Owner's Manual

SAFETY INSTRUCTIONS

INSTRUCTIONS ABOUT RISK OF FIRE, ELECTRIC SHOCK OR INJURY TO PERSONS

Warning: to reduce the risk of fire or electric shock, do not expose this instrument to rain or moisture.

- Earthing instructions -

This product must be connected to an earthed outlet. In case of malfunctioning, the earthing will reduce the risk of electric shock. The instrument comes with an earthed power cable and plug to be used with an earthed outlet.

DANGER - Improper earthing connections may cause electric shocks. In case of doubts, have your electric installation checked by a qualified electrician. Do not modify the power cable coming with the instrument.

IMPORTANT SAFETY AND INSTALLATION INSTRUCTIONS

WARNING - When using electrical products, some basic precautions must be followed, including the following:

- Before using this instrument, carefully read the User's Manual.
- When the instrument is used by children, the presence of an adult is required.
- Do not use the instrument near water, for example near a wash-basin, a swimming-pool, a wet surface, etc.
- The instrument must be used only on supports recommended by the manufacturer.
- Do not use the instrument where there is any risk of it getting splashed with water or of water dripping on it, such as near wash basins, swimming pools or on wet surfaces etc. Do not put containers with water on top of the instrument.
- The instrument is to be used in a position where adequate ventilation is provided.
- Use the instrument far away from heat sources such as radiators, heaters, etc.
- Use only the supplied power cable for connecting the instrument to the mains.
  The identification and power supply data are reported on the bottom of the instrument.
- Disconnect the power cable if the instrument is not used for longer periods of time.
- If you need to disconnect the instrument from the power supply, use the ON/OFF switch at the back of the instrument.
  The instrument must be positioned so that the ON/OFF switch is easily accessible.
- Bring the instrument to an service centre in the following cases:
  a. Damages on the power cable or plug.
  b. Objects or liquids fallen into its inside.
  c. The instrument has been exposed to rain.
  d. Abnormal running or an evident decrease of the instrument's performance.
  e. The instrument has fallen down or the enclosure has been damaged.
- Never try to repair the instrument yourself. All operations must be performed by specialised engineers.

KEEP THESE INSTRUMENTS IN A SAFE PLACE

HOW TO AVOID RADIO/TV INTERFERENCE

This instrument operates at radio frequencies, and if not correctly installed according to the instructions supplied, it may cause interference with radio and television reception.
Though this instrument has been designed according to the applicable standards and notwithstanding the reasonable protections against interference it has been equipped with, there is no guarantee that such events will not occur. In order to check if the interference is actually caused by this instrument, switch it off and see if the interference disappears.
Then switch it on again and check if the interference appears again. Once you have made sure that the interference is originated by this instrument, take one of the following measures:
- Modify the instrument's position with respect to the receiver.
- Increase the distance between the instrument and the receiver.
- Connect the instrument's plug to a different outlet to make sure that the instrument and the receiver are connected to two different circuits.
- If necessary, contact a specialised technician.

POWER SUPPLY

- Before connecting this instrument to any other equipment (amplifier, mixer, other MIDI instruments, etc.) make sure that all units are switched off.
- Read the instructions about Radio and TV interference.

HOW TO CLEAN THIS INSTRUMENT

- Use only a soft and dry cloth to clean the external surface of your instrument. Never use petrol, thinners or solvents generally speaking.

OTHER PRECAUTIONS

If you wish to use your instrument abroad and if you have any doubts about the power supply, contact a qualified engineer previously.
The instrument should never be subject to strong vibrations.

AC POWER ADAPTORS

To connect these instruments to the wall socket you will need the supplied KETRON AC Power adaptors.
Use of other AC adaptors could result in damage to the instrument's power circuit. So be sure to ask for the right kind.

INFORMATION FOR USERS

"Observe European Directives 2002/95, 2002/96 and 2003/108 with regard to the reduced use of harmful substances on electrical and electronic instruments and also observe waste disposal regulations."
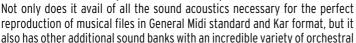The symbol with the bin crossed out on the instrument points out that it must be separated from other waste at the end of its useful life span and not just thrown away in the bin.
The user must therefore hand the instrument over to differentiated waste disposal centres authorised to process electronic and electro-technical waste at the end of its useful life span, or give it back to the retailer when purchasing a new similar type of device on a basis of 1-to-1 ratio. The differentiated disposal of the equipment for the possible future recycling of its constructional parts contributes in safeguarding the environment and human health.
The user is subject to administrative fines in the case of the abusive disposal of the product.

INTRODUCTION

Thank you for purchasing the new KETRON SD 2 Orchestral Wizard. The SD 2 instrument represents an interesting integration to the sector of sound modules in terms of compactness and musical performance.

Not only does it avail of all the sound acoustics necessary for the perfect reproduction of musical files in General Midi standard and Kar format, but it also has other additional sound banks with an incredible variety of orchestral Voices: Grand Piano Stereo over 88 notes, Acoustic and electric guitars, Brass and saxophones of unique quality, sampled organs and Digital Drawbars section, Accordions, Bass, Strings, acoustic and electronic Drum Sets and so on. The SD 2 unit is also equipped with a considerable number of audio Drum and Percussion Loops split-up into a very wide variety of musical styles, which definitely make SD 2 stand out from all other similar models on the market.

