Korg M1 Manual

2/01

Basic Operation

The M1 has synthesizer sounds, sampled sounds, and drum sounds permanently stored as 144 multisound waveforms. Additional waveforms can temporarily be accessed from an MSC ROM card inserted in the rear slot. Multisound waveforms are passed through a variable digital filter (VDF) and a variable digital amplifier (VDA) to create up to 100 programs. Two or more programs are grouped together layered or split for simultaneous play to create up to 100 combinations. Programs and combinations can be temporarily or permanently edited, or completely new ones made. The internal sequencer can record up to eight programs for about 8.5 minutes of simultaneous playback in 100prog/100combi memory.

Mode Keypad
INT: use sound in M1 internal memory.
CARD: use sound in RAM card (MCR-03) or ROM card in top Data slot.
COMBI: play combinations.
EDIT COMBI: edit combinations, made permanent only after selecting WRITE COMBINATION.
PROGRAM: play programs.
EDIT PROGRAM: edit programs, made permanent only after selecting WRITE PROGRAM.
SEQ: use the internal 8-track sequencer.
GLOBAL: edit the four drum kits, MIDI settings, and overall M1 parameters.

Numeric Keypad
00 to 99: select a specific program or combination.
BANK HOLD: hold the ten's digit of a program or combination for selection within that X0-X9 range.
COMPARE: compare the original(hilited) to the edited(darkened) while in EDIT COMBI or EDIT PROG.
COMPARE: also a MIDI panic button to turn off a stuck note in sequencer play or MIDI in.
START/STOP: start or stop the sequencer playing.
REC and START/STOP: start or stop recording music in sequencer mode.

A-H, Value Slider, Up/Down, Page+/-
A-H keys: move a horizontal cursor to indicate the parameter being edited.
Value Slider or Up/Down keys: adjust the selected parameter value.
Page+/- keys: display M1 parameter pages in an edit mode. Use numeric keypad 0-9 for chapters.

Program Mode

Eight program parameters can be temporarily edited on-the-spot during a live performance. The original parameter values will return when another program is selected. The A-H keys select the parameter. The Up/Down keys change the parameter value -10 to +10.

To play an internal program: INT PROG 00-99.
To temporarily edit an internal program: A-H Up/Down.
To make the edit permanent: EDITPROG 9 F G.

```
----------------------------------------
PROG  I00 Universe       OSC Balance
0+05 F+03 L-02 K+10 V-08 A+01 R-01 E+03
----------------------------------------
  A    B    C    D    E    F    G    H
```

A-H	Abb	Parameter	Description
A	O	Oscillator Balance	Volume balance of OSC1 and OSC2 when set to double.
B	F	Variable Digital Filter Cutoff	Cutoff frequency of VDF1 and VDF2 tonal quality.
C	L	Variable Digital Amplifier Level	Volume of OSC1 and OSC2.
D	K	Keyboard Track	Sensitivity of sound/volume by the part of keyboard played.
E	V	Velocity Sensitivity	Sensitivity of sound/volume by how hard the keyboard is played.
F	A	Attack Time	Attack time of VDF1, VDF2, VDA1, and VDA2.
G	R	Release Time	Release time of VDF1, VDF2, VDA1, and VDA2.
H	E	Effect Balance	Balance of direct sound/sound of Effects1 and Effects2.

Edit Program Mode

Edit the selected program temporarily, permanently, or create a new program. A single program can have 97 to164 parameter values. Display a program's parameter values one-at-a-time in the Edit Program mode with the numeric keypad, the Page+ key, and the A-H keys. WARNING!! Editing programs and editing combinations can result in loss of sound data. Backup sounds to a floppy or hard disk first with a MIDI librarian before editing M1 internal sounds or M1 card sounds!

N +	ParamAbb	Parameter
0	OSC-BASIC	Oscillator mode.
0 +1	OSC1	Waveform and level of Oscillator1.
0 +2	OSC2	Waveform and level and pitch of Oscillator2 in double mode.
1	OSC1 PITCH EG	Pitch variation over time of Oscillator1.
1 +1	OSC2 PITCH EG	Pitch variation over time of Oscillator2 in double mode.
2 +2	VDF1	Cutoff frequency and EG intensity of VDF1.
2 +3	VDF1 EG	Variation of VDF1's cutoff frequency over time.
2 +4	VDF1 VEL SENS	Degree of VDF1's response to key velocity.
2 +5	VDF1 KBD TRK	Degree of VDF1's track of keyboard.
3	VDF2	Cutoff frequency and EG intensity of VDF2 in double mode.
3 +1	VDF2 EG	Variation of VDF2's cutoff frequency over time in double mode.
3 +2	VDF2 VEL SENS	Degree of VDF2's response to key velocity in double mode.
3 +3	VDF2 KBD TRK	Degree of VDF2's track of keyboard in double mode.
4	VDA1 EG	Volume variation of VDA1 over time.
4 +1	VDA1 VEL SENS	Degree of VDA1's response to key velocity.
4 +2	VDA1 KBD TRK	Degree of VDA1's track of keyboard.
5	VDA2 EG	Volume variation of VDA2 over time in double mode.
5 +1	VDA2 VEL SENS	Degree of VDA2's response to key velocity in double mode.
5 +2	VDA2 KBD TRK	Degree of VDA2's track of keyboard in double mode.
6	PITCH MG	Pitch modulation (vibrato).
6 +1	VDF MG	VDF modulation (wah-wah).
7	AFTER TOUCH	Degree of after touch's affect on tonal quality.
7 +1	JOY STICK	Degree of joy stick's affect on tonal quality.
8	EFFECT1	Selection of Effect1.
8 +1	EFFECT1 PARAM	Parameters of Effect1.
8 +2	EFFECT2	Selection of Effect2.
8 +3	EFFECT2 PARAM	Parameters of Effect2.
8 +4	EFFECT PLACE	Assignment of Effects1 and Effects2.
8 +5	EFFECT COPY	Copying of Effect parameter values.
9	WRITE/RENAME	Writes and renames program edit permanently to memory.

Edit Program Mode Parameter Values with the A-H keys and Up/Down keys.

0 OSC-BASIC Oscillator mode

A OSC Mode SINGLE oscillator mode, DOUBLE oscillator mode, DRUMS kit mode.
B Assign POLYphonic play, MONOphonic play.
C Hold sound ON/OFF after key release.

When in DRUMS kit mode, reset 0:2+ OSC1 to Drum Kit on the next page. In SINGLE mode the maximum simultaneous voices are 16. In DOUBLE mode the maximum simultaneous voices are 8. Hold set to ON is mainly used for a drum kit.

0 +1 OSC1 Waveform and level of Oscillator1

A Multisound/Drum Kit Select a multisound waveform/Drum kit1-4 for OSC1.
D OSC Level 0 to 99 volume.
E Octave 16′ one octave below, 8′ standard pitch, 4′ one octave above.

Multisound Waveform List

00 A.Piano	20 Bell	40 BambooTrem	60 Hammer	80 DWGS Piano
01 E.Piano1	21 Tubular	41 Rhythm	61 MetalHit	81 DWGS Clav
02 E.Piano2	22 BellRing	42 Lore	62 MetalHitNT	82 DWGS Vibe1
03 Clav	23 Karimba	43 LoreNT	63 Pick	83 DWGS Bass1
04 Harpsichord	24 KarimbaNT	44 Flexatone	64 Distortion	84 DWGS Bass2
05 Organ1	25 SynMallet	45 WindBells	65 DistNT	85 DWGS Bell1
06 Organ2	26 Flute	46 Pole	66 BassThumb	86 DWGS Orgn1
07 MagicOrgan	27 PanFlute	47 PoleNT	67 BasThumNT1	87 DWGS Orgn2
08 Guitar1	28 Bottles	48 Block	68 BasThumNT1	88 DWGS Voice
09 Guitar2	29 Voices	49 BlockNT	69 Wire	89 SquareWave
10 E.Guitar	30 Choir	50 FingerSnap	70 PanWave	90 Digital1
11 Sitar1	31 Strings	51 Pop	71 PingWave	91 SawWave
12 Sitar2	32 Brass1	52 Drop	72 FvWave	92 Digital2
13 A.Bass	33 Brass2	53 DropNT	73 MvWave	93 25% Pulse
14 PickBass	34 TenorSax	54 Breath	74 VoiceWave	94 10% Pulse
15 E.Bass	35 MuteTP	55 BreathNT	75 VoiceWvNT1	95 Digital3
16 Fretless	36 Trumpet	56 Pluck	76 VoiceWvNt2	96 Digital4
17 SynthBass1	37 TubaFlugel	57 PluckNT	77 DWGS EP1	97 Digital5
18 SynthBass2	38 DoubleReed	58 VibeHit	78 DWGS EP2	98 DWGS Tri
19 Vibes	39 KotoTrem	59 VibeHitNT	79 DWGS EP3	99 DWGS Sine

When SINGLE or DOUBLE is selected in OSC-BASIC (0 1+) on the previous page, the waveform of Oscillator1 is selected by Multisound. Since each multisound waveform has a limited pitch range, it may not sound when played in a high octave. Assignment of drum sounds to a drum kit is done in global mode.

0 +2 OSC2 Waveform and level and pitch of Oscillator2 in double mode

A Multisound Select a multisound waveform for OSC2.
D OSC Level 0 to 99 volume.
E Octave 16′ one octave below, 8′ standard pitch, 4′ one octave above.
F Interval -12 to +12 pitch relative to OSC1.
G Detune -50 to +50 detune relative to OSC1.
H Delay Start 0 to 99 time delay before OSC2′s sound begins.

Interval adjusts pitch in semitones to create chords with OSC1 and OSC2. Detune adjusts pitch in cents between OSC1 and OSC2. Detune OSC2 slightly for a thicker sound.

1 OSC1 PITCH EG Pitch variation over time of Oscillator1

A Start Level -99 to +99 pitch
B Attack Time 0 to 99
C Attack Level -99 to +99 pitch
D Decay Time 0 to 99
E Release Time 0 to 99

F Release Level   -99 to +99 pitch
G EG Level Vel Sens -99 to +99 pitch response to key velocity.
H EG Time Vel Sens -99 to +99 time response to key velocity.
The stronger the key is struck the greater the change of pitch for a + EG Level Vel Sens and the shorter the time becomes for a + EG Time Vel Sens. The opposite when set to - values, both limited to +- one octave.

1 +1 OSC2 PITCH EG Pitch variation over time of Oscillator2 in double mode
---
Same as 1 1+ OSC1 PITCH EG on previous page but applied to oscillator2.

2   VDF1   Cutoff frequency and EG intensity of VDF1

D Cutoff   0 to 99 cutoff frequency for sound brightness, smaller values for mellow tone.
H EG Intensity 0 to 99 degree to which EG affects cutoff frequency, depth of cutoff greatest at 99.

2 +1 VDF1 EG   Variation of VDF1’s cutoff frequency over time
---
A Attack Time   0 to 99
B Attack Level -99 to +99
C Decay Time   0 to 99
D Break Point   -99 to +99
E Slope Time   0 to 99
F Sustain Level -99 to +99
G Release Time   0 to 99
H Release Level -99 to +99
Determines how the VDF1’s cutoff frequency will vary over time. The time parameters set the time to reach the next level. The level parameters set the cutoff frequency for that segment of the EG. Each level can be individualy set to a +-value in relation to initial cutoff. The amount by which each level affects the cutoff frequency is globally controlled by VDF1 EG Intensity on the previous page.

2 +2 VDF1 VEL SENS Degree of VDF1’s response to key velocity

B EG Int   -99 to +99 EG’s level affected by key velocity, harder hit = greater cutoff frequency when +.
D EG Time   0 to 99 EG’s time affected by key velocity, harder hit = shorter time when +.
E Attack Time -,0,+
F Decay Time   -,0,+
G Slope Time   -,0,+
H Release Time -,0,+
The softer sounds of acoustic instruments have fewer high frequency components. When imitating this effect, set EG Int to +, then set VDF1 cutoff to low and EG intensity to +, and finally set all VDF1 EG levels like attack level to +. By setting Attack Time to + and Release Time to - the harder hit gives a shorter attack but a longer release.

2 +3 VDF1 KBD TRK Degree of VDF1’s track of keyboard

A CenterKey C1 to G9 The central key for effect of VDF1 keyboard tracking.
B Cutoff   -99 to +99 Change the VDF1 cutoff frequency, the brightness of tone, by key position.
D EG Time   0 to 99 Change VDF1 EG speed by key position.
E Attack Time -,0,+
F Decay Time   -,0,+
G Slope Time   -,0,+
H Release Time -,0,+
VDF Keyboard Tracking is an effect that changes the values of the VDF cutoff frequency and the time it takes the EG to cycle, in proportion to the note number played. The change of Cutoff and the change of pitch are equal when set to 0.

3   VDF2   Cutoff frequency and EG intensity of VDF2 in double mode
3 +1 VDF2 EG   Variation of VDF2’s cutoff frequency over time in double mode

3 +2 VDF2 VEL SENS Degree of VDF2's response to key velocity in double mode
3 +3 VDF2 KBD TRK Degree of VDF2's track of keyboard in double mode
---
All same as corresponding VDF1 parameters but applied to oscillator 2.

4 VDA1 EG Volume variation of VDA1 over time

A Attack Time 0 to 99
B Attack Level 0 to 99
C Decay Time 0 to 99
D Break Point 0 to 99
E Slope Time 0 to 99
F Sustain Level 0 to 99
G Release Time 0 to 99
The variable digital amplifier (VDA) changes the volume of the sound origin waveform. The VDA EG determines how the volume will vary over time.

4 +1 VDA1 VEL SENS Degree of VDA1's response to key velocity

B Amplitude -99 to +99 Change of VDA1's volume by key velocity.
D EG Time 0 to 99 Change of VDA EG's time by key velocity, harder hit = shorter time of EG when +.
E Attack Time -,0,+
F Decay Time -,0,+
G Slope Time: -,0,+
H Release Time -,0,+
Tone color can be changed by velocity by setting VDA1 Vel Sens values opposite to VDA2 Vel Sens values in double mode. When keys are played hard only the OSC1 program is heard, when keys are played normal both OSC1 program and OSC2 program are heard, and when keys are played soft only the OSC2 program is heard. For strings, set the attack time to + and release time to -.

4 +2 VDA1 KBD TRK Degree of VDA1's track of keyboard

A Center Key C1 to G9 The central key for the effect of VDA1 keyboard tracking.
B Amplitude -99 to +99 Volume of VDA1 by key position, the higher pitch played = louder volume when +.
D EG Time 0 to 99 Speed of VDA1 EG by key position, progressively shorter above center key when +.
E Attack Time -,0,+
F Decay Time -,0,+
G Slope Time -,0,+
H Release Time -,0,+

5 VDA2 EG Volume variation of VDA2 over time in double mode
5 +1 VDA2 VEL SENS Degree of VDA2's response to key velocity in double mode
5 +2 VDA2 KBD TRK Degree of VDA2's track of keyboard in double mode
---
All same as corresponding VDA1 parameters but applied to oscillator 2.

6 PITCH MG Pitch modulation (vibrato)

A Wave Form TRIANGLE most common, SAW UP, SAW DOWN reverse polarity, SQUARE.
C Frequency 0 to 99 Speed of modulation.
D Delay 0 to 99 Time between the striking of key and onset of modulation effect.
E Intensity 0 to 99 Depth of modulation, disabled when OSC Select is OFF.
F OSC Select OFF, OSC1, OSC2, BOTH
H Key Sync OFF same modulation, ON independent modulation of both voices.

6 +1 VDF MG VDF modulation (wah-wah)

Same as PITCH MG but applied to filter modulation.

```
7    AFTER TOUCH   Degree of after touch's affect on tonal quality
-----------------------------------------------------------------
A Pitch         -12 to +12 Width/direction of pitch, harder hit = greater Pitch MG effect when +.
B Pitch MG        0 to 99  Effect of after touch on PITCH MG.
D VDF Cutoff    -99 to +99 Cutoff frequency variation by after touch, harder hit = brighter tone when +.
E VDF MG          0 to 99  Effect of after touch on VDF MG, harder hit = greater effect when higher.
G VDA Amplitude -99 to +99 Effect of after touch on volume, harder hit = louder when +.


7 +1 JOY STICK     Degree of joy stick's affect on tonal quality
-----------------------------------------------------------------
A Pitch Bend       -12 to +12 The maximum amount of pitch change by joy stick, in semitones.
B VDF Sweep Int    -99 to +99 VDF cutoff frequency change by joy stick.
D Pitch MG           0 to 99  Pitch MG effect increases as joy stick moves up.
E Pitch MG Frequency 0 to 3   Pitch MG speed change by joy stick.
G FM                 0 to 99  VDF MG effect, higher value = deeper effect as joystick moves up.
H MF                 0 to 3   VDF MG speed, higher value = increased speed as joystick moves down.
```

Program Effect Parameters

The M1 uses a two-system two-channel multi digital effect unit. Each effect has 33 different effect types. Effect placement of two effects and two panpots with four inputs (A,B,C,D) and four outputs (1/L,2/R,3,4) can be in either serial routing or parallel routing.

In Serial routing, inputs A and B send signals first to Effect1 and then to Effect2 and are output from 1/L and 2/R. Inputs from C and D can be output directly through 3 and 4 unprocessed or mixed with the Pan3 and Pan4 inputs before routed to Effect2. Selected programs can be processed through Effect1 and other programs not, while all programs, processed or not, can be routed through Effect 2 by using the C and D inputs.

```
A->Effect1-->Effect2->1/L
B->Effect1-->Effect2->2/R
C->------------------>3
D->------------------>4
C->Pan3----->Effect2->1/L
C->Pan3----->Effect2->2/R
D->Pan4----->Effect2->1/L
D->Pan4----->Effect2->2/R
```

In Parallel routing, inputs A and B send signals only to Effect1 and are output from 1/L and 2/R. Inputs from C and D send signals only to Effect2 and can be output directly through 3 and 4 unprocessed or mixed with the Pan3 and Pan4 inputs before output through 1/L and 2/R.

```
A->Effect1----------->1/L
B->Effect1----------->2/R
C->Effect2----------->3
D->Effect2----------->4
C->Effect2->Pan3----->1/L
C->Effect2->Pan3----->2/R
D->Effect2->Pan4----->1/L
D->Effect2->Pan4----->2/R
```

Effects1-25 are stereo and Effects26-33 are dual in which each channel has a different effect.

```
8    EFFECT1       Selection of Effect1
---------------------------------------
A Effect Type NO EFFECT, 01 to 33  Effect type.
F Switch      OFF/ON               Only one effect type can be ON at a time.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Hall, Ensemble Hall, Concert Hall, Room, Large Room, Live Stage
-----------------------------------------------------------------
A Reverb Time .2 to 9.9 sec Halls, .2 to 5.0 sec Rooms  Time before reverberation decays.
B Pre Delay    0 to 200 mSec  Time between the direct sound and the first early reflections.
C E/R Level    0 to 90        Level of early reflections.
```

D High Damp 0 to 99 % The larger the value set, the faster the high frequencies are damped.
F EQ Low -12 to +12 dB Control for cutting or boosting the low frequency components.
G EQ High -12 to +12 dB Control for cutting or boosting the high frequency components.
H Dry:EFF 99:1 to 1:99 Output balance of direct sound and effect sound.

Hall is natural spacious ambience. Ensemble Hall is similar to Hall but suited for string and brass ensemble. Concert Hall is similar to Hall but has emphasis on early reflections. Room is tight well-defined reverberation. Large Room has emphasis on relative density of sound, gating can be achieved when reverb time is 0.5 sec. Live Stage is reverberation of a very large room.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Early ReflectionI, Early ReflectionII, Early ReflectionIII

A E/R Time	100 to 800 mSec	Adds density for a live room sound with descrete echoes and reflections.
C Pre Delay	0 to 200 mSec	Time between direct sound and E/R sound.
F EQ Low	-12 to +12 dB	Control for cutting or boosting the low frequency components.
G EQ High	-12 to +12 dB	Control for cutting or boosting the high frequency components.
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

Early Reflection is an effect to adjust only the early reflections, crucial in determining the realism of the reverb sound as it would be heard in an actual room, separate from the reverberant wash. Early ReflectionII reinforces the low frequency range , and has general purpose gating for drum sounds. Early ReflectionIII uses a reverse envelope on the early reflections, for strong attack characteristics with cymbals.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Stereo Delay, Cross Delay

A Delay Time Left	0 to 500 mSec	Time between direct sound and effect sound of left channel A or C.
B Delay Time Right	0 to 500 mSec	Time between direct sound and effect sound of right channel B or D.
C Feedback	-99 to +99 %	Amount of feedback, inverted phase with -.
D High Damp	0 to 99 %	Larger value set = faster damping of high frequencies.
F EQ Low	-12 to +12 dB	Control for cutting or boosting the low frequency components.
G EQ High	-12 to +12 dB	Control for cutting or boosting the high frequency components.
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

Stereo delay uses two delay systems, each with a feedback circuit that sends part of the sound back through the delay again. Cross delay sends the feedback signal of each delay over to the other delay.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Stereo ChorusI, Stereo ChorusII

A Mod Depth	0 to 99	Intensity of modulation.
B Mod Speed	.03 to 30 Hz	Speed of modulation frequency.
C Delay Time	0 to 200 mSec	Time between direct sound and effect sound.
D Mod Waveform	SINe, TRIangle	
F EQ Low	-12 to +12 dB	Control for cutting or boosting the low frequency components.
G EQ High	-12 to +12 dB	Control for cutting or boosting the high frequency components.
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

Stereo ChorusI combines two chorus circuits for a natural warm fat sound, particularly with piano, strings, and brass. A swirling constantly changing sound moves between the stereo outputs created through phase inversion of the two circuits. Stereo ChorusII has no phase inversion.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Stereo Flanger, Cross Flanger

A Mod Depth	0 to 99	Depth of flanging effect.
B Mod Speed	.03 to 30 Hz	Speed of modulation.
C Delay Time	0 to 50 mSec	Time between direct sound and effect sound.
D Feedback	-99 to +99 %	Amount of feedback, inverted phase with -.
E Mod Waveform	SINe, TRIangle	
F EQ Low	-12 to +12 dB	Control for cutting or boosting the low frequency components.
G EQ High	-12 to +12 dB	Control for cutting or boosting the high frequency components.
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

Stereo Flanger combines two flanger circuits with a swirling swishing effect that moves expansively between the stereo outputs inhanced by phase inversion of the two circuits, effective with cymbals. Cross Flanger

sends its feedback signal over to the other flanger.

