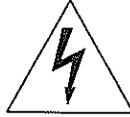
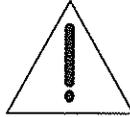


EXPLANATION OF GRAPHIC SYMBOLS:



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



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

IMPORTANT SAFETY AND INSTALLATION INSTRUCTIONS

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

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

1. Read all of the Safety and Installation Instructions and Explanation of Graphic Symbols before using the product.
2. This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current, to reduce the risk of electric shock. This product is equipped with a power supply cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.
DANGER—Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Do not modify the plug provided with the product—if it will not fit the outlet, have a proper outlet installed by a qualified electrician. Do not use an adaptor that defeats the function of the equipment-grounding conductor. If you are in doubt as to whether the product is properly grounded, check with a qualified serviceman or electrician.
3. Do not use this product near water—for example, near a bathtub, wash-bowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
4. This product, either alone or in combination with an amplifier and speakers or headphones, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. This product may be equipped with a polarized line plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.
9. The power supply cord of the product should be unplugged from the outlet when left unused for a long period of time. When unplugging the power supply cord, do not pull on the cord, but grasp it by the plug.
10. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
11. The products should be serviced by qualified service personnel when:
 - A. The power supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled, into the product; or
 - C. The product has been exposed to rain; or
 - D. The product does not appear to be operating normally or exhibits a marked change in performance; or
 - E. The product has been dropped, or the enclosure damaged.
12. Do not attempt to service the product beyond that described in the user maintenance instructions. All other servicing should be referred to qualified service personnel.
13. **WARNING**—Do not place objects on the product's power supply cord, or place the product in a position where anyone could trip over, walk on, or roll anything over cords of any type. Do not allow the product to rest on or be installed over cords of any type. Improper installations of this type create the possibility of a fire hazard and/or personal injury.

SAVE THESE INSTRUCTIONS



INTRODUCTION TO THE
KURZWEIL™
Music Systems

Mark 152/12
 Ensemble Grand

Contents

Important Safety and Installation Instructions	cover 2
The Front Panel	2
About the Mark 152/12	4
Introduction	4
About This Manual	4
Setting Up the Instrument	5
Part 1: Getting Started	7
Your First Song	8
Demo	12
Part 2: Reference	13
Keyboard, Pedals, and Pitch Bender	13
Display and Related Controls	14
Sounds	16
Left Split	21
Create a Custom Drawbar Organ Sound	23
Digital Reverb & Effects	25
Styles	28
Auto Accompaniment	32
Arpeggiator	36
Recorder	40
Options	50
Part 3: Music	66
Do-Re-Mi	66
Alley Cat	68
Heart and Soul	70
Oh! Darling	72
Oh, What a Beautiful Mornin'	74
Romeo and Juliet (Love Theme)	76
Part 4: MIDI	78
MIDI Connections	78
MIDI/Pref	80
MIDI Messages	86
Notes on Using an External Sequencer	104
Part 5: Appendices	106
Updating Your Mark 152/12 Software	106
Miscellaneous	107
MIDI Implementation Chart	111
Index	112
Radio and Television Interference	cover 3
Young Chang Distributors	cover 3



Kurzweil is a product line of
 Young Chang Co., Ltd.
 Seoul, Korea

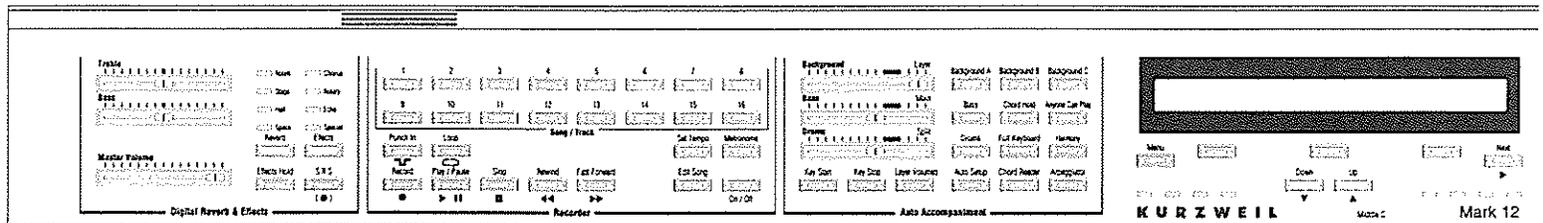
The Front Panel of the

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1. Digital Reverb & Effects

Tailor the overall sound of the Mark 152/12.
See pages 25–27.

2. Recorder

Record and play back multitrack songs.
See pages 40–49.

3. Auto Accompaniment

Orchestrate sophisticated accompaniments from simple left-hand chords.
See pages 32–35.

4. Display

View current settings and change them.
See pages 14–15.

About the Mark 152/12

Introduction

Thank you for purchasing the Kurzweil Mark 152 or Mark 12. These models have the same features, so this manual covers both of them. The difference is in the cabinet: grand piano style for the Mark 152, spinet style for the Mark 12. Also, the Mark 152 has a larger sound system. Any other differences between the models are indicated where necessary. Unless otherwise noted, references to the Mark 152 also include the Mark 12. General specifications for both models are in Part 4.

These instruments provide easy, affordable access to Kurzweil/Young Chang high-quality sound technology. Authentic digital representations of musical instrument sounds are the starting point. These instruments reproduce 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 original instruments.

These instruments are 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 152/12 has automatic accompaniment, digital reverb and effects to tailor your sound, a built-in disk drive to store your music and to load in new songs, styles, sounds, and much more.

About This Manual

This manual is presented in five main sections. Part 1: Getting Started is designed for the person who has never played a keyboard before (or, perhaps, not for a long time). Part 2 is a reference section that covers all of the controls and features of the Mark 152/12; experienced musicians might want to start in this section. Part 3 is a collection of songs in E-Z Play TODAY® music notation. Part 4 presents information about MIDI as it pertains to the Kurzweil Mark 152/12; these details, which are for advanced users, become important when you connect the Mark 152/12 to other MIDI equipment. Part 5 covers instrument specifications and other technical data.

The disk that accompanies this manual contains a variety of files to provide a taste of what the Mark 152/12 can do. (See the section on the disk drive, beginning on page 50, for instructions about loading files from the disk into the instrument.) You'll find:

- Recorded versions of all seven songs in the manual.
- One set of nine Panel Memories (factory defaults).
- Six Drawbar Organs (factory defaults).
- Four accompaniment Styles.
- Four SoundByte® files of new sampled sounds.

These files offer a glimpse of the vast potential this instrument offers. Together with this manual, they can help you get the most out of your Kurzweil Mark 152/12 Ensemble Grand.

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 152/12. Also see *Radio and Television Interference* and contact information on the inside back cover.

Positioning the Instrument

For the best sound, you should place the instrument six to eight inches from a wall, and two 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 25.)

Fallboard Lights (Mark 152)

The fallboard lights on the Mark 152 make it easier to read the front panel in a dimly lit room. The power switch for the fallboard lights is right next to the main power switch (beneath the keyboard, to the left). The fallboard lights power switch is the smaller of the two rocker switches.

The fallboard lights may be left on even if the instrument itself is not turned on. This can give the unit a pleasing aesthetic effect while it is not in use. Please be sure to leave the fallboard in the open position while the lights are turned on.

Sliding Key Cover and Music Rack (Mark 12)

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 cabinet of the Mark 12 has a large slot that runs along the top of the cabinet. Fit the music rack firmly into this slot with both hands. Don't put too much weight on the music rack.

Care of Your Instrument

To dust the Mark 152/12, 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.

Turning On the Instrument (Power)

The Mark 152/12 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, be sure that the **power switch, located under the left-hand end of the keyboard**, is off. The power cord is made so that one end of it plugs into the power socket on the instrument (the instrument first, then the AC outlet). Once the power cord is connected, you can turn the power switch on.

After a brief self-check on power-up, the instrument is ready to play.

WARNING: To avoid possible injury or electrocution, do not remove any screws or panels. Other than the batteries (see page 6), there are no user-serviceable parts inside the Mark 152/12.

Battery

Your Mark 152/12 has battery-backed memory that retains recorded songs, files loaded from disk, and specific instrument settings. The instrument was shipped from the factory with the batteries installed, which should last about a year under normal circumstances. When the batteries begin to run low, you'll see a start-up message that says: "It's time to change your batteries." After you see this message, you should change the batteries within a week or so. See page 108 for instructions on changing the batteries.

Master Volume

To be 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.

Once you are set up and running, look over the illustration on pages 2 and 3; it's a sort of graphic table of contents.

Part 1: Getting Started

When you first sit at any electronic keyboard instrument, all those buttons, controls, and lights can be a bit confusing, especially if you've never played before. It's not that it's so difficult—it's just new and unfamiliar. Actually, your Mark 152/12 is quite easy to play, and you are about to prove it to yourself.

To help you get started, you'll use several groups of features that are important to the ease of playing, and to making you sound good:

- The **Sounds** section, featuring over 300 sounds.
- The **Styles** section, which contains complete orchestral backgrounds to help you sound great!
- The **Auto Accompaniment** section makes playing a complete chord and rhythm accompaniment easier than you think.
- The **Recorder** section is similar to a sixteen-track tape recorder. It can help you arrange and compose music and, as you'll soon see, learn how to get started playing your new keyboard.
- The **Disk Drive**, where you can store your efforts, and even listen to those of others.
- The **Display** helps you keep track of what's going on, and even helps develop your playing ability.

There are many more features, of course, but these are the key to playing quickly and easily. Follow the steps throughout the rest of Part 1, and amaze yourself!

Your First Song

1. Turn on the instrument (power switch, under the left-hand end of the keyboard). The Mark 152/12 introduces itself in the display, and then says:



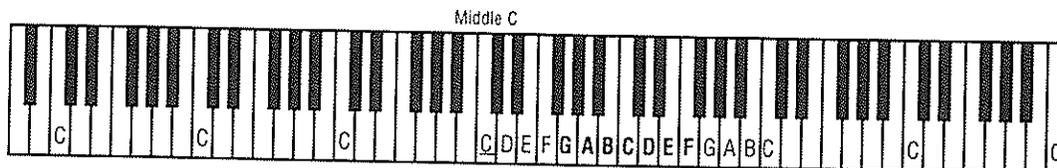
The name of the voice that you select always appears here. Grand Piano is the default voice when you turn on the Mark 152/12. The default effect is Room Reverb, which adds an airy, spacious quality to your music.

2. Play a few keys. Notice that they are touch sensitive, just like a piano; the harder you strike them, the louder the sound. For now, the three pedals also work as those on a piano. If you're a pianist, go ahead and play!
3. In the Sounds section, press Flute. The display reflects this change. See how easy it is to change sounds? Play a few notes.

Find the Notes

The song "Aura Lee" is familiar to most people. The melody is quite simple, and the entire accompaniment can be played with only three chords. The music in this book features notes that name themselves; all you do is match them to the keyboard.

The illustration below shows the keyboard. See the marking *Middle C* just above the center of your keyboard? That's what the white key just below is called (We underlined it in the illustration below so you couldn't possibly miss!). Every white key just to the left of the two-black-key groups is called *C*. The names of the melody keys that you'll play are also highlighted in the figure.



1. Using the Legato Flute that you just selected, play the notes G, A, B, C, and D, as shown in boldface type in the illustration above; begin on the G just to the right of Middle C. Play it with your right thumb, and use each of the other fingers to play each of the other notes one after another (that way, you needn't move your hand to play).
2. When you feel that you're playing these notes easily, shift your right hand so that your thumb moves two white keys to the right, from G to B. Now play the five notes B, C, D, E, and F up and down the keyboard a few times, one finger per note.

Let the Disk Drive and Recorder Help You

One of the most interesting and useful features on your Mark 152/12 is the disk drive, and there's so much that you can do with it. It's covered in detail beginning on page 50. For now, you'll see just how easy it is to use.

A disk that accompanies this manual includes an arrangement of "Aura Lee." Just follow these steps to get the disk drive to do all of the "heavy lifting" as you play your first song:

1. Press the Disk button in the Options section; its light flashes, and the display shows:

Disk Functions		
PLAY	LOAD	SAVE

2. Insert the disk into the drive, and press the button below LOAD. The display then shows:

Disk Load		
SONG	STYLE	SOUNDBYTE

3. Press the button below SONG. The drive reads the disk and creates a list of songs on the disk. The name that you see in the display is the first item on the list. Use the Up button (beneath the display) to move through the list until you get to "Aura Lee." Its file name is displayed as AURA_LEE.

Song #	From File	
1	AURA_LEE	LOAD

4. Press the button below LOAD; this loads "Aura Lee" into song #1 in the built-in Recorder.
5. Go to the Recorder section of the panel—near the left end—and press the Play/Pause button. "Aura Lee" begins to play. As it does, you'll notice that lights in the various control sections are on.

The music for the song is on the next page. The notes that you just learned are there; on the disk, they're played by a harmonica. Listen, and watch the music at the same time. Do this a few times until you're comfortable with the arrangement: a short introduction, the song itself, and then a short ending (which is not shown on the music).

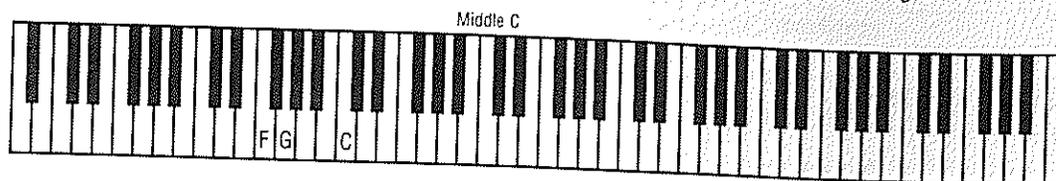
As "Aura Lee" plays, you'll see four small lights below the display: one red and three green. These flash in time with the music; they represent the *beat* of the song, so they are called *beat lights*. (Actually, there are eight lights; the others are used for music with other time signatures.) Whenever the first (red) light goes on, that's the beginning of what in music is called a *measure*. In effect, the lights are counting 1-2-3-4 as the song plays. In the music for "Aura Lee," the beat lights are shown below the introduction (Red, Green, Green, Green).

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For

Copyright Material

5. The light in the middle button below the display is on, telling you that the Mark 152/12 is in the Advanced chord mode. Press the left button to select Basic, which is easy-play, or one-finger, chords. Its light goes on and the middle one goes out.
6. Press Menu again, to set the Basic chord mode and to return to where you were (the Easy 8 Beat display).
7. Practice playing the C, F, and G keys shown in the illustration below. Watch the display as you play them. Play the C key last, so the display shows C maj as the chord.



8. In the Styles section, press Introduction, and then press Start/Stop. You'll hear a brief introduction, followed by the regular Easy 8 Beat style. The introduction is the same one that you heard on the disk.

Follow along in the printed music for "Aura Lee," playing the chord keys at the appropriate times as indicated by the boxed chord symbols above the melody line. When you reach the last measure, press the Ending button. You'll hear the ending that you heard on the disk.

If you're not used to playing chords with the automatic accompaniment activated, it can seem a bit intimidating; don't let it. Take your time, and have fun!

After you've practiced melody and accompaniment separately, put them together.

Other songs begin on page 66; song books and disks for your Kurzweil Mark series Ensemble Grand are available from your Young Chang/Kurzweil dealer.

Demo

The Mark 152/12 contains a number of built-in demonstrations to acquaint you with some of its sounds and capabilities. To hear these, press the Demo button, which is located near the right-hand end of the front panel, in the Options section. The button blinks to show that the Mark 152/12 is in the demonstration mode.

In this mode, certain buttons on the front panel blink. Press a blinking button to hear a demonstration.

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

When the "buttons blinking" mode is active, press the Variation button in the Sounds section to play all of the Sound demos, followed by all of the Left Split demos, one after the other, in a continuous loop.

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

Part 2: Reference

Keyboard, Pedals, and Pitch Bender

The Keyboard

The keyboard of the Mark 152/12 has eighty-eight weighted keys, with an action designed to simulate the feel of an acoustic piano: the harder (or faster) you play the keys, the louder and brighter the resultant sound is. In technical terms, this is called *velocity sensitivity*. It makes the Mark 152/12 a truly expressive instrument. See page 60 for information on adjusting the velocity sensitivity to suit your preference.

When you turn the power switch on, the Grand Piano sound is the default—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 152/12. These pedals have the same functions as those on a grand piano, which are, from left to right:

- **SOFT:** Notes played while this pedal is down sound softer than those played when the pedal is up.
- **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:** Pressing this pedal causes notes to sustain, or gradually fade out, even when you lift your fingers from the keys.

NOTE: All three of the pedals can be programmed to perform other functions. Also, some sounds are programmed with different functions on the pedals. See Preferences on page 84.

The Mark 152/12 has a fourth pedal; it's a continuous controller (CC) pedal. It's set up to work like a volume pedal (or an expression pedal, for you organists). As you play, you can instantly (and tastefully, of course) make the sound louder or softer, whatever you feel the music requires. Place your foot on the pedal. Pushing forward on it with your foot makes the music louder; pushing down with your heel makes it softer. If you're not using it in that manner, you will likely want to leave it set all the way forward.

You can change the function of this pedal to do other things. The pedal parameter is listed in Preferences as Continuous Pedal Function (see page 85).

On the Mark 152, the pedal plugs into a jack on the bottom panel of the instrument.

The Pitch Bender

To the left of the keyboard is the pitch bender, in the form of a ribbon controller. As its name indicates, it allows you to bend the pitch of any notes being played, for rock guitar and slide trombone effects, among others.

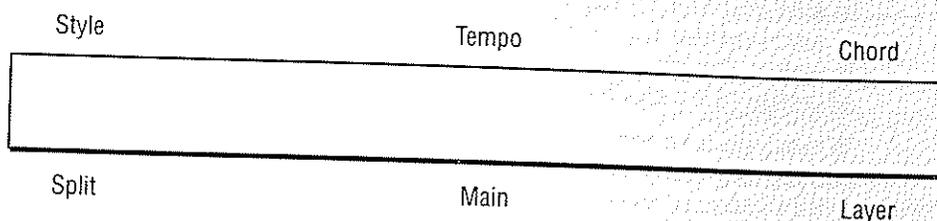
When you are not touching the ribbon, the sound is at normal pitch. Touching the upper half of the ribbon bends the pitch up; touching the lower half bends the pitch down. For gradual bends, slide your finger along the ribbon. Removing your finger from the ribbon returns the sound to normal pitch.

Display and Related Controls

The display and the buttons immediately around it are the heart of your Mark 152/12. Between the display helping you keep track of everything that's going on, and the almost unlimited possibilities provided by the buttons—especially the Menu button—this information center is a very important part of your control panel.

Display

A two-line by forty-character liquid crystal display (LCD) shows the tempo, current settings, or edit parameters. The contrast can be adjusted by an edit parameter in the MIDI/Preferences menu (see page 85). The window over the display is imprinted with parameter names that apply to the main page.



There is one main "page" for the display, showing Sounds selected, current style, current chord, and tempo. In addition, the Recorder has its own main page. The Next button chooses between these two pages.

Beat Lights

Up to eight lights cycle to display the beat while Styles or the Recorder are playing. The first and last lights are red, the others are green.

A Brief Introduction to the Menu Mode

While the Mark 152/12 has many buttons and lights on its panel, there aren't nearly enough of them to display all of the features that are available on the instrument. For this reason, the Mark 152/12 has a flexible menu mode that uses the display for the selection of functions, and for adjusting various conditions. Most of the buttons on the panel have an associated menu that effectively extends the button to support a variety of features that can only be hinted at on the panel itself.

A menu, in Mark 152/12 terms, is a display that allows you to choose one or more items that change the behavior of the instrument. These include sound selection, effects selection, styles and rhythms, and various parameters, or values, that adjust the workings of the instrument to your individual needs. The kinds of features that are accessible through the menu mode can be highly specialized and, perhaps, a little obscure for the casual player. At the same time, though, the menu mode also provides a number of basic convenience features that any user can find helpful.

When the Mark 152/12 is in the menu mode, your activity is focused on the central section of the front panel, around the display and its associated buttons. The buttons are described on the following page.

Menu

The Menu button allows you to select between the normal play mode and the menu mode of operation. When the menu mode is active, the Menu button is lighted. The menu that appears when you press the button is related to whichever button on the front panel was last pressed. Normal play mode is ideal for those just starting out at the keyboard because the Mark 152/12 is capable of so much when you just turn it on. For the more advanced player, the Menu button opens a multitude of playing choices. Many buttons on the instrument have multiple selections available, such as those in the Sounds and Styles sections, chord recognition types, etc. If Menu is selected, these choices are automatically brought to the display when a particular button is pressed; otherwise, the last selected option for that button is chosen.

Next

When this button is lighted, it indicates that there are more pages in the menu. Some menus have only one page, and in these cases, the button is not lit. The lighted Next button allows you to cycle through the additional pages. Most menus display their additional pages in a loop. This means that when you've reached the last page, another press of the Next button brings you back to the first page of the menu. A few menus are long enough to make this inconvenient, so there's a shortcut: hold down the Next button, and press the Down button repeatedly to page backward through the menu.

Soft Buttons

The three unmarked buttons just below the display are called *soft* buttons, and their tasks vary. These buttons select objects or functions, depending on the context of what's shown in the display. Each has a red light to aid your choices. Usually, a word or phrase in the display, just above a soft button, lets you know what its function is. When a soft button has no label, it usually has no function, and pressing it does nothing.

The soft buttons have three general functions: causing an action, choosing a value, and activating a field. They can also be inactive. What happens when you press a soft button differs from menu to menu, but it is usually distinguished by the kind of text found above the button. If the text is in CAPITALS, the button most likely causes something to happen right away. Frequently, you'll see the display change to another menu, or show some new information. If the action is one that could delete important data, you'll be given a confirmation screen, which offers you a chance to reconsider; this is helpful in avoiding painful mistakes.

Some menus present three choices in a row, often with one already lighted. These represent possible values for some Mark 152/12 feature (current keyboard Sound, for instance). By pressing one of the three buttons, you'll choose a new value for that feature. The names of these values are almost always in Mixed Case. In this kind of menu, you may have more than three possible choices, and the other possibilities can be viewed by pressing Next to see more pages of values. The top line of the display will help you understand what's going on.

The soft buttons are also used to activate a field. In this case, you'll see a name followed by a colon and a value, or in some cases a name on the first line with its associated value below. There might be two or even three of these fields in the display. If you want to change the value of one of the parameters, you should press the soft button that is beneath that parameter. The light in the soft button goes on, and the Up and Down buttons are activated, allowing you to scroll through a range of values. The values might be numbers, percentages, or names of different options.

Up and Down

The Up and Down buttons can be called *value* buttons because they allow you to change various values, such as the tempo of the song. If you are editing a parameter, pressing both buttons at the same time resets the parameter to its default setting. (Remember that *default* settings are those that were set at the factory.)

The Up and Down buttons have an auto-repeat characteristic, which means that if you hold one of them down for more than half a second, it acts as if you're pressing it over and over again rapidly. This is helpful if you're trying to scroll through many values very quickly.

