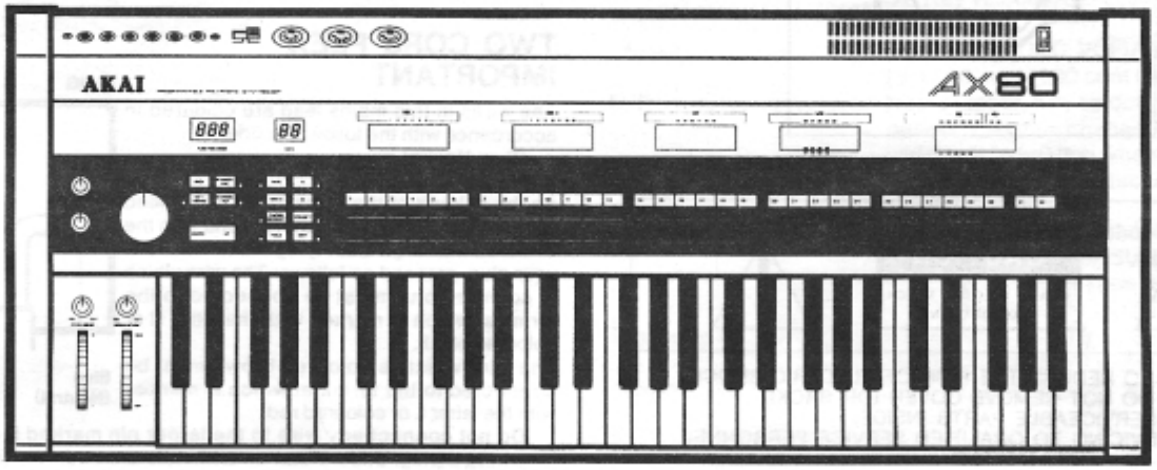
AKAI

Hi-Fi & Video.

AX80

PROGRAMMABLE POLYPHONIC SYNTHESIZER



WARNING

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

Operator's Manual

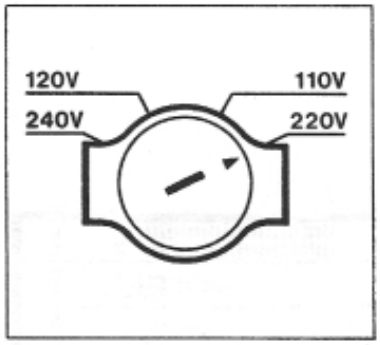
Warning

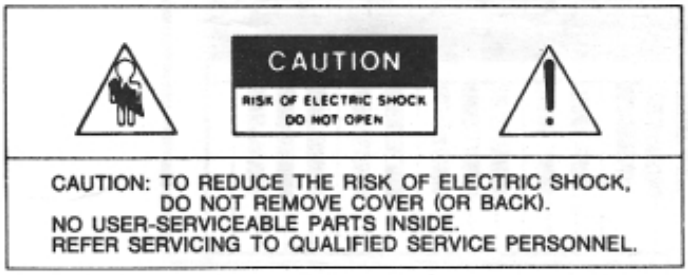
Power requirements

Power requirements for electrical equipment differ from area to area. Please ensure that your machine meets the power requirements in your area.
If in doubt, consult a qualified electrician.
120 V, 60 Hz for USA and Canada
220 V, 50 Hz for Europe except UK
240 V, 50 Hz for UK and Australia
110 V/120 V/220 V/240 V, 50/60 Hz
convertible for other countries.

Voltage conversion

Models for Canada, USA, Europe, UK and Australia are not equipped with this facility. Each machine is preset at the factory according to its destination, but some machines can be set to 110 V, 120 V, 220 V or 240 V as required.
If your machine's voltage can be converted:
Before connecting the power cord, turn the VOLTAGE SELECTOR located on the botton panel with a screwdriver until the correct voltage is indicated.







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



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

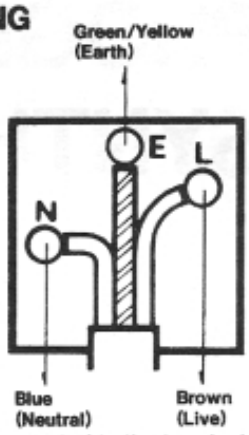
Precautions

FOR CUSTOMERS IN THE UK

IMPORTANT FOR YOUR SAFETY

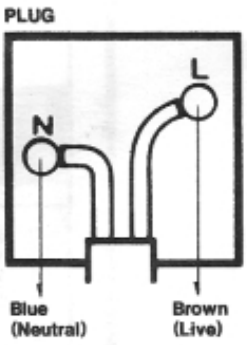
The flex supplied with your machine will have either two wires or three, as shown in the illustrations.

THREE CORE FLEX WARNING THIS APPARATUS MUST BE EARTHED IMPORTANT



The wires in this mains lead are coloured in accordance with the following code:
Green-and-yellow: Earth
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol , or coloured green or coloured green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the termi- which is marked with the letter L or coloured red.

TWO CORE FLEX IMPORTANT



The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

* Do not connect any wire to the larger pin marked E or when wiring a plug. Ensure that all terminals are securely tightened and that no loose strands of wire exist.

Table of Contents

Warning 1
Precautions 1
Specifications 2
Nomenclature ..... 3—5
Unit Connections 6
Playback Procedure ..... 7—8
EDIT mode 9
MIDI Interface 16

Specifications

Key	61 key C scle
Voice	8 voice—16 osc.
Key touch sense	
Preset tones (sample sounds)	32 tones
Memory bank	A and B, each 32 tones
OSC-1	1. FREQ. RANGE (16', 8' 4') 2. WAVE (OFF, , , MIX) 3. PW (DUTY 50% to 100%) 4. PWM speed (Rate 0.1% to 20 Hz) 5. SUB OSC (ON, OFF) 6. OXC-1 Level
OSC-2	7. FREQ. RANGE (16', 8', 4', 2' adjustment by 100 cent step) 8. Detune (±36 cent) 9. WAVE (OFF, , , MIX) 10 CROSS MOD (OFF, 1, 2) 11. EG depth 12. EG select (VCF, VCA) 13. OSC-2 Level
VCF	14. Cut off freq. (less than 10 Hz, more than 20 Hz) 15. Resonance 16. EG depth 17. Key follow (0 to 150%) 18. Key velocity 19. H.P.F.
LFO	20. Depth 21. Speed (0.1 to 20 Hz) 22. Delay (0 to 5 sec.) 23. WAVE (, , ,) 24. LFO select (OSC-1, OSC-2, VCF)
EG	25. Attack 26. Decay 27. Sustain 28. Release 29. Key follow 30. EG select (VCA, VCA/VCF, VCF)
VCA	31. Key velocity, 32. Level
Tune	±50 cent
Wheel	Modulation (OSC, VCF)/Pitch bend (±1200 cent (100 cent step)
MIDI	Note number, Key velocity, Pitch bender, Program change, Control change (Modulation wheel, Sustain SW), Transmission/ Receiving channel select
External jack	Audio out/1 V (Monophonic), Headphone (Stereo), Sustain pedal, Program up pedal, Tape memory (IN, OUT), MIDI bus (IN, OUT THRU)
Dimensions	1,018 (W) ×102 (H) ×392 (D) mm (40.1 ×4.0 ×25.4 inches)
Weight	15.2 kg (33.4 lbs)

