Harpsichord		121	
	GM Harpsichord			6
	GM Clavinet			7
	GM Celesta			8
Pipe Organ	Pipe Organ 1 (Full)	13	13	
	Full Pipes With Reeds	14	14	
	Pipe Organ 2 (Fluty)	15	15	
	Soft Hollow Pipes	16	16	
	GM Church Organ			19
	GM Reed Organ			20

Category	Program	US	Korean	General MIDI
Electric Organ	Electric Organ (Jazz)	11	11	
	Rock Organ	12	12	
	Organ 1	99	99	
	Organ 2	100	100	
	Organ 3	106		
	Dream Rock Organ (mod)		126	
	Dream Rock Organ (no mod)		127	
	GM Organ 1			16
	GM Organ 2			17
	GM Organ 3			18
Acoustic Guitar	Acoustic Guitar	51	51	
	12 String Guitar	52	52	
	Banjo	113		
	GM Nylon Guitar			24
	GM Steel-String Guitar			25
	GM Banjo			105
	GM Fret Noise			120
Electric Guitar	Jazz Guitar	53	53	
	Chorused Jazz Guitar	54	54	
	Electric Guitar	55	55	
	Muted Electric Guitar	56	56	
	Muted Guitar Sustained	107		
	Overdrive Guitar	108		
	GM Jazz Guitar			26
	GM Clean Guitar			27
	GM Muted Guitar			28
	GM Overdrive Guitar			29
	GM Distorted Guitar			30
	GM Guitar Harmonics			31
Bass	Acoustic Bass	91	91	
	Electric Bass 1	92	92	
	Synth Bass 1	93	93	
	A. Bass & Ride	94	94	
	Electric Bass 2	95	95	
	Synth Bass 2	96	96	
	Picked Bass	111		
	Fretless Bass	112		
	Slap Bass 2	114		
	Synth Bass 1b	115		
	Synth Bass 2b	116		
	Fingered Bass	122		
	Dream Electric Bass		112	
	Bubb Bass		113	
	GM Acoustic Bass			32
	GM Fingered Bass			33
	GM Picked Bass			34
	GM Fretless Bass			35
	GM Slap Bass 1			36
	GM Slap Bass 2			37

Category	Program	US	Korean	General MIDI
Bass	GM Synth Bass 1			38
	GM Synth Bass 2			39
Percussion	Percussion (Ethnic)	79	79	
	Orchestral Percussion	80	80	
	Timpani	102	102	
	Timpani 2	105	105	
	Korean Percussion 1		119	
	Korean Percussion 2		120	
	GM Timpani			47
	GM Woodblock			115
	GM Taiko			116
	GM Melodic Tom			117
	GM Synth Drum			118
	GM Reverse Cymbal			119
Strings	Strings 1 (Fast)	21	21	
	Fast Strings 2	22	22	
	Strings 2 (Slow)	23	23	
	Panning Slow Strings	24	24	
	Cello/Violin	33	33	
	Cello/Violin 2 (Fiddle)	34	34	
	Fast Strings 3	85	85	
	Fast Strings 4	86	86	
	String Layer	87	87	
	Stereo Strings	88	88	
	Slow Strings 2	97	97	
	Fast Strings 5	103	103	
	Pizzicato Strings	104	104	
	Tremolo Strings	117		
	Dream Fast Strings		109	
	GM Violin			40
	GM Viola			41
	GM Cello			42
	GM Contra Bass			43
	GM Tremolo Strings			44
	GM Pizzicato Strings			45
	GM Strings			48
	GM Slow Strings			49
Choir	Choir	19	19	
	Cathedral Voices	20	20	
	Choir Layer	83	83	
	Cathedral Choir 2	84	84	
	Short Voices	118		
	Dream Choir		123	
	GM Choir "Aah"			52
	GM Voice "Doo"			53