Sounds

The Mark 152/12 offers hundreds of high-quality digitally sampled sounds for your playing and listening pleasure. These sounds are grouped into categories whose names are associated with the buttons in the Sounds section of the front panel. To choose a sound category, simply press the button with the appropriate name. The light in that button will light to indicate the category is currently active, and the name of a sound in that category will be displayed over the title Main on the display. The default sound category when the Mark 152/12 is turned on is Grand Piano.

Variation/User Variation

Each sound category button can select one of many distinct sounds. The first sound in the category is the one you hear by default when the button is pressed. If you press the Variation button, the second sound in the current category will be heard. Its name will appear in the display, and the Variation button will be lighted to indicate the choice. Pressing Variation again will return to the first sound, and will turn off the light.

In a similar way, pressing User Variation will choose the third sound from the category, and its light will be lit. Pressing User Variation again will likewise return to the first sound.

The state of the Variation/User Variation buttons is remembered for each sound category. In other words, if you select a Variation for a particular sound category, choose another sound category, and then return to the first category, the Variation button will be lit and the Variation sound will be heard. The state of these buttons is remembered when the power is turned off if Remember Preferences is set to Yes in MIDI Edit Mode (see page 85).

More Choices

Using the menu mode, it is possible to choose from more than three sounds in each category. If you press Menu after pressing a sound category button, you will see a display with three sound names across the bottom line, like the following:

```
Piano sound selection           Page 1
Grand Piano  Bright Piano  Ballad Grand
```

One of the soft buttons will be lit, indicating the current sound chosen in that category. You can choose another one of the sounds shown on the menu, or move to another menu page of sounds by pressing the Next button. The pages are numbered to help you keep track of them. The first and second sounds on the first page are the same ones available with the default and Variation sound choices discussed before. If one of the other sounds is chosen, its name will be recalled in the User Variation, so that you can have easy access to it without using the menu mode. Press Menu again to return to the main display.

Some of the sounds available in each category are not normally displayed in the menus. To see a complete selection of sounds found in any category, set the Long Program Lists parameter to On, as described on page 85.

Another way to see all the sounds available in the Mark 152/12 is by scrolling through them using the Up/Down buttons. Press the middle soft button—the one directly under the Main sound name on the display—and you'll see the button light up. The value buttons (Up/Down) are now active for the main sound, and pressing them will change the sound to the next or previous one in the instrument's sound banks. Press the soft button again to deactivate this function.

For a complete list of sounds available on the Mark 152/12, see the sound tables in Part 4, beginning on page 92.

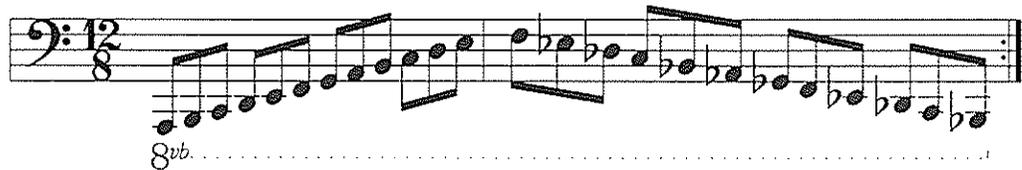
Latin Percussion

Choosing the Percussion category normally calls up the Latin Percussion sounds. Latin Percussion provides a variety of ethnic percussion sounds—a combination of cowbells, congas, and shakers—uniquely designed to allow you to play authentic Latin-American, 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, 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 Recorder of the Mark 152/12 or an external MIDI sequencer and can't play these rhythms as quickly as you'd like, record them at a slower tempo and speed up the tempo on playback (see page 46).

African Durah Bah (first note = lowest on keyboard)



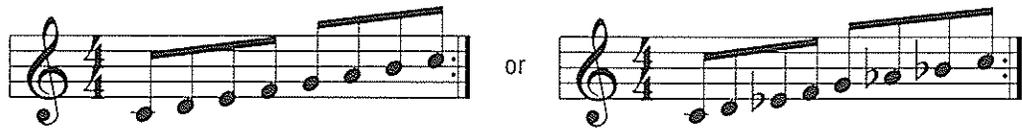
African Bricambo



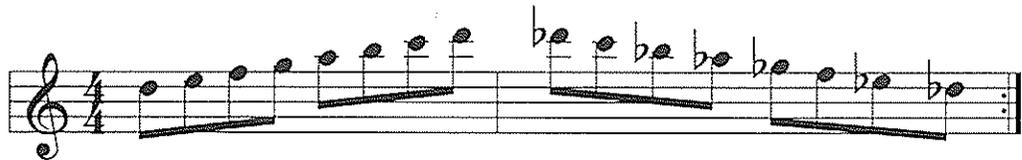
Three-Against-Two Rhythm



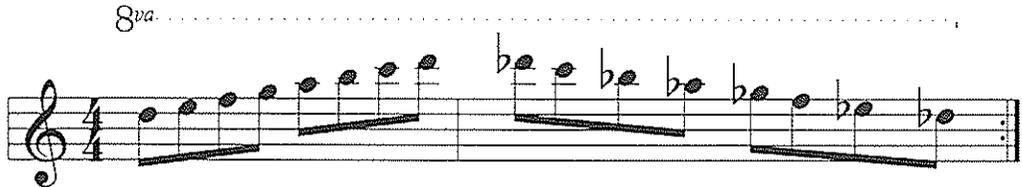
Latin Tumbao



Cuban Cha Cha



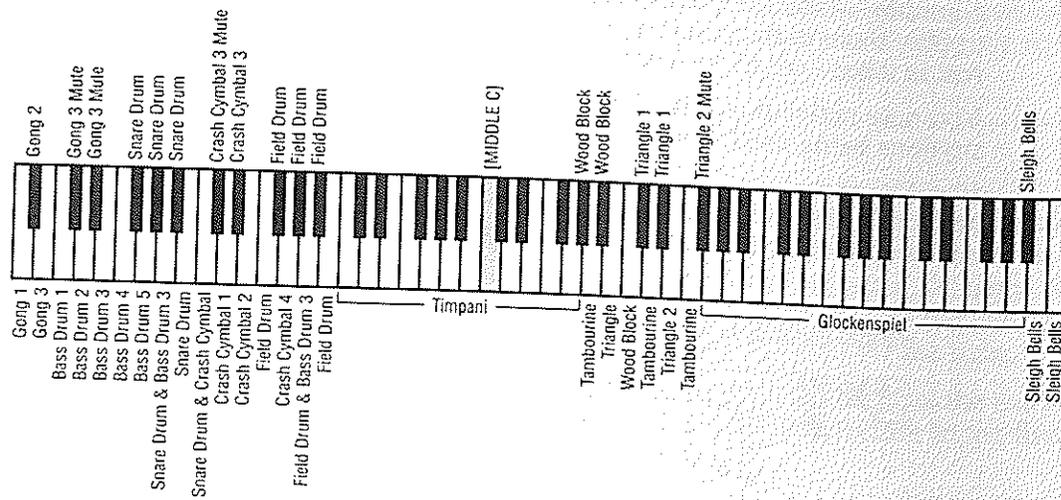
Cuban Mambo



Orchestra Percussion

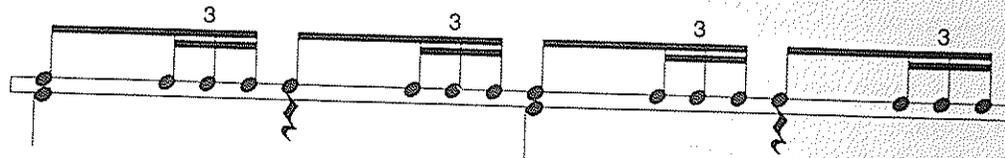
With Variation on, Percussion provides an array of Orchestra Percussion sounds.

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



For example, to play this typical march pattern:

Field Drum



Bass Drum

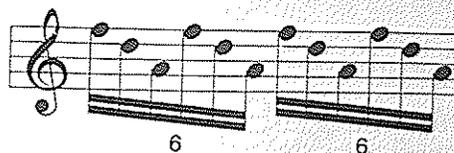
play the following on the keyboard:



For a triangle roll, play:



For a tambourine roll, play:



SoundByte®

The SoundByte® button allows you to select SoundBytes that you have previously loaded from disk. Once loaded, they behave as any other sound in the Mark 152/12. See page 54 for instructions on loading SoundBytes.

Drawbar Organ

The Drawbar Organ button allows you to access organ sounds that you have programmed by way of the Edit Drawbars button. These may also be stored to disk, and loaded at any time. See pages 23–24.

Panel 1–9

The Panel 1–9 buttons, which are beneath the bottom row of Sounds buttons, allow you to recall your own custom panel setups; they are discussed on pages 64–65.

Layering the keyboard

The Mark 152/12 supports the layering of two completely separate sounds. This means that each key plays both sounds simultaneously, allowing a very rich variety of sounds to be created spontaneously, above and beyond the sounds already stored in the instrument.

Selecting the Sounds

You can layer two sounds by pressing and holding down one Sounds button, and then pressing another. The lights in both buttons go on. If a variation was remembered for one of the sounds, it will be used in the layer. If Variation or User Variation is enabled for the first selected sound, the corresponding light goes on. Layering is canceled when you press another sound button. Layering is reset to off when the Mark 152/12 is turned on.

The display will show the names of both the main sound and the layered sound. The scrolling feature described under “More Choices” (page 16) will also work for the layered sound. Press the right soft button (which will light up) and use the Up/Down buttons to change the sound used for layering. Press the button again to disable the scrolling.

Layering can also be done while the Mark 152/12 is in the menu mode. The lights in the buttons will work as usual, and the display will show the menu associated with the main sound. To choose from a menu for the layered sound, you’ll have to select it first as the main sound, and then layer it as described above.

Layer Volumes

You can adjust the relative volumes of a layered sound in either of two ways. The first is done when you’re creating the layer. While holding down the first Sounds button, you can repeatedly press the second button. Each press of the button lowers the volume of the second sound a small amount. Release the first button when the layers sound good to you.

The second method is to use the Layer Volume mixer. After pressing the Layer Volumes button in the Auto Accompaniment section, you can adjust the relative volumes by using one of the three digital sliders. The right-hand end of these are marked accordingly. They correspond to the Layer sound, the Main sound, and the Split sound. Press the Layer Volume button again when the sound balance of the layers sounds good to you.

Style	Tempo	Chord
Volume: 91%	100%	95%
A Bass&Ride	Grand Layer	Soft Strings
Split	Main	Layer

Layering 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*—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 create a layer by pressing and holding the Grand Piano button, and then pressing Strings 2. The string sound that you'll hear is not the usual Strings 2, but a special string sound that has been modified for layering. Think of it as an "and strings" sound. The Choir voice for layering works the same way.

NOTE: These special layer sounds are available only when you layer Strings 1, Strings 2, or Choir with Variation off.

The 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, keeping the high notes from being strident.

To use the "original" Strings 1, Strings 2, or Choir in a layered combination, press and hold that button **first**, then press the button for whatever sound that you wish to layer with it.

The Grand Piano

The Grand Piano and its Variations are tuned differently than other sounds on the Mark 152/12; 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.

When you layer Grand Piano or Grand Piano Variation with another sound, however, the Mark 152/12 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. Since it's not the main piano sound, the User Variation light will turn on.

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 Sounds 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. The name of the left split sound will be shown above the title Split on the bottom line of the display.

Press a different Sounds 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 the Mark 152/12 is turned on.

The Bass Voices

The four upper buttons in this section provide a variety of bass voices for the lower part of your keyboard: Acoustic Bass is the familiar upright string bass, A. Bass & Ride is the same bass with a ride cymbal added, Electric Bass is a typical electric bass guitar, and Synth Bass is a funkier keyboard bass voice. Press a button to activate; press it again to shut it off.

Custom 1 and 2

You can use more than just bass voices for your split voice. These two buttons make it possible for you to optionally select any available program to be a Left Split voice. Do this by pressing and holding the Custom 1 or Custom 2 button, selecting one of the voices in the Sounds section, and releasing the button. The chosen sound becomes the Left Split sound. This sound is remembered, and if the Custom 1 or Custom 2 button is selected later, that same sound is used. These custom split programs are remembered when the power is turned off.

The left split sound can also be scrolled as described on page 16. Press the left soft button to activate the split scroll. The button will light, and you can select a sound with the Up/Down buttons. Pressing the soft button again will deactivate the split sound scrolling.

Octave Shift

Sometimes when you play split programs, it can be necessary to transpose the left or right side of the split to bring the keyboard into the correct sounding range. An example would be to replicate the layout of the two keyboards on an organ. Or fool your friends by having the lower part of the keyboard be the high notes, and the upper part be the low notes! This can be done with the octave shift feature. To shift the octave of the left half of the keyboard, press the Octave Shift button; its light blinks.

Octave Shift:			
Left:	2	Right:	-1 OK

The display shows the current left and right octave shift. Pressing the soft button under Left (or Right) allows you to adjust the left (or right) octave shift. Press the Up and Down buttons to adjust the shift, which jumps by twelve half-steps (one octave) per press. Press both value buttons together to reset the left or right side to no octave shift.

Press the OK button to accept the current value. If the left or right octave adjust is not 0, the light in the Octave Shift button remains lit to remind you.

Left and right Octave Shift are both reset to 0 when the Mark 152/12 is turned on.

Left Sustain

Most split keyboards and playing styles would require the sustain pedal to be ignored for the left half of the split. There may, however, be some occasions where you would wish the sustain pedal to work on the left part of the keyboard. Pressing the Left Sustain button causes the sustain pedal to function normally for the split sound. The light in the button goes on. Pressing the Left Sustain button again causes the split sound to ignore the sustain pedal. The default setting for Left Sustain is off; it is reset to off when the power is turned on.

Setting the Split Point

The split point is the point on the keyboard where the left sound and right sound meet. The split point is also used by the Auto Accompaniment section. The default split point set at the factory is E below middle C.

To change the split point, press the two buttons with the label Split Point printed beneath them at the same time; the lights in the buttons blink. Then press the key that 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, and for the Auto Accompaniment, until you change it, or turn off the Mark 152/12.

To cancel selecting the split point while the two Split Point lights are 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.

Create a Custom Drawbar Organ Sound

The Mark 152/12 features a special software simulation of the drawbar organ. On this kind of organ, each drawbar is associated with a single harmonic, and the position of the drawbar determines how much of that particular harmonic is blended to create the organ sound. This gives you unusual control and variety in the sounds available.

The Mark 152/12 comes with six pre-configured drawbar sounds that you can select by pressing the Drawbar Organ sound button. In addition, you can create your own favorite sounds through drawbar editing.

Drawbar Edit Mode

You can enter Drawbar Edit mode by pressing the Edit Drawbars button. The light in that button blinks to indicate the special mode. While you're in Drawbar Edit mode, the buttons in the Sounds and Options sections of the front panel take on special meaning, and their normal functions cannot be used. Note that several buttons in these sections have function names written below them to indicate their alternative use.

To exit Drawbar Edit mode, press the Edit Drawbars button again. The lights and buttons will return to their normal status.

Simulated Drawbars

In Drawbar Edit mode the nine rightmost columns of buttons in the Sounds section represent drawbars as they'd be found on a traditional drawbar organ. Each column of four buttons has a label at the bottom showing which harmonic tone is controlled by that simulated drawbar: from 16' on the left, to 1' on the right. To simulate the setting of a drawbar, you should press one of the buttons in the column; that button, and all of the buttons above it in the column light. The drawbar is fully on, or "pulled out" when all the lights are on, that is, when you've pressed the lowest button in the column. To turn a drawbar harmonic off completely (to simulate pushing the drawbar all the way in), press the top-most button in the column twice. All the lights in that column are turned off, and the associated harmonic is removed from the organ sound. This process allows you to experiment easily with the variation in sound obtained with different settings of drawbars.

Percussion Settings

There is also a set of percussion settings similar to those found on traditional drawbar organs. On those organs, the percussion is set with rocker switches; on the Mark 152/12, the buttons in the Options section control the percussion sound. The percussion is a special pulsed harmonic that is played in parallel with the main drawbar sound, giving a distinctive sound. It should not be confused with the percussion samples provided by the Mark 152/12 in other sound categories.

The drawbar percussion settings are as follows:

On/Off: Controls whether the percussion effect is heard or not. One of these buttons is always lit while in Drawbar Edit mode.

2nd/3rd: Controls whether the percussion effect is based on the second or third harmonic (only one can be selected). One of these buttons is lit when percussion is on.

Normal/Soft: Controls the volume level of the percussion effect. One of these buttons is lit when percussion is on.

Slow/Fast: Controls the decay rate of the percussion effect. Decay refers to the "fading out" of the percussion sound. One of these buttons is lit when percussion is on.

Keyclick: Keyclick is not really a part of the percussion. It simulates a common noise artifact found on some older drawbar organs, which many players like due to its funky character. This sound can be turned on and off with the Keyclick button in the upper left corner of the Sounds section.

The Drawbar Edit Display

While you're in Drawbar Edit mode, the main display looks like this:

Drawbar Editor:	Combo Organ	
NAME	RESTORE	DELETE

There are six organ sounds available in the Mark 152/12, and you can choose which one to edit by using the Up and Down buttons to scroll through them. The name of the organ sound is displayed in the first line of the display. You can rename the organ sound by pressing the soft button under NAME. The standard naming screen is displayed (see page 45).

After you've made whatever changes that you prefer, you can exit Drawbar Edit mode and all is saved. In the future, whenever the Drawbar Organ sound category is chosen, your edited version of the sound will be available for playing.

If, while editing, you decide that you'd rather discard your changes and return a drawbar program to its earlier state, press RESTORE, and the previously saved values will be displayed. If you wish to return to the factory settings for a drawbar program, press DELETE. In either of these cases, you will be offered a confirmation screen to make sure that the action is what you really want.

Drawbar Organs and Rotary Effects

It is very common to use drawbar organs in rock 'n' roll or jazz combos in conjunction with a special effect speaker system that generates interesting sounds by using mechanical rotation. The Mark 152/12 has an advanced signal processor that can imitate these effects digitally. This is found under the Rotary effects setting (see page 26). When you're in the Drawbar Edit mode, you can turn Rotary effects on and off by using the Effects button in the Digital Reverb and Effects section. The Effects setting is remembered, along with the other drawbar settings, so that you can create the kind of sound you like.

Saving Drawbar Programs

The drawbar programs that you create are saved in the memory of the Mark 152/12, and are remembered after the instrument is turned off. You can save some of your special drawbar settings using the Save Drawbars page in the disk menu (see page 58). The saved settings can be loaded back using Load Drawbars (see page 54).

Digital Reverb & Effects

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

Treble and Bass

The Treble and Bass slide controls allow you to adjust the tonal balance of the overall sound to your liking. The Treble slider controls high frequencies, and the Bass slider controls low frequencies. These are useful for compensating for the acoustic character of the room in which you're playing. In a room with carpeting, draperies, and heavily upholstered furniture, increase the treble and decrease the bass. In a less-furnished, larger room, or hall, decrease the treble somewhat.

When the sliders are centered, they have no effect on the sound. (The center position is identified by both a heavy line, and a detent that you can feel when you move the slider.) Moving the Treble slider to the right boosts treble frequencies, and moving it to the left cuts treble frequencies; the Bass slider operates the same way on low frequencies.

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

Master Volume

The Master Volume slider controls the overall volume (loudness) of the Mark 152/12. 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.

Master Volume affects the loudness of the internal sound system, and the volume produced by equipment (headphones, amplifier, or tape deck) connected to the headphone or Audio Out jacks (see page 107).

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

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

Reverb

Reverb, short for *reverberation*, occurs naturally when sound reflects off the walls of an enclosed space. These reflections blend together into a “wash” of sound that adds warmth and ambiance to music (shower singers know all about this!).

The reverb choices are Room, Stage, Hall, and Space; each setting has a bit more reverb than the previous one. A single Reverb button enables you to choose which setting to use. Each setting appears on the front panel, and has a light next to it. Repeatedly press the button to cycle through the choices, top to bottom. After the bottom choice, a button press turns off the reverb. Another button press selects Room again.

Each Sounds and Styles preset has a default reverb and/or effect associated with it. This reverb is automatically selected along with the preset.

The new setting is selected whenever that sound or style preset is selected. These reverb selections are remembered when you turn off the power. The default reverb when the power is turned on is Room, along with the default Grand Piano sound.

In the menu mode, the display shows you that there are three choices:

Reverb type	Flavor	Wet/dry mix
Room	Small Room	18%

You can change the reverb type, flavor and wet/dry mix from this display. Press the left soft button and use the Up and Down buttons to change the type. This is the same as pressing the Reverb button on the left part of the front panel. There are many different choices for each reverb type, and these are called Flavors. Press the middle soft button and use the Up and Down buttons to change the flavor of the reverb. You can change the amount of reverb in the sound by adjusting the Wet/Dry mix parameter. Higher numbers give the sound more reverb (making it “wetter”).

Effects

The effects types are Chorus, Rotary, Echo, and Special.

Chorus: The effect of two or more of the same instrument playing together.

Rotary: Similar to the tremolo effect provided by a rotary organ speaker.

Echo: A repetition and fading out of a sound.

Special: This category provides many other useful effects, such as flanging.

A single Effects button enables you to choose which effect type to use. Each effect name appears on the front panel, and has a light next to it. Press the button to cycle through the choices, top to bottom. After the bottom choice, a button press turns off Effects. Another press of the button activates Chorus again.

In addition, there are parameters for each of the effects that you can adjust, through the use of the Menu button:

Effect type	Flavor	Wet/dry mix
Chorus	Tight	55%

As with Reverb, you have many Flavor choices within each Effect Type. Explore them.

SRS®

SRS® (for Sound Retrieval System®) is a spatial effect. It makes the sound seem as if it's all around you. You can't tell that it's coming from the speakers.

The SRS® effect is controlled with a single SRS® button and its light. Pressing the button alternately turns the effect on or off.

In menu mode you can adjust the SRS Space, which is the perceived "size" of the sound field, from 1 (smallest) to 8 (largest).

You can have one of each type of effect (Reverb, Effect, SRS®) simultaneously.

Effects Hold

As you learned earlier, the reverb, effect, and SRS® settings are remembered with each preset, so you can customize the sound to your own taste. These changes are remembered even if you turn off the Mark 152/12. The Effects Hold button is used to lock on a particular effects setting.

When Effects Hold is selected, changing Styles or Sounds does not change the reverb or effects settings.

If the Recorder is turned on, the effects associated with the current song are selected when the song is played. Changing Styles or Sounds while the Recorder is turned on does not change the effects settings. If Auto Setup is turned on, the effects change when (1) the Recorder is off, (2) the style is stopped, and (3) a new style is selected.

Styles

The Mark 152/12 has built-in musical styles that can be used as a sophisticated metronome to play along with, or for fully orchestrated accompaniment with drums, bass, and three other background parts. Each style has several orchestrated additional sections: an introduction, a main section, a variation section, two fill-ins, and an ending.

If the Styles section is turned on, the main display shows the current style name, and current tempo. In addition, if the Chord Reader is on, the current chord is also displayed.

On/Off

The On/Off button turns the Styles section on and off. The current style appears in the display only when Styles is turned on. This button is off when you turn on the Mark 152/12.

