Chapter 13
Supplemental Information

Demo Types

When stored in the ZR's memory, or on an EXP expansion board, demos will appear in alphabetical order within these categories:

AMBIENT	JAZZ
BIG-BAND	LATIN
BLUES	NEW-AGE
CLASSICAL	POP
COUNTRY-	RAP
DANCE	ROCK
FOLK	SOUL-R&B
FUNK	SOUNDTRACK
FUSION	TECHNO
HIPHOP	WORLD
HOLIDAY	WORSHIP
INDUSTRY	*UTILITY
ISLAND	*OTHER

RhythmFinder Types

Rhythms will appear in alphabetical order within each of these categories:

DEMORTHM	Demo-designated rhythms in alphabetical order.
EXP-RTHM	Rhythms found on an expansion board (in numerical order).
ROM-RTHM	Rhythms stored in ROM memory (in numerical order).
INT-RTHM	Rhythms stored in both FLASH and DRAM memory (in numerical order).
ALL-RTHM	All rhythms, in alphabetical order.
AMBIENT	Ambient rhythms.
BALLAD	Rhythms for a variety of ballad styles.
BLUES	Rhythms for whatever blues you've got.
COUNTRY	Assorted country & western rhythm styles.
DANCE	Move the floor with these dance rhythms.
FUNK	Complex, syncopated rhythms designed for funk.
HIPHOP	Hip hop rhythm styles.
ISLAND	Carribean-style rhythms.
JAZZ	Variety of jazz-based rhythms.
LATIN	Energetic latin rhythm grooves.
ODDMETER	Uncommon meter rhythms.
POP	Top-forty based drum rhythms.
RAP	Take it to the top with these rap rhythms.
ROCK	The ZR offers a variety of driving rock rhythms.
SOUL-R&B	Rhythms optimized for soul and rhythm and blues.
WORLD	Assorted rhythms from around the world.
*UTILITY	Utility rhythms (e.g., default rhythms used for programming and other special purposes).
*OTHER	Rhythms that fall into no appropriate category.
*CUSTOM	Use this type to define your own special purpose rhythms ENSONIQ rhythms will never be released with a type of CUSTOM.

SoundFinder™ Types

Here is a list of the available SoundFinder categories. If there are no sounds of a particular type, the type will not appear in the list of types:

USER-SND	Sound type for sounds that you want quick access to. These sounds also appear in their appropriate SoundFinder musical instrument type list.
DEMO-SND	Demo sounds are designed to demonstrate the scope of sounds in the ZR-76. Whenever this is selected, the first sound in the type will be selected; the ZR will not reselect the last sound selected in the DEMO-SND type. Demo sounds also appear in their appropriate Sound Type list.
EXP-SND	Expansion board sounds.
DRM-SND	ROM drum key sounds.
GM-SND	Includes both ROM General MIDI sounds, and GM/GS drum kit sounds
ROM-SND	All sounds in ROM.
INT-SND	All FLASH and DRAM sounds.
ALL-SND	All sounds. The SongEditKit appears in ALL-SND.
BASS	Acoustic and electric basses.
BASS-SYN	Synth basses, and processed electric basses with a "synthy" quality.
BELL	Acoustic and synth bell sounds, both pitched (e.g., glockenspiel, celesta). and non-pitched (e.g., church bells).
BRASSECT	Trumpet, trombone, tuba, French horn, saxophone, and mixed brass sections (including sampled sections) and small ensembles (with more than one distinct pitch/"player" on a single key).
BRASSOLO	Solo brass (e.g., trumpet, trombone, tuba, French horns).
DRUM-KIT	Drum kits that use the ENSONIQ drum map.
DRMKITGM	Drum kits that use the General MIDI drum map.
GUITAR-A	Steel, nylon, and gut-stringed acoustic guitars.
GUITAR-E	Clean electric guitars and distortion guitars.
HITS	Orchestra hits.
KEYS	Other stringed keyboard sounds (e.g., harpsichord and clavinet).
LAYERS	Unnatural layered combinations of acoustic elements (e.g., a bass harmonic layered with a string section), excluding pianos/electric-pianos/organs layered with other sounds in which the piano/electric-piano/organ element is dominant. Also excludes multi-instrumental orchestral layers.
LOOPGRUV	Looped, repeating musical passages and drum rhythm loops (sampled or wave-sequenced) that play on one key.
MALLET	Tuned mallet-struck percussion instruments (e.g., marimba, xylophone, timpani, steel drum, log drum).
ORCHSTRA	Multi-instrumental orchestral Sounds (e.g., mixed strings/brass/woodwinds/reeds/orchestral percussion) layered with one another.
ORGAN-A	Acoustic pipe and pump organs.
ORGAN-E	Electric and electronic organs.
ORGANLYR	Any organs layered with other sounds in which the organ element is dominant.
PERC-KIT	Percussion kits that use either the ENSONIQ or General MIDI percussion maps.
PERCSOLO	Solo untuned percussion (e.g., taiko, synth-tom) includes most drum key sounds.
PIANO-A	Acoustic pianos, honky-tonk, toy pianos, and piano forte.
PNOLYR-A	Acoustic pianos layered with other sounds in which the acoustic piano element is dominant.
PIANO-E	Electric and electronic piano sounds, and electric pianos layered with acoustic pianos.
PNOLYR-E	Electric pianos layered with other sounds in which the electric piano element is dominant.
PLUCKED	Plucked strings (e.g., harps, banjo, dulcimer, sitar), pizzicato strings, and other plucked instruments (e.g., kalimba).
SAX-SOLO	Solo saxophones.
SOUND-FX	Realistic sound effects (e.g., broken glass, animal sounds, record scratches) and entirely non-pitched fantasy and chaos sound effects.(e.g., spacecraft, environments)
SPLITS	Combination keyboard splits of two or more different types of sounds. Also includes splits of similar sounds that have discontiguous key ranges (e.g., a bassoon/oboe split that covers the natural ranges of both instruments).
STRGSECT	Bowed string sections (including sampled sections) and small string ensembles (with more than one distinct pitch/"player" on a single key).
STRGSOLO	Bowed solo strings (e.g., violin, viola, cello).
SYN-COMP	Non-vintage, sustaining and non-sustaining, polyphonic synth sounds with a pitched or non-pitched, highly obtrusive attack component that lend themselves toward comping (i.e., you can always play successive 1/8 note chords with these funky sounds).
SYN-LEAD	Monophonic lead synth sounds (excluding monophonic synth basses).
SYN-PAD	Non-vintage, sustaining, polyphonic synth sounds with a pitched, less obtrusive attack component, and an appropriate release, that lend themselves toward pad playing.
SYN-VINT	Polyphonic, signature vintage "analog" synth sounds (excluding monophonic vintage synth leads and synth basses). Normally these are named after the synth that they evoke.
SYNOTHER	Other types of pitched, polyphonic, hybrid synth sounds with sustaining, disparate components (e.g., sample & hold sync sounds).
VOCALS	Vocal sounds (e.g., choirs, synth-vox).
WINDREED	Solo woodwinds/reeds (e.g., flute, oboe, bassoon, clarinet, recorder, English horn, ocarina, bandneon, shakuhachi, bagpipes, harmonica, accordion, melodica, didjeridoo).
*UTILITY	Utility resources (e.g., default template sounds used for programming and other special non-musical purposes).
*CUSTOM	Use this type to define your own special purpose sounds when created with the Unisyn sound editing software. The SongEditKit will always be assigned to CUSTOM. ENSONIQ sounds will never be released with a type of CUSTOM.
MIDI-OUT	Use this type for controlling other external MIDI devices. Each note you play, every controller you use, can be transmitted via MIDI. In any situation where you would otherwise select a local ZR-76 sound, you can transmit MIDI instead, by selecting one of the special MIDI-OUT sounds. For more information, see "Sending and Receiving MIDI" in *Chapter 4.*

List of Wave Names and Classes

Here is a list of the waves built in to the ZR-76:

