How to use the MK-100 MULTI-MENU
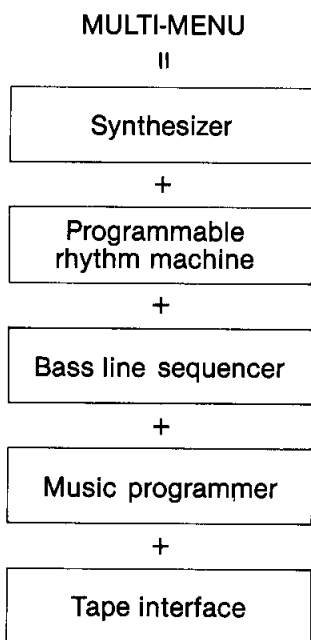
Multi-Programmable Stereo Keyboard

YAMAHA *PortaSound* **MK-100**

This manual provides you with detailed instructions on how to use the nine functions of MULTI-MENU, the most important feature of the PortaSound MK-100, so that you will be able to get the maximum enjoyment out of it. Actually play the given examples according to the instructions with your MK-100. In the beginning, the operation may appear complicated, but soon you will get used to it, and find it fun. Master this manual and expand your scope of keyboard playing pleasure.

The MULTI-MENU system lets you arrange your own instrument voices, rhythms and bass lines. Also, you can store your sound creations in the keyboard's 3.2 kilobyte RAM (Random-Access Memory), or digitally on tape using a separate tape recorder and tape interface cable.
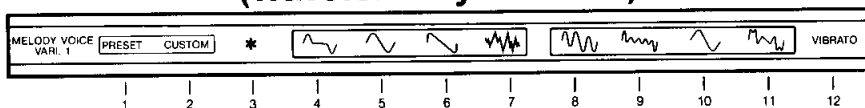
MULTI-MENU Functions

MULTI-MENU

||

Synthesizer

+

Programmable rhythm machine

+

Bass line sequencer

+

Music programmer

+

Tape interface

The Menu contains the following functions, which can be used either alone or in various combinations.

You can start with any of the functions.

1. MELODY VOICE VARI 1
(Waveform synthesizer)

MELODY VOICE VARI. 1	PRESET CUSTOM	✳	∿ ∿ ∿ ⋀⋀	∿ ∿ ∿ ∿	VIBRATO

1	2	3	4	5	6	7	8	9	10	11	12

With this function, you can create your own CUSTOM sounds
in addition to using any of the 12 preset voices. Press the
MULTI-MENU ON selector and choose MELODY VOICE VARI
1 in the Menu.

With this Menu selection, you choose one illustrated
waveform from each of the two groups, and combine the
two to form a new, distinctive sound.

Select one out of ∿ ∿ ∿ ⋀⋀ and one out of
⬛   ⬛   ⬛   ⬛
4   5   6   7
▭ ▭ ▭ ▭

∿ ∿ ∿ ∿
8 9 10 11
⬛ ⬛ ⬛ ⬛
▭ ▭ ▭ ▭ , and push their corresponding selectors.

To start with, modify the ORGAN voice to get a different
organ sound.

(Example 1)

Orchestra voice	Selectors to press
ORGAN	**5 & 10**

→ **Modified organ sound**

*Try other combinations. (With the ORGAN voice, the com-
bination of selectors 4 and 8 gives a sound identical to the preset
voice.)
*To get the preset voice again, push selector 1 (PRESET).
*Even when another Menu is chosen, the existing custom
waveforms are retained.

Try creating some more distinctive sounds using other
Orchestra voices.

(Example 2)

Clarinet-like sound

Orchestra voice	Selectors to push
TRUMPET	**4 & 11 with 12 (VIBRATO) OFF**

(Example 3)

Pipe organ-like sound

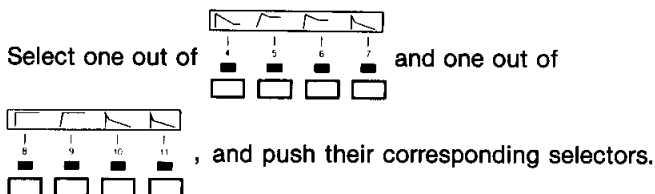| Orchestra voice	Selectors to push
VIOLIN	**7 & 9 with 12 (VIBRATO) OFF**

*Use of SUSTAIN 2 gives a cathedral-like presence.

2

2. MELODY VOICE VARI 2
(Envelope synthesizer)

This function is for adjusting the rise and sustain pattern (envelope) of the Orchestra voices to obtain different sounds.