The applications of SD 2 are best exploited in combination with a MIDI player (such as KETRON MIDJAY for example) or with sequencers on computer (Logic®, Cubase®, Cakewalk® and others), but it can also be connected to Master keyboards or multi-purpose keyboards (Arranger, Synth, Digital pianos etc.).

Before you use your SD 2 instrument, make sure you read all the instructions carefully in order to fully exploit its potentials and to ensure its long life. Keep this manual in a safe place for future reference.

CONTENTS OF THE PACKAGE

The original package of your SD 2 instrument includes the following material:
- a) SD 2 unit
- b) Instruction manual
- c) DC Feeder - 12 Volts

Optional accessory: Midi to USB cable. This is required to use SD 2 with a Laptop, due indeed to the fact that portable computers do not have their own Midi interface (unless they are equipped with additional boards such as Firewire, USB etc.).

This cable is used for the communication of the midi data from your portable computer with the Midi In of SD 2 via the USB connection.

TURNING ON

To turn the SD 2 unit on, simply connect the feeder supplied with the instrument to the mains. The LED on the front panel lights up to point out that the instrument is working.

1 On / Off: Main ON/OFF switch of the SD 2 instrument. When the LED lights up, it points out that the instrument is working. The LED will flash if there is any Midi In activity.

2 Volume: Slider that controls the general volume of SD 2. This volume also affects the Headphone output.

3 Headphone: Connection for stereo headphones with low impedance.

CONNECTIONS

4 Midi In / Thru: Midi In and Thru connection of SD 2. Connect the Midi In of SD 2 to the Midi out of the computer, of the Midi player or of the Master keyboard. The Thru connection is used to send a copy of the Midi In to another device (i.e.:Expander).
5 Out L / R: Left and Right audio outputs to be connected to the mixer or audio amplifier.
6 Power Dc In: Connection for the DC 12 V feeder of SD 2.

ADVICE ON USING THE INSTRUMENT

In this section we show you how we think you should use SD 2 to fully exploit its performance in musical applications.

HOME STUDIO (with computer, sequencer or external players)

In this context, SD 2 is able to express its performance to the best.
It can be connected to your computer (Pc or Mac) via the Midi cable (if you already have a board with Midi interface) or via the Midi to Usb cable supplied as an optional accessory by KETRON. Using musical sequencer programs such as Cubase®, Logic®, Cakewalk® or similar you will be able to successfully integrate SD 2 in your musical elaborations (Midi files, Jingles, Audio Mix etc.) exploiting its amazing sound versatility in the best way possible.

Your SD 2 not only offers the sounds that are by now part of the GM standard references but you will also find other Sound Banks with many characteristic sounds in the traditional families (Piano, Strings, Sax, Brass etc.).
The main feature that definitely distinguishes SD 2 from other sound modules is the presence of the numerous audio Loops (Drum Loops that you can download free of charge from our Internet site: www.ketron.it.).
Just imagine if you add these Loops to your musical creations ...they can enrich, if not indeed replace, the rhythm of your songs and they could make the difference with everything

that you have elaborated up to now in the sphere of Midi files! Just a quick example: Think of a Midi file of Caribbean music, where you often hear not very convincing parts of Latin percussions.
Apply some of the Patterns available in the data base of the additional Loops (or rather replacement loops) of the existent Drum track (Copy & Paste). In just a few steps you will be

able to replace the Midi rhythmic structure with audio Loops and the result will be amazing. Once your musical file is complete and you have saved it in the format that your prefer, you can naturally play it back with any type of sequencer or Midi player (i.e.: MIDJAY or similar) by connecting it to your SD 2. The use of laptops has become more and more popular in the world of musical entertainment to play back Midi files.

The advantage of having a musical board integrated in the computer is however often penalised by the fact that such boards only avail of a few sounds and of rather modest quality. In this case again, we think that the use of SD 2 instead of built-in boards offers a considerable opportunity.

MIDI KEYBOARD (Master keyboard, Arranger, Accordion etc.)

SD 2 can be used as a supplementary module to enrich the sound palette of your keyboard. Another ideal solution is that of coupling SD 2 with Master keyboards without sounds or with current mini remote keyboards (multimedia keyboards) that are used increasingly in the live set-up. We are sure that such a powerful and compact sound module will certainly become part of your musical set-up.

OPERATING NOTES

As you will have already noticed, the SD 2 unit has external connections (described previously) and one general volume control for the rear outputs and for the headphones.

Obviously everything else that may modify the Sound, the Volume, the Reverb, the Effects etc. must be performed via MIDI messages.

For those who are already familiar with this type of Editing procedure, simply observe the table of MIDI implementations of SD 2 to be able to manage the Sounds of the instrument in all its potentials.

For those who are still learning, we have prepared a set of files on our Internet site www. ketron.it (that you can download free of charge) with the configuration of the Map of sounds that can be used to work with the most commonly used sequencer programs and musical notes, such as Cubase®, Logic®, Cakewalk®.

HOW TO USE THE DRUM LOOPS

You can download the Drum Loops for SD 2 from our Internet site www.ketron.it .