* For Improvement

3
Nomenclature

PEDAL PRGM. UP jack
This is used together with the pedal unit to change the preset voice data one at a time.
* The jack accepts a 6.3 mm diameter phone plug.

PEDAL SUSTAIN jack
This is used together with the pedal unit to turn the sustain on/off. (The length of the sustain is determined by the SUSTAIN data of the EG parameters.)
* The jack accepts a 6.3 mm diameter phone plug.

PHONES jack
This jack is used for connection of a pair of headphones for private monitoring of the sound.
* The jack accepts a 6.3 mm diameter phone plug.

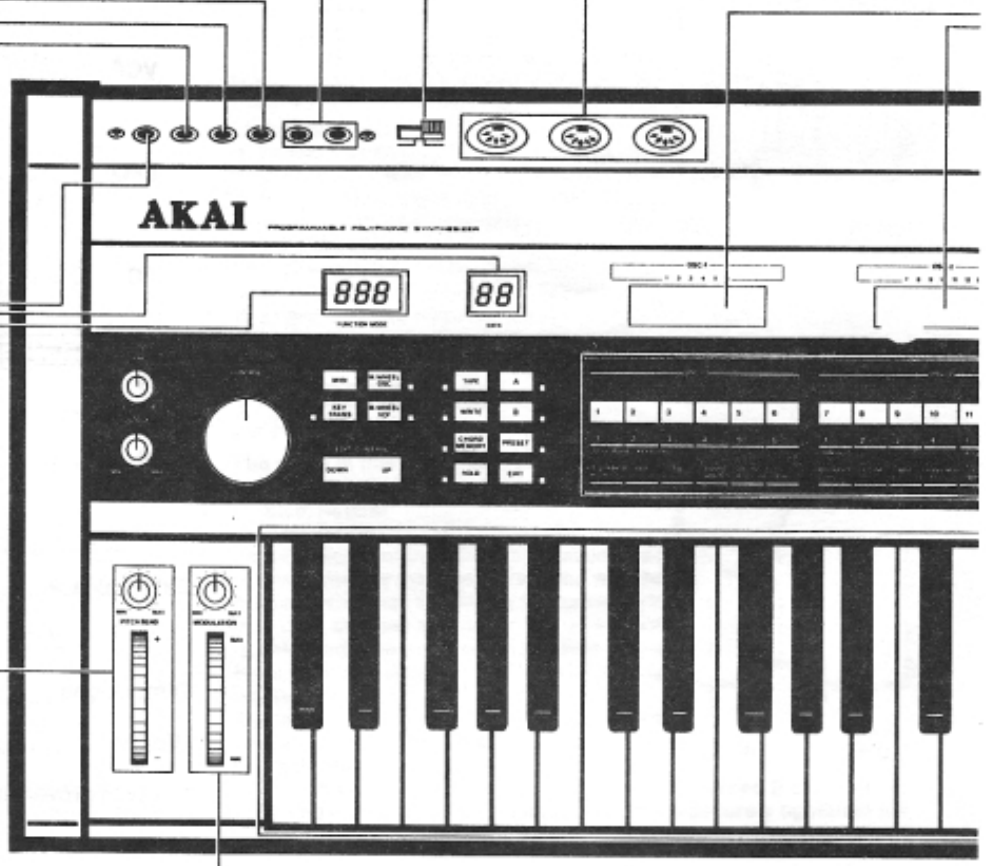
OUTPUT jack
This jack is used to connect the AX80 to the inputs of a keyboard amplifier or a mixer.
* The jack accepts a 6.3 mm diameter phone plug.

DATA display
During the edit mode, the **DATA** display will display the data of the respective parameters.

FUNCTION MODE display
This displays the function mode of the AX80.
- When either bank **A** or **B** has been selected for the presets → the preset voice number will be displayed.
- During the edit mode → the parameter being edited will be displayed.
- During the TAPE mode → the respective save, verify and load modes will be displayed.

MEMORY PROTECT switch
This switch prevents new data from being accidentally written into the write-enable memory banks A and B, thereby protecting their data contents from accidental erasure.
Turning the switch ON enables the data contents of the banks A and B re-written, as well as enabling the loading of data from tape.

TAPE MEMORY IN/OUT jacks
These are used to copy the voice data of the respective memory banks onto cassette tape, or to register the voice data recorded on cassette tape into the memory banks of the AX-80.
IN: Connect to the output jack of the tape recorder.
OUT: Connect to the input jack of the tape recorder.



PITCH BEND knob and wheel
Use these when the performance of pitch bend effects is desired. The knob is used to set the range of the pitch bend effect. The wheel is used to bend the pitch up or down.

M. WHEEL (Modulation Wheel) knob and wheel
These are used for the performance of modulation effects.
The knob is used to set the range of the modulation depth, and the wheel is used to increase or decrease the depth of the modulation effect.

