

## EFFECT MENU INITIALIZED DATA

[COMBINATION MODE]

(OPERATION MEMORY PST 2 H-7)

OPERATION No.		OPERATION NAME		INIT COMBI		OPERATION TUNE		+, 0, 0, 0			
1	VOICE No.	PST 1 A-1	2	VOICE No.	PST 1 B-1	3	VOICE No.	PST 1 C-1	4	VOICE No.	PST 1 D-1
	NAME			NAME			NAME			NAME	
5	VOICE No.	PST 1 E-1	6	VOICE No.	PST 1 F-1	7	VOICE No.	PST 1 G-1	8	VOICE No.	PST 1 H-1
	NAME			NAME			NAME			NAME	

MODE	COMBI
K.G.W	K
KEY ASSIGN	1+2

		1	2	3	4
<b>MIDI CH</b>		1			
PORTAMENTO/SOLO	PORTM ON/OFF	OFF	←	←	←
	PORTM TIME	0	←	←	←
	PORTM MODE	TIME CONST	←	←	←
	SOLO	OFF	←	←	←
	MONO/POLY	MONO			
PITCH BEND	BEND RANGE	2	←	←	←
	RELEASE	ENA	←	←	←
MOD WHEEL	SENSITIVITY	50	←	←	←
	VIB DEPTH	OFF	←	←	←
	VIB RATE	OFF	←	←	←
	PITCH	OFF	←	←	←
	PORTM TIME	OFF	←	←	←
	TREM DEPTH	OFF	←	←	←
	TREM RATE	OFF	←	←	←
	A ENV BIAS	OFF	←	←	←
DEF CONTROL	SENSITIVITY	50	←	←	←
	VIB DEPTH	OFF	←	←	←
	VIB RATE	OFF	←	←	←
	PITCH	OFF	←	←	←
	PORTM TIME	OFF	←	←	←
	TREM DEPTH	OFF	←	←	←
	TREM RATE	OFF	←	←	←
	A ENV BIAS	OFF	←	←	←
FOOT VR	SENSITIVITY	50	←	←	←
	VIB DEPTH	OFF	←	←	←
	VIB RATE	OFF	←	←	←
	PITCH	OFF	←	←	←
	PORTM TIME	OFF	←	←	←
	TREM DEPTH	OFF	←	←	←
	TREM RATE	OFF	←	←	←
	A ENV BIAS	OFF	←	←	←
FOOT SW	FOOT SW	SUS-TAIN	←	←	←
VEL TABLE	VEL TABLE SEL	1			
VEL SPLIT	RANGE (FROM)	1	←	←	←
	RANGE (TO)	127	←	←	←
VEL INV	INVERSE	OFF	←	←	←
DELAY TRIG	DELAY	0	←	←	←

PAN	MODE	FIX
	PAN 1	-15 (OFF)
	PAN 2	+15 (OFF)
	CONTROL 1	MOD
	CONTROL 2	MOD
	RANGE 1	L→R
	RANGE 2	R→L
	RATE	20
	DEPTH	31
	CONTROL	OFF
	SPLIT POINT	SP POINT
	LOWER SP	E3
	MIDDLE SP	A <sup>4</sup>
	UPPER SP	C6
POS X-FADE	EFFECT	OFF
	POS (FROM)	C3
	POS (TO)	F5
	L POS (FROM)	B <sup>2</sup>
	L POS (TO)	F <sup>3</sup>
	M POS (FROM)	C <sup>4</sup>
	M POS (TO)	A4
	U POS (FROM)	F5
U POS (TO)	C <sup>6</sup>	

Value with MODE set to AUTO in parentheses.

		1	2	3	4	5	6	7	8
AFTER TOUCH	SENSITIVITY	20	←	←	←	←	←	←	←
	VIB DEPTH	OFF	←	←	←	←	←	←	←
	VIB RATE	OFF	←	←	←	←	←	←	←
	PITCH	OFF	←	←	←	←	←	←	←
	PORTM TIME	OFF	←	←	←	←	←	←	←
	TREM DEPTH	OFF	←	←	←	←	←	←	←
	TREM RATE	OFF	←	←	←	←	←	←	←
A ENV BIAS	OFF	←	←	←	←	←	←	←	
LEVEL	LEVEL	99	←	←	←	←	←	←	
PITCH	POLARITY	+	←	←	←	←	←	←	
	OCTAVE	0	←	←	←	←	←	←	
	NOTE	0	←	←	←	←	←	←	
	FINE	0	←	←	←	←	←	←	
VIBRATO INV	INVERSE	OFF	←	←	←	←	←	←	
TREMOLO INV	INVERSE	OFF	←	←	←	←	←	←	

	ON/OFF	WAVE	DEPTH	RATE	DELAY	MULTI
TOTAL VIBRATO	OFF	TRIANGLE	0	75	0	OFF
TOTAL TREMOLO	OFF	TRIANGLE	0	75	0	OFF

## EFFECT MENU INITIALIZED DATA

[MULTI CH MODE]

(OPERATION MEMORY PST 2 H-8)

OPERATION No.					
OPERATION NAME	INIT MULTI				
OPERATION TUNE	+, 0, 0, 0				
MODE	MULTI				
1	VOICE No.	PST 1 A-1	2	VOICE No.	PST 1 B-1
	NAME			NAME	
3	VOICE No.	PST 1 C-1	4	VOICE No.	PST 1 D-1
	NAME			NAME	
5	VOICE No.	PST 1 E-1	6	VOICE No.	PST 1 F-1
	NAME			NAME	
7	VOICE No.	PST 1 G-1	8	VOICE No.	PST 1 H-1
	NAME			NAME	

PAN	MODE	FIX	Value with MODE set to AUTO in parentheses.
	PAN 1	0 (OFF)	
	PAN 2	0 (OFF)	
	CONTROL 1	MOD	
	CONTROL 2	MOD	
	RANGE 1	L→R	
	RANGE 2	R→L	
	RATE	20	
	DEPTH	31	
CONTROL	OFF		

