APPENDICES

RM50 Preset Rhythm Kits

NUMBER	KIT NAME	NUMBER	KIT NAME	NUMBER	KIT NAME	NUMBER	KIT NAME
1	Rock 1	17	JazzSmall	33	Reggae 2	49	RevZone 2
2	Rock 2	18	JazzBrush	34	Techno 1	50	Kicks 1
3	Rock 3	19	Dance 1	35	Techno 2	51	Kicks 2
4	Studio 1	20	Dance 2	36	Analog 1	52	Kicks 3
5	Studio 2	21	House 1	37	Analog 2	53	Snares 1
6	Metal	22	House 2	38	Reverb	54	Snares 2
7	Pop 1	23	Rap	39	Stadium	55	Snares 3
8	Pop 2	24	MouthKit	40	SfxKit 1	56	Toms 1
9	Country	25	Hip Hop	41	SfxKit 2	57	Toms 2
10	LatinRock	26	World 1	42	G MIDI	58	Toms 3
11	LatinPerc	27	World 2	43	YAMAHA RX	59	Cymbals 1
12	Brazil	28	Gated 1	44	Dry Zone 1	60	Cymbals 2
13	Funk	29	Gated 2	45	Dry Zone 2	61	Perc 1
14	R&B 1	30	Fusion 1	46	RoomZone 1	62	Perc 2
15	R&B 2	31	Fusion 2	47	RoomZone 2	63	SpecialFX1
16	JazzBig	32	Reggae 1	48	RevZone 1	64	FX/ Stacks

RM50 Preset Voices

Voice List-1

NUMBER	BD	SD	TM	CY	PC	SE
1	DR Kikin	DR HiPop	DR Nice1	HH RYCl1	LP AgoHi	FX 7-11
2	DR Hard	DR Digit	DR Nice2	HH RYQt1	LP AgoLo	FX B-Ben
3	DR Boom	DR Rim1	DR Nice3	HH RYHf1	LP BngHi	FX Joker
4	DR Danc1	DR Damn	DR Nice4	HH RYOp1	LP BngLo	FX Tubey
5	DR Danc2	DR Custr	DR Slap1	HH RYPd1	LP Caba1	FX Daiko
6	DR Danc3	DR Basic	DR Slap2	HH RYCl2	LP Caba2	FX Meilo
7	DR Danc4	DR Kindl	DR Slap3	HH RYOp2	LP Caba3	FX Door
8	DR Jazz1	DR Smack	DR Slap4	HH RkClR	LP Caba4	FX Zero
9	DR Maple	DR M.O.R	DR Mapl1	HH RkkCl	LP Clave	FX Blip
10	DR Pop1	DR Metl1	DR Mapl2	HH RkQrt	LP Qnto1	FX Bubbl
11	DR Byter	DR Brass	DR Mapl3	HH RkHlf	LP Cong1	FX Canes
12	DR LoCal	DR Steel	DR Mapl4	HH RkOpn	LP Tumb1	FX OilDr
13	DR Beef	DR Rim2	DR Powr1	HH RkPed	LP Slap1	FX Sheet
14	DR Clean	DR Tite1	DR Powr2	HH AmCls	LP Low1	FX Sword
15	DR Click	DR Tite2	DR Powr3	HH AmOpn	LP Mute1	FX Stab
16	DR Fuzzy	DR Maple	DR Powr4	HH AmPed	LP Heel1	FX Gongy
17	DR Kinta	DR Real1	DR Danc1	HH VxCls	LP CgHi2	FX Robot
18	DR Punch	DR Norm	DR Danc2	HH VxOpn	LP CgLo2	FX R2D2
19	DR Round	DR 400	DR Danc3	HH TecC1	LP Slap2	FX RvCrs
20	DR Slap1	DR Marly	DR Danc4	HH TecC2	LP Mute2	FX Scene
21	DR Slap2	DR Danc1	DR Jaz1	HH TecC3	LP Heel2	FX Scrat
22	DR Solid	DR Danc2	DR Jaz2	HH TecO1	LP Cow1	FX Shui
23	DR Stud1	DR Danc3	DR Jaz3	HH TecO2	LP Cow2	FX Snark
24	DR Stud2	DR Arid1	DR Jaz4	HH Pitch	LP Cow3	FX Spark
25	DR Thump	DR Arid2	RM Bop1	HH Stand	LP Guiro	FX Alien
26	DR Woof	DR Arid3	RM Bop2	HH AnCl1	LP Shak1	FX Steps
27	DR Arid	DR Arid4	RM Bop3	HH AnOp1	LP Shak2	FX Stix
28	DR Huge	DR Rim3	RM Bop4	HH AnCl2	LP Tamb1	FX Wiggy
29	DR Live	DR Rim4	RM Metl1	HH AnOp2	LP Tamb2	FX Falic
30	JZ Lite	JZ Lite	JZ Lite	JZ Lite	JZ Lite	JZ Lite
31	JZ DbHd1	DR Wood	RM Metl3	RD EdgCp	LP Tmpl1	FX Blow
32	JZ DbHd2	DR Real2	RM Metl4	RD Bell	LP Tmpl2	FX Log
33	JZ Loose	DR Krack	RM Metl5	RD Flat	LP Tmpl3	FX Metal
34	JZ Hard	JZ Playr	RM Metl6	RD Rock	LP Tmpl4	FX Pip

NUMBER	BD	SD	TM	CY	PC	SE
35	JZ Swing	JZ Cool	RM Klip1	RD RckBl	LP TimH1	FX Revrs
36	JZ Swang	JZ Brsa1	RM Klip2	RD Jazz1	LP TimL1	FX Rezzo
37	JZ Smith	JZ Swpa1	RM Klip3	RD Jazz2	LP TimH2	FX Wet
38	RM Big	JZ Brsb1	RM Klip4	RD Long	LP TimL2	FX BDMth
39	RM Pow	JZ Swpb1	RM Wet1	RD Medi2	LP Casc1	FX S1Mth
40	RM Boo	JZ Swsh1	RM Wet2	RD Sizzl	LP Casc2	FX S2Mth
41	RM Def	JZ Brsa2	RM Wet3	RD FxBel	LP Trian	FX S3Mth
42	RM Lizrd	JZ Swpa2	RM Wet4	RD FxRid	LP Whist	FX CYMth
43	RM Crnch	JZ Brsb2	RM Hard1	CR Crsh1	PC Log1	FX HCMth
44	RM Piles	JZ Swpb2	RM Hard2	CR Crsh2	PC Log2	FX HOMth
45	RM Open	JZ Swsh2	RM Hard3	CR Dark1	PC Log3	FX Type
46	RM AirHd	RM Burnn	RM Hard4	CR High1	PC Log4	FX Heart
47	RM Tight	RM Crank	RV Atom1	CR Dark2	PC Talk1	FX Tape
48	RM Soft	RM Karim	RV Atom2	CR High2	PC Talk2	BA Nasti
49	RM Jazz	RM Obese	RV Atom3	CR Rock1	PC Yoru1	BA KillB
50	RM Nuke	RM Diet	RV Atom4	CR Rock2	PC Yoru2	BA Softa
51	RM March	RM Tubby	RV Huge1	CR Choke	PC Yoru3	BA 30
52	RV Bambi	RM No FC	RV Huge2	CS Spls1	PC Yoru4	
53	RV Kick	RM 9volt	RV Huge3	CS Spls2	PC Bott1	
54	RV Mondo	RV Gospl	RV Huge4	CS Spls3	PC Bott2	
55	RV Balad	RV TheDB	RV Stik1	CH Chin1	PC Bott3	