8 +1 EFFECT1 PARAM Parameters of Effect1
for PhaserI, PhaserII

A Manual	0 to 99	Center frequency which phase shift affects.
B Mod Speed	.03 to 30 Hz	Speed of modulation.
C Mod Depth	0 to 99	Depth of phase shift.
D Feedback	-99 to +99 %	Amount of feedback, inverted phase with -.
E Mod Waveform	SINe, TRIangle	
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

PhaserI combines two phaser circuits for a more pronounced swirling swishing effect that moves expansively between the stereo outputs , enhanced by phase inversion of the two circuits, effective on electronic piano and guitar. PhaserII has no phase inversion.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Stereo TremoloI, Stereo TremoloII

A Mod Depth	0 to 99	Depth of tremolo effect.
B Mod Speed	.03 to 30 Hz	Speed of modulation tremolo effect.
C Mod Waveform	SINe, TRIangle	
D Shape	-99 to +99	Changing the modulation waveform.
F EQ Low	-12 to +12 dB	Control for cutting or boosting the low frequency components.
G EQ High	-12 to +12 dB	Control for cutting or boosting the high frequency components.
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

Stereo TremoloI uses phase inversion of two tremolo circuits and automatic panning between left and right outputs. Stereo TremoloII has no phase inversion.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Equalizer

A Low Gain	-12 to +12 dB	Gain which cuts or boosts low range components.
B Low Cutoff	250, 500, 1 KHz	Low frequency point at which boost or cut will be made.
C Mod Waveform	SINe, TRIangle	
E High Gain	-12 to +12 dB	Gain that cuts or boosts the high range components.
F High Cutoff	1, 2, 4 KHz	High frequency at which boost or cut will be made.
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

A low and high range equalizer which decreases or increases the components of each frequency range.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Overdrive

A Drive	0 to 99	Overdrive of input signal, for guitars or guitar-like solos.
B Level	0 to 99	Output level of processed sound.
F EQ Low	-12 to +12 dB	Control for cutting or boosting the low frequency components.
G EQ High	-12 to +12 dB	Control for cutting or boosting the high frequency components.
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Distortion

A Drive	0 to 99	Amount of distortion applied to input signal, dirtier harder edge than overdrive.
B Level	0 to 99	Output level of distorted sound.
F EQ Low	-12 to +12 dB	Control for cutting or boosting the low frequency components.
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Exciter

A Blend	-99 to +99	Setting the balance of the unprocessed and exciter signals.
C Emphatic Point	1 to 10	Central frequency emphasized by exciter.
F EQ Low	-12 to +12 dB	Control for cutting or boosting the low frequency components.
G EQ High	-12 to +12 dB	Control for cutting or boosting the high frequency components.
H Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

Exciter increases the clarity of the sound, giving greater definition and presence, bringing the sound to the forefront.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Symphonic Ensemble

A	Mod Depth	0 to 99	Depth of ensemble effect, for strings.
F	EQ Low	-12 to +12 dB	Control for cutting or boosting the low frequency components.
G	EQ High	-12 to +12 dB	Control for cutting or boosting the high frequency components.
H	Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Rotary Speaker

A	Mod Depth	0 to 99	Depth of ensemble effect, for strings.
C	Speed Ratio	-10 to +10	Ratio of rotation speed of high range / low range speaker.
H	Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

8 +1 EFFECT1 PARAM Parameters of Effect1
for Delay/ Hall, Room, Early Reflection, Delay, Chorus, Flanger, Phaser, Tremolo

	DELAY/		
A	Delay Time	0 to 500 mSec	Time from direct sound to effect sound.
B	Feedback	-99 to +99 %	Amount of feedback, inverted phase with -.
C	High Damp	0 to 99 %	Higher = faster damping of high frequencies.
D	Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.
	HALL		
E	Reverb Time	.2 to 9.9 sec	Time before reverberation decays.
F	Pre Delay	0 to 150 mSec	Time between direct sound and first early reflection.
G	High Damp	0 to 99 %	Higher = faster damping of high frequencies.
H	Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.
	EARLY REFLECTION		
E	E/R Time	100 to 400 mSec	E/R time.
F	Pre Delay	0 to 150 mSec	Time between direct sound and first early reflection.
H	Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.
	DELAY		
E	Delay Time	0 to 500 mSec	Time from direct sound to effect sound.
F	Feedback	-99 to +99 %	Amount of feedback, inverted phase with -.
G	High Damp	0 to 99 %	Higher = faster damping of high frequencies.
H	Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.
	CHORUS		
E	Mod Depth	0 to 99 %	Intensity of modulation effect.
F	Mod Speed	.03 to 30 Hz	Speed of modulation frequency.
G	Mod Waveform	SINe, TRIangle	
H	Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.
	FLANGER, PHASER, TREMOLO		
E	Mod Depth	0 to 99 %	Intensity of modulation effect.
F	Mod Speed	.03 to 30 Hz	Speed of modulation frequency.
G	Feedback	-99 to +99 %	Amount of feedback, inverted phase with -.
H	Dry:EFF	99:1 to 1:99	Output balance of direct sound and effect sound.

8 +2 EFFECT2 Selection of Effect2
8 +3 EFFECT2 PARAM Parameters of Effect2

All Same as EFFECT1 parameters but applied to oscillator2.

8 +4 EFFECT PLACEMENT Assignment of Effects1 and Effects2

B	Effect Placement	PARALLEL, SERIAL
F	Panpot Out3	OFF, 100:0 to 0:100
H	Panpot Out4	OFF, 100:0 to 0:100

8 +5 EFFECT COPY Copying of Effect parameter values

B PROGRAM, COMBINATION, SONG
E 00 to 99, 0 to 9
G [COPY]
Copy all the effect parameter values of a specific program, combination, or song.

9 WRITE/RENAME Writes and renames program edit permanently to memory

---

C < Cursor Left Move rename cursor to the left.
D > Cursor Right Move the rename cursor to the right.
F [WRITE] Permanently write the edited program to internal memory.
H 00 to 99 Program number assigned to edited program.
WRITE/RENAME is disabled when the program memory protect in GLOBAL 6:1+ is set to ON.
To type a name, align the cursor below a character with the C and D keys. Select letters, numbers, and symbols with the UP or DOWN keys.
When [WRITE] is pressed, “Are You Sure?” will appear on the display. Press [YES] to permanently store the edited program into M1 internal memory. Press [NO] to cancel the write operation. “WRITE COMPLETED” will appear in the display when the write operation is successfully finished. Push any A-H key to return to a normal display. To paste a program within internal memory into another program number slot, select the program to be copied in the PROGRAM mode, return to WRITE/RENAME, give the program a new number with H cursor key and UP/DOWN keys, press [WRITE].

Combination Mode

There are five different types of combinations: Single, Layer, Split, Velocity Switch, and Multi. An asterisk (*) in front of a program number indicates it is selected in a Program mode or Edit Program mode. Combination parameters can be temporarily edited on-the-spot during a live performance. The original parameter values will return when another program is selected. The A-H keys select the parameter. The Up/Down keys change the parameter value -10 to +10.

```
To play an internal combination: INT COMBI 00-99.
To temporarily edit an internal combination: A-H Up/Down.
To make the edit permanent: EDITCOMBI 9 F G.
```

Single

```
----------------------------------------
COMBI I00 BassSingle     Program
 I00 E.Bass     Level=99
----------------------------------------
  A    B    C    D    E    F    G    H
```

A-H	Abb	Parameter	Description
A		Program	Selection of program.
D		Level	Control of volume.

Layer

```
----------------------------------------
COMBI I01 Piano+Trp      Layer 1 Program
*I01 A.Piano    L70  I02 Trumpet    L82
----------------------------------------
  A    B    C    D    E    F    G    H
```

A-H	Abb	Parameter	Description
A		Layer1 Program	Program of layer1.
D	L	Layer1 Level	Volume of the program assigned to layer1.
E		Layer2 Program	Program of layer2.
H	L	Layer2 Level	Volume of the program assigned to layer2.

Split

```
----------------------------------------
COMBI I02 Vln/T.Sax      Upper Program
*I03 Violin     L99  I05 Tenor Sax  L99
----------------------------------------
  A    B    C    D    E    F    G    H
```

A-H	Abb	Parameter	Description
A		Lower Program	Program assigned lower than the split point.
D	L	Lower Level	Volume of the program assigned lower than the split point.
E		Upper Program	Program assigned higher than the split point.
H	L	Upper Level	Volume of the program assigned higher than the split point.

Velocity Switch

```
----------------------------------------
COMBI I03 Flute/Str      Loud Program
*I06 Flute      L99  I10 Strings    L99
----------------------------------------
  A    B    C    D    E    F    G    H
```

A-H	Abb	Parameter	Description
A		Soft Program	Program that sounds when keys are struck softly.
D	L	Soft Level	Volume of the program that sounds when keys are struck softly.
E		Loud Program	Program that sounds when keys are struck hard.
H	L	Loud Level	Volume of the program that sounds when keys are struck hard.

Multi

```
----------------------------------------
COMBI I04 MultiCombi      T1=E.Bass
 I01  I02  I03  I05  I06  I09  I10  I12
----------------------------------------
  A    B    C    D    E    F    G    H
```

A-H	Abb	Parameter	Description
A		Timbre1 Program	Program assigned to Timbre1.
B		Timbre2 Program	Program assigned to Timbre2.
C		Timbre3 Program	Program assigned to Timbre3.
D		Timbre4 Program	Program assigned to Timbre4.
E		Timbre5 Program	Program assigned to Timbre5.
F		Timbre6 Program	Program assigned to Timbre6.
G		Timbre7 Program	Program assigned to Timbre7.
H		Timbre8 Program	Program assigned to Timbre8.

Toggle between two sets of displays with Page+/- keys.

A-H	Abb	Parameter	Description
A		Timbre1 Level	Level assigned to Timbre1.
B		Timbre2 Level	Level assigned to Timbre2.
C		Timbre3 Level	Level assigned to Timbre3.
D		Timbre4 Level	Level assigned to Timbre4.
E		Timbre5 Level	Level assigned to Timbre5.
F		Timbre6 Level	Level assigned to Timbre6.
G		Timbre7 Level	Level assigned to Timbre7.
H		Timbre8 Level	Level assigned to Timbre8.

Edit Combination Mode

Edit the selected combination temporarily, permanently, or create a new combination. A single combination can have 1 to 8 programs, parameters related to play and output for each program, and a pair of effect parameters. Only programs that are selected in the Combination mode can be edited in the Edit Combination mode. Display a combination's parameter values one-at-a-time in the Edit Combination mode with the numeric keypad, the Page+ key, and the A-H keys. Any editing will be temporary unless written to M1 internal memory. WARNING!! Editing programs and editing combinations can result in loss of sound data. Backup sounds to a floppy or hard disk first with a MIDI librarian before editing M1 internal sounds or M1 card sounds!

N	+	ParamAbb	Combi	Parameter
0		COMBI TYPE	ALL	Selection of combination type.
1		PROG PANPOT	SINGLE	Program number and output destination.
1		PROG/LEVEL	LAYER	Each program's number and output level.
1		PROG/SPLIT	SPLIT	Program number and split point.
1		PROG/VELOCITY	VELOCITY SWITCH	Each program's number and velocity switch point.
1		PROG SELECT	MULTI	Program assigned to each timbre.
1	+1	PANPOT/DAMPER	LAYER	Panpot output destination and damper.
1	+1	LEVL/PAN/DAMP	SPLIT	Each program's output level, panpot destination, damper setting.
1	+1	LEVL/PAN/DAMP	VELOCITY SWITCH	Each program's output level, panpot destination, damper setting.
2		MIDI CH	MULTI	Midi receiving channel of each timbre.
3		KEY TOP	MULTI	Top key setting of each timbre's range.
3	+1	KEY BOTTOM	MULTI	Bottom key setting of each timbre's range.
3	+2	VELOCITY TOP	MULTI	Top velocity value of the velocity switch of each timbre.
3	+3	VELOCITY BOT	MULTI	Bottom velocity value of the velocity switch of each timbre.
4		OUTPUT LEVEL	MULTI	Level of each timbre.
5		KEY TRANSPOSE	MULTI	Transpose setting of each timbre.
5	+1	DETUNE	MULTI	Detune setting of each timbre.
6		PANPOT	MULTI	Panpot output destination of each timbre.
7		MIDI PROG CHG	MULTI	Midi program change receiving switch of each timbre.
7	+1	DAMPER	MULTI	Damper effect receiving switch of each timbre.
7	+2	AFTER TOUCH	MULTI	After touch effect receiving switch of each timbre.
7	+3	CONTROL CHG	MULTI	Control effect receiving switch of each timbre.
8		EFFECT1	ALL	Selection of Effect1.

```
8 +1 EFFECT1 PARAM ALL    Parameters of Effect1.
8 +2 EFFECT2       ALL    Selection of Effect2.
8 +3 EFFECT2 PARAM ALL    Parameters of Effect2.
8 +4 EFFECT PLACE  ALL    Assignment of Effects1 and Effects2.
8 +5 EFFECT COPY   ALL    Copying of Effect parameter values.
9    WRITE/RENAME  ALL    Writes and renames combination edit permanently to memory.

Edit Combination Mode Parameter Values with the A-H keys and Up/Down keys.

0    COMBI TYPE    ALL    Selection of combination type
-------------------------------------------------------
C Combination Type  SINGLE, LAYER, SPLIT, VELOCITY SW, MULTI
G                   [SELECT]


1    PROG PANPOT   SINGLE Program number and output destination
-------------------------------------------------------------
A Program  00 to 99  Selection of program number.
D Level     0 to 99  Volume setting.
F Panpot   A, A:B(9:1 to 1:9), B, C, C+D, D

1    PROG/LEVEL    LAYER  Each program's number and output level
-------------------------------------------------------------
A Layer1 Program 00 to 99 Selection of Layer1's program.
D Layer1 Level    0 to 99 Layer1's volume control.
E Layer2 Program 00 to 99 Selection of Layer2's program.
H Layer2 Level    0 to 99 Layer2's volume control.

1    PROG/SPLIT    SPLIT  Program number and split point
-------------------------------------------------------
A Lower Program 00 to 99 Selection of the program below split point.
D Split Point   C1 to G9 Setting split point, the lowest key in upper program.
F Upper Program 00 to 99 Selection of the program above split point.

1    PROG/VELOCITY VELOCITY SWITCH  Each program's number and velocity switch point
-----------------------------------------------------------------------------------
A Soft Program 00 to 99  Program that sounds when playing softer than velocity switch point.
D Vel SW Point  1 to 127 Setting velocity switch point, the lowest velocity in upper program.
F Loud Program 00 to 99  Program that sounds when playing harder than velocity switch point.

1    PROG SELECT   MULTI  Program assigned to each timbre
-----------------------------------------------------------
A Timbre1 OFF, 00 to 99 Selection of the program for each timbre.
B Timbre2 OFF, 00 to 99
C Timbre3 OFF, 00 to 99
D Timbre4 OFF, 00 to 99
E Timbre5 OFF, 00 to 99
F Timbre6 OFF, 00 to 99
G Timbre7 OFF, 00 to 99
H Timbre8 OFF, 00 to 99


1 +1 PANPOT/DAMPER LAYER  Panpot output destination and damper
-------------------------------------------------------------
A Layer1 Panpot A, A:B(9:1 to 1:9), B, C, C+D, D  Layer1's output destination.
B Layer1 Damper DIS/ENA  Damper effect OFF/ON switch for Layer1.
C Layer2 Panpot A, A:B(9:1 to 1:9), B, C, C+D, D  Layer2's output destination.
D Layer2 Damper DIS/ENA  Damper effect OFF/ON switch for Layer2.
E Interval      -12 to +12  Layer2's pitch in semitones +- 1 octave, for automatic harmonies.
H Detune        -50 to +50  Fine adjustment of Layer2's pitch in cents, detune slightly to thicken.

1 +1 LEVL/PAN/DAMP SPLIT  Each program's output level, panpot destination, damper setting
-----------------------------------------------------------------------------------------
A Lower Level  0 to 99  The lower program's volume control.
```

B Lower Panpot A, A:B(9:1 to 1:9, B, C, C+D, D Lower program’s output destination.
C Lower Damper DIS/ENA Damper effect OFF/ON switch for lower program.
E Upper Level 0 to 99 The upper program’s volume control.
F Upper Panpot A, A:B(9:1 to 1:9, B, C, C+D, D Upper program’s output destination.
G Upper Damper DIS/ENA Damper effect OFF/ON switch for upper program.

1 +1 LEVL/PAN/DAMP VELOCITY SWITCH Each program’s output level, panpot destination, damper setting
---
A Soft Level 0 to 99 The soft program’s volume control.
B Soft Panpot A, A:B(9:1 to 1:9), B, C, D+D, D Soft program’s output destination.
C Soft Damper DIS/ENA Damper effect OFF/ON switch for soft program.
D Hard Level 0 to 99 The hard program’s volume control.
F Hard Panpot A, A:B(9:1 to 1:9), B, C, D+D, D Hard program’s output destination.
G Hard Damper DIS/ENA Damper effect OFF/ON switch for hard program.

2 MIDI CH MULTI Midi receiving channel of each timbre

A Timbre1 1 to 16 Selection of the MIDI receive channel of each timbre.
B Timbre2 1 to 16
C Timbre3 1 to 16
D Timbre4 1 to 16
E Timbre5 1 to 16
F Timbre6 1 to 16
G Timbre7 1 to 16
H Timbre8 1 to 16
Playing eight separate programs simultaneously is possible with multi-channel MIDI data received through MIDI IN, when a different MIDI channel is set for each timbre. Program change, pitch bend, after touch, and control change parameters receive data over the MIDI channel set for each timbre. When playing the M1, only the timbres which are set to the same channel as the MIDI Global channel will sound. Real time performance controls such as joy stick and after touch affect only the timbres whose channels are the same as the Global channel. When the receiving channel is the same as the Global channel, “G” is displayed after the number.

3 KEY TOP MULTI Top key setting of each timbre’s range
3 +1 KEY BOTTOM MULTI Bottom key setting of each timbre’s range
---
A Timbre1 C1 to G9 Selection of the top key and bottom key of each timbre’s range.
B Timbre2 C1 to G9
C Timbre3 C1 to G9
D Timbre4 C1 to G9
E Timbre5 C1 to G9
F Timbre6 C1 to G9
G Timbre7 C1 to G9
H Timbre8 C1 to G9

3 +2 VELOCITY TOP MULTI Top velocity value of the velocity switch of each timbre
3 +3 VELOCITY BOT MULTI Bottom velocity value of the velocity switch of each timbre
---
A Timbre1 1 to 127 Sets max and min velocity value each timbre will sound.
B Timbre2 1 to 127
C Timbre3 1 to 127
D Timbre4 1 to 127
E Timbre5 1 to 127
F Timbre6 1 to 127
G Timbre7 1 to 127
H Timbre8 1 to 127
Velocity window top and velocity window bottom set the range at which timbres will sound according to the strength at which the keyboard is played. Different timbres can be sounded with different playing strengths to give maximum expressive control. The top point cannot be set to a lower value than the bottom point.

4 OUTPUT LEVEL MULTI Level of each timbre

A Timbre1 0 to 99 Controls output level volume of each timbre.
B Timbre2 0 to 99
C Timbre3 0 to 99
D Timbre4 0 to 99
E Timbre5 0 to 99
F Timbre6 0 to 99
G Timbre7 0 to 99
H Timbre8 0 to 99

5 KEY TRANSPOSE MULTI Transpose setting of each timbre

A Timbre1 -12 to +12 Adjusts pitch of each timbre in semitones over +- 1 octave.
B Timbre2 -12 to +12
C Timbre3 -12 to +12
D Timbre4 -12 to +12
E Timbre5 -12 to +12
F Timbre6 -12 to +12
G Timbre7 -12 to +12
H Timbre8 -12 to +12

5 +1 DETUNE MULTI Detune setting of each timbre

A Timbre1 -50 to +50 Fine adjusts pitch of each timbre in cents over +- 50 cents.
B Timbre2 -50 to +50
C Timbre3 -50 to +50
D Timbre4 -50 to +50
E Timbre5 -50 to +50
F Timbre6 -50 to +50
G Timbre7 -50 to +50
H Timbre8 -50 to +50

6 PANPOT MULTI Panpot output destination of each timbre

A Timbre1 A, A:B(9:1 to 1:9), B, C, C+D, D Sets the panpot output destination of each timbre.
B Timbre2 A, A:B(9:1 to 1:9), B, C, C+D, D
C Timbre3 A, A:B(9:1 to 1:9), B, C, C+D, D
D Timbre4 A, A:B(9:1 to 1:9), B, C, C+D, D
E Timbre5 A, A:B(9:1 to 1:9), B, C, C+D, D
F Timbre6 A, A:B(9:1 to 1:9), B, C, C+D, D
G Timbre7 A, A:B(9:1 to 1:9), B, C, C+D, D
H Timbre8 A, A:B(9:1 to 1:9), B, C, C+D, D

7 MIDI PROG CHG MULTI Midi program change receiving switch of each timbre
7 +1 DAMPER MULTI Damper effect receiving switch of each timbre
7 +2 AFTER TOUCH MULTI After touch effect receiving switch of each timbre
7 +3 CONTROL CHG MULTI Control effect receiving switch of each timbre
---
A Timbre1 DIS/ENA Whether MIDI, Damper, After Touch, and Control Change messages are received.
B Timbre2 DIS/ENA
C Timbre3 DIS/ENA
D Timbre4 DIS/ENA
E Timbre5 DIS/ENA
F Timbre6 DIS/ENA
G Timbre7 DIS/ENA
H Timbre8 DIS/ENA

8 EFFECT1 ALL Selection of Effect1

A Effect Type 1 to 33, NoEffect
F Switch OFF/ON, [SELECT]

8 +1 EFFECT1 PARAM ALL Parameters of Effect1
8 +2 EFFECT2 ALL Selection of Effect2
8 +3 EFFECT2 PARAM ALL Parameters of Effect2

Same as EFFECT1 PARAM in Edit Program mode.
Same as EFFECT1
Same as EFFECT2 PARAM in Edit Program mode.

8 +4 EFFECT PLACE ALL Assignment of Effects1 and Effects2

C Effect Placement PARALLEL, SERIAL
F Panpot Output3 OFF, 100:0 to 0:100
H Panpot Output4 OFF, 100:0 to 0:100

8 +5 EFFECT COPY ALL Copying of Effect parameter values

B PROGRAM, COMBINATION, SONG
E 00 to 99
G [COPY]

9 WRITE/RENAME ALL Writes and renames combination edit permanently to memory

---

Same as WRITE/RENAME in Edit Program mode.

Sequencer Mode

The M1 has an internal 8-track sequencer to create songs complete with multi-timbral instrumentation. Assign a program from internal memory or from a card to a track and record, playback, and edit songs from the M1 keyboard. A track's program assignment can be changed within a song. Songs are numbered 0 to 9. One song can consist of up to 8 tracks, usually one track per channel. Sequencer effect settings override the individual effect settings of each program. The length of a song is limited to 250 measures per track, about 8.5 minutes. Each track can be recorded by Real Time Recording (default), Step Recording (numeric), or Pattern Method Recording (recurring loops.) The size of a song is limited by the M1's internal memory to either 4,200 events (100progs/combis) or 7,700 events (50progs/combis). Set aftertouch to "Disabled" (GLOBAL 5 + D Down) to dramatically increase the number of notes that can be recorded per track (set back to "Enabled" when done).

An external software sequencer can also record/play programs in over 100 tracks on channels1-8. Many tracks can be recorded in one channel with the same sound. Recording a different sound requires a different channel. The M1's clock must be manually set to "External" for every recording session with an external sequencer: Global 5 D Up (defaults back to "Internal" when the M1 is turned on). The M1 must be in sequencer mode to record/play more than one sound with an external sequencer, because SEQ mode allows MIDI data exchange over all eight channels simultaneously. When a new channel for recording is selected in the external sequencer, the corresponding channel on the M1 must be set manually: SEQ C Up/Down (select track/channel1-8). A file containing sysex data specific to the M1 is often needed for successful MIDI data exchange and M1 program bank lists. Why use an external sequencer? Editing recorded tracks is easier. It's good for long songs greater than 8.5 minutes that use many tracks in channels1-8. It can record raw sysex hexidecimal data. It can send and capture M1 sound banks.

Why use the M1's internal sequencer? It's easy to use and always there without a computer. There's no confusing parameter setups. It's good for short songs less than 8.5 minutes that use 8 or fewer tracks. Each track is automatically assigned to a new channel. Nearly everything can be done on the first SEQ display window.

To play the sequencer: SEQ B Up/Down (select song0-9 to play) START/STOP.

To erase an existing sequence: SEQ 3 + Up/Down (select song0-9 to erase) G G.