KEYBOARD	BRASS+HORNS	DRUM-SOUND	DRUM-SOUND cont'd.	PERCUSSION	WAVEFORM
GRAND PIANO	TRUMPET	ACOUSTC KICK	RING SNARE B	AGOGO	SAWTOOTH
GRAND MED HI	MUTE TRUMPET	BIG KICK	RING SNARE C	BONGO	SINE WAVE
GRAND MED LO	FLUGELHORN	BOOM KICK	RING SNARE D	CABASA	SQUARE WAVE
GRAND SOFT	SOLO FR HORN	BRIGHT KICK	TECHNO SNARE	CASTANETS	TRIANGLE WAVE
PIANO THUD	TROMBONE	DANCE KICK	SIDESTICK 3A	CLAVE	ANALOG WV 1
PNO HAMMER UP	POP BRASS SEC	ELEC KICK	SIDESTICK 3B	CLICK	ANALOG WV 2
PNO HARP NOIS	FR HORN SECT	FAT KICK	BRUSH SWISH2	CONGA HIGH	ANALOG WV 3
TINE EPNO A	SYNTH BRASS	GATED KICK	BRUSH SWISH3	CONGA LOW	ANALOG WV 4
TINE EPNO B		JAZZ KICK	BRUSH SWISH4	CONGA MUTE	ANALOG WV 5
TINE EPNO C		LOOP KICK	DRY TOM HI	COWBELL	ANALOG WV 6
TINE EPNO D	WIND+REEDS	MUFF KICK	LIVE TOM 2 A	COWBELL STICK	ANALOG WV 7
TINE EPNO E	TENOR SAX	PROCESSD KICK	LIVE TOM 2 B	CUICA	ANALOG WV 8
TINE EPNO F	ALTO SAX	PUNCHY KICK	LIVE TOM 2 C	FINGER SNAPS	DIGITAL WV 1
DIGI PIANO	SOPRANO SAX	RAP KICK	PURE TOM A	GUIRO	DIGITAL WV 2
DIGI PNO SOFT	SAX AIR	REAL KICK	PURE TOM B	HANDCLAPS	BELL WAVE 1
FM EPNO A	CHIFF	RESO KICK	PURE TOM C	JAWHARP	BELL WAVE 2
FM EPNO B	CHIFFLUTE	SYNTH KICK 1	BIG TOM 1 A	MARACAS	BELL WAVE 3
FM EPNO C	FLUTE	SYNTH KICK 2	BIG TOM 1 B	SHAKER	BELL WAVE 4
FM EPNO D	OCARINA	TIGHT KICK	BIG TOM 1 C	SLEIGHBELL	BELL WAVE 5
WURLIE HIVEL	PAN FLUTE	COM/GATE SNR	BIG TOM 1 D	SPOONS	BELL WAVE 6
WURLIE LOVEL	OBOE	CONCERT SNARE	BIG TOM 2 A	TAIKO	BELL WAVE 7
HARPSICHORD	ENGLISH HORN	CRACK SNARE	BIG TOM 2 B	TAMBOURINE	BIG BELL WF
CLAVINET	BASSOON	DANCE SNARE	BIG TOM 2 C	TIMBALI	SYNTH BELL
FM CLAV	CLARINET	ELEC SNARE	BIG TOM 2 D	TRIANGLE	VOCAL WF 1
CELESTE	ACCORDION 1	GATED POP SNR	BIG TOM 3 A	VIBRASLAP	VOCAL WF 2
ORG-775305004	ACCORDION 2	GM SNARE 1	BIG TOM 3 B	WHISTLE	VOCAL WF 3
ORG-845351402	HARMONICA	HIPHOP SNARE	BIG TOM 3 C	WOODBLOCK	VOCAL WF 4
ORG-875434578	CONCH SHELL	POP SNARE	BIG TOM 3 D	SYN CLAPS	VOCAL WF 5
ORG-875645332	RECORDER	RAP SNARE	LIVE TOM 1 A	SYN COWBELL	VOCAL WF 6
ORG-888000000		REAL SNARE	LIVE TOM 1 B	SYN MARACAS	DOUBLE REED
ORG-888808008		RIMSHOT	LIVE TOM 1 C	SYNTH CLAVE	REED WF
ORG-888856444	VOCAL-SOUND	ROCK SNARE	ROCK TOM 1 A	SYNTH KISS	SINGLE REED
ORG-888880880	VOCAL AAHS	SYNTH SNARE	ROCK TOM 1 B	WIND CHIME	PIANO BS WF
ORGAN WAVE 1	VOCAL OOHS	SNARE ROLL	ROCK TOM 1 C	CACTUS SOUND	PIANO WF
ORGAN WAVE 2	BREATHY OOH	SIDESTICK 1	ROCK TOM 2 A	NUT RATTLE LP	E-BASS WF 1
PERC ORGAN 1	SYNTH VOX AAH	SIDESTICK 2	ROCK TOM 2 B	RAINSTICK	E-BASS WF 2
PERC ORGAN 2	VOCAL AIR	STICK CLICK	ROCK TOM 2 C	EQ CABASA 1	
ROTARY ORGAN	DOO ATTACK	BRUSH HIT		EQ CABASA 2	
SYNKEY WAVE	ONE	BRUSH SLAP		CONGA HEEL	INHARMONIC
CHURCH ORGAN	TWO	BRUSH SWISH	CYMBALS	THIN MARACA	NOISE
PIPE ORGAN	THREE	BRUSH TAP	CLOSED HAT 1	SHEKERE DN	SPECTRUM
REED ORGAN	FOUR	BRUSH TOM	CLOSED HAT 2	SHEKERE UP	AIR LOOP
CLINK		DRY TOM	CLOSED HAT 3	TAMBO DOWN	BIG BELL
ORG KEYCLICK		ROOM TOM	SYN CLOSEHAT	TAMBO UP	CRYSTAL
MOOG LEAD	BASS-SOUND	SYNTH DRUM	RAP HAT 1	TIMBALI RIM	TEXTURE
PAD SYNTH	STANDUP BASS	SYNTH RIM	RAP HAT 2		
	STANDUP BS 2	DEEP KICK A	OPEN HAT		TRANSWAVE
	STANDUP BS 3	DEEP KICK B	SYN OPEN HAT	TUNED-PERC	AAH OOH XW
STRING-SOUND	FRETLESS BASS	DEEP KICK C	PEDAL HAT	VIBRAPHONE	ANA BS XWAVE
NYLON GUITAR	FINGER BASS 1	ROCK KICK A	CRASH CYMBAL	MARIMBA	ANA VOX-X
NYLON GTR SOFT	FINGER BASS 2	ROCK KICK B	RIDE CYMBAL	XYLOPHONE	ANALOG PAD X
STEEL GUITAR	FINGER BASS 3	ROOM KICK 2A	RIDE BELL	LOG DRUM	BELL XWAVE 1
STEEL GTR SOFT	PICK BASS 1	ROOM KICK 2B	CHINA CRASH	KALIMBA	BELL XWAVE 2
FRET NOISE	PICK BASS 2	ROOM KICK 2C	15"HAT TIGHT	STEEL DRUM	BELL XWAVE 3
EL GUITAR 1	MUTED BASS	BIG SNARE A	SYN CL HAT 2	DOORBELL	BELL XWAVE 4
EL GTR 1 SOFT	SLAP BASS 1	BIG SNARE B	TECHNO HAT 1	GAMELAN BELL	DRAWBAR XW
EL GUITAR 2	SLAP BASS 2	BIG SNARE C	TECHNO HAT 2	GLOCKENSPIEL	MELLOW SWEEP
DIST GUITAR	BASS POP NOIS	DARK SNR 1 A	TECHNO HAT 4	HANDBELLS	MULTI BELL
DIST GTR LOOP	BS HARMONICS	DARK SNR 1 B	TECHNO HAT 3	SM TUNED GONG	ORGAN XWAVE
FEEDBACK HARM	EL BASS TAP	DARK SNR 2 A	15"HAT OPEN	TUBULAR	OSC SYNC XW 1
GTR HARMONIC	ANALOG BS 1	DARK SNR 2 B	15"HAT LOOSE	TYMPANI	OSC SYNC XW 2
JAZZ GUITAR	ANALOG BS 2	DRY SNR 1 A	SYN OP HAT 2	DANCE HIT	PHASE SYNC
MUTE GUITAR	ANALOG BS 3	DRY SNR 1 B	15"HAT FOOT	ORCH HIT	PULSE X
MUTE GTR SOFT	FM BASS 1	DRY SNR 1 C	CYM LOOP		RAP BS XWAVE
CELLO	FM BASS 2	DRY SNR 2 A	ROOM KICK 1A		RESONANCE
VIOLIN	GUITARRON	DRY SNR 2 B	THIN RIDE A	SOUND-EFFECT	REZ BS XWAVE
STRING SECTION	TUBE BASS	DRY SNR 2 C	ROOM KICK 1B	APPLAUSE	REZ SWEEP
STRING SECT B		DYN SNR 1 A	ROOM KICK 1C	BIRD SONG	REZO-X 4
STRING SECT C		DYN SNR 1 B	THIN RIDE B	GUNSHOT	REZO-X 3
PIZZ STRINGS		DYN SNR 2 A	SYNTH CYMBAL	HELICOPTER	REZO-X 2
BANJO		DYN SNR 2 B		TELEPHONE	REZO-X 1
HARP		DYN SNR 3 A		WIND CHIMES	SCRATCH WAVE
GOTO		DYN SNR 3 B		SURFACE NOISE	SOFT ANALOG
SHAMISEN		FAT SNARE A		TAPE LOOP	TECHNO BASS
SITAR		FAT SNARE B			TINE XWAVE
		LIVE SNR 1 A			TRANSWAVE AA
		LIVE SNR 1 B			TRANSWAVE AH
		LIVE SNR 2 A			TRANSWAVE EE
		LIVE SNR 2 B			TRANSWAVE OO
		LIVE SNR 3 A			TRANSWAVE Z
		LIVE SNR 3 B			TRI SWEEP
		RING SNARE A			WAKKA WAKKA

List of ZR-76 Sounds

The following is a list of the factory ZR-76 sounds. Sounds will appear in alphabetical order within each SoundFinder type. The list also includes the sound's residency and effect status.