Voice Category

FIRST 2LETTERS	SUB-CATEGORY	FIRST 2LETTERS	SUB-CATEGORY	FIRST 2LETTERS	SUB-CATEGORY
DR	Dry	EL	Electric	CS	Splash cymbal
JZ	Jazz	FX	Sound effects	CH	China cymbal
RM	Room	SS	Side stick	LP	Latin percussion
RV	Reverb	HH	HiHat	PC	Other percussion
GT	Gated	RD	Ride cymbal	BA	Bass
AN	Analog	CR	Crash cymbal		

Voice List-2

NUMBER	BD	SD	TM	CY	PC	SE
56	RV LoHz	RV Spike	RV Stik2	CH Ride	PC Bott4	—
57	RV Orch	RV Atom	RV Stik3	CH Short	PC Clap1	—
58	RV Arena	RV Sizzl	RV Stik4	CH Chin2	PC Clap2	—
59	GT Tyron	RV Head	RV Stad1	CH Gong	PC AnaMu	—
60	GT Mutha	RV Biznz	RV Stad2	CH Strok	PC Snap	—
61	GT Tight	RV Wham	RV Stad3	FX Big1	PC MeloB	—
62	GT Noizy	RV Bam	RV Stad4	FX Gong	PC Metal	—
63	GT Homer	RV Thanx	RV Ambi1	FX Elekt	PC PopM1	—
64	GT Aero	RV Canon	RV Ambi2	FX Revrs	PC PopM2	—
65	GT Fist	RV Bryte	RV Ambi3	FX Tecko	PC PopM3	—
66	GT Stuff	RV Ghost	RV Ambi4	PC PopM4	—	—
67	GT Blanc	RV IYF	GT Tite1	PC TekD	—	—
68	GT Snack	GT Shock	GT Tite2	—	—	—
69	GT Rattl	GT HiFab	GT Tite3	—	—	—
70	GT Klass	GT Short	GT Tite4	—	—	—
71	GT 5 Bar	GT LoFab	AN Sine1	—	—	—
72	GT Grind	GT Sucks	AN Sine2	—	—	—
73	AN Antek	GT Thump	AN Sine3	—	—	—
74	AN 919	GT Eatlt	AN Sine4	—	—	—
75	AN 929	GT Whip	EL Simm1	—	—	—
76	AN 939	GT Tasty	EL Simm2	—	—	—
77	AN 818	GT Anvil	EL Simm3	—	—	—
78	AN Sinus	GT Stape	EL Simm4	—	—	—
79	AN Booom	GT Erake	EL Phew1	—	—	—
80	EL Kirk	GT Fable	EL Phew2	—	—	—
81	EL Simm	GT Wacko	EL Phew3	—	—	—
82	EL Paso	AN Orexk	EL Phew4	—	—	—
83	EL Prinz	AN 919	FX Hurt1	—	—	—
84	EL Rap	AN 818	FX Hurt2	—	—	—
85	EL Efant	AN 929	FX Hurt3	—	—	—
86	EL Ectro	AN 828	FX Hurt4	—	—	—
87	EL Ouise	EL Down	FX Cyn1	—	—	—
88	EL Ektrn	EL Power	FX Cyn2	—	—	—
89	EL Sid	EL Simm	FX Cyn3	—	—	—

NUMBER	BD	SD	TM	CY	PC	SE
90	EL Tech1	FX Tech	FX Cyn4	—	—	—
91	EL Tech2	FX 9Roll	ET Buru1	—	—	—
92	FX Klam	FX Ugly	ET Buru2	—	—	—
93	FX Klang	FX Pain	ET Buru3	—	—	—
94	FX Hell	FX Undys	ET BStik	—	—	—
95	FX IYF	FX Igor	FX Wack1	—	—	—
96	FX Trash	FX Spit	FX Wack2	—	—	—
97	FX Zilla	FX Sneez	FX Wack3	—	—	—
98	FX Atom	FX Cough	FX Wack4	—	—	—
99	FX Futur	FX Bakup	FX Rvrs1	—	—	—
100	FX TNT	FX Ruff	FX Rvrs2	—	—	—
101	FX Cicad	FX Jam	FX Rvrs3	—	—	—
102	FX Delay	FX Spew	FX Rvrs4	—	—	—
103		FX Hack	FX Fing1	—	—	—
104		SS Ambi1	FX Fing2	—	—	—
105		SS Ambi2	FX Fing3	—	—	—
106		SS Dryer	FX Fing4	—	—	—
107		SS Dry	FX Solo	—	—	—
108		SS Count	—	—	—	—

Voice Category

FIRST 2LETTERS	SUB-CATEGORY	FIRST 2LETTERS	SUB-CATEGORY	FIRST 2LETTERS	SUB-CATEGORY
DR	Dry	EL	Electric	CS	Splash cymbal
JZ	Jazz	FX	Sound effects	CH	China cymbal
RM	Room	SS	Side stick	LP	Latin percussion
RV	Reverb	HH	HiHat	PC	Other percussion
GT	Gated	RD	Ride cymbal	BA	Bass
AN	Analog	CR	Crash cymbal		

RM50 Waveforms

NUMBER	NAME	NUMBER	NAME	NUMBER	NAME	NUMBER	NAME
1	BDAnlg	35	SDRoom2	69	AnlgCow	103	Stick
2	BDDryH	36	SDRoom3	70	Bongo	104	Typist
3	BDDryT1	37	SDRoom4	71	Cabasa	105	Metal 1
4	BDDryT2	38	SDRoom5	72	Claves	106	PotTap
5	BDDryT3	39	SDSide	73	CongaHi	107	ShorTom
6	BDJazHi	40	SDTekno	74	CongaLo	108	WudSlap
7	BDJazLo	41	SDBshTp	75	CongaMu	109	MuteDrm
8	BDGate1	42	SDBshSw	76	CongaSl	110	PotMute
9	BDGate2	43	HHAnlg	77	CongaHl	111	Metal 2
10	BDProc1	44	HHCls1a	78	Cowbell	112	Metal 3
11	BDProc2	45	HHCls1b	79	Guiro	113	CupHit
12	BDProc3	46	HHCls2	80	Shaker	114	MetlWeb
13	BDRoom	47	HHOpn1	81	Tambrin	115	OpenLo
14	BDSFX	48	HHOpn2	82	TimblHi	116	GateMtl
15	BDTekno	49	HHPedal	83	TimblLo	117	Factory
16	SDAnlg1	50	HHQtr	84	TimCasc	118	Shakey
17	SDAnlg2	51	CYChina	85	Triangl	119	BuzStix
18	SDDryH	52	CYCrash	86	Whistle	120	OilDrum
19	SDDryT1	53	CYCrsh2	87	WoodBlk	121	Whup
20	SDDryT2	54	CYCup	88	Ambient	122	MouthBD
21	SDDryT3	55	CYCup2	89	BDAmb	123	TomMute
22	SDDryT4	56	CYRide1	90	SDAmb	124	MouthS1
23	SDWdRim	57	CYRide2	91	SideAmb	125	MouthCY
24	SDDrMtl	58	TMDry1	92	HatAmb	126	WoodHit
25	SDDry5H	59	TMDry2	93	TomAmb	127	MouthS2
26	SDDry5S	60	TMJazz	94	BDAttak	128	DigWave
27	SDFab	61	TMPwr1	95	BDBody	129	P10Wave
28	SDGate1	62	TMPwr2	96	Bottle	130	P25Wave
29	SDGate2	63	TMPwr3	97	FingSnp	131	P50Wave
30	SDGate3	64	TMRoom1	98	Noise	132	SawWave
31	SDProcs	65	TMRoom2	99	RimTrn1	133	TriWave
32	SDRevrb	66	TMTekno	100	RimTrn2	—	—
33	SDRim	67	Agogo	101	Scratch	—	—
34	SDRoom1	68	AnlgClp	102	Tube	—	—

Resetting the RM50

It is possible to restore all of the RM50's parameters to their factory settings. Be absolutely sure, before you use this operation, that the RM50 does not contain any data you want to save. (We recommend that you save your settings to a data card, or dump them to a device with MIDI data recorder capability, before you use this procedure.)

