AKAI
professional

VX600

PROGRAMMABLE MATRIX SYNTHESIZER

WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

AS V600 1.1

Operator's Manual

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SPECIFICATIONS

Model:	Programmable matrix analog synthesizer
Keyboard:	37-key C-C scale (with dynamics velocity and key pressure functions)
Simultaneous sounds:	6 voices
Sound source:	12 VCO/2VCO group
Display:	40 characters × 8 lines liquid crystal graphic display
Internal memory:	Battery backup type Packet: 10 × 20 programs Library: 50 tones Program: 40 programs Chord: 20 patterns
External memory:	Compatible with IC memory cards (AKAI BR-16/16K bytes) Packet: 10 × 20 programs × 2 Library: 50 tones × 2 Program: 40 programs × 2 Chord: 20 patterns × 2
Function:	BEND ADJUST/WIDTH GLIDE ADJUST/TIME BREATHE ADJUST/SENSE VIBRATE VOLUME CONTROL KNOB CURSOR KEY (△ ▽ ◁ ▷) TEN KEY MENU KEY ENTER KEY SOFT KEY POWER SWITCH MEMORY PROTECT SWITCH CONTRAST

Connection terminals	INSTRUMENT:	Special multi-connector for AKAI EWI1000/EVI1000
	EXT IN:	Standard phone jack × 2
	LINE OUT:	Standard phone jack
	PHONES:	Standard stereo phone jack (monaural)
	VOICE OUT:	DIN/13-pin
	PROGRAM UP/DOWN:	Standard stereo phone jack (for foot switch)
	PEDAL 1:	Standard phone jack (for pedal switch)
	PEDAL 2:	Standard phone jack (for pedal volume)
	MIDI IN, OUT, THRU:	DIN/5-pin
	I/O PORT:	For expansion. A cover is currently installed.

Power consumption:	21 W
External dimensions:	602 (W) × 116 (H) × 350 (D) mm
Weight:	8.2 kg

- Specifications and external appearance may be changed without prior notification.

Chapter 1. FOREWORD

1.1 FEATURES

The VX600 is a multifunction synthesizer which has special controller terminals for the AKAI ELECTRIC WIND INSTRUMENT/EWI1000 and AKAI ELECTRIC VALVE INSTRUMENT/EVI1000; a six voice/2VCO group (12VCO) sound source which has a 37-key C-C scale keyboard; and "EXT IN" (two lines).
The VX600 can, of course, be used as a specialized source for the AKAI ELECTRIC WIND/VALVE INSTRUMENTS; but in addition, it can be used as an external source for MIDI specification keyboard type digital samplers, synthesizers, master keyboards, and digital sequencers.
The VX600 has the following features:

◇Control terminals for the AKAI ELECTRIC WIND/VALVE INSTRUMENT and two "EXT IN" terminals which can be used to modify tones of external sources.

◇Uses a 37-key C-C scale keyboard. This keyboard has 'key velocity' which allows delicate tone modification from the strongest to the weakest levels; and a "dynamics velocity control" which allows "after touch control" through key pressure.

◇A 40 character by 8 line "liquid crystal graphic display" and functional "soft keys" have been adopted, so that the operation for various types of programming are simplified. A multitude of tones can be created by using the 2 VCO groups/NOISE as the source for VCF-VCA-AMP tone creation lines, and through powerful 2LFO/3EG modulator sections.

◇A "library" is available in which 50 tone data which have been created can be stored. This library has many storage functions: "Program memory" which allows storing of 40 data items which have been selected from this library and programmed with 'note ranges' and 'voice assign'; and ten "packets" in which 20 program data selected from "program memory" or "library" can be stored in sequence.

◇Up to 20 data containing programmed "polyphony chord patterns" — such as unison, harmony, octave bars, and dissonant — can be stored; and each polyphony chord pattern can be assigned to an arbitrary 'note key.'

◇Tone data, program data, polyphony chord patterns and other data can be filed in the optional "memory card/BR-16," so that 'saving/loading' data be done very quickly.

◇MIDI input and output is available, so that tones on this unit can be played by external MIDI data. In addition, the keyboard of this unit and "AKAI ELECTRIC WIND/VALVE INSTRUMENTS" connected to this unit can be used to play external MIDI sources (synthesizers, digital samplers, etc.).

◇Up to six simultaneous multi-timbre sounds are allowed.
Furthermore, MIDI channel, program tune, note range, transpose, volume and other functions can be set for the six tones, and each of the tones can be output individually through the 13-pin DIN plug used for separate voice out. This allows the use of audio mixers to modify the normal levels of tones, and the use of effecters for effect processing of tones.

1.2 BEFORE STARTING OPERATION

The following instructions are very important. Be sure to follow them.

◇Be sure to use only AKAI BR-16 memory cards. If memory cards from other manufacturers are used, there may be a mismatch in the connectors, so that proper operation cannot be assured.

◇Do not open the VX600 unit under any circumstances. Please leave any repairs up to qualified service engineers.

◇Do not obstruct the ventilation of the VX600.

◇In order to operate the VX600 under optimum conditions, we recommend that you avoid using it in the following locations:

1. Locations exposed to heat from heating equipment or direct sunlight
2. Locations exposed to moisture (especially water drops) and excessive dust
3. Locations affected by vibrations
4. Locations without good ventilation
5. Extremely cold locations (When using this unit in extremely cold locations, it is necessary to warm the unit up.)

◇If you spill any liquid on the VX600, immediately turn off the power, then contact Akai service station or your dealer. Do not touch the VX600 main unit, power cord, power plug or electric outlets with wet hands.

◇Remove any grime or stains on the unit with a soft, dry cloth. If the stains are especially hard to remove, use a small amount of diluted dishwasher detergent or neutral detergent with a soft cloth. Industrial alcohol, paint thinner, and other similar chemicals will damage the surface of the VX600, so do not use these items to clean it.

◇Be careful when using spray pesticides near the VX600. If pesticides are sprayed on the VX600, the surface may be damaged or deformed.

◇**Concerning the built-in lithium battery:**

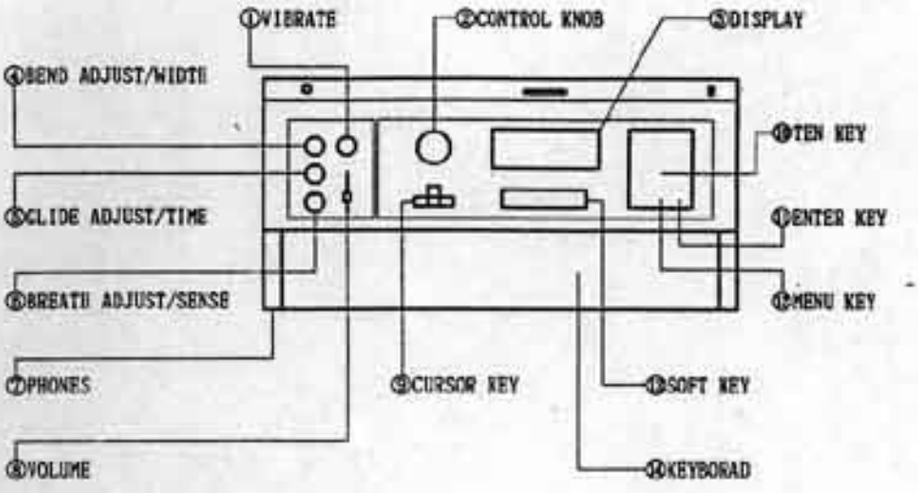
The VX600 uses a 'lithium battery' to back up the programming data. The life of a lithium battery when used in this unit is (about 3 years). Be sure to have your dealer or Akai service station replace the battery.
The contents of memory will be erased when changing the lithium battery. Be sure to save valuable data in a memory card before replacing the battery.

◇**Making modifications to the VX600 is dangerous. In addition, the functions of the VX600 cannot be fully utilized if modified.**

◇Do not remove the cover from the "I/O port" on the rear panel.

1.3 NAMES OF COMPONENTS AND THEIR MAIN FUNCTIONS

□FRONT PANEL (SIMPLIFIED)□



① VIBRATE:
This knob is used to adjust vibrato and tremolo when using with the "AKAI ELECTRIC WIND/VALVE INSTRUMENT (EWI1000/EVI1000)."

② CONTROL KNOB:
This knob is used to set the "VALUE" of the various parameters, and scroll the "MENU." It is also used to "input characters" for 'tone names,' 'library names,' 'packet names,' etc.

③ DISPLAY:
This is a 40 character × 8 line (320 characters) liquid crystal display. This display is used to show the program menu, and the various program editing screens.

④ BEND ADJUST/WIDTH:
This is used when using with the "AKAI ELECTRIC WIND/VALVE INSTRUMENT." There is a knob (ADJUST) to adjust the sensitivity of the AKAI EWI1000 and EVI1000 bend controllers, and a knob (WIDTH) to adjust the bend width.

⑤ GLIDE ADJUST/TIME:
This is used when using with the "AKAI ELECTRIC WIND/VALVE INSTRUMENT." There is a knob (ADJUST) to adjust the sensitivity of the AKAI EWI1000 and EVI1000 glide controllers, and a knob (TIME) to adjust the glide time.

⑥ BREATH ADJUST/SENSE:
This is used when using with the "AKAI ELECTRIC WIND/VALVE INSTRUMENT." There is a knob (ADJUST) to adjust the sensitivity of the AKAI EWI1000 and EVI1000 'breath sensor,' and a knob (SENSE) to set the operation point appropriate for the players breath pressure.

⑦ **PHONE:**
A headphone set can be used to monitor. The volume output to the headphone is adjusted with ⑧ VOLUME.

⑧ **VOLUME:**
This volume knob is used to adjust the output level of the VX600.

⑨ **CURSOR KEY:**
These are the cursor keys. These keys are used to increase or decrease the "octave shift," and to move the "cursor."

⑩ **TEN KEY:**
These keys are used to set the "VALUE" of the various parameters, and input "library numbers" and "packet numbers."

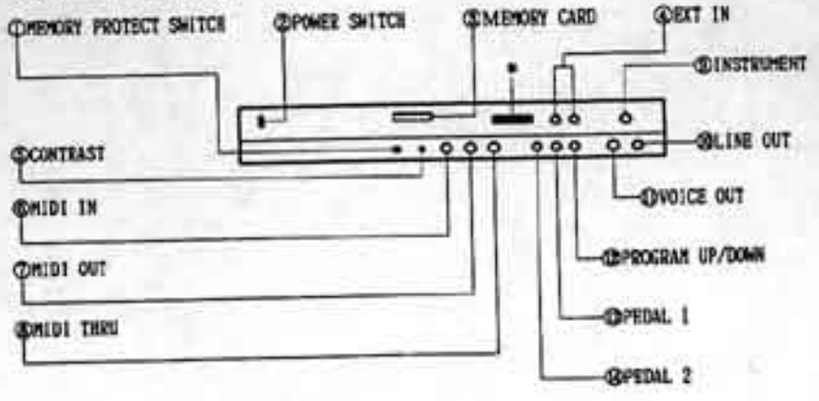
⑪ **ENTER KEY:**
This key is used to call the mode specified by the "cursor," and register items.

⑫ **MENU KEY:**
This key is used to call the "MENU WINDOW."

⑬ **SOFT KEY:**
These are 'soft keys' which have different functions according to the screen which is displayed. There are six keys.

⑭ **KEYBOARD:**
This is a 37-key keyboard (C-C scale) which has dynamic velocity and key pressure functions.

□REAR PANEL (SIMPLIFIED)□



① **MEMORY PROTECT SWITCH:**
This switch is used to protect the memory function of the VX600. When this switch is "ON," the various stored data will not be overwritten even when the various tone parameters and programs are edited. When you wish to overwrite the tone parameters and/or program data, turn this switch "OFF." In addition, when loading data from a 'memory card' into the main unit, this switch must be "OFF." This switch should be "ON" in normal use.

② **POWER SWITCH:**
This is the power supply switch.

③ **MEMORY CARD:**
This is the port for 'memory cards.'
Be sure to use "AKAI BR-16" memory cards.

④ **EXT IN:**
When an external source, such as a digital sampler, is played with the "AKAI ELECTRIC WIND/VALVE INSTRUMENT (EWI1000/EVI1000)", this 'external input terminal' can be used to process the tone and volume of the external source with the VX600.

⑤ **CONTRAST:**
This knob is used to adjust the contrast of the 'display.' Adjust the contrast to suit your preference.

⑥ **MIDI IN:**
When the VX600 is played with an external MIDI compatible keyboard or MIDI sequencer, this terminal is connected to the "MIDI OUT" terminal of the external unit.

⑦ **MIDI OUT:**
When a external MIDI compatible source (synthesizer, digital sampler, etc.) is to be played with the VX600, this terminal is connected to the "MIDI IN" of the external source.

⑧ **MIDI THRU:**
Information which is received by the "MIDI IN" of this unit is output as is to this terminal.

⑨ **INSTRUMENT:**
This terminal is used to connect the EWI1000 or EVI1000 unit when playing the "AKAI ELECTRIC WIND/VALVE INSTRUMENT (EWI1000/EVI1000)." Use the connection cables included with the EWI1000 or EVI1000, or the "AKAI EW-X70 (for the EWI1000)" or the "AKAI EV-X70 (for the EVI1000)" extension cables.

⑩ **LINE OUT:**
This is the output terminal. Connect this terminal to "LINE IN" of audio mixers and amplifiers.

⑪ **VOICE OUT:**
This is the 'separate output' terminal for the six voices. If the "multi-output function" of the VX600 is used, the six tones can be output separately.

⑫ **PROGRAM UP/DOWN:**
If two foot switches are used, "program numbers" and "packet numbers" can be [increased/decreased].
If only one foot switch is used, "program numbers" and "packet numbers" can only be [increased].

⑬ **PEDAL 1:**
This is the connection terminal for the pedal switch. This terminal is assignable, and can be used to turn [ON/OFF] "sustain".

⑭ **PEDAL 2:**
This is the connection terminal for pedal volume. This terminal is also assignable, and can be used for pedal control of "pitch bend," "modulation," etc.

* **I/O PORT:**
This port is for expansion. A cover is currently attached. Do not remove the cover.

Chapter 2. MIDI

This section gives an explanation of "MIDI" handled by the VX600, and the "MIDI implementation chart."

2.1 VX600 HANDLING OF MIDI

On the rear panel of this unit you will find three terminals marked [MIDI IN], [MIDI OUT] and [MIDI THRU].

□MIDI IN□

This is the 'reception terminal' used by this unit when it is played by an external "MIDI keyboard" or "MIDI sequencer."

□MIDI OUT□

This is the 'transmission terminal' used by this unit when an external "MIDI source (synthesizers, digital samplers, etc.)" is played with the keyboard of this unit or the connected "AKAI EWI1000/EVI1000."

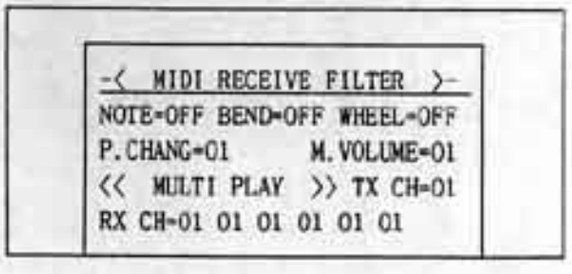
□MIDI THRU□

This is a 'relay terminal' which sends out the "MIDI signal" received by [MIDI IN] of this unit.

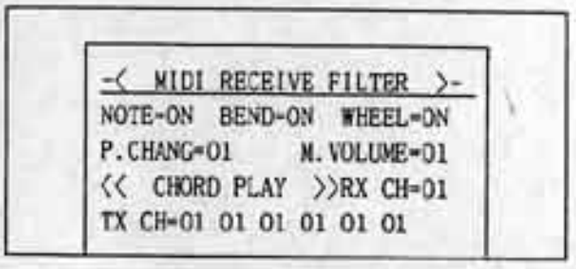
2.2 MIDI SETTINGS

There are three MIDI settings. These settings are valid with all modes.

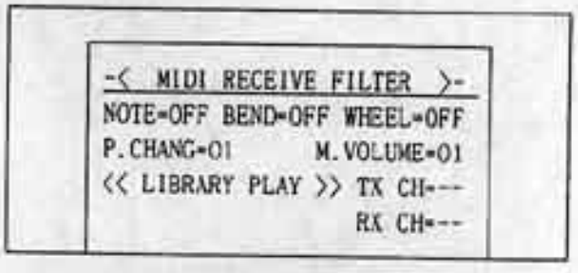
(1) From the "PACKET" screen, press the [SOFT KEY 5 (MIDI)] key.
The "MIDI RECEIVE FILTER" will be displayed on the window screen.



(2) From the "PROGRAM MENU" screen, press the [SOFT KEY 5 (MIDI)] key.
The same window screen as that displayed for the "PACKET" screen will be displayed. If all the fields have already been set with the "PACKET" screen, those settings will be displayed.
If the settings are modified from this "PROGRAM MENU" screen, then the settings for the "PACKET" screen will also be changed. Furthermore, if the (RX) and (TX) settings are changed, the "reception channel" and "transmission channel" setting fields in the 'chord play mode' edit screen will also be changed.



(3) From the "LIBRARY MENU" screen, press the [SOFT KEY 5 (MIDI)] key.
The "MIDI RECEIVE FILTER" section will display the same window screen as that shown for the "PACKET" screen and "PROGRAM MENU" screen. The (RX) and (TX) sections will differ, however.



When the VX600 is played with an external "MIDI keyboard" or "MIDI sequencer," the 'MIDI message' sent from the external source is set to either (ON) or (OFF) in this "MIDI RECEIVE FILTER" section.

There are also sections to set (reception channel/RX) and (transmission channel/TX) when executing "CHORD PLAY."
The various fields are set with the cursor keys [◁ ▷ △ ▽] and the [CONTROL KNOB].

□FIELDS□

NOTE
This field sets "MIDI note" to (ON) or (OFF).

BEND
This field sets "pitch bend information" to (ON) or (OFF).

WHEEL
This field sets "modulation wheel information" to (ON) or (OFF).

P.CHANG
This field sets "program change message" to (ON) or (OFF), and sets the MIDI reception channel.

M.VOLUME
This field sets "MIDI VOLUME data" to [ON] or [OFF], and sets that MIDI reception field.

RX
This field sets the "reception channel." The 'chord play mode' edit screen also has a field to set the "reception channel," and if the "reception field" is preset in that field, then that setting will be displayed. If the "reception field" is modified from this screen, the "reception channel" field in the 'chord play mode' edit screen will also be modified. If you wish to receive on a particular channel, settings can be made in a range between [1 through 16]. If you do not wish to designate a channel, set this field to [OMNI].

TX
This field sets the [transmission channel/TX] for "CHORD PLAY" of external sources with the VX600 'chord play mode.'

There is also a field to set the "transmission channels" for the individual voices in the 'chord play mode' edit screen, and if the "transmission channels" are set in that field, those settings are displayed. If the "transmission channels" are changed from this screen, the "transmission channel" field in the 'chord play mode' edit screen will also be modified.
If you wish to transmit on a particular channel, settings can be made or changed in a range between [1 through 16].
Individual transmission channels can be set and modified for each of the six voices.

After setting each of the fields, press the [ENTER] key.

Note: When an external "MIDI keyboard," "MIDI sequencer," or "source" is not used, the settings above do not have to be made.