BASS

Ac.Bass-GM	GM 008:032	MediumReverb
FingBass-GM	GM 008:033	MediumReverb
Finger Bass	ROM 004:105	18 EQ->Reverb
Fretless	ROM 004:113	Chorus
FrtlsBas-GM	GM 008:035	MediumReverb
Guitarron	ROM 004:115	18 EQ->Reverb
P-Bass	ROM 004:106	Dry
P-Bass Slap	ROM 004:107	Dry
PickBass-GM	GM 008:034	MediumReverb
PickdFretls	ROM 004:109	Chorus
Picked Bass	ROM 004:108	Dry
SlapBs1-GM	GM 008:036	MediumReverb
SlapBs2-GM	GM 008:037	MediumReverb
Switch Bass	ROM 004:110	Dry
Switch Pop1	ROM 004:111	Dry
Switch Pop2	ROM 004:112	Dry
Uprite Bass	ROM 004:114	LightReverb

BASS-SYN

303 Bass	ROM 004:124	29 ResVCF->DDL
Analog Bass	ROM 004:119	08 NonLinReverb2
Big Bottom	ROM 004:126	39 EQ->Comp->Gate
Dance Bass	ROM 004:127	LightReverb
GreasySynBs	ROM 004:116	Dry
Grumbler	ROM 004:123	22 DDL->Phaser
HouseBass1	ROM 004:121	39 EQ->Comp->Gate
HouseBass2	ROM 004:122	LightReverb
Rap Bass	ROM 004:120	39 EQ->Comp->Gate
Rogue Bass	ROM 004:118	39 EQ->Comp->Gate
Room Bass	ROM 004:125	09 Gated Reverb
Smack Bass	ROM 004:117	Dry
Synbass1-GM	GM 008:038	MediumReverb
Synbass2-GM	GM 008:039	MediumReverb

BELL

Agogo-GM	GM 008:113	MediumReverb
Bellmen	ROM 005:102	40 EQ->Chorus->DDL
Big Bell	ROM 005:097	32 Chatter Box
Celesta-GM	GM 008:008	MediumReverb
ChurchBells	ROM 005:096	WetReverb
Crystal-GM	GM 008:098	MediumReverb
FM Bells	ROM 005:098	19 Spinner->Rev
Gamelan+Arp	ROM 005:105	MediumReverb
Glockens-GM	GM 008:009	MediumReverb
Glocknspiel	ROM 005:104	02 Hall Reverb
Handbell	ROM 005:101	WetReverb
Little Bell	ROM 005:100	WetReverb
Musicbox-GM	GM 008:010	MediumReverb
Octave Bell	ROM 005:103	MediumReverb
Pixie Bell	ROM 005:095	MediumReverb
TinklBel-GM	GM 008:112	MediumReverb
Trans Bell	ROM 005:099	MediumReverb
Tubular-GM	GM 008:014	MediumReverb

BRASSECT

Brass 1-GM	GM 008:061	MediumReverb
Fr.Horn-GM	GM 008:060	MediumReverb
Fr.HornSect	ROM 005:057	WetReverb
GreaseBrass	ROM 005:056	05 Large Plate
Mute Swells	ROM 005:058	15 Chorus->Rev
Pop Brass	ROM 005:055	MediumReverb
StereoBrass	ROM 005:054	MediumReverb
SynBrs.1-GM	GM 008:062	MediumReverb
SynBrs.2-GM	GM 008:063	MediumReverb

BRASSOLO

Cornet	ROM 005:060	MediumReverb
Flugelhorn	ROM 005:062	MediumReverb
French Horn	ROM 005:063	WetReverb
MuteTrpt-GM	GM 008:059	MediumReverb
MuteTrumpet	ROM 005:064	02 Hall Reverb
Trombone	ROM 005:059	MediumReverb
Trombone-GM	GM 008:057	MediumReverb
Trumpet	ROM 005:061	MediumReverb
Trumpet-GM	GM 008:056	MediumReverb
Tuba-GM	GM 008:058	MediumReverb

DRUM-KIT

Dance Kit	ROM 005:122	Various (per key)
Jazz Kit	ROM 005:126	Various (per key)
Live Kit	ROM 005:127	Various (per key)
MultiKit #1	ROM 005:123	Various (per key)
MultiKit #2	ROM 005:124	Various (per key)
MultiKit #3	ROM 005:125	Various (per key)
Street Kit	ROM 005:121	Various (per key)

DRMKITGM

Brsh Kit-GM	GM 009:040	Various (per key)
DanceKit-GM	GM 009:064	Various (per key)
Elec Kit-GM	GM 009:024	Various (per key)
FormtKit-GM	GM 009:066	Various (per key)
Jazz Kit-GM	GM 009:032	Various (per key)
Orch Kit-GM	GM 009:048	Various (per key)
Pwr. Kit-GM	GM 009:016	Various (per key)
Room Kit-GM	GM 009:008	Various (per key)
Std. Kit-GM	GM 009:000	Various (per key)
SynthKit-GM	GM 009:025	Various (per key)
TeknoKit-GM	GM 009:065	Various (per key)

GUITAR-A

12-String	ROM 005:003	18 EQ->Reverb
Dbl 6-Strng	ROM 005:004	18 EQ->Reverb
FretNois-GM	GM 008:120	MediumReverb
NylonGtr-GM	GM 008:024	MediumReverb
NylonGuitar	ROM 005:000	12 Rev->Chorus
Spruce Top	ROM 005:001	18 EQ->Reverb
SteelGtr-GM	GM 008:025	MediumReverb
SteelString	ROM 005:002	WetReverb

GUITAR-E

Capt.Crunch	ROM 005:008	37 Dist->DDL->Trem
Charang-GM	GM 008:084	MediumReverb
Chicken Gtr	ROM 005:012	18 EQ->Reverb
CleanGtr-GM	GM 008:027	MediumReverb
Dist.Gtr-GM	GM 008:030	MediumReverb
Electric 12	ROM 005:014	WetReverb
FM Jazz Gtr	ROM 005:015	20 DDL->Chorus
Gtr.Harm-GM	GM 008:031	MediumReverb
Jazz Gtr-GM	GM 008:026	MediumReverb
Mean Mutes	ROM 005:009	MediumReverb
MetalGuitar	ROM 005:013	38 Comp->Dist->DDL
Mute Gtr-GM	GM 008:028	MediumReverb
OvDrvGtr-GM	GM 008:029	MediumReverb
Overdrive	ROM 005:011	38 Comp->Dist->DDL
Pearl Strum	ROM 005:007	27 Dist->Phaser
Pedal Steel	ROM 005:019	23 DDL->EQ
SpagettiGtr	ROM 005:010	MediumReverb
Tweed&Roto	ROM 005:016	34 RotarySpeaker
Wak It	ROM 005:020	MediumReverb

HITS

Dance Hit 1	INT 001:046	Chorus
Dance Hit 2	INT 001:047	Chorus
Dance Hit 3	INT 001:048	Chorus
Dance Hit 4	INT 001:049	Chorus
Dance Hit 5	INT 001:050	Chorus
House Vox	INT 001:051	MediumReverb
Orch Hit	DRM 018:106	MediumReverb
Orch.Hit-GM	GM 008:055	MediumReverb
Rave m7maj7	INT 001:045	Chorus
Rave Vox	ROM 005:031	Chorus
Slam Orch	DRM 018:107	LightReverb

KEYS

AutoWahClav	ROM 004:059	28 Dist->AutoWah
ChatterClav	ROM 004:062	32 Chatter Box
Clavicle	INT 001:041	22 DDL->Phaser
Clavinet	ROM 004:061	15 Chorus->Rev
Clavinet-GM	GM 008:007	MediumReverb
Funky Clav	ROM 004:063	27 Dist->Phaser
Harpsi.-GM	GM 008:006	MediumReverb
Harpsichord	ROM 005:094	MediumReverb

LAYERS

ChoirStrngs	ROM 005:043	WetReverb
Lush GtrPad	ROM 005:006	MediumReverb
Mute+Flute	ROM 005:067	06 Small Plate
Nylon Pad	ROM 005:005	15 Chorus->Rev
Sitar Layer	ROM 005:018	17 Phaser->Rev
Steel Pad	INT 001:000	15 Chorus->Rev

LOOPGRUV

Multi Perk	ROM 005:114	07 NonLinReverb1
TakeMyWife	INT 001:064	MediumReverb

MALLET

Balafon	ROM 005:093	MediumReverb
CaribeTrans	ROM 005:111	15 Chorus->Rev
EthnoMallet	ROM 005:106	MediumReverb
Log Drum-PT	ROM 005:112	MediumReverb
Marimba	ROM 005:107	MediumReverb
Marimba-GM	GM 008:012	MediumReverb
SmTunedGong	ROM 005:113	MediumReverb
Steel Drum	ROM 005:108	MediumReverb
SteelDrm-GM	GM 008:114	MediumReverb
Tymp Roll	DRM 015:084	MediumReverb
Tympani	DRM 015:076	MediumReverb
Tympani mf	DRM 015:077	MediumReverb
Tympani pp	DRM 015:078	MediumReverb
Tympani-GM	GM 008:047	MediumReverb
Vibes-GM	GM 008:011	MediumReverb
Vibraphone	ROM 005:109	06 Small Plate
WhisperWood	INT 001:010	MediumReverb
Xylophon-GM	GM 008:013	MediumReverb
Xylophone	ROM 005:110	02 Hall Reverb