		1	2	3	4	5	6	7	8
NOTE — POLYPHONIC		8	0	0	0	0	0	0	0
MIDI CH		1	2	3	4	5	6	7	8
PORTAMENTO/ SOLO	PORTM ON/OFF	OFF	←	←	←	←	←	←	←
	PORTM TIME	0	←	←	←	←	←	←	←
	PORTM MODE	TIME CONST	←	←	←	←	←	←	←
	SOLO	OFF	←	←	←	←	←	←	←
PITCH BEND	BEND RANGE	2	←	←	←	←	←	←	←
	RELEASE	ENA	←	←	←	←	←	←	←
AFTER TOUCH	SENSITIVITY	20	←	←	←	←	←	←	←
	VIB DEPTH	OFF	←	←	←	←	←	←	←
	VIB RATE	OFF	←	←	←	←	←	←	←
	PITCH	OFF	←	←	←	←	←	←	←
	PORTM TIME	OFF	←	←	←	←	←	←	←
	TREM DEPTH	OFF	←	←	←	←	←	←	←
	TREM RATE	OFF	←	←	←	←	←	←	←
	A ENV BIAS	OFF	←	←	←	←	←	←	←
MOD WHEEL	SENSITIVITY	50	←	←	←	←	←	←	←
	VIB DEPTH	OFF	←	←	←	←	←	←	←
	VIB RATE	OFF	←	←	←	←	←	←	←
	PITCH	OFF	←	←	←	←	←	←	←
	PORTM TIME	OFF	←	←	←	←	←	←	←
	TREM DEPTH	OFF	←	←	←	←	←	←	←
	TREM RATE	OFF	←	←	←	←	←	←	←
A ENV BIAS	OFF	←	←	←	←	←	←	←	
DEF CONTROL	SENSITIVITY	50	←	←	←	←	←	←	←
	VIB DEPTH	OFF	←	←	←	←	←	←	←
	VIB RATE	OFF	←	←	←	←	←	←	←
	PITCH	OFF	←	←	←	←	←	←	←
	PORTM TIME	OFF	←	←	←	←	←	←	←
	TREM DEPTH	OFF	←	←	←	←	←	←	←
	TREM RATE	OFF	←	←	←	←	←	←	←
A ENV BIAS	OFF	←	←	←	←	←	←	←	
FOOT VR	SENSITIVITY	50	←	←	←	←	←	←	←
	VIB DEPTH	OFF	←	←	←	←	←	←	←
	VIB RATE	OFF	←	←	←	←	←	←	←
	PITCH	OFF	←	←	←	←	←	←	←
	PORTM TIME	OFF	←	←	←	←	←	←	←
	TREM DEPTH	OFF	←	←	←	←	←	←	←
	TREM RATE	OFF	←	←	←	←	←	←	←
A ENV BIAS	OFF	←	←	←	←	←	←	←	
FOOT SW	FOOT SW	SUS- TAIN	←	←	←	←	←	←	
VEL TABLE	VEL TABLE SEL	1	←	←	←	←	←	←	
LEVEL	LEVEL	99	←	←	←	←	←	←	
PITCH	POLARITY	+	←	←	←	←	←	←	←
	OCTAVE	0	←	←	←	←	←	←	←
	NOTE	0	←	←	←	←	←	←	←
	FINE	0	←	←	←	←	←	←	←

[NORMAL/COMBINATION MODE]

OPERATION No.		OPERATION NAME		OPERATION TUNE	
1	VOICE No. NAME	2	VOICE No. NAME	3	VOICE No. NAME
5	VOICE No. NAME	6	VOICE No. NAME	7	VOICE No. NAME
MODE		K.G.W		KEY ASSIGN	

MIDI CH		1	2	3	4
PORTAMENTO/SOLO	PORTM ON/OFF				
	PORTM TIME				
	PORTM MODE				
	SOLO				
	MONO/POLY				
PITCH BEND	BEND RANGE				
	RELEASE				
MOD WHEEL	SENSITIVITY				
	VIB DEPTH				
	VIB RATE				
	PITCH				
	PORTM TIME				
	TREM DEPTH				
	TREM RATE				
	A ENV BIAS				
DEF CONTROL	SENSITIVITY				
	VIB DEPTH				
	VIB RATE				
	PITCH				
	PORTM TIME				
	TREM DEPTH				
	TREM RATE				
	A ENV BIAS				
FOOT VR	SENSITIVITY				
	VIB DEPTH				
	VIB RATE				
	PITCH				
	PORTM TIME				
	TREM DEPTH				
	TREM RATE				
	A ENV BIAS				
FOOT SW	FOOT SW				
VEL TABLE	VEL TABLE SEL				
VEL SPLIT	RANGE (FROM)				
	RANGE (TO)				
VEL INV	INVERSE				
DELAY TRIG	DELAY				

PAN	MODE	
	PAN 1	
	PAN 2	
	CONTROL 1	
	CONTROL 2	
	RANGE 1	
	RANGE 2	
	RATE	
	DEPTH	
	CONTROL	
SPLIT POINT	SP POINT	
	LOWER SP	
	MIDDLE SP	
	UPPER SP	
POS X-FADE	EFFECT	
	POS (FROM)	
	POS (TO)	
	L POS (FROM)	
	L POS (TO)	
	M POS (FROM)	
	M POS (TO)	
	U POS (FROM)	
U POS (TO)		

		1	2	3	4	5	6	7	8
AFTER TOUCH	SENSITIVITY								
	VIB DEPTH								
	VIB RATE								
	PITCH								
	PORTM TIME								
	TREM DEPTH								
	TREM RATE								
A ENV BIAS									
LEVEL	LEVEL								
PITCH	POLARITY								
	OCTAVE								
	NOTE								
	FINE								
VIBRATO INV	INVERSE								
TREMOLO INV	INVERSE								

	ON/OFF	WAVE	DEPTH	RATE	DELAY	MULTI
TOTAL VIBRATO						
TOTAL TREMOLO						

[MULTI CH MODE]

OPERATION No.

OPERATION NAME

OPERATION TUNE

MODE

1	VOICE No.	<input type="text"/>	2	VOICE No.	<input type="text"/>
	NAME	<input type="text"/>		NAME	<input type="text"/>

3	VOICE No.	<input type="text"/>	4	VOICE No.	<input type="text"/>
	NAME	<input type="text"/>		NAME	<input type="text"/>

5	VOICE No.	<input type="text"/>	6	VOICE No.	<input type="text"/>
	NAME	<input type="text"/>		NAME	<input type="text"/>

7	VOICE No.	<input type="text"/>	8	VOICE No.	<input type="text"/>
	NAME	<input type="text"/>		NAME	<input type="text"/>

PAN	MODE	<input type="text"/>
	PAN 1	<input type="text"/>
	PAN 2	<input type="text"/>
	CONTROL 1	<input type="text"/>
	CONTROL 2	<input type="text"/>
	RANGE 1	<input type="text"/>
	RANGE 2	<input type="text"/>
	RATE	<input type="text"/>
	DEPTH	<input type="text"/>
	CONTROL	<input type="text"/>

		1	2	3	4	5	6	7	8
NOTE	— POLYPHONIC								
MIDI CH									
PORTAMENTO/ SOLO	PORTM ON/OFF								
	PORTM TIME								
	PORTM MODE								
	SOLO								
PITCH BEND	BEND RANGE								
	RELEASE								
AFTER TOUCH	SENSITIVITY								
	VIB DEPTH								
	VIB RATE								
	PITCH								
	PORTM TIME								
	TREM DEPTH								
	TREM RATE								
	A ENV BIAS								
MOD WHEEL	SENSITIVITY								
	VIB DEPTH								
	VIB RATE								
	PITCH								
	PORTM TIME								
	TREM DEPTH								
	TREM RATE								
	A ENV BIAS								
DEF CONTROL	SENSITIVITY								
	VIB DEPTH								
	VIB RATE								
	PITCH								
	PORTM TIME								
	TREM DEPTH								
	TREM RATE								
	A ENV BIAS								
FOOT VR	SENSITIVITY								
	VIB DEPTH								
	VIB RATE								
	PITCH								
	PORTM TIME								
	TREM DEPTH								
	TREM RATE								
	A ENV BIAS								
FOOT SW	FOOT SW								
VEL TABLE	VEL TABLE SEL								
LEVEL	LEVEL								
PITCH	POLARITY								
	OCTAVE								
	NOTE								
	FINE								