In addition to these settings, there are "MIDI" setting fields in the 'multi-play mode' for setting the "reception channels" of individual voices; and there are also fields in the 'chord play mode' edit screen for setting the "reception channel," and "transmission channels" of the individual voices, as has already been explained. The methods for setting these various fields are described in detail in their respective sections.

MIDI PROGRAM CHANGE RESPONSE

When the "PACKET" screen is displayed, response is to program change 1 through 20.

When in the "PROGRAM" screen, response is to program change 1 through 40.

When in the "LIBRARY" screen, response is to program change 1 through 50.

All other program changes are ignored.

2.3 MIDI IMPLEMENTATION CHART

The "MIDI implementation chart" for the VX600 is shown on the next page.

(PROGRAMABLE MATRIX SYNTHESIZER)

Date : Oct. 05, 1988

MODEL VX600 MIDI Implementation Chart Version : 1.00

Function ...	Transmitted	Recognized	Remarks
Basic Default Channel Changed	1 - 16 1 - 16	1 - 16 1 - 16	Memorized
Mode Default Messages Altered	Mode 3	X X X	
Note Number : True voice	24 - 108	24 - 108	Octave shift
Velocity Note ON Note OFF	9nH V=1-127 9nH V=0 ,8nH	0 0	
After Key's Touch Ch's	X 0	X 0	
Pitch Bender	0	0	
Control Change 4 7 64	0 0 0	0 0 0 00 - 31	Foot pedal Main volume Damper, Sustain pedal Assignable
Prog Change : True #	1 - 20 1 - 40 1 - 50	1 - 20 1 - 40 1 - 50	Packet mode Program mode Library mdoe
System Exclusive	X	X	
System : Song Pos : Song Sel Comon : Tune	X X X	X X X	
System :Clock Real Time :Commands	X X	X X	
Aux :Local ON/OFF :All Note OFF Messages :Active Sens :Reset	X 0 X X	X 0 X X	

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

Chapter 3. PLAYING FROM THE KEYBOARD

When the VX600 is shipped from the factory, '50 tones' are registered in its internal memory. This section describes how to play the "37-key C-C scale keyboard" using those tones.

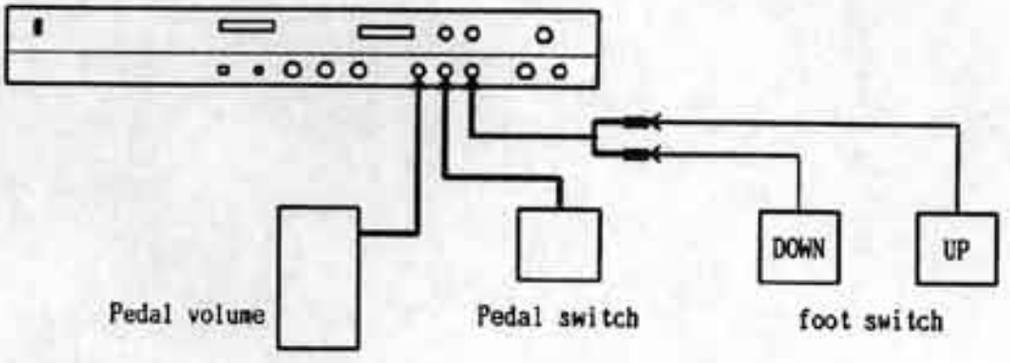
3.1 CONNECTIONS

With the power supply of the VX600 turned off, either connect [LINE OUT] of the VX600 to "LINE IN" of your audio system (audio mixer, etc.), or connect a headphone set to the [PHONES] jack of the VX600.

3.2 FOOT SWITCH AND PEDAL VOLUME

There is a [PROGRAM UP/DOWN] terminal, an assignable pedal switch terminal [PEDAL 1], and a pedal volume terminal [PEDAL 2] on the rear panel of the VX600.

① If you wish to control 'program up/down' with the "foot switch," prepare two "anti-locking foot switches" and one "stereo standard phone plug ⟷ Standard phone jack × 2 conversion cord (commercially available product)."
Then, connect the two "foot switches" to [PROGRAM UP/DOWN] on the rear panel of the VX600 as shown in the figure.
If only on foot switch is used, only 'program up' control is possible.



② If you wish to control 'sustain' [ON/OFF] with a "pedal switch (foot switch)," connect the "pedal switch (foot switch)" to [PEDAL 1] on the rear panel of the VX600.

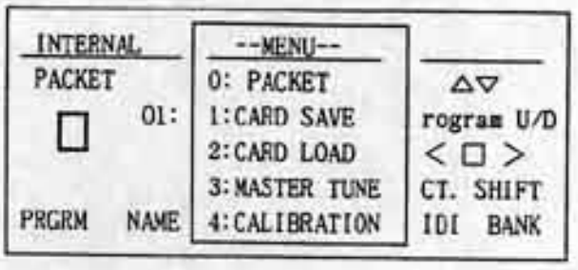
③ If you also wish to control 'pitch bend' with "pedal volume," then connect the "pedal volume" with [PEDAL 2] on the rear panel of the VX600.

Warning:	If you forcefully pull, twist, or abuse the 'connection cables' of lines, foot switches, pedal volume, etc., you may cause them to break. Be sure to hold the connector plug when connecting and disconnecting them.

3.3 CALIBRATION

① After all connections are completed, turn the power switch of the VX600 "ON."
After the title message "AKAI professional VX600" is displayed, the "PACKET" mode screen will be displayed. After turning the power on, let the unit 'warm up' for a few minutes.

② Next, press the [MENU] key. The window screen - -MENU- - will appear on the "PACKET" screen. Then, press [DATA ENTRY] key (4).



③ The next screen will be displayed. This screen indicates that the unit has entered the "calibration" mode. If you are operating the unit for the first time, press [SOFT KEY 5 (ALL)]. (VCO) will be displayed where [****] is shown, and the built-in computer will start automatic calibration of "VCO," "VCF," etc. During calibration, the (▷) will indicate elapsed time. After this 'calibration' is completed, press [SOFT KEY 6 (QUIT)]. You will return to the "PACKET" screen.

- [SOFT KEY 1▷6] in the "Calibration" Mode

VCO:	Adjusts "TUNE" of VCO-1 and VCO-2.
PW:	Adjusts "PULSE WIDTH" of VCO-1 and VCO-2.
VCF:	Adjusts "CUT OFF FREQUENCY" of VCF.
RESO:	Adjusts the "resonance starting point" of VCF.
ALL:	Executes all of the above.
QUIT:	Immediately returns the unit to the "PACKET" screen.

This 'calibration' will take some time. This is, however, necessary for this unit to operate properly. Therefore, when turning the power of this unit (ON) for the first time, be sure to execute this 'calibration.'
'Calibration' will be maintained even when the power is turned (OFF), however, 'recalibrate' as is necessary.

3.4 SELECTING TONES

There are three methods for 'selecting tones'.

1. From the "PACKET" screen:

First, select and input the 'packet number (0 through 9)' with the [DATA ENTRY] keys [0] through [9]; i.e., the "ten keys."
Then, using the cursor keys [△ ▽] or the "foot switch," select the 'packet program number (01 through 20)' registered in the individual packets. This 'packet program number' can also be selected with the [CONTROL KNOB].

2. From the "PROGRAM MENU" screen:

The 'program number' is selected with the cursor keys [△ ▽] or the "foot switch." This 'program number' can also be selected with the [CONTROL KNOB].

3. From the "LIBRARY MENU" screen:

Normally, when playing at the introductory level, 'tone selection' is done with this "LIBRARY MENU" mode. When this unit is shipped from the factory, there are "50 tones" which are stored in internal memory as samples. Select the 'library number' with the cursor keys [△ ▽] or the "foot switch." This 'library number' can also be selected with the [CONTROL KNOB].

◇Let's try playing the unit with the tones registered when the unit was shipped from the factory.

① Make sure that the audio mixer, amplifier, etc. is properly connected to [LINE OUT] of the VX600. If using headphones, be sure to adjust the volume with [VOLUME].

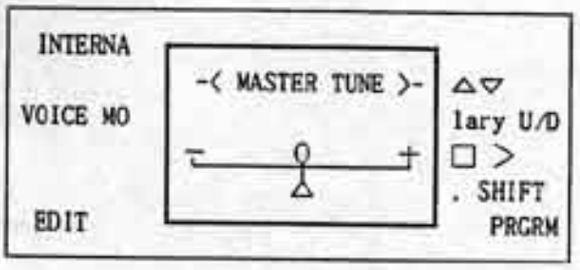
② Next, press [SOFT KEY 1 (PRGRM)] from the "PACKET" screen.
The "PROGRAM MENU" screen will be displayed.

③ Press [SOFT KEY 3 (LIBRY)] from the "PROGRAM MENU" screen.
The "LIBRARY MENU" screen will be displayed.
Select the 'library number' with the cursor keys [△ ▽] or the [CONTROL KNOB]. Then play the "keyboard."

3.5 MASTER TUNE

In order to tune this unit with other instruments, call the mode called "master tune." Press the [MENU] key. The window screen - -MENU- - will be displayed.

① Press the [DATA ENTRY] key (3). The window screen -<MASTER TUNE>- will be displayed. Next, turn the [CONTROL KNOB] to 'tune' the unit. The variable range of tuning is (−50 percent to +50 percent). In this unit, "A =440 Hz" is (0).



② After 'tuning,' press one of the [SOFT KEYS].

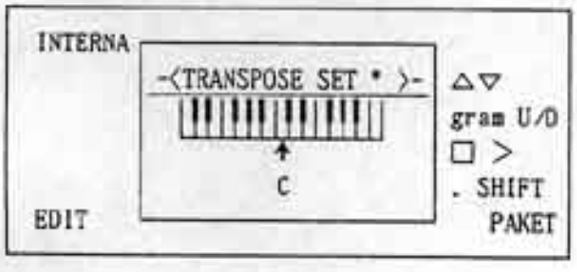
3.6 TRANSPOSE

Press [SOFT KEY 4 (TRNSP)] from the "PACKET" or "PROGRAM MENU" screen. The window screen -<TRANSPOSE SET C>- will be displayed.

Turn the [CONTROL KNOB] to change the frequency by halftones. (The arrow ⬆ will move, and the frequency will be indicated at the asterisk position.)

After completing transposition, press one of the [SOFT KEYS].

This cannot be stored in packets or programs.



Chapter 4. PLAYING WITH THE EWI/EVI

When the VX600 is shipped from the factory, '50 tones' are stored in internal memory. The following is a description of how to use the "AKAI EWI1000" or "AKAI EVI1000" with these tones.

CAUTION
Before playing be sure that the [BEND ADJUST/WIDTH], [GLIDE ADJUST/TIME], and [BREATH ADJUST/SENSE] LEDs are off.

4.1 CONNECTING THE CONTROLLER (EWI1000/EVI1000)

① Turn "OFF" the power supply of the VX600, then connect [LINE OUT] of the VX600 to "LINE IN" of an audio mixer or other unit, or connect a 'headphone' set into the [PHONES] jack of the VX600.

② Next, connect one end of the 'special connection cable' attached to the "AKAI EWI1000" or "AKAI EVI1000" to the controller (EWI1000/EVI1000) terminal, and the other end to the [INSTRUMENT] terminal on the rear panel of the unit.

Warning:	Because the 'special connection cable' is a multi-cable, if you forcefully pull, twist, or abuse the 'connection cable,' you may cause it to break. Be sure to hold the connector plug when connecting and disconnecting them into the [INSTRUMENT] terminal.

4.2 ADJUSTMENT OF SENSORS

① After connection the controller (EWI1000/EVI1000), turn the power supply of the VX600 "ON." After the initial "AKAI professional VX600" message is displayed, the "PACKET" screen will be displayed.

② First, adjust [BREATH/ADJUST].
Turn the [ADJUST] knob clockwise without blowing into the controller "mouth piece" to find the point where the LED goes on.
After the LED goes on, turn the knob slightly "counterclockwise" to turn the LED off. This completes [BREATH/ADJUST] adjustment.

③ Next, adjust [GLIDE/ADJUST].
In the case of the EWI1000, do not touch the "glide plate" of the controller when adjusting. For the EVI1000, do not hold the "mouth piece" in your mouth when adjusting. The adjustment procedure is the same as that for [BREATH/ADJUST].
Turn the [ADJUST] knob clockwise to find the point where the LED goes on.
After the LED goes on, turn the knob slightly "counterclockwise" to turn the LED off. This completes [GLIDE/ADJUST] adjustment.

④ Next, adjust [BEND/ADJUST].
Do not touch the "bend plate" of the controller during adjustment.
The adjustment procedure is the same as that for [BREATH/ADJUST] and [GLIDE/ADJUST].
Turn the [ADJUST] knob clockwise to find the point where the LED goes on.
After the LED goes on, turn the knob slightly "counterclockwise" to turn the LED off. This completes [BEND/ADJUST] adjustment.

4.3 SELECTING TONES

① Make sure that [LINE OUT] of this unit is properly connected to the audio mixer, amplifier, etc. If you are using headphones, adjust the [VOLUME].

② First, press [SOFT KEY 1 (PRGRM)] from the "PACKET" mode.
The "PROGRAM MENU" screen will be called. Then press [SOFT KEY 3 (LIBRY)] to call the "LIBRARY MENU" screen.

③ Use the cursor keys [△ ▽] or the [CONTROL KNOB] to scroll the 'library number.' Find (L45 [EWI #1]), and set it.
This is one of the tones which suits the "AKAI EWI1000/EVI1000."
Next, try playing the "AKAI EWI1000/EVI1000." Adjust the output level with [VOLUME] on the front panel.

Warning:	Of the 50 tones which are registered, L45, L46, L47 and L50 are suitable for playing with the "AKAI EWI1000/EVI1000."

4.4 BREATH CONTROL

The most interesting feature when playing the "AKAI EWI1000/EVI1000" is 'breath control.' (Frequency), (tone), and (volume) will change according to breath pressure, so that you can fully express yourself while playing.
Use the (L45 [EWI #1]) tone selected by the "LIBRARY MENU," and play while changing breath pressure. If you play the instrument breathing strongly into it, the tone will become bright, and the volume will increase. If you play the instrument breathing softly into it, the tone will become "soft," and the volume will be small. By mastering the acoustic envelope output by the 'breath sensor' of the "AKAI EWI1000/EVI1000" you can express yourself during a performance in any way you like.

4.5 VIBRATION

If you have chosen tone (L45 [EWI #1]) for trial playing, you can choose a "vibrato" which suits you by adjusting the [VIBRATE KNOB] on the front panel. If the controller you are using is the EWI1000, you can attain a "vibration effect" by quickly biting down softly on the "mouth piece." If you are using the EVI1000, a "vibration effect" can be attained by quickly moving the "vibration lever" on the controller.

4.6 PITCH BEND

Next let us try "pitch bend."
Turning the [BEND/WIDTH] knob on the front panel "clockwise" will increase the bend width.

Warning: If the LED remains on after you have adjusted the [BEND/WIDTH] knob, readjust [BEND/ADJUST].

4.7 GLIDE EFFECT

Next, let us change the "glide effect" of the frequency.
If you are using the EWI1000, you can attain "glide effect" by touching the "glide plate" on the controller. If you are using the EVI1000, a "glide effect" can be attained by biting down on the "mouth piece."
By turning the [GLIDE/TIME] knob "clockwise" you can [increase] the amount of time the frequency changes. Adjusting [GLIDE/TIME] minutely will allow you to attain an effective "glide."

Warning: If the LED remains on after you have adjusted the [GLIDE/WIDTH] knob, readjust [GLIDE/ADJUST].

4.8 MASTER TUNE AND TRANSPOSE

"Tuning" the tone of this unit to match that of other instruments has already been described in section 3; '3.5 MASTER TUNE.'
See section 3, '3.6 TRANSPOSE' for a description of "transpose."

Note: Although '50 tones' are stored in the internal memory of this unit when it is shipped from the factory, there are tones which are suited for playing with the "AKAI EWI1000/EVI1000," and tones which are suited for playing with keyboards.
If you have chosen a tone suited for a keyboard, it will be difficult to use the unit with the "AKAI EWI1000/EVI1000." This is not a malfunction. Repeat trial playing until you find a tone suited to the "AKAI EWI1000/EVI1000," or create your own sounds. (See section 5 for methods to create sounds.)

Chapter 5. CREATING SOUNDS

5.1 EDITING LIBRARIES

In order to "create sounds" with a synthesizer, it is important that you have a rich knowledge concerning sound. It is necessary that you understand the characteristics of the various tones. In addition, it is important that you gain an understanding of the relations between 'sound parameters' and "VX600 parameters" as quickly as possible.

Creating sounds with the VX600 is done by setting the various 'parameters' displayed on the large 40 character by 8 line "liquid crystal graphic display." Furthermore, the VX600 uses a "modulation matrix system" to allow functional creation of sounds, so that it has increased the capacity for creating sounds with an 'analog synthesizer.'

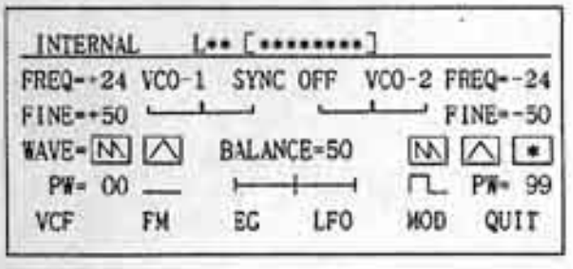
The basic 'parameters' and 'modulation matrix' for creating sounds are part of the "LIBRARY" mode. The setting values used in the edit screens in the descriptions which follow are either the maximum or minimum allowable values. Be sure to "calibrate" the unit before starting to create sounds.

The VX600 has 'factory input tones' in its library memory. Therefore, when a 'library number' is set, the tone name will be displayed.
When you create a sound, the method used will be to modify a 'factory input tone.' If you wish to save the 'factory input tones,' be sure to write down the settings on a separate piece of paper or save the data on a 'memory card' before starting the process below.

5.1.1 VCO GROUP EDITING SCREEN

① From the "PACKET" mode, push [SOFT KEY 1 [PRGRM]] to call the "PROGRAM MENU" screen.
Next, press [SOFT KEY 3 [LIBRY]] to call the "LIBRARY MENU" screen.
Use the cursor keys [△ ▽] or the [CONTROL KNOB] to set the 'library number' for which you will create a sound. 'Factory input tones' are stored in the library memory of the VX600. Therefore, the name of a tone will be displayed when a 'library number' is set.

② From the "LIBRARY MENU" screen, press [SOFT KEY 1 [EDIT]]. The unit will go to the "EDIT LIBRARY" mode, and some of the tone parameters and the "VCO group" editing screen will be displayed.
This screen is made up of sections for two VCO groups: "VCO-1" and "VCO-2."
Set the various values with the [CURSOR KEYS] or the [CONTROL KNOB].



The following is a description of the various fields shown on this screen.

FREQ:
This field sets the basic range of VCO. The setting range is between [−24~00~+24]. A table for converting to general "feet values" is shown below.

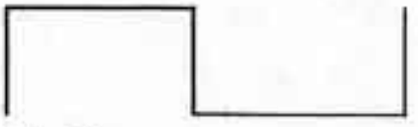
Value	Feets
-24	32'
-12	16'
00	8'
+12	4'
+24	2'

FINE:
This field allows minute adjustment in the VCO tone in "cent units."
The setting range is [−99~00~+99].