To reset the RM50 to its factory condition, turn on the POWER switch while holding down the [PLAY] and [UTILITY] keys. After a few moments, the following message will appear in the LCD:

Press the [+1/YES] key if are sure you want to reset the RM50's data. After a few moments, the RM50 will display a message telling you that it has finished initializing its settings.

If you don't want to initialize the settings, press the [–1/NO] key and the RM50 will power up normally.

Installation of the SYEMB06 Expansion Memory Board

① Turn the RM50 power switch off and disconnect the AC power cord from the main outlet.

② Locate the small cover on the top of the RM50 and remove the two screws that hold it in place (Figure 1).

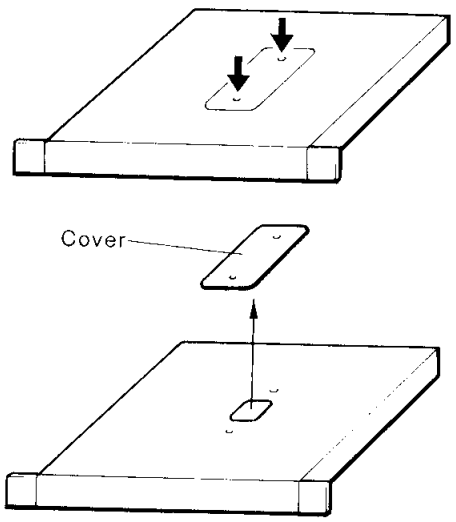


Figure 1

③ Below the cover you will see a recessed panel (Figure 2). Install the SYEMB06 in slot.

④ Replace the cover and secure it with the screws you removed in step 2.

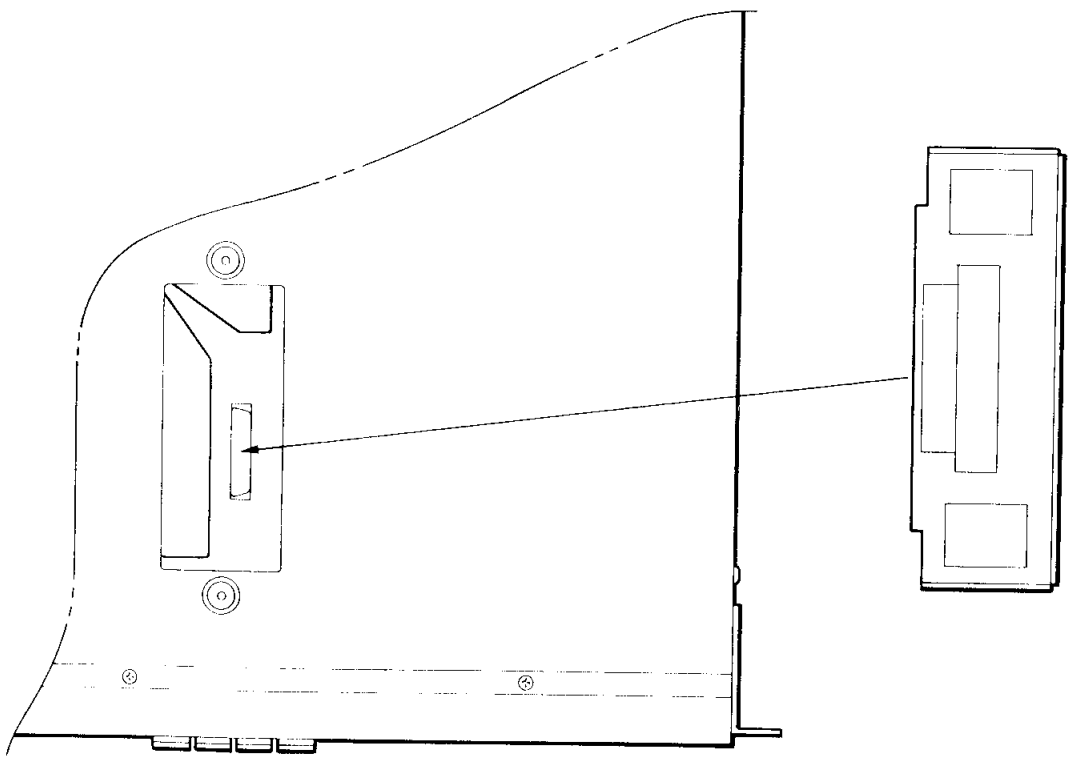


Figure 2

Error Messages

MIDI

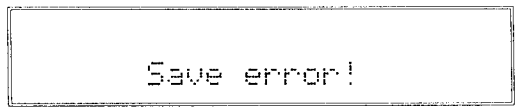
An error occurred while the RM50 was receiving a bulk data block. Check your connections and retry the bulk transmission operation.

The RM50 attempted to receive or transmit a quantity of MIDI data exceeding its handling capacity. Take steps to reduce the amount of data being communicated.

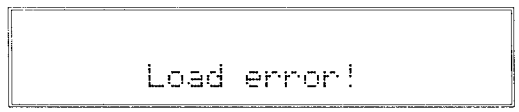
The RM50 could not receive a bulk dump transmission because its device number does not match that of the transmitting device; or it attempted to send a dump while its own device number was set to "off". Check the device number settings of both devices, and retry the bulk dump operation.

The RM50 received a MIDI sample dump using a format it is not capable of accepting.

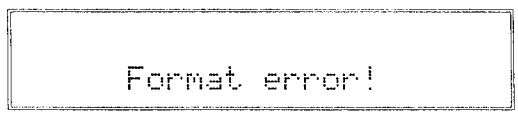
Data Card



The RM50 was unable to save data to the card in the DATA slot. Retry the save operation.



The RM50 was unable to load data to the card in the DATA slot. Retry the load operation.

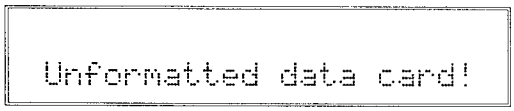


The RM50 was unable to format the card in the DATA slot. Retry the Card Format operation.

The RM50 could not write data to the card in the DATA slot, or perform a save or format operation, because the card is protected. Slide the write protect switch on the top edge of the card to the right and retry the operation.

The RM50 could not access the Data Card Utility Group functions because there is no card in the DATA slot. Insert a card in the DATA slot before attempting to use these functions.

The RM50 has attempted to load data from a data card bank which has been formatted but which contains no data. Select a different card bank or insert another card in the DATA slot, then retry the operation.



The RM50 attempted to write data to an unformatted card bank. Use the Data Card Format operation (page 103) to format the bank in question.

The lithium cell maintaining the contents of the card in the DATA slot is nearing the end of its lifetime. Store the contents of the card in the RM50, then change the battery.