\* = cool

## OPERATION MEMORY NAMES

PRESET (1) (Same as INT)								
	<sup>0</sup> A	<sup>1</sup> B	<sup>2</sup> C	<sup>3</sup> D	<sup>4</sup> E	<sup>5</sup> F	<sup>6</sup> G	<sup>7</sup> H
1	SEE GOD	BRASS CHORUS	SLAP BASS	HEAVY SPLIT	R/B BRASS	VZ EP	G.STEEL GTR	W.BRASS
2	SEE GOD 2	BRASS QUART	PICK BASS	STRING/FLUTE	CZ BRASS	VZ PIANO	G.VZ VIBES	W.SAX
3	VIB/STR SOFT	COPPERFUNK	FRETLESS BS	BASS/EP	ANALOG BRASS	VZ EP 2	G.LEAD	W.PAN FLUTE
4	ICE AGE	BRASS DETUNE	CC LEAD	BASS/VIBES	VELO ORCH	GITIANO	G.BASS-LEAD	W.OBOE
5	MELLOW PAD	VIOLINT ATCK	YES I GOT	BS/VBNO-SRNE	ORCHESTRA	CLAVI	G.ACO BASS	W.CLARINET
6	PEACE TREATY	DOUBLEGUITAR	VZ SOLO LEAD	VELOMONICA	HIGH STRINGS	WARM ORGAN	G.BS/TRUMPET	W.RECORDER
7	PIANO/LOCH	VZ VIBES	VZ PERC PAD	TRUMPOCITY	PAN VIBES	COOL ORGAN	G.BS/MONICA	W.SYNTH STR
8	DIGIVOICES	HEAVY METAL	TAKE A	HARP ROLL	TOI-TOY	BELL TREE	G.MULTI	W.POWER 5TH

PRESET (2)								
	A	B	C	D	E	F	G	H
1	ICE HORNS	ACOUSTAR	FLANGE BASS	BS/GTNO-RICH	BEGINNING	WARM EP	G.JAZZ GTR	M.JAZZ BAND
2	VOCAL BELLS	TOY PIANO	SAXY LEAD	TXTURL SPL	SWIRLING STR	DYN VZ PIANO	G.WARM EP	M.FUNK BAND
3	TWINKY	DELAY VIBES	RING FLUTE	TXTURL SPL 2	HORN/STRINGS	DREAMY EP	G.DISTORTAR	M.ROCK BAND
4	FESTIVAL	OCTAVEMALLET	LIVE LEAD	EASTERN SPLT	VIB/PAN STR	DIGIPIANO	G.LEAD 2	M.CHAMBER
5	MELLIFLUENCE	STR QUARTET	VANUGENT 5TH	PASTOR/CLAVI	FESTIVAL 2	CLAVI PIANO	G.LEAD 3	M.NEW WAVE
6	FLUTE/STRING	STEREO BRASS	GAMELAN BELZ	VELOFLUTE	SOFT ORCHEST	ORGAN	G.EL BASS	INIT NORMAL
7	PEACEFUL	RECORDERS	OVERSEAS	SAXOPHOCITY	EP-SERENE	CHURCH ORGAN	G.BASS/SAX	INIT COMBI
8	GEN PURPOSE	PIPEONMONDAY	FEMALE VOICE	SOUND OF FUN	HEADBANGER	CAR HORN	G.MULTI GTR	INIT MULTI

\*You can shift between PRESET banks (1) and (2) by pressing the SHIFT key once again.

### About Operation Memory Preset Sounds

Each VZ operation memory has been programmed for use with a specific type of MIDI controller in mind. Normally, these OP MEMs are programmed for use with keyboard controllers — for example, PST 1 “A-6:PEACE TREATY” is designed for use with keyboards.

When OP MEMs are programmed for use with MIDI guitar or woodwind controllers, the performance mode is indicated in the first digit of the OP MEM name.

For example; [G-6:G.BS/TRUMPET]. In this case, the “G.” indicates that the sound is best suited for use with a MIDI guitar controller. For woodwind controllers, a “W” appears as the first digit.

Also, when the sound has been programmed for multi-channel use, an “M” appears as the first digit.

### OP MEM MIDI Guitar Applications

When an OP MEM is programmed for use with a MIDI guitar controller, MIDI CHANNELs 1 through 6 are assigned independently to each guitar string (MONO MODE). In addition, the bend range is set to 12. (In this case, the TOTAL parameter (TOTAL-04) must be set to OFF on the VZ-8M. If set to ON, the MIDI CH should be set to “1”).

### Woodwind Controllers

When using another manufacturer’s woodwind controller or wind synthesizer, the controller should be set for aftertouch control. (Note that as OP MEMs programmed for use with wind controllers vary in volume and timbre through aftertouch control, some OP MEMs may not sound when played using a keyboard.)

## VOICE NAMES

PRESET (1) (SAME AS INT)								
	A	B	C	D	E	F	G	H
1	VZ EP	R/B BRASS	VZ TRUMPET	VZ BASS	FUSION LEAD	RICH ORCH	BRASS CHORUS	VZ VIBES
2	VZ PIANO	BRASSECTION	THE SAX	BASS GUITAR	DISTORTAR FB	SERENE ORCH	SYNBASSES	VZ VIBES 2
3	VZ PIANO 2	RESO-BRASS	VZ-MONICA	FRETLESS BS	HEAVY LEAD	DIGIVOICE	BRASS BALLS	VIBIANO
4	VZ EP 2	MELLOW BRASS	FLUTE	60S BASS	VZ PERC PAD	SPACE ORCH	PRIMALSCREAM	TOI-TOY
5	VZ EP 3	VELO ORCH	STRINGATTACK	STEEL STRING	WHINING LEAD	FLUTE JUICE	VZ TOUCH	VZ MARIMBA
6	GITIANO	VZ STRINGS	WARM ORGAN	NYLON STRING	PIPE LEAD	CRYSTAL PAD	AVANALOCH	STEEL DRUM
7	CLAVI	ORCHESTRA	COOL ORGAN	HARP	SEQ BASS	ETHEREAL	CINEMA	BELLS
8	CLAVI 2	HORN/STRINGS	PIPE SYNTH	KOTO	BASS-SYNTH	NEW RAGE	CEREMONY	BELL TREE

PRESET (2)								
	A	B	C	D	E	F	G	H
1	WARM EP	CZ BRASS	JAZZ SAX	ACOUSTAR	SYNTH FLUTE	PRETTY	GEN PURPOSE	SHARP VIBES
2	DYN VZ PIANO	ANALOG BRASS	JAZZ FLUTE	ACOUSTAR 2	FLUTISH LEAD	RICH ORCH 2	PLUCKED ATK	VZ VIBES 3
3	VZ PIANO 3	BRASS LICKS	RECORDER	JAZZ GUITAR	SYNC LEAD	BELL/STRINGS	PLUCKED ATK2	* MELLOW VIBES
4	DREAMY EP	FUNK BRASS	VIOLIN	FUNK BASS	LIVE SYNTH	FESTIVAL	ANALOGUE	TOI PERCUSS
5	DIGIPIANO	HORN SWELL	CELLO	VZ BASS 2	DISTORTAR	PASTORALE	DIGIVOICE 2	COWBELL
6	COOL CLAVI	ORCHESTRA 2	ORGAN	DIRTY BASS	DISTORTAR 2	TUBIANO	MELLIFLUENCE	CHURCH BELL
7	HEAVY CLAVI	HIGH STRINGS	PIPE ORGAN	PIANO BASS	OBOE-FORMIDI	MIDEASTMARKT	CHORUS	GAMELAN BELL
8	CLAVI PIANO	SLOPHASESTR	CHURCH ORGAN	WOOD BASS	CLA-FOR MIDI	ETHNICBREATH	ABOVE CLOUD	CAR HORN

\*You can shift between PRESET banks (1) and (2) by pressing the SHIFT key once again.