To record a new sequence:
* Set aftertouch to "Disabled" to dramatically increase the notes recorded per track: Global 5 + D Down
1. INT SEQ 3 + A Up/Down (select Song0-9 to erase) G G.
2. 0 B Up/Down (select song0-9 to record).
3. C Up/Down (select track1 to record).
4. F Up/Down (select program00-99 to record on track1).
6. A REC START/STOP (begin at measure M002).
7. H START/STOP (play track1)
8. C Up/Down (select track2 to record).
9. F Up/Down (select program00-99 to record on track2).
10.H A REC START/STOP (begin at measure M002).
11.START/STOP (play track1-2)

```
----------------------------------------
SONG0      New Song             95%Free
R/P  Song0 Tr1 M001 d=120 *I00 V99 [><]
----------------------------------------
  A    B    C    D    E    F    G    H
```

Display sequencer parameter values one-at-a-time in the Sequencer mode with the numeric keypad, page+ key, and the A-H keys. WARNING!! Any editing will be permanent, and remain in effect until manually changed.

N +	ParamAbb	Parameter
0	REC/PLAY (REAL TIME)	Real time recording or punch-in recording, and play.
0 +1	REC SET UP (PUNCH)	Set resolution, metronome, and punch in/out measure.
0 +2	REC MULTI CHANNEL	Record in multi-channel from external MIDI device.
1	TRACK PROGRAM	Program number of each track.
1 +1	TRACK VOLUME	Volume of each track.
1 +2	TRACK STATUS	MIDI output, ON/OFF of internal/external voices on each track.
1 +3	MIDI CH	MIDI channel of each track.
2	STEP RECORDING	Step recording.
3	SONG PARAMETER	Set song name and tempo.
3 +1	SONG INITIALIZE	Erase existing song, reset to defaults.
4	TRACK PARAMETER	Set parameters of each track.

```
4 +1 TRACK COPY/BOUNCE     Copy a track or combine two tracks (bounce).
4 +2 TRACK ERASE           Erase existing track.
5    PUT/COPY PATTERN      Assign patterns and copy patterns to measures.
5 +1 MEASURE COPY          Copy the specified measure.
5 +2 MEASURE INS/DEL/ERA   Insert/delete/erase the specified measure.
5 +3 MEASURE QUANTIZE      Adjust automatically the timing of all notes in a specified measure.
6    PATTERN REAL TIME     Real time recording of patterns.
6 +1 PATTERN STEP REC      Step recording of patterns.
6 +2 PATTERN INITIALIZE    Erase patterns, time signatures, and length of patterns.
6 +3 PATTERN GET           Copy data in track to a pattern.
6 +4 PATTERN COPY/BOUNCE   Copy a pattern or combine two patterns (bounce).
7    EVENT                 Edit events.
8    EFFECT1 (TYPE)        Select Effect1.
8 +1 EFFECT1 PARAMETER     Select parameter of Effect1.
8 +2 EFFECT2 (TYPE)        Select Effect2.
8 +3 EFFECT2 PARAMETER     Select parameter of Effect2.
8 +4 EFFECT PLACEMENT      Assign Effect1 and Effect2.
8 +5 EFFECT COPY           Copy the effect parameter.
9    EXCHANGE ALL SEQ      Exchange sequencer data between the M1 internal memory and a card.
9 +1 LOAD 1 SONG           Load a song from a card to the M1 internal memory.
9 +2 LOAD 1 PATTERN        Load a pattern from a card to the M1 internal memory.

Edit Sequencer Mode Parameter Values with the A-H keys and Up/Down keys.

0    REC/PLAY (REAL TIME)  Real time recording or punch-in recording, and play
-------------------------------------------------------------------------------
A Mode          R/P, P.IN     Regular record/play, punch-in record over mistakes.
B Song Number    0 to 9       Song number to play/record.
C Track number   1 to 8, MLT  Track number, multi-channel recording.
D Measure        1 to 250     Measure number.
E Tempo         40 to 208     Beats per minute.
F Program  OFF, 00 to 99      Program number of current track.
G Volume         0 to 99      Volume of current track.
H               [><]          Return to beginning of song.
* Disable aftertouch to dramatically increase available recording memory: Global 5 + D Down.
Play: B Up/Down (select song) START/STOP.
Stop Play: START/STOP.
Play Within A Song: D Up/Down (starting measure) START/STOP.
Erase Existing Song: 3 + A Up/Down (song0-9 to erase) G G (erase previous song).
Real Time Recording: 0 B Up/Down (song0-9) C Up/Down (track1-8) F Up/Down (program00-99) REC START/STOP.
Punch-In Recording: 0 A Up (P.IN recording) B Up/Down (song0-9) C Up/Down (track1-8) + F Up/Down (punch-in
measure) G Up/Down (punch-out measure) 0 D Up/Down (two measures before punch-in measure) REC START/STOP.
Stop Recording: START/STOP.


0 +1 REC SET UP (PUNCH)    Set resolution, metronome, and punch in/out measure
-------------------------------------------------------------------------------
A Resolution        /48 to /1      Quantization of rhythm at recording (default /48).
C Metronome          OFF/ON        Metronome switch.
F Punch In Measure   1 to 250      Measure to start punch-in recording.
G Punch Out Measure  1 to 250,END  Measure to end punch-in recording.


0 +2 REC MULTI CHANNEL     Record in multi-channel from external MIDI device
1    TRACK PROGRAM         Program number of each track
1 +1 TRACK VOLUME          Volume of each track
1 +2 TRACK STATUS          MIDI output, ON/OFF of internal/external voices on each track
1 +3 MIDI CH               MIDI channel of each track
-------------------------------------------------------------------------------------------
A-H keys assign track 1-8 when multi-channel recording is selected (SEQ 0-1+).


2    STEP RECORDING        Step recording
---------------------------------------
```

```
A Track              1 to 8     Track number to be recorded.
H Measure            1 to 250   Measure number.
(Press REC, START/STOP for a new display.  Press START/STOP when finished)
B Step Time       1/32 to 1/1   Set basic length of notes, 32nd to whole.
C Triplet/Dot      --,TRIP,DOT  Change length of a note.
D Key Dynamics     ppp to fff   Volume of sound.
E Staccato/Tenuto  Stac,--,Ten  Style of play.
F                  [RST]        Set rest marks.
G                  [TIE]        Set ties.
H                  [<]          Go back one step.
```
The length and volume of each note is input by specifying a numeric value, and the pitch is input by specifying a key. Recording proceeds to the next step when the keyboard keys are released.

```
3    SONG PARAMETER        Set song name and tempo
-------------------------------------------------
C            [<]           Move cursor to left.
D            [>]           Move cursor to right.
F Next Song  OFF,0 to 9    Following song to be played.
H Tempo         40 to 208  Initial tempo of the song in beats per minute.
```
Use C key, D key, Up/Down keys to input the song name.

```
3 +1 SONG INITIALIZE       Erase existing song, reset to defaults
-------------------------------------------------------------------
A Song  0 to 9      Selection of song.
D Beat  2/4 to 6/4  Set time signature.
G       [EXEC]      Execute permanent erase.
```
Warning!! Initializing a song permanently erases it from the M1’s internal memory. Song Initialize overrides Track Protect (4 G Up/Down).

```
4    TRACK PARAMETER       Set parameters of each track
---------------------------------------------------------
A Track          1 to 8       Select the track to edit.
B Program   OFF,00 to 99      Program of current track.
C Volume         0 to 99      Volume of current track.
D Transpose    -12 to +12     Transposition in semitones of current track.
E Detune       -50 to +50     Minute adjustment of pitch of current track.
F Panpot     A,A:B,B,C,D+D,D  Output destination of current track.
G Track Protect  OFF/ON       Prevent recording on current track.
```

```
4 +1 TRACK COPY/BOUNCE     Copy a track or combine two tracks (bounce)
-----------------------------------------------------------------------
A Copy/Bounce   COPY/BOUNCE  Switch between copy and bounce.
C Source Track  1 to 8       Track number to be bounced from.
E Dest Track    1 to 8       Track number to be bounced to.
G               [EXEC]       Execute the bounce.
```
Track Copy (copy one track to another): A Down C Up/Down (track1-8) E Up/Down (destination track1-8) G.
Track Bounce (combine two tracks): A Up C Up/Down (track1-8) E Up/Down (destination track1-8) G (bounced track is deleted).

```
4 +2 TRACK ERASE           Erase existing track
-----------------------------------------------
D Track  1 to 8  Number of track to be erased.
G        [EXEC]  Execute the erase.
```

```
5    PUT/COPY PATTERN      Assign patterns and copy patterns to measures
-----------------------------------------------------------------------
A Put/Copy  PUT,COPY  Select a pattern function.
C Pattern   0 to 99   Pattern number.
```

E Track 1 to 8 Track number.
F Measure 1 to 250 Measure number.
G [EXEC] Execute PUT or COPY.

Patterns can be connected or strung together in the measure of a specified track. PUT writes the pattern number to the track (consumes little memory, play changes when pattern is revised). COPY copies the play data of the pattern to the track (play data can be revised, play does not change when pattern is revised.) The time signatures of the song and pattern must be the same. When using PUT to assign a pattern of longer than two measures, specific measures within the pattern cannot be erased or edited while they are part of the track, they must be edited separately.

5 +1 MEASURE COPY Copy the specified measure

A Source Song	0 to 99	Song number of measure to be copied.
B Source Track	1 to 8	Track number of measure to be copied.
C Source Measure	1 to 250	First measure of track to be copied.
D Length	1 to 250	Number of measure to be copied.
E Dest Track	1 to 8	Destination track to receive copy.
F Dest Measure	1 to 250	First measure of destination track to receive copy.
G	[EXEC]	Execute the copy.

Copy a specified range of song data and paste it into another track. the time signatures of the source and destination must be the same. The range of the source measure and destination measure cannot overlap in the same track.

5 +2 MEASURE INS/DEL/ERA Insert/delete/erase the specified measure

A Ins/Del/Erase	INSERT,DELETE,ERASE	Select a measure function.
C Track	1 to 8,ALL	Track number.
D Measure	1 to 250	Measure number.
E Length	1 to 250	Length in measures.
F Erase Data	ALL,NOTE,CTRL	All(place rest), note(key info), control(joystick, aftertouch).
G	[EXEC]	Execute insert/delete/erase.

Measure Insert (insert an empty measure of a specific length): C Up/Down (track1-8) D Up/Down (start measure) E Up/Down (length) G. When track is set to ALL, the insert is executed to all tracks. Insert cannot be executed to a measure in the middle of a pattern.
Measure Delete (delete play data of a specific range): C Up/Down (track1-8) D Up/Down (start measure) E Up/Down (length) G. When track is set to ALL, the delete is executed to all tracks. Delete cannot be executed to a measure in the middle of a pattern.
Measure Erase (delete the specified measures from play data of a specific range): C Up/Down (track1-8) D Up/Down (start measure) E Up/Down (length) F Up/Down (data type) G. When track is set to ALL, the delete is executed to all tracks. Delete cannot be executed to a measure in the middle of a pattern.

5 +3 MEASURE QUANTIZE Adjust automatically the timing of all notes in a specified measure

A Track	1 to 8,All	Track number of measure to be quantized.
B Measure	1 to 250	First measure number to be quantized.
C Length	1 to 250	Length in measures to be quantized.
D Resolution	/48 to /1	Quantization of rhythm (default /48).
F Quantize Data	ALL,NOTE,CTRL	All, note(key info), control(joystick, aftertouch).
G	[EXEC]	Execute the quantization.

Automatically correct the timing of measures in the specified range to a pre-selected beat length. Quantization economizes memory of control data.

6 PATTERN REAL TIME Real time recording of patterns

A Pattern Number	0 to 99	Pattern number to be real time recorded.
B Resolution	/48 to /1	Quantization of rhythm.
C Metronome	OFF/ON	Metronome sound.
E Tempo	40 to 208	Tempo in beats per minute.
F Measure Number	1 to 8	Measure number.
G Add/Remove	ADD,RMV	Add or remove pattern data.

H [ERA] Erase pattern data.
Real time recording, deletion, and changing of pattern data. When creating a new pattern, set the time signature and length (6 +2 F (1-8) G), and erase the play data beforehand. A Up/Down (pattern0-99) B Up/Down (quantization resolution default /48) C Up/Down (metronome) E Up/Down (tempo) REC START/STOP. Recording loops for a second pass of overdubbing.

6 +1 PATTERN STEP REC Step recording of patterns

E Pattern Number	0 to 99	Pattern number to be step recorded.
(Press REC, START/STOP for a new display. Press START/STOP when finished)		
B Step	1/32 to 1/1	Length of the basic note.
C Triplet/Dot	--,Trip,Dot	Length of a specific note.
D Key Dynamics	ppp to fff	Volume of sound.
E Staccato/Tenuto	Stac,--,Ten	Style of play.
F	[RST]	Input rest.
G	[TIE]	Set tie.
H	[<]	Go back 1 step.

Step recording, deletion, and changing of pattern data. When creating a new pattern, set the time signature and length (6 +2 F (1-8) G), and erase the play data beforehand. E Up/Down (pattern0-99) REC START/STOP for a new display, START/STOP when finished with 2nd display. Recording loops for a second pass of overdubbing. The program used at the time the pattern is created is the one used for the current track.

6 +2 PATTERN INITIALIZE Erase patterns, time signatures, and length of patterns

B Pattern	0 to 99	Pattern number to be erased.
D Beat	2 to 6	Time signature 2/4 to 6/4
F Length	1 to 8	Length of pattern to be erased in measures.
G	[EXEC]	Execute the erase function.

6 +3 PATTERN GET Copy data in track to a pattern

A Source Song	0 to 9	Song number with the pattern to get.
B Source Track	1 to 8	Track number with the pattern to get.
C Source Measure	1 to 250	Number of the first measure to get.
E Pattern	0 to 99	Pattern number from which the data is taken
G	[EXEC]	Execute the GET PATTERN function.

6 +4 PATTERN COPY/BOUNCE Copy a pattern or combine two patterns (bounce)

A Copy/Bounce	COPY,BOUNCE	Select function.
C Source Pattern	0 to 99	Pattern to be copied or bounced.
E Dest Pattern	0 to 99	Destination pattern to be copied or bounced.
G	[EXEC]	Execute the copy or bounce function.

As opposed to the track bounce function, the source pattern bounced is not erased.

7 EVENT Edit events

C Track/Pattern	TRACK,PATTERN	Select track of current song or pattern to edit.
E Track No/Pattern No	1 to 8, 00 to 99	Track number or pattern number to edit.
(Press REC, START/STOP for a new display.		Press START/STOP when finished)
A Measure	1 to 250	Measure to edit.
B Index	1 to x	Selection of event to edit.
C Location	TIE,1:00 to 6:47	Position of event in a measure.
D Event	C1 to G9,BEND,AFTT,PROG,CTRL	Note, pitchbend, aftertouch, program & control change.
E Velocity	2 to 126	For note.
Bend	-8192 to 8191	For pitch bend.
Aftertouch	0 to 127	For aftertouch.
Program	00 to 99	For program change.
Control	0 to 107	For control change (see chart below).

```
F Length            0:00 to 6:00,TIE      Length of note for note.
  Data                 0 to 127           Control data for control change.
G                       [INS]             Insert event.
H                       [DEL]             Delete event.
```

Control#	Type	Value
1	Pitch Modulation	0 to 127
2	VDF Modulation	0 to 127
7	Volume	0 to 127
64	Damper Switch	0 to 127
102	VDF Cutoff	0 to 64 to 127
103	Effect1 Switch	0
104	Effect2 Switch	0
105	Effect1 Control	0 to 64 to 127
106	Effect2 Control	0 to 64 to 127
107	Tempo Change	0(-50%) to 64 to 127(+50%)

Sequence data and control data of one step is called an event with a value of 1 even though it is a combination of data types. Event editing changes, inserts, and deletes any event in the play data of tracks or patterns. Warning!! Editing permanently deletes the original play data.

Event Operation: C Up/Down (edit track data or pattern data) E Up/Down (track or pattern number) REC START/STOP for a new display, START/STOP when finished with 2nd display.

```
8    EFFECT1 (TYPE)        Select Effect1
-----------------------------------------
A Effect Type  01 to 03,No Effect
F Switch       OFF/ON,[SELECT]
```

```
8 +1 EFFECT1 PARAMETER     Select parameter of Effect1
-----------------------------------------------------
Same as Effect1 Parameter in EDIT PROGRAM mode.
```

```
8 +2 EFFECT2 (TYPE)        Select Effect2
-----------------------------------------
A Effect Type  01 to 03,No Effect
F Switch       OFF/ON,[SELECT]
```

```
8 +3 EFFECT2 PARAMETER     Select parameter of Effect2
-----------------------------------------------------
Same as Effect2 Parameter in EDIT PROGRAM mode.
```

```
8 +4 EFFECT PLACEMENT      Assign Effect1 and Effect2
-----------------------------------------------------
A Effect Placement  PARALLEL,SERIAL
F Panpot3 Output  OFF,100:0 to 0:100
H Panpot4 Output  OFF,100:0 to 0:100
```

```
8 +5 EFFECT COPY           Copy the effect parameter
-----------------------------------------------------
B PROGRAM,COMBINATION,SONG
E 00 to 99,0 to 9
G [COPY]
```

9   EXCHANGE ALL SEQ   Exchange sequencer data between the M1 internal memory and a card
----
G [EXEC] Execute the exchange.

9 +1 LOAD 1 SONG   Load a song from a card to the M1 internal memory
----
C Card Song 0 to 9 Specify the source song number in the card.
F Int Song   0 to 9 Specify the destination song number in the M1 internal memory.
G   [EXEC] Execute the load.
When loading a song with patterns, load the patterns beforehand (9 +2 F (internal pattern0-99) G).

9 +2 LOAD 1 PATTERN   Load a pattern from a card to the M1 internal memory
----
C Card Pattern 0 to 99 Specify the source pattern number in the card.
F Int Pattern   0 to 99 Specify the destination pattern number in the M1 internal memory.
G   [EXEC]   Execute the load.
Loading cannot be executed when the internal pattern before loading is presently used in the song.

Global Mode

Edit parameters relating to the M1 as a whole and the key assignments of the four drum kits. Display global parameter values one-at-a-time in the Global mode with the numeric keypad, page+ key, and the A-H keys. WARNING!! Any editing will be permanent, and remain in effect until manually changed.

N +	ParamAbb	Factory	Parameter
0	Master Tune	00	Adjust the M1's pitch.
1	Key Transpose	00	Transpose setting of the M1.
2	Damper Polarity	(-)	Set the polarity of the foot switch for damper.
2 +1	Pedal Assign	ProgUp/Dn	Assign a function for the two pedals.
3	Scale Type	User Prog	Select the music scale type.
3 +1	User Scale	00	Set the user scale.
4	Drum Kit 1		Assign drum sounds.
4 +1	Drum Kit 2		Assign drum sounds.
4 +2	Drum Kit 3		Assign drum sounds.
4 +3	Drum Kit 4		Assign drum sounds.
5	MIDI Global	1/INT/ON	Set MIDI global channel, MIDI Clock, and local ON/OFF.
5 +1	MIDI Filtering	DIS	Receive switch for each type of MIDI message.
6	Prog Memory Protect	ON	Protect internal Program parameters.
6 +1	Combi Memory Protect	ON	Protect internal Combination parameters.
6 +2	Seq Memory Protect	ON	Protect internal Sequence data.
6 +3	Memory Allocation	100/100	Change memory allocation.
7	MIDI Data Dump	PROG	Transmit parameters or sequence data by MIDI System Exclusive Dump.
8	Load From Card		Load from ROM/RAM card to M1 internal memory.
9	Save to Card		Save M1 internal memory to card.
9 +1	Format Card		Format RAM card.

Edit Global Mode Parameter Values with the A-H keys and Up/Down keys.

0 Master Tune 00 Adjust the M1's pitch

Master Tune -50 to +50 Tune the overall pitch of the M1 in cents.

1 Key Transpose 00 Transpose setting of the M1

Key Transpose -12 to +12 Transpose the overall pitch of the M1 in semitones.

2 Damper Polarity (-) Set the polarity of the foot switch for damper

Damper Switch Polarity -/+ Select the polarity of the footswitch in the damper jack.

2 +1 Pedal Assign ProgUp/Dn Assign a function for the two pedals

A Pedal1 ProgUp/Down, SeqStart/Stop, Eff1&2ON/OFF, Volume, VDFCutoff, Eff1&2Control, DataEntry
F Pedal2 ProgUp/Down, SeqStart/Stop, Eff1&2ON/OFF, Volume, VDFCutoff, Eff1&2Control, DataEntry

3 Scale Type User Prog Select the music scale type

B Scale Type EqualTemp1, EqualTemp2, PureMajor, PureMinor, UserProgrammable
H Key C to B
Equal Temperature 1 is a widely used tuning for keyboard instruments in which chords can be played in any key. Equal Temperature 2 has random detuning applied to each note of the scale, useful in reproducing the errors of intonation with acoustic instruments.

3 +1 User Scale 00 Set the user scale

A Move cursor to the value a semitone above the present A-H key.
B C/C# -50 to +50 Pitch in cents of each sound compared to equal temperament.

```
C D/D# -50 to +50
D E    -50 to +50
E F/F# -50 to +50
F G/G# -50 to +50
G A/A# -50 to +50
H B    -50 to +50


4    Drum Kit 1                Assign drum sounds
4 +1 Drum Kit 2                Assign drum sounds
4 +2 Drum Kit 3                Assign drum sounds
4 +3 Drum Kit 4                Assign drum sounds
-------------------------------------------------
A Index     0 to 29     Drum sound to be edited.
B Inst  --,01 to 44     Selection of drum instrument.
C Key      C0 to G8     Key to which drum instrument is assigned.
D Tune   -120 to +120   Adjustment of pitch with +/- 1 octave.
E Level   -99 to +99    Level adjustment of each sound.
G Decay   -99 to +99    Adjustment of decay time of each sound.
H Pan   A,A:B,B,C,D+D,D Selection of output.

Drum Instruments
01 Kick1       12 OpenHH1     23 E.Tom       34 MetalHit
02 Kick2       13 ClosedHH2   24 Ride        35 Pluck
03 Kick3       14 OpenHH2     25 Rap         36 FlexaTone
04 Snare1      15 Crash       26 Whip        37 Wind Bell
05 Snare2      16 Conga1      27 Shaker      38 Tubular1
06 Snare3      17 Conga2      28 Pole        39 Tubular2
07 Snare4      18 Timbales1   29 Block       40 Tubular3
08 SideStick   19 Timbales2   30 FingerSnap  41 Tubular4
09 Tom1        20 Cowbell     31 Drop        42 BellRing
10 Tom2        21 Claps       32 VibeHit     43 Metronome1
11 ClosedHH1   22 Tambourine  33 Hammer      44 Metronome2

Up to 30 of the 44 drum instruments can be assigned to a drum kit.  Set indexes which do not need a
different instrument assignment to “No Assign.”  Two or more instruments cannot be assigned to the same key.
The same instrument with the same pitch can be assigned different keys.  Any drum instrument assigned to a
key will also occupy the contiguous unassigned keys above and below it.  Program parameters control an
entire drum kit.


5    MIDI Global       1/INT/ON Set MIDI global channel, MIDI Clock, and local ON/OFF
-------------------------------------------------------------------------------
B Channel      1 to 16 Set channel to send and receive MIDI, usually 1.
D Clock Source INT/EXT Select EXT when using an external sequencer.  Resets to INT at M1 Power On.
G Local        OFF/ON  MIDI local mode switch, usually ON.
Set Clock Source to EXT each time an external sequencer is used to record songs to a computer.

5 +1 MIDI Filtering       DIS   Receive switch for each type of MIDI message
-------------------------------------------------------------------------
B Combi/Prog Change DIS/ENA  Enable for MIDI data transmissions.
C After Touch       DIS/ENA
F Control Change    DIS/ENA
H Exclusive         DIS/ENA  Enable for MIDI system exclusive capture or dump.
Set Exclusive to ENA to make SysEx program, combi, and sequencer data dump transfers to a computer.


6    Prog Memory Protect  ON    Protect internal Program parameters
6 +1 Combi Memory Protect ON    Protect internal Combination parameters
6 +2 Seq Memory Protect   ON    Protect internal Sequence data
---------------------------------------------------------------------
B Internal OFF/ON Internal memory protection for programs, combis, and sequencer data in the M1.
F Card     OFF/ON Card memory protection for programs, combis, and sequencer data in a RAM card.
Set memory protect to OFF to make SysEx program, combi, and sequencer data dump transfers to a computer or a
```

RAM card.