ORCHSTRA

Orch/Wheel	INT 001:011	02 Hall Reverb
String+Wind	ROM 005:052	18 EQ->Reverb
Wind Str-Wl	ROM 005:068	15 Chorus->Rev
Woodwinds	INT 001:012	05 Large Plate

ORGAN-A

Bell Organ	ROM 004:058	12 Rev->Chorus
Cathedral	ROM 004:051	02 Hall Reverb
Ch.Organ-GM	GM 008:019	MediumReverb
ChurchOrgan	ROM 004:052	12 Rev->Chorus
Flute Stops	ROM 004:055	MediumReverb
Hall Organ	ROM 004:054	12 Rev->Chorus
MellowPipes	ROM 004:040	MediumReverb
Org+Pedals	ROM 004:049	MediumReverb
PhantomPipe	ROM 004:056	MediumReverb
Pipe Organ	ROM 004:050	WetReverb
ReedOrgn-GM	GM 008:020	MediumReverb
Regal Organ	ROM 004:057	MediumReverb
WheelPipes	ROM 004:053	12 Rev->Chorus

ORGAN-E

3Drawbrs-PR	ROM 004:037	34 RotarySpeaker
4Drawbrs-PR	ROM 004:035	34 RotarySpeaker
AllStops-PR	ROM 004:038	34 RotarySpeaker
Big Organ	ROM 004:031	10 Stereo Chorus
Chiff Organ	ROM 004:047	MediumReverb
Donor Organ	ROM 004:036	34 RotarySpeaker
Farcheeza	ROM 004:043	MediumReverb
Full B3-PR	ROM 004:042	34 RotarySpeaker
Jazz Organ	ROM 004:041	34 RotarySpeaker
Organ 1-GM	GM 008:016	MediumReverb
Organ 2-GM	GM 008:017	MediumReverb
Organ 3-GM	GM 008:018	MediumReverb
Ped/Perc B3	ROM 004:034	34 RotarySpeaker
Perc B3-PR	ROM 004:032	34 RotarySpeaker
Perc+Chorus	ROM 004:039	MediumReverb
Rock B3-PR	ROM 004:033	34 RotarySpeaker
Synth Organ	ROM 004:048	MediumReverb
Wheel Org 1	ROM 004:044	34 RotarySpeaker
Wheel Org 2	ROM 004:046	34 RotarySpeaker
Whl Dbl Org	ROM 004:045	34 RotarySpeaker

PERC-KIT

Conga Map	ROM 005:117	Various (per key)
Insta-Rap	INT 001:052	Various (per key)
Latin Percs	ROM 005:116	Various (per key)
Perc Kit 1	ROM 005:120	Various (per key)
SynPerc Kit	ROM 005:119	Various (per key)
World Kit	ROM 005:118	Various (per key)

PERCSOLO

4x Hat1 B	DRM 014:001	MediumReverb
4x Hat2 B	DRM 014:004	MediumReverb
4x Hat3 B	DRM 014:008	MediumReverb
4xCl Hat1	DRM 014:000	MediumReverb
4xCl Hat2	DRM 014:003	MediumReverb
4xCl Hat3	DRM 014:007	MediumReverb
4xVel Hats	DRM 014:010	MediumReverb
808 Cymbal	DRM 014:075	MediumReverb
Acoust Kik2	DRM 011:005	MediumReverb
AcoustcKick	DRM 011:004	MediumReverb
Agogo	DRM 016:013	MediumReverb
Agogo Stik	DRM 016:014	MediumReverb
AltRevCrash	DRM 014:071	MediumReverb
Big Kick1	DRM 011:015	MediumReverb
Big Kick2	DRM 011:016	MediumReverb
Bongo	DRM 015:031	MediumReverb
Bongo 2	DRM 015:034	MediumReverb
Bongo HP	DRM 015:033	MediumReverb
Bongo Roll	DRM 015:035	MediumReverb
BongoShort	DRM 015:032	MediumReverb
Boom Kik A	DRM 011:051	MediumReverb
Boom Kik B	DRM 011:052	MediumReverb
Boom Kik C	DRM 011:053	MediumReverb
BrassChimes	DRM 016:049	MediumReverb
Bright Kick	DRM 011:000	MediumReverb
Bright Kik2	DRM 011:001	MediumReverb
Bright Udu	DRM 015:090	MediumReverb
Brush Hit	DRM 012:076	MediumReverb
Brush Hit2v	DRM 012:077	MediumReverb
Brush Slap	DRM 012:079	MediumReverb
Brush Swish	DRM 012:082	MediumReverb
Brush Tap	DRM 012:091	MediumReverb
Brush Tap2	DRM 012:092	MediumReverb
Brush Tom1	DRM 013:064	MediumReverb
Brush Tom2	DRM 013:065	MediumReverb
Brush Tom3	DRM 013:066	MediumReverb
Brush Tom4	DRM 013:067	MediumReverb
BrushSwish2	DRM 012:083	MediumReverb
BrushSwish3	DRM 012:084	MediumReverb
BrushSwish4	DRM 012:085	MediumReverb
BrushSwish5	DRM 012:086	MediumReverb
BrushSwish6	DRM 012:087	MediumReverb
Cabasa	DRM 017:028	MediumReverb
Cabasa HP	DRM 017:030	MediumReverb
Cabasa Up	DRM 017:029	MediumReverb
Cactus Hit1	DRM 017:064	MediumReverb
Cactus Hit2	DRM 017:065	MediumReverb

CactusLoop1	DRM 017:058	MediumReverb
CactusLoop2	DRM 017:059	MediumReverb
Castanets 1	DRM 017:039	MediumReverb
Castanets 2	DRM 017:040	MediumReverb
China 1-GM	DRM 014:063	MediumReverb
China Crash	DRM 014:062	MediumReverb
ChokeCrash	DRM 014:059	MediumReverb
ChokeSplash	DRM 014:060	MediumReverb
Clave	DRM 017:012	MediumReverb
Clave HP	DRM 017:013	MediumReverb
ClHat 1-NKG	DRM 014:002	MediumReverb
ClHat 2-NKG	DRM 014:005	MediumReverb
ClHat 3-NKG	DRM 014:006	MediumReverb
ClHat 4-NKG	DRM 014:009	MediumReverb
Click	DRM 017:016	MediumReverb
Com/GateSnr	DRM 012:013	MediumReverb
ConcrtBD-GM	DRM 011:039	MediumReverb
ConcrtSnare	DRM 012:007	MediumReverb
Conga Flam1	DRM 015:025	MediumReverb
Conga Hi 2	DRM 015:004	MediumReverb
Conga Hi 3	DRM 015:005	MediumReverb
Conga High	DRM 015:000	MediumReverb
Conga Lo 2	DRM 015:010	MediumReverb
Conga Low	DRM 015:009	MediumReverb
Conga Mute	DRM 015:026	MediumReverb
Conga Shrt2	DRM 015:028	MediumReverb
CongaFingHi	DRM 015:003	MediumReverb
CongaFingLo	DRM 015:014	MediumReverb
CongaHi/whl	DRM 015:001	MediumReverb
CongaLO/whl	DRM 015:011	MediumReverb
CongaLoShrt	DRM 015:027	MediumReverb
CongaMoose1	DRM 015:015	MediumReverb
CongaMoose2	DRM 015:016	MediumReverb
CongaMoose3	DRM 015:017	MediumReverb
CongaMoose4	DRM 015:018	MediumReverb
CongaMoose5	DRM 015:019	MediumReverb
CongaMoose6	DRM 015:020	MediumReverb
CongaPatHi	DRM 015:002	MediumReverb
CongaPatLo	DRM 015:013	MediumReverb
CongLoTite	DRM 015:012	MediumReverb
Cool Ride 1	DRM 014:039	MediumReverb
Cowbel Stik	DRM 016:022	MediumReverb
Cowbell	DRM 016:016	MediumReverb
Cowbell Mtd	DRM 016:017	MediumReverb
CrackSnare1	DRM 012:016	MediumReverb
CrackSnare2	DRM 012:017	MediumReverb
Crash 1-GM	DRM 014:054	MediumReverb
Crash Cym 1	DRM 014:052	MediumReverb
Crash Cym 2	DRM 014:053	MediumReverb
CrshCymRoll	DRM 014:073	MediumReverb
CTRL1 OpHat	DRM 014:032	MediumReverb
Cuica 1	DRM 015:050	MediumReverb
Cuica 2	DRM 015:051	MediumReverb
Cuica 3	DRM 015:052	MediumReverb
Cuica 4	DRM 015:053	MediumReverb
Cuica 5	DRM 015:054	MediumReverb
Cym Swell	DRM 014:066	MediumReverb
Cym Swell2	DRM 014:067	MediumReverb
Dance Kick	DRM 011:094	MediumReverb
Dark Udu	DRM 015:091	MediumReverb
Dbl Moose 1	DRM 015:021	MediumReverb
Dbl Moose 2	DRM 015:022	MediumReverb
DblFlamTom	DRM 013:016	MediumReverb
Dry Tom 1	DRM 013:000	MediumReverb
Dry Tom 2	DRM 013:004	MediumReverb
Dull SynKik	DRM 011:056	MediumReverb
Dyn.Tambo	DRM 016:028	MediumReverb
Dynamic Tom	DRM 013:018	MediumReverb
DynamicKick	DRM 011:013	MediumReverb
DynamicSnar	DRM 012:001	MediumReverb
DynTimb HP	DRM 015:040	MediumReverb
DynTimbali	DRM 015:041	MediumReverb
Egg Shaker	DRM 017:032	MediumReverb
Elec Kick1	DRM 011:059	MediumReverb
Elec Kick2	DRM 011:060	MediumReverb
Elec Sn-GM	DRM 012:042	MediumReverb
Elec Snare1	DRM 012:040	MediumReverb
Elec Snare2	DRM 012:041	MediumReverb
Elec Tom-GM	DRM 013:030	MediumReverb
Fast Taiko	DRM 015:070	MediumReverb
Fat Claps	DRM 017:021	MediumReverb
Fat Kick1	DRM 011:009	MediumReverb
Fat Kick2	DRM 011:010	MediumReverb
Fat Kick3	DRM 011:011	MediumReverb
Fat Kick4	DRM 011:012	MediumReverb
FINTe Drum	DRM 015:089	MediumReverb
Gate/PopSnr	DRM 012:022	MediumReverb
Gated Kick1	DRM 011:042	MediumReverb
Gated Kick2	DRM 011:043	MediumReverb
Gated Sn-GM	DRM 012:021	MediumReverb
Gong ff	DRM 014:085	MediumReverb
Gong mf	DRM 014:084	MediumReverb
Gong p	DRM 014:083	MediumReverb
Guiro Long	DRM 017:000	MediumReverb
Guiro Long2	DRM 017:001	MediumReverb