Preset Style Buttons

The twelve buttons in the top two rows are the style categories. They collectively include a large selection of built-in individual styles. Each button has a light. Within each style category are at least three choices, which can be accessed in Menu mode. In regular play, pressing a style button selects a style of the selected category. The last style selected under a particular button is remembered for the next time that you press that button. The default style is the first style (upper-left in the control panel), Big Band.

User/Disk

Up to seven alternate styles may be loaded in from the disk drive, or copied from the factory Styles for editing and playing, memory permitting. If there are any User or Disk styles in memory, this button behaves just like one of the other Styles buttons. See page 54 for details on loading styles from disk.

Start/Stop

This button starts and stops the currently selected style. If the Chord Reader is off, you will hear only the drum part.

Introduction

This feature provides an appropriate introduction (or *intro*) that showcases each of the styles. If you select this button when a style is not playing, its light blinks. The next time you start a style, the preassigned introduction for that style plays, and then continues into the style itself. If the button is pressed again before a style is started, the intro is canceled.

Variation

Each of the Styles has a variation (embellished) style available that you select by pressing the Variation button in the Styles section. This variation style often works well for the second section, or for the chorus, of a song. The button lights up when the variation is active, showing that the variation for the current style is selected. Pressing the Variation button again returns you to the original style.

Each of the Styles remembers whether or not Variation was on the last time that style was selected; therefore, if you select the variation for a particular style, then select a different style, then return to the first style, the variation is automatically selected again.

Variation is reset to off for all styles when the Mark 152/12 is turned on.

Fill to Variation

This is a dual function button. If you select Fill to Variation while a style is playing, a fill pattern is immediately played until the end of the current measure, and then the variation of the style is heard. Pressing the button multiple times causes the fill to be repeated that number of times. Pressing a different style control button, such as Fill to Original, or Break, allows you to cancel the multiple fills.

If Fill to Variation is selected when a style is not playing, its light goes on. The next time any style is started, the Fill to Variation part of that style plays, like an introduction, and then continues into the variation part of the style. If you press the button again before a style is started, the fill/intro is canceled.

Fill to Original

This is a dual-function button. If you press Fill to Original while a style is playing, a fill pattern is immediately played until the end of the current measure, and then the original style is heard. Pressing the button multiple times causes the fill to be repeated that number of times. Pressing a different style control button, such as Fill to Variation, or Break, allows you to cancel the multiple fills.

If you select Fill to Original when a style is not playing, its light flashes. The next time any style is started, the Fill to Original part of that style plays, like an introduction, and then continues into the main part of the style. If you press the button again before a style is started, the fill/intro is canceled.

Break

If you press this button while a style is playing, a blank fill (or silence) is immediately played until the end of the current measure, and then returns to the style that was playing. Pressing the button multiple times causes the break to be repeated that number of times. Pressing a different style control button, such as Fill to Original, or Fill to Variation, allows you to cancel the multiple breaks.

Ending

If you press this button while the style is playing, the ending part of the style plays at the beginning of the next measure. If the introduction was playing, the intro finishes and then the ending begins.

Count Off

If the Count Off button is on, the metronome sound is played on each beat for one measure before the style starts. If the introduction begins with rests, there will be some silence after the count off.

Fade In/Out

If you press this button while a style is running, the sound smoothly fades out. The style keeps running, so be sure to stop it.

If you don't stop the style, and you press the button again, the sound fades back in to the original level. You can also press the fade button, start a style, and hear it fade in to normal playing level.

Slower

When the Slower button is pressed, the tempo decreases smoothly to 20 beats per minute. Press the button again to stop the slowing at the playing speed that you want.

Faster

When the Faster button is pressed, the tempo increases smoothly to 300 beats per minute. Press the button again to stop the increase at the playing speed that you want.

Edit Style

You can make many changes in the styles that come with the Mark 152/12, or even styles you load from disk. All changes can then be played as your own custom style. You can select the custom styles by pressing the User/Disk button. In order to change the styles, the Mark 152/12 first copies the style into the User/Disk section. There are seven available locations in the User/Disk section. The style edit functions use the display, the soft buttons, and the Drums, Bass, Background A, B, and C buttons in the Auto Accompaniment section.

First, select the style you wish to edit. When you press the Edit Style button, the Mark 152/12 enters a menu with many parameters for changing your style.

The style being edited is whichever style was currently selected when you entered style edit mode. If the selected style was not in the User/Disk section, the display asks you into which of the seven locations to put the style. If there is already a style in that location, the display shows the name of that style, so that you can decide whether to replace it, or to choose a different location. You can select which location by using the Up and Down buttons. For example, if you had selected Jitterbug for editing, and you already had edited Big Band in the first User location, the display might show:

```
Copy   Jitterbug to User 1
(replace Big Band)           OK
```

Once you have selected a location, press OK. The display briefly says, "Style Copied." Now you're ready to edit your style. Remember, if the style was already in the User/Disk area, you will not see this display, because you were already set.

Here are the menu choices for editing your style:

Rename the Style

You can change the name of the style, in the same manner as other naming functions in the Mark 152/12. See page 45 for the naming procedure.

Change Values in Auto Setup

This gives you an opportunity to change which sounds are called up for your keyboard when a style is selected, if the Auto Setup feature is turned on. Select the sound that you wish to use to play along with your style, and press SAVE.

Delete the Style

If you do not want this style in memory anymore (maybe you need the space to load one more song, for example), you can delete it. Remember, you can save User styles to disk, so don't be afraid to delete them afterward.

The next six parameters are adjustable for each of the five style accompaniment parts: Drums, Bass, Background A, B, and C. You can press these buttons to choose which part you will be editing. If you need to mute a part so that you can listen to the other parts, press that part button twice.

Part Sound

You can change the part sound to whatever is currently set on your front panel. The two function buttons that you use are labeled SAVE and RESTORE. SAVE causes the part to use your current panel settings to play. RESTORE changes the settings back to the factory default for that part.

Chord Change Mode

There are two chord change modes that affect what happens when you change the chord you're playing while notes are being held by the background parts. *Replay* changes the notes that are playing to match the new chord. *Hold* leaves the notes that are sounding as they were.

Effects Mode

Normally, the style parts are played with the same reverb settings as the main keyboard, but the Effects section is skipped. You probably do not want to have the drums played through a rotary speaker effect! If you do, here's how to do it. Select the drum part, and change the effects mode parameter from *Reverb only* to *Reverb and Effect*. The selected effect now also affects the drum part. You can do this for any style background part.

Wrap Point

You may have noticed that when you play a series of chords that get higher and higher, after a certain chord, the parts drop one octave, to keep them in the correct ranges for the instruments. You can change the note at which this occurs using the Wrap Point parameter. Values range from C up to B. Typically, a part might cross over at F#.

Volume

The parts all have volume adjustments in them. If you want to override the factory settings, you can adjust the volume from 0% to 100%. To return to the default setting, press the Up and Down buttons at the same time.

Pan

The parts all have panning adjustments in them. If you wish to override the factory settings, you can adjust the pan from left 100% to center to right 100% in increments of 10%. To return to the default setting, press the Up and Down buttons at the same time.

Program Change Mode

This is a parameter that you won't normally need to touch, because it shows which sound list is being used by the style to select its internal sounds.

Auto Accompaniment

The Auto Accompaniment section works in conjunction with the Styles section to provide you with fully orchestrated accompaniments when you play chords on the keyboard. The Styles section lets you choose which accompaniment style is played, while the Auto Accompaniment section gives you additional control over *how* it is played.

Auto Accompaniment is activated by turning on the Chord Reader. Most often, you will trigger the Auto Accompaniment by playing chords to the left of the split point. (For more about the split point, see page 22.) The exception to this is if you set the Mark 152/12 to Full Keyboard mode (see page 34).

When you turn on the power, Auto Accompaniment is not activated.

Chord Reader

This button is very important to automatic accompaniment. Chord Reader turns on and off the chord recognition feature. It also helps you select the chord style that you'd like to use.

When Chord Reader is activated, you have three choices as to how you play automatic accompaniment chords: Basic, Advanced, and Chord Inversion. The default mode is Advanced.

You will see the name of the current chord in the upper right of the display. To change the chord recognition mode, press the Menu button. Pressing the Chord Reader button in Menu mode changes the display like this:

```
Chord Recognition Mode:
  Basic      Advanced   Chord Inv.
```

These choices operate below a split point that was set in the Left Split section (default split point is the E key to the left of middle C).

Basic

You can trigger the auto accompaniment by playing one-finger chords. Here are the types of chords that you can play:

Major: Pressing one key (for example, C) plays a complete major chord with that key for its root (C major).

Minor: Pressing the root key and any black key below it (C and B-flat) plays a minor chord (C minor).

Seventh: Pressing the root key plus any white key below it (C and B) plays a seventh chord (C seventh).

Minor seventh: Pressing the root key plus both any white key and any black key below it (C, B, and B-flat) plays a minor seventh chord (C minor seventh).

Advanced

You can trigger the auto accompaniment with standard chords of two or more notes (for example, pressing C, E, and G to play a C major chord). In this mode, the Mark 152/12 recognizes the following chord types:

Chord Type	Common Symbols
major	Cmaj, C
minor	Cmin, Cm, C-
augmented	Caug, C+
diminished	Cdim, C°
suspended fourth	Csus4, Csus
no third	C no 3rd
major with flat fifth	Cmaj♭5, C(♭5)
seventh	C7
major seventh	Cmaj7, CΔ7
minor seventh	Cmin7, Cm7, C-7
seventh with suspended fourth	C7sus4, C7sus
major seventh with flat fifth	Cmaj7♭5 (or -5)
minor seventh with flat fifth (half diminished)	Cmin7♭5 (or -5), C-7♭5 (C ^o)
seventh with flat fifth	C7♭5
seventh with sharp fifth	C7♯5
minor with major seventh	Cmin♯7, C-(♯7)
major with added ninth	C add 9, C add 2
ninth	C9
seventh with flat ninth	C7♭9, C7-9

Chord Inversion

This is similar to the Advanced chord mode, with the added feature that the lowest note that you play is the primary bass note. For example, if you play a C major chord as C, E, and G, you will hear the same chord and bass as in the Advanced mode (with C, the root of the chord, as the primary bass note); but if you play G, C, and E instead, you will hear G as the primary bass note below the C chord.

When Chord Reader is not in use, you'll hear only drum patterns when you use Styles. In this mode, you can use the accompaniment as a drum machine, or a very fancy metronome.

Full Keyboard

When this button is off, the Chord Reader in Auto Accompaniment recognizes chords played below the split point on the keyboard, and the left side of the keyboard is silent.

When Full Keyboard is on, you have your choice of where on the keyboard the chords can be played, and the entire keyboard generates sounds normally; therefore, melodies can also be played anywhere on the keyboard, **TOGETHER WITH THE CHORDS!** The best way to illustrate this may be to say that it's possible to play a piece of sheet music along with the automatic accompaniment and rhythm Styles. In many cases, the style will follow along with you, due to the notes that are played in the song.

Pressing this button presents you with three choices in the display:

```
Chord Reader Keyboard Mode:
Full Keybd   Left Side   Right Side
```

Full Keybd allows you to play chords anywhere on the keyboard. Left Side allows chords to be played below the split point. Right Side allows you to play chords above the split point.

You must play at least three notes at once in order to change chords. You can then solo over the accompaniment without fear of changing chords (as long as you don't play more than two notes at once).

Full Keyboard mode is set to off every time you turn the on Mark 152/12.

Chord Hold

Normally, when you lift your left hand from the keyboard, the chord accompaniment stops and the automatic drums keep going. Chord Hold keeps the chordal accompaniment playing when you lift your left hand from the keys, until you strike a new chord, making it easy to move smoothly from one chord to another, and freeing your left hand for tasks such as touching the pitch bender, or pressing the Fill and Ending buttons.

When you press Chord Hold, Chord Reader is also activated.

Anyone Can Play

This exclusive feature allows you to do the nearly impossible. It essentially forces every note that you play to sound in harmony with the other notes around it. With the Anyone Can Play feature turned on, it sounds as if you are playing all correct notes—NO MISTAKES!!

Anyone Can Play allows almost ANYONE to have a positive first experience with music. Children will feel a sense of accomplishment when they discover that they can indeed “play” along with the musician in the house and not just sound like they are banging on the keys. Anyone Can Play also increases manual dexterity and is a great exercise for the fingers.

If you press Menu, the display shows:

```
Anyone Can Play Mode:
  Basic      Compressed      Scale
```

The Basic Anyone Can Play setting changes all notes on the keyboard to fit the chord that is being played.

The Compressed setting gives a wider range of notes in a smaller area of the keyboard, for more expressive playing. This is the default Anyone Can Play setting.

In the Scale setting, the white keys from C to C play the scale that corresponds to the chord that you are playing.

In all three settings, the C keys play the root note of the chord that you are playing.

When Anyone Can Play is turned on, Chord Reader is also activated, and Full Keyboard is turned off.

Anyone Can Play can be used in the following ways:

1. You play a chord with your left hand (choose any Chord Recognition mode) with the Styles turned OFF.

RESULT: Every single note that you play on your right hand (the melody) is in harmony with the chord you played on the left hand.

2. You play a chord with your left hand (choose any Chord Recognition mode) with the Styles turned ON.

RESULT: Every single note that you play on your right hand (the melody) is in harmony with the chord you played on the left hand, except now your notes are in harmony with a Style.

3. Available Anyone Can Play software allows you to play any notes across the entire keyboard while prerecorded software does the work for you. This software allows anyone to “PLAY” along with entire arrangements of songs and moods. (Consult your authorized Kurzweil dealer for software availability.)

Anyone Can Play allows ANYONE to have fun with the Mark 152/12. Now anyone can become the trumpet player in a 1940s Big Band or the entire string section of a grandiose Classical piece. Anyone Can Play even allows a cat walking on the keyboard to sound musical.

Harmony

The Harmony feature adds a full chord to your right-hand melody. It does this by coupling the notes in your accompaniment chords with your melody notes. Even the “corrected” notes from the Anyone Can Play feature can be harmonized. Chord Reader must be turned on for you to use this feature. (When Harmony is activated, Chord Reader is turned on and Full Keyboard is turned off.) In Menu mode, eight different block harmonies can be selected. Harmony works best if you play a single-note melody line.

Arpeggiator

The arpeggiator takes notes played on the keyboard and allows them to be played sequentially, as an *arpeggio* (an Italian word for “like a harp.”) There are many ways to arpeggiate notes, and the Menu mode allows you to change the way that the arpeggiator works. It’s even possible for the arpeggiator to use the notes that are added to your melody when you use the Harmony feature.

The following parameters are available in Menu mode:

Key Range (Low Key, High Key)

With this parameter, you can adjust the key range in which notes are arpeggiated. The total key range is C-1 to G 9 (the entire range of MIDI notes). However, if the chord reader is turned on, only the sounds in the right side of the keyboard will be arpeggiated (unless Full Keyboard is also turned on).

Latch Mode

Latching describes the way that the Arpeggiator “grabs” the notes that you’ve played and continues to play them in a repeating pattern. Some of the latch modes operate based on holding keys down on the keyboard. Others require you to assign one or two of your pedals to become latching switches. You can learn how to assign the pedals in the MIDI/Preferences section (see page 84). The default is Keys.

The following latch modes determine how the Arpeggiator responds to the keys that you play.

Keys: The Arpeggiator plays only while you’re holding down one or more keys. As you add keys, their notes get added; as you release keys, their notes are removed.

Overplay: In this mode, the Arpeggiator recognizes any notes that are being held when Latch Pedal 1 is pressed. These notes will be arpeggiated continually, even after you let them go, until Latch Pedal 1 is released. Any notes played after Latch Pedal 1 is pressed sound normally and are not arpeggiated.

Arpeg: The Arpeg(giation) mode is similar to Overplay; any notes being held when Latch Pedal 1 is pressed are arpeggiated repeatedly. In this case, though, any notes that you add will be arpeggiated only until you release them.

Add: The Add mode means that any note that you play after you press Latch Pedal 1 are arpeggiated, and will keep playing, even after you release their keys, until Latch Pedal 1 is released.

Auto: In this mode, the Arpeggiator goes on whenever you play a note. Any and every note that you play gets added, as long as you’re holding down at least one key.

Pedals: This mode is a combination of the Keys, Overplay, and Add modes. It is called Pedals mode because you might wish to assign the right pedal to Arpeggiator Latch 1, and the center pedal to Arpeggiator Latch 2 to make the pedals function similarly to sustain and sostenuto pedals.

Play Order

The order in which the latched notes are played. The default is Played.

Played: The notes are played back in the order in which they were entered.

Up: This mode plays the notes in ascending order, regardless of the order of entry.

Down: This mode plays the notes in descending order, regardless of the order of entry.

Up/Down: The notes that you play are repeatedly played in ascending order, and then in descending order, until the Arpeggiator stops. The notes at the very top and very bottom play only once.

Up/Dn Rp: This is the same as the preceding, except that the notes at the very top and very bottom play twice (repeat) before the Arpeggiator turns around.

Random: This mode picks the notes from those that are being arpeggiated, and plays them completely at random.

Shuffle: This random mode picks the notes from those that are being arpeggiated, but keeps track so that no note repeats until all of the others have played.

Walk: In this random mode, each successive is either the next-highest, or the next-lowest in the cycle.

Glissando On/Off

If turned on, the Arpeggiator plays a chromatic sequence between the various latched notes. If, for example, the Arpeggiator is to play the notes D and F, Glissando causes it to play D, D#, E, F, E, D#, and D. The default setting is Off.

Beats

This subdivides the Tempo setting. At its lowest value, quarter notes, the Arpeggiator plays at the indicated tempo. Setting Beats to eighth notes doubles the speed; setting it to eighth triplets triples it, etc. The highest setting is thirty-second triplets, twenty-four times the Tempo setting! The default is sixteenth notes.

Note Duration

This determines how long the notes will play within the rhythm, i.e., how much time from one note to the next: 100%, the default, means that a note will sound until the next one sounds, 50% means that the note will fill only half the space between itself and the next note. The duration (gate time) of the note is adjustable from 100% down to 1% of the clock division.

Note-On Velocity Mode

Sets the velocity (loudness) of the played notes via these parameters:

Velocity Mode

Fixed: All notes sound at the same volume, which is set with the Fixed Value parameter.

Played: The notes repeat at the same velocity that you played. This is the default.

Last: All notes play at the velocity of the most-recently played note.

Aftertouch: If you are controlling the Mark 152/12 from an external MIDI controller, you may want to assign the Arpeggiator to be controlled by the MIDI controller's keyboard aftertouch. The Mark 12 keyboard does not transmit aftertouch. You can also assign the Mark 152/12 continuous controller pedal to transmit aftertouch (see MIDI/Pref).

Ctrl 117: This indicates that the velocity is controlled by MIDI Controller #117, which can be assigned to the continuous controller pedal (see pages 85 and 91).

Fixed Value

This is used only when the Velocity Mode parameter is set to Fixed. The range is 1-127.

Note Shift

You can have the Arpeggiator transpose all of the current notes each time it plays through them. The Note Shift parameter determines how much transposition occurs. The transposition is cumulative from one cycle to the next: If you choose 2 as the value, then after the initial cycle, the next cycle will be up a whole step, the one after that will be up two whole steps, etc. The values are from -12 to 0 to +12, with 0 (the default) being *no transposition*.

Shift Limit

This determines how far up or down the Arpeggiator will play from the original note. The range is 0 to 24 to 88. What happens when the Arpeggiator reaches the limit is determined by the Limit Option parameters. The default is 24.

Limit Option Parameters

If Limit Option is set to **Stop**, then, when the Arpeggiator has shifted notes up or down to the limit, it stops playing.

If it is set to **Reset**, then when it reaches the limit, the Arpeggiator goes back to its original pitch, and starts over again, continuing to transpose as it plays.

Unipolar means that the Arpeggiator plays the last note before it reaches the limit, and then starts shifting notes in the opposite direction, using the same interval. When it gets back to its starting point, it reverses again, and keeps repeating this until you stop it. **Unipolar** is the default.

Bipolar starts out as **Unipolar**, but, as the cycle bounces its way back to the original pitch, it keeps going *past* the original pitch, and continues to shift until it hits the Shift Limit in the opposite direction.

Flt Reset adds some randomness. *Flt* stands for *float*, meaning that, when the Arpeggiator reaches the Shift Limit, it doesn't necessarily reset to the original pitch. Instead, it looks at the first note that would exceed the Shift Limit, and calculates the interval between it and the Shift Limit. It uses the calculated interval to transpose the pitch, and continues on. Suppose that the only note in the Arpeggiator cycle is C3 (the one to the left of middle C), the Note Shift is 7 (a perfect fifth), and the Note Limit is 26. The Arpeggiator plays C3, then G3, then D4, then A4 (all perfect fifths). The next note in the series would be E5, but it's beyond the Note Limit (D5, 26 half-steps above C3). With a normal Reset, the Arpeggiator would start over at C3. With Float on, however, calculates the difference between E5 and D5, a whole step, and applies that to the starting note, raising it a whole step from C3 to D3. The subsequent notes would be A3, E4, and B4. The next note, F#5, would be beyond the limit, so the whole process would begin again.

Flt Unip and **Flt Bip** use the same concept as **Flt Reset**. **Flt Unip** applies it to the Unipolar mode: When it reaches the limit, the Arpeggiator calculates the difference between the next note and the limit, and transposes all subsequent notes by that interval, even though they're now going in the opposite direction. **Flt Bip** does the same thing to the Bipolar mode: After the limit is exceeded in one direction, notes are transposed by the usual interval. When the cycle goes back and reaches the opposite end, another calculation is done, and subsequent notes are transposed by that interval. This interval will be in the opposite direction of the first transposing interval, and not necessarily the same distance.

All of this may seem confusing, but, if you spend some time with it, you can get some very musical results. Experiment with the shifting to get a better feel for what's going on.

Part Sliders and Buttons

The three sliders control the volume of the Background (A, B, and C), Bass, and Drum parts of the accompaniment. A highlighted area above each slider indicates the recommended volume.

The Background A, B, and C buttons, along with the Bass and Drums buttons, let you control which parts you hear when you use any of the preset Styles. Press a button to mute that part; when a button is not lit, that part is silent. When you turn on the Mark 152/12, the part buttons are automatically set to the default Auto Setup settings for the Big Band style. (For more information on Auto Setup, see below.)

The lights in the part buttons are always out if the Styles section is turned off.

Key Start

When Key Start is enabled, striking any key on the keyboard below the split point starts the style, or striking any key on the entire keyboard starts the Recorder.

When using Key Start with the Recorder, you must first press Play to get a song ready to start. Then, when you press a key, the song will start. Key Start can be used with Key Stop.

Key Stop

When Key Stop is enabled, releasing all keys below the split point stops the style. Pressing any key below the split point restarts the style from the first beat (beginning). Using the Key Stop feature negates the Chord Hold feature. Key Stop can be used with Key Start.

Auto Setup

This feature is activated only when the Styles section is active. When Auto Setup is enabled, suitable keyboard sounds and other parameters (such as effects settings) are selected for subsequent style selections. If the Auto Setup button is pressed while a style is playing, the parameters move to those stored with the style. If a style is not playing, and Auto Setup is currently enabled, pressing it again disables it.