The files appear with a set of Folders, which are catalogued per type of music (Salsa, Cha, Merengue, Jazz etc.).

These are actually Midi files that contain information on how to play the rhythm Patterns of the various Loops contained in the sound generation of SD 2.

To better understand the sound possibilities that these loops offer, we suggest that you listen to the Demo.mid files within the reference folders of the various musical rhythms.

We remind you that these patterns contain all the information necessary (program change, volume etc.) to be played immediately without any other settings.

DRAWBARS SECTION

The sound generation of SD 2 also avails of a section of digital Drawbars, inspired by the sounds of electro-magnetic organs: 16',8', 5'1/3, 4', 2'2/3, 2', 1'3/5, 1'. Percussion 4' and 2'2/3

The Drawbars can play on any midi channel (and also on a number of midi channels simultaneously). Using the environment created especially for the Logic ® (which you can

download free of charge from our Internet site www.ketron.it) you can play all the digital Drawbars, thanks to the virtual sliders reproduced in this environment.

Here's how the editor created on Logic® appears: If, on the other hand, you do not use this environment, you can pull-up the various Drawbars by sending the relative controllers to the SD 2 unit, which are described in the section entitled Midi Implementation.

Example:
Drawbar 16' is obtained by sending the following controller string to the SD 2 unit:

Bank 67, Program Change 0, Controller 20 (with value 0/127 relative to the volume of the actual drawbar) .

In the section of the **Midi Implementation** functions, you will also find all the information necessary to be able to modify the Drawbars and their relative applicable effects (Rotary, Chorus, Reverb etc.).

STEREO GRAND PIANO

The SD 2 unit has a professional Grand Piano Stereo sound over 88 notes (pre-arranged as the default sound when you turn the instrument on in Progr. Change 01).
The availability of a Grand Piano sound of such quality proves extremely useful when the instrument is connected to a Master Keyboard.

OTHER FEATURES

For those of you who have already worked with multi-timbre sound modules, you will already know that the DSP's (effects and sound post-treatment) are integral part of these systems, which are used via the various controllers and/or Sys Exclusive.
However, you will be interested to know that together with the typical sections of Reverb, Chorus and Delay, you will also find other DSP effects, such as:
Rotor (for digital Drawbars with Rate, Acceleration, Depth and Type controls)
Wha Wha (Amount. This controls the intensity of the Wha effect on the track)
Bass Boost (Gain, Frequency. Bass boosting device)
Distortion (Type, Resonance, Tone)
The Master Control section also envisages the following controls:
Tune: This controls the general tune of the module (Data Value)
Arabic Scale: This controls the intervals for the Arabic scale (Data Value)
Global Transposer: Global transposition of the instrument (Data Value)

Technical Tables

VOICE BANK A (Control Change 00, Value = 0)

P. Ch.   **Name**

P. Ch.	Name	P. Ch.	Name	P. Ch.	Name
1	Grand Piano	45	Tremolos	89	Fantasy
2	Rock Piano	46	Pizzicato	90	Warmpad
3	Upright	47	Harp	91	Score
4	Honky	48	Timpani	92	Space
5	Rodes	49	Strings1	93	Softpad
6	DxPiano	50	SlowStrings	94	Metal
7	Harpsichrd	51	Synstrgs1	95	Halo
8	Clavinet	52	Synstrgs2	96	Sweep
9	Celesta	53	Choir1	97	Ice Rain
10	Glocken	54	Choir2	98	Soundtrack
11	MusicBox	55	Synvoice	99	Crystal
12	Vibraphon	56	Hits	100	Atmosphere
13	Marimba	57	Trumpet1	101	Brightness
14	Xylophon	58	Trombone1	102	Goblin
15	Bell	59	Tuba	103	Echodrops
16	Santur	60	Miles	104	Startheme
17	Leslies	61	Fr.Horn	105	Sitar
18	JazzOrg1	62	Brass1	106	Banjo
19	Rock B3	63	Synbras1	107	Shamisen
20	Church	64	Synbras2	108	Koto
21	Theatre	65	Altosoft	109	Kalimba
22	Musette	67	Contralto	110	Bagpipe
23	Harmonica	68	Rock Tenor	111	Fiddle
24	Accordion	68	Bariton	112	Zurna
25	Classic	69	Oboe	113	Tinkle
26	Country	70	Englishorn	114	Agogo
27	Jazz	71	Basson	115	Steeldrum
28	Clean	72	Clarinet	116	Woodblock
29	Muted1	73	Piccolo	117	Taiko
30	Overdrive	74	Flute	118	Melotom
31	Blues	75	Recorder	119	Syntom
32	Harmonics	76	Andes	120	Reverse
33	Jazzbass	77	Bottle	121	Fretslide
34	Finger	78	Shakuhashi	122	Breath
35	Picked	79	Whistle	123	Seashore
36	Fretless	80	Ocarina	124	Bird
37	Slap	81	Squares	125	Telephone
38	Funk	82	Saw	126	Helicopter
39	Synbas1	83	Calliope	127	Applause
40	Synbas2	84	Wha	128	Gun shot
41	Violin1	85	Plate		
42	Viola	86	Vox		
43	Cello	87	Saw 5th		
44	Contrabass	88	Fm Lead		