6 +3 Memory Allocation 100/100 Change memory allocation

A 100Prog/100Combi/4400Seq Select large program allocation.
B 50Prog/50Combi/7700Seq Select large sequencer allocation.
G [EXEC] Execute the change.
WARNING!! Backup M1 internal memory data first. Changing from 100 to 50 will permanently delete the last half of the programs and combinations in the M1 internal memory. Changing from 50 to 100 will permanently delete the last half of the sequencer data in the M1 internal memory. Proceed with caution!

7 MIDI Data Dump PROG Transmit parameters or sequence data by MIDI System Exclusive Dump
---
B Prog,Combi,Global,Seq,All Transmit parameters.
G [DUMP] Execute the SysEx data dump to a computer.
A computer must have a MIDI hardware/software connection to the M1 and software that can capture a SysEx data dump from the M1. Drum Kits 1 to 4 are included in Global data dumps.

8 Load From Card Load from ROM/RAM card to M1 internal memory
---
B PROG/COMBI,SEQ,PROG/COMBI/SEQ Load from card to M1.
G [LOAD] Execute the load.
WARNING!! Backup M1 internal memory data first. Loading data from a card to the M1 will permanently delete the data in the M1 internal memory. Proceed with caution!

9 Save to Card Save M1 internal memory to card

B PROG/COMBI,SEQ,PROG/COMBI/SEQ Save from M1 to a RAM card.
G [SAVE] Execute the save.
WARNING!! Backup card memory data first. Saving the M1 data to a RAM card will permanently delete any data already in the card. Proceed with caution! The Protect Switch at the top of a card must be set to OFF. The card memory protect must be set to OFF (6 to 6 +2). Format a blank RAM card on the next page (9 +1) before saving M1 data to it. RAM cards use a lithium battery (CR2016) to maintain memory for about 1 year. Put the card in the M1 with power on to replace an expired battery while preserving the card data. Insert a new battery into the card with “+” side facing away. The M1 uses the Korg Memory Card MCR-03.

9 +1 Format Card Format RAM card

B 100Prog/100Combi,7700Seq,50Prog/50Combi/4200Seq Select card format.
G [FORMAT] Execute the format.
WARNING!! Backup card memory data first. Formatting the RAM card will permanently delete any data already in the card. Proceed with caution! The M1 uses the Korg Memory Card MCR-03.

System Exclusive MIDI Commands For Korg M1

M1 sound parameters are edited remotely from a computer using hexidecimal signals called “system exclusive” or “sysex.” Most people would never use raw sysex data to change a sound parameter’s value. Software editors and librarians do it for you, and you can edit directly using the M1’s buttons. But for the curious, external sequencer software can record and display sysex commands. The internal M1 sequencer cannot record or display sysex. Once recorded and saved, the sysex edit commands can be “played” back to the M1 when needed.

Hexadecimal

```
Sysex data is in hexadecimal base 16 instead of decimal base 10.
Dec 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
Hex 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 20
```

Universal SysEx For Received Data

```
F0  Exclusive Status
7E  Non Realtime Message
**  MIDI Global Channel (Device ID) **00-0F=Channel1-16 or 7F=AnyChannel
06  Inquiry Message
01  Inquiry Request
F7  End Of Exclusive (EOX)
```

Universal SysEx For Transmitted Data

```
F0  Exclusive Status
7E  Non Realtime Message
0*  MIDI Global Channel (Device ID) *0-F=Channel1-16
06  Inquiry Message
02  Identity Reply
42  Korg ID (Manufacturers ID)
19  M1 ID (Family Code)
F7  End Of Exclusive (EOX)
```

M1 SysEx Messages

```
F0  Exclusive Status
42  Korg ID
3*  MIDI Global Channel *0-F = Channel1-16
19  M1 ID
ff  Function Code
dd  Data...
F7  End Of Exclusive (EOX)
```

M1 Command Line Format

```
Start Korg Channel#1 M1 Function Data...Data End
 F0    42     30     19    ff     dd.....dd  F7
```

M1 Functions (ff)

```
12  Mode Request   <F0 42 30 19 12 F7>   Transmits:42
1F  All Drum Sound (PCM Card) Name Dump Request   <F0 42 30 19 1F F7>   Transmits:47/24
16  All Multisound (PCM Card) Name Dump Request   <F0 42 30 19 16 F7>   Transmits:45/24
10  Program Parameter Dump Request   <F0 42 30 19 10 F7>   Transmits:40/24
1C  All Program Parameter Dump Request   <F0 42 30 19 1C 0* F7>   Transmits:4C/24
19  Combination Parameter Dump Request   <F0 42 30 19 19 F7>   Transmits:49/24
1D  All Combination Parameter Dump Request   <F0 42 30 19 1D 0* F7>   Transmits:4D/24
18  All Sequence Data Dump Request   <F0 42 30 19 18 0* F7>   Transmits:48/24
0E  Global Data Dump Request   <F0 42 30 19 0E 0* F7>   Transmits:51/24
0F  All Data (Prg, Cmb, Glb, Seq) Dump Request   <F0 42 30 19 0F 0* F7>   Transmits:50/24
11  Program Write Request   <F0 42 30 19 11 0* ## F7>   Transmits:21/22
1A  Combination Write Request   <F0 42 30 19 1A 0* ## F7>   Transmits:21/22
----------
42  Mode Data   <F0 42 30 19 42 0^ 0* cv pv F7>   Transmits:data
47  All Drum Sound (PCM Card) Name   <F0 42 30 19 47 sn dd F7>   Transmits:data/24
45  All Multisound (PCM Card) Name   <F0 42 30 19 45 sn dd F7>   Transmits:data/24
4E  Mode Change   <F0 42 30 19 4E 0^ $* F7>   Transmits:23/24
41  Parameter Change   <F0 42 30 19 41 pg po vl vm F7>   Transmits:23/24
40  Program Parameter Dump   <F0 42 30 19 40 dd F7>   param00-142  Transmits:23/24
```

```
4C  All Program Parameter Dump   <F0 42 30 19 4C $* dd F7>   prog00-99/49  Transmits:23/24
49  Combination Parameter Dump   <F0 42 30 19 49 dd F7>   param00-123  Transmits:23/24
4D  All Combination Parameter Dump   <F0 42 30 19 4D $* dd F7>   combi00-99/49  Transmits:23/24
48  All Sequence Data Dump   <F0 42 30 19 48 0* xd cd sd F7>   Transmits:23/24
51  Global Data Dump   <F0 42 30 19 51 0* dd F7>   Transmits:23/24
50  All Data (Glb, Cmb, Prg, Seq) Dump   <F0 42 30 19 50 $* xd dd F7>   Transmits:23/24
----------
26  Received Message Format Error   <F0 42 30 19 26 F7>
23  Data Load Completed   <F0 42 30 19 23 F7>
24  Data Load Error   <F0 42 30 19 24 F7>
21  Write Completed   <F0 42 30 19 21 F7>
22  Write Error   <F0 42 30 19 22 F7>
```

M1 Function Footnotes

```
dd Data
ff Function
$  0=100Progs/Combis, 1=50Progs/Combis
*  0=Internal, 1=Card
## 00-63=Prog00-99 or Combi00-99
^  0=Combi, 1=EditCombi, 2=Prog, 3=EditProg, 4=Glob, 6=Seq
cv 00=CardOff, 01=NGcard(ROM), 02=NGcard(RAM), c=1=ROMcard, c=2=RAMcardProtectoff, c=3=RamcardProtecton,
   v=0=Glb+100/100, v=1=Glb+50/50+Seq, v=2=Seq
pv 00=PCMcardOff, 01=NGcard, 02=PCMcardIn
sn 01-nn=Sound01-nn
pg Page:Table5,6
po Position:Table5,6
vl LSB bit6-0
vm MSB bit15-7
xd DataSize(bit6-0), DataSize(bit17-7)
cd ControlData(960byte), PatternData(200byte), Song0-Track1-8 to Song9-Track1-9(160byte),
   Pattern0-99(200byte), PatternEnd(2byte)
sd SeqData-1st(4byte),...,SeqData-nth  n=4400=LProg, n=7700=LSeq/SeqCard, n=4200=Prog/Combi/SeqCard
```

Program Parameter Page/Position (Table 5)

-Page			-Position-							
Sg	Db	Parameter	A08	B09	C10	D11	E12	F13	G14	H15
00	00	OSC Basic	10		11		11			
01	01	OSC1 Multisound	12			86	13			
	02	OSC2 Multisound	14			126	15	16	17	18
02	03	OSC1 Pitch EG	63	64	65	66	67	68	70	69
	04	OSC2 Pitch EG	103	104	105	106	107	108	110	109
03	05	VDF1 Cutoff/EG Int		71			74			
04	06	VDF1 EG	78	79	80	81	82	83	84	85
05	07	VDF1 Velocity Sens	77		76		100	100	100	100
06	08	VDF1 Kbd Track	72	73	75		99	99	99	99
	09	VDF2 Cutoff/EG Int		111			114			
	10	VDF2 EG	118	119	120	121	122	123	124	125
	11	VDF2 Velocity Sens	117		116		140	140	140	140
	12	VDF2 Kbd Track	112	113	115		139	139	139	139
07	13	VDA1 EG	92	93	94	95	96	97	98	
08	14	VDA1 Velocity Sens		89	91		102	102	102	102
09	15	VDA1 Kbd Track	87	88	90		101	101	101	101
	16	VDA2 EG	132	133	134	135	136	137	138	
	17	VDA2 Velocity Sens		129	131		142	142	142	142
	18	VDA2 Kbd Track	127	128	130		141	141	141	141
10	19	Pitch MG	19		20	21	22	19	19	
11	20	VDF MG	23		24	25	26	23	23	
12	21	After Touch	27	28		29	30		31	
13	22	Joy Stick	32	33		34	35		36	37
14	23	Effect1 Type	38					46		
15	24	Effect1 Parameter	*	*	*	*	*	*	*	*
16	25	Effect2 Type	39					46		
17	26	Effect2 Parameter	*	*	*	*	*	*	*	*

```
18 27 Effect Placement     46              44      45
*Effect Parameters in EditProgram Section
```

Combination Parameter Page/Position (Table 6)

```
-Page---------              -Position---------------------
Sg Ly Sp VS Mu Parameter    A08 B09 C10 D11 E12 F13 G14 H15
-- -- -- -- -- ------------ --- --- --- --- --- --- --- ---
00 00 00 00 00 Combi Type            10
01             Prog/Pan      36          37      40
   01          Prog/Level    36          37  47          48
   02          Pan/Damper    40  45          51  56  49  50
      01       Prg/Split     36           ^      47
      02       Lvl/Pan/Damp  37  40  45       48  51  56
         01    Prg/Velocity  36           #      47
         02    Lvl/Pan/Damp  37  40  45       48  51  56
            01 Prog Select   36  47  58  69  80  91 102 113
            02 MIDI Channel  46  57  68  79  90 101 112 123
            03 K Window Top  41  52  63  74  85  96 107 118
            04 K Window Btm  42  53  64  75  86  97 108 119
            05 V Window Top  43  54  65  76  87  98 109 120
            06 V Window Btm  44  55  66  77  88  99 110 121
            07 Output Level  37  48  59  70  81  92 103 114
            08 Transpose     38  49  60  71  82  93 104 115
            09 Detune        39  50  61  72  83  94 105 116
            10 Panpot        40  51  62  73  84  95 106 117
            11 MIDI Prg Chg  45  56  67  78  89 100 111 122
            12 Damper        45  56  67  78  89 100 111 122
            13 After Touch   45  56  67  78  89 100 111 122
            14 Control Chng  45  56  67  78  89 100 111 122
02 03 03 03 15 Effect1 Type  11                  19
03 04 04 04 16 Effect1 Para   *   *   *   *   *   *   *   *
04 05 05 05 17 Effect2 Type  12                  19
05 06 06 06 18 Effect2 Para   *   *   *   *   *   *   *   *
06 07 07 07 19 Effect Place  19              17      18
^Program/Split function in EditCombination Section
#Program/Velocity function in EditCombination Section
*Effect Parameters in EditProgram Section
```

Program Parameters (Table 1)

```
No Parameter            Data(hex) : Value(dec)
-- -------------------- ----------------------
00 Program Name (head)  20~7F : ASCIIChar32~ASCIIChar127
   -to-
09 Program Name (tail)  20~7F : ASCIIChar32~ASCIIChar127
-- Oscillator---------- ----------------------
10 Oscillator Mode      0,1,2 : 0=single, 1=double, 2=drum
11 Assign               bit0=0,1 : 0=POL, 1=MON
11 Hold                 bit1=0,1 : 0=Off, 1=On
12 OSC1 Multisound      00~63:int, 64~:card
13 OSC1 Octave          FF~01 : 16'~4'
14 OSC2 Multisound      00~63:int, 64~:card
15 OSC2 Octave          FF~01 : 16'~4'
16 Interval             F4~0C : -12~12
17 Detune               CE~32 : -50~50
18 Delay Start          00~63 : 00~99
-- Pitch MG------------ ----------------------
19 Wave Form            bit0=0,1,2,3 : 0=Tri, 1=UpSaw, 2=DnSaw, 3=Rec
19 OSC1 MG Enable       bit5=0,1 : 0=Off, 1=On
19 OSC2 MG Enable       bit6=0,1 : 0=Off, 1=On
19 Key Sync             bit7=0,1 : 0=Off, 1=On
20 Frequency            00~63 : 00~99
21 Delay                00~63 : 00~99
22 Intensity            00~63 : 00~99
-- Cutoff MG----------- ----------------------
```

```
23 Wave Form            bit0=0,1,2,3 : 0=Tri, 1=UpSaw, 2=DnSaw, 3=Rec
23 OSC1 MG Enable       bit5=0,1 : 0=Off, 1=On
23 OSC2 MG Enable       bit6=0,1 : 0=Off, 1=On
23 Key Sync             bit7=0,1 : 0=Off, 1=On
24 Frequency            00~63 : 00~99
25 Delay                00~63 : 00~99
26 Intensity            00~63 : 00~99
-- After Touch--------- ----------------------
27 Frequency            F4~0C : -12~12
28 Pitch MG             00~63 : 00~99
29 VDF Cutoff           9D~63 : -99~99
30 VDF MG               00~63 : 00~99
31 VDA Amplitude        9D~63 : -99~99
-- Joy Stick----------- ----------------------
32 Pitch Bend           F4~0C : -12~12
33 VDF Sweep Int        9D~63 : -99~99
34 Pitch MG Int         00~63 : 00~99
35 Pitch MG Freq        00~03 : 00~03
36 VDF MG Int           00~63 : 00~99
37 VDF MG Freq          00~03 : 00~03
-- Effect Parameter---- ----------------------
38 Effect1 Pattern      00~20,21 : 1~33,Tru
39 Effect2 Pattern      00~20,21 : 1~33,Tru
40 Effect1 LChan Bal    00~64 : 00~100
41 Effect1 RChan Bal    00~64 : 00~100
42 Effect2 LChan Bal    00~64 : 00~100
43 Effect2 RChan Bal    00~64 : 00~100
44 Output3 Pan          00,01~65 : 00=Off, 01=R, 02=01/99, ..., 64=99/01, 65=L
45 Output4 Pan          00,01~65 : 00=Off, 01=R, 02=01/99, ..., 64=99/01, 65=L
46 Effect I/O           bit0=0,1 : 0=Effect1LChanOff, 1=On
46 Effect I/O           bit1=0,1 : 0=Effect1RChanOff, 1=On
46 Effect I/O           bit2=0,1 : 0=Effect2LChanOff, 1=On
46 Effect I/O           bit3=0,1 : 0=Effect2RChanOff, 1=On
46 Effect I/O           bit4=0,1 : 0=Effect2Param, 1=Serial
47-54 Effect1 Params    *Table11-3
55-62 Effect2 Params    *Table11-3
-----------------------------------------------
 1   2  Oscillators
--- --- OSC1/2 Pitch EG----- --------------------
 63 103 Start Level          9D~63 : -99~99
 64 104 Attack Time          00~63 : 00~99
 65 105 Attack Level         9D~63 : -99~99
 66 106 Decay Time           00~63 : 00~99
 67 107 Release Time         00~63 : 00~99
 68 108 Release Level        9D~63 : -99~99
 69 109 Time Velocity Sens   9D~63 : -99~99
 70 110 Level Velocity Sens  9D~63 : -99~99
--- --- VDF1/2------------- --------------------
 71 111 Cutoff Value         00~63 : 00~99
 72 112 Kbd Track Center     00~7F : C1~G9
 73 113 Cutoff Kbd Track     9D~63 : -99~99
 74 114 EG Intensity         00~63 : 00~99
 75 115 EG Time Kbd Track    00~63 : 00~99
 76 116 EG Time Vel Sens     00~63 : 00~99
 77 117 EG Int Vel Sens      9D~63 : -99~99
--- --- VDF1/2 EG----------- --------------------
 78 118 Attack Time          00~63 : 00~99
 79 119 Attack Level         9D~63 : -99~99
 80 120 Decay Time           00~63 : 00~99
 81 121 Break Point          9D~63 : -99~99
 82 122 Slope Time           00~63 : 00~99
 83 123 Sustain Level        9D~63 : -99~99
 84 124 Release Time         00~63 : 00~99
 85 125 Release Level        9D~63 : -99~99
```

```
--- --- VDA1/2------------- -------------------
 86 126 Oscillator Level     00~63 : 00~99
 87 127 Kbd Track Center     00~7F : C1~G9
 88 128 Amp Kbd Track Int    9D~63 : -99~99
 89 129 Amp Velocity Sens    9D~63 : -99~99
 90 130 EG Time Kbd Track    00~63 : 00~99
 91 131 EG Time Vel Sens     00~63 : 00~99
--- --- VDA1/2 EG----------- -------------------
 92 132 Attack Time          00~63 : 00~99
 93 133 Attack Level         00~63 : 00~99
 94 134 Decay Time           00~63 : 00~99
 95 135 Break Point          00~63 : 00~99
 96 136 Slope Time           00~63 : 00~99
 97 137 Sustain Level        00~63 : 00~99
 98 138 Release Time         00~63 : 00~99
--- --- OSC1/2 EG Time KbdTrk, Vel SW&Polarity--
 99 139 F EG TimeKT SW&Pol   bit0,1,2,3,5,6,7 : 0=Off, 1=On; bit4 : 0=+, 1=-
100 140 F EG Time VelSW&Pol  bit0,1,2,3,5,6,7 : 0=Off, 1=On; bit4 : 0=+, 1=-
101 141 A EG TimeKT SW&Pol   bit0,1,2,3,5,6,7 : 0=Off, 1=On; bit4 : 0=+, 1=-
102 142 A EG Time VelSW&Pol  bit0,1,2,3,5,6,7 : 0=Off, 1=On; bit4 : 0=+, 1=-
(bit0=AttackTimeSW, bit1=DecayTime, bit2=SlopeTime, bit3=ReleaseTime)
(bit4=AttackTimePolarity, bit5=DecayTime, bit6=SlopeTime, bit7=ReleaseTime)
-----------------------------------------------
```

Combination Parameters (Table 2)

```
No Parameter            Data(hex) : Value(dec)
-- -------------------- ----------------------
00 Program Name (head)  20~7F : ASCIIChar32~ASCIIChar127
   -to-
09 Program Name (tail)  20~7F : ASCIIChar32~ASCIIChar127
-- -------------------- ----------------------
10 Combination Type     00~04 : 00=single, 01=Layer, 02=Split, 03=VelSW, 04=Multi
-- Effect Parameter---- ----------------------
11 Effect1 Pattern      00~20,21 : 1~33,Tru
12 Effect2 Pattern      00~20,21 : 1~33,Tru
13 Effect1 LChan Bal    00~64 : 00~100
14 Effect1 RChan Bal    00~64 : 00~100
15 Effect2 LChan Bal    00~64 : 00~100
16 Effect2 RChan Bal    00~64 : 00~100
17 Output3 Pan          00,01~65 : 00=Off, 01=R, 02=01/99, ..., 64=99/01, 65=L
18 Output4 Pan          00,01~65 : 00=Off, 01=R, 02=01/99, ..., 64=99/01, 65=L
19 Effect I/O           bit0=0,1 : 0=Effect1LChanOff, 1=On
19 Effect I/O           bit1=0,1 : 0=Effect1RChanOff, 1=On
19 Effect I/O           bit2=0,1 : 0=Effect2LChanOff, 1=On
19 Effect I/O           bit3=0,1 : 0=Effect2RChanOff, 1=On
19 Effect I/O           bit4=0,1 : 0=Effect2Param, 1=Serial
20-27 Effect1 Params    *Table11-3
28-35 Effect2 Params    *Table11-3
-----------------------------------------------------------------
T1 T2 T3 T4 T5 T6  T7  T8  Timbres           Data(hex) : Value(dec)
-- -- -- -- -- --- --- --- Timbre Parameter- ----------------------
36 47 58 69 80  91 102 113 Program Number    00~C8 : Multi(h00=TimbreOff, h01-64=I00-99, h65-C8=C00-99)
36 47 58 69 80  91 102 113 Program Number    00~C7 : Others(h00-63=I00-99, h64-C7=C00-99)
37 48 59 70 81  92 103 114 Output Level      00~63 : 00~99
38 49 60 71 82  93 104 115 Key Transpose     F4~0C : -12~12
39 50 61 72 83  94 105 116 Detune            CE~32 : -50~50
40 51 62 73 84  95 106 117 Timbre, Inst      bit7 : 0=Timbre, 1=Inst
40 51 62 73 84  95 106 117 Pan               bit0,1,2,3 : 00~0D 00=10:00,...0A=00:10, 0B=C, 0C=C+D, 0D=D
41 52 63 74 85  96 107 118 Key Window Top    00~7F : C1~G9
42 53 64 75 86  97 108 119 Key Window Bot    00~7F : C1~G9
43 54 65 76 87  98 109 120 Vel Window Top    01~7F : C2~G9
44 55 66 77 88  99 110 121 Vel Window Bot    01~7F : C2~G9
45 56 67 78 89 100 111 122 Control Filter    bit0,1,2,3 : 0=Dis, 1=Ena
(bit0=ProgramChange, bit1=Damper, bit2=AfterTouch, bit3=ControlChange)
```

```
46 57 68 79 90 101 112 123 Timbre On, Off    bit4 : 0=On, 1=Off
46 57 68 79 90 101 112 123 MIDI Channel      bit0,1,2,3 : 1~16
-----------------------------------------------------------------
```