If the Recorder is on, Auto Setup has no effect.

When Auto Setup is off, the last sound that you selected remains selected when you change Styles. Auto Setup is set to *on* every time power to the Mark 152/12 is turned on.

Layer Volumes

Pressing this button changes the status of the three volume sliders just above it. Normally, they control the Background (A, B, and C), Bass, and Drums. When Layer Volumes is pressed, the sliders then control the relative loudness of the Layer, Main, and Split voices (see page 19 on layering voices). The display reflects the change.

Recorder

The Recorder section has two basic functions: You can use it to record, play, and edit your own songs. You can also play and edit songs imported from Mark 150/10, Standard MIDI file (type 0 and type 1), Disk Orchestra, PianoSoft, or PianoDisc files.*

While it appears to work like a tape recorder, the Recorder offers you some advantages over a tape recorder:

- 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.
- You can correct minor timing errors by quantizing, so that the notes you recorded will be lined up with the beats.
- You can use the MIDI Out port to connect other MIDI instruments to the Mark 152/12, and play them from the Recorder as well. (To do this, you must set the Mark 152/12 to transmit sequencer data. See page 84.) In addition, by way of the MIDI In port, you can use the Recorder to record external controllers, i.e., other MIDI keyboards. (See Part 4 for additional information.)

*PianoSoft is a trademark of Yamaha Corporation. PianoDisc is a trademark of Music Systems Research.

On/Off

Pressing this button turns the Recorder section of the Mark 152/12 on or off. Turning on the recorder changes the display to the Recorder main display.

If there is a song loaded into Song 1, the display looks something like this:

"Oh Darling"	74	Measure:	1
	Grand Piano		

The only difference from the main display is the top line: Instead of the style name and the chord name, you will see the current song name and the current measure number. You can also see the main display by pressing the Next button.

Song/Track Buttons 1-16

The numbered buttons in the Recorder section have two purposes: You can use them to select a song for recording or playback (only one can be selected at a time), or, by using the Edit Song button, you can turn on or off up to sixteen individual tracks.

- When you first activate the Recorder, the buttons represent songs. The lights in the buttons show the status of each of the songs:

Green: This is the current song; it is empty.

Red: This is the current song; there is music recorded on it.

Orange: This song contains music; it's not the current song.

Off: This is an empty song.

You can choose a different song to play or record simply by pressing one of the song/track buttons. Your newly selected song button displays either green or red, depending on if it is empty or not. The lights in the other buttons will all be orange or off, depending on whether or not they have songs in them.

Playing a Song

Once the Recorder is on, and you have selected a song, you can play the song using the Play/Pause button. Press the button once to start the song. The light in the Play button turns on to show that you are playing the song. If you let it run, the song plays to completion and the Stop button lights. If you wish to pause the song, press the Play button again. The song pauses and the light in the button blinks. Press the Play button again to resume playing the song. If you wish to stop the song before it finishes, press the Stop button.

Using Key Start to Start the Song

If you press Key Start, the song does not play right away after you press the Play button. Instead, the Mark 152/12 waits for you to press a key to start your song.

Edit Song

The Recorder allows you to record up to sixteen individual tracks (parts) to your song. These can all be played back together, making you into a one-man band. Each of your tracks has one musical part on it. Of course, you can change sounds in the middle of the part while you're recording it. Maybe your song will use only one track of the song, or maybe it will use quite a few. You can even turn off one or more of the tracks that you've recorded, and play along with your song "live." When you are working on a song, it is handy to be able to see which of your sixteen tracks have music recorded on them. This is where the Edit Song button can help you. When you press it, the light in the button illuminates and the Song/Track buttons change from song selectors into track selectors. Also, whenever you start to record a track, the Mark 152/12 automatically enters the Edit Song mode. The lights in the buttons show the status of each of the tracks:

Green: This track has music on it, and its ready to play back.

Orange: This track has music on it, but you've turned it off (muted it).

Red: You've pressed the Record button, and this track is ready to record.

Off: This track is empty.

Once a track has been recorded on, the track button lights green 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 (orange) or on (green). 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 on 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 already contain data. The track that is being recorded has a blinking red 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, along with the effects and the tempo. You can change this sound using the track editing menus (see page 48).

Track 1 can be turned on or off only before playback begins; this track has special properties for recording your auto accompaniment performance (see page 42).

Recording a Track

Once the Recorder is on, and you have selected a song (button), you can record a track in that song, using the Record and Play buttons. Press the Record button, and the light in the button blinks. The Mark 152/12 automatically selects the first available track on which to record. Notice that the Edit Song mode has been turned on, so that you can see which tracks are already in the song, if any. The track you are about to record on has a blinking red light. If you wish to change the track to record on, just press a different track button. Press Play to start the recording, and press Stop to stop the recording. NOTE: If you have Key Start enabled, recording will start when you press the first key.

A note on recording: normally, your Mark 152/12 will be set to transmit on MIDI channel 1. This channel has special properties in the Recorder. It allows the Recorder to automatically assign tracks to other MIDI channels so that they will not conflict with your keyboard performance. This allows you to easily play along with songs that you've recorded. However, if you record a part that is transmitted on a different MIDI channel, that track will be assigned to the same MIDI channel as you played the part from. This way, if you're recording something from an external keyboard, it can be played back easily onto that keyboard on the same channel. If you need to change the channel after recording the track, you can edit the Track Channel parameter.

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 anything, or touch any controllers while recording.

Recording Your Auto Accompaniment Performance

You can record your auto accompaniment performance on track 1 only. To do so, set up the Auto Accompaniment section as you wish (Start Select, Part Buttons, etc.), and record on track 1. You can use all of the controls in the Auto Accompaniment section, such as Intro/End, Fills, and Variation; you can even record all slider information—like a digital mixer. When you play back the song, track 1 controls the Auto Accompaniment; manual control of that section is disabled. The time signature of your performance matches that of the currently selected style.

When recording on track 1, you can record your melody (right hand) at the same time as the Auto Accompaniment.

When recording auto accompaniment, MIDI channels 11 through 15 are used. This means that you will not be able to use those tracks in your song because there will be conflicting parts on those channels. Usually, tracks 10 through 14 are assigned to channels 11 through 15. It is best to avoid using those tracks when recording with styles.

Stop

The Stop button stops the recording or playing of a song, and resets the measure counter to the beginning of the song (rewind). You can also use the Stop button to cancel Record, Loop, or Punch In, if you have not yet pressed Play.

Fast Forward

The Fast Forward button allows you to move ahead in your song. If you press and hold the button while the song is playing, the song speeds up until you release the button. You can also use this button to start the song at a specific measure. While the song is stopped, press the button and hold until the measure counter shows the measure at which you wish to start. Then press Play to begin the song at that measure. Fast Forward does not work in the record mode.

Rewind

Rewind goes back to the previous measure of the song, but it does not play the song backward. If you press and hold the button while the song is playing, it stops the song, but the measure counter counts down until you release the button. It works the same if the song had already been stopped. You can then press Play to begin the song at the specified measure.

Metronome

Pressing the Metronome button allows you to hear the tempo of a song, style, or the arpeggiator. It can be used as a stand-alone metronome. When the button is pressed, the light goes on and the metronome starts; press it again to turn it off.

Metronome Parameters

The metronome works just like any other sound played on the Mark 152/12. You can use the Menu button to change the metronome parameters, e.g., the sound that it makes, and also which MIDI channel it appears on (see Part 4 if you need further explanation). Usually, you won't have to change these parameters. However, if you have a very full sequence that uses most of the MIDI channels on the Mark 152/12, you may run into a conflict, where the metronome is using the same MIDI channel as one of your song tracks. This can cause the wrong sound to be played by either your song track or the metronome.

Metronome Channel

While the default channel is 16, you can choose any channel from 1 to 16. Usually, track 15 of a song plays on MIDI channel 16, so if there is a conflict, it's probably on that track.

Metronome Sound

You can choose any of the Mark 152/12 sounds to play the metronome. Usually, a percussion sound is chosen, so that the metronome click does not have a pitch. The default sound is Real Drums.

Metronome Key

You can also choose which note on the keyboard will be the metronome note. This is particularly important if you choose a drum sound as the metronome sound, which is the usual case. Every key plays a different percussion sound, so you have a wide choice for the metronome. The default key, C#7, plays a click sound.

Metronome Key Velocity

This parameter allows you to choose how loud the metronome click is in relation to the other sounds on the instrument.

Set Tempo

When you press Set Tempo, its light goes on, and the display says:

```
Tap Tempo Calculator
Press any key repeatedly to set tempo
```

When Set Tempo is enabled, the time between key presses on the keyboard is measured, and is used to adjust the tempo. In this way, you can set the exact tempo that you want without having to know, or even guess at, the beats per minute (i.e., the numerical tempo setting). Just press Set Tempo, and repeatedly press a key at the speed at which you wish to play. Press Set Tempo again to exit the function, and your tempo is locked in.

Punch In

In recording, to *punch in* is to switch into recording mode while a track is playing back. What is recorded replaces the part of the track that was there before. You can then *punch out* after finishing the newly recorded section. It's a way to correct part of a track without having to rerecord the entire track. Another use is to erase a section that you don't want, by punching in and not recording anything.

Pressing the Punch In button enables punch-in mode, and the light in the button flashes. The last recorded track is automatically selected for punch-in, and the light in that track button also flashes. You can change the punch-in track by pressing a different track button.

Start the punch-in procedure by pressing the Play button. The punch-in begins when a key is pressed, or the Punch In button is pressed, depending on the setting of the Key Start button. The punch-in track records new material on the track from the punch-in point until punch-out, or a stop occurs.

NOTE: If you're using Key Start, the first key that you play starts the playback; the second key starts the punch-in. When using Key Start, don't play a chord to start playback; this will start the punch-in immediately.

To punch out (stop recording), press Punch In again; the selected track returns from record mode to playback mode. Another way to punch out is to press Stop. In either case, the newly recorded material replaces what had been on that track between the punch-in and the punch-out points. The rest of the old track, before the punch-in point and after the punch-out point, remains. (When you punch out, The Recorder exits punch-in mode; you cannot punch in again unless you reenter punch-in mode by pressing the Punch In button while the song is stopped.)

You can also set start and stop measures for automated punch-in and punch-out by using the display. When you press the Punch In button, the display changes to show AUTO PUNCH above the left soft button. If you press the left soft button, the display changes to show start and stop measures for the punch.

```
"Oh Darling"           74  Measure:  1
MANUAL PUNCH           In:  0           Out:  0
```

You can now choose at which measures the punch-in and punch-out will occur. When you record a track, the Mark 152/12 automatically starts the punch-in on the specified *In* measure, and automatically stops the punch on the *Out* measure. To turn off the Auto Punch and return to the manual punch-in method, press the soft button under MANUAL PUNCH.

Punch In is not recommended on track 1 if you used that track to record auto accompaniment.

To cancel the punch-in mode, press Punch In a second time, or press Stop, before starting playback.

Loop

In the loop record mode, you can record in a continuous loop; the track repeats indefinitely, and each time it repeats, what you play on the keyboard is added to what was already there. This is a common way to record drum parts.

NOTE: You cannot loop track 1; it has special properties for recording your Auto Accompaniment performance (see page 42).

Pressing the Loop button while a song is stopped enables the loop record mode, causing its light to blink red. The first unused track (starting with track 2) is automatically loop-record-enabled, and the light in that button also blinks red. If there are no unused tracks, track 2 is loop-record-enabled. The loop-record-enabled track can be changed by pressing a different track button.

The display shows the length of the loop in beats. For example, four beats is one measure of 4/4 time. Each track can have its own loop time. Use the Up and Down buttons beneath the display if you wish to change this length. The length can be any number of beats from 1 through 999.

NOTE: Loop recording is easiest when the Metronome is turned on (see page 43).

Press Play/Pause to start recording. (If Key Start is on, recording begins as soon as you press a key on the keyboard.) Press Stop to stop recording.

To cancel loop mode before recording has begun, press Loop again, or Stop.

Editing

When the Menu mode is enabled, you can edit song parameters or track parameters. In addition, there are several functions in the track editing menu. You can choose either song or track parameters by pressing the Edit Song button.

Song Editing Parameters and Functions

```
Song # 1: "Oh Darling"
  RENAME          COPY          DELETE
```

Song Rename

Songs, styles, drawbar settings, and files can all be named. There are several ways to name them. The rename screen in all cases looks like this:

```
New Song Name: _
<< DELETE          OK          CANCEL >>
```

The top line displays the name, with a cursor under one of the characters. The bottom line displays five functions:

<< (access via the Menu button) moves the cursor one character to the left.

DELETE deletes whichever character the cursor is on. The other characters in the name will be moved accordingly.

OK exits the dialog and assigns the new name to the song.

CANCEL stops the naming operation.

>> (access via the Next button) moves the cursor one character to the right.

Naming via the Menu Buttons

The Up and Down buttons change the current character that the cursor has selected. All upper- and lowercase letters, and digits, can be accessed using the Up and Down buttons.

Naming via the Sounds Buttons

The buttons in the Sound Section can be used like a typewriter to enter names. Next to each button is a letter or number. When in the naming screen, pressing one of the Sound buttons will put the associated letter or number in the name and then move the cursor to the next character in the name. The Variation button will work as a shift key: if you hold it down while pressing a letter button, you will see a capital letter instead of lowercase. The button labeled "sp" will put a space in the name.

Naming via the Keyboard

The white keys correspond to letters, both upper- and lowercase. The lowest key on the keyboard (A0) corresponds to "A," and the alphabet goes up 26 white keys to "Z" (E4). The next key (F4) corresponds to "a" and proceeds to "z" at the high end of the keyboard (C8). The black keys allow entry of numbers, starting at the low end with "0" and proceeding upward to "9" (at A \flat 2). The next black key (B \flat 2) will produce an underscore ("_"), and all the remaining black keys correspond to a space.

Song Copy

Copies a song to another song.

Song Delete

This button allows you to delete the current song from memory. Selecting this function brings up a dialog asking if you're sure that you want to delete the song. Two soft buttons are marked YES and NO. Selecting YES deletes the song; selecting NO, or any other button, cancels the deletion.

Beats Per Measure

The upper number in a typical time signature, e.g., 3/4.

Time Signature Denominator

The lower number in a typical time signature, indicating which kind of note gets one beat (4 = quarter note, 8 = eighth note, etc.).

Initial Tempo

If you change the tempo while the song is stopped, and then record a track, the new tempo is saved as the song's initial tempo. You can also adjust the tempo on this menu page.

Song Transpose

This parameter allows you to transpose your entire song by -64 to +63 half steps. You can also "lock" particular tracks to prevent them from transposing. See the "Track Transpose Lock" parameter for details.

Phrase Repeat

The Phrase Repeat function enables you to select a part of the song for, say, added practice by repeatedly playing only that section.

Repeat on/off

This turns Phrase Repeat on and off. If the feature is on, then pressing the Play button in the Recorder section starts playing from the start measure until the stop measure, and then begins again at the start measure, until the Stop button in the Recorder section is pressed. Your measures are memorized so that, when you turn Phrase Repeat on again, they're still there.

Start

Sets the measure for the beginning of the phrase.

Stop

Sets the measure for the end of the phrase.

Initial Effects

If you change the effects while the song is stopped, and then record a track, the new effects are saved as the song's initial effects settings. You can also change the effects without recording a new track, by pressing the SET INITIAL EFFECTS button on this menu page.

Song Program Change Mode

The program change mode of the overall song. This is usually set up by the disk import function, and allows all of the song tracks to play the sounds in the style of Mark 150/10, General MIDI, or Disk Orchestra, if that is where the original song was imported from. If the setting is Default, the song uses whichever program change mode was set for the instrument in the MIDI menu (see page 81).

Track Editing Functions

If you press the Edit Song button while you're in the menu mode, you will be able to edit parameters of the individual tracks. The following display is shown:

```
Editing track 1
  QUANTIZE      MERGE      EDIT
```

This display shows the current track being edited. You can change this track by pressing one of the track buttons. There are two main functions for the track: Quantize and Merge. The Edit button takes you to the individual track parameters.

Track Quantize

Quantizing changes the timing of notes in a track so that they align precisely with the beats or specific fractions of beats. In other words, if you're a bit late playing a note or two while recording, quantization corrects the error. Any track with data in it can be quantized. This is a one-way, permanent operation, however; once you quantize your music, you can NOT unquantize it.

```
Track #      Units
   1         Eighth      QUANTIZE
```

The quantization value appears in the display, and can be adjusted by the Up and Down buttons (e.g., quarter note, eighth note). Press one of the track buttons to select which track will be quantized. Then press QUANTIZE.

```
Data may be lost -- are you sure?
      QUANTIZE      CANCEL
```

A confirmation dialog appears. Press the button under QUANTIZE or CANCEL to perform or cancel the operation.

Track Merge

You can merge any two or more tracks with data in them; that is, they can be combined onto another track. This frees up additional tracks for further recording. The merged tracks then play on a single MIDI channel, and share a single preset (with *split* and *layer*, if present).

Merged tracks are combined on the lowest numbered track of those selected for merging. Therefore, if you have, say, three trumpets on tracks 1, 2, and 3, it's a good idea to combine them onto one. In this case, they would merge to track 1. If, however, you have a trumpet on track 1, a clarinet on 2, and a sax on 3, and you merge them, the result will be three parts played by one voice (sound). The sound used is that of the lowest numbered track of those selected (in this case, the trumpet).

When you select Track Merge, you are prompted to select the tracks to be merged:

```
Merge tracks:  1  2  3
                MERGE      CANCEL
```

Press the track buttons for the tracks that you want to be merged. If there is music on the track, the track number is added to the list in the display. Press MERGE when you've selected all tracks to be merged.

```
Data may be lost -- are you sure?
                MERGE      CANCEL
```

A confirmation dialog is displayed. Press the soft button under MERGE or CANCEL to perform or cancel the operation. If the merge was performed, the music on the tracks is now merged to the lowest (numbered) selected track.

Track Sound

Any sound can be assigned to any track, as allowed by whatever program change mode the track is using. The restrictions are listed in the Program Change Mode parameter in the MIDI menu (see page 81).

On this menu page, you can either scroll up and down through the sound list, or you can simply save the current settings on your front panel. This function saves the current main sound, layer, split, split point, etc. for the track. If you wish to set up a new sound for the track, first set it up on the keyboard, then execute the SAVE CURRENT function.

Track Volume

Initial track volumes default to 100% (maximum corresponds to MIDI value 127). The range is 0–100%.

Track Pan

In recording, *pan* refers to the location that you perceive a specific instrument to be at when you listen to an ensemble. It works a lot like the balance control on a stereo receiver. The range is Left 100% to Center to Right 100% in increments of 10%. To return to the default setting, press the Up and Down buttons at the same time.

Track Channel

You can select any MIDI channel for any track. The default channel for each track is the same as the track number (1 through 16) plus one. If more than one track has the same channel, you may have conflict in the programs, volumes, and pans.

Track Transpose Lock

If Transpose Lock is on, transposing the song does not affect this track. This is particularly useful for tracks that contain drum parts.

Track Effects Mode

The track can use the default Effects Mode that is assigned to the sound on that track, it can use Effects and Reverb, or it can use the Reverb Only setting. Reverb Only allows you to bypass the effect setting for that sound. If, for example, you had an echo effect with a stage reverb set up, and you did not want your drum track to use the echo, you could set that track to Reverb Only.

Track Program Change Mode

If, for some reason, you need to have different program change modes for different tracks, it is possible to set this up. One example might be a song that is imported from another format, such as Mark 150/10, General MIDI, or Disk Orchestra, to which you wish to add a new track with a Mark 152/12-exclusive sound on it. The usual setting for this parameter is Default, and the track uses the program change mode of the song. In this case, however, set the new track to Mark 152/12. This setting overrides the Song Program Change Mode parameter for the MIDI channel of this track only.

Tempo Messages

The Recorder recognizes tempo messages in Standard MIDI Files (type 0) and Disk Orchestra files that you load into the instrument (see page 53). (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 Loop (in the Recorder section). All songs 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 152/12 will automatically go into GM mode (see page 81). If it does not, it is because the song does not contain the "General MIDI On" message. Refer to page 47 to find out how to set the song to be a GM song. Songs that have been recorded with looped tracks will only play the looped track once. Otherwise the Song Chain would get "stuck" on that 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.

Options

The Options section contains eight dual-purpose buttons. The primary purpose of each is marked above the button. Markings below each button relate to the percussion effects used in the Drawbar Organ settings (see page 23).

MIDI/Pref

When you press the MIDI/Pref button, its light flashes and the display says:

```
Select a parameter menu:
MIDI      Preferences      Reset
```

If you select MIDI or Preferences, you'll see a list of parameters that can be changed. These are all covered in Part 4: MIDI, just after the music section.

If you press Reset above, the display says:

```
Reset the Mark 12 to factory settings?
Do it      Cancel
```

WARNING: This is a hard reset; it erases everything that you have changed and stored in memory! Be very sure that this is what you want, and save any songs in the Recorder to disk before the reset.

Soft Reset

Should you find yourself in a situation where you are unsure of which controls are set which way, press the Big Band, Jazz, and Classical buttons in the Styles section all at the same time. This is the same as turning the Mark 152/12 off and on again.

Disk

The Mark 152/12 has a built-in high-density disk drive, located at the right-hand 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 152/12. What kind of information? Songs for the Recorder, additional accompaniment styles, SoundBytes®, Panel Memories, and Drawbar Organ settings.

In addition to its own disk libraries, the Mark 152/12 can load 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 that the drive is active; ejecting the disk could cause a 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 possible only when the write/protect tab in the corner of the disk is in the *write* position—toward the metal shutter. When you wish 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 1440K (kilobytes) of data—the equivalent of about 700 typewritten pages—or double-density disks to store up to 720K of data. The drive uses standard MS-DOS* formatting and file storage conventions. For advanced users, this means that Mark 152/12 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, SoundBytes®, 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 152/12, and then save it onto a different disk.

*PianoSoft is a trademark of Yamaha Corporation. PianoDisc is a trademark of Music Systems Research. MS-DOS is a registered trademark of Microsoft Corporation. For PianoDisc disks, the Mark 152/12 loads only the piano track.

The built-in disk drive in your Mark 152/12 uses high density disks to hold up to 1440K (kilobytes) of data, or double density disks to hold up to 720K of data. Kurzweil disks use a standard file system that is compatible with MS-DOS. This means that you can easily transfer files to most home computers, and even share them with your friends on the Internet.

When you press the Disk button, its light flashes, and the display shows this:

Disk Functions		
PLAY	LOAD	SAVE

and this (press Next):

Disk Functions		
FORMAT	DELETE	RENAME

You can choose any one of the six functions using the associated soft button under each function name. Detailed descriptions of each function are given as follows:

Play Function

Disk Play gives you the ability to play songs from disks without loading them into the Recorder. The Mark 152/12 can play songs in MIDI Type 0 format, Disk Orchestra format, PianoSoft format, and PianoDisc format. If your MIDI Type 0 files have lyrics in them, the Mark 152/12 shows them in the display while the song is playing! When you select PLAY, the soft buttons give you a choice of PLAY ONE or PLAY ALL.