Wave RAM

The RM50 could not copy a waveform into the wave RAM area because the selected WAVEFORM slot does not contain a waveform card. Insert a waveform card in the slot, or change your slot selection.

The RM50 could not copy data into the wave RAM area because the available capacity is not sufficient to hold the selected waveform. Delete unneeded data from the wave RAM area to make room for the new waveform.

The RM50 could not copy data into the wave RAM area because the maximum waveform capacity of 64 waveforms has already been reached. (The maximum capacity may be less than 64 waveforms when multi-sample waveforms are loaded.) Delete unneeded data from the wave RAM area to make room for the new waveform.

The RM50 could not access the Waveform Name or Waveform Delete functions because the wave RAM area does not contain any waveforms. You must copy waveforms into the wave RAM area before attempting to use these functions.

The RM50 could not access the Wave RAM Utility Group functions because no expansion memory has been installed for use as a wave RAM area. Install an optional SYEMB06 Expansion Memory Board in your RM50 before attempting to use these functions.

Edit Mode

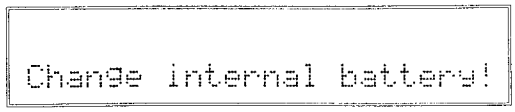
The RM50 could not perform a recall operation because the selected data has not yet been edited. The recall operations are used to restore the original data for rhythm sets, pitched voices, or voices which have been edited. The unedited data is stored in a recall buffer until a new rhythm set, pitched voice, or voice is selected for editing. When a new selection is edited, however, the contents of the recall buffer are replaced by the original data for the new selection. The edited data for the previous selection becomes permanent and cannot be recalled. The recall functions can therefore be used to recall only the rhythm set, pitched voice, or voice which was edited last.

The RM50 could not copy a voice to the specified voice bank. Select either I-MX or C-MX as the destination bank.

The RM50 could not copy a rhythm kit to the specified kit bank. Select either I or C as the destination bank.

The RM50 could not edit the selected rhythm kit, voice, or a voice variation. You cannot edit the parameters of preset rhythm kits or voices. You can change the Easy Edit parameters of voice variations; however, the other parameters cannot be edited. Select a rhythm kit or a user voice from either an internal or card bank for editing.

Miscellaneous



The RM50's internal lithium cell is nearing the end of its useful lifetime. You should take the following steps immediately: (1) Save the contents of its memory either by saving them to a data card or dumping them to a device capable of storing them. (2) Take the RM50 to a qualified Yamaha service representative and have the battery replaced. By no means attempt to replace the battery yourself.

Specifications

Tone generator:
AWM2: 16 bit linear waveform data, 48 kHz maximum sampling frequency
Filter: Time variant IIR (infinite impulse response) digital filter, one filter per element
Maximum simultaneous notes: 16
Maximum simultaneous timbres: 16
Note layering: 2 elements per voice, 2 voices per note

Memory:
Rhythm kits: 64 preset, 64 internal
Voices: 500 preset, 500 variation, 128 internal
Waveforms: 133 waveforms

Expansion slots:
Waveform cards: 3 slots
Data cards: 1 slot
Wave RAM: SYEMB06 512 kbyte Expansion Memory Board (optional)

Controls:
Rotary volume knob
Panel switches: PLAY, EDIT, UTILITY, PAGE+, PAGE–, +1/YES, –1/NO, SHIFT, ▷, EXIT, SOUND

Displays:
LCD: 24-character × 2 line (with backlight)
LED: red × 2 LED (EDIT, MIDI)

Terminals:
Audio output: STEREO OUT (L/MONO, R), INDIVIDUAL OUT × 6, PHONES
Controller: TRIGGER INPUT × 6
MIDI: IN, OUT, THRU

Power requirements:
US & Canadian models: 120V
General model: 220–240V

Power consumption:
All models: 14W

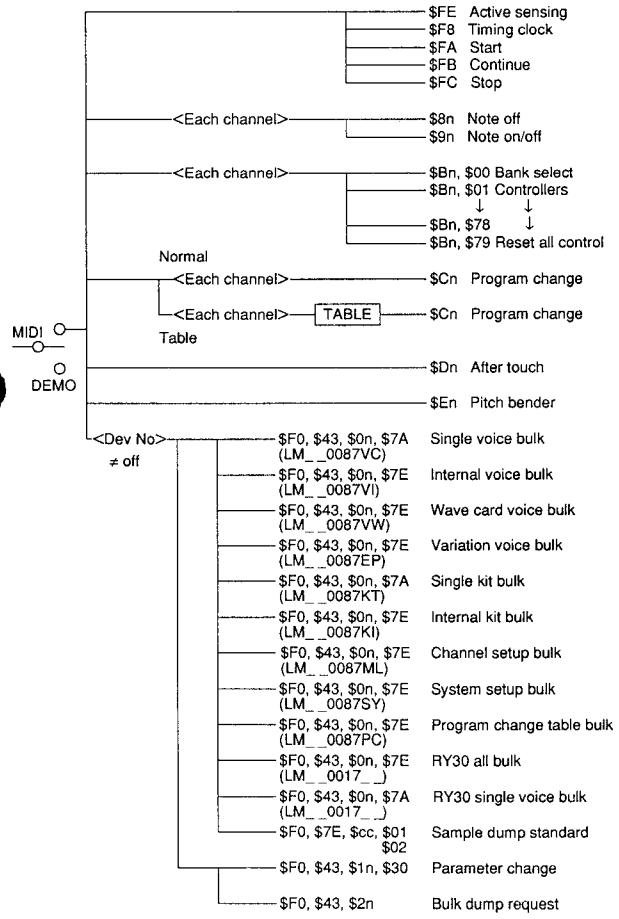
Dimensions (W × D × H):
480 × 44 × 346.7 mm
(18-7/8" × 1-3/4" × 13-5/8")

Weight:
Approx. 5 kg (Approx. 11 lbs)

MIDI Data Format

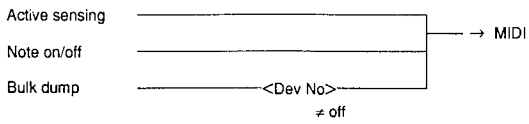
1. MIDI Message Flow Diagrams

1.1 Reception Conditions



Dev No = Device number

1.2 Transmission Conditions



2. Reception

2.1 Note On/Off

Received note range: C-2 – G8
Velocity range: 1 – 127 (note on messages only)

- When more than one panel switch is assigned to a single note number using the system setup remote switch function, the leftmost or uppermost switch is given precedence when that note number is received. All other switch assignments for the note number are ignored.

2.2 Program Change

The RM50's response to a received program change message depends on the system setup program change mode setting for the channel on which the message was received. Each channel can be set to one of three program change modes:

Off: Program change messages are ignored.
Normal: A program change message selects the corresponding voice or rhythm kit within the currently selected voice bank (when the pitched voice channel mode is used) or rhythm kit bank (when the rhythm kit channel mode is used). Bank select messages (control change messages 0 and 32) can be used in combination with program change messages to change the bank and channel mode selections as well as the program.
Table: Each program change message selects the channel mode, voice or rhythm kit bank, and program specified for its program change number in the program change table.

2.3 Pitch Bend

Pitch bend messages are received; however, only the most significant data byte is valid. Pitch bend messages can be assigned to control any of a variety of voice parameters, in the same manner as control change messages.