Guiro Short	DRM 017:002	MediumReverb		Rev CmpGtSn	DRM 012:102	MediumReverb
Hand Claps	DRM 017:020	MediumReverb		Rev CrackSn	DRM 012:103	MediumReverb
HiCngMoose1	DRM 015:006	MediumReverb		Rev Crash 1	DRM 014:070	MediumReverb
HiCngMoose2	DRM 015:007	MediumReverb		Rev DanceSn	DRM 012:104	MediumReverb
HiPass Kik1	DRM 011:072	MediumReverb		Rev ElKick	DRM 011:110	MediumReverb
HiPass Kik2	DRM 011:073	MediumReverb		Rev FatKick	DRM 011:105	MediumReverb
HiPass Snr1	DRM 012:051	MediumReverb		Rev GateKik	DRM 011:106	MediumReverb
HiPass Snr2	DRM 012:052	MediumReverb		Rev Gm Sn	DRM 012:106	MediumReverb
HiPass Snr3	DRM 012:053	MediumReverb		Rev Guiro	DRM 017:005	MediumReverb
HipHopSnare	DRM 012:031	MediumReverb		Rev LoopKik	DRM 011:107	MediumReverb
House Rim	DRM 018:003	MediumReverb		Rev OpHat 1	DRM 014:101	MediumReverb
HouseClap1	DRM 018:005	MediumReverb		Rev OpHat 2	DRM 014:102	MediumReverb
HouseClap2	DRM 018:006	MediumReverb		Rev PedlHat	DRM 014:100	MediumReverb
HouseClHat1	DRM 014:011	MediumReverb		Rev Pop Sn	DRM 012:105	MediumReverb
HouseClHat2	DRM 014:012	MediumReverb		Rev Rap Sn	DRM 012:108	MediumReverb
HouseClHat3	DRM 014:013	MediumReverb		Rev RapHat1	DRM 014:111	MediumReverb
HouseCrash1	DRM 014:057	MediumReverb		Rev RapHat2	DRM 014:112	MediumReverb
HouseCrash2	DRM 014:058	MediumReverb		Rev RapKick	DRM 011:108	MediumReverb
HouseKick1	DRM 011:068	MediumReverb		Rev Real Sn	DRM 012:101	MediumReverb
HouseKick2	DRM 011:069	MediumReverb		Rev SynHat1	DRM 014:108	MediumReverb
HouseKick3	DRM 011:070	MediumReverb		Rev SynHat2	DRM 014:109	MediumReverb
HouseKick4	DRM 011:071	MediumReverb		Rev SynHat3	DRM 014:110	MediumReverb
HouseOpHat1	DRM 014:019	MediumReverb		Rev Timbali	DRM 015:044	MediumReverb
HouseOpHat2	DRM 014:020	MediumReverb		Rev.Cym.-GM	GM 008:119	MediumReverb
HouseOpHat3	DRM 014:021	MediumReverb		RevChinaCym	DRM 014:064	MediumReverb
HouseRide1	DRM 014:040	MediumReverb		RevHiphopSn	DRM 012:107	MediumReverb
HouseRide2	DRM 014:041	MediumReverb		RevRideBell	DRM 014:048	MediumReverb
HouseSnare1	DRM 012:036	MediumReverb		Ride 1-GM	DRM 014:036	MediumReverb
HouseSnare2	DRM 012:037	MediumReverb		Ride Bell	DRM 014:046	MediumReverb
HouseSnare3	DRM 012:038	MediumReverb		Ride Cym 1	DRM 014:033	MediumReverb
HouseSnare4	DRM 012:039	MediumReverb		Ride Cym 2	DRM 014:034	MediumReverb
HouseTom1	DRM 013:036	MediumReverb		Ride Cym 3	DRM 014:035	MediumReverb
HouseTom2	DRM 013:037	MediumReverb		Ride Short	DRM 014:037	MediumReverb
Jaw Harp	DRM 016:035	MediumReverb		Ride+Bell	DRM 014:047	MediumReverb
JawHarp+HP	DRM 016:038	MediumReverb		RideBell-GM	DRM 014:049	MediumReverb
Jawharp/whl	DRM 016:036	MediumReverb		RideCymRoll	DRM 014:042	MediumReverb
Jazz Kick1	DRM 011:034	MediumReverb		RimshotSnr	DRM 012:025	MediumReverb
Jazz Kick2	DRM 011:035	MediumReverb		Ring Tom 1	DRM 013:006	MediumReverb
Jazz Kick3	DRM 011:036	MediumReverb		Ring Tom 2	DRM 013:007	MediumReverb
Jazz Kick4	DRM 011:037	MediumReverb		Ring Tom 3	DRM 013:008	MediumReverb
LoEthnicDr	DRM 015:088	MediumReverb		Ring Tom 4	DRM 013:009	MediumReverb
LongHat-NKG	DRM 014:015	MediumReverb		Rock Snare	DRM 012:010	MediumReverb
LongOpHat 1	DRM 014:014	MediumReverb		Roll+Sn Hit	DRM 012:057	MediumReverb
Loop Kick1	DRM 011:074	MediumReverb		Room Tom 1	DRM 013:010	MediumReverb
Loop Kick2	DRM 011:075	MediumReverb		Room Tom 2	DRM 013:013	MediumReverb
Maracas	DRM 017:024	MediumReverb		Scratch 01	DRM 018:032	MediumReverb
Maracas HP	DRM 017:025	MediumReverb		Scratch 02	DRM 018:033	MediumReverb
Maracas Up	DRM 017:026	MediumReverb		Scratch 03	DRM 018:034	MediumReverb
Marktree	DRM 016:048	MediumReverb		Scratch 04	DRM 018:035	MediumReverb
Med Hat-NKG	DRM 014:017	MediumReverb		Scratch 05	DRM 018:036	MediumReverb
MeloTom1-GM	GM 008:117	MediumReverb		Scratch 06	DRM 018:037	MediumReverb
Military Sn	DRM 012:006	MediumReverb		Scratch 07	DRM 018:038	MediumReverb
Mt Surdo-GM	DRM 015:073	MediumReverb		Scratch 08	DRM 018:039	MediumReverb
Muff Kick 1	DRM 011:048	MediumReverb		Scratch 09	DRM 018:040	MediumReverb
Muff Kick 2	DRM 011:049	MediumReverb		Scratch 10	DRM 018:041	MediumReverb
Muffled Sn	DRM 012:008	MediumReverb		Scratch 11	DRM 018:042	MediumReverb
Native Drum	DRM 015:092	MediumReverb		Scratch 12	DRM 018:043	MediumReverb
NutRatlHit	DRM 017:073	MediumReverb		Scratch 13	DRM 018:044	MediumReverb
NutRatlLp1	DRM 017:069	MediumReverb		Scratch 14	DRM 018:045	MediumReverb
Op Surdo-GM	DRM 015:072	MediumReverb		Shaker	DRM 017:035	MediumReverb
OpenHat-GM	DRM 014:027	MediumReverb		ShrtOpHat 1	DRM 014:016	MediumReverb
Pedal Hat	DRM 014:018	MediumReverb		SideStick 1	DRM 012:066	MediumReverb
Piatti	DRM 014:079	MediumReverb		SideStick 2	DRM 012:069	MediumReverb
Piatti 2	DRM 014:080	MediumReverb		SizlRide 2	DRM 014:089	MediumReverb
Piatti-GM	DRM 014:081	MediumReverb		SizlRide 3	DRM 014:090	MediumReverb
Pillow Kik	DRM 011:067	MediumReverb		SizlRideCym	DRM 014:088	MediumReverb
Pole	DRM 016:045	MediumReverb		Sleighbell	DRM 016:055	MediumReverb
Pop Snare	DRM 012:019	MediumReverb		Slow Cactus	DRM 017:060	MediumReverb
Press Roll	DRM 012:056	MediumReverb		Slow Nuts	DRM 017:070	MediumReverb
ProcessKick	DRM 011:045	MediumReverb		Slow Ratl 2	DRM 017:076	MediumReverb
PtchDwnKik1	DRM 011:099	MediumReverb		Slow Rattle	DRM 017:075	MediumReverb
PtchDwnKik2	DRM 011:100	MediumReverb		Snare Roll	DRM 012:055	MediumReverb
PtchDwnKik3	DRM 011:101	MediumReverb		Snare-GM	DRM 012:003	MediumReverb
Punchy Kick	DRM 011:022	MediumReverb		Soft Noise	DRM 017:045	MediumReverb
R.Crash-GM	DRM 014:072	MediumReverb		Splash1-GM	DRM 014:061	MediumReverb
Rainstick	DRM 017:047	MediumReverb		SplashCym 1	DRM 014:056	MediumReverb
Rainstick 2	DRM 017:048	MediumReverb		Spoons	DRM 016:041	MediumReverb
Rainstick 3	DRM 017:049	MediumReverb		Spoons 2	DRM 016:042	MediumReverb
Rap Hat 1	DRM 014:028	MediumReverb		Stereo Clap	DRM 018:008	MediumReverb
Rap Hat 2	DRM 014:030	MediumReverb		Stick Click	DRM 012:072	MediumReverb
Rap Kick 1	DRM 011:064	MediumReverb		SwitchTom 1	DRM 013:020	MediumReverb
Rap Kick 2	DRM 011:065	MediumReverb		Syn Cowbell	DRM 018:000	MediumReverb
Rap Kick 3	DRM 011:066	MediumReverb		Syn Kick-GM	DRM 011:084	MediumReverb
Rap Snare	DRM 012:028	MediumReverb		Syn Kick1A	DRM 011:079	MediumReverb
Rap Tambo	DRM 016:032	MediumReverb		Syn Kick1B	DRM 011:080	MediumReverb
Real Kick	DRM 011:019	MediumReverb		Syn Kick1C	DRM 011:081	MediumReverb
Real Snare	DRM 012:000	MediumReverb		Syn Kick1D	DRM 011:082	MediumReverb
Reso Kick1	DRM 011:029	MediumReverb		Syn Maracas	DRM 018:015	MediumReverb
Reso Kick2	DRM 011:030	MediumReverb		Syn OpenHat	DRM 014:025	MediumReverb
Rev BoomKik	DRM 011:109	MediumReverb		Syn Snr-GM	DRM 012:049	MediumReverb
Rev ClHat 1	DRM 014:103	MediumReverb		Syn Tom-GM	DRM 013:033	MediumReverb
Rev ClHat 2	DRM 014:104	MediumReverb		Syn.Drum-GM	GM 008:118	MediumReverb
Rev ClHat 3	DRM 014:105	MediumReverb		SynClHat-GM	DRM 014:023	MediumReverb
Rev ClHat 4	DRM 014:106	MediumReverb		SynCloseHat	DRM 014:022	MediumReverb
Rev ClHat 5	DRM 014:107	MediumReverb		SynHiCongGM	DRM 018:029	MediumReverb