Category	Program	US	Korean	General MIDI
Orchestra	Orchestra	25	25	
	Slow Attack Orchestra	26	26	
	Pizzicato Strings	48	48	
	Orchestra Hit	119		
	GM Harp			46
	GM Orchestra Hit			55
Reeds	Clarinet	29	29	
	Vibrato Clarinet	30	30	
	Bassoon/Oboe	31	31	
	Bassoon/Oboe 2	32	32	
	Saxophone 1 (Dual)	35	35	
	Baritone Sax	36	36	
	Saxophone 2 (Alto)	37	37	
	Tenor Sax	124		
	Baritone Sax 2	125		
	GM Soprano Sax			64
	GM Alto Sax			65
	GM Tenor Sax			66
	GM Baritone Sax			67
	GM Oboe			68
	GM Bassoon			70
	GM Clarinet			71
Flute	Flute	27	27	
	Mellow Flute	28	28	
	Dream Flute		111	
	GM Piccolo			72
	GM Flute			73
	GM Recorder			74
	GM Pan Flute			75
	GM Bottle			76
	GM Shakuhachi			77
	GM Whistle			78
	GM Ocarina			79
Solo Brass	Trumpet	39	39	
	Trombone	41	41	
	Tuba/French Horn	42	42	
	Muted Trumpet	120		
	GM Trumpet			56
	GM Trombone			57
	GM Tuba			58
	GM Mute Trumpet			59
	GM French Horn			60
	GM English Horn			69
Brass Section	Sax Section	38	38	
	Trumpet Section	40	40	
	Brass Section	43	43	
	Brass Section 2	44	44	
	Brass Section 3	121		
	GM Brass Section			61

Category	Program	US	Korean	General MIDI
World	Accordion	65	65	
	Kayagum 1		115	
	Kayagum 2		116	
	GM Santur			15
	GM Accordion			21
	GM Bandoneon			23
	GM Charang			84
	GM Sitar			104
	GM Shamisen			106
	GM Koto			107
	GM Kalimba			108
	GM Bagpipe			109
	GM Fiddle			110
	GM Shannai			111
Bells	Bells	49	49	
	Bells & Strings	50	50	
	GM Glockenspiel			9
	GM Music Box			10
	GM Tubular Bell			14
	GM Crystal			98
	GM Tinkle Bell			112
	GM Agogo			113
Mallets	Vibraphone	59	59	
	Bright Vibes	60	60	
	Marimba	61	61	
	Xylophone	62	62	
	Mallets (Steel Drums)	63	63	
	Conga Marimba	64	64	
	Dream Vibes		124	
	Dream Tremolo Vibes		125	
	GM Vibraphone			11
	GM Marimba			12
	GM Xylophone			13
	GM Steel Drums			114
Synth Leads	Harmonica	66	66	
	Synth Leads 1 (Flute)	69	69	
	Square-Wave Lead	70	70	
	Synth Leads 2 (Distorted)	71	71	
	Tingle Lead	72	72	
	5th Saw	126		
	GM Harmonica			22
	GM Square Wave			80
	GM Saw Wave			81
	GM Chiffer Lead			83
	GM Solo Voices			85
	GM 5ths Sawtooth			86
	GM Bass & Lead			87

Category	Program	US	Korean	General MIDI
Synth Pads	Synth Pads	67	67	
	Glass Chiff	68	68	
	GM Warm Pad			89
	GM Bowed Glass			92
	GM Metal Pad			93
	GM Halo Pad			94
	GM Sweep Pad			95
	GM Soundtrack			97
	GM Goblin			101
Synth Keys	Synth Keys	57	57	
	Space Synth	58	58	
	Fantasia	127		
	GM Synth Calliope			82
	GM Fantasia			88
	GM Poly Synth			90
	GM Ice Rain			96
	GM Atmosphere			99
	GM Brightness			100
	GM Echo Drops			102
	GM Star Theme			103
Synth Ensemble	Synth Brass	45	45	
	Synth Brass Pad	46	46	
	Synth Ensemble	47	47	
	Synth Brass 2	123		
	Dream Synth Pizzicato		108	
	Dream Synth Ensemble		122	
	GM Synth Strings 1			50
	GM Synth Strings 2			51
	GM Synth Voices			54
	GM Synth Brass 1			62
	GM Synth Brass 2			63
	GM Space Voice			91
Sound Effects	Synth FX	73	73	
	Slow Stereo FX	74	74	
	Sound FX		114	
	GM Breath Noise			121
	GM Seashore			122
	GM Bird			123
	GM Telephone			124
	GM Helicopter			125
	GM Applause			126
	GM Gunshot			127

System Exclusive Messages

MIDI messages such as Note On, Note Off, Pitch Bend, and Controllers are used to convey the performance of a piece of music. System exclusive messages, on the other hand, are often used "behind the scenes," in establishing parameters of equipment. There are two general categories of system exclusive messages implemented on the Mark 6: universal and instrument-specific. The messages in both categories are described in the following sections. All messages shown here are given in hexadecimal (base 16) notation, unless otherwise noted.