Play One

When you select PLAY ONE, the display shows the first entry in the disk directory. Two of the soft buttons are labeled PLAY and DONE. Use the Up and Down buttons to see the titles, and to select the song that you wish to play. Then press PLAY. If the song can be played directly from disk, playback starts shortly; otherwise, an error message is displayed. To stop the song, press STOP. When the song stops, and the display changes, pressing DONE takes you out of the disk mode. Note that on many disks, the song files have names that appear as numbers in the display. You can usually refer to the notes that come with the disk to see which song is in a specific file.

Play All

Selecting PLAY ALL provides this display:

PLAY ORDER	REPEAT	
Normal	Off	PLAY ALL

You can start the playback of all songs on the disk by pressing PLAY ALL. The order can be the standard (Normal), or random order (Shuffle). If a song is not in the proper format for direct playback, a message appears in the display, and the next song is selected. After playback of all songs has been completed, the process can be repeated, if you have changed the Repeat parameter to *on*. After playback has begun, the button labels change to SKIP, which stops the current song and moves on to the next song, and STOP, which stops all playback.

Play Order

You can change the play order by pressing the soft button under PLAY ORDER and using the Up and Down buttons to change the value. Normal play order plays the songs in the 'natural' ordering of the disk. In the case of standard DOS disks, this is alphabetical order. For the other disk types, the order is specified by the manufacturer. Select shuffle play to play the songs in random order. After a song has been played, it will not be selected for playback again until all of the songs have been played once.

Repeat

After all the songs on the disk have been played, the process is repeated if the Repeat parameter was set to *on*. In this case, song play will stop only when the STOP soft button is pressed. You can turn Repeat on or off by pressing the soft button under REPEAT and using the Up and Down buttons to change the value of the parameter.

Load Function

Selecting LOAD in the Disk Functions menu changes the display to this:

Disk Load		
SONG	STYLE	SOUNDBYTE

and this (press Next):

Disk Load		
PANEL MEM	DRAWBAR SET	ALL

You have a choice of which type of file you wish to load. If you choose a file type that is not found on the disk, you will be informed and given a choice of continuing (returning to the Load menu), or canceling (returning to normal operation).

Loading a Song

When you select SONG from the Load menu, the Mark 152/12 prepares a directory of all songs available on the disk. The first directory entry appears in the display, along with a destination song number, which is the number of the first unoccupied song space in the Recorder.

Song #	From File	
1	OH_DARLI	LOAD

The lights on the Song buttons in the Recorder section show which song spaces are available. A blinking red light means the song space is empty; a solid green light means a song already exists in that space. You can load a song into any song space, but if a song is already there, it will be overwritten. See the Recorder section for details on how to copy songs from one space to another.

You can choose the song space that will receive the loaded song by pressing the left soft button, and changing the destination song number with the Up and Down buttons. You can also choose the destination song space by pressing the associated button in the Recorder directly. Press the middle soft button to select the name of the song file to be loaded from the disk; use the Up and Down buttons to view the names of the files. Press LOAD to start the disk load operation. Press any other button to cancel the operation.

Standard MIDI files (.MID), Yamaha Disk Orchestra and PianoSoft files, and PianoDisc files may be loaded, but these formats load more slowly than native Mark 152/12 or Mark 150/10 song files. You can save songs loaded from other formats as Mark 152/12 files for faster loading in the future.

Loading a Style

When you select STYLE, the Mark 152/12 prepares a directory of all Styles that are available on the disk. The first directory entry appears in the display, along with a destination style number.

Load Style #	From File	
1	RHUMBA	LOAD

Press the left soft button to change the destination style number (1-7) with the Up and Down buttons. This number refers to the seven places for storing Styles in the Mark 152/12 (These can be accessed via the User Style button.). Press the middle soft button to select which style file is to be loaded from the disk; use the Up and Down buttons to view the names of the files. Press LOAD to start the disk load operation. Press any other button to cancel the operation.

Loading a SoundByte®

When you select SOUNDBYTE from the Load menu, the Mark 152/12 prepares a directory of all sound files that are available on the disk. The first directory entry appears in the display.

Load Sound	From File	
	LAUGHTER	LOAD

Use the Up and Down buttons to select which sound file to load from the disk. Press LOAD to start the disk load operation; press any other button to cancel.

Note that most sound files contain two SoundBytes®: one is stored as the main sound in the SoundByte® category, and the other is stored as the Variation.

Loading a Panel Memory Set

When you select PANEL MEM from the Load menu, the Mark 152/12 prepares a directory of all panel memory files that are available on the disk. The first directory entry appears in the display.

Load Panel	From File	
	MEM1	LOAD

Use the Up and Down buttons to select which panel memory set to load from the disk. Press LOAD to start the disk load operation. Press any other button to cancel. Note that each panel memory file contains a complete set of nine panel memories.

Loading a Drawbar Organ Setting

When you select DRAWBAR SET from the Load menu, the Mark 152/12 prepares a directory of all Drawbar Organ setup files that are available on the disk. The first directory entry appears in the display.

Load Dbar #	From File	
1	JAZZ_ORG	LOAD

Press the left soft button to change the destination drawbar number (1-6) via the Up and Down buttons. This refers to the six places for storing Drawbar sounds in the drawbar editor (see the Custom Drawbar Organ section for details). Use the Up and Down buttons to select which drawbar file to load. Press LOAD to start the disk load operation. Press any other button to cancel.

Loading Everything on the Disk

When you select ALL at the Load menu, the disk drive tries to load all of the files on the disk into memory. Each type of file is loaded into the appropriate space, determined by reading the file type extension. If the data in a file cannot be interpreted by the Mark 152/12, an error message is displayed for a brief period, and the load continues with the next file. Before loading begins, all user songs, styles, panel memory setups, drawbar organ setups, and SoundBytes® are cleared from memory to make room for the new data.

The file extensions for a standard DOS disk that are recognized by the Mark 152/12 are:

.SNG: a Kurzweil formatted song (Mark 152/12 or Mark 150/10)

.MID: a MIDI Type 0 or Type 1 song

.STY: a Kurzweil style (Mark 152/12 or Mark 150/10)

.SMP: a Kurzweil SoundByte® sound sample file

.MEM: a panel setups file (Mark 152/12 or Mark 150/10)

.DB: a Mark 152/12 drawbar organ setup file

LOAD ALL also works with supported song disks from other manufacturers, as listed above.

Save Function

Selecting SAVE from the Disk Functions menu displays the Save menu, which offers the same choices as on the Load menu. You will need to have a DOS formatted disk to save onto. If you don't have one, find a blank disk and format it on your Mark 152/12. The choices are discussed below.

Saving a Song

When you select SONG from the Save menu, the display offers you choices of which song in the Recorder you wish to save, and how you wish to save it. The lights on the song buttons in the Recorder section show the state of each song space: a blinking green light in a space indicates a song is available in that space for saving. Again using "Oh! Darling" as the example, the display shows:

```
Save "Oh Darling" In file: OH_DARLI
  RENAME FILE      SAVE      CANCEL
```

In order to fit on the display, only the first twelve characters of the song name are shown. You can select which song to save by either pressing the associated Song button in the Recorder section, or by scrolling through the songs with the Up and Down buttons.

The default name of the file is the name of the song, limited to eight characters, and with spaces replaced by underscores. You can save the song using this name, or rename the file by pressing the RENAME FILE soft button. This brings up the standard naming dialog for the file. Note that renaming the file in which the song will be stored does NOT rename the song itself. See the Recorder section for information on naming Mark 152/12 songs. You can save a song of any name in a file with any other name, subject to the limitations of DOS file names.

If you press SAVE, and a song file with that name already exists on the disk, you are asked if you wish to replace the file on disk, or rename, or cancel. RENAME FILE again brings up the standard naming dialog. REPLACE overwrites the previous version of the file. CANCEL exits the operation.

```
OH_DARLI.SNG is already on the disk
RENAME FILE      REPLACE      CANCEL
```

After the file name is chosen, the display then shows the three song file formats: Kurzweil, Standard MIDI File Type 0, Standard MIDI File Type 1. Choose one. Kurzweil songs are saved with the extension .SNG files using a special Mark 152/12 format that is smaller and quicker to load back into the Mark 152/12. The MIDI file types are saved with the extension .MID, and have the advantage of being compatible with many other instruments and sequencer programs. If you are saving a song that has style information, you should save it as a Kurzweil format song.

If there was a disk error, or if there was not enough room on the disk to save the files, an error message appears in the display. Any button press clears the error, and returns the instrument to normal playing mode.

Saving a Style

When you select STYLE from the Save menu, the display offers you choices of which style (stored in the User/Disk style group) you wish to save. The display looks like:

```
Save "New Funk" In file: NEW_FUNK
RENAME FILE      SAVE        CANCEL
```

In order to fit in the display, only the first twelve characters of the style name are shown. You can select which style to save by scrolling through the styles with the Up and Down buttons.

The default name of the file is the name of the style, limited to eight characters, and with spaces replaced by underscores. You can save the style using this name, or rename the file by pressing the RENAME FILE soft button. This brings up the standard naming dialog for the file. Note that renaming the file in which the style will be stored does NOT rename the style itself. See the Style Edit section for information on naming Mark 152/12 styles. You can save a style of any name in a file with any other name, subject to the limitations of DOS file names.

If you press SAVE, and a style with that name already exists on the disk, you are asked if you wish to replace the file on disk, or rename, or cancel. RENAME again brings up the standard naming dialog. CANCEL exits the operation.

```
NEW_FUNK.STY is already on the disk
RENAME FILE      REPLACE      CANCEL
```

If there is a disk error, or if there is not enough room on the disk to save the files, an error message appears in the display. Any button press clears the error, and returns the instrument to normal playing mode.

Saving a SoundByte®

When you select SOUNDBYTE from the Save menu, the display looks like this:

```
Save Sound In file: LAUGHTER
  RENAME FILE      SAVE      CANCEL
```

The default name of the file is the name of the SoundByte®, limited to eight characters, and with spaces replaced by underscores. You can save the SoundByte® using this name, or rename the file by pressing the RENAME FILE soft button. This will bring up the standard naming dialog for the file. Note that renaming the file in which the SoundByte® will be stored does NOT rename the SoundByte® itself.

If you press SAVE, and a SoundByte® with that name already exists on the disk, you are asked if you wish to replace the file on disk, or rename, or cancel. RENAME FILE again brings up the standard naming dialog. REPLACE overwrites the previous version of the file. CANCEL exits the operation.

```
LAUGHTER.SMP is already on the disk
  RENAME FILE      SAVE      CANCEL
```

If there is a disk error, or if there is not enough room on the disk to save the files, an error message appears in the display. Any button press clears the error, and returns the instrument to normal playing mode.

Saving a Panel Memory Set

A panel memory set includes all nine panel memories from the instrument. When you select PANEL MEM from the Save menu, the display looks like this:

```
Save Panel In file: PANEL
  RENAME FILE      SAVE      CANCEL
```

The default name of the file is PANEL. You can save the panel memory set using this name, or rename the file by pressing the RENAME FILE soft button. This brings up the standard naming dialog for the file.

If you press SAVE, and a panel setting with that name already exists on the disk, you are asked if you wish to replace the file on disk, or rename, or cancel. RENAME FILE brings up the standard naming dialog. REPLACE overwrites the previous version of the file. CANCEL exits the operation.

```
PANEL.MEM is already on the disk
  RENAME FILE      SAVE      CANCEL
```

If there is a disk error, or if there is not enough room on the disk to save the files, an error message appears in the display. Any button press clears the error, and returns the instrument to normal playing mode.

Saving Drawbar Organ Settings

When you select DRAWBAR SET from the Save menu, the display offers you choices of which drawbar setting (stored in the Drawbar Organ sound group) you wish to save. The display will look like:

```
Save "Jazz Organ" In file: JAZZ_ORG
  RENAME FILE      SAVE      CANCEL
```

In order to fit in the display, only the first twelve characters of the organ name are shown. You can select which drawbar setting to save by scrolling with the Up and Down buttons.

The default name of the file is the name of the drawbar organ, limited to eight characters, and with spaces replaced by underscores. You can save the drawbar setting using this name, or rename the file by pressing the RENAME FILE soft button. This brings up the standard naming dialog for the file. Note that renaming the file that the drawbar setting will be stored in does NOT rename the organ program itself. See the Edit Drawbars section for information on naming Mark 152/12 custom drawbar organ programs. You can save a drawbar setting of any name in a file with any other name, subject to the limitations of DOS file names.

If you press SAVE, and a drawbar setting file with that name already exists on the disk, you are asked if you wish to replace the file on disk, or rename, or cancel. RENAME FILE again brings up the standard naming dialog. REPLACE overwrites the previous version of the file. CANCEL exits the operation.

```
JAZZ_ORG.DB is already on the disk
  RENAME FILE      SAVE      CANCEL
```

If there is a disk error, or if there is not enough room on the disk to save the files, an error message appears in the display. Any button press clears the error, and returns to normal operation.

Save All

When you select ALL from the Save menu, all the items listed above that are found in the Mark 152/12 memory are saved to disk: songs, Styles, SoundBytes®, panel memory, and drawbar organ settings. Files are named automatically for each type of file. It is a good idea to use an empty disk (one with no files on it) for a SAVE ALL operation, in order to avoid file naming conflicts.

Format

Selecting Format from the Disk Functions menu allows you to format and verify a floppy disk directly on the Mark 152/12. All data on the disk will be lost, so use caution! In general, you should format only new *blank* disks. Place a disk in the disk drive (the write/protect must be off), and press the Format button. The format disk dialog appears in the display.

```
Format this disk?
                OK          CANCEL
```

CANCEL ends the operation, and OK brings up the disk density dialog:

```
Choose disk density
HIGH (HD)    LOW (DD)    CANCEL
```

Current floppy disks are available in two densities: high density (HD), which holds 1440 kilobytes of data, and double density (DD), which hold 720K. All disks are labeled accordingly.

Insert the blank disk in the drive, and press the appropriate soft button to format your disk: HIGH (HD), or LOW (DD). Pressing CANCEL, or any other button, ends the operation.

NOTE: Formatting a disk using the wrong density will probably fail. If an error occurs, the display shows it.

Delete

Selecting Delete from the Disk Functions menu allows the removal of any file from the disk. This is possible only with DOS (or Kurzweil) formatted disks. Use the Up and Down buttons to scroll through the files on the disk. The file name and type are displayed. Pressing OK brings up the confirmation dialog (Data may be lost—are you sure?). Pressing Yes deletes the file.

```
Delete file: LAUGHTER  Type: Soundbyte
                OK          CANCEL
```

Rename

Selecting Rename from the Disk Functions menu allows the renaming of any file on the disk. This is possible only with DOS (or Kurzweil) formatted disks. Use the Up and Down buttons to scroll through the files on the disk. The file name and type are displayed. Only the file name can be changed. Pressing OK brings up the standard naming dialog.

```
Rename file: LAUGHTER  Type: Soundbyte
                OK          CANCEL
```

Disk Errors

If a disk error occurs during any disk operation, an appropriate message appears in the display. Press any button to return to normal operation. Many errors are user-correctable, for example attempting to write to a write-protected diskette. In these cases, you can fix the problem and repeat the disk operation. If you get an error, things to check are:

Is the disk a standard DOS diskette?

Is the disk properly formatted?

Is the disk write-enabled for a write operation?

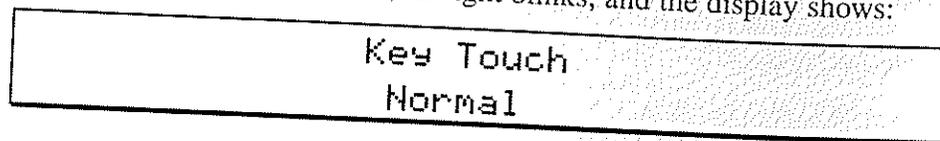
Is there enough space remaining on the disk for writing?

Are the files you're trying to read compatible with the Mark 152/12?

If you have a DOS-compatible computer system available, you can examine most diskettes using DOS commands. Note that some manufacturers' song disks are not DOS-compatible, and cannot be read by ordinary disk utilities.

Key Touch

When you press the Key Touch button, its light blinks, and the display shows:



Key Touch
Normal

Pressing the Down or Up scroll buttons takes you through eight different Key Touch settings, from Hardest to Lightest.

Key Touch allows you to select different response levels of the keyboard. In other words, you can adjust the sensitivity of the keyboard touch, or how the dynamics of the sounds respond to key velocity. For instance, playing the keyboard while Key Touch is set to Lightest gives you a brighter and louder sound than a setting of Hardest, which would require you to strike the keys harder to get a similar sound. This makes it possible to adjust the response of your keyboard to suit your playing style and preference for keyboard "feel." A practical example of this would be using a light touch setting for a child beginning piano lessons, while an experienced player may prefer a harder setting.

The default Key Touch setting on the Mark 152/12 is Normal. Using the Down button takes you through the Key Touch settings that are lighter than normal, meaning that you don't have to strike the keys as hard to get a louder sound. Pressing the Up button lets you scroll through the harder settings, which have the opposite affect.

The two settings that surround Normal are Normal- and Normal+. These affect only the middle range of the keyboard, and are very similar to Normal.

To exit this mode, press Key Touch again.

Edu-Games

The Mark 152/12 includes a set of interactive games, called Edu-Games, that are both educational and fun to play. The goal of Edu-Games is to help you develop basic musical skills.

You enter Edu-Games mode by pressing the Edu-Games button in the Options section. The light in that button will blink, to indicate that the games mode is active. You can exit Edu-Games mode and return to normal playing mode at any time during or between games by pressing Edu-Games again.

```
***** Single-Note CopyCat *****  
PLAY          CHANGE
```

On entering Edu-Games mode, the display will show the name of one of the available games. You can do one of three things:

To play the game immediately, press the PLAY soft button.

To change the parameters of this game, press the CHANGE soft button (see below).

To choose another game, press the NEXT button.

The available games are:

Single-Note CopyCat: A basic ear-training game that helps you learn to associate the sound and motion of a melody with the keys on the keyboard. This game is flexible, and can be played at any level from simple, to very challenging.

Chord CopyCat: A game that teaches the sound and names of chords, and challenges you to play them.

Chord Dictionary: Not a game, precisely, but a tool that allows you to see and hear chords. You give the dictionary a name and a key, and it shows you the chord.

When you complete a game, you will be brought back to the main Edu-Games display.

You can change several parameters to make the game more interesting over time. (The default parameters are fine to start with, but you may wish to make the game more difficult, or to exercise specific musical skills.) Press the CHANGE soft button to customize the game.

```
Single-Note CopyCat  
PLAY          Scale = Major
```

The parameter names appear in the display (parameters are listed with each game). To select a parameter to change, press the Next button. Press the Up and Down buttons to change the values. Press PLAY to begin the game.

Single-Note CopyCat

How good is your musical ear? Single-Note CopyCat gives you a chance to test it out, and (with practice, of course!) a chance to improve it.

When you start this game, the Mark 152/12 plays the root note of a scale. This scale is always C major, when you turn on the instrument. You respond by playing that note back to the Mark 152/12. Then the keyboard plays the first note followed by another note, randomly chosen. You play BOTH notes back, in response. Then a third note is played, and so on.

Each time you play the sequence of notes correctly, the Mark 152/12 rolls the green lights below the display to show its approval. If you make a mistake, it teases you with a sound effect, and flashes its red lights. When you've successfully repeated the entire sequence of notes, you'll hear applause!

When you first turn on the Mark 152/12, this game is set to be pretty easy: the notes are all white keys (C major) and you need only get six in a row to win the game. The root note, which always starts the sequence, is middle C. However, you can make things much more difficult by changing the parameters as described below.

Single-Note CopyCat Parameters

Key (Default: C): Determines the root of the scale from which the notes are selected. The first note in the sequence played is always this note.

Scale (Default: Major): Determines the mode of the scale from which the notes are selected. Some scales are easier to hear than others; if you can do all of them, you've got a good ear!

Length (Default: 6): The number of notes you need to play in a row to win the game. If you think the game is too easy, just double the number of notes.

Hints (Default: Off): Do you wish to see the names of the notes on the display? This can be helpful if you're just learning to play.

Range (Default: one octave): Determines how far apart on the keyboard the notes will be chosen. The longer the range, the harder the game.

Tempo (Default: 150 beats per minute): This is the speed at which the instrument plays the notes to you. You can play them back slower if you wish.

Octave (Default: 5): Determines where on the keyboard the notes will play. Octave 5 starts at Middle C.

Song Play (Default: Off): Turning on Song Play changes the game to use the notes of a familiar song instead of picking random notes. This can be fun if you're just getting started.

Chord CopyCat

One of the challenges that you'll face when starting to learn musical theory is the naming of chords. The Chord CopyCat game can help you learn the names, structures, and sounds of all kinds of chords. As with Single-Note CopyCat, the goal is to help you learn the rules, and to train your ear, while at the same time having fun playing a game.

When you start this game, the Mark 152/12 shows the name of a chord on the display, and plays it on the keyboard in whatever key you've chosen. This is the key of C when you turn on the instrument. You respond by playing that chord back to the Mark 152/12. Then another chord is given, in a similar fashion, and you respond in the same way. When you've answered the required number of chords, you've won the game, and you'll hear applause.

When you first turn on the Mark 152/12, this game is set to test basic triads (three-note chords) in the key of C. Playing six chords correctly wins the game. You can test your chord knowledge for more complex chords, or in other keys, by changing the parameters as described below.

Chord CopyCat Parameters

Key (Default: C): Determines the root of the scale with which the chords are typically associated.

Chords (Default: Triads): Determines the list of chords to pick from. The categories are:

Triads: Major, Minor, Diminished, Augmented

Sevenths: Dominant, Major, Minor, etc.

Ninths: Dominant, Major, Minor, etc.

Others: Sixths, suspended chords

Intervals: All intervals from seconds to ninths

All: Choose from any of the above

Length (Default: 6): The number of chords you need to play correctly in order to win the game.

Hints (Default: Off): Shows you the notes that make up a chord as its played. This can be helpful if you're just learning the chords.

Arpeggio (Default: Off): Plays the chord as an arpeggio. This can help you hear the chord when you're first learning.

Octave (Default: 5): Determines where on the keyboard the chords will sound. Octave 5 starts at Middle C.

Chord Dictionary

This is not really a game, but rather a helpful interactive lookup table for chords. When you press PLAY, you'll see a screen that allows you to choose a root note and a chord name. The notes contained in the chord are shown on the first line of the display.

Notes:	C	E	G
Key:	C	Chord:	Maj
			PLAY IT

Press the left soft button under the display to allow key selection using the Up and Down buttons. Press the middle soft button to allow chord type selection. If you want to have the Mark 152/12 play the chord for you, press the PLAY IT soft button.

The names of the chords correspond to the kinds of names shown in sheet music. If you have a piece of music with a melody line and chord names, but not chord notes (a *lead sheet*), the Chord Dictionary can help you learn to play any unfamiliar chords.