Global Parameters (Table 3)

```
No Parameter          Data(hex) : Value(dec)
-- ------------------ ---------------------
00 Master Tune        CE~32 : -50~50
01 Key Transpose      F4~0C : -12~12
02 Damper Polarity    0,1 : Up,Down
03 Assignable Pedal1  00~09 : *0~9
04 Assignable Pedal2  00~09 : *0~9
(*0=Prog/CombiUp, 1=Prog/CombiDn, 2=SeqStart/Stop, 3=Effect1On/Off, 4=Effect2On/Off,)
(*5=Volume, 6=VDFCutoff, 7=Effect1Control, 8=Effect2Control, 9=DataEntry)
05 Scale Type         00~04 : 0~4 0=EqualTemp1, 1=EqualTemp2, 2=PureMajor, 3=PureMinor, 4=UserProg
06 Pure Type Key      00~0B : C~B
07 User Scale         CE~32 : -50~50
   -to-
18 User Scale         CE~32 : -50~50
19 (Nul)              00
20 (Nul)              00
-- Drum Kit1 Index#0- ------------------------
21 Instrument Number  00=Off, 01~2C=Int, 2D~=Card
22 Key                0C~73 : C0~G8
23 Pan                00~0D 00=10:00,...0A=00:10, 0B=C, 0C=C+D, 0D=D
24 Tune               88~78 : -120~120
25 Level              CE~32 : -50~50
26 Decay              CE~32 : -50~50
27 (Nul)              00
-- Drum Kit1 Index#1-29-- same as Drum Kit1 Index#0 (21-27)
-- Drum Kit2 Index#0-29-- same as Drum Kit1 Index#0 (21-27)
-- Drum Kit3 Index#0-29-- same as Drum Kit1 Index#0 (21-27)
-- Drum Kit4 Index#0-29-- same as Drum Kit1 Index#0 (21-27)
-----------------------------------------------
```

Effect Parameters (Table 11-3)

```
No   Parameter       Data(hex) : Value(dec)
---- --------------- --------------------------
---- Offset: 1~3=Hall, (4~5=Room, 6=LiveStage)--
(00) Reverb Time     00~61(2F) : 0.2~9.9(4.9)
(01) (Nul)           00
(02) High Damp       00~63 : 00~99
(03) Pre Delay       00~C8 : 00~200
(04) E/R Level       00~63 : 00~99
(05) (Nul)           00
(06) EQ High         F4~0C : -12~12
(07) EQ Low          F4~0C : -12~12
(don’t display Nul from here, and that must be 00)
---- Offset: 7~9=EarlyReflection1/2/3------------
(00) E/R Time        00~46 : 100~800
(01) Pre Delay       00~C8 : 00~200
(06) EQ High         F4~0C : -12~12
(07) EQ Low          F4~0C : -12~12
---- Offset: 10=StereoDelay, 11=CrossDelay-------
(00) Delay Time L(L) 00~1F4 : 00~500
(01) Delay Time L(H) 00~1F4 : 00~500
(02) Feed Back       9D~63 : -99~99
(03) High Damp       00~63 : 00~99
(04) Delay Time R(L) 00~1F4 : 00~500
(05) Delay Time R(H) 00~1F4 : 00~500
(06) EQ High         F4~0C : -12~12
(07) EQ Low          F4~0C : -12~12
---- Offset: 12~13=StereoChorus1/2, (14~15=Flanger)
(00) Depth           00~63 : 00~99
```

```
(01) Speed           00~63=0.03~3Hz; 64~C7=3.1~13; C8-D8=14~30
(02) MG Status       bit0=WaveForm=0,1  : 0=Sin, 1=Tri
(02) MG Status       bit1=Phase=0,1     : 0=0°, 1=180°
(02) MG Status       bit2=WaveShape=0,1 : 0=Normal, (1=Flanger)
(03) (Feed Back)     (9D~63 : -99~99)
(04) Delay Time      00~C8(32) : 00~100(50)
(06) EQ High         F4~0C : -12~12
(07) EQ Low          F4~0C : -12~12
---- Offset: 16=PhaseShifter1, (17=PhaseShifter2)
(00) Depth           00~63 : 00~99
(01) Speed           00~63=0.03~3Hz; 64~C7=3.1~13; C8-D8=14~30
(02) MG Status       bit0=WaveForm=0,1  : 0=Sin, 1=Tri
(02) MG Status       bit1=Phase=0,1     : 0=0°, 1=180°
(02) MG Status       bit2=WaveShape=0,1 : 0=Normal, (1=Flanger)
(03) Feed Back       9D~63 : -99~99
(04) Manual          00~63 : 00~99
---- Offset: 18=StereoTremoro1, (19=StereoTremoro2)
(00) Depth           00~63 : 00~99
(01) Speed           00~63=0.03~3Hz; 64~C7=3.1~13; C8-D8=14~30
(02) MG Status       bit0=WaveForm=0,1  : 0=Sin, 1=Tri
(02) MG Status       bit1=Phase=0,1     : 0=0°, 1=180°
(02) MG Status       bit2=WaveShape=0,1 : 0=Normal, (1=Flanger)
(03) Shape           9D~63 : -99~99
(06) EQ High         F4~0C : -12~12
(07) EQ Low          F4~0C : -12~12
---- Offset: 20=3BandEQ-------------------------
(00) Mid fc          0=0.5k, 1=1k, 2=2k
(01) Mid Gain        F4~0C : -12~12
(04) Low fc          0=0.25k, 1=0.5k, 2=1k,
(05) High fc         0=1k, 1=2k, 2=4k
(06) High Gain       F4~0C : -12~12
(07) Low Gain        F4~0C : -12~12
---- Offset: 21=OverDrive-----------------------
(00) EQ Mid fc       0=0.5k, 1=1k, 2=2k
(01) EQ Mid Gain     F4~0C : -12~12
(02) Drive           00~63 : 00~99
(03) Level           00~63 : 00~99
(06) High Gain       F4~0C : -12~12
(07) Low Gain        F4~0C : -12~12
---- Offset: 22=Distortion----------------------
(02) Distortion      00~63 : 00~99
(03) Level           00~63 : 00~99
(07) Low Gain        F4~0C : -12~12
---- Offset: 23:Exciter-------------------------
(00) Blend           9D~63 : -99~99
(01) Emphatic Point  00~09 : 01~10
(06) High Gain       F4~0C : -12~12
(07) Low Gain        F4~0C : -12~12
---- Offset: 24=Symphonic Ensemble--------------
(00) Depth           00~63 : 00~99
(06) High Gain       F4~0C : -12~12
(07) Low Gain        F4~0C : -12~12
---- Offset: 25=RotarySpeaker-------------------
(00) Depth           00~63 : 00~99
(02) Speed Rate      F6~0A : -10~10
---- Offset: 26=Delay/Hall----------------------
(00) Delay Time (L)  00~1F4 : 00~500
(01) Delay Time (H)  00~1F4 : 00~500
(02) Feed Back       9D~63 : -99~99
(03) High Damp       00~63 : 00~99
(04) Reverb Time     00~61 : 0.2~9.9
(06) High Damp       00~63 : 00~99
(07) Pre Delay       00~96 : 00~150
---- Offset: 27=Delay/Room----------------------
```

```
(00) Delay Time (L)  00~1F4 : 00~500
(01) Delay Time (H)  00~1F4 : 00~500
(02) Feed Back       9D~63 : -99~99
(03) High Damp       00~63 : 00~99
(04) Reverb Time     00~2F : 0.2~4.9
(06) High Damp       00~63 : 00~99
(07) Pre Delay       00~96 : 00~150
---- Offset: 28=Delay/EarlyReflection------------
(00) Delay Time (L)  00~1F4 : 00~500
(01) Delay Time (H)  00~1F4 : 00~500
(02) Feed Back       9D~63 : -99~99
(03) High Damp       00~63 : 00~99
(04) E/R Time        00~1E : 100~400
(05) Pre Delay       00~96 : 00~150
---- Offset: 29=Delay/Delay----------------------
(00) Delay Time L(L) 00~1F4 : 00~500
(01) Delay Time L(H) 00~1F4 : 00~500
(02) Feed Back L     9D~63 : -99~99
(03) High Damp L     00~63 : 00~99
(04) Delay Time R(L) 00~1F4 : 00~500
(05) Delay Time R(H) 00~1F4 : 00~500
(06) Feed Back R     9D~63 : -99~99
(07) High Damp R     00~63 : 00~99
---- Offset: 30=Delay/Chorus, (31=Delay/Flanger)
(00) Delay Time (L)  00~1F4 : 00~500
(01) Delay Time (H)  00~1F4 : 00~500
(02) Feed Back       9D~63 : -99~99
(03) High Damp       00~63 : 00~99
(04) Depth           00~63 : 00~99
(05) Speed           00~63=0.03~3Hz; 64~C7=3.1~13; C8-D8=14~30
(06) MG Status       bit0=WaveForm=0,1  : 0=Sin, 1=Tri
(06) MG Status       bit1=Phase=0,1     : 0=0°, 1=180°
(06) MG Status       bit2=WaveShape=0,1 : 0=Normal, (1=Flanger)
(07) Feed Back       0, (9D~63 : -99~99)
---- Offset: 32=Delay/Phaser--------------------
(00) Delay Time (L)  00~1F4 : 00~500
(01) Delay Time (H)  00~1F4 : 00~500
(02) Feed Back       9D~63 : -99~99
(03) High Damp       00~63 : 00~99
(04) Depth           00~63 : 00~99
(05) Speed           00~63=0.03~3Hz; 64~C7=3.1~13; C8-D8=14~30
(06) Feed Back       9D~63 : -99~99
---- Offset: 33=Delay/Tremolo-------------------
(00) Delay Time (L)  00~1F4 : 00~500
(01) Delay Time (H)  00~1F4 : 00~500
(02) Feed Back       9D~63 : -99~99
(03) High Damp       00~63 : 00~99
(04) Depth           00~63 : 00~99
(05) Speed           00~63=0.03~3Hz; 64~C7=3.1~13; C8-D8=14~30
(07) Shape           9D~63 : -99~99
-----------------------------------------------
```

M1 Sound Card Reviews 1

Command Development M-1 Offspring Stock2

Patches that come with an editor/librarian for the Atari ST? Could they be any good? Stick around, because you might be as surprised as we were.

The first Stock of patches on the M-1 Command editor/librarian disk are duplicates of the M1's factory RAM programs. That's okay, because the sounds in the second bank alone justify the price of M-1 Command and Offspring. Granted there are some clinkers, but the overall quality is quite good. The collection starts off badly with SoftWave: Practically any chord causes distortion in the M1's output. Same with AirFlute: It has lots of potential as a small pipe organ, but watch the chord complexity or reprogram the patch if you want to avoid distortion. And Oboe-Trem distorts on almost any chord because its output is too hot.

Want to hear a really bad use of an M1 piano wave? Tune in PopBow. The piano sound lasts about as long as a snare shot, followed by a sustained bass tone--an ugly mix. On the other hand, TubaBow is one of the more creative uses we've heard of the same wave, very smooth and ethereal. Another off-the-wall use of piano shows up in SusPiano, which is monophonic and mean, as in gritty and distorted. Try it out on a wicked bass line.

CellVoice is certainly schizoid: Its flute and strings are so out of tune, individual notes hurt the ears. Play chords, though, and it's okay. MoogVerb sounds like vintage Keith Emerson. And even though HammerGit is based on the Digital 1 waveform, it sounds like FM on a Minimoog. Finally, there's the hypnotic SusBells. Good stuff. --MV

Command Development M-1 Offspring Stock3

Stock3 isn't as consistently strong as Stock2, but it won't cost you any extra, and besides, we didn't find any real losers here. Stock3's four classical organs are a pleasure to play because they sound good and offer real-time control of modulation. There are several good flute instruments in the six-patch wind section, but they all could use some pressure response.

We swear that Guitar 5ths appeared in the original Pink Panther as the bass in the theme song. Speaking of movies, sci-fi fans will enjoy BladeRunne. It's so haunting that it's hard to believe the choir wave is its source. Another favorite is VolPedGuit, which is very violin-like, but more metal. As usual for patches in the Offspring banks, aftertouch adds just the right amount of modulation. Want a frightening bell? Try NotreDame. --MV

Command Development M-1 Offspring Stock4

A number of the patches in the third bank of alternate patches on the Offspring disk have aftertouch mapped to bend pitch sharp. That isn't tape wow; you're leaning on the keyboard.

The only patch we disliked in Stock4 was DisGuitar. Its feedback comes in too quickly. DisGuitar is out of control, but maybe that's what you want. Flying2^ features the pan flute wave with fast-attack choir that pulses like a series of echoes as long as you hold the notes. The "echos" get brighter but are bathed in more reverb with each attack.

Another favorite is GreenEyed^, a B-3 simulation reminiscent of the classic Sugarloaf tune 'bout that certain lady. Two drum kits also caught our fancy: ElectroKit, because of its supertight snare, and G.A.T.E.D., which uses reverb and exciter effects to make the drums sound bigger than life. --MV

Eye & I Voice Crystal 1

Mixed bag--the kind of card where you shrug and say, "Well, there are some nice sounds there." Standouts: SblimPiano (slow square wave pad), DistMachin (grinding distortion), UnderWater (really does sound like its name, and don't miss the fast filter modulation from key pressure), Vocalwash and Synth Vox (muted choirs), and Cascade (rich pad). Suitable for film work: LapsfReasn (sustained string tone with rising pitch echo), TheCeremony (choir with explosive attack). Questionable: Matheny, a flute/guitar layer detuned to a hideous extreme, and Trinidad, which might work well in a track but sounds more like organ than steel drums. --JA

Eye & I Voice Crystal 2

The theme of this card, if there is one, is choirs with bells. Also some strings with bells and some lush new age pads. Our fave, though, is Noise RD 2, which sounds like a 30-foot-tall magma creature rising from the crater of a volcano. Other standouts include Ice Caves (light tick attack with smooth string sustain), Je t'aime (choir with blown attack), ZeZeneZeZ (warm organ with echoing bright buzz), and Whistleorn (breathy whistle). Not too many dogs, except for Renaisance, a flute/guitar layer with a brash, wobbly flute and a guitar that's all chopped attack. Seven of the patches use Korg's Orchestra (MSC4) PCM card, mostly for strings. --JA

Eye & I Voice Crystal 3

A diverse, yet average-at-best collection of pop/rock patches. There are a couple of decent synth recreations (Roland Jupiter and PPG) and some noteworthy ambient new age offerings (sparkling, synth-backed Mist, and sweeping bell Lotus). We like some of the sound effects: TV Snow is a fun, quasi-obnoxious sound effect, albeit a far cry from its name. But overall, there are just too many run-of-the-mill organ, brass, and string patches on this card. (Note: In order for some of the patches to play back properly, Korg's Synth (MSC2) PCM card is required.) --GR

Eye & I Voice Crystal 4

Film composers, take note: This card is chock-full of swirling, moody ambiences and inventive sound effects. Many of the sounds continuously evolve or have internal rhythms--more akin to the kind of patches you'd find on a Wavestation than an M1. When it comes time to score, just hold down a note or two and let the synth do the rest. More into new age? There's plenty for the crystal crowd here too, with a variety of ethnic and mystical textures. (We even found one that was perfect as a background for recitations from Saturday Night Live's "Deep thoughts.") A few more generic timres are offered, including an outstanding PPG emulation, but most of these sounds are more suited for film work than live performance.

On the down side, a number of the patches speak late, due to the fact that they are routed through a delay effect and the wet/dry balance is set totally wet. We also thought a lot of the patches were too soft: You could find yourself with signal-to-noise problems unless your studio is really tweaked. You may also want to add some performance control: Most of the patches offer little controller routing, though what is there is generally useful and pertinent. --MM

Eye & I Voice Crystal 5

Perhaps this new age-laden card should be subtitled "the fade-outs," because that's what many of its sounds do: Hit and then fade away. You can't use fade-away sounds for drones, and most of the sounds are so good that they deserve to stick around longer. The situation gets irritating when an otherwise nice calypso sound like Wind Isles fades quickly and awkwardly into silence. A fade-away patch that we like is Kut Thru, a rich piano that dies quickly. We're not sure anyone would want to put FinalChord at the end of a piece, unless the music calls for Sinatra-like pitch meandering. This is one patch that should fade away. (Cut back on the chorus effect and it's a decent patch.)

VC5 does offer its share of good, useful sounds. PopFlute is a super-chiffy pan flute with splendid use of pitch-bend. Pulling the joystick to the left not only bends pitch down, it closes down the filter. Honorable mentions: Three of the five organs -- Vital Organ, Vital Organ 2, and Perc Organ. All are punchy, cover familiar Hammond ground, and respond to aftertouch for vibrato and tremolo.

Some sustaining patches need more continuous control. In Vox Alloy, a metal hit plus choir patch, aftertouch does nothing. When you assign pressure to open up the filter and amplitude on the choir, it becomes a much more expressive sound.

A number of patches have the oscillators tuned to different intervals. Besides CinemaEast, in which the brass voice is tuned up a fifth from the choir, CinemaSolo offers choir a fourth up from sax. Strangest is CinemaWest, in which the 16' pan flute sounds a whole-step lower than the strings. --MV

Greenhouse Sound GHS-001

It took every ounce of will power we had to make it through all 100 patches on this card. It wasn't just the sounds were dull, lifeless, unimaginative, and aesthetically punitive. No, the programmers had to make them out of tune (Muted Lake), riddled with overload distortion (MidniteSun and countless others), rife with unrealistic envelopes (Bell E.P.), and devoid of any expressive real-time controller routings (when they were even assigned which was rare). Then there were the "split" patches with almost no volume in the range around Middle C and the velocity response organs, which included our favorite, Organ, and its three-second-long decay envelope. Thanks, Greenhouse, but maybe next time you could just stick flaming bamboo shoots under our fingernails. --MM

Kid Nepro M1/M1R Vol. 1

Lots of patches with names of famous instruments--OB8 Lead, Jup 8 Lead, Mellotron, and so on--are featured in this bank. Unfortunately, not one of them sounds anything like the instrument it supposedly represents. Even the acoustic instruments aren't true to life. Many (if not most) sounds suffer from poor programming, making them unplayable; internal overload distortion, bad or non-existent controller routing, overdone effects, and intense wimpiness are the order of the day. Two high points did stand out: The expressive Pan Flute and the rich, synthy Orch Strng. Two low points: Jazz Organ, with its eight-second release time, and Keiths Org, with its delayed attack.

We found a couple of duplicate programs, but the card did have the patch with the best name, Anal Choir. We don't know where the name came from, but every time we played a chord we could just imagine a group of folks in white robes singing out of their...well, you get the picture. --MM

High-quality patches, for the most part, but not real imaginative. Lots of strings and Hammond organ, some mellow lead synth, no classical organ. Only one FX patch so this bank scores high in the usability category. The basses are all heavy on the reverb, which may sound impressive when soloed but tends to muddy up a mix. Our favorite items include the luscious breathy/digital layer of D70 Pads and the light phased lead of Gobots. Too many of the patches are tuned in fourths, which is even worse than fifths if you're trying to figure out what key you're in. Some others were near-duplicates with only the retuning of one oscillator by an octave (or a fourth). We spotted two actual duplicates with only the name changed--Analg Lead and Moog Lead, and Pick Bass and Bassey. --JA

Kid Nepro M1/M1R Vol. 2

Nothing in this bank stands out, except for five synth basses, two of which are very similar to each other. The usual pile of string and choir pads--and never mind patches tuned in fifths, Fat String (which also has a pitch swoop when you play hard) is just plain tuned a fifth high, in the wrong key. No brass except for 2001, which sounds very analog but does feature a nice rich swell. No less than three single-oscillator patches use the double reed wave; they're virtually identical except for vibrato and a little filter enveloping.

What a waste. And don't try to play chords with Saxy; it sounds full-bodied on solo lines, but an inherent problem in the M1's hardware causes a pulse wave this loud to distort and then cut out entirely when the internal signal path overloads.

Korg PCM Card Sets

MSC/MPC-01
MSC/MPC-02 Synth
MSC/MPC-03 Drums
MSC/MPC-04 Orchestra
MSC/MPC-05 Piano
MSC/MPC-06 Fretted Instruments
MSC/MPC-07 Synth 2
MSC/MPC-08 Percussion
MSC/MPC-09 Organ
MSC/MPC-10 Ethnic
MSC/MPC-11 Brass
MSC/MPC-12 Synth 3
MSC/MPC-13 Ethnic 2
MSC/MPC-14 Sound Effects
MSC/MPC-15 Drums 2
MSC/MPC-16 Environment

Korg MSC/MPC-01

Korg's own sound support for the M1 includes a series of card pairs, each consisting of a PCM (wave data) card bundled with a standard program ROM card. The first pair in the series is pretty much meat and potatoes--long on the strings and brass, but not long on imagination. Also no basses to speak of. There are even a few key and velocity splits within the single patches, one of the M1's less useful capabilities. Our excitement level rose a bit when we heard the wonderful pulsing machine drone of Talking M1, and patches like Chin-Brass (brass with a chiffy attack), while not exactly visionary, could certainly be valuable additions to a song.

The PCM card has seven new waves: A string section, a solo violin, a choir, saxophone, an additional piano, marimba, harp, and "spring" (metallic attack with a sustaining tonal loop). The piano has very short samples, but at least it's an alternative to the usual M1 piano. The best reason to buy the card may be for the extra string section, which can be layered with the internal M1 strings for some very rich pads. --JA

Korg MSC/MPC-03 Drums

MSC-03 offers 28 new drum and percussion waveforms: four kicks, one snare, three hats, a ride, a tom, and several percussion instruments (such as tabla, bongos, and timbale). The accompanying data card contains 50 programs and 50 combis. Standouts on the PCM card are the kicks, tabla, bongos, and tom. Three of the kicks are super-solid and punchy, the fourth is heavily processed. We're suprised (and disappointed) that there is only one snare drum. The ride cymbal and timbale are just plain awful. Kudos to Korg, though, for including the oft-over-looked foot-closed hi-hat. As for the patches, hold onto your hat. There are, of course, a bunch of cool drum kits (ambient, techno, etc.), but the real surprises are the knockout non-drum patches. Usually we get annoyed when companies stray from their theme. But not this time. The gorgeous new age material (Mythology), EPs (MagicRoad and SmoothRoad), and special effects (WhaleSong, with its undersea echoes and upward bend of a minor third in response to aftertouch) are quite good. --GR

Korg MSC/MPC-04 Orchestra

We're discouraged by this card set. On one hand, the bassoon, oboe, French horn, bass/cello/string, and pipe organ samples are properly recorded without vibrato. But the same can't be said for either of the two string samples or the clarinet waveform. The pitch of all these waves should be smooth, allowing the player to introduce vibrato with aftertouch or the joystick. The string waves bug us especially, either because of the obnoxious beating caused by the samples (disabling the modulation and chorus doesn't help) or because aftertouch is only routed to vibrato, not to amplitude and filter cutoff for controlling volume swells. (In a few cases, aftertouch does control amplitude and the filter, but the response is too subtle.) Our least favorite string program is Cross-Fade, because of inadequate aftertouch response and the sound's delayed attack near the bottom of the keyboard. Chorusing is to blame for the wavering SmallOrgan, a seasickness-inducing patch.

The PCM card sports a healthy 20 waveforms. To accompany the orchestral waves, there are 11 synth sounds, including seven pulse waves of varying pulse widths (25%-2%).

Is there an Orchestra sound that we like? KettleDrum comes close: This hypred of the tubular and DWGS sine waves could be useful for percussion. Too bad velocity has no effect and aftertouch doesn't control some aspect of the bell sound as it dies away. KettleDrum epitomizes the Orchestra collection: The potential is there, but some tweaking is required to realize that potential.

Korg MSC/MPC-07 Synth 2

A strong collection of synth sounds, all with sensible controller routings. The PCM card sports a dozen alternate waves, and since most are synthetic in origin, their names rarely convey what they sound like. The exceptions are Noise, Bellz, and Chiffbass. Our fave is Spectrum2, which is much like a steel drum. We're hot and cold on the downward-sweeping resonant filter part of Res Wave 2. Since it's a sample, the sweep passes quickly at higher pitches and lasts longer the lower the note, unlike the filter of an analog synth, whose sweep would be consistent across the keyboard. The sweep is layered with a steady tone that switches from a fairly grungy (which is okay) clav-like timbre from Middle C down to a wimpy dying-organ tone from there up. Too bad you can't separate the two timbres.