MIDI jacks (IN/OUT/THROUGH)
These are used together music sequencers for automatic performances.
IN: This jack receives the MIDI control data. Using the supplied
OUT: This jack transmits the MIDI control data. Use the supplied
THROUGH: This is used when utilizing the same data as that entered into the **MIDI IN** jack. Using the

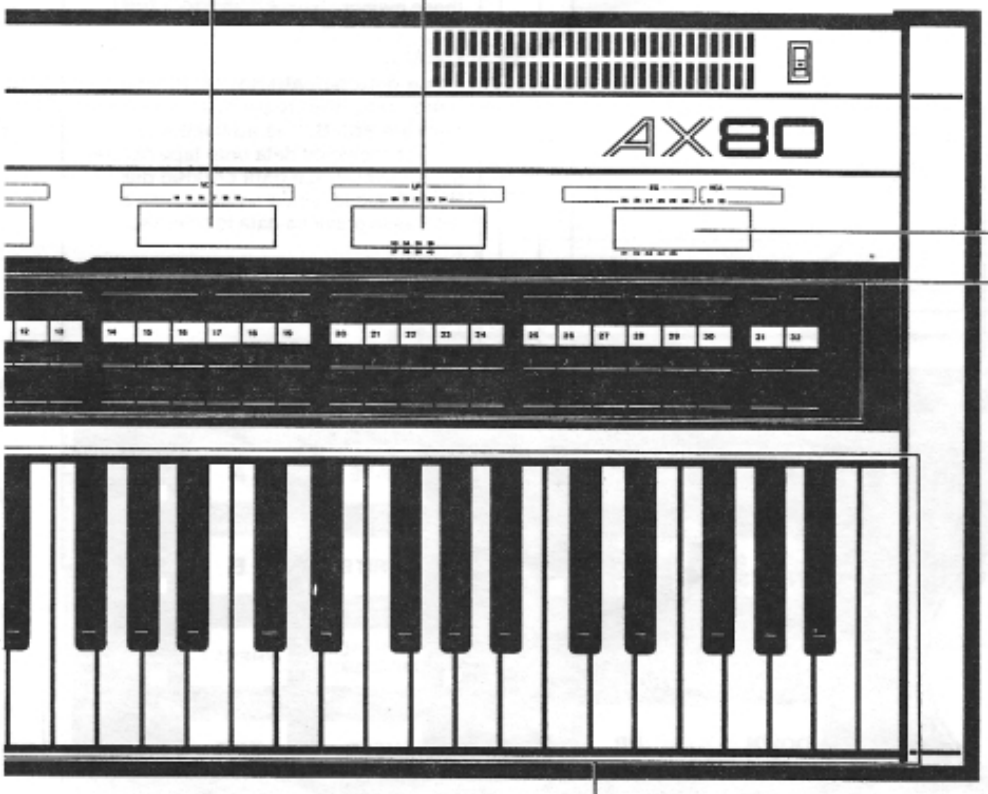
OSC-1 Mode Display
This displays the respective parameter modes of OSC-1.

OSC-2 Mode Display
This displays the respective parameter modes of OSC-2.

VCF Mode Display
This displays the respective parameter modes of VCF.

LFO Mode Display
This displays the respective parameter modes of LFO.

EG/VCA Mode Display
This displays the respective parameter modes of the EG and VCA. Additionally, when the TAPE mode has been selected, it will always display the save, verify and load modes, respectively.



Parameter, Preset Voice select buttons (1-32)
These buttons are used to select the preset voices, to select and/or the respective parameters, to select the TAPE mode, or to set the MIDI channels.

Keyboard
This is a 61 key, 8-voice polyphonic keyboard.

TUNE control
This control is used to tune the pitch. At the maximum setting, the tuning can be adjusted over a range of ± 50 cents. Tuning the control towards # will increase the pitch while turning it towards *b* will decrease the pitch. Normally, leave this control at the center position.

KEY TRANS button and indicator (Key Transpose)
This key is used to transpose the key over a range of ± 1 octave, referenced to C . Press the button once more to cancel the function (the indicator goes out).

EDIT CONTROL UP/DOWN buttons
Use these buttons during the edit mode to change the respective parameter data by one increment at a time. While also functioning as data fine adjustment buttons, during a performance for example, the buttons will also operate as the program UP or program **DOWN** buttons when changing the voice data memorized in bank A, bank B or the PRESET bank, by one increment at a time.

CONTROL knob
This control is used for coarse adjustment to the parameter data during the edit mode.

MIDI button
Use this button to set the MIDI transmission/reception channel. The transmission/reception channel will be initialized to channel 1 when the power is turned on.

M. WHEEL VCF button and indicator (Modulation Wheel Voltage Control Filter)
Use this button to enable the cut-off frequency of the VCF to be controlled by the **M. WHEEL**.
Press this button once again to cancel the function, causing the indicator to go out.

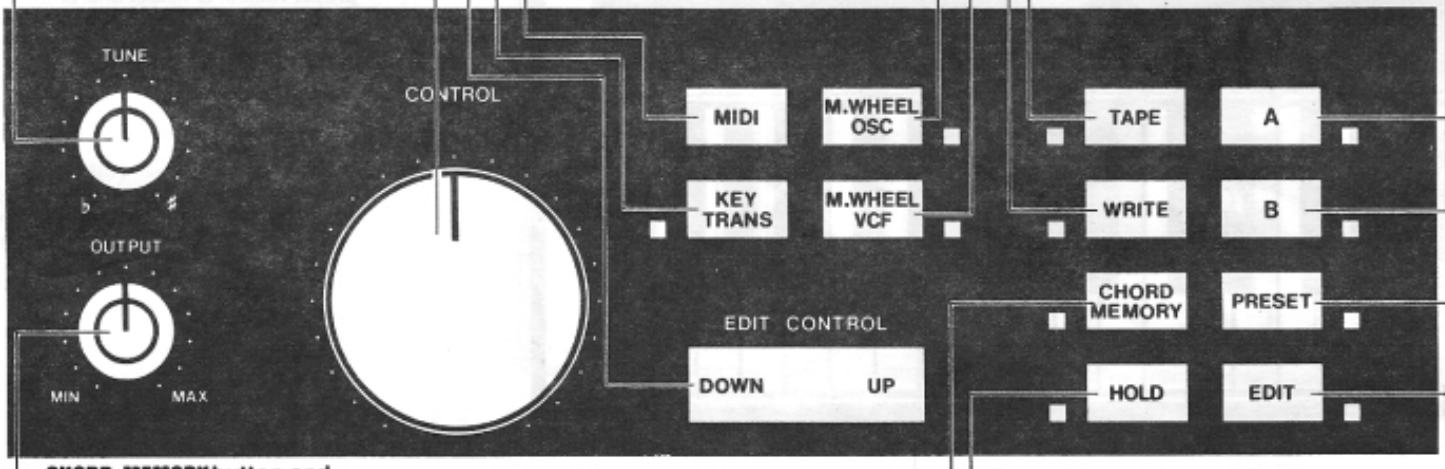
M. WHEEL OSC button and indicator (Modulation Wheel Oscillator)
Use this button to enable the oscillation frequency of the oscillators (OSC-1 & OSC-2) to be controlled by the **M. WHEEL**. Press this button once again to cancel the function, causing the indicator to go out.