With this Menu selection, you choose one illustrated envelope from each of the two groups, and combine the two to form a new one.

Select one out of and one out of

 , and push their corresponding selectors.

Now, take the PIANO voice and make a soft, horn-like sound with it.

(Example 1)

Orchestra voice	Selectors to push
PIANO	5 & 9

➡ **Horn-like sound**

*If the voice has been customized by MELODY VOICE VARI 1, change it back to the preset voice by pushing selector 1 (PRESET) in the MELODY VOICE VARI 1 Menu once, before using the MELODY VOICE VARI 2 Menu.
*To restore the original envelope, push selector 1 (PRESET).
*Even when another Menu is chosen, the existing custom envelope is retained.

Try creating some more different sounds by changing the envelopes of the Orchestra voices.
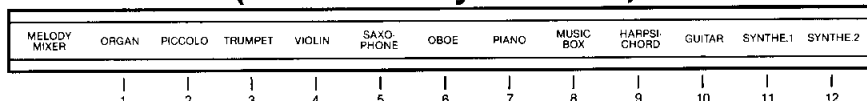
(Example 2)

Banjo-like sound

Orchestra voice	Selectors to push
OBOE	7 & 11

(Example 3)

Wah-guitar-like sound

Orchestra voice	Selectors to push
GUITAR	5 & 10

For more effects, you can combine MELODY VOICE VARI 1 and 2.

3. MELODY MIXER
(Dual-voice synthesizer)

MELODY MIXER	ORGAN	PICCOLO	TRUMPET	VIOLIN	SAXO-PHONE	OBOE	PIANO	MUSIC BOX	HARPSI-CHORD	GUITAR	SYNTHE.1	SYNTHE.2
	1	2	3	4	5	6	7	8	9	10	11	12

With this function, you can get the effect of two instruments playing together.

When you select one of the Menu sounds

ORGAN	PICCOLO	TRUMPET	VIOLIN	SAXO-PHONE	OBOE	PIANO	MUSIC BOX	HARPSI-CHORD	GUITAR	SYNTHE 1	SYNTHE 2
1	2	3	4	5	6	7	8	9	10	11	12

and push the selector, that sound is mixed with the voice selected from among those of the Orchestra panel.

ORCHESTRA

ORGAN	TRUMPET	SAXO-PHONE	PIANO	HARPSI-CHORD	SYNTHE 1	
PICCOLO	VIOLIN	OBOE	MUSIC BOX	GUITAR	SYNTHE 2	

Combining two sounds of different types gives a more interesting effect than combining two similar sounds. Try the following combinations, for example.

	Orchestra	Menu
(Example 1)	MUSIC BOX	ORGAN
(Example 2)	HARPSICHORD	PICCOLO
(Example 3)	GUITAR	SAXOPHONE

*With MELODY MIXER, only one note at a time is mixed. When you play chords, the highest notes only are mixed.
*When the sounds have been modified by MELODY VOICE VARI 1 and 2, the modified sounds are mixed.
*To cancel MELODY MIXER, push the selectors with illuminated lamps to turn them off.

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4. CHORD VOICE VARI

CHORD VOICE VARI.	ORGAN	PICCOLO	TRUMPET	VIOLIN	SAXO-PHONE	OBOE	PIANO	MUSIC BOX	HARPSI-CHORD	GUITAR	SYNTHE.1	SYNTHE.2
	1	2	3	4	5	6	7	8	9	10	11	12

With this function you can set the accompaniment sound timbre of the chords for Auto Bass Chord.

1) Select a rhythm in the RHYTHM section and press the selector, then press SYNCHRO START or START.
2) Slide the AUTO BASS CHORD control (5th from left) to SINGLE FINGER CHORD or FINGERED CHORD.
3) When you press a key on the left side of the keyboard, the bass and chords start to play. Now, you are ready.
4) You can select any sound you like. Just press the selector for that sound.

(Example 1)

Try playing with the MARCH rhythm.

Play Auto Bass Chord with:	MARCH	ON
	BASS VARIATION	1
	CHORD VARIATION	1

In this case, the chord sound is preset at PIANO.
Change it to TRUMPET, GUITAR or whatever you like.

*The timbre set here applies to all the rhythms and all the variations.
*When the sound has been customized by MELODY VOICE VARI 1 or 2, the CUSTOM sound will be heard.
*To cancel CHORD VOICE VARI, press the selectors with illuminated lamps.

(Example 2)

Try a country-like banjo backing.