WAVE:
This field sets the VCO "sound source waveforms." When in the □ status, the output of the waveform is [OFF]; when in the ⩘ status, [triangular waves: ON]; and when in the ⋀⋀ status, [sawtooth waves: ON]. If both ⩘ and ⋀⋀ are set at the same time, "triangular waves" and "sawtooth waves" will be mixed. The settings in this field should be made with the [CURSOR KEYS] or [CONTROL KNOB].

PW:
This field also sets the VCO "sound source waveforms." This field, however, is used to set 'pulse width (duty)' of "square waves." The setting range is from [00−99]. If [00] is set, [square waves: OFF]. When set to 99, duty is 50 percent.

Value 50



Value 99

BALANCE:
This field sets the output level of the VCO groups. If "VCO 1" and "VCO 2" are to be mixed, the levels of both must be set to appropriate levels. If you wish to turn [OFF] the output of either "VCO 2," set the value to [00].

SYNC:
This field "synchronizes" the two VCO groups.
[ON/OFF] setting of "SYNC" is down with the [CURSOR KEYS] or [CONTROL KNOB]. By "synchronizing" the two VCO groups and mixing the waveforms from the two VCO groups, a very complicated sound source waveform can be attained, and your range of sound creation will be expanded.

* This field is set when you wish to create sounds using "noise" as the sound source. When a symbol representing "noise" is displayed, this field is [ON]. This field is set with the [CURSOR KEYS] or [CONTROL KNOB]. If the [CONTROL KNOB] is turned clockwise, [EXT] will be displayed. This is set when external sound source output (audio signal) is connected to [EXT IN], and this tone is to be processed with the VX600.

5.1.2 VCF GROUP EDITING SCREEN

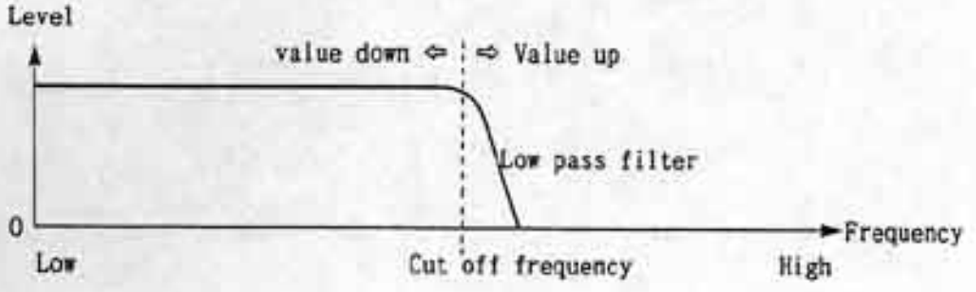
Next, press [SOFT KEY 1 (VCF)] from the "VCO group" editing screen. The "VCF group" editing screen will be displayed. The values in this screen are also set with the [CONTROL KNOB].

```
INTERNAL    L** [********]
            -------VCF-------
CUTOFF-------=99     HIGH PASS FILTER=99
RESONANCE----=99
PITCH FOLLOW=99
 VCO     FM     EG     LFO     MOD    QUIT
```

The following is a description of the various fields in this screen.

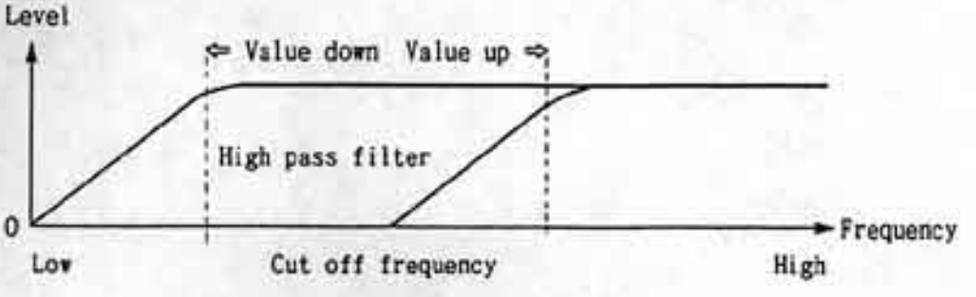
CUTOFF:

This field sets the "cutoff frequency."
This value is set within the range (00~99). When this field is set to (00), the "cutoff frequency" is minimum; when it is set to (99), the "cutoff frequency" is maximum (outside the audible frequency range). The VCF operation is 'low pass filter.'



HI-PASS:

This field is for the 'hi-pass filter.'
When the setting of this field is changed, the "cutoff frequency" of the hi-pass filter is changed. The setting range is (00~99). When this field is set to (00), the "cutoff frequency" is minimum (outside the audible range); and when it is set to (99), the "cutoff frequency" is maximum.

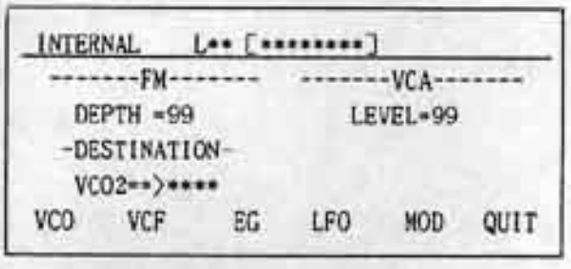


RESONANCE:
This field sets "resonance." The setting range is [00~99].
When this field is set to [0], the "resonance" is minimum; and when it is set to [99], the "resonance" is maximum.

PITCH FOLLOW:
This field is set to move "cutoff frequency" according to the "key note" level. This parameter is generally called 'key follow.' The setting range is [00~99]. When this field is set to [80], the octave relation is established. When this field is set to [00], "pitch follow" effects cannot be attained.

5.1.3 FREQUENCY MODULATION AND VCA GROUP EDITING SCREEN

Next, press [SOFT KEY 2 (FM)] from the "VCF group" editing screen. The "frequency modulation (FM)" and "VCA group" editing screen will be displayed. This screen has two sections. The settings of the various fields can be changed with the [CURSOR KEYS] and [CONTROL KNOB].
The "frequency modulation (FM)" fields shall be described first.



DEPTH:
This field sets the depth of "frequency modulation (FM)." The setting range is [00~99]. When this field is set to [00], "frequency modulation (FM)" effects cannot be attained.

DESTINATION:
When "frequency modulation" is set for [VCO 1], a sound source waveform for creating "metallic" tones with a high content of 'higher harmonic multiplied by a non-integer' can be attained. If "frequency modulation" is set for [VCF], a 'tone which sounds distorted' can be attained.

◇The following is a description of "VCA group" fields.

LEVEL:
This field sets the 'basic volume' for tones in this "library field."
When this field is set to [00], this tone is not output.

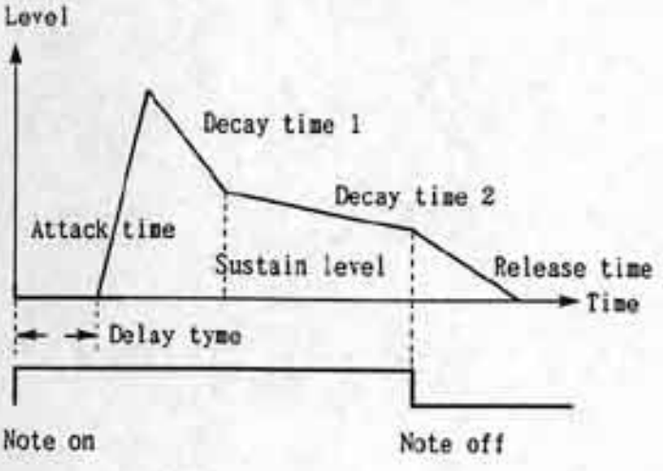
5.1.4 ENVELOPE GENERATOR GROUP EDITING SCREEN

Next, press [SOFT KEY 3 (EG)] from the "frequency modulation (FM)" and "VCA group" editing screen. The "envelope generator group (EG)" editing screen will be displayed.
The VX600 has three "envelope generator groups" for each voice. The settings are changed with the [CURSOR KEYS] and [CONTROL KNOB].

```
INTERNAL    L01 [ BASS-1 ]
      DLY  ATK DC1 DC2 SUS RES   DEP VLO
EG1   00   00  60  60  43  11    90  20
EG2   00   60  60  60  60  00    00  00
EG3   00   20  80  --  99  04    99  00
VCO  VCF     FM    LFO   MOD   QUIT
```

The three "EG groups" can set independent envelope curves for VCO (FREQ, PW), VCF (CUTOFF, RESONANCE), and VCA (AMP) with the 'modulation matrix.' Furthermore, the envelope generator can control LFO "SPEED" and "DEPTH," and FM "DEPTH."
The following is a description of the fields in this screen.

DLY:
This field sets "DELAY TIME." In the "envelope generator," this parameter is used to set multiple tones to sound off with "lagged timing."



Normally, "DELAY TIME" is set to (00) when creating sounds. Then, after multiple sounds have been combined, the most effective "DELAY TIME" is set. The setting range is (00－99). When (99) is set, the "DELAY TIME" is maximum.

ATK:
This field sets "ATTACK TIME."
The setting range is (00－99).
When this field is set to (99), "ATTACK TIME" is maximum.

DEC1:
This field sets "DECAY TIME 1."
The setting range is [00~99].
When this field is set to [99], "DECAY TIME 1" is maximum.

DEC2:
This field sets "DECAY TIME 2."
The setting range is [00~99~- -].
When this field is set to [- -], "DECAY TIME 2" will not function.

SUS:
This field sets the "SUSTAIN LEVEL."
The setting range is [00~99].
When this field is set to [99], "SUSTAIN LEVEL" is maximum.

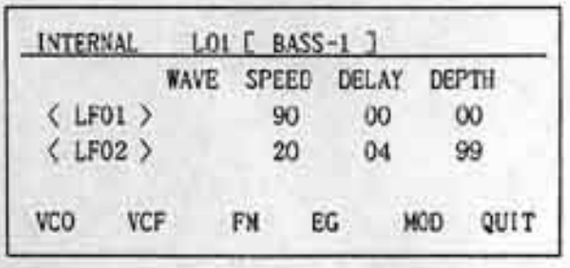
RES:
This field sets the "RELEASE TIME."
The setting range is [00~99].
When this field is set to [99], "RELEASE TIME" is maximum.

DEP:
This field sets the "DEPTH."
The setting range is [00~99]. When this field is set to [99], "DEPTH" is maximum.

VLO:
This parameter corresponds to the strength of key velocity.
The setting range is [00~99].
When this field is set to [99], the effect is at maximum.
This field should be set while playing the "keyboard" and confirming the effects.

5.1.5 LFO GROUP EDITING SCREEN

Next, press [SOFT KEY 4 [LFO]] from the "EG" editing screen. The "LFO group" editing screen will be displayed. The VX600 has two "LFO groups" for each voice. The field settings are changed with the [CURSOR KEYS] AND [CONTROL KNOB].
The two "LFO groups" can set independent modulation for VCO (FREQ, PW), VCF (CUTOFF, RESONANCE), VCA (AMP), and FM (DEPTH) with the 'modulation matrix.'

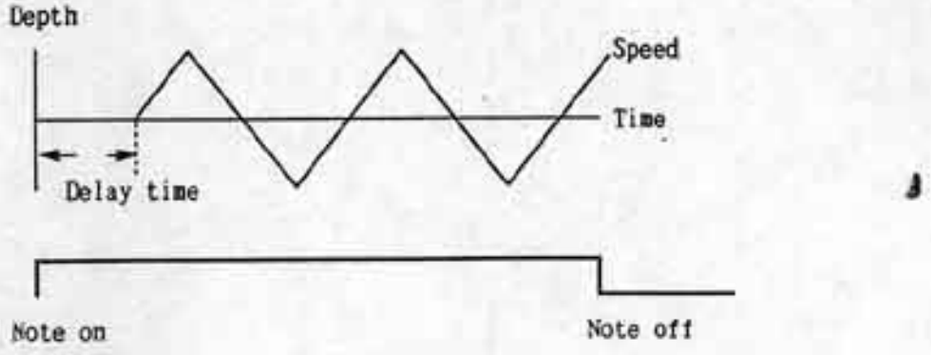


The various fields in this screen are described below.

WAVE:
This field selects the LFO "waveform."
One of four waveforms can be selected: 'triangular waves'; 'sawtooth waves (positive)'; 'sawtooth waves (negative)'; and 'symmetrical square waves.' Use the [CONTROL KNOB] to select the waveform.

SPEED:
This field sets the LFO "cycle." The setting range is [00~99].
When this field is set to [99], the "cycle" is set to fastest.

DELAY:
This field is used to set LFO "delay time." The setting range is [00~99]. When this field is set to [99], the "delay time" is maximum.



If this "delay time" is set, modulation will begin slightly after "note on." When creating sounds, set this field to [00]; then depending on the tune you are playing, setting this field will be effective.

DEPTH:
This field sets LFO "depth." The setting range is [00~99].
When this field is set to [99], "depth" is maximum.

- The parameters described above are the basic parameters for creating sounds. The VX600 has five "blocks"

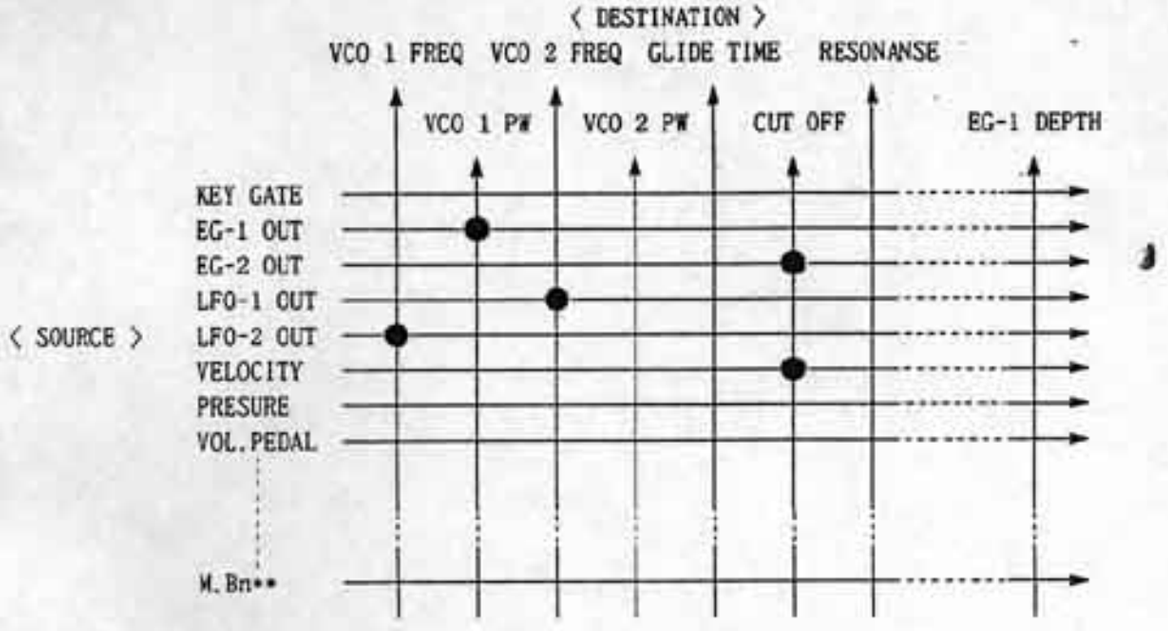
  (VCO group, VCF group, FM/VCA group, EG group, and LFO group) and a "modulation matrix" function which allows connections with any type of modulation from external sources (MIDI, EWI/EVI, PEDAL SWITCH, PEDAL VOLUME, etc.). Details are given on the following pages.

5.2 VX600 MODULATION MATRIX

Press [SOFT KEY 5 (MOD)] from any of the edit screens.

```
 INTERNAL    L** [********]
--MOD----SOURCE----DEPTH---DESTINATION--
  01:    EG-1 OUT     +99    VCA AMP
  02:    LFO-1 OUT    +10    VCO1,2 FREQ
  03:    EG-3 OUT     -28    CUTOFF
 VCO    VCF     FM     EG     LFO    QUIT
```

The editing screen for the "modulation matrix" will be displayed.
There are four fields in this screen, but before going into a description of these fields, let us explain the "modulation matrix." The figure below shows the basic principles of the "modulation matrix system."



The ● marks in the figure indicate that 〈DEPTH〉 field values have been set between [−99～−01] or [+01～+99].
The VX600 "modulation matrix system" has [17] parameters on the - -SOURCE- - side, and [19] parameters on the - -DESTINATION- - side.

The following is a description of the four fields in the "modulation matrix" editing screen.

MOD:

This field is the "modulation matrix number." Turning the [CONTROL KNOB] will change the number displayed, until it reaches the highest "modulation matrix" that has been defined. Up to [10] "modulation matrixes" can be defined. Therefore, the range for this field is [01～10].

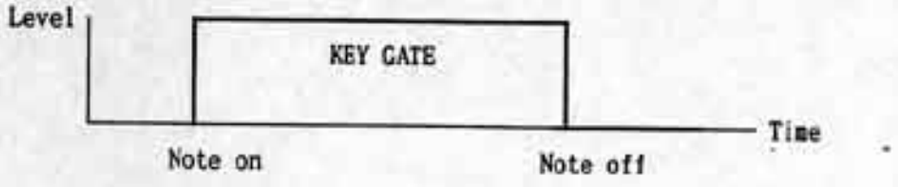
SOURCE:

This field is the "modulation matrix" 'source parameter.'
This field contains [17] parameters. Place the cursor on - -SOURCE- -, and turn the [CONTROL KNOB] to scroll the [17] parameters indicated below.

KEY GATE: This is the parameter for the "Note on/Note off signals (gate)" from the keyboard.

Main connection targets ⇨

Note: If the 'envelope generator' is connected to "VCA AMP" and "KEY GATE" is connected to "VCA AMP" at the same time, the 'envelope curve' in respect to VCA will be dependent upon "KEY GATE."



EG 1 OUT: This is the parameter for "output signals" for envelope generator group 1.
EG 2 OUT: This is the parameter for "output signals" for envelope generator group 2.
EG 3 OUT: This is the parameter for "output signals" for envelope generator group 3.

Main connection targets ⇨

VCO1,2 FRQ	
VCO 1 FREQ	VCO 1 PW
VCO 2 FREQ	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP
LFO 1 SPEED	LFO 1 DEPTH
LFO 2 SPEED	LFO 2 DEPTH

LFO 1 OUT: This is the parameter for "output signals" for LFO group 1.
LFO 2 OUT: This is the parameter for "output signals" for LFO group 2.

Main connection targets ⇨

VCO1,2 FRQ	
VCO 1 FREQ	VCO 1 PW
VCO 2 FREQ	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP

VELOCITY: This is the parameter for "key velocity signals" from the keyboard.

Main connection targets ⇨

VCO 1 PW	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP
EG 1 DEPTH	EG 2 DEPTH

PRESSURE: This is the parameter for "key pressure signals" from the keyboard.

Main connection targets ⇨

VCO1,2 FRQ	
VCO 1 FREQ	VCO 1 PW
VCO 2 FREQ	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP
LFO 1 SPEED	LFO 1 DEPTH
LFO 2 SPEED	LFO 2 DEPTH
OSC BALANCE	

VOL. PEDAL: This is the parameter for "control signals" from the pedal volume.