2.4 Aftertouch

The RM50 receives channel after touch messages; it does not receive individual aftertouch messages. Channel aftertouch messages can be assigned to control any of a variety of voice parameters, in the same manner as control change messages.

2.5 Control Change

The following voice parameters can be controlled by MIDI control change messages:

CONTROL CHANGE NO.	PARAMETER	DATA RANGE
1...31, 33...120	Volume	0...127
1...31, 33...120	Pitch	0...127
1...31, 33...120	Decay	0...127
1...31, 33...120	Pan	0...127
1...31, 33...120	Filter	0...127
1...31, 33...120	Balance	0...127
1...31, 33...120	Modulation	0...127

Control change numbers 0 and 32 are used by the bank select message. The following bank select data values can be used to select RM50 banks:

BANK SELECT		RM50 BANK		
MSB	LSB	CHANNEL MODE	BANK TYPE	CATEGORY
00	81	Rhythm kit	Internal	
00	82	Rhythm kit	Card	
00	83	Rhythm kit	Preset	
00	84	Pitched voice	Internal	MX (Mix)
00	85	Pitched voice	Card	MX (Mix)
00	86	Pitched voice	—	
00	87	Pitched voice	Internal	BD (Kick)
00	88	Pitched voice	Card	BD (Kick)
00	89	Pitched voice	Preset	BD (Kick)
00	90	Pitched voice	Internal	SD (Snare)
00	91	Pitched voice	Card	SD (Snare)
00	92	Pitched voice	Preset	SD (Snare)
00	93	Pitched voice	Internal	TM (Tom)
00	94	Pitched voice	Card	TM (Tom)
00	95	Pitched voice	Preset	TM (Tom)
00	96	Pitched voice	Internal	CY (Cymbal)
00	97	Pitched voice	Card	CY (Cymbal)
00	98	Pitched voice	Preset	CY (Cymbal)
00	99	Pitched voice	Internal	PC (Perc)
00	100	Pitched voice	Card	PC (Perc)
00	101	Pitched voice	Preset	PC (Perc)
00	102	Pitched voice	Internal	SE (Effect)
00	103	Pitched voice	Card	SE (Effect)
00	104	Pitched voice	Preset	SE (Effect)
00	105	Pitched voice	Wave card	Slot 1
00	106	Pitched voice	Wave card	Slot 2
00	107	Pitched voice	Wave card	Slot 3

2.6 Channel Mode Messages

The Reset All Controllers message, when received, causes all voice parameters which had been affected by received control change messages to be reset to their initial values.

2.7 Parameter Change Messages

The reception of parameter change messages is disabled by setting the RM50's device number to "off". When they are enabled, the RM50 receives parameter change messages using the following format:

```
11110000  F0
01000011  43
0001nnnn  nnnn     - Device Number
00110000  30       - Rhythm ID
0ttttttt  ttttttt  - Parameter Group
0mmmmmmm  mmmmmmm  - Memory
0nnnnnnn  nnnnnnn  - Number
0ppppppp  ppppppp  - Parameter number 1
0qqqqqqq  qqqqqqq  - Parameter number 2
0vvvvvvv  vvvvvvv  - Parameter value (high)
0uuuuuuu  uuuuuuu  - Parameter value (low)
11110111  F7
```

There are five parameter groups which can be specified using the fifth byte of this message.

1 = Channel setup parameter change
2 = Rhythm kit parameter change
3 = Voice parameter change
4 = System setup parameter change
5 = Program change table parameter change

2.7.1 Channel Setup Parameter Change

Parameter group = 1

PARAMETER 1	PARAMETER 2	VALUE (HIGH)	VALUE (LOW)
0 Channel 1	0 Channel mode		0: kit, 1: voice, 2: off
	1 Kit	Bank 0–2	Number 0–63
	2 Voice 1	Bank 0–23	Number
	3 Attenuator 1		0–15
	4 Key off		0: off, 1: on
	5 Pitch bend		Same as above
	6 Volume		Same as above
	7 Decay		Same as above
	8 Pan		Same as above
	9 Filter		Same as above
	10 Balance		Same as above
	11 Modulation		Same as above
	12 P.B range		0–12
1 Channel 2	Same as above		
:	:	:	:
15 Channel 16	Same as above		

2.7.2 Rhythm Kit Parameter Change

Parameter group = 2
Kit memory 0 = preset
1 = internal
2 = card

PARAMETER 1	PARAMETER 2	VALUE (HIGH)	VALUE (LOW)
0 Common	0 Name1		h'20–h'7f
	1 Name2		Same as above
	2 Name3		Same as above
	3 Name4		Same as above
	4 Name5		Same as above
	5 Name6		Same as above
	6 Name7		Same as above
	7 Name8		Same as above
	8 Name9		Same as above
	9 Name10		Same as above
	10 P.B. range		0–12
	11 trg note1		0–48
	12 trg note2		Same as above
	13 trg note3		Same as above
	14 trg note5		Same as above
	15 trg note6		Same as above
	16 trg note6		Same as above
1 Element 1	0 Voice1	Bank 0–23	Number
	1 Attenuator 1		0–15
	2 Key off		0: off, 1: on
	3 Pitch bend		Same as above
	4 Volume		Same as above
	5 Decay		Same as above
	6 Pan		Same as above
	7 Filter		Same as above
	8 Balance		Same as above
	9 Modulation		Same as above
(Element 1–24)	10 Voice 2	Bank 0–23	Number
(Element 1–24)	11 Attenuator 2		0–15
2 Element 2	Same as above		
:	:	:	:
49 Element 49	Same as above		

2.7.3 Voice Parameter Change

Parameter group = 3
Voice memory 0 = P-BD preset kick
1 = P-SD preset snare
2 = P-TM preset tom
3 = P-CY preset cymbal
4 = P-PC preset percussion
5 = P-SE preset special effects
6 = I-MX internal mix
7 = I-BD internal kick variation
8 = I-SD internal snare variation

9 = I-TM internal tom variation
10 = I-CY internal cymbal variation
11 = I-PC internal percussion variation
12 = I-SE internal SE variation
13 = C-MX card mix
14 = C-BD card kick variation
15 = C-SD card snare variation
16 = C-TM card tom variation
17 = C-CY card cymbal variation
18 = C-PC card percussion variation
19 = C-SE card SE variation
20 = W-S1 wave card slot 1
21 = W-S2 wave card slot 2
22 = W-S3 wave card slot 3
23 = off not assigned