Now the programs: Want expressive and bright strings that will cut through anything? Try WiredStrgs, which sound very PPGish. Velo+Gated is a wicked drum kit for techno, rap, or whatever. The kick is short and anything but sweet, and the snare-like complement will knock birds out of trees. Hard velocities increase the pitch and/or treble content of each sound.

We like both Mysterian and Starburst, which are similar because of the wavesweep 3 waveform. The sweep isn't a smooth analog gesture but a downward stepped motion reminiscent of a sample-and-hold effect. Either program can range from delicate and soft to full and brooding. The ethereal Bellz is like a cross between a toy piano and chimes.

Only one clunker in the group, and it really isn't so bad: Octaver. Except in the lower registers, it's a wimpy, resonant organish sound that distorts on chords. It makes for a mean bass, though. --MV

Korg MSC/MPC-09 Organ

This PCM/patch card duo turns the M1 into a very respectable organ. Or rather, into two organs. The pipe organ emulations (nine of them) run from light flute and reed stops through a full organ. All are heavy on the cathedral reverb, naturally, and to our ears they're quite convincing. The Hammond material may not be quite as ballsy as the real thing, but it's good enough to rock out on. Included are muted jazz patches, rock overdrive, rotary speaker, tremolo, and patches with authentic Hammond "percussion." Rounding out the card are a couple of harmonica and accordion patches, a couple of new age organ-type pads, and half a dozen patches (piano, drum kit, muted guitar, sax) that are used in the demo sequences. Yes, this card is formatted to contain only 50 patches and sequences.

The PCM card has eight waves--two pipe, a luscious harmonium, slightly overdriven Hammond, a hammond percussion attack, two Hammonds with different drawbar settings but no key click and a godawful mistake called SplitOrgan. This is multisampled with vibrato, and on certain notes the vibrato is just too fast. Above Middle C the tone is doubled in octaves. If you did the same layout yourself in combi mode, you wouldn't have the vibrato problems, and the split point would be movable. Sigh. We're also dismayed that many of the organ patches have no pitch-bend, aftertouch, or joystick assignments. Hey--if the musician doesn't want pitch-bend, it's easy; just don't use the joystick! We don't care how inauthentic a pitch-bending organ is; the patch should still be set up to bend, so you don't have to transfer it to internal memory in order to reprogram it. --JA

Korg MSC/MPC-11 Brass

This two-card set contains a PCM card (alto-, bari-, soprano-sax, trumpet, muted trumpet, French horn, and trombone waveforms) and a 50-program card. The patches are a mix of straight-ahead and ambient/new age material--lots of brass sounds, obviously. Creatively, they're a mixed bag. The saxes sound good in a mellow style, but we can't help wishing for some velocity-controlled squeaks and squeals. (Some of our reviewers felt that the saxes were a big letdown.) Some of the layered sounds (i.e., BarryClav and Frhrn&Trom) are a bit more inviting. We also like some of the non-brass patches: The grainy ArcoString, SofStrgBass (a convincing upright approximation), the ambient acoustic guitar (SoftGuitar), and a surprisingly good accordion. As for the raw waveforms, well...everything except the French horn has very obvious multi-sample split points. --GR

Korg MPC-12 World Omnibus

For overall variation, this single card deserves credit. Every sound type except pianos is well covered, and we spotted no dogs. Standouts include the raucous organ patch Dirt&Lesly, the brass-based hybrid EasternSun, which features strummed koto, and our favorite, Influxuato, a choir that gradually adds staccato vocal punches under control of a sawtooth LFO. A couple of musically useful FX patches also struck our fancy: Think Sync, a sustained sawtooth with synchronized digital trills, and CrashLand, a swirling mass of magic organ and wire wareforms that center on the notes you play before swirling away again when you release the notes. Also worthy of mention is DistGuitar. Although it isn't our favorite mad guitar patch, we like the way velocity controls the fundamental/harmonic feedback mix. --MV

Livewire Audio M1 Dreams

The title says "dreams," but this bank is more like a nightmare. Pablo Casals personally returned from the grave to make us stop playing the Cello patch. Stevie Wonder went to an early grave when we played Harmonica. Jimmy Smith, Keith Emerson, and Rick Wakeman all threatened to do terrible things to our families if we continued to play the organ patches. Controller routings were inappropriate at best, envelopes were remarkably unrealistic (such as on E.PverbLW), and poor keyboard scaling made the upper ranges in a number of patches considerably louder than the lower ones. And for our money, the basses were way wimpy.

But the card isn't a total loss. We liked the Farfisa organ emulation, Serious nailed the breathy choir sound, the fat rock pad 1992#2 could even make Prince crack a smile, and the spacy Intruder, an eerie noise patch that evolves into strings, could be just the thing for

scoring your next sci-fi epic.

ManyMidi Products M1 Sets 1 & 2

The "many" in this company's name is an understatement. Their two M1 libraries feature a total of 2,306 patches. Set 1 contains 1,173 rhythm section sounds,--basses, keyboards, drums kits, and the like. Set 2 offers 1,133 orchestral sounds--strings, brass, wind instruments, etc. Did we sit down and listen to all 2,306? Not on your life. The company sent us a "representative" sampling of each set. What we found was a slew of bread-and-butter patches (electric pianos, brass, choirs, and basses), a few excellent programs (including the biting *MMP Clav*, the guitar emulation **MMP Jazz, and our favorite, A1CeleStgs, a muted bell/string combo where the strings swell on key-up), and some downright terrible sounds (Mo'sSynPno, Ludwig Van, and the strikingly bad Mo's Violin, which, depending on how hard you hit the keys, sounds like a poor excuse for synth strings or a poorer excuse for synth brass). And even though the manufacturer only sent us an 82-program bank from Set 1 and a 100-program bank from Set 2, there was a great deal of redundancy. Quantity rather than quality seems to be the order of the day.

All in all, a pretty unimpressive offering. True, we found some good sounds, but they were buried among a host that were markedly run-of-the-mill. Out of 2,306 patches, odds are there are some good ones that we didn't get a chance to hear--but don't expect us to hang around while you try to find them. --MM

Pro-Rec M1 Super Dance

We love this card. We hate this card. Are we schizo? Yes, but that's beside the point. Super Dance is filled with edgy, grating, annoying, and wonderfully inventive patches--just the thing for dance/industrial/rave/techno/house fanatics and people who can't get a date for Friday night. Highpoints include the punchy Asia Bass, the enormously buzzy Panapoly, and the superbly obnoxious CompuChiff, an overly distorted lead guitar reminiscent of John McLaughlin's Mahavishnu Orchestra days. And despite a preponderance of bright, edgy sawtooth-style patches, there are plenty of hot basses, fat pads, and percussive description-defying whatsits to satisfy the most discriminating key pounder.

There's also plenty of overload distortion; you'll have to lower the oscillator volumes in a couple of dozen patches to avoid it. And though many of the sounds feature a nice room ambience courtesy of the cross-delay algorithm, the settings used tend to make these patches considerably louder on the right side than the left. You can easily fix the problem by setting the right cross-delay time to between 20 and 50ms. This is one of the few cards we've auditioned where the reprogramming is worth the trouble. --MM

Pro-Rec M1 Filmtexture

Filmtexture starts off on the right foot with Planetlog, a hybrid of the metal hit wave, which creates a subliminal bird tweet or downward filter sweep that is echoed by the internal effects, and a soothing analogish string pad that floats in smoothly and drifts back and forth in a stereo flange.

We're disappointed in the lack of continuous controller response in some key patches. Take, for instance, Quadrapane, an analog, sawtooth-wave sound with slapback echo and a rhythmic pulsation that fades in when a note's been held for a second or so. The pulse builds to an incessant alarm and stays there. Another example is Brilisweep, a lead-type patch that includes swooping glissandos and octave trills. Likewise, there's the swooping and trilling PlexaSweep. Sad thing is, all of these patches ignore aftertouch and the joystick.

Worse is WaterWaves, an otherwise captivating sustained mellow organ with background bamboo rhythms that become a shapeless, unchanging sonic collage. It needs some envelope shaping and continuous control response. Ditto for SpaceWaves and SoftBamboo, although the latter allows a tiny bit of amplitude control with aftertouch.

Listen to the wavering Aquadigits if you want to induce sea-sickness. Not so bad is Mallesis, which clicks from a marimba-like sound to a louder organ timbre when you hold a note for at least a second. And we do mean click: The amplitude envelope rises from zero to full level as fast as possible. When you release a sustained note, it exits with a dipping pitch tail. Sync Saws duplicates Mallesis' bright-echo effect, but doesn't suffer from the clicking or distortion problems.

Sonically, Filmtexture rates slightly better than average. Sprinkled here and there are some decent-sounding patches, but most of the 30+ FX patches aren't very interesting, too many patches are tuned to fifths, and no less than 53 sustaining patches ignore aftertouch control entirely. Grr! --MV

Pro-Rec M1 Super M Synth

Cutting, static--filled synth textures. A treasure trove of choppy, punchy sounds for the techno-minded. Not a "standard" collecton by any stretch. HydraWires is a buzzy, pitch-bending favorite, as is UnderPluck, a metallic, underwater effect. Lots of fat, fuzzy bass and lead synth sounds. Hissy, too, due to the frequent use of the exciter effect. We only wish the programmer had offered a wider variety--too many sound-alikes here. Where they do attempt to offer a variety (a few electric piano and string patches), they come up short. Buyers are better off looking for a legit pop-rock card to fulfill those needs. Even so, this collection has enough crunchy analog synth standouts to attract dance-music artists. --GR

Pro-Rec M1 Natural

Plenty of warm, beautiful sounds, suitable for atmospheric effects and new age tracks. The hot stuff includes SuperWaves (a

chorused and phased sawtooth pad with a light tick attack), PlexBottle (fast octave trill), OrganLight (again, chorused and phased), and Karim Pads (rich strings with kalimba attack). Not so hot: Three or four sounds with short, muffled filter envelopes. We'd be more enthusiastic if fully 30 patches--that's one third of the card--weren't tuned in open fifths. Geez, Louise. --JA

Soundsations Vol. 1

A standard group of pianos, EPs, brass, organ, and string patches. Plenty of layers and splits. TinselStrg is a nice mixture of rosiny violins and soft tinkling chimes. The soft PianoStrg2 layer is perfect for those David Foster-esque backing tracks. Too bad aftertouch is disabled, though. It's also a shame that the programmer forgot about velocity and aftertouch on many of the patches. In general, there are an overabundance of one-dimensional sounds. Patches such as DistGuitr1 (a crunchy, overdriven ax) should offer velocity or aftertouch-controlled feedback, and so forth. Also we had a stomach-churning experience with the accompanying Macintosh downloader software. --GR

Soundsations Vol. 2

An average roundup of piano, EP, and strings, plus a few brass, choir, organ, and bass sounds--mostly of the pedestrian variety, though. TineFlute is an interesting Rhodes-type patch with a subtle delayed flute. Tenorroom, a bright sax patch, is a standout, as is AccGuitar9, a rich steel-string simulation. Our problem with this bank relates to what we found in Volume 1: Very little, if any, creative velocity or aftertouch control, and way too much reverb. UpRightBas could've been a knockout acoustic bass patch had they offered velocity variation. As it stands, it's nothing more than one cool sound with zero expression. --GR

Soundsations Vol. 3

A marked improvement over Sounsations' Volumes 1 and 2. Here the selection is more diverse and a bit more expressively programmed (thank you very much). While still swimming too deep in reverb for our taste, many of the string pads, EPs, guitars, and synth sounds are worth tweaking into shape. Turn down the effects on such patches as the velvety PlunkStrng and bubbly vocal ScatoBreth and some interesting textures begin to emerge. We can certainly live without half of the "filler" patches on this card, though. How many more generic pianos, basses, and organs can we take? --GR

Soundsations Vol. 4

Overall, a solid and diverse group of mainstream patches. Thematically, it's in-line with the other Soundsations volumes (in otherwords, you can expect a range of standard patches from bass to vibes to strings to brass). Obviously some extra thought went into this group. The effects are subtle, but well appreciated. PizziStrng, for example, is a typical pizzicato string sound when played staccato. But, unlike most others, hold the note and a sustained string tone will take over. Too bad there's such a noticable split between A#2 and B2, though. There are also a couple of patches with creative velocity and/or aftertouch routings (i.e., Butterfly1 and CyclTouch1). We also like DistGuitr4, an expressive, velocity-controlled squealing guitar patch. --GR

Soundsations Vol. 5

Yes folks, once again, it's a return to the land of piano, strings, brass, and the like. There are some layered sounds and synth leads sprinkled in, but by now, we were primed and ready for something completely different from this company. Not gonna happen. Standouts: SwellEnsmb is a nice time-based fade between brass and choir. The tinkling GlassBells and Ice'o'Bell are useful new-agey effects. ThumbBass6 crossfades nicely between a picked attack and an upright thunk. Stinkers: The Marimba patch sounds nice when played one note at a time, but starts to distort when a cluster of notes is played; GodFather2 (if we hear one more patch with that damn koto tremolo --aargh!). --GR

M1 Sound Card Reviews 2

Sound Source (Greytsounds) Classical Organs

Like the Valhala classical organ card, this Sound Source card provides more than 80 typical registrations with familiar (if abbreviated) names--mixture, sch, gems, bourdon, and so on--coupled with a timid but useful selection of ecclesiastical novelties (piano, harpsichord, eelesta). The five carillons are definitely superior to the Valhala card's unimaginative monophonic chime, but the organ patches provide less variety. Only a couple use tremolo, but at least it's the real M1 tremolo effect, not vibrato. The combis are set up for left-hand bass rather than for two-manual-plus-pedal operation. Not even pitch-bend is assigned on these patches, much less velocity or modulation. As on the Valhala card, the reverb is quite consistent from one patch to another, which should allow you to change patches without startling the worshippers from their reverie. --JA

Sound Source (Greytsounds) Country/Acoustic/Folk

If you need guitar simulations, this is the card to get. Fully 50 patches are devoted to variations on the picked/plucked instrument theme. Some are realistic, others you have to scrunch your eyes up to pretend it's guitar. Acoustic steel and nylon, 12-string, electric through an amp, amped with tremolo, plus such items as banjo, autoharp, ukulele, harp, and hammer dulcimer. From there the

programmers wander off into a wilderness of solo violin and cello (tubby, grainy, and too much vibrato), violin pizzicato (clicky and wimpy), and accordion (sounds just like the cello). The pianos, organs, and basses are respectable, if unimaginative, but you probably already have plenty of variations on those. --JA

Sound Source (Greytsounds) Film Textures

An assortment of ambient pads and pitch envelope effects. Good ones, overall. Plenty of string and choir patches, but not many basses, clavs, or other standard sounds. Worth a listen: Odd World (pitch envelope, heavy flanging and delay), Nebula (a spooky bell effect with expressive velocity response), SoftSynth (muted pad with a very slow square-wave trill of an upward octave), Desolate (fat square wave whose pitch falls on release), and GhostPain (clanking and moaning). Stinkers: Alley Cat (a cheesy detuned squall), Patience (press a key, wait two seconds, and a bell tone fades in and out...zowie!), and three drum programs with big problems. --GR/JA

Sound Source (Greytsounds) MasterRam

Here's a solid assortment of quality patches, ready to inspire your creative output. Although many patches sound complex, a number are single-voice. One of our favorites is the bell-like DoubleTrix; it uses the SynMallet wave and sounds both when you play and when you release each note. Pingling, based on the ping wave, is quite similar. Kalmbatine is an enjoyable hybrid, the karimba wave's attack layered with a brittle digital sustain that breaks into a high-pitched shimmering sparkle when the note is held for a second.

Eno's Mini has a slow attack and deep ambience--a beautiful sound. Eno Piano, with its rackety attack and flanging so deep it induces seasick vibrato, won't appeal to everybody. We weren't aware that Brian had taken up scoring horror films. Waveguider, constructed of two wire waves, is obnoxiously piercing with minimal aftertouch and an excruciatingly slow pitch waver. I hated this sound, but Marans thought it was very cool for bass. The wire wave works well, though, in the single-voice Fuzz Thing--a patch that will cut through the din of enthusiastic electric guitarists. --MV

Sound Source (Greytsounds) New Age

Because of the "new age" label, we were expecting a card full of pleasant, pretty patches. What a surprise, then, to hear a handful of brash, in-your-face sounds like FakePiano (a piano/brass layer with gritty early reflections) and Hi-manheim (a nasal cross between accordion and strings). Both are musically useful, perhaps, but they're not new age. Most of the patches fit the genre label, though, and more than a few are inspiring. Our faves included CrystlBass (tubby, synthy bass), Beam-Me-Up (lead synth with breathy attack and muted yet eerie sustain), McDervish (strong, vaguely bagpipey lead synth), and PeasntLife (hard to describe--ethnic plucked organ, sort of). The card is strong in the mellow pad department, and you won't find non-new-age fare like rock bass or organ.

Pitch envelopes are used creatively in some patches, but the controller routings are poor: CrystlBass doesn't even have pitch-bend, and MusicMetal (a light synth pad) has pitch-bend but no aftertouch or modulation. Two lead tones (African Ob and Indian Reed) are programmed almost, but not quite, a whole-step flat, which qualifies as a major annoyance. This card has several patches, including these two, that are programmed with "impossible" values.

Sound Source (Greytsounds) New World

Some nice ethnic-flavored patches and a smattering of bass strong, and synth variations. Very creative sound design. Lots of new-agey/sci-fi textures and a handful of drum kit variations. Two annoyances, though: There are glaring volume discrepancies between patches, and there are too many pre-programmed intervals and bending pitch envelopes. Favorites: the percussively attacked, droning Dungeon (especially fun when cranked through a floor-shaking PA system), and the buzzy, EP-based Spun Metal. Clinkers: the cheesy, warbling organ of ItsFunkyMa and the sickly Nylon Koto. --GR

Sound Source (Greytsounds) Pop Rock Vol. 2

While no single patch on this card stands our hair on end, overall it's one of the most solidly programmed, meat-and-potatoes pop/rock offerings we've auditioned. The DX-ish electric pianos are crisp, the analog synth lead patches (such as LuckyMan) are thick. There are plenty of lush synth, string, and brass patches (TotoHorn is a warm analog-like pad). Bass sounds are well represented (SeqncrBass is particularly funky). And there are some creatively programmed special effects, such as the spacey, evolving Suprvector and the haunting Flangelis. Yeah, we could find some nits to pick (some grunge is detectable in the tubular bell patch, for example), but overall the dogs are far and few between. --GR

Sound Source (Greytsounds) Synthesizer

The broad smattering of classic synth sounds from older instruments might make this card a priority for power rockers. Patch names include numerous references to the D-50, Polymoog, ARP 2600, Juno, OB-8, and other vintage axes. The emulations of older analog stuff are reasonably fat, but there's still nothing like the real thing. And forget emulations of other PCM-based instruments like the D-50. Even when we close our eyes, it still sounds like an M1. Seven or eight great synth bass patches, but almost nothing in the brass or solo wind category. No less than nine of the synth pads are ruined by a pseudo-dramatic pitch envelope that swoops up an octave and then falls back instantly. --JA

Synthware M1/M1R Soundpack 100

Many of the sounds on this synth-oriented card have a wonderfully fat bite to them, just the thing for hard-driving techno, rave, and dance sytles. Notables include the cutting Hybrid 1, the incredibly edgy Metal Axe, the responsive Bit Clav 2, and for lead work, the driving Fuz Lead 1. The basses are quite good for the most part, as are the bells and rock pads. Weak points are the strings, which are swimming in reverb, and the organs, which are all velocity responsive.

We liked this card a lot, but many of the patches--even the good ones--suffer from badly programmed envelopes. Fat synth pads such as Phasitone and Bright Syn, for example, have organ-style envelopes that end rather suddenly after a few seconds. Then when you lift the keys, the sound reappears as the filter opens back up. Other patches have one oscillator that abruptly cuts out while the other sustains. Another weirdness: Most of the joystick mod routings are useful, but not one of the patches uses aftertouch! Since the sounds are generally creative and interesting, our guess is that the programmer spent a lot of time tweaking the timbres, but forgot that people would actually be playing these sounds in a musical context. If you're willing to spend time reprogramming, the card is worth checking out. --MM

Technosis M1 Proselects Volume 1

This card has led a double life--first as Sound Source Pop Rock Vol. 1 and now back in the hands of its originator, Technosis. The SS title is much more descriptive than the one chosen by Technosis; the card features a wide assortment of thoughtfully programmed sounds that could provide a solid sonic foundation for both performing and recording. Sounds run the gamut from fat basses to punchy organs to one particularly screaming lead guitar, with an assortment of rich pads, hot brass, new age textures, and in-your-face drum kits thrown in for good measure. Controller routings were useful and responsive. We also appreciated that the effects weren't overdone. Most sounds didn't rely on a wash of reverb to make them interesting. The patch titles were informative as well. Only one negative: We wish there was a bit more consistency in the patch volume levels. Other than that, this one's a winner. --MM

Technosis M1 Proselects, Volume 2

If you like Proselects Volume 1, you're gonna love Volume 2, which features some of the best low end we've ever heard pumped from an M1. This is heard to its best advantage on the basses, notably BreathBass and Moog*Slaps. But if you want to shake things up a bit, Quake C2 is sure to set your speakers rattling. IsItReal?? offers the sweetest chorused strings this side of a Mellotron, and for pure guts it's hard to beat :CENOBITE:. You'll also find effects galore, including our favorite, Faktory, an industrial ambience patch complete with clanks and heavy machinery. The rest of the card is filled with new age whispers, fat pads, bells, and solo instruments--most of which are remarkably playable and expressive. Yeah, sure, there were a couple of sounds that didn't quite measure up. But the rest of the card is so great, we just didn't care. --MM

Valhala Classic Organizer

Church organists and anybody else who wants to sound like a church organist should make a beeline for this card, or for the similar offering from Sound Source. Nothing on either of them but organ patches and a few standard percussive elements like wood-block. The patch names indicate the traditional stops--flute, krumhorn, principal, gedackt, dulciana, and so on--with pipe lengths (16', 8', 4', 2'). There's no velocity, aftertouch, or modulation response in the Classic Organizer bank, but the pitch-bend is enabled. We did think it odd that the "tremolo" registrations used a vibrato LFO rather than the M1's tremolo effect. Even odder: 8OrchOboeT uses a sawtooth LFO rather than sine or triangle.

The patches that are intended for pedal bass are monophonic, which we suspect is a mistake. Not only will they not play chords, but they click when you play legato. This includes the Chimes patch. Ugh. All patches and combis use exactly the same effect settings, a light, tasteful wash of hall reverb with about one second of decay. Church musicians who are playing in large rooms may wish the sounds were programmed dry, while those who want a big organ sound for recording might have preferred some that were programmed with even more reverb--so this is probably a good compromise.