You can change the performance mode that is preset for any operation memory by using the following procedure:

1. Select the operation memory for which you wish to change the performance mode.
2. Hold down the WRITE key and press either the COMBINATION key or NORMAL key. Press the key (COMBINATION or NORMAL) whose indicator is lit.
3. Set the performance mode to K, G, or W using the cursor keys and VALUE keys.

\* = cool!

+ WRITES INTO INTERNAL MEMORY OF OPERATION + NORMAL AREA

## OPERATION MEMORIES

### •PRESET 1

- A-1 **SEE GOD**  
Unique synthetic sound with a bell-like attack and thick sustain sound.
- A-2 **SEE GOD 2**  
Another variation of the "SEE GOD" sound; slightly lighter than A-1. Sounds good when played legato.
- A-3 **VIB/STR SOFT**  
Vibe sound on attack with sustained strings underneath; best suited to backing layers.
- A-4 **ICE AGE**  
"Cool" crystalline sound changes to voice timbre with velocity.
- A-5 **MELLOW PAD**  
Mellow, lazy sound; best suited to slower passages.
- A-6 **PEACE TREATY**  
Tonic sound mixed with 5th. Note that one pitch of one sound changes with modulation.
- A-7 **PIANO/LOCH**  
Mixed sound featuring electric piano and strings.
- A-8 **DIGVOICES**  
Spacial bell chorus sound which emulates female chorus.
- B-1 **BRASS CHORUS**  
Cross-breed of brass and chorus sounds with a "classical" mood.
- B-2 **BRASS QUART**  
Emulates brass quartet featuring sax and trumpet sounds.
- B-3 **COPPERFUNK**  
Funky brass mix featuring 4 different sounds.
- B-4 **BRASS DETUNE**  
Mixed brass sounds with second sound shifted to 5th. Pitch of one sound can be altered with modulation.
- B-5 **VIOLINT ATCK**  
Violin sound with a sharp attack; sounds best when played percussively.
- B-6 **DOUBLEGUITAR**  
Emulates acoustic guitar; panning localization changes with velocity.
- B-7 **VZ VIBES**  
"Clear", crystal-like vibes sound. Delay trigger used to produce stereo effect.
- B-8 **HEAVY METAL**  
Distortion guitar mixed sound with one sound shifted to 5th. Use aftertouch to bend down; sustain for "feedback".
- C-1 **SLAP BASS**  
Heavy duty "slap" style electric bass. Play with percussive touch for best effect.
- C-2 **PICK BASS**  
Emulates electric bass played with pick. Note that octave of one sound changes with modulation.
- C-3 **FRETLESS BS**  
Smooth, fretless electric bass; aftertouch control of bend.
- C-4 **CC LEAD**  
Thick lead sound with sharp, metallic attack.
- C-5 **YES I GOT**  
Lead sound with electric piano attack. perfect for "fusion" sound. Aftertouch control of vibrato.
- C-6 **VZ SOLO LEAD**  
Percussive lead sound. Aftertouch control of vibrato.
- C-7 **VZ PERC PAD**  
Lead sound with sharp, metallic attack; lower end emulates "slap" style electric bass. Aftertouch control of vibrato.
- C-8 **TAKE A**  
Tasty synth reed; aftertouch control of vibrato.
- D-1 **HEAVY SPLIT**  
Split setup featuring distorted sound and heavy-duty, dirty bass. Split at F#3.
- D-2 **STRING/FLUTE**  
Split setup featuring flute and strings. Note interesting flute attack sound. Split at F#4.
- D-3 **BASS/EP**  
Split setup featuring electric piano and bass guitar. Aftertouch control of note bend for bass sound only. Split at C4.
- D-4 **BASS/VIBES**  
Split setup featuring vibes and percussive bass timbre. Split at C4.
- D-5 **BS/VBNO-SRNE**  
Split setup featuring percussive bass sound and a vibes/strings layered sound. Split at C4.
- D-6 **VELOMONICA**  
Velocity split featuring VZ-MONICA and AVANALOCH patches. Aftertouch control of bending with VZ-MONICA patch; sustain pedal controls only AVANALOCH.
- D-7 **TRUMPOCITY**  
Velocity split featuring VZ-TRUMPET and MELLOW BRASS patches. Aftertouch control of bending with VZ-TRUMPET patch; sustain pedal controls only MELLOW BRASS.
- D-8 **HARP ROLL**  
Produce diminished chord arpeggio by holding down just one key!
- E-1 **R/B BRASS**  
(Normal) Powerful brass sound. Modulation controls fast panning effect.
- E-2 **CZ BRASS**  
(Normal) Synthesized brass with "wide" effect created through panning.
- E-3 **ANALOG BRASS**  
(Normal) Analog style synth brass; modulation control of panning effect.
- E-4 **VELO ORCH**  
(Normal) Orchestra sound with panning effect; timbral changes through velocity.
- E-5 **ORCHESTRA**  
(Normal) Orchestra sound with panning effect; panning changes through modulation.

- E-6 **HIGH STRINGS**  
(Normal) Synthetic strings with "width" added through panning effect.
- E-7 **PAN VIBES**  
(Normal) Vibes sound made "wide" through panning.
- E-8 **TOI-TOY**  
(Normal) Mix featuring percussive sound and sustained strings; modulation-controlled panning adds spacial effect.
- F-1 **VZ EP**  
(Normal) Electric piano with addition of panning.
- F-2 **VZ PIANO**  
(Normal) Gorgeous piano sound with modulation controlling panning effect.
- F-3 **VZ EP 2**  
(Normal) Vibe-like electric piano sound with modulation control of panning.
- F-4 **GITIANO**  
(Normal) Velocity split featuring gradual transition from electric piano to guitar sound; after-touch control of bend.
- F-5 **CLAVI**  
(Normal) Sharp clavi sound with modulation control of panning effect.
- F-6 **WARM ORGAN**  
(Normal) Panning effect emulates electric organ rotating speaker sound.
- F-7 **COOL ORGAN**  
(Normal) Similar to "F-6: WARM ORGAN" but with faster rotating speaker.
- F-8 **BELL TREE**  
(Normal) "Moving" bell sound emulated through panning.
- G-1 **G.STEEL GTR**  
Steel guitar sound designed for use with MIDI guitar controller.
- G-2 **G.VZ VIBES**  
Vibes sound with panning effect; designed for use with MIDI guitar controller.
- G-3 **G.LEAD**  
Mix of twin synth lead sounds; designed for use with MIDI guitar controller.
- G-4 **G.BASS LEAD**  
Mixed sound featuring synth lead sound and electric bass in unison; designed for use with MIDI guitar controller. Independent panning of each string.
- G-5 **G.ACO BASS**  
Emulates twin acoustic bass sound; designed for use with MIDI guitar controller.
- G-6 **G.BS/TRUMPET**  
Designed for use with MIDI guitar controller; first four strings control trumpet sound with 5th and 6th strings controlling bass sound.
- G-7 **G.BS/MONICA**  
Designed for use with MIDI guitar controller; first four strings control harmonica timbre with 5th and 6th strings controlling bass timbre.
- G-8 **G.MULTI**  
Designed for use with MIDI guitar controller; Different sound for each string, including vibes, synth bass and bell timbres. Play all strings in a high-range chord for interesting effect.
- H-1 **W.BRASS**  
Designed for use with MIDI wind controller; features funky brass sound with sharp attack. Play percussively for best results.
- H-2 **W.SAX**  
Designed for use with MIDI wind controller; note the changes in sound with stronger attack.
- H-3 **W.PAN FLUTE**  
Designed for use with MIDI wind controller; pan flute sound. Note louder attack noise with stronger attack.
- H-4 **W.OBOE**  
Designed for use with MIDI wind controller; oboe-like synthetic sound is especially realistic from mid-range down.
- H-5 **W.CLARINET**  
Clarinet-like synth sound designed for use with MIDI wind controller.
- H-6 **W.RECORDER**  
"Woody" recorder sound designed for use with MIDI wind controller.
- H-7 **W.SYNTH STR**  
Synthesizer strings featuring panning effect for ambience; play harder for brighter strings sound. Designed for use with MIDI wind controller.
- H-8 **W.POWER 5TH**  
Thick 8-sound mix with 5th added; designed for use with MIDI wind controller.