VOICE BANK B (Control Change 00, Value = 1)

P. Ch. **Name**

P. Ch.	Name	P. Ch.	Name	P. Ch.	Name
1	Jingle	50	DarkStrings	99	Strato
2	Electric	51	Dah	100	Texas
3	House	52	Vocalize	101	Tremolo
4	Elopiano	53	Scat	102	Unplug
5	Vintage	54	Ooh	103	Stops
6	Funky Pno	55	Aah	104	Wha guitar
7	Fm Piano 1	56	Corale	105	Hawaian
8	Fm Piano 2	57	Golden Tpt	106	Mandolin
9	ToyBox	58	Cornet	107	Django
10	Chimes	59	Tuba&Bass	108	ClassicFx
11	Mallets	60	Muted Tpt	109	Pedalsteel
12	Long Vibes	61	Flugelhrn1	110	Rock&Roll
13	Malimba	62	Brass 2	111	Reed 8'
14	Mellow	63	GrowBras1	112	Blow
15	Tinkles	64	BrassFx	113	Fx
16	Windchimes	65	Soprano	114	Tecnosynt1
17	Rotary	66	Liscio Sax	115	Tecnosynt2
18	JazzOrg2	67	Jazz Tenor	116	Rave1
19	Drawbar	68	Graffiato	117	Rave2
20	Positive	69	Mariachi	118	Rave3
21	Master	70	GrowBras2	119	Rave4
22	Francaise	71	Blare	120	Rave5
23	Cassotto	72	Slide Tbn	121	Effects1
24	Tango	73	Clarino	122	Effects2
25	Nylon	74	Fife	123	Effects3
26	Folk	75	Lip Flute	124	Effects4
27	Funk	76	Chiff	125	Effects5
28	60' Stopped	77	Analogs	126	Effects6
29	Muted2	78	Flanger	127	Effects7
30	Lead	79	Brightpad	128	Effects8
31	12Strings	80	Wiring		
32	Solid	81	Wow		
33	Warm	82	Starcase		
34	Ms Finger	83	Square		
35	Mute	84	Sine		
36	Bluebass	85	RockBas		
37	Precision	86	Synbas6		
38	Synbas3	87	Synbas7		
39	Synbas4	88	Synbas8		
40	Synbas5	89	2nd Perc		
41	Philarmoni	90	3th Perc		
42	Violas	91	Click		
43	GlockString	92	Tonebar		
44	OctaStrgs1	93	Pop Organ		
45	OctaStrgs2	94	JazzOrg3		
46	Marcato	95	Lower 8' - 4'		
47	Orchestra	96	Jazzy		
48	Slow Arcos	97	Pop		
49	Strings2	98	Telecast		

VOICE BANK C (Control Change 00, Value = 10)

P. Ch.   Name

P. Ch.	Name	P. Ch.	Name	P. Ch.	Name
1	Grand mono	50	Digistrings	99	Ambience
2	Rock mono	51	Wiener	100	Digipad
3	Piano L	52	101Strings	101	Movie
4	Piano R	53	Tuuh	102	Newage
5	Mark	54	Uuh	103	Voxing
6	StagePno	55	Vocals1	104	Synfony
7	Rodeslow	56	Vocals2	105	Cuatro
8	Rodeshi	57	Trumpet2	106	Hackbrett
9	Celestial	58	Trombone2	107	Tres
10	China	59	Dixie Tpt	108	Cajun
11	AirBell	60	Trombones	109	Peruvian
12	DryVibes	61	Fall Off	110	Fado
13	Malimba	62	Brass 3	111	Jungle
14	WoodMallet	63	Latin Tbn	112	Balama
15	Glock&Pad	64	Octabrass	113	Tinklebell
16	Elpiano&Strings	65	Blowed	114	Triangle
17	Whiter	66	NightSax	115	Tambora
18	Rock Slow	67	Bebop	116	Claves
19	Rock Fast	68	RockSax	117	Ac.Tom
20	Pipe	69	Brasslips	118	Brushtom
21	Gospel	70	Softrumpet	119	Snare
22	Fisa	71	Hi Trumpet	120	Crash
23	Diatonic	72	Flugelhorn2	121	Scratch1
24	Alpen	73	Posaune	122	Scratch2
25	Brazilian	74	Anderson	123	Scratch3
26	CountryFx	75	Lip Flute	124	Scratch4
27	TexasFx	76	Panflute	125	Scratch5
28	StratoFx	77	FluteVox	126	FxSlap
29	Fingerpick	78	EthnicFlute	127	Laser
30	PopFx	79	Whistling	128	Wind
31	Spanish	80	Flute&Stgrs		
32	Takamin	81	Sawmix		
33	Subbas	82	Brassfx		
34	Bass&Guit1	83	Synclead		
35	Oberbas1	84	Chick		
36	60' Bass	85	Minimug		
37	Slappin	86	Octasaw		
38	Oberbas2	87	Patlead		
39	Pedalbass	88	Maxisynth		
40	Bass&Guit2	89	Warmness		
41	Slow Violin	90	Sawpad		
42	Violin2	91	Large		
43	Quartet	92	Movie		
44	Tzivago	93	Magic		
45	Concert	94	Glockpad		
46	Fast Strings	95	Wisper		
47	Harp&Orchestra	96	Airpad		
48	Symphonic	97	Picking		
49	Strings3	98	Morphing		