PARAMETER 1	PARAMETER 2	VALUE (HIGH)	VALUE (LOW)
0 Easy voice	0 Volume		0–127
	1 Pan		0–64
	2 Pitch	0–1 high 1bit	0–127 low 7 bit
	3 Decay	0–1 high 1bit	0–127 low 7 bit
	4 Cutoff frq	0–1 high 1bit	0–127 low 7 bit
	5 Balance	0–1 high 1bit	0–127 low 7 bit
1 Voice com	0 Name1		h'20–h'7f
	1 Name2		Same as above
	2 Name3		Same as above
	3 Name4		Same as above
	4 Name5		Same as above
	5 Name6		Same as above
	6 Name7		Same as above
	7 Name8		Same as above
	8 Alternate		0–7
	9 Output		0–6
	10 Assign		0–3
	11 Indiv level		0–63
2 Element 1	0 Wave	bit 6–5 mem 00 = preset 01 = wave card 10 = internal bit 4–3 card num 00 = 1, 01 = 1, 10 = 2 bit 0 num high	bit7–0 num low 7bit
	1 PEG level	bit 0 high 1 bit	bit7–0 low 7bit (0–144)
	2 Delay pitch	bit 0 high 1 bit	bit7–0 −120–+120 2' comp
	3 Volume		0–63
	4 Pan		0–32
	5 Pitch		0–72
	6 Tune		0–99
	7 Reverse		0–1
	8 Attack rate		0–63
	9 Decay rate		0–63
	10 Release		0–63
	11 Punch rate		0–7
	12 Filter type		0–4
	13 Cutoff frq		0–127
	14 Resonance		0–99
	15 Fltr EG level		0–126
	16 Fltr EG rate		0–63
	17 Level sens		0–15 } bit3 = sign bit
	18 Pitch sens		0–15 } 1 = (−)
	19 EG sens		0–15 } 0 = (+)
	20 Filter sens		0–15 }
	21 LFO wave		0–5
	22 LFO sens		0–7
	23 LFO speed		0–99
	24 LFO delay		0–99
	25 LFO select		0–3
	26 LFO init phase		0–63
	27 LFO mode dep		0–127
	28 PEG rate		0–63
	29 1st note sw		0–1
	30 Delay time		0–127
	31 Delay count		0–7
	32 Delay level		low 7bit −15–+15 2' comp
	33 Velocity curve	high 1bit	0–11
3 element 2	Same as above		

2.7.4 System Setup Parameter Change

Parameter group = 4

PARAMETER 1	PARAMETER 2	VALUE (HIGH)	VALUE (LOW)
0 Trigger 1	0 Gain		0–99
	1 Self reject		0–98
	2 Noise reject		0–9
	3 Cross reject		0–9
	4 Velocity curve		0–4
	5 MIDI channel		0–15
	6 MIDI note		0–127
	7 MIDI gate		1–99
	8 Attenuate		0: off, 1: on
	9 Speed		0: fast, 1: slow
1 Trigger 2	Same as above		
:	:	:	:
5 Trigger 6	Same as above		
6 System	0 Click voice	0–22 bank	Number
	1 Level		0–127
	2 Tempo	high 1 bit	low 6–0 bit (0–210)
	3 Click switch		0–2
	4 TS		0–55
	5 Monitor velocity		1–126
	6 Trg chase		0–1
	7 Card bank		0–1
7 MIDI	0–15 PC mode		0–2
	16 Ctrl switch		0–1
	17 Pitch		1–31, 33–122
	18 Decay		1–31, 33–122
	19 Pan		1–31, 33–122
	20 Filter		1–31, 33–122
	21 Balance		1–31, 33–122
	22 LFO		1–31, 33–122
	23 Volume		1–31, 33–122
	24–35 Remote		0–127
	36 Remote ch		0–15
	37 Device No.		0–17

2.7.5 Program Change Table Parameter Change

Parameter group = 5

PARAMETER 1	PARAMETER 2	VALUE (HIGH)	VALUE (LOW)
0 Program 0	0 Type		0: kit, 1: voice
	1 Switch		0: on, 1: off
	2 Kit	0–2 bank	Number
	3 Voice	0–22 bank	Number
1 Program 1	Same as above		
:	:	:	:
127 Program 127	Same as above		

See the table at the end of this section for details.

3. Transmission

The RM50 transmits note on and note off messages generated in response to signals received by the trigger inputs. The note number generated by each trigger is designated by the rhythm kit selected for the MIDI channel specified for that trigger by the Trigger Input 3 function. If the channel in question is not set to Rhythm Kit channel mode, then the RM50 outputs the note number specified for the trigger by the Trigger Input 3 function.

4. Bulk Dumps

The RM50 can receive bulk dumps at any time except while in Demo Play mode. It transmits bulk dumps when the Utility mode Bulk Transmit function is executed, as well as in response to received dump requests.

The following bulk dumps are transmitted when the Bulk Transmit function is executed.

DATA TYPE SELECTED	DUMPS TRANSMITTED
all	Channel setup bulk dump System setup bulk dump Program change table bulk dump Rhythm kit bulk dump Internal voice bulk dump Variation voice bulk dump Wave card voice bulk dump
system	Channel setup bulk dump System setup bulk dump Program change table bulk dump
all kit	Rhythm kit bulk dump
all voice	Internal voice bulk dump Variation voice bulk dump Wave card voice bulk dump
1 kit	Single kit bulk dump
1 voice	Single voice bulk dump

4.1 Voice Data Bulk Dumps

The following four types of bulk dump messages are used to transmit voice data:

1 Single Voice bulk dump
2 Internal Voice bulk dump
3 Wave Card Voice bulk dump
4 Variation Voice bulk dump

4.1.1 Single Voice Bulk Dump

This messages transmits data for a single voice. Only I-MX can be specified as the destination bank.

```
 0   11110000   F0
 1   01000011   43
 2   0000nnnn   nnnn    - Device Number
 3   01111010   7A
 4   0bbbbbbb   ] -No. of bytes
 5   0bbbbbbb   ]
 6   01001100   4C (ascii "L")
 7   01001101   4D (ascii "M")
 8   00100000   20 (ascii " ")
 9   00100000   20 (ascii " ")
10   00110000   30 (ascii "0")
11   00110000   30 (ascii "0")
12   00111000   38 (ascii "8")
13   00110111   37 (ascii "7")
14   01010110   56 (ascii "V")
15   01000011   43 (ascii "C")
16   00000000   00
 ↓     ↓          ↓
30   00000000   00
31   0mmmmmmm   mmmmmmm  - Destination Voice number
32   0ddddddd   ddddddd  - data
 ↓     ↓          ↓
     0sssssss   sssssss - checksum
     11110111   F7
```

4.1.2 Internal Voice Bulk Dump

This message transmits data for all 128 voices in voice bank I-MX.

```
 0   11110000   F0
 1   01000011   43
 2   0000nnnn   nnnn    - Device number
 3   01111110   7E
 4   0bbbbbbb   ] No. of bytes
 5   0bbbbbbb   ]
 6   01001100   4C (ascii "L")
 7   01001101   4D (ascii "M")
 8   00100000   20 (ascii " ")
 9   00100000   20 (ascii " ")
10   00110000   30 (ascii "0")
11   00110000   30 (ascii "0")
12   00111000   38 (ascii "8")
13   00110111   37 (ascii "7")
14   01010110   56 (ascii "V")
15   01001001   49 (ascii "I")
16   0ddddddd   ddddddd - data
 ↓     ↓          ↓
     0sssssss   sssssss - checksum
     11110111   F7
```

4.1.3 Wave Card Voice Bulk Dump

This message transmits data for 96 voices, 32 voices from cards in each of the three WAVEFORM slots.

```
 0   11110000   F0
 1   01000011   43
 2   0000nnnn   nnnn    - Device number
 3   01111110   7E
 4   0bbbbbbb   ] No. of bytes
 5   0bbbbbbb   ]
 6   01001100   4C (ascii "L")
 7   01001101   4D (ascii "M")
 8   00100000   20 (ascii " ")
 9   00100000   20 (ascii " ")
10   00110000   30 (ascii "0")
11   00110000   30 (ascii "0")
12   00111000   38 (ascii "8")
13   00110111   37 (ascii "7")
14   01010110   56 (ascii "V")
15   01010111   57 (ascii "I")
16   0ddddddd   ddddddd - data
 ↓     ↓          ↓
     0sssssss   sssssss - checksum
     11110111   F7
```

4.1.4 Variation Voice Bulk Dump

This message transmits data for all 500 voice variations in the RM50's memory.

```
 0   11110000   F0
 1   01000011   43
 2   0000nnnn   nnnn    - Device number
 3   01111110   7E
 4   0bbbbbbb   ] No. of bytes
 5   0bbbbbbb   ]
 6   01001100   4C (ascii "L")
 7   01001101   4D (ascii "M")
 8   00100000   20 (ascii " ")
 9   00100000   20 (ascii " ")
10   00110000   30 (ascii "0")
11   00110000   30 (ascii "0")
12   00111000   38 (ascii "8")
13   00110111   37 (ascii "7")
14   01000101   45 (ascii "E")
15   01010000   50 (ascii "P")
16   0ddddddd   ddddddd - data
 ↓     ↓          ↓
     0sssssss   sssssss - checksum
     11110111   F7
```

4.2 Rhythm Kit Data Bulk Dumps

The following two types of bulk dump messages are used to transmit rhythm kit data:

1 Single Kit bulk dump
2 Internal Kit bulk dump

4.2.1 Single Kit Bulk Dump

This messages transmits data for a single rhythm kit.