•PRESET 2

- A-1 **ICE HORNS**  
Analog style synthetic sound emulates thick, bell-like timbre.
- A-2 **VOCAL BELLS**  
Mix of human voice and bells using velocity inverse; play softly for best results.
- A-3 **TWINKY**  
Synthetic timbre; note timbral changes when played staccato.
- A-4 **FESTIVAL**  
Interesting synthetic sound; useful when played as single notes or in unison.
- A-5 **MELLIFLUENCE**  
Mix of human voice and bells; useful in chords or in counter melodies.
- A-6 **FLUTE/STRING**  
Mix featuring flute sound and strings with a slow attack.
- A-7 **PEACEFUL**  
Metallic, percussive sound features timbral changes with alterations in velocity.
- A-8 **GEN PURPOSE**  
Multi-purpose percussive sound; good for leads, backing chords, etc.
- B-1 **ACOUSTAR**  
Acoustic guitar sound; useful when played in guitar arpeggios or in clavi-like "chops".
- B-2 **TOY PIANO**  
Huge "toy piano" sound; extremely realistic in mid and upper ranges.
- B-3 **DELAY VIBES**  
Vibe sound with short delay effect; nice for slower chord work.
- B-4 **OCTAVEMALLET**  
Percussive "mallet" sound in octave mix setup.
- B-5 **STR QUARTET**  
Lightweight string quartet; modulation adds vibrato.
- B-6 **STEREO BRASS**  
Interesting "stereo" setup featuring two different types of brass — one left, one right.
- B-7 **RECORDERS**  
Interesting recorder "ensemble".
- B-8 **PIPEONMONDAY**  
Slightly rough pipe organ sound; note changes from high range to lower range.
- C-1 **FLANGE BASS**  
Mixed arrangement featuring 4 different bass sounds and "flanger" effect.
- C-2 **SAXY LEAD**  
Sax-like synth lead sound; aftertouch control of vibrato.
- C-3 **RING FLUTE**  
Flute-like synthetic sound with metallic attack noise.
- C-4 **LIVE LEAD**  
Heavy-duty synth lead sound; aftertouch control of heavy vibrato.
- C-5 **VANUGENT 5TH**  
Another heavy distortion lead sound with a 5th added; aftertouch control of bend.
- C-6 **GAMELAN BELZ**  
Emulates ethnic Indonesian "gamelan" bell-like sound; 4-sound mix.
- C-7 **OVERSEAS**  
4-sound ethnic mix with 5th added; play staccato for timbral variations.
- C-8 **FEMALE VOICE**  
Realistic, female vocal sound; note changes in attack sound with velocity.
- D-1 **BS/GTNO-RICH**  
Heavy-duty bass split featuring "GITIANO" and "RICH ORCH"; split at C4.
- D-2 **TXTURL SPL**  
Another interesting split setup featuring velocity-controlled brass and a percussive bass sound. Split at D4.
- D-3 **TXTURL SPL 2**  
Another split setup with a gorgeous synth sound and a heavy-duty bass sound. Split at D4.
- D-4 **EASTERN SPLT**  
Split setup with 2 different ethnic sounds; aftertouch control of bend. Split at D4.
- D-5 **PASTOR/CLAVI**  
Mix of PASTORALE and CLAVI sounds with timbral variations through velocity inverse function.
- D-6 **VELOFLUTE**  
Velocity split featuring synthetic sound and flute timbre.
- D-7 **SAXOPHOCITY**  
Velocity split featuring HORN SWELL and JAZZ SAX timbres. JAZZ SAX timbre feature aftertouch control of bend; sustain pedal controls HORN SWELL part only.
- D-8 **SOUND OF FUN**  
Play a single key for an automatic 4-note arpeggio (C, D, E, F,...); features bell-like sound.
- E-1 **BEGINNING**  
Huge ensemble sound emulates mixed sound featuring a number of different synth sounds. Modulation alters R/L assignment.
- E-2 **SWIRLING STR**  
Strings with slow attack; "swirling" effect through panning.
- E-3 **HORN/STRINGS**  
String-like sound with wide ambience through panning effect.
- E-4 **VIB/PAN STR**  
Mixed sound featuring vibes and strings with panning.
- E-5 **FESTIVAL 2**  
Synth ensemble featuring panning.
- E-6 **SOFT ORCHEST**  
Lightweight bells and strings; modulation controls panning effect.
- E-7 **EP SERENE**  
Mixed sound featuring electric piano sound and synth timbre with panning.

- E-8 **HEADBANGER**  
Distorted sound made “wider” through panning effect; second sound raised an octave through modulation.
- F-1 **WARM EP**  
⟨Normal⟩ Orthodox electric piano sound; modulation controls PAN effect.
- F-2 **DYN VZ PIANO**  
⟨Normal⟩ Standard electric piano with panning effect.
- F-3 **DREAMY EP**  
⟨Normal⟩ Dream-like electric piano sound with panning effect.
- F-4 **DIGIPIANO**  
⟨Normal⟩ Big electric piano sound; muse modulation for “thrilling” effect.
- F-5 **CLAVI PIANO**  
⟨Normal⟩ Clavi sound; sound moves from left to right each time a key is pressed.
- F-6 **ORGAN**  
⟨Normal⟩ Rockin’ organ sound; modulation controls rotating speaker effect.
- F-7 **CHURCH ORGAN**  
⟨Normal⟩ Big church pipe organ; modulation controls panning effect.
- F-8 **CAR HORN**  
⟨Normal⟩ Realistic “European” auto horn; modulation changes panning localization.
- G-1 **G.JAZZ GTR**  
Designed for use with MIDI guitar controller; realistic jazz guitar with independent panning for each string.
- G-2 **G.WARM EP**  
Designed for use with MIDI guitar controller; vibes sound with panning effect.
- G-3 **G.DISTORTAR**  
Designed for use with MIDI guitar controller; mix featuring twin distortion guitar sounds.
- G-4 **G.LEAD 2**  
Designed for use with MIDI guitar controller; mixed sound featuring distorted synth lead sound with reverb.
- G-5 **G.LEAD 3**  
Designed for use with MIDI guitar controller; mix sound featuring twin lead synth guitars; play up to 4 notes for effective cutting.
- G-6 **G.EL BASS**  
Designed for use with MIDI guitar controller; mixed sound featuring twin electric bass sounds.
- G-7 **G.BASS/SAX**  
Designed for use with MIDI guitar controller; sax sound on strings 1 through 4, bass sound on strings 5 and 6.
- G-8 **G.MULTI GTR**  
Designed for use with MIDI guitar controller; slightly different acoustic guitar timbres on each string.
- H-1 **M.JAZZ BAND**  
Multi Channel setup; CH1:WOOD BASS/2-note poly; CH2:VZ EP/4-note poly; CH3:THE SAX/3-note poly.
- H-2 **M.FUNK BAND**  
Multi Channel setup; CH1:VZ BASS/2-note poly; CH2:GITIANO/3-note poly; CH3:R/B BRASS/3-note poly.
- H-3 **M.ROCK BAND**  
Multi Channel setup; CH1:PIANO BASS/2-note poly; CH2:ORGAN/3-note poly; CH3:DIS-TORTER/3-note poly.
- H-4 **M.CHAMBER**  
Multi Channel setup; CH1:CELLO/2-note poly; CH2:BRASS CHORUS/2-note poly; CH3:VIO-LIN/2-note poly; CH4:FLUTE/2-note poly.
- H-5 **M.NEW WAVE**  
Multi Channel setup; CH1:SEQ BASS/2-note poly; CH2:DIGI VOICE/4-note poly; CH3:VZ MARIMBA/2-note poly.
- H-6 **INIT NORMAL**  
Features initialized data for NORMAL mode.
- H-7 **INIT COMBI**  
Features initialized data for COMBI mode.
- H-8 **INIT MULTI**  
Features initialized data for MULTI CHANNEL mode.