SynLoCongGM	DRM 018:028	MediumReverb
SynOpHat-GM	DRM 014:026	MediumReverb
SynRideCym1	DRM 014:076	MediumReverb
SynRideCym2	DRM 014:077	MediumReverb
SynRimshot	DRM 018:002	MediumReverb
Synth Clave	DRM 018:010	MediumReverb
Synth Drip	DRM 018:019	MediumReverb
Synth Drip2	DRM 018:020	MediumReverb
Synth Drip3	DRM 018:021	MediumReverb
Synth Hit 1	DRM 018:085	MediumReverb
Synth Hit 2	DRM 018:086	MediumReverb
Synth Hit 3	DRM 018:087	MediumReverb
Synth Hit 4	DRM 018:088	MediumReverb
Synth Hit 5	DRM 018:089	MediumReverb
Synth Hit 6	DRM 018:090	MediumReverb
Synth Hit 7	DRM 018:091	MediumReverb
Synth Hit 8	DRM 018:092	MediumReverb
Synth Hit 9	DRM 018:093	MediumReverb
Synth Hit10	DRM 018:094	MediumReverb
Synth Hit11	DRM 018:095	MediumReverb
Synth Hit12	DRM 018:096	MediumReverb
Synth Hit13	DRM 018:097	MediumReverb
Synth Hit14	DRM 018:098	MediumReverb
Synth Kick2	DRM 011:086	MediumReverb
Synth Kick3	DRM 011:088	MediumReverb
Synth Kick4	DRM 011:091	MediumReverb
Synth Kiss	DRM 018:023	MediumReverb
Synth Kiss2	DRM 018:024	MediumReverb
Synth Kiss3	DRM 018:025	MediumReverb
Synth Snare	DRM 012:047	MediumReverb
Synth Tom 1	DRM 013:024	MediumReverb
Synth Tom 2	DRM 013:025	MediumReverb
Synth Tom 3	DRM 013:026	MediumReverb
Synth Tom 4	DRM 013:027	MediumReverb
Synth Tom 5	DRM 013:028	MediumReverb
Taiko	DRM 015:069	MediumReverb
Taiko-GM	GM 008:116	MediumReverb
Tambo Shake	DRM 016:026	MediumReverb
Tambo Short	DRM 016:030	MediumReverb
TamboUpShak	DRM 016:029	MediumReverb
Tambourine	DRM 016:027	MediumReverb
Tambourine2	DRM 016:031	MediumReverb
Tight Kick1	DRM 011:025	MediumReverb
Tight Kick2	DRM 011:026	MediumReverb
Timbali	DRM 015:042	MediumReverb
Timbali 2	DRM 015:045	MediumReverb
Timbali HP	DRM 015:043	MediumReverb
TimbaliFlam	DRM 015:046	MediumReverb
TimbaliFlm2	DRM 015:047	MediumReverb
Trashy Snr	DRM 012:034	MediumReverb
Tri Mute-GM	DRM 016:007	MediumReverb
Tri Open-GM	DRM 016:008	MediumReverb
Tri Roll	DRM 016:006	MediumReverb
Triangl/whl	DRM 016:000	MediumReverb
Triangle Mt	DRM 016:002	MediumReverb
Triangle Op	DRM 016:005	MediumReverb
TriangleMt2	DRM 016:003	MediumReverb
TrianglTick	DRM 016:004	MediumReverb
VelociDrums	INT 001:065	MediumReverb
VelociPercs	INT 001:063	MediumReverb
Vibraslap	DRM 017:043	MediumReverb
Vibraslap 2	DRM 017:044	MediumReverb
Wakka 01	DRM 018:054	MediumReverb
Wakka 02	DRM 018:055	MediumReverb
Wakka 03	DRM 018:056	MediumReverb
Wakka 04	DRM 018:057	MediumReverb
Wakka 05	DRM 018:058	MediumReverb
Wakka 06	DRM 018:059	MediumReverb
Wakka 07	DRM 018:060	MediumReverb
Wakka 08	DRM 018:061	MediumReverb
Wakka 09	DRM 018:062	MediumReverb
Wakka 10	DRM 018:063	MediumReverb
Wakka 11	DRM 018:064	MediumReverb
Wakka 12	DRM 018:065	MediumReverb
Wakka 13	DRM 018:066	MediumReverb
Wakka 14	DRM 018:067	MediumReverb
Whistle A	DRM 017:051	MediumReverb
Whistle B	DRM 017:054	MediumReverb
WHLJaw Harp	DRM 016:037	MediumReverb
Wind Chime	DRM 016:051	MediumReverb
Windchime2	DRM 016:052	MediumReverb
WindchimeGM	DRM 016:053	MediumReverb
Woodblock 1	DRM 017:008	MediumReverb
Woodblock 2	DRM 017:010	MediumReverb
WoodblockHP	DRM 017:009	MediumReverb
Woodblok-GM	GM 008:115	MediumReverb

PIANO-A

BrightPiano	ROM 004:005	01 PaINTetric EQ
ConcertGrnd	ROM 004:004	18 EQ->Reverb
Dance Piano	ROM 004:006	12 Rev->Chorus
HonkyTnk-GM	GM 008:003	MediumReverb
Jazz Piano	ROM 004:002	MediumReverb
Piano 1-GM	GM 008:000	MediumReverb
Piano 2-GM	GM 008:001	MediumReverb
Piano 3-GM	GM 008:002	MediumReverb

Pop Piano	ROM 004:007	12 Rev->Chorus
Room Piano	ROM 004:003	18 EQ->Reverb
StereoGrand	ROM 004:000	01 PaINTetric EQ
Tack Piano	ROM 004:008	MediumReverb
Warm Piano	ROM 004:001	MediumReverb

PNOLYR-A

LA Layer	ROM 004:009	Chorus
Pno+Strings	ROM 004:010	MediumReverb
Pno+Voices	ROM 004:012	MediumReverb
PnoStrBells	ROM 004:011	WetReverb