WRITE button and indicator
Use this button to memorize the voice data created during EDIT mode onto memory banks A or B. Press the EDIT button to cancel this function during operation.

TAPE button and indicator
This button is used to save (record) the voice data memorized in the respective banks (A, B or PRESET) of the AX80 onto tape, to verify (confirm) the voice data recorded on tape, or to load the recorded voice data into banks A or B of the AX80.
To cancel this function, press the button when the three indicators of the EG/VCA Mode Display begin to flicker, causing the indicators to go out.

A, B buttons and indicators
These buttons are used to memorize the voice data created during the edit mode, or when utilizing the voice data for the memory banks A and B.
It is possible to write new data into these memory banks.

Caution
Voice data has already been memorized onto the respective memory banks A and B. It is advisable to first save these voice data onto tape before memorizing voice data created during the edit mode, since entering new da will cause previous data to be erased.



CHORD MEMORY button and indicator
This button is used when memorizing a certain chord, or for single-finger chording, etc., when the use of a memorized chord is required.
To cancel this function, press the **CHORD MEMORY** button (the indicator goes out).

OUTPUT control
Use this control to adjust the output level of the **OUTPUT** jack or the **PHONES** jack.

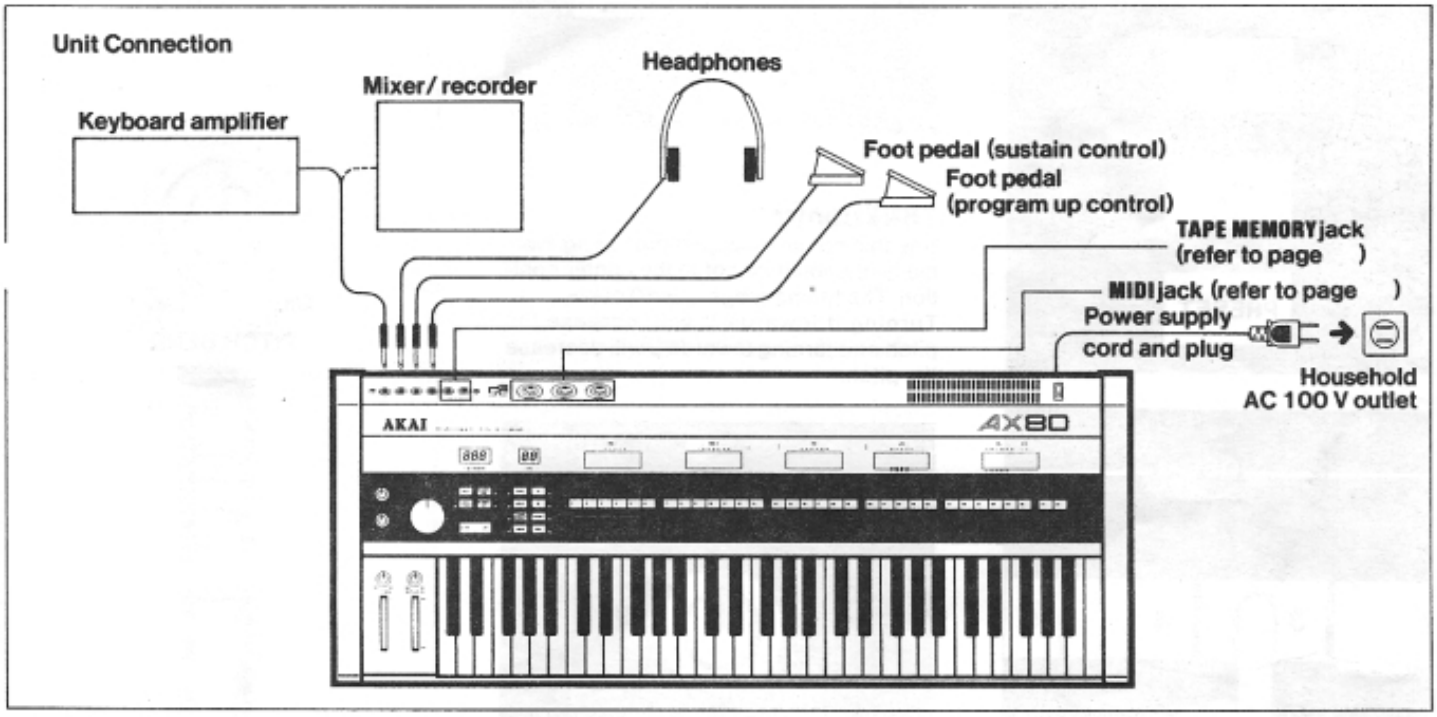
HOLD button and indicator
Press this button to extend (hold) the note of the key depressed during **CHORD MEMORY** operation.
Press this button once again to cancel the function, causing the indicator to go out.

EDIT button and indicator
This button is used for the application of voice data memorized in the A, B, or PRESET banks for the creation of entirely new voice data.

PRESET button and indicator
This button is used to call out the voice data memorized in the preset bank.
It is not possible to write new data into the PRESET memory bank.

Unit Connections

The AX80 does not contain a speaker nor an amplifier.
Therefore, it requires the use of a separate power amplifier and speaker unit, such as a commercial keyboard amplifier unit.



7
Playback Procedure

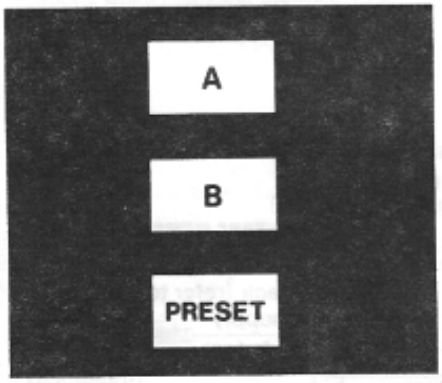
Preset voice data playback

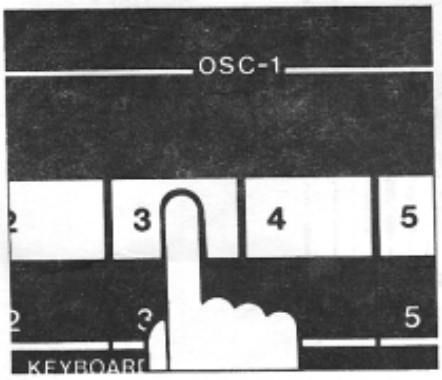
The AX80 is equipped with a preset memory bank, and two memory banks, A and B. The voice data for 32 voices are set into each memory bank for a total of 96 voices.