PRESETS BANK (Control Change 00, Value = 2)

Group	Pr.Ch.	Name						
PIANO	1	Grand Piano	**EL.GUITAR**	45	Strato	**SAX**	90	Altosoft
	2	Rock Piano		46	Jazz		91	Jazz Tenor
	3	Honky		47	Clean		92	Contralto
	4	Clavinet		48	Pop		93	Rock Tenor
				49	Overdrive		94	Liscio Sax
EL.PIANO	5	Vintage		50	Texas		95	Blowed
	6	Rodes		51	Muted		96	Rock Sax
	7	Stagepno		52	Solid		97	NightSax
	8	DxPiano		53	Blues		98	Bariton
	9	Elopiano		54	60' Stopped		99	Clarinet
				55	Hawaian			
CHROM	10	Long Vibes		56	Telecast	**FLUTE**	100	Flute
	11	Marimba		57	Lead		101	Andes
				58	Wha guitar		102	Recorder
ORGAN	12	Leslies					103	Shakuhashi
	13	JazzOrg1	**STRINGS**	59	101Strings		104	Whistle
	14	JazzOrg2		60	Violin1			
	15	Rock B3		61	Violin2	**SYNTH**	105	Sawmix
	16	Theatre		62	Fast Strings		106	Brassfx
	17	Rotary		63	Wiener		107	Synclead
	18	Whiter		64	Harp		108	Chick
	19	Rock Slow		65	Tzivago		109	Minimug
	20	Rock Fast		66	Strings1		110	Octasaw
	21	Jazzy		67	Strings2		111	Patlead
	22	Gospel		68	Strings3		112	Maxisynth
	23	Pipe					113	Squares
	24	Positive	**CHOIR**	69	Choir			
				70	Dah	**PAD**	114	Warmness
ACCORD	25	Musette		71	Aah		115	Magic
	26	Accordion		72	Tuuh		116	Glockpad
	27	Master		73	Uuh		117	Wisper
	28	Francaise		74	Synvoice		118	Morphing
	29	Cassotto		75	Vocals		119	Ambience
	30	Fisa		76	Ooh		120	Wiring
	31	Tango					121	Newage
	32	Diatonic	**BRASS**	77	Trumpet1		122	Large
	33	Alpen		78	Trumpet2			
	34	Harmonica		79	Golden Tpt	**ETHINIC**	123	Banjo
				80	Trombone1		124	Mandolin
AC. GUITAR	35	Classic		81	Trombone2		125	Sitar
	36	Country		82	Miles		126	Cuatro
	37	Takamin		83	Brass		127	Hackbrett
	38	Django		84	Dixie Tpt		128	Peruvian
	39	Spanish		85	Flugelhrn			
	40	Folk		86	Mute Tpt			
	41	Nylon		87	Fr.Horn			
	42	Brazilian		88	Octabrass			
	43	Fingerpick		89	Synbrass			
	44	12Strings						

DRUM SETS

P. Ch.	Name
1	Standard1
2	Standard2
9	Folk
10	Acoustic
11	Jazz Dry
12	Vintage
17	Rock
25	House
26	Techno
28	Progressive
29	Rave
30	Hip-Hop
33	Fusion
41	Brush
49	Orchestra
57	Studio
58	Light Pop
59	Rap
65	Custom
66	Latin
73	Pop Jazz
97	Street
98	Analog
99	Citypop
100	Smooth
101	Acid
102	Kick&Snare
107	Jazzbrush
121	Urban
122	Electro
123	Country
124	R&B

LIVE DRUMS (Drums 2) (Control Change 00, Value = 4)

P.Ch.	Name	P.Ch.	Name
1	Bachata	50	Eurolatin
2	Bolero 1	51	Popdown
3	Chacha 1	52	------------
4	Cumbia 1	53	Dance 2
5	Guajra 1	54	Dance 3
6	Mambo	55	Tradition1
7	Salsa 1	56	Bolero 2
8	Rhumba 1	57	Cumbia 2
9	Merengue 1	58	Guajra 2
10	Merengue 2	59	Rhumba 2
11	Congas 1	60	Merengue 3
12	Congas 2	61	Merengue 4
13	Gipsy 1	62	Congas 3
14	Maracas 1	63	Congas 4
15	Tambourine	64	Gipsy 2
16	Brush	65	Maracas 2
17	---------------	66	------------
18	---------------	67	Jazz 3
19	---------------	68	Shuffle 2
20	---------------	69	Jazz 4
21	Dance 1	70	Samba 3
22	---------------	71	Samba 4
23	Ethnic 1	72	Pandero 2
24	Ethnic 2	73	Chacha 2
25	Latingr 1	74	Afrohouse
26	Latingr 2	75	Pop Jazz
27	Latingr 3	76	Salsa3
28	Latingr 4	77	Tradition2
29	Latingr 5	78	Rock
30	Latingr 6	79	R&Blues
31	Latingr 7	80	JazzRock
32	Latingr 8	81	Samba 5
33	-------------	82	Samba 6
34	-------------		
35	NewAge		
36	-------------		
37	-------------		
38	-------------		
39	Pop		
40	-------------		
41	-------------		
42	Jazz 1		
43	Shuffle 1		
44	Jazz 2		
45	Bossanova		
46	Samba 1		
47	Samba 2		
48	Pandero 1		
49	Salsa 2		