Change the OBOE sound to a banjo-like sound with MELODY VOICE VARI 2, first. (See Example 2 on page 3.)

Now, select MARCH, set BASS/RHYTHM VARIATION to 1, CHORD VARIATION to 3, and play a key in the AUTO BASS CHORD section.

Then, select OBOE (changed to BANJO) with CHORD VOICE VARI. Now, you will get a country-like accompaniment.

5. BASS VOICE VARI

BASS VOICE VARI.	ORGAN	PICCOLO	TRUMPET	VIOLIN	SAXO-PHONE	OBOE	PIANO	MUSIC BOX	HARPSI-CHORD	GUITAR	SYNTHE.1	SYNTHE.2
	1	2	3	4	5	6	7	8	9	10	11	12

With this function, you can set the bass sound for Auto Bass Chord.

> The procedure is the same as with CHORD VOICE VARI. Press the selector for the sound you like while playing in the AUTO BASS CHORD key section.
>
> | ORGAN | PICCOLO | TRUMPET | VIOLIN | SAXO PHONE | OBOE | PIANO | MUSIC BOX | HARPSI CHORD | GUITAR | SYNTHE.1 | SYNTHE.2 |
> |---|---|---|---|---|---|---|---|---|---|---|---|
> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

With the MK-100, for all rhythms, the GUITAR voice is used for the bass line. You can change it to any sound you prefer by using this function.

	Bass sound	Selector to press
(Example 1)	Synthe. bass	SYNTHE 1
(Example 2)	Wood bass	ORGAN or PIANO
(Example 3)	Tuba	SAXOPHONE or VIOLIN
(Example 4)	Bassoon	OBOE
(Example 5)	Steel drum	MUSIC BOX

*The bass sound set here applies to all rhythms.
*When the sound has been customized with MELODY VOICE VARI 1 or 2, the CUSTOM sound is used for the bass line.
*To cancel BASS VOICE VARI, press the selectors with illuminated lamps.

> Combine this function with CUSTOM BASSIST (page 9) to emphasize the features of various bass instruments for the best effect.

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6. CUSTOM DRUMMER
(Programmable rhythm machine)