Operation procedure

1. Turn on the **POWER** switch to turn on the power. The AX80 will now be set to the preset playback mode, with *P 1* appearing in the **FUNCTION MODE** display, and voice data 1 will be set.

When using voice data memorized in either memory banks A or B: Press either button A or B.



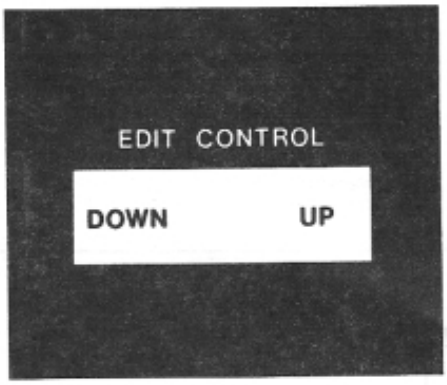


Either *A 1* or *b 1* will appear on the **FUNCTION MODE** display. At the same time, the AX80 will be set to voice data 1.

2. Using buttons 1—32, select the desired voice data.
3. Adjust the output level by using the **OUTPUT** knob.

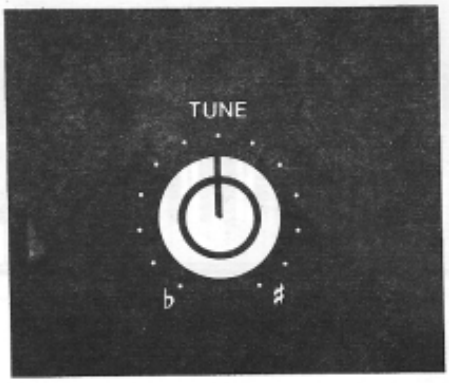
By using the **EDIT CONTROL UP/DOWN** buttons, it is possible during playback to change the voice data of each bank by one step at a time.

When changing the data directly:
Press one of the buttons 1—32.



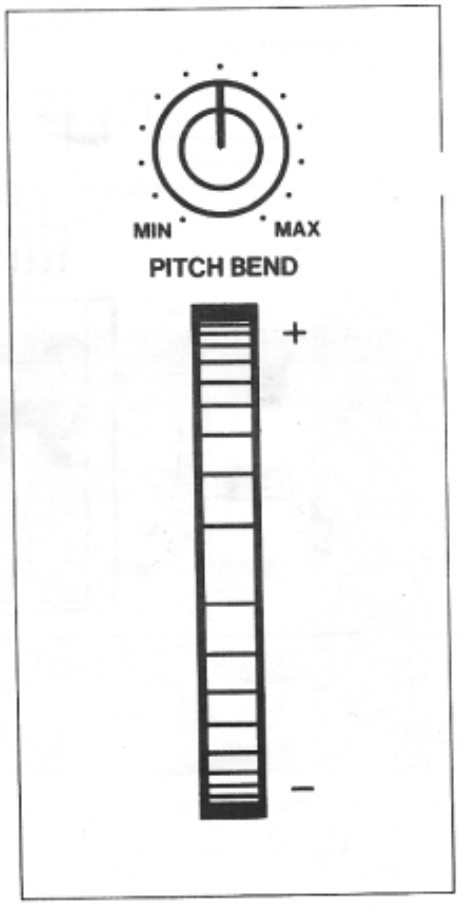
TUNE control

Use this control to adjust the tuning. Normally, it should be set to the center position. The tuning range is ±50 cents.
Turning it towards ♯ will increase the pitch and turning towards ♭ will decrease the pitch.



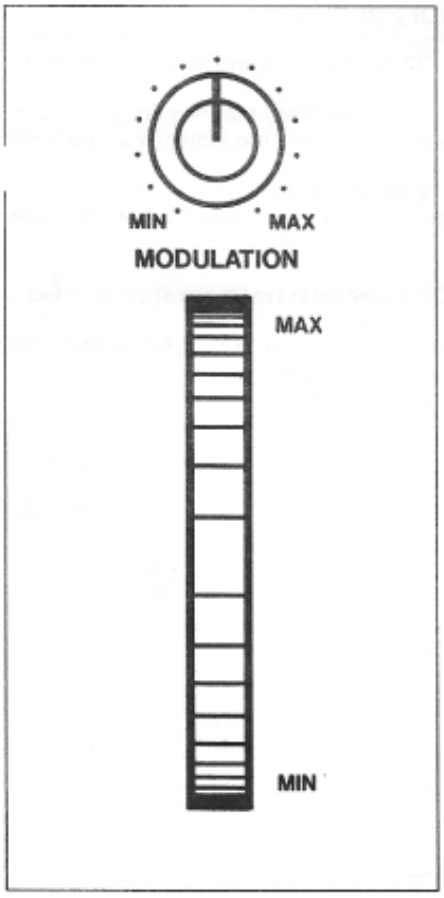
PITCH BEND control

Use this control when adding pitch bend effects.
The control knob selects the pitch-variable range of the pitch bend effect. Setting it to **MIN** means that the range is 0 (pitch bend effect zero) while setting it to **MAX** means that the pitch bend range is 1200 cent (1 octave.)
The pitch bend wheel controls the pitch bend effect selected by the pitch bend control knob. Moving the control towards +will increase the pitch, and moving it towards —will decrease the pitch.
The pitch bend wheel will automatically return to the center position when the pressure on it is released, causing the pitch bend effect to revert to 0.



M. WHEEL control

Use this control when adding modulation effects. When using the modulation wheel control, it is necessary to press either the **M. WHEEL OSC** or **M. WHEEL VCF** button, or both.
The control knob adjusts the degree of modulation. Set at **MIN** for a modulation effect of 0, and the modulation will be at its maximum when the control is set to **MAX**.
Use the wheel to control the modulation effects set by the modulation control knob. Moving the wheel towards **MAX** will increase the modulation effect, while moving it towards **MIN** will decrease the modulation effect.



Transposing with the KEY TRANS mechanism (key transpose)

This enables the key to be transposed upwards over a range of II semitones, referenced to C. This can be used to transpose a piece written in a key with many ♯ and ♭ into a key that is more convenient to play in.
Transposing up or down in octave units should be done by using the **OSC-1 FEET SELECTOR**.