NOTE ON	9nH kk vv n(0-0FH)	midi channel, kk(01H-7FH)=NOTE ON
		vv=velocity(01H-7FH) (vv=0 means NOTE OFF)
NOTE OFF	8nH kk vv n(0-0FH)	midi channel, kk(01H-7FH)=NOTE OFF
		9nH kk 00H vv=don't care if command 8nH
PITCH BEND	EnH bl bh	Pitch Bend as specified by bl(low)
		bh(high), bl=(00H-7FH),bh=(00H-7FH) 14 bit
		resolution.
		Maximum swing is +/-1 tone (default).
		(Can be changed using RPN 0000H)
		Center position is bl=00H bh=40H
		Min. bl=00H bh=00H, Max. bl=7FH bh=7FH
PROGRAM CHANGE	CnH pp	Program change. If n=09H Drumset change.
		Refer to voices or drumset list.
CHANNEL AFTERTOUCH	DnH vv v	v=pressure value(00H-7FH).
		see System excl. list for Aftertouch effect setting
CONTROL 00H	BnH 00H cc	Bank select. See voices list for details.
CONTROL 01H	BnH 01H cc	Modulation wheel. Rate, Assignment can be set
		using System excl.
CONTROL 05H	BnH 05H cc	Portamento time
CONTROL 06H	BnH 06H cc	Data Entry. Provides data to RPN NRPN
CONTROL 07H	BnH 07H cc	Volume
CONTROL 0AH	BnH 0AH cc	Pan. (Default 40H)
CONTROL 0BH	BnH 0BH cc	Expression. (Default 7FH)
CONTROL 14H	BnH 14H cc	Draw Bar 16' , cc=amount
CONTROL 15H	BnH 15H cc	Draw Bar 8' , cc=amount
CONTROL 16H	BnH 16H cc	Draw Bar 5 ' 1/3 , cc=amount
CONTROL 17H	BnH 17H cc	Draw Bar 4' , cc=amount
CONTROL 18H	BnH 18H cc	Draw Bar 2' 2/3 , cc=amount
CONTROL 19H	BnH 19H cc	Draw Bar 2' , cc=amount
CONTROL 1AH	BnH 1AH cc	Draw Bar 1' 3/5 , cc=amount
CONTROL 1BH	BnH 1BH cc	Draw Bar 1' , cc=amount
CONTROL 1CH	BnH 1CH cc	Draw Bar Perc 4' , cc=amount
CONTROL 1DH	BnH 1DH cc	Draw Bar Perc 2' 2/3 , cc=amount (see on bottom
		of document)
CONTROL 1EH	BnH 1EH cc	Rotor cc=00H off, cc=40H slow, cc=7FH fast
	00H = rotor OFF	(return to default chorus)
	40H = rotor slow	
	7FH = rotor fast	
CONTROL 40H	BnH 40H cc	Sustain. (Dumper pedal) On=7FH, Off=00H
CONTROL 41H	BnH 41H cc	Portamento. On/Off On=7FH, Off=00H
CONTROL 42H	BnH 42H cc	Sostenuto pedal On=7FH, Off=00H
CONTROL 43H	BnH 43H cc	Soft pedal On=7FH, Off=00H
CONTROL 54H	BnH 54H cc	Wha-Wha On/Off On=7FH Off=00h
CONTROL 55H	BnH 55H cc	Wha-Wha Amount cc=00H-7FH
CONTROL 5BH	BnH 5BH cc	Auxiliary channel1 Reverb send vv=00H-7FH
CONTROL 5DH	BnH 5DH cc	Auxiliary channel2 Effects send vv=00H-7FH
		(chorus,delay,distorsor)
CONTROL 77H	BnH 77H 00H	Reset all NRPN (see note 1).
CONTROL 78H	BnH 78H 00H	All sound off. (Abrupt stop of sound on channel n)