CUSTOM DRUMMER	PRESET CUSTOM	✳	PROGRAM	✳	CANCEL	❀	☕	⊂⊃	⊂⊃	❀❀	☊

```
  |     |     |     |     |     |     |     |     |     |     |     |
  1     2     3     4     5     6     7     8     9    10    11    12
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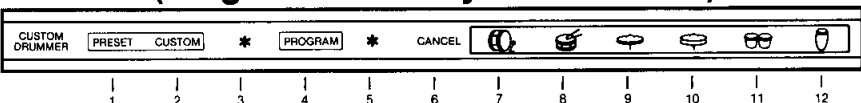
You can store 12 types of your own rhythm patterns.
Try discovering the fun of creating a rhythm that expresses
your individuality.

> Tap the selector you have chosen from among BASS
> DRUM, SNARE DRUM, CLOSED HI-HAT, OPEN HI-HAT,
> BONGO and CONGA with your finger to input rhythm.
> *The rhythm pattern can be input for 2 bars.

(Example 1)

Try programming a new 8 Beat rhythm pattern.

> 1. Select one preset rhythm to be used as the base.
>   (Select one that is similar to what you want to
>   program.)
>
>   **8 BEAT**   **ON**
>   **BASS/RHYTHM VARIATION**   **1**
>
> 2. Stop the rhythm after slowing the tempo slightly.
> 3. Press selector 4 (PROGRAM) of MULTI-MENU. The
>   preset rhythm, or the previously programmed
>   rhythm will start to play. You are now ready to input.
> 4. Try writing the following rhythm patterns.

> Input the rhythm patterns as follows.
> 1) Push selector 7 (❀) while keeping selector
>   6 (CANCEL) depressed; the bass drum sound
>   only is cancelled.
> 2) Tap selector 7 (❀), with your finger to input
>   a bass drum rhythm you like.
> 3) Do the same with SNARE DRUM or HI-HAT.
>
> [If the selector is tapped out of time]
> *If the timing error is less than a semiquaver (a 16th note ♪), it is
> automatically corrected. If the error has been input, cancel it by
> pressing the selector for that instrument while keeping selector
> 6 (CANCEL) depressed. Then, input again.
>
> 5. When you have input your rhythm, press STOP.
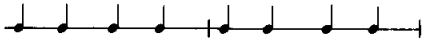
●Now, let's play back what you have programmed.
　*Press the RHYTHM START selector. The stored rhythm
　 pattern plays.
　*To get the original rhythm again, press selector 1
　 (PRESET).
　*When another Menu is selected while selector
　 2 (CUSTOM) is on, the existing rhythm pattern remains.
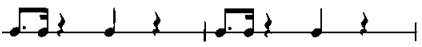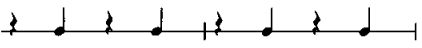

Try other rhythm patterns as shown below.
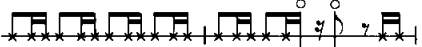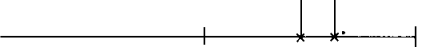
(Example 2)
MARCHING DRUM (set to MARCH)
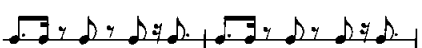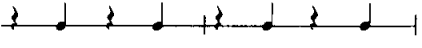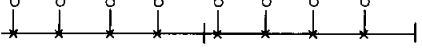
(Example 3)
ROCK (set to 16 BEAT)

(Example 4)
NEW WAVE (set to DISCO)

　*The close interval rhythm of CLOSED HI-HAT appears difficult to
　 play, but the autocorrect function of MULTI-MENU will input
　 perfectly the correct rhythm when you tap the selector very fast.

7. CUSTOM BASSIST
(Bass line sequencer)

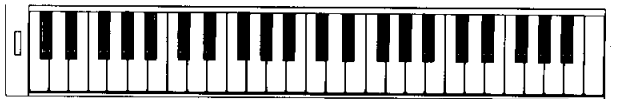| CUSTOM BASSIST	PRESET CUSTOM	*	PROGRAM	*	CANCEL	*	*	*	*	*	*
	1	2	3	4	5	6	7	8	9	10	11	12
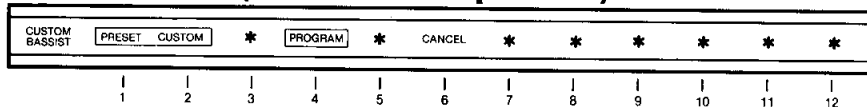
You can create 12 bass lines and store them.

With this Menu, play a bass line with the keyboard.

⟶ Use this one octave for bass lines.

*Bass lines of 2 bars in length are stored.
*Program the bass line only in C Major chord.