Universal System Exclusive Messages

Universal system exclusive messages can apply to MIDI equipment of different brands. They are used in maintaining order in a system of MIDI equipment, so that everything operates as expected.

The universal system exclusive messages implemented by the Mark 6 include messages to turn General MIDI mode on and off, and the device inquiry message.

General MIDI On

The Mark 6 recognizes the General MIDI On message, either received at the MIDI In port or in a song file loaded from the disk drive into the Recorder. The form of the message is as follows:

F0 7E nn 09 01 F7

nn = device ID (00–7F; 7F = Broadcast)

General MIDI Off

The Mark 6 also recognizes the General MIDI Off message, either received at the MIDI In port or in a song file loaded from the disk drive into the Recorder. The form of the message is as follows:

F0 7E nn 09 02 F7

nn = device ID (00–7F; 7F = Broadcast)

Inquiry Message

The Mark 6 recognizes the system exclusive device inquiry message:

F0 7E 00 06 01 F7

This message generally is transmitted by a central controller, such as a computer, asking connected devices to identify themselves. In response to this message, the Mark 6 will return the following:

F0 7E 00 06 02 07 10 00 08 00 ss ss ss ss F7

The meaning of this message is as follows:

F0	Beginning of exclusive message
7E	Universal non-real-time system exclusive ID
00	Device ID
06	Sub-ID #1 (General Information)
02	Sub-ID #2 (Device ID message)
07	Manufacturer ID (07= Kurzweil)
10 00	Device family code (14 bits, LSB first; 10 = Mark Series)
06 00	Device family member code (14 bits, LSB first; 06 = Mark 6)
ss ss ss ss	Software revision level (00 02 00 00 = Version 2.00)
F7	End of exclusive message (EOX)

Instrument-Specific System Exclusive Messages

When the MIDI specification was designed, the original intention for system exclusive messages was to allow the exchange of information specific to a particular brand or model of instrument. Although the scope of system exclusive messages has been broadened over the years to include universal functions, instrument-specific messages remain important. The Mark 6 implements a number of such messages, allowing you to control of many of the functions of the instrument via MIDI. For example, many of these messages allow remote editing of parameters found in MIDI Edit mode. The following is the general format of the messages:

F0	Beginning of exclusive message
07	Kurzweil ID
00	Device ID
10	Mark Series ID
pp	Parameter
vv	Value
F7	EOX

The Parameter and Value settings for the specific messages are detailed below.

Channel Disables

Parameters 01–10H (1–16 decimal) are channel disables for channels 1 through 16. A value of 00 means channel enabled (factory default). A value of 01 means channel disabled. Settings are remembered across power cycles.

Sequencer Data Enables

Parameters 11–20H (17–32 decimal) are sequencer data enables for MIDI channels 1 through 16. A value of 00 means that the sequencer and auto accompaniment will not send data on that channel to the MIDI Out port (default on power-up). A value of 01 will enable the MIDI output stream for that channel.

Stereo On/Off

Parameter 21H (33 decimal) is the Stereo On/Off switch. A value of 00 allows the Mark 6 to operate in Stereo (default on power-up). A value of 01 will pan all sound to center (monaural).

Ignore All Notes Off

Parameter 22H (34 decimal) allows the Mark 6 to ignore All Notes Off messages (controller #123). A value of 00 means that the Mark 6 will respond to controller #123 (factory default). A value of 01 means that the Mark 6 will ignore controller #123. Changes are remembered across power cycles.

Transmit Program Change

Parameter 23H (35 decimal) allows the Mark 6 to disable the transmission of program changes. A value of 00 means that the Mark 6 will not transmit program changes. A value of 01 means that the Mark 6 will transmit program changes (factory default). Changes are remembered across power cycles.

Receive Program Change

Parameter 24H (36 decimal) allows the Mark 6 to disable the reception of program changes. A value of 00 means that the Mark 6 will not receive program changes. A value of 01 means that the Mark 6 will receive program changes (factory default). Changes are remembered across power cycles.