0	11110000	F0
1	01000011	43
2	0000nnnn	nnnn - Device number
3	01111010	7A
4	0bbbbbbb	] No. of bytes
5	0bbbbbbb	
6	01001100	4C (ascii "L")
7	01001101	4D (ascii "M")
8	00100000	20 (ascii " ")
9	00100000	20 (ascii " ")
10	00110000	30 (ascii "0")
11	00110000	30 (ascii "0")
12	00111000	38 (ascii "8")
13	00110111	37 (ascii "7")
14	01001011	4B (ascii "K")
15	01010100	54 (ascii "T")
16	00000000	00
↓	↓	↓
30	00000000	00
31	00mmmmmm	mmmmmmm - Kit number
32	0ddddddd	ddddddd - data
	0sssssss	sssssss - checksum
	11110111	F7

4.2.2 Internal Kit Bulk Dump

This message transmits data for all 64 rhythm kits in the internal rhythm kit bank.

0	11110000	F0
1	01000011	43
2	0000nnnn	nnnn - Device number
3	01111110	7E
4	0bbbbbbb	] No. of bytes
5	0bbbbbbb	
6	01001100	4C (ascii "L")
7	01001101	4D (ascii "M")
8	00100000	20 (ascii " ")
9	00100000	20 (ascii " ")
10	00110000	30 (ascii "0")
11	00110000	30 (ascii "0")
12	00111000	38 (ascii "8")
13	00110111	37 (ascii "7")
14	01001011	4B (ascii "K")
15	01001001	49 (ascii "I")
16	0ddddddd	ddddddd - data
↓	↓	↓
	0sssssss	sssssss - checksum
	11110111	F7

4.3 System Data Bulk Dumps

The following three types of bulk dump messages are used to transmit system data:

1 Channel Setup bulk dump
2 System Setup bulk dump
3 Program Change Table bulk dump

4.3.1 Channel Setup bulk dump

This messages transmits the current channel settings for all 16 MIDI channels.

0	11110000	F0
1	01000011	43
2	0000nnnn	nnnn - Device number
3	01111110	7E
4	0bbbbbbb	] No. of bytes
5	0bbbbbbb	
6	01001100	4C (ascii "L")
7	01001101	4D (ascii "M")
8	00100000	20 (ascii " ")
9	00100000	20 (ascii " ")
10	00110000	30 (ascii "0")
11	00110000	30 (ascii "0")
12	00111000	38 (ascii "8")
13	00110111	37 (ascii "7")
14	01001101	4D (ascii "M")
15	01001100	4C (ascii "L")
16	0ddddddd	ddddddd - data
↓	↓	↓
	0sssssss	sssssss - checksum
	11110111	F7

4.3.2 System Setup bulk dump

This message transmits the system settings made using the Trigger Input and Click functions, and some of the MIDI Utility group functions.

0	11110000	F0
1	01000011	43
2	0000nnnn	nnnn - Device number
3	01111010	7E
4	0bbbbbbb	] No. of bytes
5	0bbbbbbb	
6	01001100	4C (ascii "L")
7	01001101	4D (ascii "M")
8	00100000	20 (ascii " ")
9	00100000	20 (ascii " ")
10	00110000	30 (ascii "0")
11	00110000	30 (ascii "0")
12	00111000	38 (ascii "8")
13	00110111	37 (ascii "7")
14	01010011	53 (ascii "S")
15	01011001	59 (ascii "Y")
16	0ddddddd	ddddddd - data
↓	↓	↓
	0sssssss	sssssss - checksum
	11110111	F7

4.3.3 Program Change Table bulk dump

This message transmits the entire contents of the program change table.

0	11110000	F0
1	01000011	43
2	0000nnnn	nnnn - Device number
3	01111110	7E
4	0bbbbbbb	] No. of bytes
5	0bbbbbbb	
6	01001100	4C (ascii "L")
7	01001101	4D (ascii "M")
8	00100000	20 (ascii " ")
9	00100000	20 (ascii " ")
10	00110000	30 (ascii "0")
11	00110000	30 (ascii "0")
12	00111000	38 (ascii "8")
13	00110111	37 (ascii "7")
14	01010011	50 (ascii "P")
15	01011001	43 (ascii "C")
16	0ddddddd	ddddddd - data
↓	↓	↓
	0sssssss	sssssss - checksum
	11110111	F7

5. Bulk Dump Requests

The RM50 can receive bulk dump requests at any time except while in Demo Play mode.

5.1 Voice Data Bulk Dump Request

The following four types of bulk dump request messages are used to request transmission of voice data:

1) Single Voice bulk dump request
2) Internal voice bulk dump request
3) Wave card voice bulk dump request
4) Variation voice bulk dump request

5.1.1 Single Voice Bulk Dump Request

0	11110000	F0
1	01000011	43
2	0010nnnn	nnnn = Device Number
3	01111010	7A
4	01001100	4C (ascii "L")
5	01001101	4D (ascii "M")
6	00100000	20 (ascii " ")
7	00100000	20 (ascii " ")
8	00110000	30 (ascii "0")
9	00110000	30 (ascii "0")
10	00118000	38 (ascii "8")
11	00110111	37 (ascii "7")
12	01010110	56 (ascii "V")
13	01000011	43 (ascii "C")
14	00000000	00
↓	↓	↓
25	00000000	00
26	0ttttttt	ttttttt = Source voice bank
27	0mmmmmmm	mmmmmmm = Source voice number
28	00000000	
29	0mmmmmmm	mmmmmmm = Destination Voice number
30	11110111	F7

This message requests transmission of data for a single voice. I-MX is automatically selected as the destination bank.

5.1.2 Internal Voice Bulk Dump Request

0	11110000	F0
1	01000011	43
2	0010nnnn	nnnn = Device Number
3	01111110	7E
4	01001100	4C (ascii "L")
5	01001101	4D (ascii "M")
6	00100000	20 (ascii " ")
7	00100000	20 (ascii " ")
8	00110000	30 (ascii "0")
9	00110000	30 (ascii "0")
10	00111000	38 (ascii "8")
11	00110111	37 (ascii "7")
12	01010110	56 (ascii "V")
13	01001001	49 (ascii "I")
14	11110111	F7

This message requests transmission of data for all 128 voices in voice bank I-MX.