CONTROL 79H	BnH 79H 00H	Reset all controllers
CONTROL 7BH	BnH 7BH 00H	All Notes Off
CONTROL 7EH	BnH 7EH 00H	Mono on
CONTROL 7FH	BnH 7FH 00H	Poly On (default)
RPN 0000H	BnH 65H 00H 64H 00H 06H vv	Pitch Bend sensivity in semitones (default vv=02H)
RPN 0001H	BnH 65H 00H 64H 01H 06H vv	Fine tuning in cents. vv=00H (-100) vv=40h (0) vv=7FH (+100)
RPN 0002H	BnH 65H 00H 64H 02H 06H vv	Coarse tuning in half-tones vv=00H (-64) vv=40H (0) vv=7FH (+64)
NRPN 0108H	BnH 63H 01H 62H 08H 06H vv	Lfo1 Rate modify (vv=40H no modify)
NRPN 0109H	BnH 63H 01H 62H 09H 06H vv	Dco Depth modify (vv=40H no modify)
NRPN 010AH	BnH 63H 01H 62H 0AH 06H vv	Lfo1 Delay modify (vv=40H no modify)
NRPN 0110H	BnH 63H 01H 62H 10H 06H vv	Lfo2 Rate modify (vv=40H no modify)
NRPN 0111H	BnH 63H 01H 62H 11H 06H vv	Lfo2 Delay modify (vv=40H no modify)
NRPN 0112H	BnH 63H 01H 62H 12H 06H vv	Dcf Depth modify (vv=40H no modify)
NRPN 0113H	BnH 63H 01H 62H 13H 06H vv	Dca Depth modify (vv=40H no modify)
NRPN 0120H	BnH 63H 01H 62H 20H 06H vv	TVF cutoff freq. modify (vv=40H no modify)
NRPN 0121H	BnH 63H 01H 62H 21H 06H vv	TVF Resonance modify (vv=40H no modify)
NRPN 0130H	BnH 63H 01H 62H 30H 06H vv	FM Amplitude1 (vv=40H no modify)
NRPN 0131H	BnH 63H 01H 62H 31H 06H vv	FM Amplitude2 (vv=40H no modify)
NRPN 0132H	BnH 63H 01H 62H 32H 06H vv	FM Amplitude3 (vv=40H no modify)
NRPN 0133H	BnH 63H 01H 62H 33H 06H vv	FM Amplitude4 (vv=40H no modify)
NRPN 0163H	BnH 63H 01H 62H 63H 06H vv	Env. attack time modify (vv=40H no modify)
NRPN 0164H	BnH 63H 01H 62H 64H 06H vv	Env. decay time modify (vv=40H no modify)
NRPN 0166H	BnH 63H 01H 62H 66H 06H vv	Env. release time modify (vv=40H no modify)
NRPN 016BH	BnH 63H 01H 62H 6BH 06H vv	Env. sustain time modify (vv=40H no modify)
NRPN 18rrH	BnH 63H 18H 62H rr 06H vv	Pitch Course of drum instr. in semitones rr=note vv=40H no modify
NRPN 19rrH	BnH 63H 19H 62H rr 06H vv	Pitch Fine of drum instr. in semitones rr=note vv=00h no modify vv=7FH +1/2 tone
NRPN 1ArrH	BnH 63H 1AH 62H rr 06H vv	Level of drum instr. note rr. vv=00h to 7FH
NRPN 1CrrH	BnH 63H 1CH 62H rr 06H vv	Pan of drum instr. note rr. vv=00h to 7FH
NRPN 1DrrH	BnH 63H 1DH 62H rr 06H vv	Reverb send level of drum instr. note rr. vv=00h to 7FH
NRPN 1ErrH	BnH 63H 1EH 62H rr 06H vv	Chorus send level of drum instr. note rr. vv=00h to 7FH

note 1:

Reset NRPN. reset following NRPN:
0108H,0109H,010AH,0110H,0111H,0112H,0113H,0120H,0121H,0130H,0131H,0132H
0133H,0163H,0154H,0166H,016BH.
If midi channel i a drumset channel following NRPN are also reset:
18rrH,19rrH,1ArrH,1CrrH,1Drrh,1ErrH.

BASS BOOST
F0H 26H 7BH 7DH 00H Boost_gain Freq F7H   Boost_gain = 0-6
                                                  Freq = 0-7

PARAMETERS GENERAL FORM
F0H 26H 7BH Code Data_1..Data_n F7H

REVERB1 TYPE
F0H 26H 7BH 00H 00H Rev_type F7H

Rev_type =	00H Reverb_1	02 H Reverb_3	04 H Reverb_5	06 H Reverb_7
	01H Reverb_2	03 H Reverb_4	05 H Reverb_6	7F H OFF

REVERB LEVEL
F0H 26H 7BH 02H 00H Level F7H   Level = 00H - 10H

CHORUS TYPE
F0H 26H 7BH 01H 00H Cho_type F7H

Cho_type =	00H Chorus_1	02H Chorus_3	04H Chorus_5	06H Chorus_7	7FH OFF
	01H Chorus_2	03H Chorus_4	05H Chorus_6	07H Chorus_8	

DELAY TYPE
F0H 26H 7BH 06H 00H Delay_type F7H

Delay_type=	00H Delay_1	02H Delay_3	04H Delay_5	06H Delay_7	7FH OFF
	01H Delay_2	03H Delay_4	05H Delay_6	07H Delay_8	

DISTORSOR TYPE
F0H 26H 7BH 11H 00H Dist_type F7H

Dist_type =	00H Distorsor_1	01H Distorsor_3	01H Distorsor_5	01H Distorsor_7	7FH OFF
	01H Distorsor_2	01H Distorsor_4	01H Distorsor_6	01H Distorsor_8	

TYPE EFFECTS CHANNEL ASSIGN
F0H 26H 7BH 0BH 00H Chan Type F7H

Chan: 00H - 1FH	Type: 0 = no effects	3 = Chorus	6 = Distorsor + Chorus
	1 = Leslie	4 = Delay	7 = Distorsor + Delay
	2 = Distorsor	5 = Delay + Chorus	8 = Distorsor + Delay + Chorus