PIANO-E

DynFM E.Pno	ROM 004:021	Chorus
DynoE.Pno1	ROM 004:022	Chorus
E.Piano1-GM	GM 008:004	MediumReverb
E.Piano2-GM	GM 008:005	MediumReverb
Hammer Tine	ROM 004:020	Chorus
HybridKeys	ROM 004:016	MediumReverb
HybridE.Pno	ROM 004:023	Chorus
Mod Wurlie	ROM 004:026	MediumReverb
Pure El.Pno	ROM 004:015	11 8-Voice Chorus
Real El.Pno	ROM 004:013	Chorus
Suitcase EP	ROM 004:024	17 Phaser->Rev
Tine Flies	ROM 004:025	Chorus
Tine Sine	ROM 004:017	Chorus
Tine-2-Love	ROM 004:018	Chorus
VintgeE.Pno	ROM 004:014	10 Stereo Chorus
VintgWurlie	ROM 004:027	17 Phaser->Rev
Warm FM Pno	ROM 004:019	MediumReverb

PNOLYR-E

ElPiano+Pad	ROM 004:029	17 Phaser->Rev
FM Pno+Strg	ROM 004:028	Chorus

PLUCKED

Banjo	ROM 005:089	18 EQ->Reverb
Banjo-GM	GM 008:105	MediumReverb
Coral Sitar	ROM 005:017	MediumReverb
Ethnotan	ROM 005:088	20 DDL->Chorus
Hammered	ROM 005:086	WetReverb
Harp-GM	GM 008:046	MediumReverb
Harp-Stereo	ROM 005:090	MediumReverb
Kalimba	ROM 005:084	MediumReverb
Kalimba-GM	GM 008:108	MediumReverb
Koto-GM	GM 008:107	MediumReverb
Lucy	INT 001:038	11 8-Voice Chorus
Mbira	ROM 005:085	18 EQ->Reverb
PizzStrg-GM	GM 008:045	MediumReverb
Santur-GM	GM 008:015	MediumReverb
Shamisen	ROM 005:091	WetReverb
Shamisen-GM	GM 008:106	MediumReverb
Sitar	ROM 005:087	WetReverb
Sitar-GM	GM 008:104	MediumReverb
Solo Pizz	ROM 005:045	WetReverb
Synthtar	INT 001:022	MediumReverb
Whl/OctPizz	ROM 005:044	WetReverb

SAX-SOLO

Alto Sax-GM	GM 008:065	MediumReverb
Bari.Sax-GM	GM 008:067	MediumReverb
BreathyAlto	ROM 005:080	WetReverb
BreathySopr	ROM 005:077	WetReverb
BreathyTenr	ROM 005:078	WetReverb
Sop.Sax-GM	GM 008:064	MediumReverb
Soprano Sax	ROM 005:081	WetReverb
Tenor Lead	ROM 005:079	WetReverb
TenorSax-GM	GM 008:066	MediumReverb

SOUND-FX

Applause	DRM 018:080	MediumReverb
Applause-GM	GM 008:126	MediumReverb
Astro Car	INT 001:060	MediumReverb
Birds-GM	GM 008:123	MediumReverb
BUGZ!!!	DRM 018:105	WetReverb
Gunshot-GM	GM 008:127	MediumReverb
Hlicoptr-GM	GM 008:125	MediumReverb
ZR RoboVox	INT 001:059	MediumReverb
Scratch It	DRM 018:072	MediumReverb
Seashore-GM	GM 008:122	MediumReverb
SurfaceNoiz	DRM 018:070	MediumReverb
Telephon-GM	GM 008:124	MediumReverb
Warp Nine	INT 001:058	MediumReverb

SPLITS

Jazz Trio	INT 001:061	MediumReverb
Modern Jazz	INT 001:062	MediumReverb

STRGSECT

Chamber Str	ROM 005:037	MediumReverb
DarkStrings	ROM 005:034	MediumReverb
Dyn Marcato	ROM 005:040	WetReverb
Holiday Str	ROM 005:039	WetReverb
Hot Bath	ROM 005:033	MediumReverb
Legato Str	ROM 005:036	WetReverb
MovieStrngs	ROM 005:038	WetReverb
SlowStrg-GM	GM 008:049	MediumReverb
String Mass	ROM 005:035	Chorus
Strings-GM	GM 008:048	MediumReverb
Syn Strings	ROM 005:042	MediumReverb
SynStrg1-GM	GM 008:050	MediumReverb
TremStrg-GM	GM 008:044	MediumReverb
Warm Bath	ROM 005:032	MediumReverb

STRGSOLO

Name	Location	Effect
Cello	ROM 005:049	WetReverb
Cello+Vln	ROM 005:048	WetReverb
Cello-GM	GM 008:042	MediumReverb
CntrBass-GM	GM 008:043	MediumReverb
Contrabass	ROM 005:050	WetReverb
Elec Fiddle	ROM 005:051	MediumReverb
Fiddle-GM	GM 008:110	MediumReverb
SoloMarcato	ROM 005:041	WetReverb
Viola	ROM 005:047	WetReverb
Viola-GM	GM 008:041	MediumReverb
Violin	ROM 005:046	WetReverb
Violin-GM	GM 008:040	MediumReverb

SYN-COMP

Name	Location	Effect
Ana-Comp	ROM 004:102	22 DDL->Phaser
Analog Clav	INT 001:040	20 DDL->Chorus
Big AnaLead	ROM 004:099	20 DDL->Chorus
Brassy Stab	INT 001:033	MediumReverb
Brite Comp	ROM 004:104	21 DDL->Flanger
Bs.&Lead-GM	GM 008:087	MediumReverb
Chiff.Ld-GM	GM 008:083	MediumReverb
Churbles	ROM 004:073	33 Formant Morph
Digi-Comp	ROM 004:101	22 DDL->Phaser
Echoes	INT 001:039	20 DDL->Chorus
House Layer	ROM 005:115	MediumReverb
MassiveLead	INT 001:029	MediumReverb
Meta-Clav	INT 001:042	16 Flanger->Rev
Mood Unit	INT 001:004	16 Flanger->Rev
Neboir	INT 001:056	21 DDL->Flanger
PolySyn.-GM	GM 008:090	MediumReverb
Real Rezz	INT 001:019	30 Dist->VCF->DDL
Rezz Comp	INT 001:043	16 Flanger->Rev
Rezz Stab	INT 001:032	MediumReverb
Rezzy Brass	ROM 004:086	MediumReverb
Rubber Rez	ROM 004:083	Chorus
ScratchPtch	INT 001:127	01 PaINTetric EQ
Strat Pad	INT 001:001	40 EQ->Chorus->DDL
Sync Lead	ROM 004:095	22 DDL->Phaser
SynFunkClav	ROM 004:060	19 Spinner->Rev
TakeThe5th	INT 001:028	MediumReverb
Trans Comp	INT 001:027	14 Rev->Phaser
Trans Rezz	INT 001:020	MediumReverb
Vel Trans	ROM 004:103	MediumReverb
Watery Pad	INT 001:008	13 Rev->Flanger

SYN-LEAD

Name	Location	Effect
Acid Wheel	ROM 004:100	MediumReverb
Acid Wheel2	INT 001:044	22 DDL->Phaser
FormantLead	ROM 004:096	33 Formant Morph
Lucky'sLead	INT 001:026	MediumReverb
Maxi Mini	ROM 004:098	31 Pitch Detuner
Mini-Lead	INT 001:024	40 EQ->Chorus->DDL
MonoBrassLd	ROM 004:087	MediumReverb
OdysseyLead	INT 001:035	MediumReverb
Rap Glider	ROM 004:097	MediumReverb
Rezolution	INT 001:021	MediumReverb
Smooth Lead	INT 001:025	13 Rev->Flanger
TransFusion	INT 001:023	21 DDL->Flanger

SYN-PAD

Name	Location	Effect
4-D Pad	ROM 004:068	MediumReverb
Abaco	ROM 004:075	20 DDL->Chorus
Atmspher-GM	GM 008:099	MediumReverb
Bell Pad	ROM 004:084	17 Phaser->Rev
Bellsalar	ROM 004:067	14 Rev->Phaser
BowedGls-GM	GM 008:092	MediumReverb
Britness-GM	GM 008:100	MediumReverb
ComfortZone	ROM 004:077	18 EQ->Reverb
Delay Sweep	INT 001:054	32 Chatter Box
Dreamwave	ROM 004:072	20 DDL->Chorus
EchoDrop-GM	GM 008:102	MediumReverb
Evolution	ROM 004:080	19 Spinner->Rev
Fantasia-GM	GM 008:088	MediumReverb
Fat Pad	ROM 004:081	Chorus
Goblin-GM	GM 008:101	MediumReverb
Halo Pad-GM	GM 008:094	MediumReverb
Hi-Tech Bed	ROM 004:078	22 DDL->Phaser
Horizons	ROM 004:090	11 8-Voice Chorus
Icicles	ROM 004:076	22 DDL->Phaser
Icy Voices	ROM 004:070	15 Chorus->Rev
Late Breeze	ROM 004:085	MediumReverb
Lovely	INT 001:003	10 Stereo Chorus
MetalPad-GM	GM 008:093	MediumReverb
Phase Sweep	ROM 004:079	40 EQ->Chorus->DDL
Positrons	INT 001:002	11 8-Voice Chorus
Sage Orbit	ROM 004:074	23 DDL->EQ
Slow Wash	INT 001:016	18 EQ->Reverb
SoundTrk-GM	GM 008:097	MediumReverb
SpinCrystal	INT 001:006	20 DDL->Chorus
StarThm.-GM	GM 008:103	MediumReverb
SweepPad-GM	GM 008:095	MediumReverb
Syn Orch	ROM 005:053	20 DDL->Chorus
SynCalio-GM	GM 008:082	MediumReverb