## *Care of Your Unit*

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**1. Avoid heat, humidity and direct sunlight.**

Do not overexpose your unit to direct sunlight, place it near a heater, or in any area are subject to high temperatures.

**2. Severe impact can result in malfunction.**

This digital synthesizer is composed of precision electronic components which can be damaged when subjected to severe impacts. Be sure to pack it carefully when transporting, using a case whenever possible.

**3. Avoid direct contact with liquids, dirt, dust, etc.**

Never allow foreign matter to enter this product. Also, be especially careful of metallic objects such as hairpins, sewing needles or coins. Do not allow the unit to get wet.

**4. Never attempt to modify any part of the unit.**

Any modification of, or tampering with the unit internal components can cause trouble or malfunction. If your unit is not operating properly, be sure to take it to an authorized Casio service center.

**5. Do not use caustic cleaning agents.**

Clean your unit with a soft cloth dampened with a mild detergent solution. Use of thinner, alcohol, benzene and similar chemicals should be avoided under all circumstances.

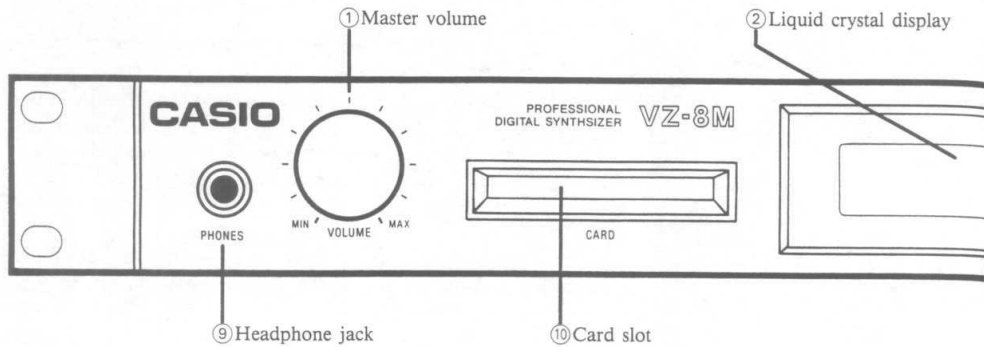
**6. Avoid using this unit near televisions, radios, etc.**

Because this unit uses digital circuitry, it may cause interference with other electronic devices such as televisions, radios, etc.

### **Care of Your Optional ROM or RAM Card**

1. Take care not to bend or drop your memory cards. Never carry a card in your back pocket or leave it in other areas where it may be damaged.
2. When not in use, be sure to store your card in its custom case to prevent damage due to dust etc.
3. Your card contains precision electronic components. Never try to take it apart for any reason.
4. Casio claims no responsibility whatsoever for damages due to losses of card data.

## Features and Functions



**① Master volume**

Used to adjust the overall output volume.

**② Liquid crystal display**

Backlit liquid crystal graphic display is used to display all menu functions.

**③ Operation memory mode key**

Used to select the OPERATION MEMORY operational mode.

**④ Normal mode key**

Used to select the NORMAL operational mode.

**⑤ Combination mode key**

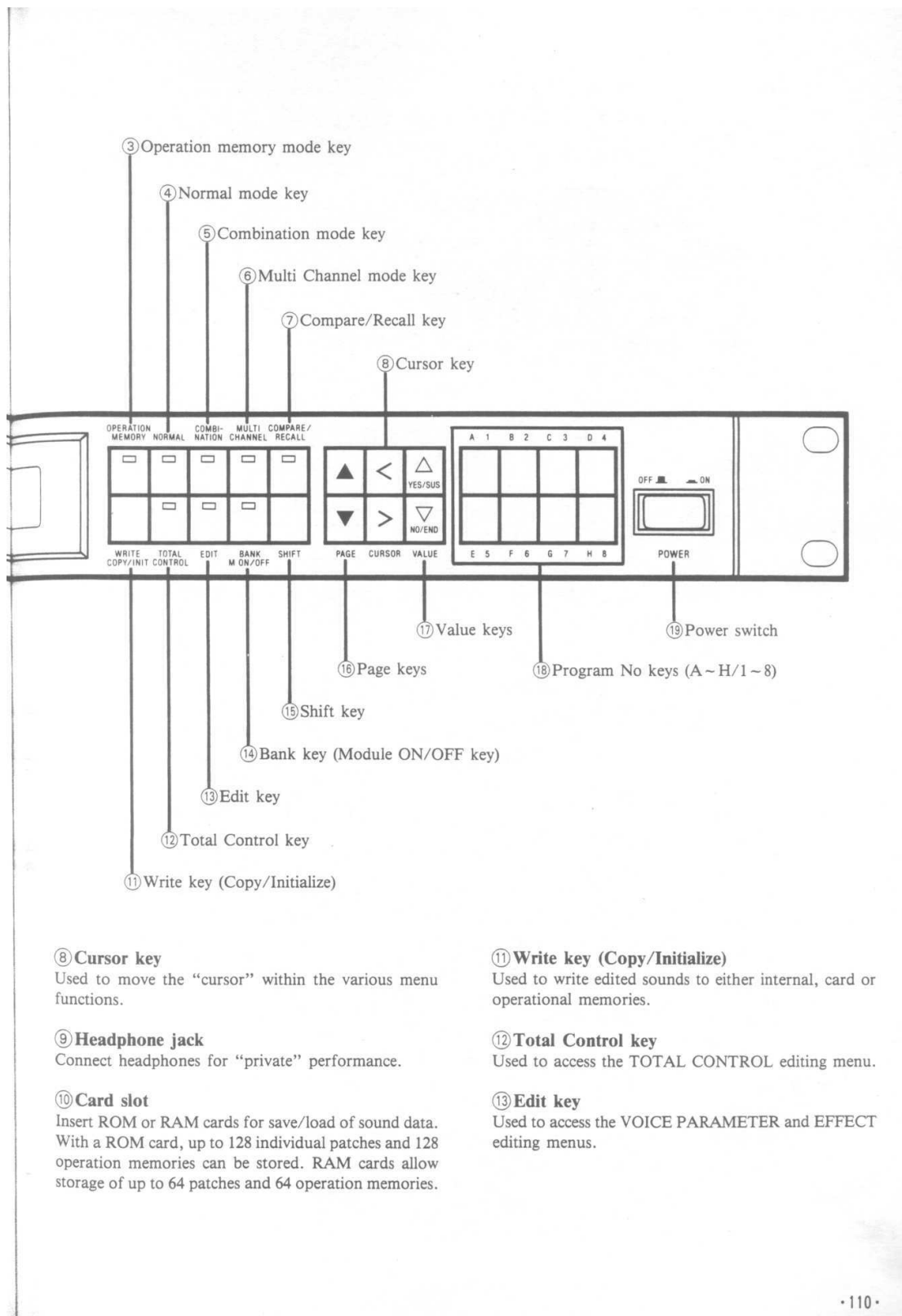
Used to select the COMBINATION operational mode.