The MK-100's computer will change it to any key and any one of eight types of chord (Major, Minor, 7th, Minor 7th, Major 7th, Minor 7th flatted 5th, Diminished, and Augmented) as required.

(Example 1)

Let's program a REGGAE type bass pattern.

---

1. Select the SHUFFLE rhythm.
   BASS/RHYTHM VARIATION   1
   CHORD VARIATION   1
2. Press selector 4 (PROGRAM) of MULTI-MENU.
   The preset bass pattern or a previously stored bass pattern plays with the rhythm. You are now ready to input.
3. Slow down the tempo, and push selector 6 (CANCEL). The bass line is cancelled.
4. Play the following bass line on the low octave of the keyboard.

   *If you misplayed, press selector 6 (CANCEL) and play again.
   *When playing the last note of the second bar, if the key is kept depressed too long, the first note of the line may be erased.

5. Press STOP to stop the rhythm.

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●After programming has been completed, slide the AUTO BASS CHORD control (5th from left) to the SINGLE FINGER CHORD or FINGERED CHORD position, and play chords while playing the rhythm.

*To get the original bass line pattern again, press selector 1 (PRESET).
*Selecting other Menus while selector 2 (CUSTOM) is on does not change the existing custom bass line.

Try the various bass line patterns given below. Use various sounds with BASS VOICE VARI, too.

(Example 2)

This goes well with a song like "Dancing Queen".

DISCO

(Example 3)

Goes well with a tune like "Copacabana".

16 BEAT

(Example 4)

Complements a song like "Physical".

8 BEAT

(Example 5)

"Take the A Train" is the type of song this pattern matches well.

SWING

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8. MUSIC PROGRAMMER

MUSIC PROGRAMMER	START/ NO CHORD	✳	MELODY/MANUAL BASS			MELODY	MANUAL BASS	✳	CHORD			AUTO BASS EDIT
			OFF	RECORD	PLAY BACK				OFF	RECORD	PLAY BACK	

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  |      |      |      |      |      |      |      |      |      |      |      |
  1      2      3      4      5      6      7      8      9     10     11     12
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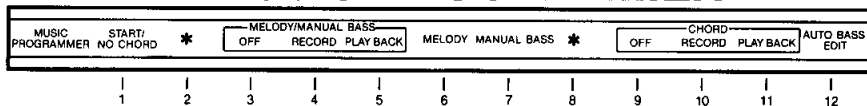
You can store your chord and melody playing for subsequent automatic playback. Using the Tape Interface function described on page 15, you can also record your playing in digital signals on tape.

MUSIC PROGRAMMER has the following three major functions.

A. Storing chord progressions: Up to 250 chords or 250 bars.
B. Storing melody: Up to 750 notes, or selectively, bass line.
C. Editing auto bass: Changing the bass line partly in units of 2 bars, up to a total of 16 bars.

(Example) Store "Ode to Joy".

A. How to store the chord progressions.

1. Press the MULTI-MENU ON selector, and turn the Menu to MUSIC PROGRAMMER.
2. Select a type of auto accompaniment. Press the desired rhythm selector, and choose the preferred BASS/RHYTHM and CHORD VARIATION positions.

DISCO	ON
BASS/RHYTHM VARIATION	1
CHORD VARIATION	1

Set the volume controls for Rhythm and Auto Bass Chord as desired.

---

*For playing with FINGERED CHORD, slide the AUTO BASS CHORD control (5th from the left) to the FINGERED CHORD position.

3. MELODY PLUS can also be stored. Add it to improve the overall sound.

MELODY PLUS   TRIO