Main connection targets ⇨

VCO1,2 FRQ	
VCO 1 FREQ	VCO 1 PW
VCO 2 FREQ	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP
LFO 1 SPEED	LFO 1 DEPTH
LFO 2 SPEED	LFO 2 DEPTH

EW.BREATH: This is the parameter for "breath control signals" from the EWI/EVI.

Main connection targets ⇨

VCO1,2 FRQ	
VCO 1 PW	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP
EG 1 DEPTH	EG 2 DEPTH
OSC BALANCE	

Note: If the 'envelope generator' is connected to the parameter above and the "breath control signal" is connected at the same time, the 'envelope curve' for the parameter will be dependent on the 'acoustic envelope curve' from the breath control signal.
Therefore, when playing the "AKAI EWI1000/EVI1000," using the 'acoustic curve' from the "breath control signal" to create a sound, rather than the 'envelope generator,' will attain a more natural sound and will simplify playing.

EW.VIBRAT: This is the parameter for "vibration control signals" from the EWI/EVI.

Main connection targets ⇨

VCO1,2 FRQ	
VCO 1 FREQ	VCO 1 PW
VCO 2 FREQ	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP

EW.BEND: This is the parameter for "bend control signals" from the EWI/EVI.

Main connection targets ⇨

VCO1,2 FRQ	
VCO 1 FREQ	VCO 1 PW
VCO 2 FREQ	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP

EW.GLIDE: This is the parameter for "glide control signals" from the EWI/EVI.

Main connection targets ⇨ GLIDE TIME

M.PRESSUR: This is the parameter for "key pressure signals" from external MIDI sources.

Main connection targets ⇨

VCO1,2 FRQ	
VCO 1 FREQ	VCO 1 PW
VCO 2 FREQ	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP
LFO 1 SPEED	LFO 1 DEPTH
LFO 2 SPEED	LFO 2 DEPTH

M.BEND: This is the parameter for "bend wheel control signals" from external MIDI sources.

Main connection targets ⇨

VCO1,2 FRQ	
VCO 1 FREQ	VCO 1 PW
VCO 2 FREQ	VCO 2 PW
CUT OFF	RESONANCE
FM DEPTH	VCA AMP
LFO 1 SPEED	LFO 1 DEPTH
LFO 2 SPEED	LFO 2 DEPTH

M.MODULAT: This is the parameter for "modulation wheel control signals" from external MIDI sources.

Main connection targets ⇨

LFO 1 DEPTH
LFO 2 DEPTH

M.Bn 00 nn: This is the parameter for "control change message signals" from external MIDI sources. This is set between the range [00] through [31].

DEPTH:
This field sets "depth."
The setting range for this field is [−99−00−+99].
Place the cursor on the - -DEPTH- - field, so that the figures flash, then turn the [CONTROL KNOB] to set the field.
When the field is set to [00], this is the same as 'no connection.'

DESTINATION:
This field is the 'connection target parameter' of the "modulation matrix." This field contains [19] parameters. Place the cursor on [DESTINATION], then turn the [CONTROL KNOB] to scroll through the following [19] parameters.

- - - - - -:	This is the 'no connection' status.
VCA AMP:	This is the parameter for VCA group "volume."
VCO 1, 2 FRQ:	This is the parameter for VCO group 1 and 2 "frequency."
VCO-1 FREQ:	This is the parameter for VCO group 1 "frequency."
VCO-1 PW:	This is the parameter for VCO group 1 "pulse width."
VCO-2 FREQ:	This is the parameter for VCO group 2 "frequency."
VCO-2 PW:	This is the parameter for VCO group 2 "pulse width."
CUTOFF:	This is the parameter for VCF group "cutoff frequency."
RESONANCE:	This is the parameter for VCF group "resonance."
FM DEPTH:	This is the parameter for VCO group 1 or VCF group "frequency modulation."
HIGH PASS:	This is the parameter for "cutoff frequency" of the high pass filter.
EG 1 DEPTH:	This is the parameter for "depth" of the envelope generator group 1.
EG 2 DEPTH:	This is the parameter for "depth" of the envelope generator group 2.
LFO 1 SPEED:	This is the parameter for "cycle" of LFO group 1.
LFO 1 DEPTH:	This is the parameter for "depth" of LFO group 1.
LFO 2 SPEED:	This is the parameter for "cycle" of LFO group 2.
LFO 2 DEPTH:	This is the parameter for "depth" of LFO group 2.
OSC BALANCE:	This is the parameter for "volume balance" of VCO groups 1 and 2.
GLIDE TIME:	This is the parameter for "glide effect" of the frequency.

Warning: Unless this modulation matrix is defined, tones created with the VX600 will not be produced. Therefore, be sure to study the tone data input when the unit is shipped from the factory, until you understand how this "modulation matrix" is defined for the tones.

5.3 REGISTERING AND UPDATING TONE NAMES

After setting all the parameters, register or update the 'tone name.' The VX600 allows names of up to eight characters to be registered.
To register or update a 'tone name,' press [SOFT KEY 2 (NAME)] from the "LIBRARY MENU" mode.

The following is the procedure for registering names.

① Return to the "LIBRARY MENU" mode screen. Then, set the 'library number' you were editing. (If you have just finished editing, the 'library number' should indicate the proper number.)

② Next, press [SOFT KEY 2 (NAME)] from the "LIBRARY MENU" mode.
The cursor will flash at the first character place. The cursor can be moved by pressing the left or right cursor keys.

③ Turn the [CONTROL KNOB] to set a letter, symbol or number for the first character of the name.

```
L01 ( A******* )
      ↑
   Cursor  (The □ sign will flash.)
```

④ Press the right cursor key to move the cursor to the second place in the name, then input the second letter, symbol or number by turning the [CONTROL KNOB] to the appropriate character.

```
L01 ( AK****** )
```

⑤ Press the right cursor key to move the cursor to the third place in the name, then input the third letter, symbol or number by turning the [CONTROL KNOB] to the appropriate character.

```
L01 ( AKA***** )
```

⑥ Press the right cursor key to move the cursor to the fourth place in the name, then input the fourth letter, symbol or number by turning the [CONTROL KNOB] to the appropriate character.

```
L01 ( AKAI**** )
```

⑦ Spaces between characters are also input with the [CONTROL KNOB].

```
L01 ( AKAI    □ )
```

⑧ Pressing the left cursor key will reverse the direction in which the cursor moves, so that you can make any corrections if necessary.

⑨ After inputting all the characters for the name, press one of the [SOFT KEYS].

5.4 IMPORTANT ITEMS

Warning: If the [PROTECT SWITCH] on the rear panel is set to [ON], a warning telling you that PROTECT is effective will be displayed, and you will not be able to edit.

If the [PROTECT SWITCH] is [OFF], the data for the various parameters will be updated. Therefore, be sure to select a 'library number' with contents you do not need before editing the data.

5.5 COMPARING MODIFIED TONE DATA AND ORIGINAL TONES/COPYING LIBRARIES

The VX600 does not allow comparison of 'original tones' and 'tones which are being edited' during editing. If you wish to compare tones, we recommend that you execute the following procedure before starting to create sounds.

① Press [SOFT KEY 1 [PRGRM]] from the "PACKET" mode.
The screen will change to the "PROGRAM MENU" mode. Next, press [SOFT KEY 3 [LIBRY]] from the "PROGRAM MENU" mode.
The screen will display the "LIBRARY MENU" mode.

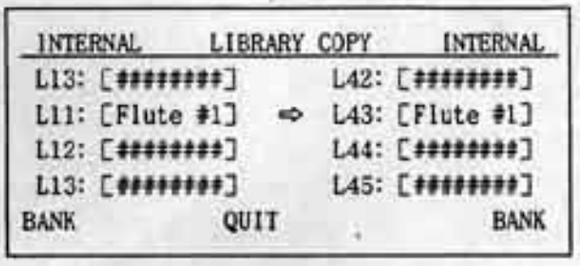
② Press [SOFT KEY 4 [COPY]] from the "LIBRARY MENU" mode. The screen shown on the lower left will be displayed. This is the "LIBRARY COPY" mode. From this screen it is possible to the 'tone data' from a given library number can be 'copied' to another library number.

```
INTERNAL     LIBRARY COPY     INTERNAL
 Copy from                     Copy to
L01: [########]   ⇨  L01: [########]
L02: [########]        L02: [########]
L03: [########]        L03: [########]
BANK          QUIT           BANK
```

③ Turn the [CONTROL KNOB] to set the "library number" of the 'copy source (the original tone).'

```
INTERNAL     LIBRARY COPY     INTERNAL
L13: [########]
L11: [Flute #1]   ⇨  L01: [########]
L12: [########]        L02: [########]
L13: [########]        L03: [########]
BANK          QUIT           BANK
```

④ Press the right cursor key. The 'copy target' "library number" will flash.



Turn the [CONTROL KNOB] to set the "library number" of the 'copy target.' Then, press the [ENTER] key. The 'copy source tone name' will be displayed in the 'copy target,' thus completing copying.

Warning: When a copy is made, the tone data stored in the copy target will be lost, and overwritten by the tone data which was copied.

⑤ Next, press [SOFT KEY 3 (QUIT)]. This will return you to the "LIBRARY MENU" mode. At this time, the 'library number of the copy source' will be displayed.
Turn the [CONTROL KNOB] to set the "library number" of the 'copy target.'

If you wish to compare a tone being edited with the 'original tone' during editing, press [SOFT KEY 6 (QUIT)] for each of the parameter editing screens, then return to the "LIBRARY MENU" mode from each of the "EDIT LIBRARIES."

Then, alternately call the "library number" of the 'original tone' and the library number of the data being modified to compare tones.
If you wish to continue modifying parameter data after comparing the tones, set the 'library number which was being modified' from the "LIBRARY MENU" mode, then press [SOFT KEY 1 (EDIT)].

Note: This 'library copy function' can be used to copy a card library (bank A or B) from a "memory card" to the main unit library (or the reverse).
In this case, press [SOFT KEY 1 (BANK)] when selecting the 'copy source (or copy target).' Then, 'select either bank A or B,' and set the "library number" which is the 'copy source (or copy target).'

Note: If [SOFT KEY 1 (BANK)] is pressed when a memory card is not being used, the message (NO CARD!) will be displayed.

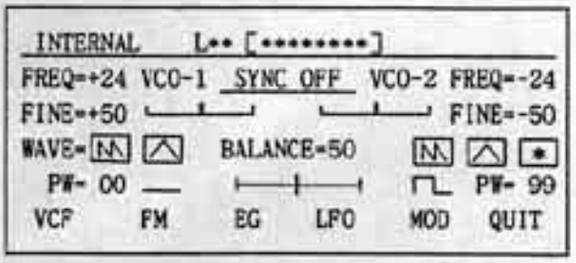
Knowledge and experience is necessary to create sounds with a synthesizer. If you do not have any knowledge concerning sound, it will be very difficult to create new sounds. It is, however, easy to edit existing sounds. We recommend modifying the tone data input when the unit is shipped from the factory, or tone data which is filed in memory cards.

5.6 PROCEDURES FOR MAKING SOUNDS (FOR EWI/EVI)

Tones which are played on the "AKAI EWI1000/EVI1000" are mainly created by utilizing the "acoustic envelope" which is output from the 'breath sensor' of the controller. Although it is possible to create sounds with the three envelope generator groups, creating sounds with the "acoustic envelope" is simpler, especially for 'wind instruments,' and will create a richer more characteristic expression during a performance.

5.6.1 SELECTING SOUND SOURCE WAVEFORMS

'Sound source waveform selection' is executed from the VCO group editing screen.



□Triangular Waves□

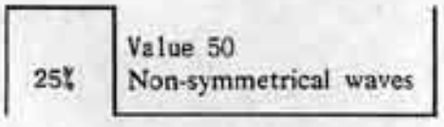
Triangular waves are suited for the creation of tones such as those synthesizing "ocarinas," "recorders," etc.

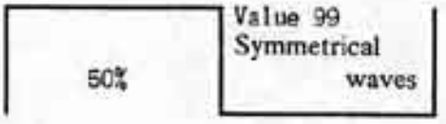
□Sawtooth Waves□

Sawtooth waves are suited for the creation of tones synthesizing "string instruments (violins, violas, cellos, contra bass)," "brass (trumpets, trombones, tubas)," "flutes," etc.

□Non-symmetrical Square Waves and Symmetrical Square Waves□

If you have set the sound source waves to 'nonsymmetrical square waves,' set the triangular and sawtooth waves to [□], and the ⟨PW⟩ value to [50].



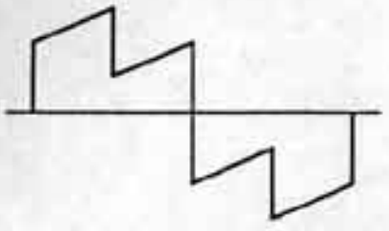


Non-symmetrical waves are suited for the creation of tones synthesizing "oboes," "English horns," etc. If the ⟨PW⟩ value is set to [99], 'symmetrical waves' are set. Symmetrical waves are suited for the creation of tones synthesizing "clarinets."

□Synthesizing Waveforms□

A sound source waveform which mixes triangular waves and sawtooth waves is suited for the creation of tones synthesizing "saxophones." If two VCO groups are 'synchronized' and a different waveform and basic frequency are set, a complicated sound source waveform can be created. The ⟨BALANCE⟩ setting is also important for VCO synchronizing.

Try different waveform, basic frequency and ⟨BALANCE⟩ settings, until you attain the tone which you wish to produce.



(1. An example of synchronized synthesis between a nonsymmetrical wave and sawtooth wave

□Noise□

'Noise' is also an important sound source wave. This is especially suited for synthesizing "the sound of wind," "the sound of waves," and "special sounds." Noise is sound which covers the entire audible frequency band, and is sounds like a 'hiss' when output from a speaker. You can mix noise and other sound source waves.

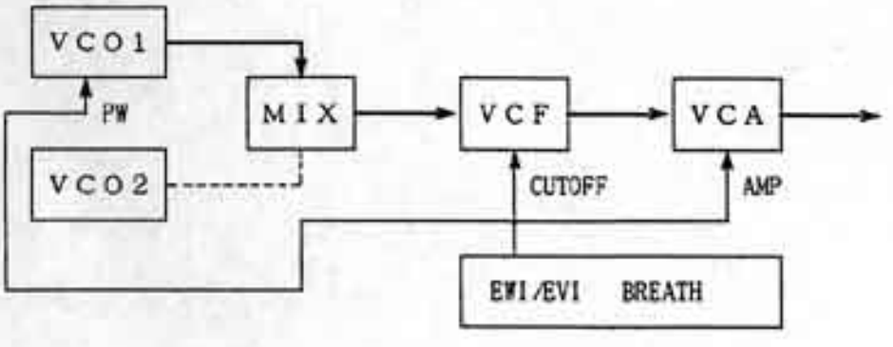
5.6.2 SETTING THE MODULATION MATRIX

When creating sounds with the "acoustic envelope" which is output from the 'breath sensor' of the "AKAI EWI1000/EVI1000," the setting of the "modulation matrix" is important.
The figure below shows an example of the most basic "modulation matrix" setting when playing the VX600 with the "AKAI EWI1000/EVI1000." (The values in the example are only for reference purposes.)

```
 INTERNAL    L45 [EWI #1  ]
--MOD----SOURCE----DEPTH---DESTINATION--
  01:  [EW.BREATH]   +32   [ CUTOFF  ]
  02:  [EW.BREATH]   +35   [ VCO-1 PW]
  03:  [EW.BREATH]   +99   [ VCA AMP ]
 VCO    VCF     FM     EG    LFO   QUIT
```

This is an example of modulation setting for VCO [PW], VCF [CUTOFF], and VCA [AMP] with the "acoustic envelope."

When creating sounds with the VX600 envelope generator to by played with the "AKAI EWI1000/EVI1000," there may be tones which are difficult to play. Conversely, if the "acoustic envelope" is used, natural sounds can be produced easily.



The connection targets for "breath (acoustic envelope)" are as follows:

VCO-1 FREQ	⇨	Pitch envelope effect
VCO-2 FREQ	⇨	Pitch envelope effect
VCO-1 PW	⇨	Pulse width modulation effect
VCO-2 PW	⇨	Pulse width modulation effect
VCF CUTOFF	⇨	Dynamics tone color effect
VCF RESONANCE	⇨	Dynamics peaking effect
VCA AMP	⇨	Dynamics volume effect
LFO SPEED	⇨	Dynamics vibration effect
LFO DEPTH	⇨	Dynamics vibration effect
FM DEPTH	⇨	Dynamics tone character effect

Depending on the connection target of "breath (acoustic envelope)" the effects above can be attained.

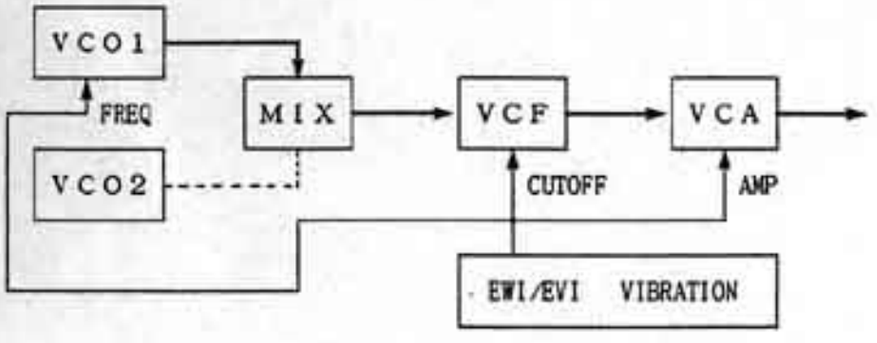
Next, an setting example of "vibration" is shown in the figure below. (The values in the example are only for reference purposes.)

```
 INTERNAL    L** ********
--MOD----SOURCE----DEPTH---DESTINATION--
  04: [EW.VIBRAT]   +50 [VCO-1 FREQ]
  05: [EW.VIBRAT]   +50 [  CUTOFF  ]
  06: [EW.VIBRAT]   +50 [  VCA AMP ]
 VCO    VCF     FM     EG    LFO   QUIT
```

In this example, "vibration" is connected to VCO [FREQ], VCF [CUTOFF], and VCA [AMP].

VCO FREQ	⇨	Vibrato effect
VCF CUTOFF	⇨	Growling, wow-wow effect
VCA AMP	⇨	Tremolo effect

There is, however, no need to set all of these. Only the 'vibrato effect' may suffice. Of course, setting only the 'growling effect' is also possible. Try different combinations.



The variations for "vibration" connection targets is as follows:

VCO 1 FREQ	⇨	Vibrato effect
VCO 2 FREQ	⇨	Vibrato effect
VCO 1 PW	⇨	Growling effect
VCO 2 PW	⇨	Growling effect
VCF CUTOFF	⇨	Growling, wow-wow effect
VCF RESONANCE	⇨	Wow-wow effect
VCA AMP	⇨	Tremolo effect
FM DEPTH	⇨	Growling effect

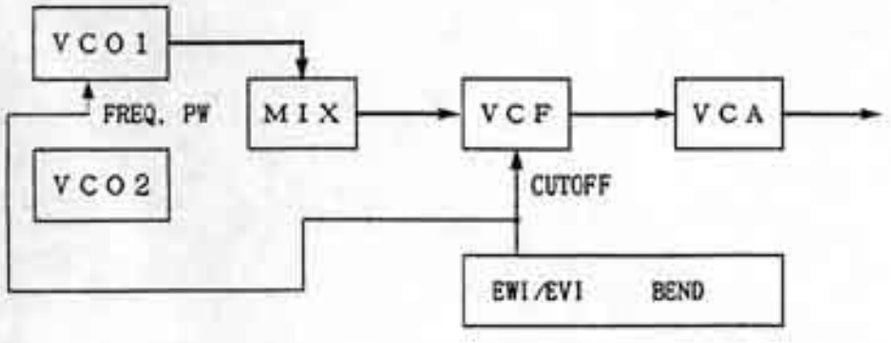
Depending on the connection target of "vibration," the effects above can be attained. If the "AKAI EWI1000" is used, "vibration" effects can be created by quickly and repeatedly biting done on the 'mouth piece.' If the "AKAI EVI1000" is used, this effect can be created by rapidly moving the 'vibration lever.'