Operation procedure

1. Press the **KEY TRANS** button. The corresponding indicator will light up.
2. Referenced to C, press the key (from D—B, including black keys) to be transposed to. No sound will be produced when this procedure is carried out.
   The key has been transposed when the blinking **KEY TRANS** button indicator glows steadily.

To cancel the KEY TRANS function:

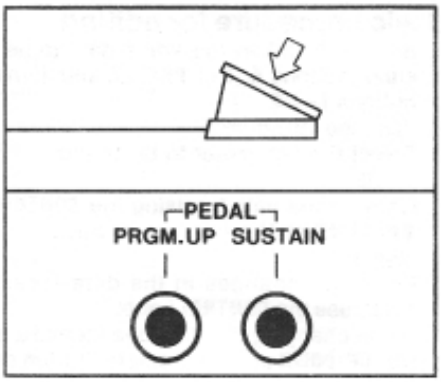
Press the **KEY TRANS** button, causing the corresponding indicator to go out.

Changing the voice data with the foot pedal

By connecting a separately available pedal unit to the **PEDAL PROG. UP** jack, it is possible during playback to change the voice data by one step at a time.

Turning the PEDAL SUSTAIN effect ON/OFF

By connecting a separately available pedal unit to the **PEDAL SUSTAIN** jack it is possible to turn the sustain effect on/off.
* The jack is for a 6.3 mm ϕ phone plug.



9
EDIT mode

The edit mode selects voice data memorized in the preset memory bank or memory banks **A** and **B** and modifies it to create new voice data.
During the edit mode, the parameter to be changed will appear in the **FUNCTION MODE** display, and the data itself will appear on the **DATA** display.

Basic procedure for editing

1. Set the AX80 to the voice data to be changed by pressing either buttons **A**, **B** or **PRESET**, and then by pressing one of the buttons 1—32.
2. Push the **EDIT** button.
3. Select the parameter to be changed from among the buttons 1—32.
4. Change the data by using the **CONTROL** knob, **EDIT CONTROL UP/DOWN** or the parameter button depressed in the above step 3.
   For major changes in the data (coarse adjustment of the data), use the **CONTROL** knob.
   When changing the data one step at a time, use the **EDIT** control **UP/DOWN** or the parameter button depressed in the above step 3.

Description of functions for buttons 1—32 in the EDIT mode.
When the EDIT mode is selected, operation buttons 1—32 will function as parameter select buttons, as well as possessing the same functions as the **EDIT CONTROL** button. Next are the functions of each button, and the corresponding contents of the **FUNCTION MODE** and the **DATA** displays.

Procedure for memorizing voice data created in the EDIT mode.
The AX80 is equipped with two memory banks, A and B, each of which is capable of memorizing the voice data for 32 voices, for a total of 64 voices selectable. Once voice data modified or created is memorized in the memory banks A or B, they can be recalled with one touch of a finger.

NOTE
Before carrying out this procedure, it is advisable to save (record) the voice data memorized in the memory banks A and B onto cassette tape. Failure to observe this precaution can result in the loss of important voice data. Refer to page 14 for the procedure on saving voice data on a cassette tape.

Operation procedure

1. Press the **EDIT** button, and select the respective parameter data for the desired voice data.
2. Turn off the **MEMORY PROTECT** switch.
3. Press the **WRITE** button.
   SEL will appear on the **FUNCTION MODE** display. The indicators for buttons **A** and **B** will begin to flicker in alternation.

Selecting the memory bank

4. Use either button **A** or **B** to select the desired memory bank to contain the voice data. Depending on which button is pressed, A- - or b- - will appear on the **FUNCTION MODE** display, and the memory number line will flicker.
   ○ If the wrong memory bank is selected, simply press the button for the desired bank to correct this.

Setting the memory number

5. Use the buttons 1—32 to select the memory number to be memorized.
   Once the button has been pressed, the memory number of the button pressed will appear, and the indicator of the **TAPE** button will go out.
6. Turn on the **MEMORY PROTECT** switch.

The above procedure completes the memorization of the voice data.

- **Procedure to cancel the voice data memorization process while in progress**

Before carrying out the above step 4, press the **EDIT** button. This cancels the **WRITE** mode for the voice data.
Saving voice data onto cassette tape

OSC-1

BUTTON		CONTENTS		DISPLAY	
				FUNCTION MODE	DATA
1	FREQ. RANG 16′ 8′ 4′	Sets the frequency range. 8 feet is the reference setting, and the pitch can be transposed up or down by one octave by using the 4 feet or 16 feet settings, respectively.	16 feet	E 1	4
			8 feet		8
			4 feet		16
2	WAVE OFF ⋀ ⊓ MIX	Turns the oscillator ON/OFF as well as setting the waveform.	OFF	E 2	0
			(Sawtooth waveform) ⋀		1
			(Pulse waveform) ⊓		2
			MIX (Mixed waveform)		3
3	PW	Sets the width of the pulse for the pulse waveform. However, the E2 mode will function only when " " is selected.		E 3	0 ↕ 99
					
4	PWM 	This selects the depth of the PWM for the pulse width set for the E2 mode PW. Note: The PWM will not function when the E3 mode PW data is 0. Adjust the PWM speed. * The PWM will modulate between the pulse width set for the E3 mode PW and a duty cycle 50% PW.		E 4	0 ↕ 99
5	SUB OSC ON OFF	Turns on/off the sub-oscillator (1 octave lower).	OFF	E 5	0
			ON		1
6	OSC-I LEVEL	Sets the output level of OSC-1.		E 6	0 ↕ 99

OSC-2

BUTTON		CONTENTS		DISPLAY	
				FUNCTION MODE	DATA
7	FREQ. RANG 16′ ~ 2′	Sets the frequency range. Can be adjusted by 100 cents or by tape.	16 feet	E 7	2
			8 feet		4
			4 feet		8
			2 feet		16
8	DETUNE	This adjusts the OSC-2 oscillation frequency and can be used to achieve a rich and mild sound by deturning the OSC-2 oscillation frequency from that of OSC-1. The frequency (pitch) can be adjusted over a range of ±36 cents.	−36 cent ↕ 0 cent ↕ +36 cent	E 8	0 ↕ 50 ↕ 99
9	WAVE OFF ⋀ ⊓ MIX	Turns the oscillator ON/OFF as well as setting the waveform.	OFF	E 9	0
			(Sawtooth waveform) ⋀		1
			(Pulse waveform) ⊓		2
			MIX (Mixed waveform)		3