**⑥ Multi Channel mode key**

Used to select the MULTI CHANNEL operational mode.

**⑦ Compare/Recall key**

Used during editing to "recall" the original sound (sound before editing) and "compare" it with the edited version. When the indicator is OFF, the original sound is output. When the indicator is ON, the edited version is output.



**⑧ Cursor key**

Used to move the "cursor" within the various menu functions.

**⑨ Headphone jack**

Connect headphones for "private" performance.

**⑩ Card slot**

Insert ROM or RAM cards for save/load of sound data. With a ROM card, up to 128 individual patches and 128 operation memories can be stored. RAM cards allow storage of up to 64 patches and 64 operation memories.

**⑪ Write key (Copy/Initialize)**

Used to write edited sounds to either internal, card or operational memories.

**⑫ Total Control key**

Used to access the TOTAL CONTROL editing menu.

**⑬ Edit key**

Used to access the VOICE PARAMETER and EFFECT editing menus.

⑭ **Bank key (Module ON/OFF key)**

Used to begin bank selection process. After pressing this key, you can select BANKs A through H using the PROG NO keys. This key is also used to turn iPD sound source modules ON and OFF when editing sounds using VOICE PARAMETER menu functions.

⑮ **Shift key**

Used to select the memory area (PRESET 1 or 2, INTERNAL, CARD 1 or 2).

⑯ **Page keys**

Used when accessing various editing functions. The PAGE [▲] key increments function numbers, while the PAGE [▼] key decrements these numbers.

⑰ **Value keys**

Used to raise or lower values of various VZ-8M parameters.

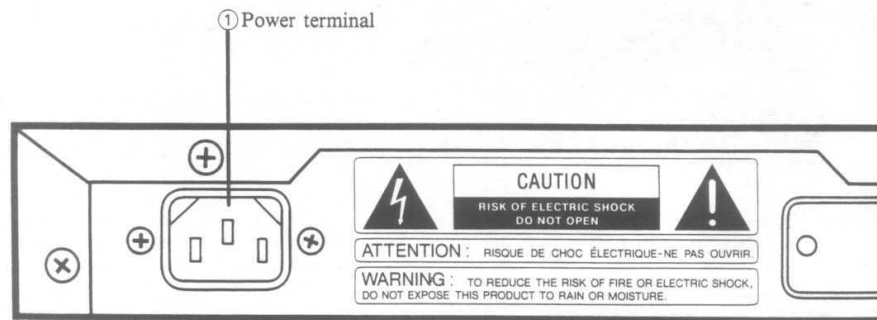
⑱ **Program No keys (A ~ H/1 ~ 8)**

The Program Number keys are used to select iPD sound source modules (M1 ~ M8), and also to specify the sound bank (A ~ H) as well as sound number (1 ~ 8).

⑲ **Power switch**

Switches unit ON and OFF.

## REAR PANEL CONNECTIONS



① **Power terminal**

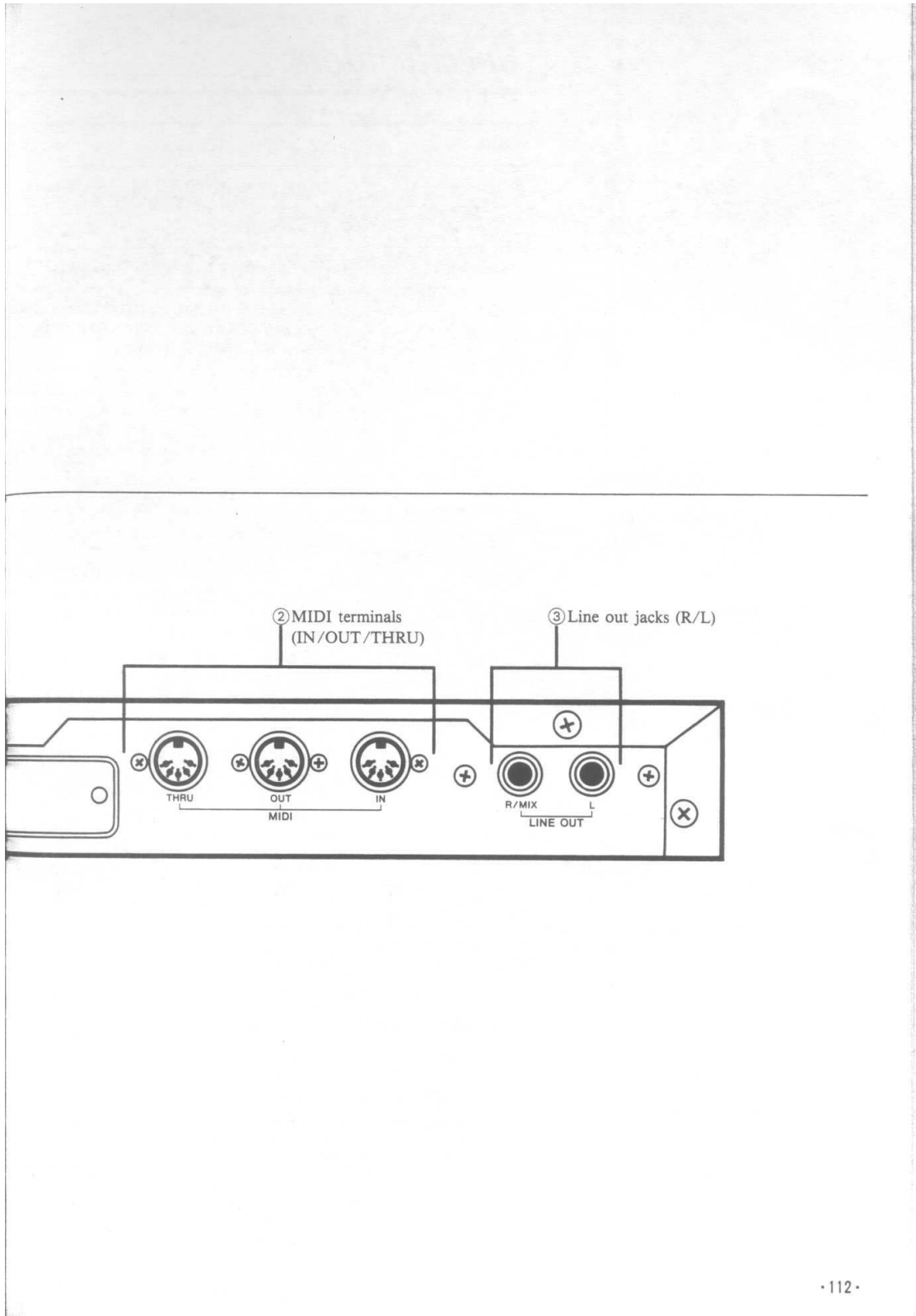
For connection of accessory AC power cord

② **MIDI terminals (IN/OUT/THRU)**

For connection of other MIDI-equipped instruments and devices.