The following is an example of a "bend control" setting. (The values in the example are only for reference purposes.)

```
INTERNAL    L** [********]
--MOD----SOURCE----DEPTH---DESTINATION--
 07:  [EW.BEND  ]   +50   [VCO-1 FREQ]
 08:  [EW.BEND  ]   +50   [VCO-1 PW  ]
 09:  [EW.BEND  ]   +50   [ CUTOFF   ]
VCO    VCF     FM     EG    LFO   QUIT
```

In this example, "bend control" is connected to VCO [FREQ] and [PW], and VCF [CUTOFF].

VCO FREQ	⇨	Pitch bend effect
VCO PW	⇨	Pulse width bend effect
VCF CUTOFF	⇨	Tone bend effect

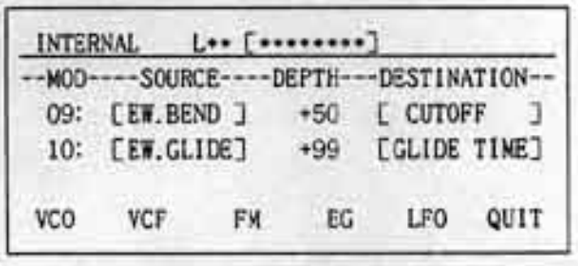


The variations for "bend control" connection targets are as follows:

VCO-1 FREQ	⇨	Pitch bend effect
VCO-2 FREQ	⇨	Pitch bend effect
VCO-1 PW	⇨	Pulse width bend effect
VCO-2 PW	⇨	Pulse width bend effect
VCF CUTOFF	⇨	Tone bend effect
VCF RESONANCE	⇨	Tone bend effect
VCA AMP	⇨	Volume bend effect
LFO SPEED	⇨	Vibration bend effect
LFO DEPTH	⇨	Vibration bend effect
FM DEPTH	⇨	Tone character bend effect

The effects above can be attained depending on the "bend control" connection target.

Next, a setting example related to "glide control" is shown in the figure below.



This is set to attain a "glide effect" in a frequency.

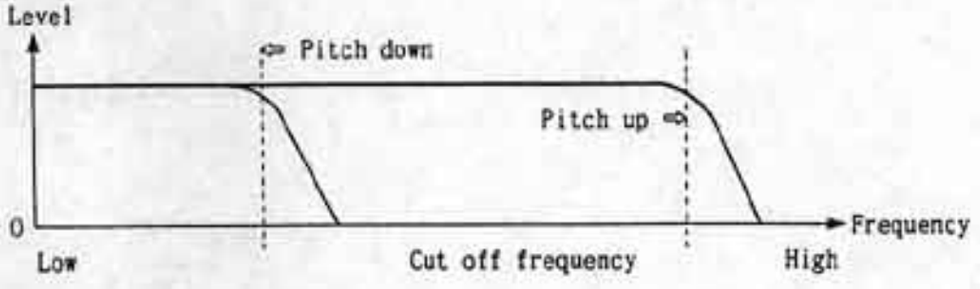
Connect the parameters necessary for playing from the "modulation matrix" editing screen as has been described above. A maximum of 10 connections can be assigned in the "modulation matrix."

5.6.3 SETTING VCF PARAMETERS

In this section, we shall describe how to set VCF 'cutoff frequency (CUTOFF),' and 'resonance (RESONANCE)' from the VCF group editing screen. VCF processes the harmonic configuration of sound source wave forms, output from VCO and NOISE during "low pass filter" operation, to create tones.

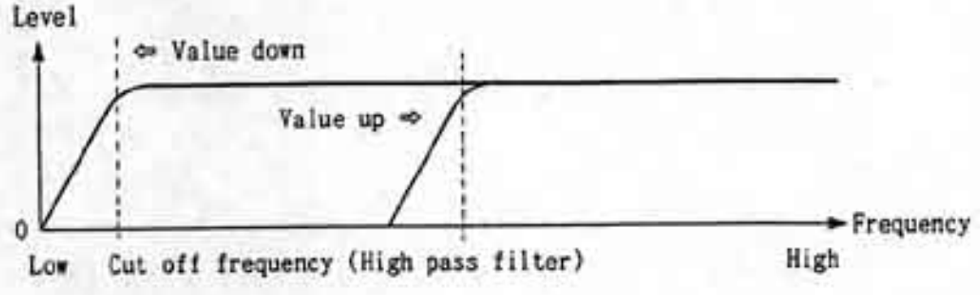
When the ⟨CUTOFF⟩ value is set to [99], however, 'cutoff frequency' changes from acoustic envelope and vibration cannot be attained. Although it is dependent on the tone, the ⟨CUTOFF⟩ value is normally set within the range [00~75]. If ⟨RESONANCE⟩ is set to [70 or greater], VCF will 'self-oscillate.' When special sounds are being created, ⟨RESONANCE⟩ may be set between [90~99] . Normally, however, this will be set between [00~50], although this depends on the tone.

If ⟨PITCH FOLLOW⟩ is set to [99], the higher that the frequency of the sound which is being played is, the 'brighter' the tone. If it is set to [00], the higher the frequency of the sound, the smaller the volume. Although this depends on the tone, ⟨PITCH FOLLOW⟩ is usually set between [50~80], so that the range from low sounds to high sounds is balanced. If the ⟨CUTOFF⟩ value is set to [99], however, there will be no 'pitch follow' effect.

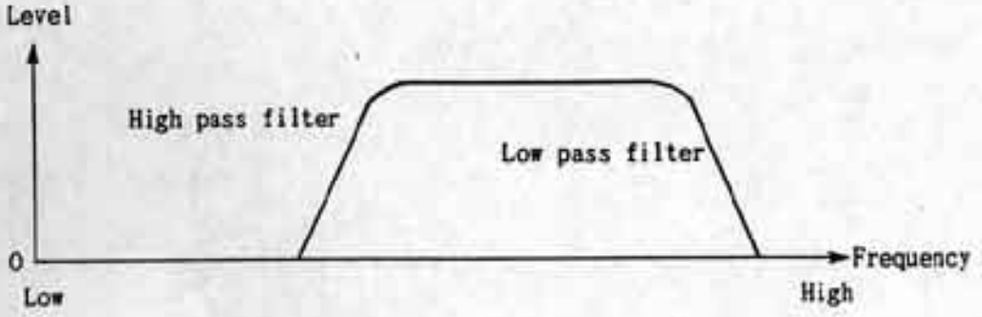


□High Pass Filter□

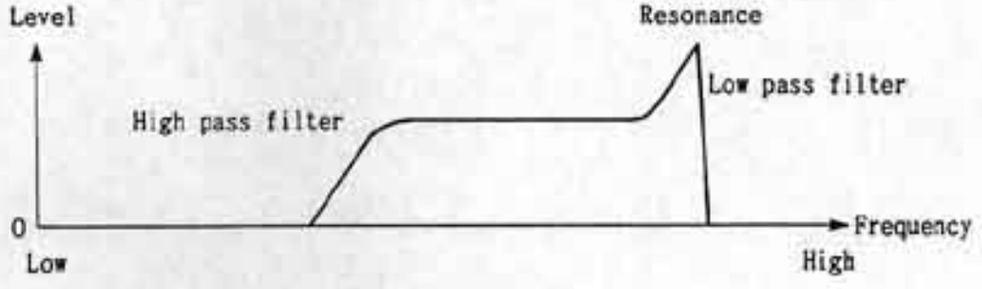
A "high pass filter" is also available. This filter also processes the harmonic configuration of sound source wave forms output from VCO and NOISE to create sounds. Modulation by the acoustic envelope and vibration is not possible, however. This filter is indispensable, however, to create the delicate tones for oboes and high-note trumpets.



If the ⟨HIGH PASS FILTER⟩ value in the VCF editing screen is set to [00], the high pass filter will have no effect whatsoever.
Although the setting depends on the sound, the high pass filter is normally set to [00] or between [20~90].
The VCF "low pass filter" and this "high pass filter" together form the 'band pass filter.' The figure below indicates the operation of the band pass filter.



When this band pass filter is formed, setting VCF "resonance" accordingly will allow the creation of characteristic sounds. This is especially useful when synthesizing oboes, bassoons, etc.
The figure below is an example of characteristics when VCF "resonance" is set appropriately.



5.6.4 SETTING VCA LEVEL

In this section, we shall set the VCA 'level' with the "FM" editing screen.
Although the ⟨LEVEL⟩ value is usually set to [99], when there is a distortion in the sound when played polyphonically, this value is reduced. "FM" ⟨DEPTH⟩ in this screen is usually set to [00]. Unless you wish to execute "FM," be sure that this value is set to [00].

5.6.5 REGISTERING TONE NAMES

After setting all the parameters, register the 'tone names.' The VX600 allows registering names up to eight characters long. See 5.3 'REGISTERING AND UPDATING TONE NAMES' for details on how to register 'tone names.'

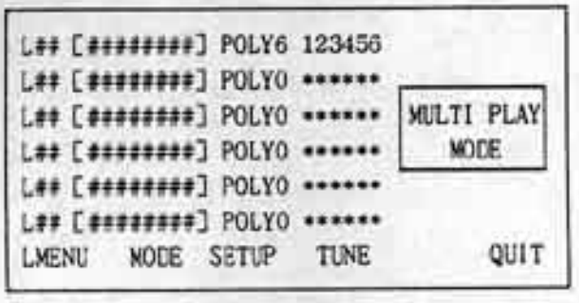
By following the steps described in 5.6.1 through 5.6.5 above, you can create sounds which are suitable for playing with the EWI/EVI. If you refer to the tone data which is stored in the VX600 when it is shipped from the factory, you will be able to master sound creation much more quickly than otherwise.

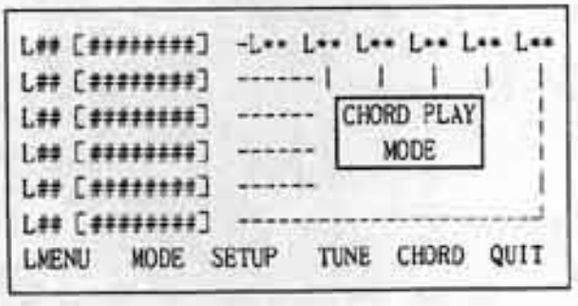
Chapter 6. MULTI PLAY MODE

This mode is also one of the main features of the VX600. You can assign different tones to each of the six voices. In addition, 'MIDI reception channels' can be set for each voice, so that 'multi-track playing' with an external MIDI sequencer is possible.
Furthermore, because the six voices will be output independently from [VOICE OUT] of the "DIN 13 pin," this allows all kinds of possibilities for multi playing. (The AKAI DIN/PHONE CONVERTER CABLE: VW-X6 is used.) In addition, if the "AKAI EWI1000/EVI1000" is used, external MIDI compatible sound sources can be played polyphonically.

From the "PACKET" mode, press [SOFT KEY 1 (PRGRM)]. The "PROGRAM MENU" mode will be displayed. From this mode, select the 'program number' to program "multi play" with the [CONTROL KNOB], and register the 'program name.'

Next, from the "PROGRAM MENU" mode, press [SOFT KEY 1 (EDIT)]. One of the following screens will be displayed.





If the "CHORD PLAY MODE" screen is displayed first, press [SOFT KEY 2 (MODE)] from that mode. The "MULTI PLAY MODE" screen shown above will be displayed.
This screen displays the mode for setting tones for the six voices. When this screen is opened, the library number on the first line will flash (voice number 1).

① If the [CONTROL KNOB] is turned clockwise at this time, the library number and the attached tone name will change. If the cursor key [▽] is pressed next, the library number on the second line (voice channel 2) will flash.

```
L01 [Bass   ]  POLY6 123456
L02 [Guiter ]  POLY0 ******
L03 [Trumpet]  POLY0 ******   MULTI PLAY
L04 [Piano  ]  POLY0 ******      MODE
L05 [Violin ]  POLY0 ******
L06 [Flute  ]  POLY0 ******
LMENU   MODE  SETUP   TUNE          QUIT
```

In other words, the cursor keys [△ ▽] are used to select the 'voice channel,' and the [CONTROL KNOB] is used to set the 'library number.' Library numbers can also be input from the ten key numeric pad.

② From the screen shown above, press the right cursor key [▷]. The display ⟨POLY⟩ will flash. Turning the [CONTROL KNOB] clockwise will change this display to ⟨MONO⟩. Set this display to ⟨MONO⟩.
Next, press the right cursor key [▷] again. The figure on the right of ⟨MONO⟩ will flash. Turning the [CONTROL KNOB] in either direction will change this number between the range (0~6). Set this number to (1).

```
L01 [Bass   ]  MONO1 1*****
L02 [Guiter ]  POLY0 ******
L03 [Trumpet]  POLY0 ******   MULTI PLAY
L04 [Piano  ]  POLY0 ******      MODE
L05 [Violin ]  POLY0 ******
L06 [Flute  ]  POLY0 ******
LMENU   MODE  SETUP   TUNE          QUIT
```

③ Press the down cursor key [▽] again, and the left cursor key [◁], so that the ⟨POLY⟩ display on the second line flashes, then turn the [CONTROL KNOB] clockwise to set this display to ⟨MONO⟩.
Next, press the right cursor key [▷], and set the figure to (1) with the [CONTROL KNOB]. Repeat this procedure to the sixth line to set up (MOMO1).

```
L01 [Bass   ]  MONO1 1*****
L02 [Guiter ]  MONO1 *2****
L03 [Trumpet]  MONO1 **3***   MULTI PLAY
L04 [Piano  ]  MONO1 ***4**      MODE
L05 [Violin ]  MONO1 ****5*
L06 [Flute  ]  MONO1 *****6
LMENU   MODE  SETUP   TUNE          QUIT
```

④ This will set up the VX600 to the "multi mono mode," and all of the voices will output 'monophonically.' This is one of the set ups which is used when an external MIDI sequencer is used to play the six parts with different tones.

⑤ After the set up above is completed, press [SOFT KEY 3 〔SETUP〕] to open the "MULTI EDIT" screen. From this screen, designate the 'key range,' 'volume,' and, if necessary, the 'MIDI reception channel' for each voice. (The last is designated if the six parts are played with different tones by an external MIDI sequencer.)

```
 INTERNAL    P** [********]    MULTI EDIT
LIBRARY---:L01  L02  L03  L04  L05  L06
KEY LOW---: 00   00   00   00   00   00
KEY HIGH--:127  127  127  127  127  127
 VOLUME---: 99   99   99   99   99   99
MIDI RX---: 01   02   03   04   05   06
LIBRY   MODE   TUNE                QUIT
```

Next, we shall describe the fields in this screen. Each field in this screen is selected with the cursor keys, and the data in a field is changed with the [CONTROL KNOB] or [DATA ENTRY] ten key numeric pad.

LIBRARY:
This field displays the library number. Although tone setting and updating is possible from this screen, it is not recommended because the tone name cannot be confirmed. Use the "MULTI PLAY MODE" screen to modify tone settings.
When [SOFT KEY 1 〔LIBRY〕] is pressed from this screen, the "MULTI PLAY MODE" screen can be called. In this screen, you can confirm the tone names attached to each library number, and set tones for each voice.
By pressing [SOFT KEY 3 〔SETUP〕] from the "MULTI PLAY MODE" screen will return you to the "MULTI EDIT" screen. In this manner, the work of selecting a tone from a library is simplified.

KEY LOW:
This field decides the key range of each voice. This field, together with the value in the 〈KEY HIGH〉 field which follows, sets the key range for a voice.

KEY HIGH:
This field is also used to decide the key range of each voice. This field, together with the value in the preceding 〈KEY LOW〉 field, sets the key range for each voice.

VOLUME:
This field sets the volume for each of the individual voices.
The range which can be set is between 〔0~99〕.

MIDI RX:
MIDI reception channels can be set arbitrarily for each voice. [- is OFF; range 1~16]

Next, we shall describe the other screen in the 'multi play mode.' Press [SOFT KEY 3 〔TUNE〕] from the "MULTI EDIT" screen. The screen shown on the left will be displayed. This screen is used to align the keys of the various voices, and to 'detune.'
The various fields in this screen are changed with the [CURSOR KEYS] and [DATA ENTRY] ten keys.

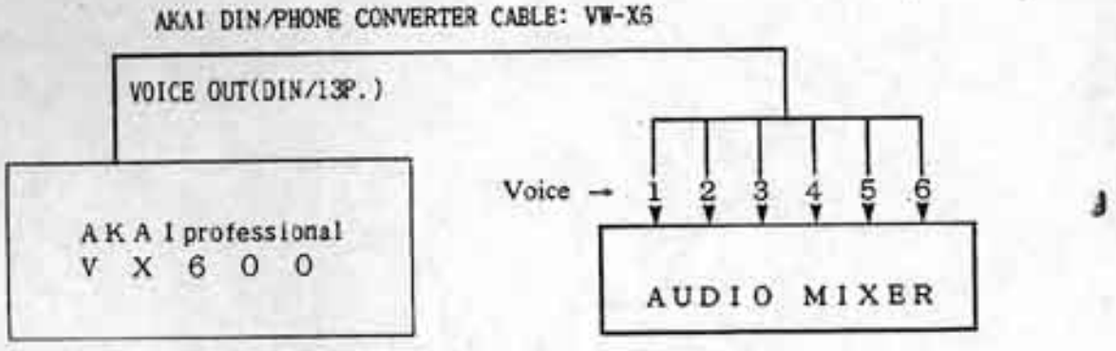
```
 INTERNAL    P** [********]    MULTI EDIT
TRANSPOSE---:00  00   00   00   00   00
    TUNE----:00  00   00   00   00   00

MIDI TX CHANNL--:  -

LIBRY   MODE  SETUP                QUIT
```

TRANSPOSE:
This field sets transpose for each of the libraries.

TUNE:
This field arbitrarily tunes the keys of the individual voices. The range which can be set is [−99~00~+99] in cent units.

MIDI TX:
This field designates the MIDI transmission channel number. The setting range is [− for OFF~1~16]

◇Connecting Multi Voice Out



The VX600 has [VOICE OUT] terminals which allow the six voices to be output separately. Use this [VOICE OUT] for 'chord playing' and 'multi play.'
Use the separately sold "AKAI DIN/PHONE CONVERTER CABLE: VW-X6" to make the connections.

Note: The output level of [VOICE OUT] has no relation whatsoever with the [VOLUME] on the front panel. Set up the output levels of the voices with the "CHORD EDIT" mode or "MULTI EDIT" mode.