5.1.3 Wave Card Voice Bulk Dump Request

0	11110000	F0
1	01000011	43
2	0010nnnn	nnnn = Device Number
3	01111110	7E
4	01001100	4C (ascii "L")
5	01001101	4D (ascii "M")
6	00100000	20 (ascii " ")
7	00100000	20 (ascii " ")
8	00110000	30 (ascii "0")
9	00110000	30 (ascii "0")
10	00118000	38 (ascii "8")
11	00110111	37 (ascii "7")
12	01010110	56 (ascii "V")
13	01010111	57 (ascii "W")
14	11110111	F7

This message requests transmission of data for 96 voices, 32 voices from cards in each of the three WAVEFORM slots.

5.1.4 Variation Voice Bulk Dump Request

0	11110000	F0
1	01000011	43
2	0010nnnn	nnnn = Device Number
3	01111110	7E
4	01001100	4C (ascii "L")
5	01001101	4D (ascii "M")
6	00100000	20 (ascii " ")
7	00100000	20 (ascii " ")
8	00110000	30 (ascii "0")
9	00110000	30 (ascii "0")
10	00111000	38 (ascii "8")
11	00110111	37 (ascii "7")
12	01000101	45 (ascii "E")
13	01010000	50 (ascii "P")
14	11110111	F7

This message requests transmission of data for all 500 voice variations in the RM50's memory.

5.2 Rhythm Kit Data Bulk Dump Request

The following two types of bulk dump request messages are used to request transmission of rhythm kit data:

5.2.1 Single rhythm Kit Bulk Dump Request

This message requests transmission of data for a single rhythm kit.

1) Single Rhythm kit bulk dump request
2) All internal rhythm kit bulk dump request

0	11110000	F0
1	01000011	43
2	0010nnnn	nnnn = Device Number
3	01111010	7A
4	01001100	4C (ascii "L")
5	01001101	4D (ascii "M")
6	00100000	20 (ascii " ")
7	00100000	20 (ascii " ")
8	00110000	30 (ascii "0")
9	00110000	30 (ascii "0")
10	00111000	38 (ascii "8")
11	00110111	37 (ascii "7")
12	01001011	4B (ascii "K")
13	01010100	54 (ascii "T")
14	00000000	00
↓	↓	↓
25	00000000	00
26	0ttttttt	ttttttt = Source rhythm kit bank
27	00mmmmmm	mmmmmm = Source rhythm kit number
28	00000000	
29	00mmmmmm	mmmmmm = Dest. rhythm kit number
30	11110111	F7

Data will be received in the Internal Dest. rhythm kit number.

5.2.2 All Internal Rhythm Kit Bulk Dump Request

0	11110000	F0
1	01000011	43
2	0010nnnn	nnnn = Device Number
3	01111110	7E
4	01001100	4C (ascii "L")
5	01001101	4D (ascii "M")
6	00100000	20 (ascii " ")
7	00100000	20 (ascii " ")
8	00110000	30 (ascii "0")
9	00110000	30 (ascii "0")
10	00111000	38 (ascii "8")
11	00110111	37 (ascii "7")
12	01001011	4B (ascii "K")
13	01001001	49 (ascii "I")
14	11110111	F7

This message requests transmission of data for all 64 rhythm kits in the RM50's memory.

5.3 System Data Bulk Dump Request

The following three types of bulk dump request messages are used to request transmission of system data:

1) Channel setup bulk dump request
2) System setup bulk dump request
3) Program change table bulk dump request

5.3.1 Channel Setup Bulk Dump Request

0	11110000	F0
1	01000011	43
2	0010nnnn	nnnn = Device Number
3	01111110	7E
4	01001100	4C (ascii "L")
5	01001101	4D (ascii "M")
6	00100000	20 (ascii " ")
7	00100000	20 (ascii " ")
8	00110000	30 (ascii "0")
9	00110000	30 (ascii "0")
10	00111000	38 (ascii "8")
11	00110111	37 (ascii "7")
12	01001101	4D (ascii "M")
13	01001100	4C (ascii "L")
14	11110111	F7

This message requests transmission of the current channel settings for all 16 MIDI channels.

5.3.2 System Setup Bulk Dump Request

0	11110000	F0
1	01000011	43
2	0010nnnn	nnnn = Device Number
3	01111010	7E
4	01001100	4C (ascii "L")
5	01001101	4D (ascii "M")
6	00100000	20 (ascii " ")
7	00100000	20 (ascii " ")
8	00110000	30 (ascii "0")
9	00110000	30 (ascii "0")
10	00111000	38 (ascii "8")
11	00110111	37 (ascii "7")
12	01010011	53 (ascii "S")
13	01011001	59 (ascii "Y")
14	11110111	F7

This message requests transmission of the system settings made using the Trigger Input and Click functions, and some of the MIDI Utility group functions.

5.3.3 Program Change Table Bulk Dump Request

0	11110000	F0
1	01000011	43
2	0010nnnn	nnnn = Device Number
3	01111110	7E
4	01001100	4C (ascii "L")
5	01001101	4D (ascii "M")
6	00100000	20 (ascii " ")
7	00100000	20 (ascii " ")
8	00110000	30 (ascii "0")
9	00110000	30 (ascii "0")
10	00111000	38 (ascii "8")
11	00110111	37 (ascii "7")
12	01010011	50 (ascii "P")
13	01011001	43 (ascii "C")
14	11110111	F7

6. System Realtime Messages

6.1 Active Sensing

The RM50 sends active sensing messages (FEH) approximately every 170 milliseconds.
If the RM50 does not receive an active sensing message within approximately 300 milliseconds of the last active sensing message, it will assume that the connection has been broken, clear its MIDI receive buffer, and stop all notes currently being played.

6.2 Timing Clock

The RM50 will play click notes in sync with the received MIDI timing clock signal when its click switch is set to "midi" using the Click 1 function.

6.3 Start, Stop, Continue

The RM50 click function will start, stop, and continue in response to received MIDI start, stop, and continue messages when its click switch is set to "midi" using the Click 1 function.

YAMAHA [Rhythm Sound Module] Date:26-MAY-1992
Model RM50 MIDI Implementation Chart Version : 1.0

Function ...		Transmitted	Recognized	Remarks
Basic	Default	1 - 16	1 - 16	memorized
Channel	Changed	1 - 16	1 - 16	
Mode	Default	3	3	
	Messages	x	x	
	Altered	**********	x	
Note Number		0 - 127	35-84/0-120 *1	
	True voice	**********	x	
Velocity	Note ON	o 9nH, v=1-127	o v=1-127	
	Note OFF	x 9nH, v=0	x	
After Touch	Key's	x	x	
	Ch's	x	o	Assignable
Pitch Bender		x	o 0-12 semi *2	Assignable
Control Change	0	x	o	Bank select
	32	x	o	Bank select
	1 - 31	x	o	Assignable
	33 - 120	x	o	Assignable
Prog Change		x	o 0 - 127	normal/table
	True #	**********		
System Exclusive		o	o	voice etc.
System Common	Song Pos	x	o	
	Song Sel	x	x	
	Tune	x	x	
System Real Time	Clock	x	o *3	for click
	Commands	x	o *3	for click
Aux Mes- sages	Local ON/OFF	x	x	
	All Notes OFF	x	x	
	Active Sense	o	o	
	Reset	x	x	

Notes: *1 ; RHYTHM KIT=a different voice sounds by each note.
PITCHED VOICE=single selected voice sounds over a 0-120 range.
*2 ; 7 bit resolution
*3 ; receive if click sw is "midi".

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

INDEX

G

I

K

L

M

N

O

P

R

S

T

U

V

W

Other

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