Keyboard Touch Select

Parameter 25H (37 decimal) allows the user to select different Keyboard Touch settings. The values range from 01 (most difficult) to 07 (easiest). The factory default value is 04, but changes are remembered across power cycles.

Transmit Split And Layer Data

Parameter 26H (38 decimal) allows the Mark 6 to transmit split and layer data as continuous controllers. A value of 00 disables this, sending standard program changes instead. A value of 01 enables transmission of split data (default on power-up).

External Sync

Parameter 27H (39 decimal) allows the Mark 6 to switch between internal sync and external sync. A value of 00 selects internal sync (default on power-up). A value of 01 selects external sync.

Transmit Sequencer Data

Parameter 28H (40 decimal) allows the setting and resetting of all 16 sequencer data enables simultaneously. A value of 00 disables transmission of sequencer data to the MIDI Out port on all 16 MIDI channels (default on power-up). A value of 01 enables transmission on all 16 MIDI channels.

Beats Per Measure

Parameter 29H (41 decimal) allows the user to adjust the Beats Per Measure parameter. Values range from 01 to 07. The factory default value is 04. Changes are remembered across power cycles.

Metronome Channel

Parameter 2BH (43 decimal) allows the user to change the MIDI output channel for the metronome. The range of values is 00–0FH (0–15 decimal), corresponding to MIDI channels 1 through 16. The factory default value is 0FH (MIDI channel 16). Changes are remembered across power cycles.

Metronome Program

Parameter 2CH (44 decimal) allows the user to change the metronome program. The range of values is 00–7FH (0–127 decimal). The factory default value is 4BH (75 decimal; Drums 1). Changes are remembered across power cycles.

Metronome Key

Parameter 2DH (45 decimal) allows the user to change the note used by the metronome. The range of values is 00–7FH (0–127 decimal). The factory default value is 61H (97 decimal; C#7, "Click" in the Drums 1 program). Changes are remembered across power cycles.

Metronome Velocity

Parameter 2EH (46 decimal) allows the user to change the note velocity used by the metronome. The range of values is 00–7FH (0–127 decimal). The factory default value is 64H (100 decimal). Changes are remembered across power cycles.

System Common, System Real Time, Auxiliary Messages

The Mark 6 recognizes the Song Select message, which allows an external MIDI device to select from among the songs in the internal Recorder.

MIDI Clocks, as well as Start, Stop, and Continue messages, are used to synchronize recording or playback of MIDI devices. The Mark 6 can be set to either transmit them or recognize them. These messages are discussd with the External Sync setting, on page 33.

Local Control and All Notes Off messages are discussed on pages 32–33.

Notes On Using An External Sequencer

If you're an advanced user, you may choose to augment the capabilities of the internal Recorder with those of an external MIDI sequencer. If you do, the following notes will help you get the most from the Mark 6.

- Many people prefer using the "soft thru" capability of their sequencers and setting their master keyboards to Local Control OFF (see page 33).
- Make sure the Mark 6 is set to Multi mode (the default MIDI mode; see pages 32 and 50). This allows you to play back sequences using different sounds on different MIDI channels.
- When you use another sequencer in conjunction with the Recorder built into the Mark 6, you should set one to External Sync ON (see page 33), to follow the timing of the other. As a rule of thumb, if one device is recording what the other plays back, the one that is recording should be set to External Sync ON.
- To transfer sequences from the built-in Recorder to the external sequencer, you set the external sequencer to record and the built-in Recorder to play. But there are a couple of details to keep in mind:

  Set the Transmit Sequencer Data function on the Mark 6 to ON (see page 34).

  Some sequencers offer "multi record," which means that they can record multiple channels at the same time. If your sequencer can do this, then you can transfer all of the tracks in a song from the Mark 6 to the sequencer in a single pass. But note whether the sequencer will record the channels onto separate tracks, or all onto the same track; in the latter case, it may be difficult to edit the data for a given channel, in which case you may wish to record the channels individually onto separate tracks.