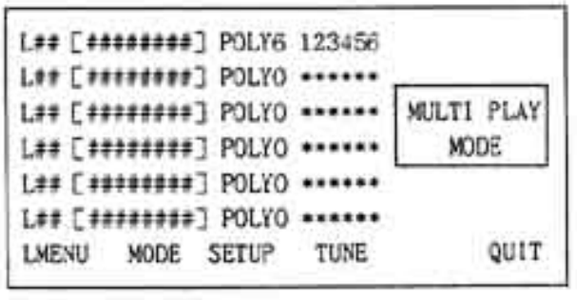
Chapter 7. CHORD PLAY MODE

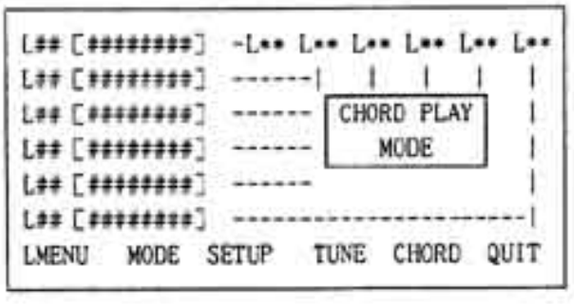
This is one of the main functions of the VX600. By assigning "polyphony chord patterns (20 representative types, including unison, harmony, octave bar, and dissonant chord, have been stored when the unit was shipped from the factory)" to 'note keys,' this unit or external MIDI compatible sound sources can be played polyphonically. This feature is especially versatile when playing with the "AKAI EWI1000/EVI1000."

7.1 CREATING POLYPHONY CHORD PATTERNS

Note: If you wish to use the (20) representative chords stored when the unit was shipped from the factory, ONLY read and confirm steps ① through ⑦ below.
If you turn the [CONTROL KNOB] to change data in steps ① through ⑦, and do not return the data to its original setting, the newly set data will be written, and the preset factory chord data will be erased. We recommend that you save the factory data in the memory card BR-16.

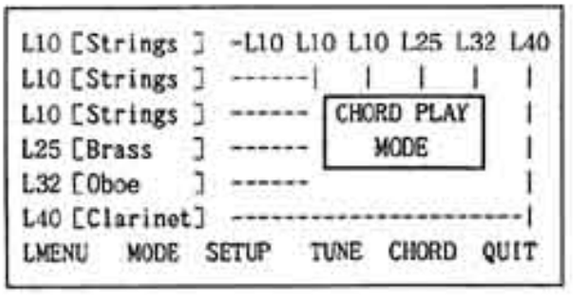
From the "PACKET" mode, press [SOFT KEY 1 (PRGRM)]. The "PROGRAM MENU" mode will be displayed. From this mode, select the 'program number' which is to have the polyphony chord programmed with the [CONTROL KNOB], then press [SOFT KEY 1 (EDIT)]. One of the two screens below will be displayed.





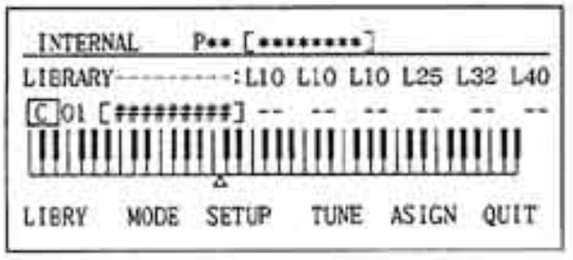
If the "MULTI PLAY MODE" screen is displayed, press [SOFT KEY 2 (MODE)]. The screen will be changed to the "CHORD PLAY MODE." This screen is used to set the tones for the six voices. When this screen is opened, the library number on the first line (voice number 1) will be flashing.

① Turning the [CONTROL KNOB] will change the library number and the attached tone name. Next, press the down cursor key [▽] to move to the library number on the second line (voice channel 2).



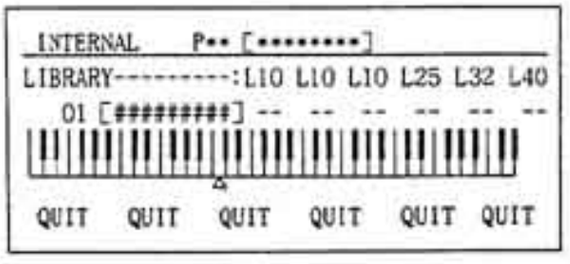
In other words, the cursor keys [△ ▽] are used to select the 'voice channel,' and the [CONTROL KNOB] is used to set the 'library number.' Library numbers can also be input from the ten key numeric pad.
Therefore, "polyphony chords" can be played with different tones.

② Press [SOFT KEY 5 [CHORD]] from the screen above. A screen showing a keyboard will be displayed. In steps ③ and ④ below, you can assign the preprogrammed "polyphony chords" to the '12 keys between C and B' from this screen. Then, the chord name is registered. At the present time, however, the 20 representative chords input when the unit was shipped from the factory are registered. You can examine the various chords which are stored by turning the [CONTROL KNOB].

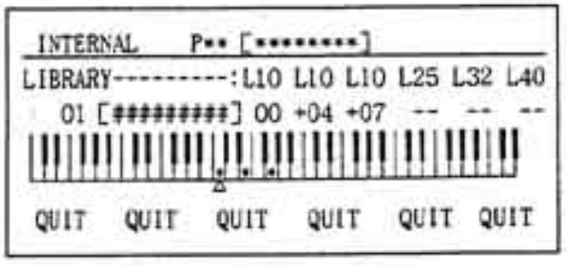


③ Press [SOFT KEY 5 [ASIGN]] from the screen above. The screen will change. An arbitrary "polyphony chord" can be created from this screen.

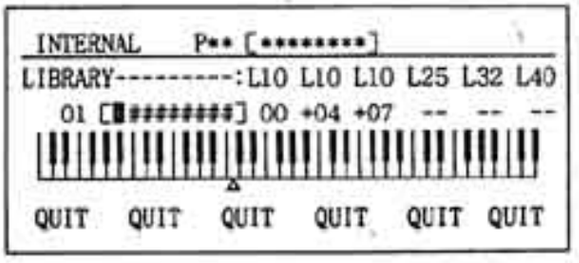
Set an arbitrary "polyphony chord" 'code number (01 through 20)' by turning the [CONTROL KNOB].



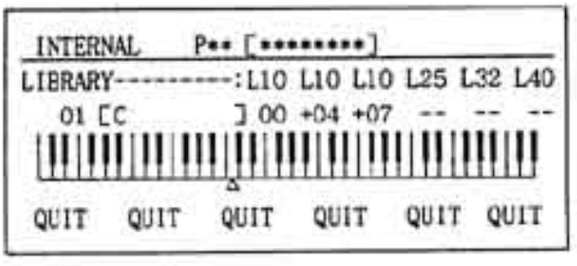
④ Input a chord from the VX600 keyboard. Up to six notes can be input into the chord. Input is executed by pressing one note at a time from the keyboard. For example, press the three 'C' chord notes [DO, ME, SO] on the keyboard. The keys which were pressed will be displayed.
When all the keys have been released, the screen will automatically return to that shown in step ②, and the three notes [DO, ME, SO] will be assigned to the code number as a chord.



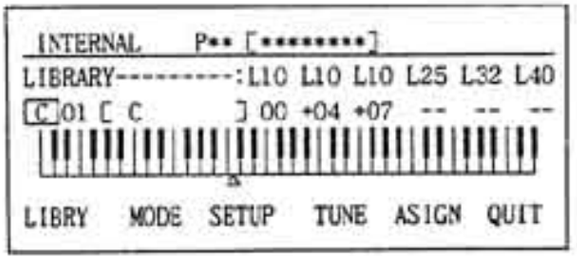
⑤ After returning to the screen shown in step ②, register the 'chord name' of the input chord. Because the 'C' chord [DO, ME, SO] has been input, the chord name should be [C]. Press the right cursor key [▷]. The cursor will flash at the first character place of the chord name column on the right of the chord number. Turn the [CONTROL KNOB], and set the necessary letters, numbers or symbols.



⑥ If the chord name is the single letter [C], leaving the first character place [blank] will make the name easier to read. If the [CONTROL KNOB] is turned all the way counterclockwise, a [blank] can be input. Also, leave a blank after [C]. After inputting the necessary characters, press one of the [SOFT KEYS]. The screen in step ⑦ will be displayed.



⑦ In this screen. the "polyphony chord" which was just programmed is assigned to 'chord number 01.' Now, go to step ③ and create a different "polyphony chord" for 'chord number 02.'

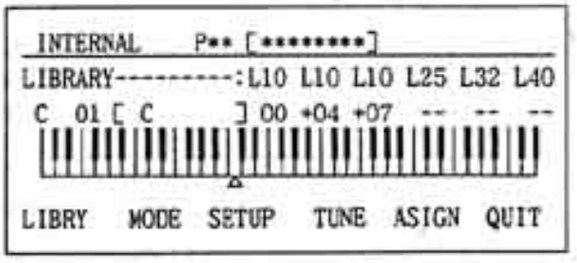


By repeating the procedure above, up to [20 types of chords] can be set up.

7.2 POLYPHONY CHORD PATTERN KEY ASSIGNMENT

The programmed "polyphony chord pattern" is assigned to one of the '12 keys between C and B.' Separate "polyphony chords" can be arbitrarily assigned to the keys. Therefore, different "polyphony chords" can be played with each of the keys.
The following is a description of how to assign the "polyphony chord patterns" input when the unit was shipped from the factory, or "polyphony chord patterns" which you have programmed to the various keys.

① Open the screen in step ② or ⑦. In this example, a chord named [C] is assigned to the key [C].



Play the key [C] with one finger. You should hear a polyphony tone for the chord [C].

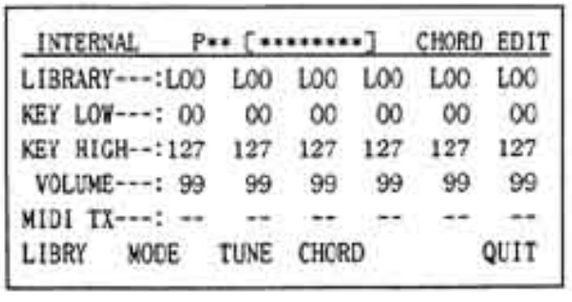
② Next, press the key [C#]. Watch the chord number at this time. If a chord number other than [01] is displayed, turn the [CONTROL KNOB] to set [01]. Then, repeat the same process to set all of the keys to the [B] key to [01]. Try playing all of the keys with one finger.
Polyphony sound for the [C] chord should be set for all [12 keys].

③ Assign different chord numbers to all the '12 keys between C and B.' The procedure is as follows: Press the [C] key, set the [CONTROL KNOB] to an arbitrary chord number; press the [C#] key, set the [CONTROL KNOB] to an arbitrary chord number; etc. Set all the keys to the [B] key.

④ After key assignment is completed, play each of the keys with one finger. Each of the keys should sound the assigned chord.
If separate tones are assigned to each of the six voices, a very rich sound which cannot be attained by conventional synthesizers can be attained.

7.3 SETTING UP THE CHORD PLAY MODE

The 'chord play mode,' which is one of the major functions of the VX600, has two more editing screens. One of these is the "CHORD EDIT" screen described below.
Press [SOFT KEY 3 [SETUP]] from the screen shown above. The following screen will be displayed. This screen is used to set up the 'tones,' 'key ranges,' 'volume,' and 'MIDI transmission channel number,' if an external MIDI sound source is used, for each of the voices used in chord playing.



LIBRARY:
This field displays the library number. Although tone setting and updating is possible from this screen, it is not recommended because the tone name cannot be confirmed. Use the "CHORD PLAY MODE" screen to modify tone settings.
When [SOFT KEY 1 (LIBRY)] is pressed from this screen, the "CHORD PLAY MODE" screen can be called. In this screen, you can confirm the tone names attached to each library number, and set tones for each voice.
By pressing [SOFT KEY 3 (SETUP)] from the "CHORD PLAY MODE" screen will return you to the "CHORD EDIT" screen. In this manner, the work of selecting a tone from a library is simplified.

KEY LOW:
This field decides the key range of each voice. This field, together with the value in the ⟨KEY HIGH⟩ field which follows, sets the key range for a voice.

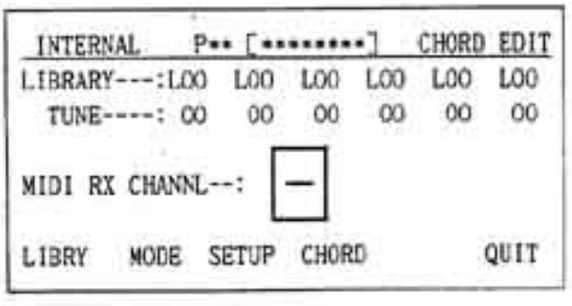
KEY HIGH:
This field is also used to decide the key range of each voice. This field, together with the value in the preceding ⟨KEY LOW⟩ field, sets the key range for each voice.

VOLUME:
This field sets the volume for each of the individual voices.
The range which can be set is [0~99].

MIDI TX:
MIDI transmission channels can be set arbitrarily for each configuring sound. [– is OFF; range 1~16]
This function is convenient when playing an external 'multi timbre MIDI sound source.'

Setting up each section is simple. Select the field to be set with the cursor keys, then input the new value with the [CONTROL KNOB] or [DATA ENTRY] ten keys.

Next, we shall describe the other screen in the 'chord play mode.' Press [SOFT KEY 3 (TUNE)] from the "CHORD EDIT" screen. The screen shown on the lower left will be displayed. This screen is used to align the keys of the various voices, and to 'detune.'
In addition, there is also a field to designate the 'MIDI reception channel number when an external MIDI keyboard or other instrument uses VX600 chord playing. The various fields in this screen are changed with the [CONTROL KNOB] and [DATA ENTRY] ten keys.



LIBRARY:
This field displays the library number.

TUNE:
This field arbitrarily tunes the keys of the configuring sounds.
The range which can be set is [–99~00~+99] in cent units.

MIDI RX:
This field designates the MIDI reception channel number.
The setting range is [– for OFF~1~16].

PACKETS

In this section, we shall explain "programming" and "packets."

8.1 SELECTING TONES

There are three methods for 'selecting tones' with this unit.

(a) With a 'program' filed in "PACKET."

The VX600 can file program data necessary for playing in sequence in 10 'packets.' Twenty program data can be stored in sequence in one packet.
The following is the procedure to call a 'program' filed in a "PACKET":

① Select a 'packet number (0~9)' with the [DATA ENTRY] keys [0] through [9], i.e., the ten key numeric pad.

② Use the cursor keys [△ ▽] or the "foot switch" to select the 'packet program number (01~20)' registered in a packet. This 'packet program number' can also be selected with the [CONTROL KNOB].

(b) With the "PROGRAM MENU" screen.

A tone selected from a library is stored in this "PROGRAM MENU." This is, however, not simple storing, but includes various program data for 'chord play' and 'multi play.' In order to select a tone from the "PROGRAM MENU":

- Use the cursor keys [△ ▽] or the "foot switch" to select the 'program number.' This 'program number' can also be selected with the [CONTROL KNOB].

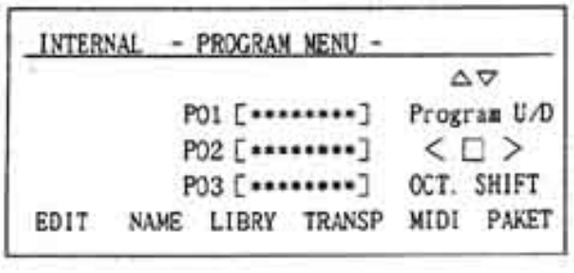
(c) With the "LIBRARY MENU" screen.

The VX600 uses the "LIBRARY MENU" mode to create and modify tones. Data for up to 50 tones can be stored in the 'library.' Normally, when playing simple tunes, 'tone selection' is done from this "LIBRARY MENU." This unit has "50 tunes" stored in memory as samples when it is shipped from the factory. In order to select tones:

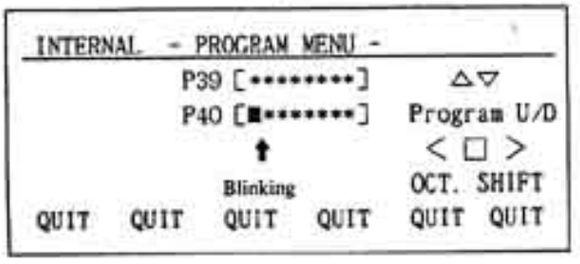
- Use the cursor keys [△ ▽] or the "foot switch" to select the 'library number.' This 'library number' can also be selected with the [CONTROL KNOB].

8.2 PROGRAMMING

① Here we will program the tones stored in the library when the unit was shipped from the factory, or tones created by the user, and include them in the 'program menu.'
First, press [SOFT KEY 1 (PRGRM)] from the "PACKET" screen.
The "PROGRAM MENU" screen will be displayed.



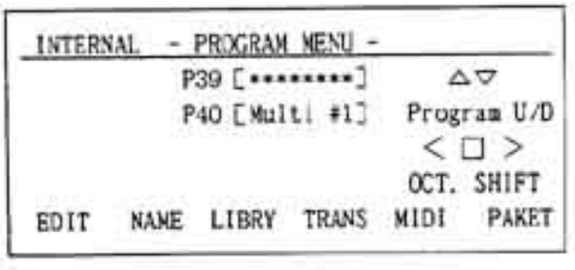
② Next, select the 'program number' into which the tone data selected from the library is to be stored. This operation is executed with the [CONTROL KNOB].
After selecting the program number, press [SOFT KEY 2 [NAME]]. The first character of the 'program name' will flash.
Then, register the 'program name.'



③ When the [CONTROL KNOB] is turned, the following characters and symbols will be displayed:

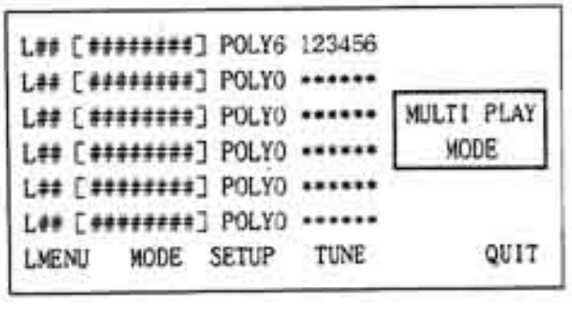
```
! " # $ % & ' ( ) * + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
[ ¥ ] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w x y z { | → ←
```

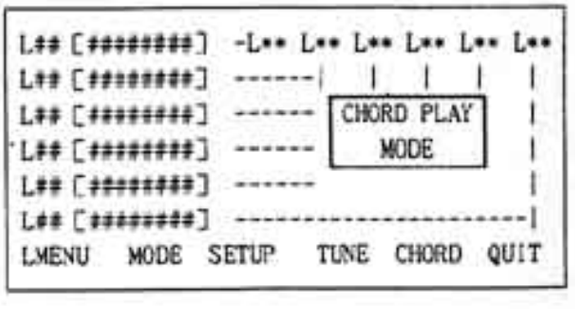
"Space (blank)" is located before the exclamation mark [!].



After setting the first character, press the right cursor key [▷] once to move to the second character place, then set the next character with the [CONTROL KNOB].
Up to eight characters can be input. After the program name is registered, press one of the [SOFT KEYS]. The figure on the left shows the screen after a 'program name' has been registered and a [SOFT KEY] has been pressed.