The cool thing about the combis is that they have layered patches assigned to MIDI channels 1, 2, and 3. By entering global mode and switching the global channel, you can instantly switch among three different registrations in performance. Alternatively, you can play the M1 from an external controller that has manuals assigned to channels 2 and 3 and pedals assigned to channel 1. --JA

Valhala Patch Pro KROM 1

A decent group of pop/rock patches with a handful of new-age hybrids thrown in. Nothing to report at either end of the spectrum: No major knockout patches, and no dreadful stinkers. Regency is a smooth, rich string patch at low velocities with a nice bite when played harder. The whale-moaning BladeRuner is creative, as is Blue Ice, a spacey, pitch-bending sound effect. Our only substantive complaint has to do with distortion. Several of the patches sound fine when only a couple of notes are played. But hold the sustain pedal, play a couple of chords, and distortion starts creeping in. --GR

Valhala Patch Pro KROM 2

Mixed bag. Plenty of clavs and guitars, not much in the ethnic/bell/percussion department. The full-sounding patches should be good for film work, rock, or new age. Top picks: SweetDirt! (flanged distortion), Chromium (chorused clav), Splinter (metallic clav),

Testerosa (gorgeous pipe organ with 2' flute stop), Belgium (reed stop pipe organ), and Strinie (string pad with wood bass attack). Questionable: an unpleasantly harsh accordion, Duplex (corny sax with too much reverb and vibrato and no pitch-bend depth). --JA

Valhala Patch Pro KROM 3

A terrific value. Aside from a few too many string pads, everything on this card feels eminently useful, with almost no throwaway cutesy effects. Aftertouch and joystick control are appropriate to each sound. Best of all, the sounds aren't drowning in reverb. Among many fine patches are Brooks (a very electronic harpsichord), CoolScream (muted lead synth), Fantastic (industrial/ambient pad), Moog Bass (check out how high velocities shorten the filter envelope), and Crystaline (light bell-ring). Patches 24 and 70--Clavinett and Hohner--are identical, but it's a patch with a lot of presence. --JA

Valhala Patch Pro KROM 4

Here's a standout. This pop/rock-dominated card has loads of crisp EPs, gutsy rock organs, and solo synth sounds. TubeDistGt offers squealing harmonic feedback when touched lightly, an overdriven crunch when hit hard, and aftertouch-controlled vibrato. There are plenty of floaty new age patches, such as Zoro, a falling bell texture. But, of course, the card isn't without a few problems: There are noticable volume differences in many of the patches, and Airways--a smooth string-type pad--has an annoying hung-note problem when played softly. All things considered, though, KROM 4 rates as one of Valhala's best. --GR

Valhala M101

No well-defined theme here. Pianos, organs, synth pads, basses, horns, strings, etc. "Standard" is a word that comes to mind. As with many other cards we've listened to, there are major volume discrepancies from patch to patch. Here's what we like: Immortal (a warm, synthy pad) and WordUp (a punchy, percussive guitar). What don't we like? Well...frankly, there's nothing all that new and exciting here. While most of the sounds are decently programmed, they just aren't very creative when put head to head with the competition. On the other hand, sometimes what you want isn't wildly creative sounds, just garden-variety useful ones. --GR

Valhala M102

Patch for patch, this is not Valhala's best card. A few cool soundtrack textures here and there, but far too much filler material (bland piano, organ, and bass sounds). Standouts: Doner (a reverb-dunked velvety bell), Oras (swelling synth pad with delayed bell), and On Film (a smooth, thick rosined swoop). Stinkers: BC Rich (sounds more like an organ than a guitar, and no aftertouch or velocity response--c'mon, guys), and Freedom (yet another flute and choir layer). This five-course meal offers one good entree and four piles of leftovers to feed the dog. Arf! --GR

Valhala M103

A good collection of inspiring sounds. Our favorite is Oye Crunch, mellow at only the softest of touches. Crank it up and you've got a murderous but lovely distorted tine tone that could melt PA tweeters. Ditto with the guitar-like Jojoba, in which velocity varies the timbre from a muted pluck to a nasty sting and aftertouch controls the loudness of the dirt organ element.

Aftertouch response is generously applied to many sound groups, including the organ-like TaylorDane. Such unfortunately isn't the case with sustained bass patches like the otherwise superb Ninja Bass.

Velocity response is crucial to Phasing, a guitar-like patch that stays silent until you reach a minimum velocity threshold. Such control is appreciated, but Phasing's slow modulation effect reminds us of our cherished Yes album that warped in the sunlight.

The overall quality ofthis card was first rate. But beware of strays like Vessel and Fretless unless you like playing oppressively noisy patches. Fretless uses the exciter effect after the reverb, while in Vessel the culprit is a bottle wave that hasn't been filtered. Hiss you very much. And thank goodness Procol Harum had a meatier organ that WhiterPale for their classic. All was forgiven, though, when we got to High Solo, a compelling trumpet patch, and Aahla, which combines muted trumpet and choir into something equal to more than the sum of the parts. --MV

Valhala International Gold B-101

Subtitled Textures & Atmospherics, this predominantly new age card is somewhat depressing due to the prevelence of patches that don't take advantage of aftertouch. All told, we counted only 14 patches that do.

Outstanding is Minorseven, which trills between the fundamental and the note a minor seventh above what you play--like something we used to do on the Minioog.

The familiarly named Film Score is a very nice, whistley sustaining sound. You'd never guess it's made up of the piano and karimba waveforms. But you can't do anything with it while it plays; aftertouch, mod wheel, and pitch-bend are all ignored.

It's hard to ignore the pair of drum kits, M1 Alive!1 and M1 Alive!2, which make peculiar sounds only on a few keys, some of which are actually beyond the M1's five-octave range. And then there's Dramarama, the patch you play to make the drunks in your audience puke. Imagine a warped LP of flutey Rhodes and you're there. The name deserves better.

We like the oddly name JMJ V 2.0. It combines a heavily flanged organ with a modulated but incessant trill that beats very nicely in the lower octaves. The orchestral MisterE2Me has absolutely no attack, but it's inspirational. Too bad low-velocity notes sustain an impossibly long time. DataStream--with its soft choir, synth trills, and echoing madness--can also inspire. The mournful

WatchingME mixes a warm steady tone with pitch-swept whistles...and pressure control of the former's vibrato action.

Aftertouch is finally used to really good extent on the rather wavy string patch Pictures. Press the note a bit harder and the filter opens up, making the sound buzzier and apparently louder. --MV

Valhala International Gold B-102

We can't say for sure, but our guess is that the programmer spent almost an entire afternoon working on this card. As you move through large blocks in the bank, you soon notice that each patch is a variation on the preceding one: an envelope tweak here, a wavesample change there, and in the more adventurous forays into synthesis, a new effects algorithm. (Just play sounds 23 through 35, and you'll see what we mean.) Into expressive playing? A great number of the patches have the joystick disabled for both mod and pitch-bending; aftertouch is rarely used either. Perhaps if the programmer had added them, he or she might have had to work past 5:00 o'clock.

Still a couple of special effects patches do stand out, notably DeathHouse, with its disturbing beehive intensity, and Horror FX, a whimsical homage to B-movie soundtracks. The rest of the card is mostly strings and new age layers, all awash in reverb and with incredibly long envelope release times, dashing any hope for clarity or articulation. Good for the one-note ambience crowd, we supppose. --MM

Valhala International Gold B-103

Programmed in Europe, Valhala's International Gold series offers some intriguing alternatives in sound design. B-103 is especially strong in the synth bass category, with upwards of a dozen big muscle patches. Lovely new age pads include Flange Wow and New Age!, which are guaranteed to warm up the background without being obtrusive, and T-Unusual (choir with digital attack). If you need an obnoxious digital mosquito violin (don't we all?), Telstar is the patch you've been waiting for. One of our coveted Big Wiener awards in this month's roundup goes to Robot Dog, which sounds surprisingly like a dog barking. --JA

Valhala International Gold B-104

Valhala's Keys, Pads & Analog card kicks off with lots of electric piano patches. Two of these, Soft@Sweet and WideRhodes, are layered with the voices wave--not a very good idea because that wave has a lot of high-frequency content. In combo with the FM-sounding electric piano waveform, these end up sounding like very noisy electric pianos.

DeepPaino is almost as interesting as it is excruciating. (Lots of the piano-based patches on this card have the word "paino" in their name.) Basically piano and sustaining sawtooth. Velocity controls both the volume and decay of the piano voice. Hit it hard, and the piano sounds like a quick stab that's gone almost before it started. That was the interesting part. Unfortunately, aftertouch bends the pitch of both oscillators about a half-step sharp.

Life gets much better past these few wayward sounds. With the exception of ethnic sounds, B-104 covers all the bases with lots of diversity. Overall, the quality of these patches is quite good. One worthy of mention is Breathy, a monophonic pan flute/tubafluge1 hybrid with lots of stereo movement and tasteful echo.

B-104's lone two organs, the classically oriented Cathedral and the raunchy EarlsOldB3, are more valuable than the entire contents of Valhala's Screamin' B3 card, simply because they respond musically to aftertouch, adding vibrato and, in Cathedral's case, amplitude when you press harder.

Best of card is probably Rock&Roll, a polyphonic distorted guitar/synth patch with plenty of note click that gets emphasized by echo. Rock on. --MV

Valhala Screamin' B3 Organizer M1

Can the M1--fortified with this card--replace a B-3? Not a chance. At bare minimum, the B-3 fanatic wants control over tremolo, vibrato, percussion (an attack transient), and the Leslie's rotating speed. The M1 offers no way to control speaker speed, but do any of the Screamin' B3 Organizer patches let you control tremolo or vibrato using the joystick or afterotouch? No. No one. Only pitch-bend is active.

What Screamin' B3 gives you is matched patches, like Foundtn S and Foundtn F, that reside side-by-side and sound very similar except that one patch has the rotary speaker going slow (S), and the other fast (F). Patch names tell you what drawbars are out, whether the percussion is switched on, and so on. Patches in the tens (10, 20, etc. up to 70) are rock-oriented and distorted, as opposed to more pristine and mellow. Some of the so-called Classical Organs distort in an unpleasant way if you chord a little too enthusiastically.

The sounds on Screamin' B3 are pretty good, it's just that there's no way to mold them while you play. --MV

Reference/FAQ

Edit Program Mode

```
0       OSC-BASIC     Oscillator mode.
0 +     OSC1          Waveform and level of Oscillator1.
0 ++    OSC2          Waveform and level and pitch of Oscillator2 in double mode.
1       OSC1 PITCH EG Pitch variation over time of Oscillator1.
1 +     OSC2 PITCH EG Pitch variation over time of Oscillator2 in double mode.
2       VDF1          Cutoff frequency and EG intensity of VDF1.
2 +     VDF1 EG       Variation of VDF1's cutoff frequency over time.
2 ++    VDF1 VEL SENS Degree of VDF1's response to key velocity.
2 +++   VDF1 KBD TRK  Degree of VDF1's track of keyboard.
3       VDF2          Cutoff frequency and EG intensity of VDF2 in double mode.
3 +     VDF2 EG       Variation of VDF2's cutoff frequency over time in double mode.
3 ++    VDF2 VEL SENS Degree of VDF2's response to key velocity in double mode.
3 +++   VDF2 KBD TRK  Degree of VDF2's track of keyboard in double mode.
4       VDA1 EG       Volume variation of VDA1 over time.
4 +     VDA1 VEL SENS Degree of VDA1's response to key velocity.
4 ++    VDA1 KBD TRK  Degree of VDA1's track of keyboard.
5       VDA2 EG       Volume variation of VDA2 over time in double mode.
5 +     VDA2 VEL SENS Degree of VDA2's response to key velocity in double mode.
5 ++    VDA2 KBD TRK  Degree of VDA2's track of keyboard in double mode.
6       PITCH MG      Pitch modulation (vibrato).
6 +     VDF MG        VDF modulation (wah-wah).
7       AFTER TOUCH   Degree of after touch's affect on tonal quality.
7 +     JOY STICK     Degree of joy stick's affect on tonal quality.
8       EFFECT1       Selection of Effect1.
8 +     EFFECT1 PARAM Parameters of Effect1.
8 ++    EFFECT2       Selection of Effect2.
8 +++   EFFECT2 PARAM Parameters of Effect2.
8 ++++  EFFECT PLACE  Assignment of Effects1 and Effects2.
8 +++++ EFFECT COPY   Copying of Effect parameter values.
9       WRITE/RENAME  Writes and renames program edit permanently to memory.
```

Edit Combination Mode

```
0       COMBI TYPE    ALL    Selection of combination type.
1       PROG PANPOT   SINGLE Program number and output destination.
1       PROG/LEVEL    LAYER  Each program's number and output level.
1       PROG/SPLIT    SPLIT  Program number and split point.
1       PROG/VELOCITY VELOCITY SWITCH  Each program's number and velocity switch point.
1       PROG SELECT   MULTI  Program assigned to each timbre.
1 +     PANPOT/DAMPER LAYER  Panpot output destination and damper.
1 +     LEVL/PAN/DAMP SPLIT  Each program's output level, panpot destination, damper setting.
1 +     LEVL/PAN/DAMP VELOCITY SWITCH  Each program's output level, panpot destination, damper setting.
2       MIDI CH       MULTI  Midi receiving channel of each timbre.
3       KEY TOP       MULTI  Top key setting of each timbre's range.
3 +     KEY BOTTOM    MULTI  Bottom key setting of each timbre's range.
3 ++    VELOCITY TOP  MULTI  Top velocity value of the velocity switch of each timbre.
3 +++   VELOCITY BOT  MULTI  Bottom velocity value of the velocity switch of each timbre.
4       OUTPUT LEVEL  MULTI  Level of each timbre.
5       KEY TRANSPOSE MULTI  Transpose setting of each timbre.
5 +     DETUNE        MULTI  Detune setting of each timbre.
6       PANPOT        MULTI  Panpot output destination of each timbre.
7       MIDI PROG CHG MULTI  Midi program change receiving switch of each timbre.
7 +     DAMPER        MULTI  Damper effect receiving switch of each timbre.
7 ++    AFTER TOUCH   MULTI  After touch effect receiving switch of each timbre.
7 +++   CONTROL CHG   MULTI  Control effect receiving switch of each timbre.
8       EFFECT1       ALL    Selection of Effect1.
8 +     EFFECT1 PARAM ALL    Parameters of Effect1.
8 ++    EFFECT2       ALL    Selection of Effect2.
8 +++   EFFECT2 PARAM ALL    Parameters of Effect2.
8 ++++  EFFECT PLACE  ALL    Assignment of Effects1 and Effects2.
8 +++++ EFFECT COPY   ALL    Copying of Effect parameter values.
9       WRITE/RENAME  ALL    Writes and renames combination edit permanently to memory.
```

Sequencer Mode

0	REC/PLAY (REAL TIME)	Real time recording or punch-in recording, and play.
0 +	REC SET UP (PUNCH)	Set resolution, metronome, and punch in/out measure.
0 ++	REC MULTI CHANNEL	Record in multi-channel from external MIDI device.
1	TRACK PROGRAM	Program number of each track.
1 +	TRACK VOLUME	Volume of each track.
1 ++	TRACK STATUS	MIDI output, ON/OFF of internal/external voices on each track.
1 +++	MIDI CH	MIDI channel of each track.
2	STEP RECORDING	Step recording.
3	SONG PARAMETER	Set song name and tempo.
3 +	SONG INITIALIZE	Erase existing song, reset to defaults.
4	TRACK PARAMETER	Set parameters of each track.
4 +	TRACK COPY/BOUNCE	Copy a track or combine two tracks (bounce).
4 ++	TRACK ERASE	Erase existing track.
5	PUT/COPY PATTERN	Assign patterns and copy patterns to measures.
5 +	MEASURE COPY	Copy the specified measure.
5 ++	MEASURE INS/DEL/ERA	Insert/delete/erase the specified measure.
5 +++	MEASURE QUANTIZE	Adjust automatically the timing of all notes in a specified measure.
6	PATTERN REAL TIME	Real time recording of patterns.
6 +	PATTERN STEP REC	Step recording of patterns.
6 ++	PATTERN INITIALIZE	Erase patterns, time signatures, and length of patterns.
6 +++	PATTERN GET	Copy data in track to a pattern.
6 ++++	PATTERN COPY/BOUNCE	Copy a pattern or combine two patterns (bounce).
7	EVENT	Edit events.
8	EFFECT1 (TYPE)	Select Effect1.
8 +	EFFECT1 PARAMETER	Select parameter of Effect1.
8 ++	EFFECT2 (TYPE)	Select Effect2.
8 +++	EFFECT2 PARAMETER	Select parameter of Effect2.
8 ++++	EFFECT PLACEMENT	Assign Effect1 and Effect2.
8 +++++	EFFECT COPY	Copy the effect parameter.
9	EXCHANGE ALL SEQ	Exchange sequencer data between the M1 internal memory and a card.
9 +	LOAD 1 SONG	Load a song from a card to the M1 internal memory.
9 ++	LOAD 1 PATTERN	Load a pattern from a card to the M1 internal memory.

Global Mode

0	Master Tune	Adjust the M1’s pitch.
1	Key Transpose	Transpose setting of the M1.
2	Damper Polarity	Set the polarity of the foot switch for damper.
2 +	Pedal Assign	Assign a function for the two pedals.
3	Scale Type	Select the music scale type.
3 +	User Scale	Set the user scale.
4	Drum Kit 1	Assign drum sounds.
4 +	Drum Kit 2	Assign drum sounds.
4 ++	Drum Kit 3	Assign drum sounds.
4 +++	Drum Kit 4	Assign drum sounds.
5	MIDI Global	Set MIDI global channel, MIDI Clock, and local ON/OFF.
5 +	MIDI Filtering	Receive switch for each type of MIDI message.
6	Prog Memory Protect	Protect internal Program parameters.
6 +	Combi Memory Protect	Protect internal Combination parameters.
6 ++	Seq Memory Protect	Protect internal Sequence data.
6 +++	Memory Allocation	Change memory allocation.
7	MIDI Data Dump	Transmit sounds by MIDI System Exclusive Dump.
8	Load From Card	Load from ROM/RAM card to M1 internal memory.
9	Save to Card	Save M1 internal memory to card.
9 +	Format Card	Format RAM card.

Multisound Waveform List

00 Piano	25 SynMallet	50 FingerSnap	75 VoiceWvNT1
01 E.Piano1	26 Flute	51 Pop	76 VoiceWvNT2
02 E.Piano2	27 Pan Flute	52 Drop	77 DWGS E.P.1
03 Clav	28 Bottles	53 DropNT	78 DWGS E.P.2
04 Harpsicord	29 Voices	54 Breath	79 DWGS E.P.3
05 Organ1	30 Choir	55 BreathNT	80 DWGS Piano

```
06 Organ2      31 Strings     56 Pluck       81 DWGS Clav
07 MagicOrgan  32 Brass1      57 PluckNT     82 DWGS Vibe1
08 Guitar1     33 Brass2      58 VibeHit     83 DWGS Bass1
09 Guitar2     34 TenorSax    59 VibeHitNT   84 DWGS Bass2
10 E.Guitar    35 MuteTP      60 Hammer      85 DWGS Bell1
11 Sitar1      36 Trumpet     61 MetalHit    86 DWGS Orgn1
12 Sitar2      37 TubaFlugel  62 MetalHitNT  87 DWGS Orgn2
13 A.Bass      38 DoubleReed  63 Pick        88 DWGS Voice
14 PickBass    39 KotoTrem    64 Distortion  89 SquareWave
15 E.Bass      40 BambooTrem  65 DistNT      90 Digital1
16 Fretless    41 Rhythm      66 BassThumb   91 SawWave
17 SynthBass1  42 Lore        67 BasThumNT1  92 Digital2
18 SynthBass2  43 LoreNT      68 BasThumNT2  93 25% Pulse
19 Vibes       44 Flexatone   69 Wire        94 10% Pulse
20 Bell        45 WindBells   70 PanWave     95 Digital3
21 Tubular     46 Pole        71 Ping Wave   96 Digital4
22 BellRing    47 PoleNT      72 FvWave      97 Digital5
23 Karimba     48 Block       73 MvWave      98 DWGS TRI
24 KarimbaNT   49 BlockNT     74 VoiceWave   99 DWGS Sine
(“NT” = same pitch regardless of key played)
```

Drum Sound List

```
01 Kick1       12 OpenHH1     23 E.Tom       34 MetalHit
02 Kick2       13 ClosedHH2   24 Ride        35 Pluck
03 Kick3       14 OpenHH2     25 Rap         36 FlexaTone
04 Snare1      15 Crash       26 Whip        37 WindBell
05 Snare2      16 Conga1      27 Shaker      38 Tubular1
06 Snare3      17 Conga2      28 Pole        39 Tubular2
07 Snare4      18 Timbales1   29 Block       40 Tubular3
08 SideStick   19 Timbales2   30 FingerSnap  41 Tubular4
09 Tom1        20 Cowbell     31 Drop        42 BellRing
10 Tom2        21 Claps       32 VibeHit     43 Metronome1
11 ClosedHH1   22 Tambourine  33 Hammer      44 Metronome2
```

Info

```
Sound generation method: AI synthesis system (full digital sound processing).
Sound source: 16 voice, 16 oscillator (single mode), 8 voice, 16 oscillator (double voice).
Keyboard: 61 key (with initial and after touch).
Waveform memory: PCM; 2Mword (4Mb).
Quantization: 16 bit
Effect Section: 2-system digital multi-effects.
Program memory capacity: 100 programs.
Combination memory capacity: 100 combinations.
Sequencer section: 10 songs, 100 patterns, max. 7700 notes, 8tracks, 8-timbre multi-timbral operation.
Controller inputs: damper pedal, assignable footswitches.
Outputs: 1/L, 2/R, 3, 4, stereo headphones.
MIDI terminals: IN, OUT, THRU
Display: backlit LCD (40 characters x 2 lines).
Optional accessories: RAM card for top slot (MCR-03), ROM card for top slot (MPC), ROM card for rear slot
(MSC).
Power requirements: 11W.
Dimensions: 41-11/16” x 14” x 4-5/16”.
Weight: 29 lbs 11oz.
```

Frequently Asked Questions

I’ve got a Mac. I’ve got an M1. Now what do I do?

1. Download Opcode’s freeware OMS (Open Music System) to configure a music studio on your Mac.
2. Download freeware Sysex utility and some new sounds to send from Mac to M1.
3. Buy a MIDI interface (an external box that connects to the modem port) and two MIDI cables (to connect the M1 to the interface, one cable sends, the other receives.)
4. Prepare the M1 for new sounds.

What keyboards use M1 sounds?

M1 progs and combis, M1 RAM cards, and M1 MPC/MSC card sets work for all Korg Mx and Tx devices.

How do I put the original factory sounds back into an M1?
Restore factory progs/combis/globals by downloading their files from the internet and transferring them to the M1 with a sysex utility program.

How do I prepare the M1 for new sounds from my Mac?
Strategy1: Retain all memory protections, transfer sounds only from the MIDI Data Dump page.
1. Set MIDI global channel to 1: GLOBAL 5 Down.
2. Set all MIDI filtering to ENABLED: + Up D Up F Up H Up.
3. Go to MIDI data dump display before transferring sounds: GLOBAL 7.

Strategy2: Remove all memory protections.
1. Set MIDI global channel to 1: GLOBAL 5 Down.
2. Set all MIDI filtering to ENABLED: + Up D Up F Up H Up.
3. Set program memory protect to OFF: 6 Down.
4. Set combination memory protect to OFF: + Down.
5. Set sequencer memory protect to OFF: + Down.
6. Set memory allocation to 100PROG/100COMBI: + Down.
WARNING!! If 100 programs and 100 combinations are already in the M1 memory, selecting 50PROG/50COMBI to gain the larger sequencer will delete the last 50 programs and last 50 combinations stored in the M1 memory. If 50 programs and 50 combinations are already in the M1 memory, selecting 100PROG/100COMBI to gain the larger program allocation will delete the last half of the sequencer data stored in the M1 memory. Proceed with caution!
7. Execute memory allocation: G G.

These settings remain in effect until manually changed.

My editor/librarian asks for a MIDI "data dump" from the M1. How do I do that?
1. Set MIDI data dump to ALL DATA: GLOBAL 7 Up Up Up Up G.

How do I temporarily edit a sound's parameters?
1. While playing a program in PROG mode, use the A-H and Up/Down buttons. A = oscillator balance, B = filter cutoff frequency, C = overall level, D = filter keyboard tracking, E = velocity sensitivity, F = attack time, G = release time, and H = effect balance.

```
----------------------------------------
PROG  I00 Universe       OSC Balance
0+05 F+03 L-02 K+10 V-08 A+01 R-01 E+03
----------------------------------------
  A   B   C   D   E   F   G   H
```

2. While playing a combination in COMBI mode, use the A-H, Up/Down, and Page+ buttons. A-H = programs in the combi slots, Page+ = relative levels if the combination is a Multi.
3. Changes disappear when a new program or combination is called up.
4. To make changes permanent: PROG-EDIT/COMBI-EDIT 9 F G

Can I record music with an M1?
Yes. There are two ways you can record and playback music with an M1: In SEQ mode with the M1's internal sequencer, or in SEQ mode with an external sequencer program. Either way you have 8 tracks, assigning one program to a track/channel.