  To record channels individually, set up the sequencer to record one track, and turn off all the track buttons on the Mark 6 except one. Record that track onto the sequencer. Next create a new record track on the sequencer, turn off the previously lit track button on the Mark 6, and turn on a new one. Record that track. And so on until all of the tracks have been recorded.
- You can reduce the time it takes to transfer tracks between the Mark 6 and the external sequencer by recording at a fast tempo.
- To transfer songs from an external sequencer to the Mark 6, there are two options: 1) If the sequencer can save songs as Standard MIDI Files onto MS-DOS-format disks, the Mark 6 can read those disks and load the songs into the Recorder. 2) Lacking this capability, you can set up the sequencer to play the tracks one at a time, and the Mark 6 to record them one at a time.
- To record performances directly from the keyboard into an external sequencer, set the Basic Channel on the Mark 6 for the part you wish to record (see page 32). Each part that uses a different sound should be recorded on a different channel. Many sequencers "rechannelize," making this step unnecessary. If your sequencer does not rechannelize, you must change the Basic Channel before recording each new part.
- Select the sound for the part *after* you have started recording. This sends a Program Change message. 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.
- You can also manually insert these program changes into the sequence after you have recorded.
- If you are using splits and layers, you will need to set MIDI controllers to do the splitting and layering. You can get the correct effect by pressing the front panel buttons and recording them into the sequencer. Alternately, you can send controllers 76–82 at any time, then send a program change message to activate them. The controller message the Mark 6 receives will not take effect until the following program change message for the main sound. This affects the order in which you should record messages into your sequencer.

EXAMPLE 1. To set up an Acoustic Bass split with Grand Piano, and Middle C as the split point, send controller #81 (split program) with a value of 91 (Acoustic Bass program #), controller #80 (split point) with a value of 60 (Middle C key #), followed by a program change message for program 1 (Grand Piano). To cancel these parameters, set them to 0 (Controller #80 [split point] is an exception; setting it to 0 will make splits unavailable, so set it to the default value of 52 [E below Middle C].) and send another program change message.

EXAMPLE 2. To set up a layer with Acoustic Guitar and Accordion, with the Accordion reduced in volume, send controller #82 (layer program) with a value of 65 (Accordion layer program #), controller #79 (layer volume adjust) with a value of 4 (number of button presses by which volume is reduced), followed by a program change message for program 51 (Acoustic Guitar).

- If you want your Mark 6 to transmit regular program change messages 91–96 when you select Left Split sounds from the front panel, you must turn OFF the Transmit Split And Layer Data parameter in MIDI Edit Mode (see page 34).

MIDI Implementation Chart

Manufacturer: **Date: 12/1/98**

Young Chang **Model: Kurzweil Mark 6 Ensemble Grand** **Version: 3.0**

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	O	1	
	Changed	O	1–16	
Mode	Default	X	Multi*	memorized
	Messages	X	Model 1 & 3	memorized
	Altered	X		
Note Number		0–127	0–127	key range:
	True Voice	12–108	12–108	C0-C8
Velocity	Note ON	O	O	
	Note OFF	O	O	
After Touch	KEYS	X	X	
	Channel	X	O	
Pitch Bender		X	O	
Control Change	1,33	X	O	mod wheel
	6,38	X	O	data entry
	7,39	X	O	volume
	10,42	X	O	pan
	11,43	X	O	expression
	64	O	O	sustain pedal
	66	O	O	sostenuto pedal
	67	O	O	soft pedal
	68	O	O	symphonic on
	76	O	O	right octave shift
	77	O	O	left octave shift
	78	O	O	bass sustain
	79	O	O	layer vol. adjust
	80	O	O	split point
	81	O	O	split program
	82	O	O	layer program
	83	O	O	reverb select
	96	X	O	data increment
	97	X	O	data decrement
	100,101	X	O	registered param num
	120	X	O	all sound off
	121	O	O	reset all controllers
Program Change		O** 1–109	O**1–109	
		111–127	111–127	Refer to Program List
		1–109	1–109	on page 55.
	True #	111–127	111–127	
System Exclusive		X	O	General MIDI
System Common	Song Pos	X	X	
	Song Sel	X	O	
	Tune	X	X	
System Real Time	Clock	O	O	
	Messages	O	O	
Aux Messages	Local Control	X	O	
	All Notes Off	O	O	
	Active Sense	X	X	
	Reset	X	X	
Notes		*Use MULTI mode to assign different programs to each MIDI channel **Can be disabled		

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO O = yes

Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO X = no

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