CHORUS PARAMETERS
F0H 26H 7BH Cho_par 00H Value F7H

Cho_par:	3BH Chorus	Volume Value 0 - 7FH	76H Chorus	Rate Value 0 - 7FH
	74H ""	Delay " 0 - 7FH	77H ""	Depth " 0 - 7FH
	75H ""	Feedback " 0 - 7FH		

DELAY PARAMETERS
F0H 26H 7BH Delay_par 00h Value F7H

Delay_par:	2BH Delay	Feed Value 0 - 7FH	2CH Delay	Filter Value 0 - 68H

DELAY TIME
F0H 26H 7BH 29h 00H Time_Center(0-7FH) Time_Left(0-7FH) Time_right(0-7FH) F7H

DELAY VOLUME
F0H 26H 7BH 2Ah 00H Vol_Center(0-7FH) Vol_Left(0-7FH) Vol_right(0-7FH) F7H

DISTORSOR PARAMETERS
F0H 26H 7BH Dist_par 00H Value F7H   Dist_par: 22H Distorsor   Volume Value 00H - 7FH
                                                          25H   ""   Tone   " 10H - 66H
                                                          26H   ""   Resonance " 18H - 7FH

GLOBAL TRANSPOSER
F0H 26H 7BH 07H 00H Value F7H   Value = 28H - 58H; 40H = no transp.

SCALE TUNING (ARABIC)
F0H 26H 7BH 0AH Chan Data1...Data12 F7H
Data: 00H-7FH; 40h = no detune   Chan: 00H-1FH   7FH all channels (not drum sections)

MASTER TUNE
F0H 26H 7BH 0CH 00h Data1,Data2 F7H
Data1 00H-0CH high nibble   Es. Data1=06h Es. Data1=00h Es. Data1=0Ch
Data2 00H-0FH low nibble   Data2=04h (nominal) Data2=00h (-100%) ata2=08h +100%)

GLOBAL GM RESET
F0H 26H 7BH 0EH 00h Value F7H   Value = 00H gm controls reset
                                       Value = 01H gm controls reset + all note off

GM DRUM PART
F0H 26H 7BH 0FH 00H GMPart Value F7   Value = 00H voice
                                             Value = 01H drum
                                             GMPart = 00H-1FH

GM MIDI RX CHANNEL ASSIGN
F0H 26H 7BH 12H 00H GMPart Chan F7H   Chan = 00H-20H, 20H=OFF
                                             GMpart 00H-1FH

VELOCITY SLOPE
F0H 26H 7BH 3EH 00H Part Value F7H   Part : 01H-20H   Value: 00H-7fH

VELOCITY OFFSET
F0H 26H 7BH 3FH 00H Part Value F7H   Part : 01H-20H   Value: 00H-7fH

FILTER VELOCITY SLOPE
F0H 26H 7BH 40H 00H Part Value F7H   Part : 01H-20H   Value: 00H-7fH

FILTER VELOCITY OFFSET
F0H 26H 7BH 41H 00H Part Value F7H   Part : 01H-20H   Value: 00H-7fH

MODULATION, BEND, AFTERTOUCH, VOICES CONTROLS
F0H 26H 7BH CNTRL 00H Part Value F7H   Part : 01H-20H   Value: 00H-7fH

CNTRL:			
42H mod. pitch ctrl	49H bend pitch control	5AH AfterTouch tvf cutoff	62h Voices amplitude
43H mod. tvf cutoff	4AH bend tvf cutoff	5BH AfterTouch amplitude	63h Voicse lfo pitch
44H mod. lfo amplitude	4BH bend amplitude	5CH AfterTouch lfo pitch	64h Voices lfo tvf dpth
45H mod. lfo rate	4CH bend lfo pitch	5DH AfterTouch lfo tvf depth	65h Voices lfo tva dpth
46H mod. lfo pitch depth	4DH bend lfo tvf	5EH AfterTouch lfo tva depth	
47H mod. lfo tvf depth	4EH bend lfo tva	60h Voices pitch ctrl	
48H mod. lfo tva depth	59H AfterTouch pitch ctrl	61h Voices tvf cutoff	

GENERAL MIDI VOLUME
F0H 26H 7BH 38H 00H Value F7H   Value   00-7FH default: 7FH

GENERAL MIDI PAN
F0H 26H 7BH 39H 00H Value F7H   Value   00-7FH default: 40H

MIDI PORT
F0H 26H 7BH 30H 00H Value F7H   Value: 00H == Channels 00H - 0FH   01H == Channels 10H -1FH

DRAWBARS SELECTION
Controller 0 Value 67 Bank MSB   Program Change 0

Drawbar Controller:	20 = 16'	Value: 0-127	24 = 2 2/3	Value: 0-127	28 = percussion 4'	Value: 0-127
	21 = 8'	Value: 0-127	25 = 2'	Value: 0-127	29 = percussion 2' 2/3	Value: 0-127
	22 = 5 1/3'	Value: 0-127	26 = 1' 3/5	Value: 0-127		
	23 = 4'	Value: 0-127	27 = 1'	Value: 0-127		

I.E (in order to send a drawbars data 16'- 8'- 4')
Controller 0 value 67   Controller 20 value 127 (16')   Controller 23 value 127 (4')
Program change 0   Controller 21 value 127 (8')