OSC-2

BUTTON		CONTENTS		DISPLAY	
				FUNCTION MODE	DATA
10	CROSS MOD. OFF, 1, 2	This is used to attain waveforms that are not possible with only a single or two independent oscillators. 1. Oscillation frequency of OSC-1 and OSC-2. 2. The OSC-2 oscillation frequency is synchronised to the OSC-1 oscillation frequency.	OFF 1 2	E 10	0 1 2
11	EG DEPTH	This sets the degree of modulation when contulling OSC-2 with the EG signals.	EG DEPTH −EG (MAX) ↑ 0 ↓ +EG (MAX)	E 11	0 ↕ 55 ↕ 99
12	EG SELECT VCF VCA	Sets the circuit which will use the envelope generators. The EG SELECT will not function if the EG DEPTH of the above II is not on.	VCF VCA	E 12	1 2
13	OSC-2 LEVEL	Sets the output level of OSC-2.		E 13	0 ↕ 99

VCF

BUTTON		CONTENTS		DISPLAY	
				FUNCTION MODE	DATA
14	CUT OFF FREQ.	Sets the cut-off frequency of the VCF.		E 14	0 ↕ 99
15	RESONANCE	This enables the area of the cut-off point, determined by the cut-off frequency, to be emphasized.		E 15	0 ↕ 99
16	EG DEPT-H	This enables the VCF cut-off frequency to be controlled by the EG signals, causing the preset VCF cut-off frequency to change.	−EG (MAX) ↑ 0 ↓ +EG (MAX)	E 16	0 ↕ 50 ↕ 99
17	KEY FOLLOW	This enables the cut-off frequency to be shifted by the position on the keyboard, and adjusts the amount of shift.		E 17	0 ↕ 99
18	KEY VELOCITY	Although the E16 EG DEPTH will control the VCF cut-off frequency, the KEY VELOCITY adjusts the amount by which the EG DEPTH is controlled by the velocity with which the keys of the keyboard are struck. NOTE: The KEY VELOCITY effect will be "0" when the EG DEPTH is "D" (data 50).		E 18	0 ↕ 99

LFO

The contents will change, depending on the setting of the LFO select button (button 24).

BUTTON		CONTENTS		DISPLAY	
				FUNCTION MODE	DATA
19	HPF	This adjusts the amount of low-frequency signals that are allowed to pass through unimpeded.		E 19	0 ↓ 99
20	DEPTH	This sets the depth of LFO modulation for the OSC-1 oscillation frequency.		E 20 E 33 E 37	0 ↓ 99
21	SPEED	This adjusts the LFO modulation speed.		E 21 E 34 E 38	0 ↓ 99
22	DELAY	This adjusts the amount of time delay from when the key (of the keyboard) was struck until the LFO modulation starts to take effect.		E 22 E 35 E 39	0 ↓ 99
23	WAVE ⊓⊓⧹⧸⧸	This select the LFO oscillation waveform.	(Pulse waveform) ⊓	E 23 E 36 E 40	1
			(Sawtooth waveform I) ⧹		2
			(Sawtooth waveform II) ⧸		3
			(Triangular waveform) ⧸⧹		4
24	LFO SELECT	This selects the destination of the LFO signals. It is possible to independently set the LFO modulation for OSC-1, OSC-2, and the VCF.	OSC-1	E 24	1
			OSC-2		2
			FCF		3

EG

The contents will change, depending on the setting of the EG SELECT button (button 30).

BUTTON		CONTENTS	DISPLAY	
			FUNCTION MODE	DATA
25	ATTACK	Sets the attack time. 0 is the minimum setting and 99 is the maximum setting.	E 25 E 41	
26	DECAY	Sets the decay time. 0 is the minimum setting and 99 is the maximum setting.	E 26 E 42	

EG

The contents will change, depending on the setting of the EG SELECT button (button 30).

BUTTON		CONTENTS		DISPLAY	
				FUNCTION MODE	DATA
28	RELEASE	Sets the release time. 0 is the minimum setting and 99 is the maximum setting.		E 27 E 43	0 ↕ 99
27	SUSTAIN	Sets the sustain time. 0 is the minimum setting and 99 is the maximum setting.		E 28 E 44	0 ↕ 99
29	KEY FOLLOW	Sets the output level of the VCA. 0 is the minimum setting and 99 is the maximum setting.		E 29 E 45	0 ↕ 99
30	7G SELECT	Selects the circuit using the EG.	VCA VCA·VCF VCF	E 30	1 2 3

VCA

BUTTON		CONTENTS	DISPLAY	
			FUNCTION MODE	DATA
31	KEY VELOCITY	This adjusts the amount by which the position on the keyboard affects the release time, so that lower keys on the keyboard will cause a longer release time, and higher keys on the keyboard will cause a shorter release time.	E 31	0 ↕ 99
32	LEVEL	This adjusts the amount by which the VCA is controlled by the velocity with which the keys (on the keyboard) are struck.	E 32	0 ↕ 99

Saving voice data onto cassette tape

SAVE/VERIFY/LOAD

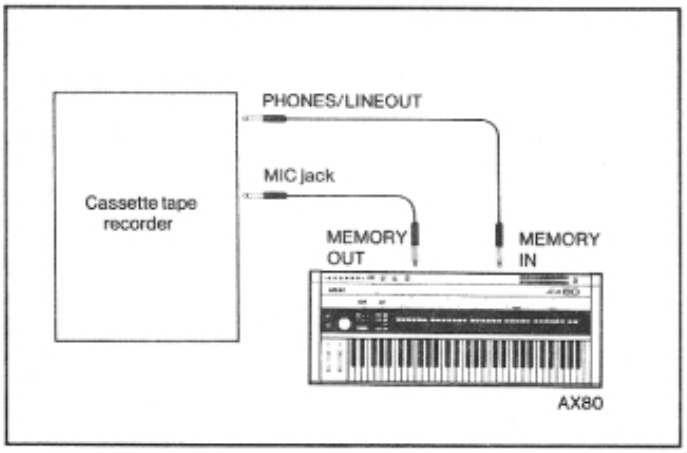
The AX80 is equipped with a tape interface function and input /output jacks that enable it to save voice data memorized in the respective memory banks onto cassette tape.
The tape interface functions include the SAVE/VERIFY/LOAD modes. The SAVE mode outputs the voice data from a memory bank and records it onto a cassette tape. The VERIFY mode checks a voice data recorded onto cassette tape to see that it is correct. The LOAD mode registers the voice data recorded on cassette tape back into the memory banks of the AX80.