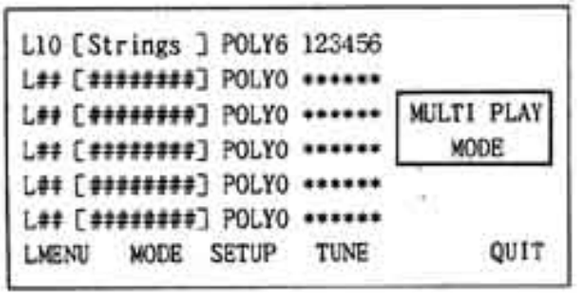
④ Next, press [SOFT KEY 1 [EDIT]]. One of the following screens will be displayed.



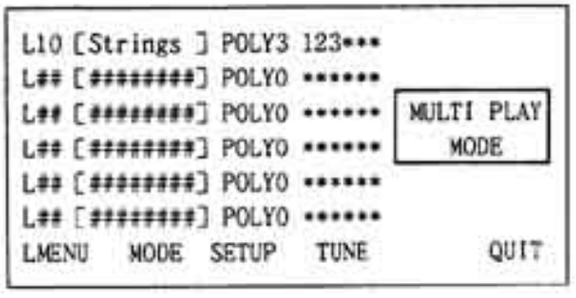


⑤ If the "CHORD PLAY MODE" screen is displayed, press [SOFT KEY 2 [MODE]] from that screen to change to the "MULTI PLAY MODE" screen. This is because we are trying to input a program named 'Multi #1,' and because programming in the 'multi play mode is basic.'

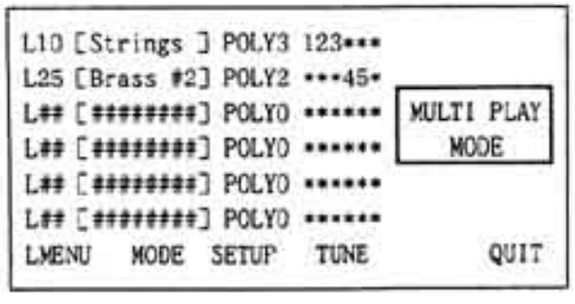
⑥ On the first line of the screen, library number ⟨L # #⟩ will be flashing. Turn the [CONTROL KNOB] to select 'tone.'



⑦ Next, examine the field ⟨POLY⟩. If ⟨MONO⟩ is displayed, press the right cursor key [▷] to place the cursor on ⟨MONO⟩, then turn the [CONTROL KNOB] counterclockwise. The field will change to ⟨POLY⟩. Press the right cursor key [▷] to place the cursor on the field to the right of ⟨POLY⟩, then set the value [3] with the [CONTROL KNOB].
This will set the tone [L10 Strings] so that it will sound as a three sound polyphonic.

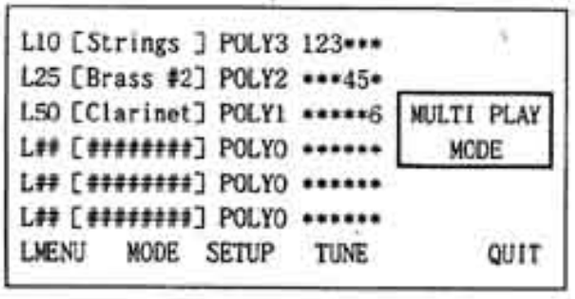


⑧ Next, press the left cursor key [◁] to place the cursor on ⟨L # #⟩ of the second line.
Designate the tone for the second line, then examine the field ⟨POLY⟩. If ⟨MONO⟩ is displayed, press the right cursor key [▷] to place the cursor on ⟨MONO⟩, then turn the [CONTROL KNOB] counterclockwise. The field will change to ⟨POLY⟩.



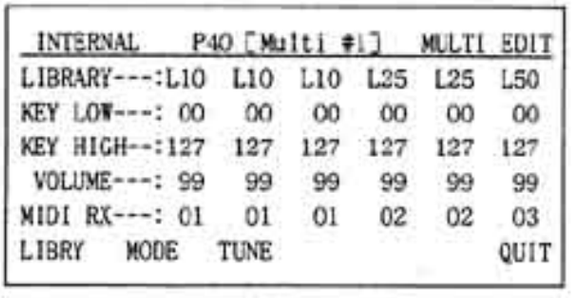
⑨ Press the right cursor key [▷] to place the cursor on the field to the right of ⟨POLY⟩, then set the value [2] with the [CONTROL KNOB].
This will set the tone [L25 Brass #2] so that it will sound as a two sound polyphonic.

⑩ Program the tone for the third line following the same procedures. In this example, five voices have already been designated, so that only one voice remains. Therefore, only [1] or [0] can be designated for the field to the right of ⟨POLY⟩.



⑪ After the tones and voices have been assigned, press [SOFT KEY 4 [SETUP]] to open the "MULTI EDIT" screen. Carefully read 6. MULTI PLAY MODE for information on this screen. After setting up this screen, press [SOFT KEY 4 [TUNE]].

Set up the tones for each voice (read section 6 carefully on how to set these up).



⑫ After setting up the "MULTI EDIT" screen, set up the "MULTI EDIT [TUNE]" screen, then from the "MULTI EDIT [TUNE]" screen press [SOFT KEY 4 [QUIT]].

This completes the programming for the program named 'Multi #1.' Follow the same procedures to continue programming (up to 40 programs can be stored).
The description above was for the 'multi play mode,' but programming for the 'chord play mode' is about the same. Read section 7 carefully for details on the 'chord play mode.' Next, we shall describe the 'packet function.'

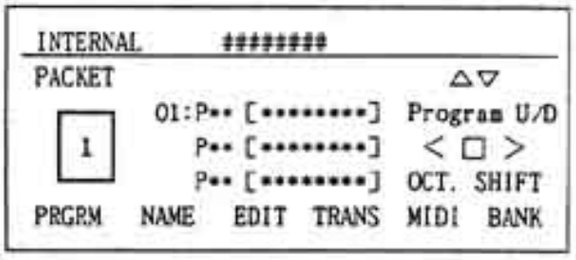
Note: The 'library names' for the library numbers in the figures are not those which were stored when the unit was shipped from the factory. Furthermore, the 'program name' used in the example is a arbitrary name.

8.3 PACKET PROGRAMMING

After inputting necessary 'program data' in the "PROGRAM MENU," file the 'program data' in the sequence in which it will be necessary when playing.
This file function is called "PACKET." There are ten VX600 "PACKETS." One "PACKET" can contain 20 'program data' which is filed in sequence. In addition, 'packet names' can be attached to individual "PACKETS."

(a) Packet Number Selection

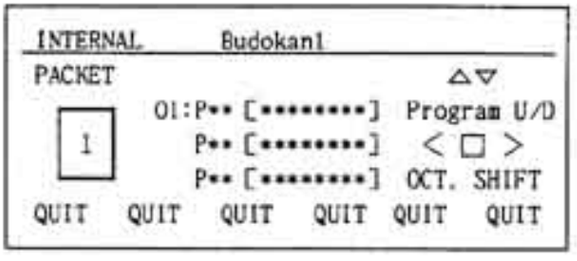
First, select a 'packet.' If the screen displays the "PROGRAM MENU," press [SOFT KEY 6 (PAKET)] to open the "PACKET" screen (or turn off the power supply, and turn it on again to display the "PACKET" screen). Use the [DATA ENTRY] ten keys to input the 'packet number.' Press (0) through (9) of the ten keys in sequence. The number in the ⟨PACKET⟩ field will change.
This is the 'packet number.'



'Packet names' can be attached to each packet.

(b) Registering Packet Names

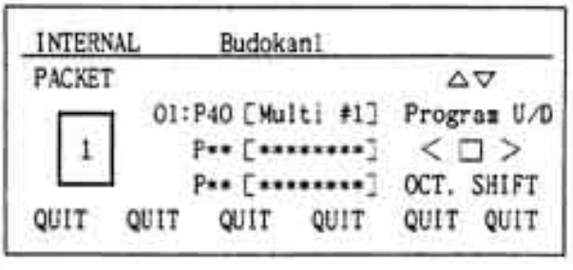
Next, we shall register 'packet names.' Press [SOFT KEY 2 (NAME)]. The cursor will be flashing is the topmost white area. This is the area where the 'packet name' is registered. The cursor is currently on the first character position. Up to eight characters can also be input for the 'packet name.' The registration method is the same as that for 'program names.'



After finishing registering the 'packet name,' press one of the [SOFT KEYS].

(c) Assigning Programs

Turn the [CONTROL KNOB] to select 'packet program number.' This ranges from (01) to (20). Set this to (01) for now.
Then, press [SOFT KEY 3 (EDIT)]. 'Program number (the number with P attached)' to the right of the 'packet program number' will flash.
Turn the [CONTROL KNOB], then assign the necessary program data to 'packet program number (01).'



After you have completed assigning program data, press one of the [SOFT KEYS].
Repeat the procedure until you have assigned program data up to 'packet program number (20).'

In this manner, you can assign 20 'program data' to each of the 10 'packets.'
If the necessary 'program data' is assigned for actual playing, you can switch between tones with great efficiency.

Chapter 9. MEMORY CARDS

The VX600 can save and load data to and from 'memory cards.'
Only the separately sold "AKAI BR-16" memory card can be used. The unit will not operate properly if any other memory card is used.

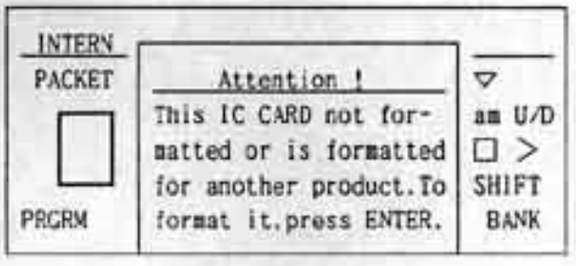
9.1 SAVING TO MEMORY CARDS

The VX600 has various types of sample data input into it when it is shipped from the factory. If you do not wish to lose this data when operating the unit, be sure to save it beforehand on a memory card.

① First, make sure that the power supply of the VX600 [OFF].
Set the [PROTECT SWITCH] of the "AKAI BR-16" memory card to [OFF], then carefully insert it into the VX600 [MEMORY CARD] slot.

Note: See the "BR-16" manual for handling instructions for the "AKAI BR-16" memory card.

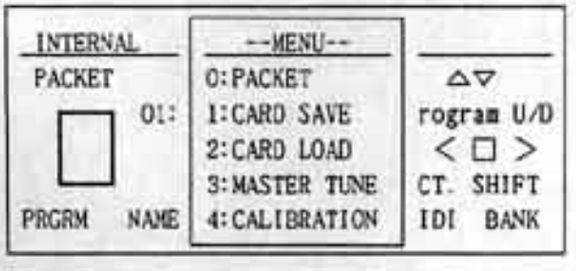
② Turn on the power supply of the VX600. If you have inserted a memory card which has never been used, the screen on the left will be displayed.



This message warns you that the memory card has not been 'formatted.'

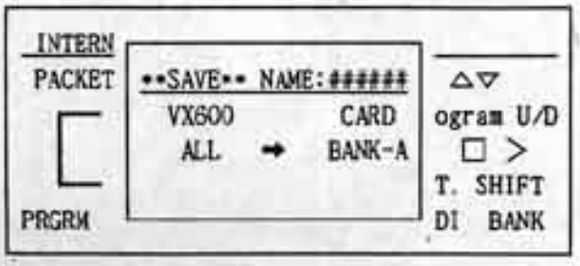
③ Press the [ENTER] key.
'Formatting' will be completed quickly, and the screen will show the "PACKET" mode.

④ After the screen has gone to the "PACKET" mode, press the [MENU] key. The window screen --MENU-- will be displayed.



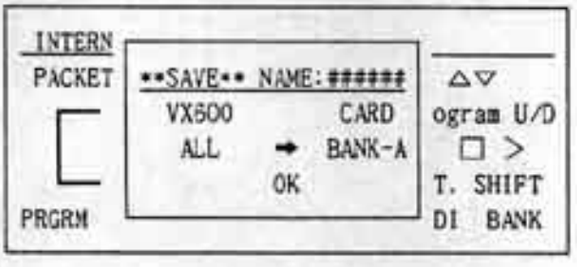
⑤ Press [1] of the [DATA ENTRY] ten key pad. The **SAVE** window screen will be displayed.

⑥ Press the up cursor key [△]. The flashing cursor will appear to the right of ⟨NAME⟩. This indicates that you are now ready to name the data which is to be saved. The data name can be up to eight characters long.
Registering this name is done in the same manner as that for program names and packet names.



⑦ After inputting the data name, press the down cursor key [▽]. The display ⟨ALL⟩ will be displayed. Turn the [CONTROL KNOB] clockwise, and the display will change in the following sequence: ⟨ALL⟩ → ⟨LIBRARY⟩ → ⟨PROGRAM⟩ → ⟨PACKET⟩ → ⟨CHORD⟩. This operation decides which source of data to save. If ⟨ALL⟩ is selected, all the data in the main unit memory will be saved. If you are going to save the data input when the unit was shipped from the factory, set ⟨ALL⟩.

⑧ After selecting the data to be saved, press the right cursor key [▷]. The display ⟨BANK-A⟩ will flash. Turning the [CONTROL KNOB] clockwise will change this to ⟨BANK-B⟩. Each memory card has two banks, so that two types of data can be filed.
Set this to ⟨BANK-A⟩. Then, press the [ENTER] key. If [OK] is displayed below the arrow, then the data has been successfully saved.



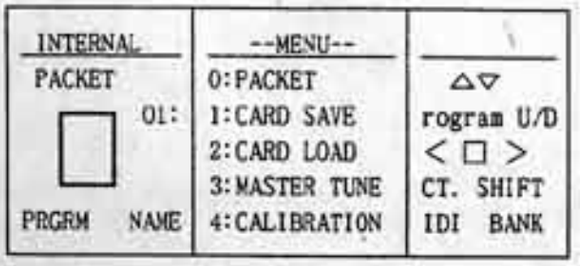
Note: If a memory card is not inserted into the slot, the message [NO CARD!] will flash.

9.2 LOADING FROM MEMORY CARDS

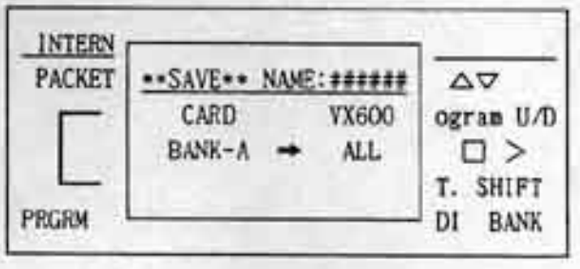
Next, let's try loading data from a memory card. The 'VX600 specialized tone software' which has various kinds of tone data stored in it is available for the VX600. Load this 'tone software data' or your own data which has been saved in a memory card.

① Prepare a memory card which has data filed in it. Turn off the power supply of the VX600, and insert the memory card carefully into the slot.

② Turn on the VX600 power supply. When the screen displays the "PACKET" mode, press the [MENU] key. The - -MENU- - window screen will be displayed. Be sure that the [MEMORY PROTECT] on the rear panel of the VX600 main unit is (OFF) at this time.

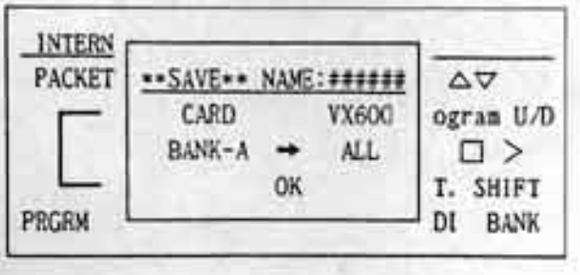


③ Press (2) from the [DATA ENTRY] ten keys. The **LOAD** window screen will be displayed.



④ The VX600 will flash the display ⟨ALL⟩.
Turn the [CONTROL KNOB] clockwise, and the display will change in the following sequence: ⟨ALL⟩ → ⟨LIBRARY⟩ → ⟨PROGRAM⟩ → ⟨PACKET⟩ → ⟨CHORD⟩. This operation decides which source of data to load.
If ⟨ALL⟩ is selected, all the data in the will be loaded into the main unit memory.

⑤ After selecting the data to load, press the left cursor key [◁]. The display ⟨BANK-A⟩ will flash. Turning the [CONTROL KNOB] clockwise will change this to ⟨BANK-B⟩. Each memory card has two banks, so that two types of data are filed.
Choose one of the banks to load from, then press the [ENTER] key. If (OK) is displayed below the arrow, then the data has been successfully loaded.



Note: If ⟨ALL⟩ is selected, all main unit memory will be replaced with loaded data.
Main unit memory is equal to all the data in either ⟨BANK-A⟩ or ⟨BANK-B⟩.

9.3 MEMORY CARD DATA SELECTION AND EDITING

If you have a memory card with data you created inserted into the slot, you will always be able to use the memory card data, as well as the main unit memory data.

In other words,

Main memory: INTERNAL (packet: 10 × 20 programs, 40 programs, 50 libraries)
Memory card: BANK-A (packet: 10 × 20 programs, 40 programs, 50 libraries)
BANK-B (packet: 10 × 20 programs, 40 programs, 50 libraries)

This gives you a wider range of data to work with, so that you can work more efficiently.

① Turn off the power supply of the VX600.
Insert a memory card with data you have created into the slot. If you wish to edit this data, be sure that the [PROTECT SWITCH] on the memory card is set to (OFF). If you do not wish to edit data, set the [PROTECT SWITCH] to (ON).

② Turn on the power supply. When the "PACKET" mode screen is displayed, press [SOFT KEY 6 (BANK)]. [SOFT KEY 6 (BANK)] is a 'cyclic' mode switch, and it rotates through the memory banks in the following manner: ⟨INTERNAL⟩ → ⟨BANK-A⟩ → ⟨BANK-B⟩ → ⟨INTERNAL⟩. You can confirm which memory bank you are in accessing by examining the field on the upper left of the "PACKET" screen.

③ You can now select and edit data in the manner which has been explained elsewhere in this manual.

④ See section 5.5 for the library copy function.

Warning: The memory card operates with batteries. When the battery runs out, the data saved in the card will be lost. Although memory card batteries have a life of two to three years under normal use, we recommend that you replace them at an earlier date.
Also, note that data will be lost when batteries are being replaced. Therefore, be sure to load the data into the main unit memory when replacing batteries. The main unit memory, however, only has capacity for data from either ⟨BANK-A⟩ or ⟨BANK-B⟩, not both.
After replacing a battery, be sure to 'format' the memory card before saving data in it.

Chapter 10. EXT IN

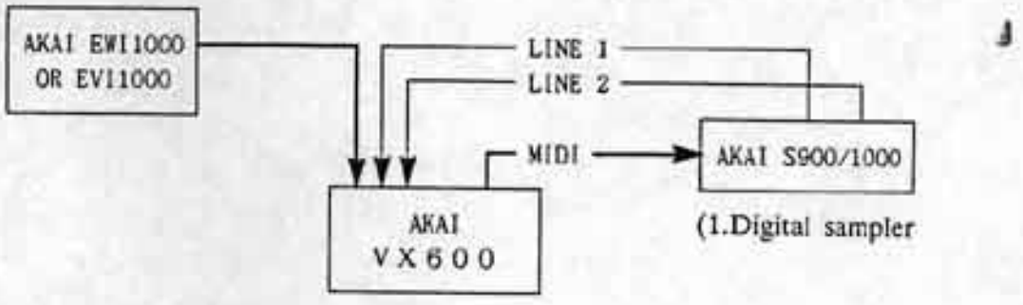
VX600 [EXT IN] will be described in this section.