Panel Set

The Mark 152/12 has nine panel memory locations, 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 styles, or settings that you use frequently for playing or recording.

Each of the nine panel memories stores the following settings:

Panel Section	Setting Stored
Sounds	Main Sound (including Variation)
	Main Sound Volume Adjust
	Layer Sound (including Variation)
	Layer Volume Adjust
Left Split	Split Sound
	Split Sound Volume Adjust
	Split Point
	Bass Sustain
	Left Octave Shift
	Right Octave Shift
Digital Reverb and Effects	Reverb Type
	Reverb Wet/Dry
	Effect Type
	Effect Wet/Dry
Styles	Styles On/Off
	Style (including Variation)
	Introduction
	Count Off
	Fade In
Auto Accompaniment	Part Buttons (Drums, etc.)
	Chord Hold
	Chord Recognition Type
	Full Keyboard
	Anyone Can Play
	Harmony
	Arpeggiator (all parameters)
	Key Start
	Key Stop
Tempo	
Options	Transpose

The nine default panel memory setups 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 defaults, either use the Reset Parameters function (see page 85) or load them from the disk that accompanies this manual (see page 54). All nine panel memories are stored in one disk file.

To store a panel memory, begin by setting the front panel controls as you wish to store them.

Next press the Panel Set button. The buttons labeled Panel 1 through 9, in the lowest row of the Sounds section, begin blinking.

Pressing a numbered Panel button stores the current panel settings in that panel memory.

To cancel the set operation, press the Panel Set button a second time before pressing a blinking Panel Memory button.

The Mark 152/12 retains your panel memories, even when the power is turned off.

Recalling a Panel Memory

Press the desired Panel Memory button to recall the settings stored in it.

If you recall a panel memory while a style is playing, the Mark 152/12 ignores the Styles and Auto Accompaniment settings in the panel memory. This ensures that the current style playing continues uninterrupted.

Demo

The Mark 152/12 contains many built-in demonstrations. See page 12 for instructions on listening to them.

Transpose Down/Transpose Up

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

To change the transposition, press the Transpose Dn or Transpose Up button. Each press of the button transposes the keyboard up or down by one half-step. To demonstrate this to yourself, press a key, press a transpose button, and press the key again. Pressing both buttons simultaneously cancels the transposition.

Press the Menu button while using the Transpose buttons to see a description of the current transposition:

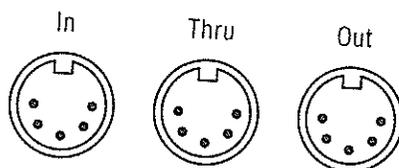
```
Transpose:  +3 semitones  
( Up a Minor Third )
```

Part 4: 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 152/12 will remain compatible with the instruments of today and tomorrow.

MIDI Connections

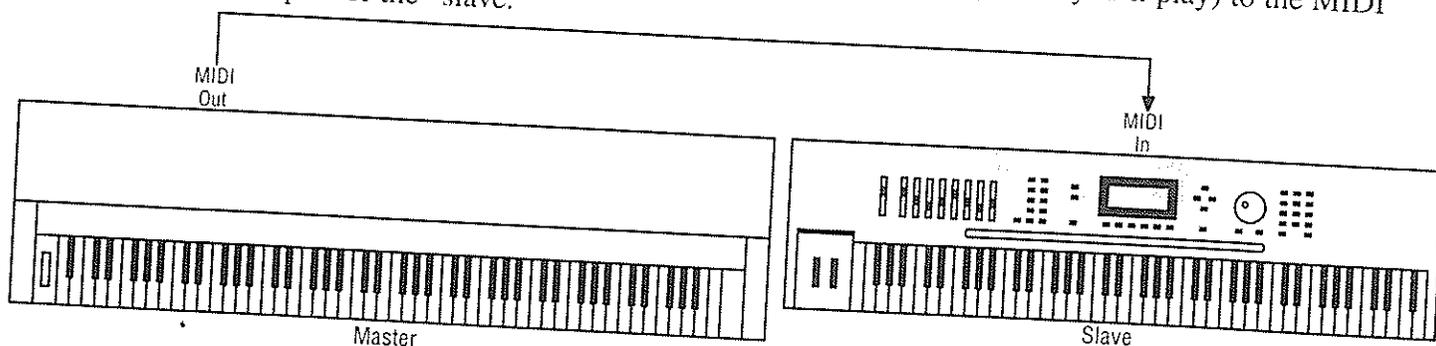
On the bottom panel (Mark 152) or rear panel (Mark 12) are three MIDI ports:



- 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.”



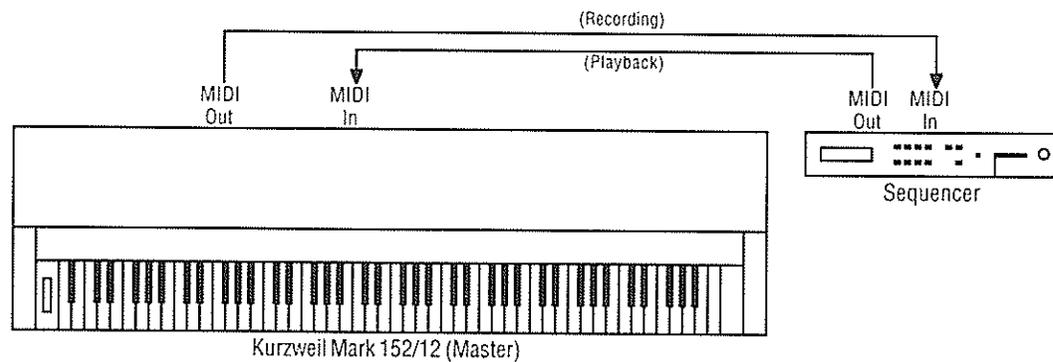
If you connect In to Out, rather than Out to In, the other instrument becomes the master. And if you use two cables, connecting In to Out and Out to In, you can use either instrument as the master.

You probably will want to use the Mark 152/12 as your master keyboard.

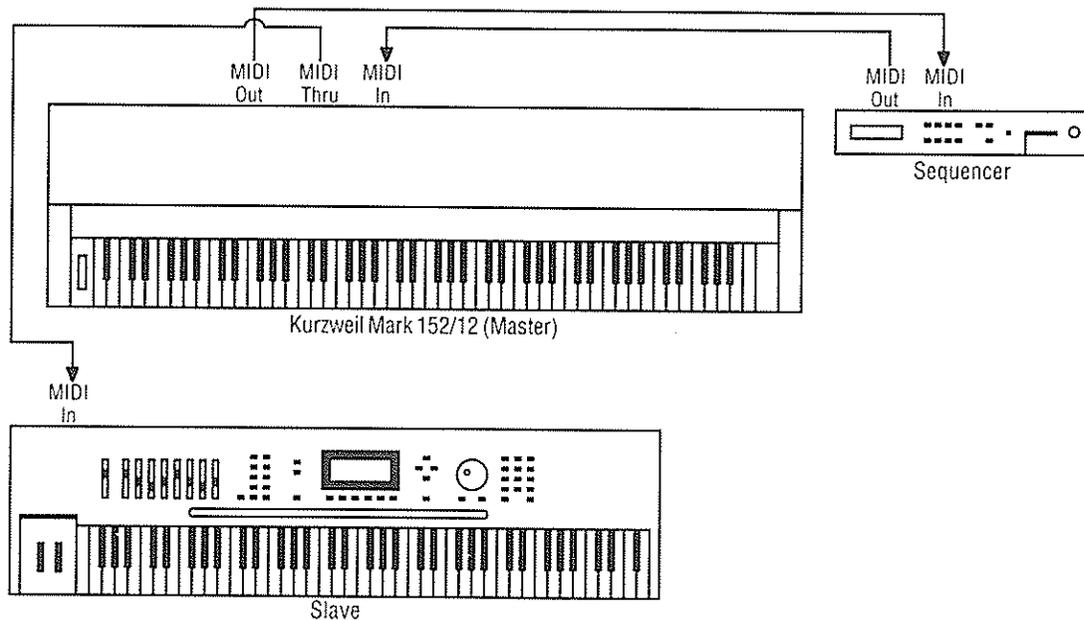
It is important to explain that what is sent over the MIDI cable is information (data), not sound. In fact, the usefulness of master-slave setups lies in having each instrument produce a different sound, resulting in a layering of sounds that expands on the layering that is possible within the Mark 152/12 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 152/12.

Another application of MIDI is in using a *sequencer* to record and play back your performances. The Recorder on the Mark 152/12 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.

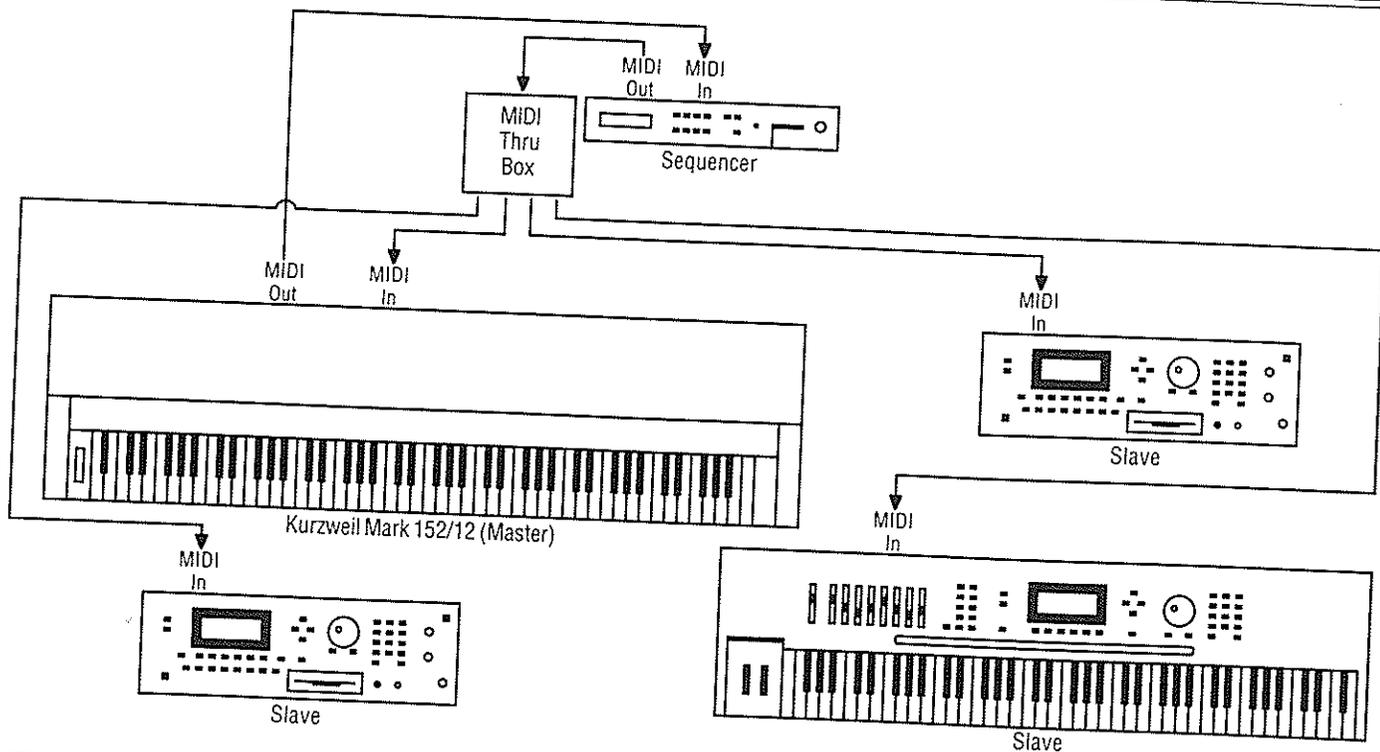


The MIDI Thru port on the Mark 152/12 allows you to form a "chain" of instruments, so that a sequencer can control not only the master instrument, but a slave as well.



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).

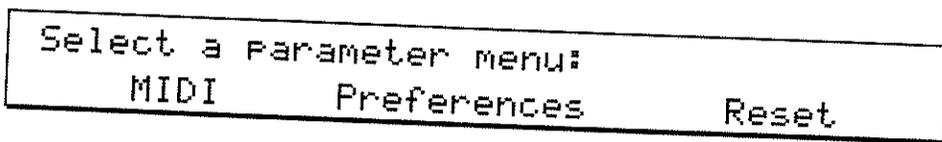


MIDI/Pref

The MIDI/Pref button, in the Options section of the panel, gives you entry to MIDI Edit Mode, where you access and alter MIDI settings, or parameters, as well as other settings that affect the Mark 152/12 as a whole (preferences).

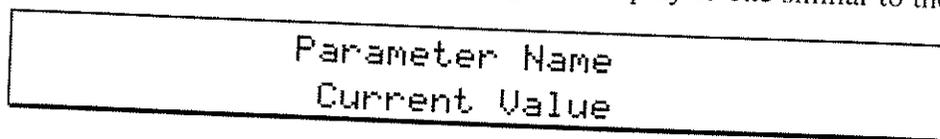
Entering MIDI Edit Mode

To enter MIDI Edit Mode, press the MIDI/Pref button. The LED in the button will light. The display appears as follows:



The soft buttons let you select one of three options: MIDI, Preferences, or Reset. These are explained in more detail below.

Selecting MIDI or Preferences will change the display to one similar to the following:



“Parameter Name” will be the name of the parameter shown on the current menu page. Use the Next button to move to the next parameter, or the Next button with the Down button to move to the previous parameter. The MIDI parameters and Preferences parameters are listed in order below.

“Current Value” will be the actual setting of the parameter shown. Change this using the Down and Up buttons. In the descriptions that follow, the possible values for each parameter are given.

Some MIDI and Preferences parameter values will be saved when you turn off the power to the Mark 152/12, and others (such as Local Control) are reset to the factory defaults when the power is turned off. This is also detailed in the following descriptions.

Pressing the MIDI/Pref button a second time will exit MIDI Edit Mode and restore the normal display.

MIDI Settings

Pressing the MIDI soft button in the main MIDI/Preferences display will take you to the first of the pages for changing MIDI settings.

Program Change Mode

This is the Program Change Mode for the entire instrument. Typically, this parameter should not be changed. However, if you have your instrument hooked up to some other device that expects the instrument to be in another mode, it could be useful.

To alter the Program Change Mode for a song, use the Program Change Mode parameter in the song’s menu mode (see page 47).

Mark 12

The default “Mark 12” mode. All programs are accessible in this mode.

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 (for example, program number 1 is always acoustic piano), the channel (10) for drum and percussion sounds, and the “mapping” of those sounds across the keyboard. The Mark 152/12 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 152/12 via MIDI.

When you set the Program Change Mode to General MIDI, program changes received at the MIDI In port will select the appropriate internal sounds. Program Changes on channel 10 will select only General MIDI compatible drum kits. Besides letting you set General MIDI Mode in MIDI Edit Mode, the Mark 152/12 responds to external system exclusive messages to General MIDI ON and OFF.

Mark 10

Only the Mark 10 sound set is available.

Disk Orchestra

Only the Yamaha* Disk Orchestra sound set is available. Drums (Disk Orchestra kit) can be played only on MIDI channel 15.

* The name Yamaha is a trademark of Yamaha Corporation.

MIDI Base Channel

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 sixteen channels available, and each one can transmit any number of notes to any number of instruments, over the same MIDI cable.

The MIDI Base Channel is the channel on which the keyboard transmits MIDI messages. In addition, in Omni Off/Poly mode (see MIDI Mode, below), it is the channel on which the instrument responds to MIDI messages; all other channels are ignored.

The MIDI Base Channel can be changed by pressing one of the sixteen Song/Track select buttons in the Recorder section of the front panel while in MIDI Edit Mode. These buttons, numbered 1–16, represent channels 1–16.

The Base Channel is reset to 1 when the power is turned on.

MIDI Channel Disables

When this parameter is selected, you can disable or enable individual MIDI channels pressing the corresponding Song/Track select button in the Recorder section. When a button is lit, the channel is enabled (on); when it is not lit, the channel is disabled (off).

Any MIDI channel except the Base Channel can be disabled. This will cause it to ignore incoming MIDI messages. This is useful if you have another MIDI tone generator and a sequencer, and you want some MIDI channels dedicated to the other MIDI tone generator. Note that if channels are disabled, some style or sequence parts may not be heard.

MIDI Channel Disables are remembered across power cycles.

MIDI Mode

There are three MIDI Modes available on the Mark 152/12:

- OMNI ON/POLY. The Mark 152/12 responds to all sixteen MIDI channels, no matter what the Base Channel is. It plays the sound selected for the Base Channel.
- OMNI OFF/POLY. The Mark 152/12 responds on only the Base Channel to which it is set.
- MULTI. The Mark 152/12 responds to parts on different MIDI channels independently. Each channel can play a different sound (*multitimbral* capability), in effect making the Mark 152/12 the equivalent of sixteen MIDI slaves. The only limit is the number of notes that can sound at one time.

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.

MIDI Mode is remembered across power cycles.

Local Control

Disabling Local Control disconnects the keyboard and sequencer from the internal sound engine. This can be useful in some cases if you are using an external sequencer. The default is Local Control Enabled.

Local Control is reset to Enabled when the power is turned on.

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 152/12 cutting off abruptly when using it as a MIDI slave or when connected to a sequencer, try setting the Ignore All Notes Off parameter to On. The default value for this setting is Off.

Ignore All Notes Off is remembered across power cycles.

* The name Roland is a trademark of Roland Corporation.

Receive Transpose Adjust

Receive Transpose Adjust can be useful if you want to transpose incoming MIDI messages. Most of the time, you should use the Transpose buttons on the front panel, for instance when playing live or to an external sequencer.

The default value is 0 semitones.

Receive transpose is remembered across power cycles.

Transmit Program Changes

The default setting for Transmit Program Changes is On. That is, when you press a Sounds select button, the Mark 152/12 transmits the corresponding program change message. Setting this to Off can be useful if, for example, you want to change sounds on your master instrument (the Mark 152/12), but not on any slaves that are connected to it.

Transmit Program Changes is remembered across power cycles.

Receive Program Changes

Receive Program Changes functions just as Transmit Program Changes does, except that it affects whether or not the Mark 152/12 receives program change messages (more accurately, whether it responds to program change messages that it receives). The default setting is On.

Receive Program Changes is remembered across power cycles.

External Sync

When External Sync is Off, the Mark 152/12 transmits MIDI timing clocks, Start, Stop, and Continue messages when the Recorder or Auto Accompaniment is started and stopped. (The Metronome and Arpeggiator transmit MIDI timing clocks, but not Start, Stop, and Continue messages.) When External Sync is On, the Mark 152/12 waits to receive MIDI clocks, and Start, Stop, and Continue messages, in order to run the Recorder or the Auto Accompaniment—so the Recorder and Auto Accompaniment styles will be synchronized with the external MIDI device (such as an external sequencer or drum machine). Without these messages, the Recorder, Auto Accompaniment, Metronome, and Arpeggiator will not run. (The Metronome and Arpeggiator respond to MIDI timing clocks, but not Start, Stop, and Continue messages.)

To start the Recorder or Auto Accompaniment when External Sync is On, press Play/Pause (for the Recorder) or Start/Stop (for Auto Accompaniment) and then start your external MIDI device.

External Sync is reset to Off every time power to the Mark 152/12 is turned on.

Transmit Split Data

When this parameter is On, the left split program, split point, layer program, layer volume adjust, and bass sustain are sent as MIDI controllers. When it is Off, the left split program and layer program are sent as normal MIDI program change numbers. This may be useful if you create sequences on an external sequencer. The default setting is On.

Transmit Split Data is reset to On when the power is turned on.

Transmit Sequencer Data

When Transmit Sequencer Data is On, the data from the Recorder, Auto Accompaniment, and data sliders are transmitted out the MIDI Out port. When it is Off, the data are used to play the internal sounds only.

Transmit Sequencer Data is reset to Off every time the power to the Mark 152/12 is turned on.

Preferences

Pressing the Preferences soft button in the main MIDI/Preferences display will take you to the first of the pages for changing overall (global) preferences other than MIDI settings.

Tuning Adjustment

The Mark 152/12 will never go out of tune. However, when playing with other instruments, you may want the ability to shift the tuning. The Tuning Adjustment setting lets you raise or lower the tuning by ± 50 cents (hundredths of a half step) from the default value of 0 (standard concert pitch; A-440).

Tuning Adjustment is remembered across power cycles.

Stereo Output

When this setting is On, the audio outputs are stereo. When it is Off, the audio outputs are monaural (all voices are panned to the center). The default is On (stereo).

Stereo Output is remembered across power cycles.

Left Pedal Function

Left Pedal Function lets you set the function of the left pedal. The choices are Soft, Sostenuto, Sustain, Style Start/Stop, Style Variation, Style Fill To Original, Style Fill To Variation, Style Break, Style Slower, Style Faster, Style Fade In/Out, Anyone Can Play, Harmony, Arpeggiator, Arpeggiator Latch 1, and Arpeggiator Latch 2.

The default setting is Soft.

Middle Pedal Function

Middle Pedal Function lets you set the function of the middle pedal. The choices are the same as the Left Pedal.

The default setting is Sostenuato.

Right Pedal Function

Right Pedal Function lets you set the function of the right pedal. The choices are the same as the Left Pedal.

The default setting is Sustain.

Continuous Pedal Function

Continuous Pedal Function lets you set the function of the continuous pedal. The choices are Expression, Global Expression, Modulation, Aftertouch, Reverb Wet/Dry, Effects Wet/Dry, Arpeggiator Velocity, and Tempo.

The default setting is Expression.

Long Program Lists

When Long Program Lists is On, the list of programs (sounds) you see in Menu mode shows all available sounds. When it is Off, some variations of programs are not shown.

The default setting is Off.

Display Contrast

This parameter lets you adjust the contrast of the display. The default value is 64.

Remember Preferences

If Remember Preferences is set to Yes, preferences will be remembered across power cycles. If it is set to No, they will be reset to factory defaults when the power is turned on.

Software Version and Memory Available

This displays the current version of Mark 152/12 software that has been installed in your instrument. It also displays the amount of memory available for songs, styles, panel memories, etc. The amount is shown in kilobytes and percent.

Reset

Pressing the Reset soft button in the main MIDI/Preferences display allows you to reset all MIDI and Preferences settings on the Mark 152/12 and clear the user RAM. (deleting all user songs, panel memories, SoundBytes, and disk styles). This restores the instrument to the condition in which it was shipped from the factory.

After pressing RESET, use the soft buttons to execute the reset ("Do it") or cancel it.

MIDI Messages

The MIDI messages that the Mark 152/12 transmits and recognizes fall into several categories, as outlined in the MIDI Implementation Chart on page 110. This section explains those messages and how to use them.

Note On and Note Off

When you play a key on the Mark 152/12, it sends a MIDI message that says a note has begun, what MIDI channel it's on (the Base 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 152/12 recognizes channel After Touch messages. These affect different sounds in different ways.

Pitch Bender

Touching the Pitch Bend ribbon transmits Pitch Bend messages. The Mark 152/12 also recognizes these messages.

Control Change

Control Change is the largest category of MIDI messages. The Mark 152/12 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.