Recording voice data onto a cassette tape

- It is advised to always use the same cassette tape brand and type as well as the same tape recorder.
- Be sure to protect the cassette tape recorder used for voice data save/load from shock or vibration. Failure to observe this precaution will result in improper save/load of voice data.
- It is recommended to create a copy (back-up) of each voice data tape. If something should happen to one tape, causing the voice data to be lost or damaged, the back-up will come in handy.
- It is not recommended to create copies of voice data tapes by dubbing between tape recorders. Attempting this procedure will result in the creation of an incorrect voice data back-up tape.

onnections

onnect a separately available tape recorder to the **MEMORY IN** and **MEMORY OUT** jacks of the AX80.



I Saving voice data (recording onto a cassette tape)

Save the voice data for 32 voices that are contained in each memory bank (**A**, **B** or **PRESET**) are recorded onto a cassette tape as a single group. Additionally, when saving the voice data of the AX-80, it is possible to save the data numbers simultaneously from 1—30. By labeling the voice data in this manner, it becomes possible to retrieve the desired voice data only from a tape with the data for a number of voices recorded on it.

Operation procedure

1. Set the connected tape recorder to the recording mode.
2. Press the TAPE button. The **TAPE** indicator will now light up, and the markers on 30, 31 and 32 of the EG/VCA mode display will also begin to flicker.
3. Press the **30/SAVE** button. SA will appear on the **FUNCTION MODE DISPLAY**, and the **DATA DISPLAY** will begin to flicker.
4. Press one of the buttons from 1—30 to label the voice data.
5. Press the **30/SAVE** button to begin **SAVING** of the voice data. End will appear on the **FUNCTION MODE DISPLAY** after all the data has been output, indicating that the **SAVING** operation has been completed.
6. Stop the tape recorder.
   Activate the following **VERIFY** operation if it is desired to check whether the voice data has been correctly **SAVED** or not.

* Press the **TAPE** button to cancel the **TAPE** mode, causing the indicator to go out.

II Verifying voice data

Operation procedure

1. Rewind the cassette tape.
2. Set the **VOLUME** control of the tape recorder to a sufficient level.
3. Press the **31/VERIFY** button. U U . will appear on the **FUNCTION MODE** display. The contents of the **DATA** display will change swiftly once the VERIFY procedure begins.

If there are no errors in the voice data:
G o o d will be displayed.
If there is an error in the voice data:
E r r - - will be displayed.

The markers on 30, 31 and 32 of the EG/VCA mode display will begin to flicker again.
If an error should be detected during the VERIFY mode, repeat the VERIFY procedure a number of times, changing the output level of the tape recorder.
If an error should still be indicated, change the tape and save the voice data once again.
Furthermore, enter the respective parameter data onto the following data sheets. Even if the data should be damaged or lost due to some unfortunate accident, these data sheets, if properly kept, will enable the original voice data to be re-created.

III Loading voice data

This procedure loads the voice data for 32 voices, recorded on cassette tape, back into the A or B memory banks of the AX80.

Operation procedure

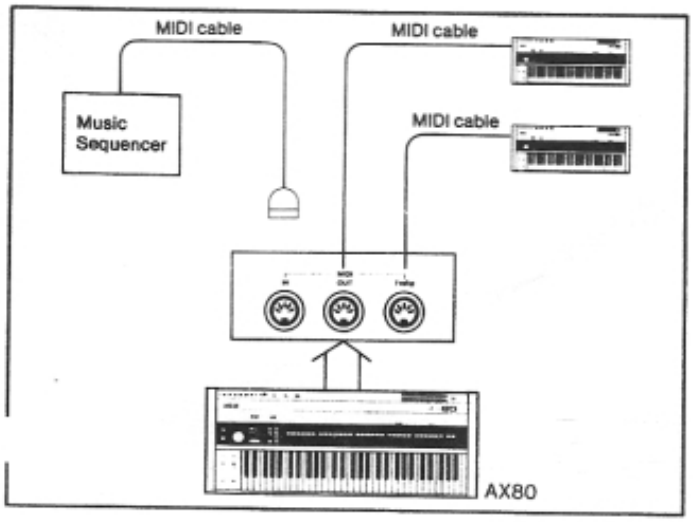
1. Turn off the **MEMORY PROTECT** switch of the AX80.
2. Set the **VOLUME** control of the tape recorder to the same setting as that used for the VERIFY operation.
3. Press the **TAPE** button.
   The **TAPE** indicator will light up, and the markers on 30, 31 and 32 of the **EG/VCA** mode display will begin to flicker.
4. Press the **32/LOAD** button.
   L o . will appear on the **FUNCTION MODE** display. Additionally, the DATA display will start to flicker.
5. Press one of the buttons from 1—30 to load the labeled voice data.
6. Press the **32/LOAD** button, and set the tape recorder to the playback mode.
7. Set the tape recorder to the playback mode.
   E n d will appear on the **FUNCTION MODE** display, once all of the data has been loaded.
8. Press the **TAPE** button to cancel the tape mode. Turn on the **MEMORY PROTECT** switch.

MIDI Interface

MIDI (Musical Instrument Digital Interface) is an industry standard for electronic music instruments. Electronic musical instruments compatible with this standard can be connected together with a MIDI cable for automatic performances, remote performances, as well as exchanging voice data with other units.

Connecting Sequencers

Connect the units together with a MIDI cable as shown in the figure.



Setting the reception channel

1. Press the **MIDI** button. CH - - (CH/upper case letters) will appear on the **FUNCTION MODE** and **DATA** displays.
2. Set the reception channels by pressing the buttons 1—16. Any of the channels 1—16 can be designated as the reception channel.

Setting the transmission channel

1. Press the **MIDI** button. ch - - (CH/lower case letters) will appear on the **FUNCTION MODE** and **DATA** displays.
2. Set the transmission channels by pressing the buttons 1—16. Any of the channels 1—16 can be designated as the transmission channel.

To cancel the MIDI mode:
Press the **A, B, PRESET** or **EDIT** button.

AKAI

AKAI ELECTRIC CO., LTD.
12-14, Higashi-Kojiya, 2-chome,
Ohta-ku, Tokyo, 144 Japan