```
MELODY
PLUS
        ┌─┐
        │ │── TRIO
        │▊│── DUE I
        │ │── OFF
        └─┘
```
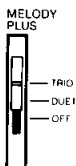
4. Press the CHORD RECORD selector. The Beat Lamp flickers to indicate standby status.

Selector 10 (CHORD RECORD)   ON

```
  |
  10
  ▬
 ┌─┐
 │⌂│
 └┐┘
```

5. Play the following chord progressions.
   As soon as you start to play, the storing process starts. Play the chords in time with the rhythm.
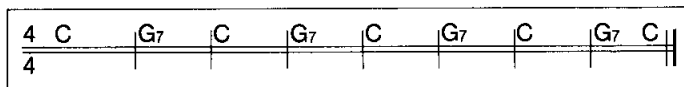

   *If you want to add a drum fill-in, press the FILL-IN bar while playing. It is also stored.

6. When you have played to the end, press the CHORD OFF selector.

> **Selector 9 (CHORD OFF)**   **PRESS**

*Pressing the RHYTHM STOP selector does not stop the playing.

Now, the chord progressions have been stored.

B. How to store MELODY

1. Select the type of sound you want.
   Press the selector for a voice that suits the tune.
   The SUSTAIN effect can also be stored. Use it if you like.

> •   **(Example) SAXOPHONE**   **ON**
>   **SUSTAIN 1**   **ON**

2. Prepare for playing the melody so that it can be stored with the previously stored chord progressions.

> **Selector 4 (MELODY RECORD)**   **ON**
> **Selector 11 (CHORD PLAYBACK)**   **ON**

3. Press the START/NO CHORD selector with a left-hand finger, and start playing the melody.

Selector 1 (START/NO CHORD)   **ON**

4. When you have played to the end, press MELODY OFF.

Selector 3 (MELODY OFF)	PRESS

*Pressing the RHYTHM STOP selector will not stop the playback.

Now, the melody has been stored.

C. Playing back the melody and the chords together

1. Press the PLAYBACK selectors.

Selector 5 (MELODY PLAYBACK)	ON
Selector 11 (CHORD PLAYBACK)	ON

2. Press the START/NO CHORD selector to start playback.

Selector 1 (START/NO CHORD)	ON

When the stored tune has been played, the playback process stops automatically.

*To stop halfway, press the two OFF selectors (3, 9). Pressing the RHYTHM STOP selector will not stop the playing.

For the MANUAL BASS programming method and the AUTO BASS editing method, refer to the Owner's Guide.

[NOTE]

When you have become familiar with the MULTI-MENU, you will be able to program intricate and sophisticated tunes. To hear an example of the possibilities the MK-100's MULTI-MENU presents you, arrange the tune "Ode to Joy" according to the following:

1. Before starting to program, store a new DISCO bass pattern using CUSTOM BASSIST. (For example, the bass pattern of Example 2 on page 10.)
2. Change the sound with BASS VOICE VARI to suit the new bass pattern. (For example, SYNTHE 1.)
3. When you change the rhythm type while programming the chord progressions, the change is stored. (For example, try 16 Beat.)
4. When you change the voice while programming the melody, the change is also stored. (For example, try changing the ORGAN voice.)

9. TAPE INTERFACE

TAPE	SAVE	LOAD	✱	STOP	✱	✱	✱	✱	✱	✱	✱	LOAD OK

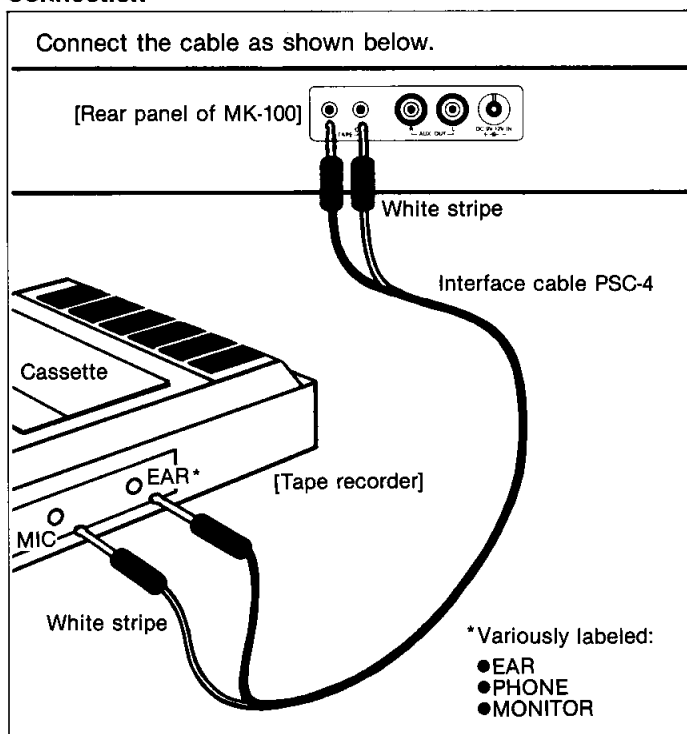| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
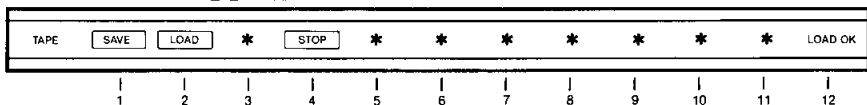
Using this interface, you can store (SAVE) digitally on tape patterns and tunes that have been memorized by the MK-100 with MUSIC PROGRAMMER, and transfer (LOAD) the digital signals from the tape back into the MK-100's memory so you can enjoy building a tape library of your own playing.

What you have to prepare

1. Tape recorder
2. Interface cable PSC-4 or its equivalent
3. Tape

Connection

Connect the cable as shown below.

[Rear panel of MK-100]

White stripe

Interface cable PSC-4

Cassette

○ EAR *   [Tape recorder]

○
MIC

White stripe

*Variously labeled:
  ● EAR
  ● PHONE
  ● MONITOR

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To SAVE:

1. Put a blank tape on the tape recorder, and start the recording mode.
2. Press selector 1 (SAVE) on the MK-100. The saving process starts.
3. When the program has been saved (approx. 80 seconds), the selector 1 (SAVE) lamp will go out. Stop the tape recorder.
   *If the tape recorder is not properly connected to the MK-100, the lamp for selector 1 will remain on. In this case, press selector 4 (STOP), and start from the beginning.
   *When the tape recorder is provided with a tape counter, record the numbers at the beginning and at the end of the saving process to facilitate efficient loading at a later time.

To LOAD:

1. Put a tape containing data on the tape recorder.
2. Press selector 2 (LOAD) of the MK-100.
3. Start the playback mode of the tape recorder. The loading process starts.
4. In approximately 80 seconds, the loading process will be completed.
   The selector 2 (LOAD) lamp goes out, and the LOAD OK lamp (12) illuminates. Stop the tape recorder.
   *If the LOAD OK lamp (12) does not illuminate, repeat the loading process.
5. Play back the loaded tune by turning the Menu to MUSIC PROGRAMMER. (For a detailed description of the playback method, read C [Playing back the melody and the chords together] on page 13.)
   *When new data is loaded into the MULTI-MENU, the previously stored data is automatically erased. If you want to use the data later, save it on a tape.

With some tape recorders and some tape types, the saving and loading processes do not work properly.
   *Select a tape recorder that satisfies the conditions given on page 22 of the Owner's Guide.
   *Cr and metal tapes cannot be used for saving and loading.