Bank Select

Since there are only 128 possible program change values in the MIDI Specification, the Bank Select message is necessary to access all the programs (sounds) on instruments like the Mark 152/12, which contains more than 128 sounds.

To select one of the main banks (this applies to Mark 12 program mode—see page 81), send controller 32 with a value of the desired bank. Banks available on the Mark 152/12 are 0–3.

After the bank has been selected, a Program Change message will select the correspondingly numbered program within that bank.

See pages 92–99 for a complete list of bank and program numbers of the Mark 152/12.

Mod Wheel

The Mark 152/12 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 152/12 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 152/12 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 152/12 both transmits (on the current MIDI Base Channel) and 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.

The Mark 152/12 expression pedal transmits a controller 11 value in its factory default setting. For reception, 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, in their factory default settings. The Mark 152/12 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 152/12 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 152/12 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 152/12 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 three MIDI controller messages (see page 84 for more information on transmitting split and layer data): controller 80 contains the split point (Middle C is 60), controller 87 contains the split bank select, 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 two MIDI controller messages: controller 89 contains the layer bank select, and controller 82 contains the layer program number.

The Split Bank Select (controller 87) and Layer Bank Select (controller 89) messages work the same way the Bank Select messages do, but operating on the Split and Layer sounds, respectively.

The Mark 152/12 also recognizes these messages.

Layer, Main, and Split Volume Adjust

When the Layer Volumes button (in the Auto Accompaniment section) is ON, moving the Layer slider transmits a Layer Volume Adjust message (controller 79), moving the Main slider transmits a Main Sound Volume Adjust message (controller 90), and moving the Split slider transmits a Split Volume Adjust message (controller 88). The absolute range of values for these controllers is 0–127 (the larger the number, the quieter the sound), but the useful range is 0–15.

The Mark 152/12 also recognizes these messages.

Drums Volume, Bass Volume, Background A, B, and C

The Drums, Bass, and Background sliders control the MIDI volume for the various parts, with a range of 0–127. They send MIDI controller messages 103 (Drums), 104 (Bass), and 105–107 (Background A–C), respectively. The Mark 152/12 also recognizes these messages.

Reverb and Effects

Selecting a Reverb type causes the Mark 152/12 to transmit a MIDI controller 83 message with a value from the following table:

Category	Reverb	Value
	No Reverb	1
Room	Small Room	16
	Glass Room	17
	Carpet Room	18
	Live Room	19
Stage	Night Club	32
	Theatre	33
	Auditorium	34
	Chapel	35
	Cavern Club	36
	Hall	Symphony Hall
	Cathedral	49
	Recital Hall	50
	Gymnasium	51
	Subway	52
Space	Expanding	64
	Deep Space	65
	Aurora	66
	Crystal	67
	Zero Gravity	68

Selecting an Effects type causes the Mark 152/12 to transmit a MIDI controller 110 message with a value from the following table:

Category	Effect	Value	Category	Effect	Value
	No Effect	1	Echo	Stereo Pong	48
Chorus	Tight	16		Scattered	49
	Rich	17		Left->Right	50
	Honky Tonk	18		Reflections	51
	Slap	19		1 Repeat	52
	Spiral	20		2 Repeats	53
	Liquid	21		Gets Dark	54
	Shimmer	22		Gets Bright	55
Rotary	Slow	32		Flutter	56
	Fast	33		Mandolin	57
	Faster	34		Ricochet	58
	Slow Phase	35	Short	59	
	Fast Highs	36	Medium	60	
	Fast Full	37	Long	61	
	Slow Vibrato	38	Special	Rich Room	64
	Fast Vibrato	39		Narrow Hallway	65
	Chorale	40		Courtyard Chorus	66
	Fast Phase	41		Criss Cross	67
	Slow Tremolo	42		Clean Spin	68
Tremolo	43	Solar Burn		69	
Fast Tremolo	44	Pulsar Scope		70	
		Angel Spring		71	
		Metal Insects	72		

Adjusting the Reverb Wet/Dry Mix or the Effects Wet/Dry Mix sends a controller message 91 or 93, respectively. The values 0–127 represent the percentage of Reverb or Effects, from 0 percent (dry; no Reverb or Effects) to 100 percent (wet; no direct signal). The Mark 152/12 also recognizes these messages.

Style Select, Style Control

Selecting a style causes the Mark 152/12 to transmit a MIDI controller 85 message whose value is the style number. The Mark 152/12 also recognizes this controller.

Changing a Style control causes the Mark 152/12 to transmit a MIDI controller 86 message. The values are listed in the following table. The Mark 152/12 also recognizes this controller, although it responds differently to it than to other controllers, in that a new value doesn't override previous values. For example, a controller 86 message with a value of 40 (Background C ON) would not override a previous controller 86 message with a value of 64 (Chord recognition OFF).

Value	Meaning	Value	Meaning
1	Start from original arrangement	30	Countoff ON
2	Start from variation	31	Countoff OFF
3	Start from intro	32	Drum part ON
4	Start from fill to original	33	Drum part OFF
5	Start from fill to variation	34	Bass part ON
8	Select fade ON	35	Bass part OFF
9	Select fade OFF	36	Background A ON
10	Start fadein	37	Background A OFF
11	Start fadeout	38	Background B ON
12	Start slowdown	39	Background B OFF
13	End slowdown	40	Background C ON
14	Start speedup	41	Background C OFF
15	End speedup	48	Chord hold ON
16	Select original (variation OFF)	49	Chord hold OFF
17	Select variation (original OFF)	50	Full keyboard mode—Full
18	Select intro ON	51	Full keyboard mode OFF
19	Select intro OFF	52	Key/pedal start OFF
20	Select fill to original ON	53	Key start ON
21	Select fill to original OFF	54	Pedal start ON
22	Select fill to variation ON	56	Key stop ON
23	Select fill to variation OFF	57	Key stop OFF
24	Select break ON	58	Full keyboard mode—Left
25	Select break OFF	59	Full keyboard mode—Right
26	Select ending ON	64	Chord recognition OFF
27	Select ending OFF	65	Basic chord recognition ON
28	Start from current state	66	Advanced chord recognition ON
29	Stop style	67	Chord inversion recognition ON

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

The Mark 152/12 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 below.

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

SRS Space

Adjusting the SRS Space value transmits a controller message 111, with a value with a value corresponding to the “width” of the SRS space desired; 0 is off, 127 is maximum. The Mark 152/12 also recognizes this controller.

Arpeggiator Velocity Control, Latch 2, and Latch 1

When the Note On Velocity Mode of the Arpeggiator is set to Ctrl 117, the value received over controller 117 determines the velocity of the arpeggiated notes. The Mark 152/12 can transmit this controller if the Continuous Control pedal is assigned to it.

Latch 1 and Latch 2 are controllers that are used if the Latch Mode in the Arpeggiator is set to Overplay, Arpeg, Add, or Pedals. See the Arpeggiator section on page 36 for more details. The Mark 152/12 can transmit these controllers if the left, center, or right pedals are assigned to them.

All Sound Off, Reset All Controllers

The Mark 152/12 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 152/12 to transmit a Program Change message, unless transmission of program change messages has been disabled (see page 83). Similarly, the Mark 152/12 recognizes these messages, unless reception has been disabled.

Program Numbers

The sounds in the Mark 152/12 have the Program Change numbers shown in the table below, depending on the Program Change Mode to which the instrument is set (see page 81).

NOTE: Names that are shaded in gray are programs that are only displayed when the Long Program Lists preference is On (see page 85).

Category	Program	Mark 12 (Bank#:Prog#)	General MIDI	Mark 10	Disk Orchestra
Drums	Real Drums	1 (0:1)			
	Jazz Drums	2 (0:2)			
	Dance Drums	3 (0:3)			
	Power Drums	4 (0:4)			
	Real Drums 2	5 (0:5)			
	Rock Drums	6 (0:6)		75	
	Synth Drums	7 (0:7)		76	
	GM Drums 1	8 (0:8)		77	
	GM Orchestral Set	9 (0:9)	0, 32*	98	
	GM Drums 2	10 (0:10)	48*		
	GM Room Set	11 (0:11)		78	
	GM Power Set	12 (0:12)	8*		
	GM Electronic Set	13 (0:13)	16*		
	GM Synth Set	14 (0:14)	24*		
	GM Brush Set	15 (0:15)	25*		
	Small Kit	16 (0:16)	40*		
	DOM Drums (Disk Orchestra)	17 (0:17)		101	
Piano	Grand Piano	30 (0:30)			
	Bright Piano	31 (0:31)		109	47
	Ballad Grand	32 (0:32)			
	Ragtime Piano	33 (0:33)		5	49
	Concert Piano	34 (0:34)			
	GM Piano 1	35 (0:35)	0		
	GM Piano 2	36 (0:36)	1		
	Soft Piano	37 (0:37)			
	Tack Piano	38 (0:38)		6	
	Electric Grand	39 (0:39)			
	Ballad Rock	40 (0:40)			
	Rock Piano	41 (0:41)			
	Grand Piano 2	42 (0:42)		4	
	Piano 2 Layer	43 (0:43)		1	12
	Dark Piano	44 (0:44)		89	
	Dark Layer	45 (0:45)		2	48
	GM Piano 3	46 (0:46)		90	
	Rock Piano 2	47 (0:47)	2		
	Honky Tonk	48 (0:48)		3	51/52
	Soft Layer	49 (0:49)	3		
	Grand Layer	50 (0:50)			

*Selected on Channel 10 only in GM mode.

Category	Program	Mark 12 (Bank#:Prog#)	General MIDI	Mark 10	Disk Orchestra
Electric Piano	Electric Piano	60 (0:60)			
	Tremolo Electric Piano	61 (0:61)		8	82
	Electric Piano 2	62 (0:62)		7	13/50
	Electric Piano & Vibes	63 (0:63)			
	Bright Electric Piano	64 (0:64)			
	Full Electric Piano	65 (0:65)	4		
	Soft Electric Piano	66 (0:66)		10	
	Hard Electric Piano	67 (0:67)			
	Digital Electric Piano	68 (0:68)		9	
	Digital Electric Piano 2	69 (0:69)		5	
Keyboards	Harpsichord	80 (0:80)		17	14
	Celeste	81 (0:81)			
	Bright Clav	82 (0:82)			
	Harpsichord 2	83 (0:83)	6		
	Big Harpsichord	84 (0:84)		18	
	Clavichord	85 (0:85)	7		
	Celeste 2	86 (0:86)	8		
	Mellow Clav	87 (0:87)		57	83/18
	Church Organ	90 (0:90)			
Pipe Organ	Offertory	91 (0:91)			
	Full Pipes	92 (0:92)		13	76
	Reed Pipes	93 (0:93)		14	64/10
	Hollow Pipes	94 (0:94)		16	
	Mellow Pipes	95 (0:95)		15	
	Chapel Pipes	96 (0:96)			
	Harmonium	97 (0:97)	20		
	Church Organ 2	98 (0:98)	19		
	Rock Organ	100 (0:100)			
Electric Organ	Ballad Organ	101 (0:101)			
	Percussion Organ	102 (0:102)			
	Electric Organ	103 (0:103)	16	99	
	Click Organ	104 (0:104)	17	100	
	Rock Organ 2	105 (0:105)	18	106	
	Clean Organ	106 (0:106)		12	65
	Chorused Organ	107 (0:107)			
	Rock Organ 3	108 (0:108)			
	Jazz Organ	109 (0:109)		11	43/11
	6 String	120 (0:120)		51	24/53/84
Acoustic Guitar	Banjo	121 (0:121)			
	Nylon String	122 (0:122)			
	12 String	123 (0:123)		52	27
	Fluid Guitar	124 (0:124)			
	New Age Guitar	125 (0:125)			
	Banjo 2	126 (0:126)			
	Nylon Guitar 2	127 (0:127)			
	Fret Noise	128 (1:0)	120		
	Steel String	129 (1:1)	25		
	Folk Guitar	130 (1:2)	24		
Banjo 3	131 (1:3)	105	113	55	

Category	Program	Mark 12 (Bank#:Prog#)	General MIDI	Mark 10	Disk Orchestra	
Electric Guitar	Clean Electric	140 (1:12)	27			
	Chorused Guitar	141 (1:13)				
	Solo Distorted	142 (1:14)				
	Fluid Electric	143 (1:15)				
	Dreamy Guitar	144 (1:16)				
	Muted Electric	145 (1:17)				
	Jazz Guitar	146 (1:18)		56	70	
	Mute Only	147 (1:19)		53	25	
	Rock Guitar	148 (1:20)				
	Soft Jazz Guitar	149 (1:21)	26			
	Muted Dark	150 (1:22)	28	107		
	Synthtar	151 (1:23)	29	108	54	
	Synthtar 2	152 (1:24)	30			
	Guitar Overtones	153 (1:25)	31			
	Fluid Jazz Guitar	154 (1:26)				
	Clean Electric 2	155 (1:27)		54	72	
	Bass	Acoustic Bass	160 (1:32)		55	69/26
		Fretless Bass	161 (1:33)	35	91	71/28
		Slap Bass	162 (1:34)	36	112	
		Dual Electric Bass	163 (1:35)		92	
Dual Electric Bass 2		164 (1:36)		95	78	
Rock Bass		165 (1:37)	34	111		
Acoustic Bass & Ride		166 (1:38)		94		
Synth Bass		167 (1:39)	38	115	31	
Synth Bass 2		168 (1:40)		93		
Acoustic Bass 2		169 (1:41)	32			
Fingered Bass		170 (1:42)	33	122	29	
Chorused Slap Bass		171 (1:43)	37	114	30	
Rock Bass 2		172 (1:44)	39	116		
Bubble Bass		173 (1:45)		96		
Synth Bass 3		174 (1:46)				
Synth Bass 4		175 (1:47)				
Percussion		Latin Percussion	180 (1:52)		79	
		Orchestral Percussion	181 (1:53)		80	
		Timpani	182 (1:54)	47	102/105	23/58/87
		Taiko Drums	183 (1:55)	116		
	Tom-Toms	184 (1:56)	117			
	Synth Drums	185 (1:57)	118			
	Woodblock	186 (1:58)	115			
	Labmyc	187 (1:59)	119			

Category	Program	Mark 12 (Bank#:Prog#)	General MIDI	Mark 10	Disk Orchestra	
Strings 1	Fast Strings	190 (1:62)		22/86		
	Solo Cello	191 (1:63)				
	Pizzicato	192 (1:64)				
	Touch Strings	193 (1:65)				
	Pizzicato 2	194 (1:66)				
	Pizzicato Octaves	195 (1:67)				
	Solo Violin	196 (1:68)				
	Full Strings	197 (1:69)		103		
	Tremolo Strings	198 (1:70)	44	117		
	Baroque Strings	199 (1:71)	48			
	Pizzicato 3	200 (1:72)	45			
	Violin 2	201 (1:73)	40			
	Viola	202 (1:74)	41			
	Solo Cello 2	203 (1:75)	42			
	Contra Bass	204 (1:76)	43			
	Cello/Violin	205 (1:77)		33		
	Cello/Fiddle	206 (1:78)		34	75/9	
	Strings 2	Slow Strings	210 (1:82)		24/88	45
		Chamber Section	211 (1:83)			
		Touch Strings 2	212 (1:84)			
Soft Strings		213 (1:85)		87		
String Pad		214 (1:86)				
Smooth Strings		215 (1:87)		97		
Fast Strings 2		216 (1:88)		21/85	8	
Slow Strings 2		217 (1:89)		23	74/62	
Slow Strings 3		218 (1:90)	49			
Choir		Cathedral Choir	220 (1:92)			
	Choir Pad	221 (1:93)				
	High Choir	222 (1:94)				
	Chorus	223 (1:95)		19	42/46/63	
	Soft Choir	224 (1:96)		83		
	Cathedral Choir 2	225 (1:97)		20/84		
	Fast Choir	226 (1:98)	52			
	Voice Ooos	227 (1:99)	53	118		
Orchestra	Fast Orchestra	230 (1:102)		25		
	Reeds & Strings	231 (1:103)				
	Harp	232 (1:104)			57	
	Warm Orchestra	233 (1:105)				
	Flute & Strings	234 (1:106)				
	Slow Orchestra	235 (1:107)				
	Harp Octaves	236 (1:108)				
	Harp Glissando	237 (1:109)				
	Orchestra Hit	238 (1:110)	55	119		
	Harp 2	239 (1:111)	46			

Category	Program	Mark 12 (Bank#:Prog#)	General MIDI	Mark 10	Disk Orchestra	
Reeds	Soft Alto Sax	250 (1:122)				
	Clarinet	251 (1:123)				
	Tenor Sax	252 (1:124)				
	Bassoon	253 (1:125)		35		
	Oboe	254 (1:126)				
	Vibrato Clarinet	255 (1:127)				
	Alto Sax	256 (2:0)		30	86	
	Tenor Sax 2	257 (2:1)	66	37	85/77	
	Baritone Sax	258 (2:2)	67	124	3	
	Oboe 2	259 (2:3)	68	125		
	English Horn	260 (2:4)	69			
	Bassoon 2	261 (2:5)	70			
	Soft Clarinet	262 (2:6)	71			
	Clarinet 2	263 (2:7)				
	Bassoon/Oboe	264 (2:8)		29	4	
	Sustain Reeds	265 (2:9)		31	5	
	Soprano Sax	266 (2:10)	64	32		
	Alto Sax 2	267 (2:11)	65			
	Baritone Sax 2	268 (2:12)				
	Flute	Legato Flute	270 (2:14)		36	67
		Dolce Flute	271 (2:15)		27	61/6
		Flutes	272 (2:16)		28	79
		Pan Flutes	273 (2:17)			
Piccolo		274 (2:18)	72			
Whistle		275 (2:19)	78			
Flute 2		276 (2:20)	73			
Recorder		277 (2:21)	74			
Pan Flute		278 (2:22)	75			
Bottle Blow		279 (2:23)	76			
Shakuhachi		280 (2:24)	77			
Ocarina		281 (2:25)	79			
Solo Brass		Trumpet	290 (2:34)		39	81/1
		Mute Trumpet	291 (2:35)			
		French Horn	292 (2:36)			
		French Horn 2	293 (2:37)	60		
		Trombone	294 (2:38)		41	
	Tuba	295 (2:39)	58			
	Trumpet 2	296 (2:40)	56			
	Thin Trumpet	297 (2:41)	59	120	40	
	Trombone 2	298 (2:42)	57			
	Tuba 2	299 (2:43)		42	2	

Category	Program	Mark 12 (Bank#:Prog#)	General MIDI	Mark 10	Disk Orchestra	
Brass Section	Jazz Horns	310 (2:54)				
	Mellow Brass	311 (2:55)				
	French Horn Section	312 (2:56)				
	Jazz Horns 2	313 (2:57)				
	Big Band	314 (2:58)				
	Harmonica Section	315 (2:59)				
	Sax Section	316 (2:60)		38		
	Bright Brass	317 (2:61)	61	121	0/60	
	Brass Section	318 (2:62)		43		
	Mixed Horns	319 (2:63)		44	80/73	
	Trumpets	320 (2:64)		40		
	World	Accordian	330 (2:74)	21		
		Dulcimer	331 (2:75)			
Koto		332 (2:76)				
Mbira		333 (2:77)				
Shamisen		334 (2:78)	106			
Bandoneon		335 (2:79)	23			
Santur		336 (2:80)	15			
Charang		337 (2:81)	84			
Sitar		338 (2:82)	104			
Koto 2		339 (2:83)	107			
Mbira 2		340 (2:84)	108			
Bagpipe		341 (2:85)	109			
Fiddle		342 (2:86)	110			
Shannai		343 (2:87)	111			
Accordian 2		344 (2:88)				
Bells		Glockenspiel	350 (2:94)		65	7
		Music Box	351 (2:95)	10	49	15
	Tubular Bell	352 (2:96)	14			
	Bells & Strings	353 (2:97)		50		
	Jingle Bells	354 (2:98)				
	Warped Bells	355 (2:99)		73		
	Crystal	356 (2:100)	98			
	Tinkle Bell	357 (2:101)	112			
	Agogo	358 (2:102)	113			
	Glockenspiel 2	359 (2:103)	9			
	Sleigh Bells	360 (2:104)				
	Mallets	Vibraphone	370 (2:114)	11		
		Marimba	371 (2:115)		61	17
Steel Drums		372 (2:116)		63		
Xylophone		373 (2:117)		13		
Congatone		374 (2:118)		64		
Metal Marimba		375 (2:119)				
Bright Vibes		376 (2:120)	19	60		
Tremolo Vibes		377 (2:121)				
Wood Tones		378 (2:122)				
Vibraphone 2		379 (2:123)		59	16	
Marimba 2		380 (2:124)	12			
Xylophone 2		381 (2:125)		62		
Steel Drums 2	382 (2:126)	114				

Category	Program	Mark 12 (Bank#:Prog#)	General MIDI	Mark 10	Disk Orchestra	
Synth Leads	Synth Flute	390 (3:6)		69		
	Synth Harmonica	391 (3:7)		66	41	
	Space Lead	392 (3:8)				
	Hybrid Horn	393 (3:9)				
	Chiffer Lead	394 (3:10)	83			
	Square Wave	395 (3:11)		70		
	Harmonica	396 (3:12)	22			
	Popcorn Lead	397 (3:13)	80			
	Sawtooth	398 (3:14)	81			
	Bottle Lead	399 (3:15)	85			
	5ths Sawtooth	400 (3:16)	86	126		
	Thin Lead	401 (3:17)	87			
	Distorted Lead	402 (3:18)		71		
	Synth Pads	Sweep Synth	410 (3:26)	95		
Warm Synth		411 (3:27)	89			
Ethereal Echoes		412 (3:28)				
Synth Orchestra		413 (3:29)		46		
Space Synth		414 (3:30)		58	68	
Slow Vibes		415 (3:31)		67		
Guitar Pad		416 (3:32)	93			
Soundtrack		417 (3:33)	97			
Goblin		418 (3:34)	101			
String Pad		419 (3:35)				
Shifter		420 (3:36)				
Glass Chiff		421 (3:37)		68	22	
Bowed Glass		422 (3:38)	92			
Synth Keys		Poly Synth	430 (3:46)	90		
		Synth Calliope	431 (3:47)	82		
		Fantasia	432 (3:48)	88	127	
	Organ Pad	433 (3:49)				
	Air Guitars	434 (3:50)				
	Star Theme	435 (3:51)	103			
	Atmosphere	436 (3:52)	99			
	Electric Horns	437 (3:53)	63	123	20/66	
	Tingle Strings	438 (3:54)		72		
	Ice Rain	439 (3:55)	96			
	Halo Choir	440 (3:56)	100			
	Echo Drops	441 (3:57)	102			
	Synth Pizzicato	442 (3:58)		48/104	56	
	Synth Ensemble	Synth Brass	450 (3:66)		45	
Chiff Strings		451 (3:67)				
Synth Ensemble		452 (3:68)		47	44	
Swell Synth		453 (3:69)	51			
Poly Strings		454 (3:70)	50			
Space Voice		455 (3:71)	91			
Electric Brass		456 (3:72)	62			
Vocal Synth		457 (3:73)	94			
Synth Voices		458 (3:74)	54			