③ **Line out jacks (R/L)**

In the Combination mode or Multi-Channel mode, up to 4 patches or up to 8 areas are separated and assigned automatically into Line Out R or Line Out L. Mixed (mono) sound is output through the "R" jack.



# Specifications

<b>Model:</b>	VZ-8M
<b>Range:</b>	F# -1 ~ G9 (MIDI NOTE No. 6 ~ 127(10))
<b>Polyphonic:</b>	8 note-polyphonic
<b>Sound source:</b>	iPD (interactive phase distortion) SYSTEM
<b>Modes:</b>	NORMAL K (keyboard), NORMAL G (guitar), NORMAL W (wind instrument), COMBINATION K, COMBINATION G, COMBINATION W, OPERATION MEMORY, MULTI CHANNEL
<b>Programmer:</b>	128 preset voices, 64 internal voices, 128 card voices (with ROM card), 64 card voices (with RAM card RA-500), 1 compare/recall voice, 128 preset operation memory, 64 internal operation memory, 128 card operation memory (with ROM card), 64 card operation memory (with RAM card RA-500)
<b>Modules:</b>	8 × (DCO+DCA), ON/OFF
<b>Voice parameters:</b>	INT LINE (MIX/RING/PHASE), EXT PHASE(ON/OFF), WAVE FORM: 8, DE-TUNE (PITCH FIX, RANGE, HARMONIC, TUNE) <DCO> ENVELOPE(STEP=1~8, RATE=0~99, LEVEL=-63~+63, SUS, END), ENV DEPTH (RANGE=WIDE/NARROW, DEPTH=0~63), KF LEVEL (POINT=1~6, KEY=C0~C9, LEVEL=0~63), VEL LEVEL (SENS=0~31, CURVE=1~8), VIBRATO (WAVE: 4, DEPTH=0~99, RATE=0~99, DELAY=0~99, MULTI=ON/OFF), OCTAVE (-2~+2) <DCA> ENVELOPE (STEP=1~8, RATE=0~99, LEVEL=0~99, SUS, END), ENV DEPTH (0~99), KF LEVEL (POINT=1~6, KEY=C0~C9, LEVEL=0~99), VEL LEVEL (SENS=0~31, CURVE=1~8), TREMOLO(WAVE: 4, DEPTH=0~99, RATE=0~99, DELAY=0~99, MULTI=ON/OFF), AMP SENS (0~7), TOTAL LEVEL (0~99) <DCO/DCA> KF RATE (POINT=1~6, KEY=C0~C9, RATE=0~99), VEL RATE (SENS=0~31, CURVE=1~8), P VEL RATE (ENA/DIS), A VEL RATE (ENA/DIS), VOICE NAME, INIT VOICE
<b>Effect parameters:</b>	MIDI CHANNEL (1~16), PORTAMENTO/SOLO(PORTM=ON/OFF, PORTM TIME=0~99, PORTM MODE=TIME CONST/RATE CONST, SOLO=ON/OFF, POLY/MONO), PITCH BEND(RANGE=0~48, RELEASE=ENA/DIS), AFTER TOUCH/MOD WHEEL/DEF CONTROL/FOOT VR (SENS=0~99, -99~+99, VIB DEPTH=ON/OFF, VIB RATE=ON/OFF, PITCH=+ON/-ON/OFF, PORTM TIME=ON/OFF, TREM DEPTH=ON/OFF, TREM RATE=ON/OFF, A ENV BIAS=ON/OFF), FOOT SW (SUSTAIN/SOSTENUTO/DISABLE), VEL TABLE SELECT (TABLE NO.=1~8), PAN(MODE=FIX/CONTROL/AUTO, FIX: PANPOT1/2=-15~0~+15, CONTROL: CONTROL1/2=AFTER/FOOT VR/MOD/DEF/PAN, RANGE1/2=L/R/C~L/R/C, AUTO: PAN1/2=ON/OFF, RATE=0~63, DEPTH=0~31, CONTROL=AFTER/FOOT VR/MOD/DEF/OFF), LEVEL (0~99), PITCH (POLARITY=+/-, OCTAVE=0~5, NOTE=0~11, FINE=0~63), SPLIT POINT (C0~C9), VEL SPLIT (RANGE=1~127), VEL INVERSE (ON/OFF), POS CROSSFADE (X-FADE=ON/OFF, POS=C0~C9), DELAY TRIGGER (0~99), TOTAL VIBRATO (ON/OFF), VIBRATO INVERSE (ON/OFF), TOTAL TREMOLO (ON/OFF), TREMOLO INVERSE (ON/OFF), COMBI COPY (1~8), OPERATION NAME, OPERATION TUNE

<b>Total control parameters:</b>	MASTER TUNE (-64~+64), TRANSPOSE (G~F#), MEMORY PROTECT (INTERNAL=ON/OFF, CARD=ON/OFF), SAVE/LOAD (SAVE/LOAD, CARD1/CARD2/MIDI, DATA=VOICE/OPMEM/VC+OP/FULL), MIDI CHANNEL (CHANNEL=1~16, TOTAL=ON/OFF), MIDI DATA (PROGRAM=0~127/0~63/DIS, EXCLUSIVE=ENA/DIS, DEF CONTROL=OFF/12~31, VOLUME=ENA/DIS, OVERFLOW=NORMAL/1~8, CARD FORMAT
<b>Input/output:</b>	line out × 2 (MIX/R, L) Output impedance: 2.2kΩ
<b>Output voltage:</b>	1.3V (RMS) MAX, headphones, MIDI (IN/OUT/THRU), card slot
<b>Display:</b>	16 characters × 2 (with back-up light)
<b>Power supply:</b>	AC 100V, 120V, 220V, 240V using supplied AC cord
<b>Memory back up:</b>	Built-in lithium battery (life: approx. 5 years)
<b>Power consumption:</b>	13W
<b>Dimensions:</b>	482.6 × 300 × 53.6mm (19" × 11 <sup>13</sup> / <sub>16</sub> " × 2 <sup>1</sup> / <sub>8</sub> "')
<b>Weight:</b>	4.0kg (8.8lbs)
<b>Standard accessories:</b>	AC power cord, plug cord set, MIDI cable (3m), Menu table

*\*Design and specifications are subject to change without notice.*

**GUIDELINES LAID DOWN BY FCC RULES FOR USE OF THE UNIT IN THE U.S.A. (not applicable to other areas).**

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ..... reorient the receiving antenna
- ..... relocate the equipment with respect to the receiver
- ..... move the equipment away from the receiver
- ..... plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

**WARNING:**

CHANGING THE VOLTAGE SELECTOR MAY REQUIRE THE USE OF A DIFFERENT LINE CORD OR ATTACHMENT PLUG, OR BOTH. TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

## IMPORTANT SAFETY INSTRUCTIONS

### “INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS”

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

1. Read all the instructions before using the product.
2. Do not use this product near water - for example, near a bathtub, wash-bowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a stand that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. This product may be equipped with a polarized line plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.
9. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
10. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
11. The product should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug has been damaged; or
  - B. Objects have fallen, or liquid has been spilled into the product; or
  - C. The product has been exposed to rain; or
  - D. The product does not appear to operate normally or exhibits a marked change in performance; or
  - E. The product has been dropped, or the enclosure damaged.
12. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

**SAVE THESE INSTRUCTIONS**

## GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or break-down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**DANGER** — Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.