10.1 CONNECTIONS

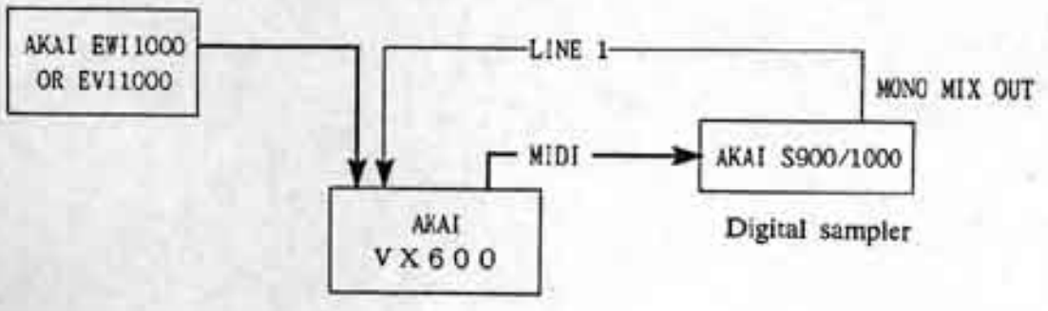
[EXT IN] of the VX600 is used to input the 'audio output' from external synthesizers, digital samplers and other equipment, so that that output can be processed with VCF and VCA of the VX600. This function is especially useful when playing a 'digital sampler' with the "AKAI EWI1000/EVI1000." This function is part of VCO group [2], and is made up of two input terminals. In addition, because the two [EXT IN] audio signals are allocated to two voice numbers, if a program is properly made, these audio signals can be sounded simultaneously with the synthesized sounds (up to four sounds) of the VX600.

Follow the procedures below to connect the 'audio output' of an external synthesizer, digital sampler, or other instrument to [EXT IN] of the VX600. When you make these connections, be sure that the power supplies of the VX600 and the external synthesizer, digital sampler, etc. are "OFF."

① If the audio output of the external synthesizer, digital sampler, etc. is [STEREO] and has L/R (or 1/2) lines, make the connections as shown in the figure below.

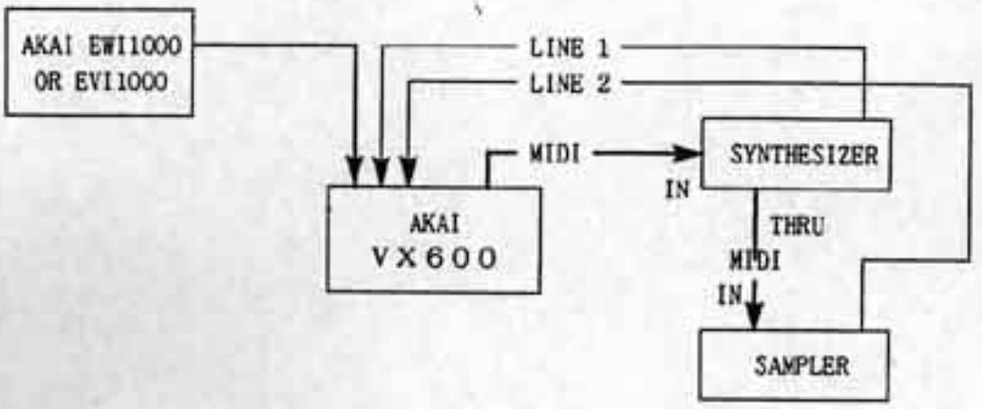


② If the audio output of the external synthesizer, digital sampler, etc. is [MONO MIX], connect it to [1] of [EXT IN].



Note: In this case, only voice number [1] will be allocated to the audio signal input from [EXT IN].

③ If you wish to input the audio output from two external synthesizers, digital samplers, or other equipment, make the connections as shown below.



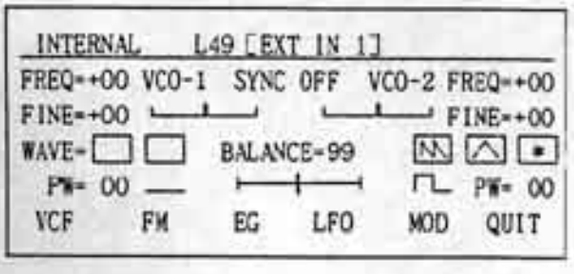
Note: The explanation here is under the assumption that the "AKAI EWI1000/EVI1000" are being used.

10.2 EDITING

After making the proper connections, turn on the power supplies of all the equipment. Then, edit the 'library' so that [EXT IN] can be used.

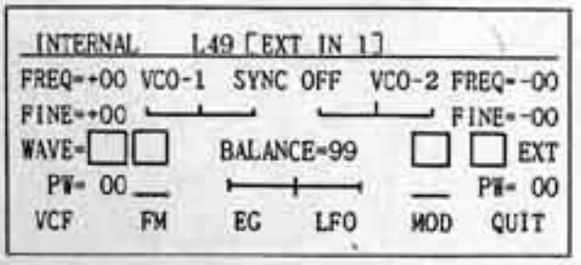
① Open the "LIBRARY MENU" screen, and designate the library number which will use [EXT IN]. Then, register the library name (e.g., EXT IN 1).

② From the "LIBRARY MENU" screen, press [SOFT KEY 1 (EDIT)], and open the "VCO group" editing screen. Use the up and down cursor keys [△ ▽], so that the field ⟨BALANCE =⟩ can be edited. Turn the [CONTROL KNOB] clockwise, and set the field to [99].



③ Set all the "VCO-1" ⟨WAVES⟩ to [OFF: waveforms erased]. ⟨PW⟩ is, of course, also turned off. This sets "VCO-1" so that nothing is output. Because ⟨BALANCE=⟩ is set to [99], some people may think this setting has no significance; however, by setting this, there is no chance of "VCO-1" sound leaking.
If, however, you wish to add sound from "VCO-1," set the various fields accordingly, and adjust the value of ⟨BALANCE=⟩ so that the mixing level is appropriate.

④ In the same manner, turn [OFF: waveforms erased] all the ⟨WAVES⟩ for "VCO-2." Then, set [EXT] in the field marked with an asterisk [*].
This will set the unit so that the audio signal input through [EXT IN] passes through "VCO-2" and flows to "VCF."



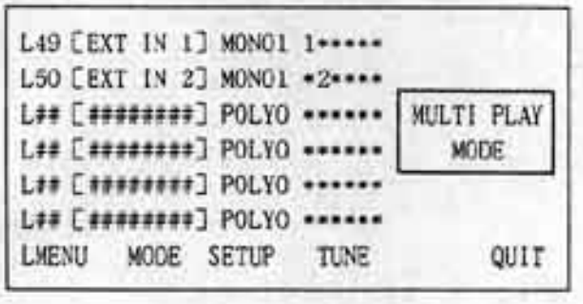
⑤ Press [SOFT KEY 5 [MOD]], and edit the "modulation matrix." Edit the necessary parameters as has been described in section 5. In this section, we use the assumption that the "AKAI EWI1000/EVI1000" is connected, so read section 5 carefully.

⑥ After all setting up is completed, 'copy' that library. In this example, the library name 'EXT IN 1' has been edited in library number [49], so that this is copied to library number [50], and the library name 'EXT IN 2' is attached.

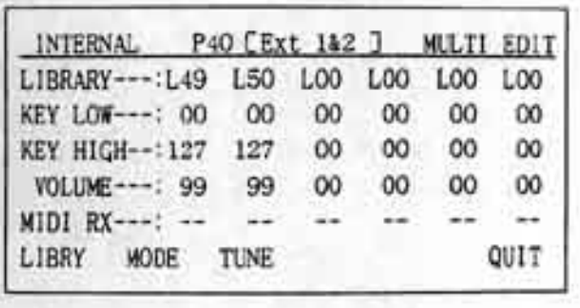
⑦ The reason two libraries with the same data have been set up is that we are assuming that the external synthesizer or digital sampler output is [STEREO]. If the output is [MONO MIX], then one library will suffice.
Next comes programming. In this case, the program is in 'multi play mode.'

⑧ Set up the 'multi play mode' as described in section 6. In this example, the first line library number is [49] and the second line is [50].
Both of these should be set to ⟨MONO1⟩. If no other sounds are to be sounded at the same time, the third line and after should be set to ⟨POLY0⟩.

Note: [EXT IN] can only be assigned to voice [1] and [2].

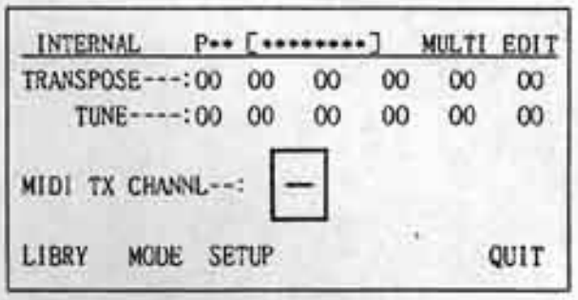


⑨ With this set up, the VX600 is in the "multi mono mode" and each voice is 'monophonic.' If [VOICE OUT] on the rear panel is used to separately output voice [1] and voice [2], then the [STEREO] status can be maintained. After the set up above is completed, press [SOFT KEY 3 [SETUP]] to open the "MULTI EDIT" screen. Designate the 'key range' and 'volume' for each voice.



The figure on the left is an example of the settings for this screen.
Please use this as reference.

⑩ From the screen above, press [SOFT KEY 3 (TUNE)] to open the screen shown on the lower left. Then align the key of each voice to (00).



In order to use the (AKAI EWI1000/ EVI1000) to operate external MIDI sound sources, designate the 'MIDI transmission channel number.'
The various fields should be set with the [CONTROL KNOB] or [DATA ENTRY] ten keys.

Although a detailed explanation as that given above seems complicated, if you remember the main points as listed below, you will find the procedure relatively easy.

① First, create two libraries to handle [EXT IN]. You should name the libraries 'EXT IN 1' and 'EXT IN 2' so that they are easy to identify.

② Next, select a program number in which to include 'EXT IN 1 & 2' from the "PROGRAM MENU" mode. Then, register the program name (e.g., EXT 1&2).

③ Press [SOFT KEY 1 (EDIT)] from the "PROGRAM MENU" mode to open the "MULTI PLAY MODE" screen or "CHORD PLAY MODE" screen. If the "CHORD PLAY MODE" screen is opened first, press [SOFT KEY 2 (MODE)] to open the "MULTI PLAY MODE" screen.

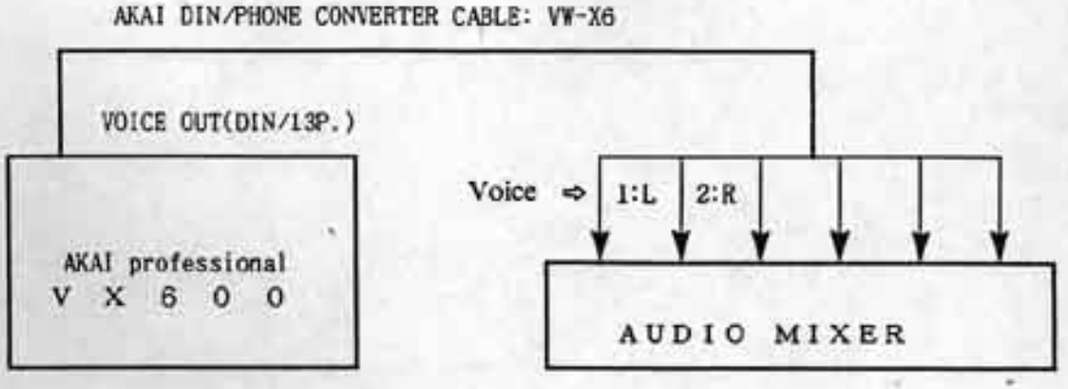
④ From the "MULTI PLAY MODE" screen, set 'EXT IN 1' and 'EXT IN 2' from the 'libraries' of the individual voices.

⑤ Set each voice to 'mono' and designate the number of voices to (1).

⑥ Press [SOFT KEY 3 (SETUP)] from the "MULTI EDIT" screen, then set up the 'key range' and 'volume' for each voice.

After each voice is set up, press [SOFT KEY 3 (TUNE)] to open the "TUNE" screen, and set the key to (00) for each voice and the 'MIDI transmission channel.'

◇Connecting Multi-voice Out



Use the separately sold "AKAI DIN/PHONE CONVERTER CABLE: VW-X6" to make these connections. Audio mixer [1] and [2] should be set to [L] and [R], respectively, with pan-pot.

Note: The output level of [VOICE OUT] has nothing to do with [VOLUME] on the front panel. Set up the output level of voices with the "MULTI EDIT" mode.

If you wish to use [EXT IN], be sure that you have mastered the functions of the VX600.

FACTORY INPUT SOUND LIBRARY

The following tones are stored in the VX600 when it is shipped from the factory. In addition, "various chord samples" for the 'chord play mode' are also stored. We recommend that you save this data in the separately sold "AKAI professional BR-16" before editing with this unit. (See section 9 for details of saving data.)

(1. Tones

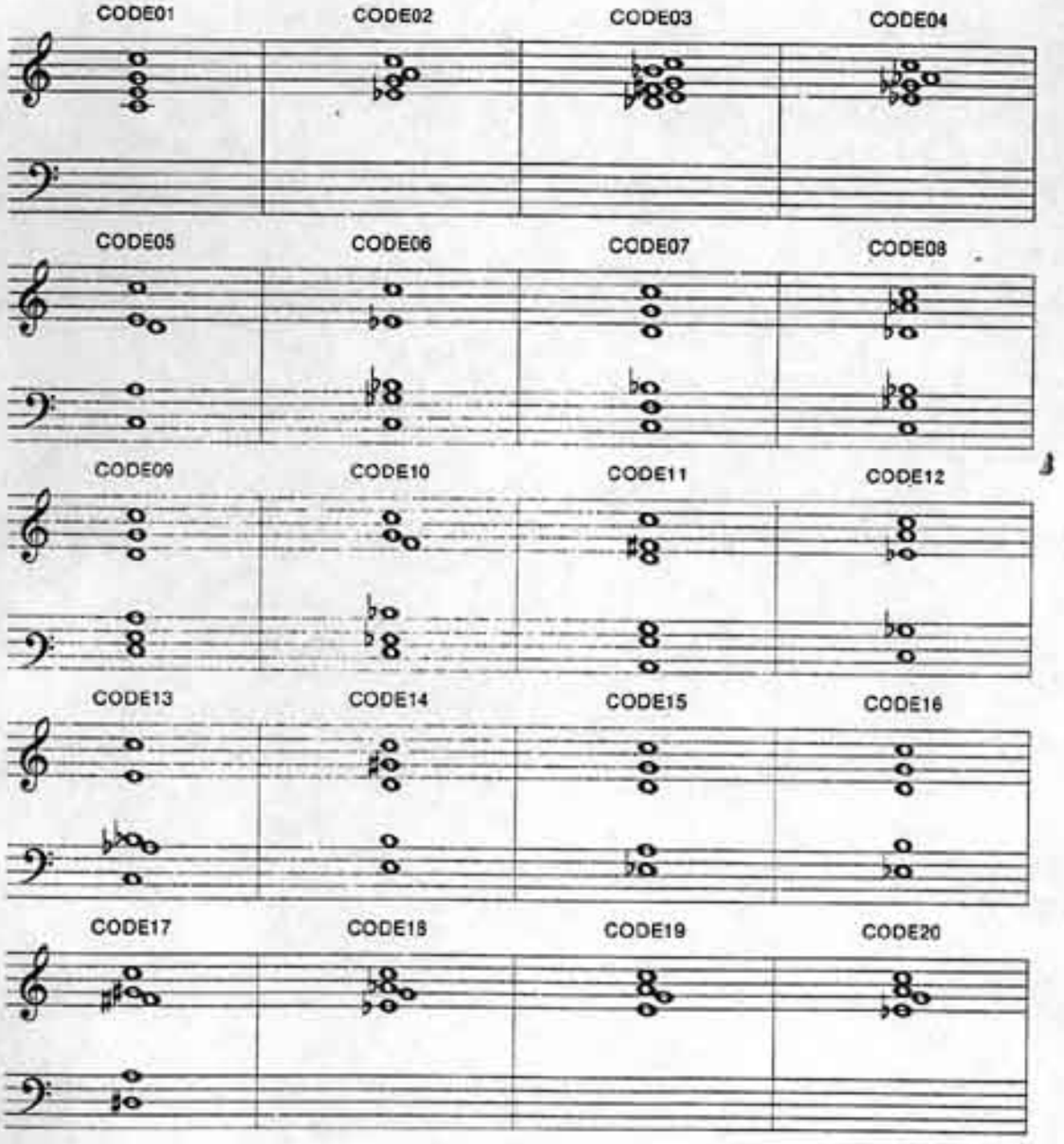
L01: BASS #1
L02: BASS #2
L03: BASS #2
L04: BASS #2
L05: BASS #2
L06: BASS #6
L07: BRASS #1
L08: BRASS #1
L09: BRASS #1
L10: BRASS #1
L11: BRASS #1
L12: BRASS #6
L13: BRASS #7
L14: SYNSAX
L15: STRINGS 1
L16: STRINGS 2
L17: STRINGS 3
L18: STRINGS 4
L19: STRINGS 5
L20: Syn Pf #1
L21: Syn Pf #2
L22: Syn Pf #3
L23: Syn Pf #4
L24: Syn Pf #5
L25: VIBES
L26: VIBRABEL
L27: BELLRA
L28: PLUKPNO
L29: METALBL
L30: MARIMBA
L31: HARP
L32: M. -HARP
L33: ORGAN #1
L34: ORGAN #2
L35: ORGAN #3
L36: E -ORGAN 1
L37: E -ORGAN 2
L38: EVOLUTE
L39: CELESTA
L40: FALL
L41: FLOATING
L42: SILENCE
L43: SOLO #1
L44: SOLO #2
L45: EWI #1
L46: EWI #2
L47: EWI #3
L48: NOISE
L49: MONSTERB
L50: EWI #4

(2. Chords

01: M.Tri
02: Min 7
03: Alt
04: Dom 7
05: Maj 9
06: Min 7b5
07: Sus 4/9
08: Alt Dom
09: Maj 6/9
10: Min 11
11: Maj #11
12: Dim 7
13: Aug 7
14: Maj #5
15: Min 6/9
16: Min M7
17: Dom 6/9
18: Maj
19: Maj 6
20: Min 6

(3. Programs

PROGRAMME 01 OPN Chord
PROGRAMME 02 CLS Chord
PROGRAMME 03 PARA SUS
PROGRAMME 04 Min OPN
PROGRAMME 05 New York
PROGRAMME 06 PARA CLS
PROGRAMME 07 PARA Maj
PROGRAMME 08 PARA Dim
PROGRAMME 09 PARA Min
PROGRAMME 10 Diatonic


CODE01
CODE02
CODE03
CODE04
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CODE07
CODE08
CODE09
CODE10
CODE11
CODE12
CODE13
CODE14
CODE15
CODE16
CODE17
CODE18
CODE19
CODE20