Category	Program	Mark 12 (Bank#:Prog#)	General MIDI	Mark 10	Disk Orchestra
Sound Effects	Time Machine	460 (3:76)			
	Frightening	461 (3:77)		74	
	Applause	462 (3:78)	126		
	Bird	463 (3:79)	123		
	Telephone	464 (3:80)	124		
	Helicopter	465 (3:81)	125		
	Seashore	466 (3:82)	122		
	Breath Noise	467 (3:83)	121		
	Gun Shot	468 (3:84)	127		
	SoundByte	SoundByte 1	470 (3:86)		
SoundByte 2		471 (3:87)			
Drawbar Organ	Drawbar Organ 1	491 (3:107)			
	Drawbar Organ 2	492 (3:108)			
	Drawbar Organ 3	493 (3:109)			
	Drawbar Organ 4	494 (3:110)			
	Drawbar Organ 5	495 (3:111)			
	Drawbar Organ 6	496 (3:112)			

	Synth Drums (Mark 12 ID #7)	GM Drums 1 (Mark 12 ID #8)	GM Orch Set (Mark 12 ID #9)	GM Drums 2 (Mark 12 ID #10)	GM Room Set (Mark 12 ID #11)	GM Power Set (Mark 12 ID #12)
	Synth Kick Drum			Snare		
	Synth Kick Drum			Snare		
	Synth Kick Drum			Snare		
	Synth Kick Drum			Snare		
	Sidestick			Snare		
	Synth Floor Tom			Snare		
	Synth Floor Tom	Hi Q	Closed Hi Hat	Snare	Hi Q	Hi Q
	Synth Floor Tom	Slap	Pedal Hi Hat	Snare	Slap	Slap
	Synth Lo Tom	Scratch Push	Open Hi Hat	Snare	Scratch Push	Scratch Push
	Synth Lo Tom	Scratch Pull	Ride Cymbal	Snare	Scratch Pull	Scratch Pull
	Synth Mid Tom	Sticks	Sticks	Kick Drum	Sticks	Sticks
	Synth Mid Tom	Square Click	Sticks	Kick Drum	Square Click	Square Click
	Synth Hi Tom	Metronome Click	Metronome Click	Kick Drum	Metronome Click	Metronome Click
	Synth Hi Tom	Metronome Bell	Metronome Bell	Kick Drum	Metronome Bell	Metronome Bell
	Synth Snare	Kick Drum 2	Concert Bass Drum 2	Kick Drum	Kick Drum 2	Kick Drum 2
	Synth Snare	Kick Drum 1	Concert Bass Drum 1	Kick Drum	Kick Drum 1	Gated Kick
	Synth Snare	Sidestick	Sidestick	Sidestick	Sidestick	Sidestick
	Closed Hi Hat	Snare Drum 1	Concert Snare Drum	Snare	Snare Drum 1	Gated Snare Drum
	Closed Hi Hat	Hand Clap	Castanets	Hand Claps	Hand Clap	Hand Clap
	Closed Hi Hat	Snare Drum 2	Concert Snare Drum	Electronic Snare	Snare Drum 2	Snare Drum 2
	Slightly Open Hi Hat	Lo Tom 2	Timpani F	Lo Floor Tom	Room Lo Tom 2	Room Lo Tom 2
	Slightly Open Hi Hat	Closed Hi Hat	Timpani F#	Closed Hi Hat	Closed Hi Hat	Closed Hi Hat
	Slightly Open Hi Hat	Lo Tom 1	Timpani G	Hi Floor Tom	Room Lo Tom 1	Room Lo Tom 1
	Open Hi Hat	Pedal Hi Hat	Timpani G#	Pedal Hi Hat	Pedal Hi Hat	Pedal Hi Hat
	Open Hi Hat	Mid Tom 2	Timpani A	Lo Tom Tom	Room Mid Tom 2	Room Mid Tom 2
	Fully Open Hi Hat	Open Hi Hat	Timpani A#	Fully Open Hi Hat	Open Hi Hat	Open Hi Hat
	Fully Open Hi Hat	Mid Tom 1	Timpani B	Lo Mid Tom	Room Mid Tom 1	Room Mid Tom 1
	Pedal Hi Hat	Hi Tom 2	Timpani C	Hi Mid Tom	Room Hi Tom 2	Room Hi Tom 2
	Crash Cymbal	Crash Cymbal 1	Timpani C#	Crash Cymbal	Crash Cymbal 1	Crash Cymbal 1
	Crash Cymbal	Hi Tom 1	Timpani D	Hi Tom	Room Hi Tom 1	Room Hi Tom 1
	Crash Cymbal	Ride Cymbal 1	Timpani D#	Ride Cymbal	Ride Cymbal 1	Ride Cymbal 1
	Crash Cymbal	Chinese Cymbal	Timpani E	Crash Cymbal	Crash Cymbal 1	Crash Cymbal 1
	Crash Cymbal	Ride Bell	Timpani F	Ride Bell	Chinese Cymbal	Chinese Cymbal
	Crash Cymbal	Tambourine	Tambourine	Tambourine	Ride Bell	Ride Bell
	Crash Cymbal	Splash Cymbal	Splash Cymbal	Splash Cymbal	Tambourine	Tambourine
	Dual Ride (Rim>Bell)	Cowbell	Cowbell	Splash Cymbal	Splash Cymbal	Splash Cymbal
	Ride Rim	Crash Cymbal 2	Concert Cymbal 2	Cowbell	Cowbell	Cowbell
	Dual Ride	Vibraslap	Vibraslap	Crash 2	Crash Cymbal 2	Crash Cymbal 2
	Ride Bell	Ride Cymbal 2	Vibraslap	Vibraslap	Vibraslap	Vibraslap
	Lo Conga Tone	Hi Bongo	Hi Bongo	Ride 2	Ride Cymbal 2	Ride Cymbal 2
Midote C	Mid Conga Tone	Lo Bongo	Lo Bongo	Hi Bongo	Hi Bongo	Hi Bongo
	Conga Buba Stroke	Mute Hi Conga	Mute Hi Conga	Lo Bongo	Lo Bongo	Lo Bongo
	Conga Tone	Open Hi Conga	Open Hi Conga	Mute Hi Conga	Mute Hi Conga	Mute Hi Conga
	Conga Tone	Lo Conga	Lo Conga	Open Hi Conga	Open Hi Conga	Open Hi Conga
	Conga Tap (Tap>Howl Tone)	Hi Timbale	Hi Timbale	Lo Conga	Lo Conga	Lo Conga
	Conga Slap	Lo Timbale	Lo Timbale	Hi Timbale	Hi Timbale	Hi Timbale
	Cabasa	Hi Agogo	Hi Agogo	Lo Timbale	Lo Timbale	Lo Timbale
	Cabasa	Lo Agogo	Lo Agogo	Hi Agogo	Hi Agogo	Hi Agogo
	Shaker	Cabasa	Cabasa	Lo Agogo	Lo Agogo	Lo Agogo
	Shaker	Maracas	Maracas	Cabasa	Cabasa	Cabasa
	Claves	Hi Whistle	Hi Whistle	Maracas	Maracas	Maracas
	Lo Timbale	Lo Whistle	Lo Whistle	Hi Samba Whistle	Hi Whistle	Hi Whistle
	Lo Timbale	Short Guiro	Short Guiro	Lo Samba Whistle	Lo Whistle	Lo Whistle
	Hi Timbale	Long Guiro	Long Guiro	Short Guiro	Short Guiro	Short Guiro
	Hi Timbale	Claves	Claves	Long Guiro	Long Guiro	Long Guiro
	House Cowbell	Hi Woodblock	Hi Woodblock	Claves	Claves	Claves
	Lo Agogo	Lo Woodblock	Lo Woodblock	Hi Woodblock	Hi Woodblock	Hi Woodblock
	Lo Agogo Muted	Mute Cuica	Mute Cuica	Lo Woodblock	Lo Woodblock	Lo Woodblock
	Mid Agogo	Open Cuica	Open Cuica	Hi Cuica	Mute Cuica	Mute Cuica
	Mid Agogo Muted	Mute Triangle	Mute Triangle	Lo Cuica	Open Cuica	Open Cuica
	Hi Agogo	Open Triangle	Open Triangle	Mute Triangle	Mute Triangle	Mute Triangle
	Hi Agogo Muted	Shaker	Shaker	Open Triangle	Open Triangle	Open Triangle
	Long Guiro	Jingle Bell	Jingle Bell	Woodblock	Shaker	Shaker
	Long Guiro	Bell	Bell	Bell	Jingle Bell	Jingle Bell
	Short Guiro	Castanets	Castanets	Gated Kick 1	Bell	Bell
	Tambourine	Mute Surdo	Mute Surdo	Gated Kick 2	Castanets	Castanets
	Tambourine	Open Surdo	Open Surdo	Room Gate Snare	Mute Surdo	Mute Surdo
	Triangle		Applause	Gunshot	Open Surdo	Open Surdo
	Triangle			Ambient Snare		
	Triangle Muted			Lo Tom		
	Lo Woodblock			Open Hi Hat		
	Hi Woodblock			Mid Tom		
	Lo Samba Whistle			Crash Cymbal		
	Mid Samba Whistle			Hi Tom		
	Hi Samba Whistle			Ride Cymbal		
	House Chirp			House Kick		
	Click			House Snare		
	Agogo			House Click		
	Agogo			House Chirp		
	Synth FX			House Chirp		
	Synth FX			Lo Metal Clank		
	Lo Hand Claps			Hi Metal Clank		
	Hi Hand Claps			Lo House Cowbell		
	House Cowbell			Hi House Cowbell		
	House Cowbell			Glass Break		
	Metal Clank			Glass Break		
	Vibraslap			Glass Break		
	Glass Break			Glass Break		

System Exclusive

MIDI messages such as Note On, Note Off, Pitch Bend, and Control Change are used to convey the performance of a piece of music. System Exclusive messages, on the other hand, are often used "behind the scenes," to govern other aspects of the operation of an instrument. The System Exclusive messages implemented on the Mark 152/12 are described below. All messages shown here are given in hexadecimal (base 16) notation, unless otherwise noted.

General MIDI On

The Mark 152/12 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 152/12 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 152/12 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 152/12 will return the following:

F0 7E 00 06 02 07 10 00 0C 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)
0C 00	Device family member code (14 bits, LSB first; 0C = Mark 152/12)
ss ss ss ss	Software revision level (00 01 00 00 = Version 1.00)
F7	End of exclusive message (EOX)

System Common, System Real Time, Auxiliary Messages

The Mark 152/12 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 152/12 can be set to either transmit them or recognize them. These messages are discussed with the External Sync setting, on page 83.

Local Control and All Notes Off messages are discussed on pages 82–83.

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 152/12.

- Many people prefer using the “soft thru” capability of their sequencers and setting their master keyboards to Local Control Off (see page 82).
- Make sure the Mark 152/12 is set to Multi mode (the default MIDI mode; see page 82). 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 152/12, you should set one to External Sync On (see page 83), 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.
- If your external sequencer can open Standard MIDI Files from MS-DOS-format disks, the easiest way to transfer sequences from the built-in Recorder to the external sequencer is to save the song to disk on the Mark 152/12 as a Type 0 or Type 1 Standard MIDI File, then load the file into your external sequencer.

If your external sequencer cannot read these Standard MIDI Files, you can transfer a sequence by setting 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 152/12 to On (see page 84).

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 152/12 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 152/12 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 152/12, 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 152/12 and the external sequencer by recording at a fast tempo.
- To transfer songs from an external sequencer to the Mark 152/12, there are two options:
1) If the sequencer can save songs as Standard MIDI Files onto MS-DOS-format disks, the Mark 152/12 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 152/12 to record them one at a time.
- To record performances directly from the keyboard into an external sequencer, set the Base Channel on the Mark 152/12 for the part you wish to record (see page 82). 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 Base 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 and 87–90 at any time, then send a program change message to activate them. The controller message the Mark 152/12 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.
- If you want your Mark 152/12 to transmit regular program change messages when you select Left Split sounds from the front panel, you must turn Off the Transmit Split Data parameter (see page 84).

Part 5: Appendices

Updating Your Mark 152/12 Software

New versions of the software may occasionally be made available to our users. These new versions may contain new features, or fix certain problems. The software may be obtained through your dealer, or through on-line services. The Kurzweil web page is currently located at <http://www.youngchang.com/Kurzweil>. If, for some reason, the web page location should change, please check with your dealer, or use a web search engine such as Yahoo, Lycos, or Alta Vista to locate the web page.

Boot Block Commands

The Boot Block is a special part of the software that allows you to update your software via the floppy disk drive. Before installing new software, you should save all important songs, styles, organ settings, panel memories, and other objects that you may have stored. We recommend performing a Hard Reset function after installing new software. This clears all of the memory in your Mark 152/12, and reverts all settings to factory defaults.

Entering the Boot Block

Hold down Key Start, Key Stop, and Layer Volumes while turning on the power switch. Wait until the message "waking up scanner" appears in the display. Release the buttons. You should now be in the boot block menu. The menu has five choices:

Install File. Install a new file, called a KOS file, from the floppy disk drive. Insert the disk with the new KOS file into the drive, and then press the button under Install File. The menu will display "Install all KOS files on disk." This is usually the correct answer, but if you want to install only one KOS file from that disk, use the value buttons to scroll through the disk directory of KOS files. Press OK when you have chosen the correct file. The display will then ask again "Ready to install KOS file into ROM". Select OK, and you're off! Wait until the operation has completed. After the file is loaded, you can perform another operation with the Boot Loader. We recommend that you perform a "Hard Reset" function before using your new software.

Run Engine. Starts up your new software.

Run Diags. Runs a complete diagnostic suite on your Mark 152/12 hardware. It is beyond the scope of this manual to document all of the tests. Be careful; some tests may cause very loud sounds to come from the speakers, or they may delete data on a floppy disk that is inserted into the drive.

B-Blk Diags. A special set of diagnostics that is unique to the boot block. Again, beyond the scope of this manual.

Hard Reset. Clears all memory in your Mark 12 (see page 85).

We recommend using the Reset Function under the MIDI/Prefs button the first time that you turn on your Mark 12 after installing new software.

Miscellaneous

Headphone Jack

The headphone jack allows private practice. Plugging in a pair of headphones turns off the speakers. Volume and tone controls still work. There are two identical headphone jacks on the Mark 152.

Bottom/Rear Panel

The bottom panel of the Mark 152 (the rear panel of the Mark 12) 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 152/12; 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 78.

Pedals

Depending on the cabinet style of your Mark 152/12, you may see two connectors labeled Pedals—one marked Switch, the other marked CC. The Switch jack is where the left, center, and right piano-style pedals connect; the CC jack is where the Continuous Control pedal connects.

Audio In Jacks

The audio input jacks allow you to play along with a tape player or CD player, or to have an external tone module connected through the Mark 152/12 audio system. It is best to use a tone module, tape player, or CD player that has its own output level control. The volume and tone controls do not affect the signal coming from the audio in jacks, nor do the reverb and effects settings.

Audio Out Jacks

There is one sets of audio out jacks. They are used to boost the sound levels coming from the piano by hooking them to external amplifiers and speaker systems. They are not switched by the headphone jack. This is useful if you want to mute the internal speaker system while using a more powerful external amplifier system.

Battery

The Battery plate covers the holder for the backup batteries used in the Mark 152/12. Your Mark 152/12 has battery-backed memory that retains recorded songs and those loaded from disk into the Recorder, Styles loaded from disk, Panel Memories, and settings in MIDI Edit Mode. The instrument was shipped from the factory with the batteries installed, which should last about a year under normal circumstances. When the batteries begin to run low, you'll see a start-up message that says: "It's time to change your batteries." After you see this message, you should change the batteries within a week or so.

Changing batteries is a simple procedure; all you'll need is three fresh AA batteries and a screwdriver. You should also have a knife, scissors, or wire cutters handy the first time, since the existing batteries may have been taped or cable-tied to the battery holder as a shipping precaution.

IMPORTANT: Make sure that you have fresh batteries ready to install before you remove the old batteries, since **you must make the swap within 30 seconds to retain the contents of the memory.** You should always back up important data to disk before removing the batteries.

To change the Mark 152/12 batteries:

1. Unplug the power cable.
2. Remove the screw that attaches the Battery plate to the panel. Keep the screw handy; you'll need it for reattaching the Battery plate.
3. Tilt the top of the Battery plate back, then lift it a few inches away from the instrument. Don't pull it too far back, since it's connected by a short cable.
4. Remove the old batteries. If they are taped or cable-tied to the battery holder, you must first remove the tape or cable-tie.
5. **Within thirty seconds of removing the old batteries, insert the new batteries.** Be sure to match the positive (+) and negative (-) ends of the batteries with the + and - marks on the battery holder.
6. With the new batteries installed, reattach the Battery plate, making sure that the lip on the bottom of the plate goes inside the panel. Secure the Battery plate with the screw removed in step 2, then plug the instrument in. When you turn it back on, check to see if the battery change message is still displayed. If it is, turn the Mark 152/12 off, unplug the power cable, remove the Battery plate, and check to see that the new batteries have been installed correctly.

Service

Other than the batteries, the Mark 152/12 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.

Specifications (152)

Physical

- Height: 39.75" (101 cm)
- Width: 58.25" (148 cm)
- Depth: 59" (150 cm)
- Weight: 512 lbs. (233 kg)

Audio

- 200-Watt Quad Amplification: 1 x 80 Watts for subwoofer
2 x 20 Watts for downfacing widerange
2 x 20 Watts for upfacing widerange
2 x 20 Watts for tweeters
- 7 Speakers: 1 x 12" (30 cm) woofer in a ported enclosure
2 x 6.5" (16.5 cm) downfacing widerange
2 x 5" (12.5 cm) upfacing widerange
2 x 1" (2.5 cm) 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 Outputs: 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 headphones into either jack switches off the internal speakers.

Electrical

- | | <u>120VAC</u> | <u>240VAC</u> |
|----------------------|-------------------|-------------------|
| ▪ Voltage Range: | 100–125 volts RMS | 200–250 volts RMS |
| ▪ Frequency Range: | 48–65 Hz | 48–65 Hz |
| ▪ Power Consumption: | 2.5 Amps nominal | 1.25 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

Specifications (12)

Physical

▪ Height:	33.25"	(84.5 cm)
▪ Width:	56.5"	(143.5 cm)
▪ Depth:	22.25"	(56.5 cm)
▪ Weight:	198.5 lbs.	(90 kg)

Audio

- 130-Watt Biamplication: 2 x 50 Watts for woofers
2 x 15 Watts for tweeters
- 4 Speakers: 2 x 6.5" (16.5 cm) woofers in a ported enclosure
2 x 1" (2.5 cm) dome-type 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

	<u>120VAC</u>	<u>240VAC</u>
▪ Voltage Range:	100–125 volts RMS	200–250 volts RMS
▪ Frequency Range:	48–65 Hz	48–65 Hz
▪ Power Consumption:	0.8 Amps nominal	0.4 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	

Index

- After Touch, 37, 86
Anyone Can Play, 35
Arpeggiator, 36–38, 83, 91
Audio Jacks, 107, 109–110
Auto Accompaniment, 32–39, 83–84
Auto Accompaniment, Recording, 42
Auto Setup, 39
Bass Control, 25
Batteries, 6, 108
Beat Lights, 14
Bottom Panel, 107–108
Buttons, 15
Care of Instrument, 5
Chord Hold, 34
Chord Reader, 32–33
Continuous Controller (CC) Pedal, 13, 37, 85
Control Change Messages, 86–91
Delete File from Disk, 59
Demo, 12, 65
Demo Disk, 4
Digital Reverb & Effects, 25–27
Disk, 50–60
Disk Errors, 60
Display, 14–15, 85
Drawbar Organ, 19, 23–24
Drum Sets, 100–102
Edit Drawbars, 23–24
Edit Song Button, 41
Edit Style, 30–31
Editing a Song, 45–47
Editing a Track, 47–49
Edu-Games, 61–64
Effects, 24, 26, 89
Effects Hold, 27
External Sync, 83–84
Fallboard Lights, 5
File Types, 55
Format Disk, 59
Front Panel Diagram, 2–3
Full Keyboard Mode, 34
General MIDI (GM), 81, 103
Harmony, 36
Headphone Jack, 107, 109–110
Ignore All Notes Off, 83
Installation Instructions, cover 2, 5–6
Key Cover, 5
Key Start, Key Stop, 39
Key Touch, 60
Keyboard, 13
Latin Percussion, 17
Layer Volumes, 39
Layering Sounds, 19–20
Left Split, 21–22
Left Sustain, 22
Load from Disk, 53–55
Local Control, 82
Long Program Lists, 85, 92
Loop, 45
Master Volume, 6, 25
Memory Available, 85
Menu Button, 15
Menu Mode, 14–15
Merge Tracks, 48
Metronome, 43, 83–84
MIDI, 78–105
MIDI Channels, 42, 48, 82
MIDI Connections, 78–80
MIDI Edit Mode, 80–85
MIDI Implementation Chart, 111
MIDI Messages, 86–104
MIDI Mode, 82
MIDI Ports, 78, 107
MIDI/Pref, 50, 80–85
MIDI Settings, 81–84
Music Rack, 5
Naming, 45–46
Next Button, 15
Octave Shift, 21
Options, 50–65
Orchestra Percussion, 18
Panel Memories, 19, 64–65
Panel Set, 64–65
Part Controls, Auto Accompaniment, 39
Pedals, 13, 36, 37, 84–85, 87, 107
Percussion (Drawbar Organ), 23
Percussion (Instruments), 17–18
Phrase Repeat, 46–47
Pitch Bender, 13, 86
Play from Disk, 52
Power, 5–6, 107–110
Preferences, 84–85
Program Change Messages, 83, 92–99
Program Change Mode, 47, 49, 81
Punch In, 44
Quantize, 47
Radio and Television Interference, cover 3
Rear Panel, 107–108
Recorder, 40–49, 83–84
Recording, 42
Rename, 45–46
Reset, Hard, 85, 106
Reset, Soft, 50
Reverb, 26, 89
Safety Instructions, cover 2, 5
Save to Disk, 55–58
Sequencer, External, 79, 104–105
Sequencer Data, Transmit, 84
Service, 108
Set Tempo, 44
Setting Up the Instrument, 5–6
Soft Buttons, 15
Software Version, 85, 106
Song, Copying or Deleting, 46
Song Chain, 49
Song/Track Buttons, 40
SoundByte, 19
Sounds, 16–20, 92–102
Specifications, 109–110
Split Data, Transmit, 84, 88
Split Point, 22
SRS, 27, 91
Standard MIDI Files, 52, 53, 55, 56
Stereo Output, 84
Styles, 28–31, 90
System Exclusive Messages, 103
Tempo, 44, 46
Tempo Messages, Recorded, 49
Track, Erasing, 42
Transpose, 46, 49, 65, 83
Treble Control, 25
Tuning, 84
User/Disk, 28
User Variation, 16
Value Buttons, 15
Variation (Sounds), 16
Variation (Styles), 28
Young Chang Distributors, cover 3

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, you are 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 to 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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