How do I squeeze more notes into an internal sequencer song?
Before recording, set aftertouch to "Disable" to dramatically allow more note events: Global 5 + D Down.

I've recorded a song with the internal sequencer. How do I save it?
1. M1: Prepare an "All Data" dump (song + its programs) rather than a "Sequencer" dump: Global 7 Upx4.
2. Mac: Open SysEx Utility, File>New, Click "Receive," immediately go back to M1.
3. M1: Make the "All Data" dump while SysEx Utility waits to receive it: G
4. Mac: Save the file: File>Save.

I've got an external sequencer, but it won't record tracks properly. What's wrong?
1. Set the M1's clock to "External" to use an external sequencer. Yes, you really have to manually do this every recording session with an external sequencer because the M1 defaults back to "Internal" when it's turned on: Global 5 D Up.
2. Put the M1 in sequencer mode while recording/playback with an external sequencer because only SEQ mode allows MIDI data

transmission on all eight channels simultaneously.
3. After selecting channel1-8 in the external sequencer, manually select the same channel in the M1: SEQ C Up/Down (select track/channel1-8).

Common M1 commands.
Data dump: GLOBAL 7 Up/Down(dump type) G. Get M1 data from a computer with a sysex utility.
MIDI to "Enable": GLOBAL 5 + Up D Up F Up H Up. Enable M1 to exchange data with a computer.
Memory protects "Off": GLOBAL 6 Down + B Down + B Down. Allow a computer to send new data to M1.
Clock to "External": GLOBAL 5 D Up. While using an external sequencer. Defaults to "Internal" when turned on.
Aftertouch to "Disabled": GLOBAL 5 + D Down. Extend internal sequencer memory. Set back to "Enable" when done.
Erase internal sequencer song0-9: SEQ 3 + Up/Down(song0-9) G G. Clear a song for recording a new song.
Erase internal sequencer track1-8: SEQ 4 + + Up/Down(track1-8) G G. Clear a track for recording a new track.

How do I replace an MCR-03 RAM card battery?
1. Purchase a CR-2016 lithium battery for about $2.00 from the grocery store. It preserves data stored in the card's memory. The battery should be replaced once a year. Battery life is shortened if kept above 104F (40C).
2. Leave the card in the M1 with power on to preserve the data on the card while replacing the battery, or all of its data will be lost.
3. Hold the card stable in the M1 and gently pull the battery holder straight out from its slot. Install the battery in the holder with the "+" side facing back, away from you.
4. To protect data on the card set the Write Protect switch to "on."

How do I replace the M1's internal battery?
The M1 uses a CR-2032 lithium battery to hold sounds, sequences, drum kits, and global settings in memory. When "Battery Low (Internal)" or "Init Program" appears in the M1's display, the internal battery must be replaced. When the battery goes dead or a new battery is installed, all previous data in the internal memory is lost. If the M1 and computer are not MIDI connected, the only way to restore this data is with a backup $100 blank MCR-03 RAM card or a $50 Factory ROM card from Voice Crystal. If the M1 and computer are MIDI connected, transfer the "Factory" backup file in the prog/combi download to restore the original sounds, drum kits, and global settings. To install the M1 battery:
1. Unplug the M1 power chord.
2. Turn the M1 upside-down and remove the fifteen small phillips screws in the bottom.
3. The battery housing is beneath and attached to the large middle motherboard which is connected with wires.
4. Carefully lift and tilt the motherboard up to expose the battery.
5. Push the old battery down while pulling it out of the housing. Note its orientation.
6. Insert the new CR-2032 battery in the same orientation back into the housing.
7. Carefully replace the motherboard and screw the bottom plate back in position.
8. Plug in and power on the M1. "Init Program" appears in the M1's display.
9. Set MIDI to "Enable": Global 5 + Up D Up F Up H Up.
10. Set memory protects to "Off": Global 6 Dn + B Dn + B Dn.
11. Sysex transfer original factory sounds, drum kits, and globals from the "Factory" backup file in the prog/combi download.

What are some quick tips for the M1?
• M1 progs and combis, M1 RAM cards, and M1 MPC/MSC card sets work for all Korg Mx and Tx devices.
• Restore factory sounds/drum kits/globals by sending the "Factory" backup file to the M1 via MIDI and a sysex utility program.
• Access new waveforms through the rear slot with a commercially made MPC/MSC sound card set.
• The SAM1 and Frontal Lobe devices also facilitated new waveforms through the rear slot but are no longer available.
• Record music in Seq mode with M1's internal sequencer or an external sequencer program. (8 tracks, one prog/track.)
• Set MIDI to "Enable" to exchange data with a computer: Global 5 + Up D Up F Up H Up.
• Set memory protects to "Off" to send new data to the M1: Global 6 Dn + B Dn + B Dn.
• Make a data dump to an editor/librarian program: Global 7 Up/Dn G.
• Make temporary changes to a prog or combi permanent: Prog-Edit/Combi-Edit 9 F G.
• Set the M1's clock to "External" before using an external sequencer. (Defaults to "Internal"): Global 5 D Up.
• Erase an internal sequencer song0-9 to record a new song: Seq 3 + Up/Dn G G.
• Erase an internal sequencer track1-8 to record a new track: Seq 4 + + Up/Dn G G.
• Set aftertouch to "Disable" to dramatically squeeze more note events into the M1's internal sequencer: Global 5 + D Dn.
• The M1 MCR-03 RAM card: top slot, 34k of read/write sysex sound data, one row of gold pins, CR-2016 lithium battery.
• The M1 MPC ROM card: top slot, read-only sysex sound data, one row of gold pins, no battery.
• The M1 MSC ROM card: rear slot, read-only PCM waveform data, two rows of gold pins, no battery.
• Initialize the M1 to factory default settings: Press INT, CARD, and COMBI buttons while switching the power on. (Warning: This

deletes all internal memory, including all sounds, sequences, drum kits, and global settings. This zeros out the M1. If you have any common sense, don't do this without a backup.)

Can I put new waveforms into an M1?
Presently the M1 can access new waveforms only through the rear slot with a commercially made MPC/MSC sound card set. The MPC card for the top slot contains programs and combinations that require the new multisound waveforms on the MSC card for the rear slot. The SAM1 and Frontal Lobe devices also facilitated new waveforms through the rear slot but are no longer available.

How can I reach Korg?
Address: KORG U.S.A. 89 Frost St., Westbury, NY 11590; phone: (516)333-9100; fax: (516)333-9108; e-mail: literature@korgusa.com, product_support@korgusa.com, press_info@korgusa.com.

Is Invision's Plus/One upgrade for the M1 still available?
No. It was discontinued 11/94.

Is there an inexpensive source for blank M1 RAM cards?
Korg M1 RAM Cards 256K (MCR-03) for the top slot, $100 from Voice Crystal. It takes two cards to hold all data from M1 memory, but if you delete all sequencer data first, everything else fits on one card. Try eBay for used M1 RAM cards.

Credits
1. Korg Music Workstation M1 Owner's Manual, Korg Inc., ©1992.
2. Keyboard Magazine ©4/93, "M1 Monster Sound Roundup", by Jim Aikin, Michael Marans, Greg Rule, and Mark Vail.

Quick Reference

KORG M1 MUSIC WORKSTATION

EDIT PROGRAM	
0	OSC BASIC
0+	OSC1 MULTISND
0++	OSC2 MULTISND
1	OSC1 PITCH EG
1+	OSC2 PITCH EG
2	VDF1
2+	VDF1 EG
2++	VDF1 VEL SENS
2+++	VDF1 KBD TRK
3	VDF2
3+	VDF2 EG
3++	VDF2 VEL SENS
3+++	VDF2 KBD TRK
4	VDA1 EG
4+	VDA1 VEL SENS
4++	VDA1 KBD TRK
5	VDA2 EG
5+	VDA2 VEL SENS
5++	VDA2 KBD TRK
6	PITCH MG
6+	VDF MG
7	AFTER TOUCH
7+	JOY STICK
8	EFFECT1
8+	EFFECT1 PARAM
8++	EFFECT2
8+++	EFFECT2 PARAM
8++++	EFFECT PLACE
8+++++	EFFECT COPY
9	WRITE/RENAME

PROGRAM	
A	OSC BALANCE
B	VDF CUTOFF
C	VDA LEVEL
D	KBD TRACK
E	VELOCITY SENS
F	ATTACK
G	RELEASE
H	EFFECT BAL

EFFECT PLACEMENT
SERIAL:
A-E1-E2 =1/L
B-E1-E2 =2/R
C------ =3
D------ =4
C-P3-E2 =1/L
C-P3-E2 =2/R
D-P4-E2 =1/L
D-P4-E2 =2/R
PARALLEL:
A-E1--- =1/L
B-E1--- =2/R
C-E2--- =3
D-E2--- =4
C-E2-P3 =1/L
C-E2-P3 =2/R
D-E2-P4 =1/L
D-E2-P4 =2/R

EDIT COMBINATION	
0	COMBI TYPE
SINGLE:	
1	PROG/PANPOT
LAYER:	
1	PROG/LEVEL
1+	PANPOT/DAMPER
SPLIT:	
1	PROG/SPLIT
1+	LEVL/PAN/DAMPER
VELOCITY:	
1	PROG/VELOCITY
1+	LEVL/PAN/DAMPER
MULTI:	
1	PROGRAM SELECT
2	MIDI CHANNEL
3	KEY TOP
3+	KEY BOTTOM
3++	VELOCITY TOP
3+++	VELOCITY BOTTOM
4	OUTPUT LEVEL
5	KEY TRANSPOSE
5+	DETUNE
6	PANPOT
7	MIDI PROG CHG
7+	DAMPER
7++	AFTER TOUCH
7+++	CONTROL CHG
COMMON TO ALL:	
8	EFFECT1
8+	EFFECT1 PARAM
8++	EFFECT2
8+++	EFFECT2 PARAM
8++++	EFFECT PLACE
8+++++	EFFECT COPY
9	WRITE/RENAME

COMBINATION	
A	PROGRAM
B	LEVEL

SEQUENCER	
0	REC/PLAY REAL TIME
0+	REC SETUP PUNCH
0++	REC MULTI CHANNEL
1	TRACK PROGRAM
1+	TRACK VOLUME
1++	TRACK STATUS
1+++	MIDI CHANNEL
2	STEP RECORDING
3	SONG PARAMETER
3+	SONG INITIALIZE
4	TRACK PARAMETER
4+	TRACK COPY/BOUNCE
4++	TRACK ERASE
5	PUT/COPY PATTERN
5+	MEASURE COPY
5++	MEASURE INS/DEL/ERA
5+++	MEASURE QUANTIZE
6	PATTERN REAL TIME
6+	PATTERN STEP RECORD
6++	PATTERN INITIALIZE
6+++	PATTERN GET
6++++	PATTERN COPY/BOUNCE
7	EVENT
8	EFFECT1 TYPE
8+	EFFECT1 PARAMETER
8++	EFFECT2 TYPE
8+++	EFFECT2 PARAMETER
8++++	EFFECT PLACEMENT
8+++++	EFFECT COPY
9	EXCHANGE ALL SEQ
9+	LOAD 1 SONG
9++	LOAD 1 PATTERN

GLOBAL	
0	MASTER TUNE
1	KEY TRANSPOSE
2	DAMPER POLARITY
2+	PEDAL ASSIGN
3	SCALE TYPE
3+	USER SCALE
4	DRUM KIT1
4+	DRUM KIT2
4++	DRUM KIT3
4+++	DRUM KIT4
5	MIDI GLOBAL
6	PROG MEM PROTECT
6+	COMBI MEM PROTECT
6++	SEQ MEM PROTECT
6+++	MEMORY ALLOCATION
7	MIDI DATA DUMP
8	LOAD FROM CARD
9	SAVE TO CARD
9+	FORMAT CARD

MULTISOUND WAVEFORMS			
00 PIANO	34 TENORSAX	68 BASTHUM2	
01 E.PIANO1	35 MUTETP	69 WIRE	
02 E.PIANO2	36 TRUMPET	70 PANWAVE	
03 CLAV	37 TUBAFLUGL	71 PINGWAVE	
04 HARPSICRD	38 DBLREED	72 FVWAVE	
05 ORGAN1	39 KOTOTREM	73 MVWAVE	
06 ORGAN2	40 BMBOOTREM	74 VOICEWV	
07 MAGICORG	41 RHYTHM	75 VOICEWV1	
08 GUITAR1	42 LORE	76 VOICEWV2	
09 GUITAR2	43 LORENT	77 DWGS EP1	
10 E.GUITAR	44 FLEXATONE	78 DWGS EP2	
11 SITAR1	45 WINDBELLS	79 DWGS EP3	
12 SITAR2	46 POLE	80 DWGS PIANO	
13 A.BASS	47 POLENT	81 DWGS CLAV	
14 PICKBASS	48 BLOCK	82 DWGS VIBE1	
15 E.BASS	49 BLOCKNT	83 DWGS BASS1	
16 FRETLESS	50 FINGRSNAP	84 DWGS BASS2	
17 SYNBASS1	51 POP	85 DWGS BELL1	
18 SYNBASS2	52 DROP	86 DWGS ORGN1	
19 VIBES	53 DROPNT	87 DWGS ORGN2	
20 BELL	54 BREATH	88 DWGS VOICE	
21 TUBULAR	55 BREATHNT	89 SQUAREWV	
22 BELLRING	56 PLUCK	90 DIGITAL1	
23 KARIMBA	57 PLUCKNT	91 SAWWAVE	
24 KARIMBANT	58 VIBEHIT	92 DIGITAL2	
25 SYNMALLET	59 VIBEHITNT	93 25%PULSE	
26 FLUTE	60 HAMMER	94 10%PULSE	
27 PANFLUTE	61 METALHIT	95 DIGITAL3	
28 BOTTLES	62 METALHTNT	96 DIGITAL4	
29 VOICES	63 PICK	97 DIGITAL5	
30 CHOIR	64 DISTORTN	98 DWGS TRI	
31 STRINGS	65 DISTORTNT	99 DWGS SINE	
32 BRASS1	66 BASSTHUMB		
33 BRASS2	67 BASTHUM1		

DRUM WAVEFORMS		
01 KICK1	16 CONGA1	31 DROP
02 KICK2	17 CONGA2	32 VIBEHIT
03 KICK3	18 TIMBALES1	33 HAMMER
04 SNARE1	19 TIMBALES2	34 METALHIT
05 SNARE2	20 COWBELL	35 PLUCK
06 SNARE3	21 CLAPS	36 FLEXATONE
07 SNARE4	22 TAMBOURIE	37 WINDBELL
08 SIDESTICK	23 E.TOM	38 TUBULAR1
09 TOM1	24 RIDE	39 TUBULAR2
10 TOM2	25 RAP	40 TUBULAR3
11 CLOSEDHH1	26 WHIP	41 TUBULAR4
12 OPENHH1	27 SHAKER	42 BELLRING
13 CLOSEDHH2	28 POLE	43 METRONE1
14 OPENHH2	29 BLOCK	44 METRONE2
15 CRASH	30 FINGRSNAP	

KEYBOARD COMMANDS
MIDI: GLOBAL 5 + UP D UP F UP H UP
MEMORY: GLOBAL 6 DN + B DN + B DN
DATA DUMP: GLOBAL 7 UP/DN G
PARAM CHANGE: EDIT(PROG/COMBI) 9 F G
EXT/INT SEQ: GLOBAL 5 D UP/DN
DISABLE AFTERTOUCH: GLOBAL 5 + D DN
ERASE SEQ SONG: SEQ 3 + UP/DN G G
ERASE SEQ TRACK: SEQ 4 + + UP/DN G G

EDIT PROGRAM TEMPLATE

KORG M1 PROGRAM			OSC1	OSC2
NAME	.....		AMPLITUDE	.....	.....
		VDA	EG TIME	.....	.....
OSC	OSC MODE	VEL	ATTACK TIME	.....	.....
BASIC	VOICE MODE	SENS	DECAY TIME	.....	.....
	HOLD		SLOPE TIME	.....	.....
			RELEASE TIME	.....	.....
	OSC1 | OSC2		CENTER KEY	.....	.....
	MULTISOUND		AMPLITUDE	.....	.....
	OSC LEVEL	VDA	EG TIME	.....	.....
OSC	OCTAVE	KBD	ATTACK TIME	.....	.....
	INTERVAL	TRACK	DECAY TIME	.....	.....
	DETUNE		SLOPE TIME	.....	.....
	DELAY START		RELEASE TIME	.....	.....
	START LEVEL		WAVEFORM		
	ATTACK TIME		FREQUENCY		
	ATTACK LEVEL	PITCH	DELAY		
PITCH	DECAY TIME	MG	INTENSITY		
EG	RELEASE TIME		OSC SELECT		
	REL LEVEL		KEY SYNC		
	LEV VEL SEN				
	TIME VEL SEN		WAVEFORM		
			FREQUENCY		
VDF	CUTOFF	VDF	DELAY		
	EG INTENSITY	MG	INTENSITY		
			OSC SELECT		
	ATTACK TIME		KEY SYNC		
	ATTACK LEVEL				
	DECAY TIME		PITCH		
VDF	BREAK POINT	AFTER	PITCH MG		
EG	SLOPE TIME	TOUCH	VDF CUTOFF		
	SUS LEVEL		VDF MG		
	RELEASE TIME		VDA AMPLITUDE		
	RELEASE LEV				
	EG INTENSITY		PITCH BEND		
	EG TIME		VDF SWEEP INT		
VDF	ATTACK TIME	JOY	PITCH MG INT		
VEL	DECAY TIME	STICK	PITCH MG FREQ		
SENS	SLOPE TIME		VDF MG INT		
	RELEASE TIME		VDF MG FREQ		
				E1	E2
	CENTER KEY		TYPE	.....	
	CUTOFF		SWITCH	.....	
VDF	EG TIME	EFFECT	PLACEMENT		
KBD	ATTACK TIME		PANPOT3		
TRACK	DECAY TIME		PANPOT4		
	SLOPE TIME				
	RELEASE TIME				
	ATTACK TIME		A	.....	
	ATTACK LEVEL	EFFECT	B	.....	
VDA	DECAY TIME	PARAMS	C	.....	
EG	BREAK POINT		D	.....	
	SLOPE TIME		E	.....	
	SUSTAIN LEV		F	.....	
	RELEASE TIME		G	.....	
			H	.....	

EDIT COMBINATION TEMPLATE

KORG M1 COMBINATION			S	L
NAME	.....			
		VEL	PROGRAM	.....
COMBI	TYPE	SWITCH	SWITCH PT	
			LEVEL	.....
	PROGRAM		PANPOT	.....
SNGLE	LEVEL		DAMPER	.....
	PANPOT			
			E1	E2
	1 | 2		TYPE	.....
	PROGRAM		SWITCH	.....
	LEVEL	EFFECT	PLACEMENT	
LAYER	PANPOT		PANPOT3	
	DAMPER		PANPOT4	
	INTERVAL		EFFECT COPY	
	DETUNE			
			A	.....
	L | U		B	.....
		EFFECT	C	.....
		PARAMS	D	.....
	PROGRAM		E	.....
SPLIT	SPLIT PT		F	.....
	LEVEL		G	.....
	PANPOT		H	.....
	DAMPER			

	A	B	C	D	E	F	G	H
	PROGRAM							
	CHANNEL							
	KEY TOP							
	KEY BOT							
	VEL TOP							
MULTI	VEL BOT							
	OUTPUT LEV							
	TRANSPOSE							
	DETUNE							
	PANPOT							
	PROG CHG							
	DAMPER							
	AFTERTOUCH							
	CONTRL CHG							

EFFECT PARAMETERS

KORG M1 EFFECTS			
01 HALL	A REVERB TIME	23 EXCITER	A BLEND
02 ENSEMBL HALL	B PRE DELAY		C EMPHATIC
03 CONCERT HALL	C E/R LEVEL		F EQ LOW
04 ROOM	D HIGH DAMP		G EQ HIGH
05 LARGE ROOM	F EQ LOW		H DRY:EFF
06 LIVE STAGE	G EQ HIGH	*24 SYMPHONC ENS	A MOD DEPTH
	H DRY:EFF		F EQ LOW
			G EQ HIGH
	A E/R TIME		H DRY:EFF
07 EARLY REF1	C PRE DELAY		A MOD DEPTH
08 EARLY REF2	F EQ LOW	*25 ROTARY SPKR	C SPEED RATIO
09 EARLY REF3	G EQ HIGH		H DRY:EFF
	H DRY:EFF		
	A DELAY TM L		A DELAY TIME
	B DELAY TM R		B FEEDBACK
10 STEREO DELAY	C FEEDBACK	26 DELAY/HALL	C HIGH DAMP
11 CROSS DELAY	D HIGH DAMP	27 DELAY/ROOM	D DRY:EFF
	F EQ LOW		E REVERB TM
	G EQ HIGH		F PRE DELAY
	H DRY:EFF		G HIGH DAMP
			H DRY:EFF
	A MOD DEPTH		A DELAY TIME
	B SPEED		B FEEDBACK
*12 STEREO CHOR1	C DELAY TIME		C HIGH DAMP
*13 STEREO CHOR2	D WAVEFORM	28 DELAY/E REF	D DRY:EFF
	F EQ LOW		E E/R TM
	G EQ HIGH		F PRE DELAY
	H DRY:EFF		H DRY:EFF
	A MOD DEPTH		A DELAY TIME
	B SPEED		B FEEDBACK
	C DELAY TIME		C HIGH DAMP
*14 STEREO FLANG	D FEEDBACK	29 DELAY/DELAY	D DRY:EFF
*15 CROSS FLANG	E WAVEFORM		E DELAY TM
	F EQ LOW		F FEEDBACK
	G EQ HIGH		G HIGH DAMP
	H DRY:EFF		H DRY:EFF
	A MANUAL		A DELAY TIME
	B SPEED		B FEEDBACK
*16 PHASER1	C MOD DEPTH		C HIGH DAMP
*17 PHASER2	D FEEDBACK	*30 DELAY/CHORUS	D DRY:EFF
	E WAVEFORM		E MOD DEPTH
	H DRY:EFF		F SPEED
			G WAVEFORM
	A MOD DEPTH		H DRY:EFF
	B SPEED		
	C WAVEFORM		A DELAY TIME
*18 STEREO TREM1	D SHAPE		B FEEDBACK
*19 STEREO TREM2	F EQ LOW		C HIGH DAMP
	G EQ HIGH	*31 DELAY/FLANG	D DRY:EFF
	H DRY:EFF	*32 DELAY/PHASER	E MOD DEPTH
			F SPEED
	A LOW GAIN		G FEEDBACK
	B LOW FC		H DRY:EFF
20 EQUALIZER	E HIGH GAIN		
	F HIGH FC		A DELAY TIME
	H DRY:EFF		B FEEDBACK
			C HIGH DAMP
	A DRIVE	*33 DELAY/TREMOL	D DRY:EFF
	B LEVEL		E MOD DEPTH
21 OVER DRIVE	F EQ LOW		F SPEED
	G EQ HIGH		G SHAPE
	H DRY:EFF		H DRY:EFF
	A DISTORTION		
	B LEVEL	EFFECT24 AND EFFECT25 CANNOT	
22 DISTORTION	F EQ LOW	BE PAIRED WITH AN * EFFECT	
	H DRY:EFF		