Name	Location	Effect
SyncroTrans	INT 001:053	20 DDL->Chorus
SynStrg2-GM	GM 008:051	MediumReverb
Textures	INT 001:007	14 Rev->Phaser
Trans Vox	ROM 005:024	22 DDL->Phaser
Transilient	INT 001:055	15 Chorus->Rev
Translucent	INT 001:005	20 DDL->Chorus
Transphere	INT 001:017	21 DDL->Flanger
Tryptichon	ROM 004:069	15 Chorus->Rev
Warm Pad-GM	GM 008:089	MediumReverb

SYN-VINT

Name	Location	Effect
5ths Wv-GM	GM 008:086	MediumReverb
AnalogBrass	INT 001:031	LightReverb
Elka Strngs	ROM 004:089	02 Hall Reverb
FairliteStr	ROM 004:094	MediumReverb
MicroTrans	INT 001:009	11 8-Voice Chorus
OB-8 Strngs	ROM 004:092	11 8-Voice Chorus
Poly Stab	INT 001:034	MediumReverb
Prophet Str	INT 001:030	MediumReverb
Pulse Synth	INT 001:036	13 Rev->Flanger
Retro Lead	ROM 004:091	29 ResVCF->DDL
Saw Wv-GM	GM 008:081	MediumReverb
SawTeeth	ROM 004:093	40 EQ->Chorus->DDL
SquareWv-GM	GM 008:080	MediumReverb
Vox Humana	ROM 004:088	22 DDL->Phaser

SYNOTHER

Name	Location	Effect
FormantSync	INT 001:057	33 Formant Morph
Glyder	INT 001:037	20 DDL->Chorus
Ice Rain-GM	GM 008:096	MediumReverb
RainMan	ROM 004:071	20 DDL->Chorus
Sample&Hold	INT 001:018	MediumReverb
Transzex	ROM 004:066	21 DDL->Flanger

VOCALS

Name	Location	Effect
A Ha Ha Ha	INT 001:014	19 Spinner->Rev
Aaaahhhs	ROM 005:021	13 Rev->Flanger
Ahhzy	ROM 005:030	MediumReverb
Airy Voices	INT 001:015	05 Large Plate
Bell-Air	ROM 005:028	MediumReverb
ChoirAah-GM	GM 008:052	05 Large Plate
Nutmeg	ROM 005:029	MediumReverb
Oh Yeah Pad	ROM 005:025	MediumReverb
Oooohhhs	ROM 005:022	13 Rev->Flanger
Slow Morph	ROM 005:026	12 Rev->Chorus
Solo Vox-GM	GM 008:085	MediumReverb
SpaceVox-GM	GM 008:091	MediumReverb
Syn.Vox-GM	GM 008:054	MediumReverb
Transcend	ROM 005:082	MediumReverb
Tundra Vox	ROM 005:023	MediumReverb
Vox Oohs-GM	GM 008:053	MediumReverb
Wheel Morph	ROM 005:027	Chorus

WINDREED

Name	Location	Effect
Accord.-GM	GM 008:021	MediumReverb
Accordion	ROM 004:064	MediumReverb
Airy Flute	ROM 005:073	WetReverb
Andes Flute	ROM 005:074	02 Hall Reverb
Bagpipe-GM	GM 008:109	MediumReverb
Bagpipes-PT	ROM 005:083	18 EQ->Reverb
Bandneon-GM	GM 008:023	MediumReverb
Bassoon	ROM 005:069	WetReverb
Bassoon-GM	GM 008:070	MediumReverb
BotlBlow-GM	GM 008:076	MediumReverb
BrthNois-GM	GM 008:121	MediumReverb
Chiff Flute	ROM 005:075	WetReverb
Clarinet	ROM 005:072	02 Hall Reverb
Clarinet-GM	GM 008:071	MediumReverb
Eng.Horn-GM	GM 008:069	MediumReverb
EnglishHorn	ROM 005:071	WetReverb
Flute Pad	INT 001:013	02 Hall Reverb
Flute-GM	GM 008:073	MediumReverb
Folk Accord	ROM 004:065	MediumReverb
FormantHarp	ROM 005:082	32 Chatter Box
Harmnica-GM	GM 008:022	MediumReverb
Harmonica	ROM 005:076	WetReverb
Oboe	ROM 005:070	WetReverb
Oboe-GM	GM 008:068	MediumReverb
Ocarina-GM	GM 008:079	MediumReverb
Pan Flutes	ROM 005:065	15 Chorus->Rev
PanFlute-GM	GM 008:075	MediumReverb
Piccolo-GM	GM 008:072	MediumReverb
Recorder	ROM 005:066	WetReverb
Recorder-GM	GM 008:074	MediumReverb
Shaku.-GM	GM 008:077	MediumReverb
Shannai-GM	GM 008:111	MediumReverb
TinWhistles	ROM 005:092	MediumReverb
Whistle-GM	GM 008:078	MediumReverb

*UTILITY

Name	Location	Effect
Silence	DRM 018:127	MediumReverb

*CUSTOM

Name	Location	Effect
RthmEditKit	kit010:001	Various (per key)
SongEditKit	kit010:000	Various (per key)

MIDI-OUT Xmit bnk:prg

List of Rhythm Pattern Files

The following is a list of all the rhythm pattern files currently available for the ZR-76 Drum Machine. All INT-RTHM rhythm patterns are backed-up to the ZRD-100 floppy disk in the "!FLSRTHM" rhythm bank. Any rhythms that are listed as ZRD-100 are additional rhythms available exclusively on the ZRD-100 disk:

Category	Name	Residency
AMBIENT	Sci-Fi 1	INT-RTHM
BALLAD	Philly	ROM-RTHM
BALLAD	RockBallad1	ROM-RTHM
BALLAD	R&BBallad 2	ROM-RTHM
BALLAD	RockBallad 1	ROM-RTHM
BALLAD	Straight 8	INT-RTHM
BALLAD	R&BBallad 3	ZRD-100
BALLAD	Rim 16&Perc	ZRD-100
BALLAD	Rim 16ths	ZRD-100
BALLAD	Shuffle 8	ZRD-100
BALLAD	Straight 16	ZRD-100
BLUES	Shuffle 1	ROM-RTHM
BLUES	SlowBlues 1	ROM-RTHM
BLUES	Shuffle 2	ZRD-100
COUNTRY	16th Brush 1	ROM-RTHM
COUNTRY	Brush Shuffl	ROM-RTHM
COUNTRY	Cntry Rock1	ROM-RTHM
COUNTRY	Cntry Rock2	ROM-RTHM
COUNTRY	Cntry Waltz	ROM-RTHM
COUNTRY	Pop Cntry 1	ROM-RTHM
COUNTRY	Shuffle 12/8	ROM-RTHM
COUNTRY	Slow Shufl1	ROM-RTHM
COUNTRY	Straight 1	ROM-RTHM
COUNTRY	6/8 Country	INT-RTHM
COUNTRY	Fast Pop 1	ZRD-100
COUNTRY	Fast Waltz	ZRD-100
DANCE	Euro Dance1	ROM-RTHM
DANCE	Euro Tech 1	ROM-RTHM & DEMORTHM
DANCE	Euro Tech 2	ROM-RTHM
DANCE	Hip Hop 1	ROM-RTHM
DANCE	House 2	ROM-RTHM
DANCE	House 3	ROM-RTHM
DANCE	House 4	ROM-RTHM
DANCE	Jungle 1	ROM-RTHM & DEMORTHM
DANCE	Jungle 2	ROM-RTHM
DANCE	Jungle 3	ROM-RTHM
DANCE	Jungle 4	ROM-RTHM
DANCE	JungleRave1	ROM-RTHM
DANCE	Robo Techno	ROM-RTHM
DANCE	Slow Euro 1	ROM-RTHM
DANCE	Techno 1	ROM-RTHM
DANCE	Techno Toys	ROM-RTHM
DANCE	House 1	INT-RTHM
DANCE	Rave 1	INT-RTHM
DANCE	Insert Fun 2	ZRD-100
FUNK	Funk Fun 1	ROM-RTHM
FUNK	Kickin'	ROM-RTHM
FUNK	New Jam	ROM-RTHM
FUNK	Old School1	ROM-RTHM
FUNK	Old School2	ROM-RTHM
FUNK	Tiny Drums1	ROM-RTHM
FUNK	Funky Thang	INT-RTHM
HIPHOP	Dance Pop 3	ROM-RTHM
HIPHOP	DanceBeats1	ROM-RTHM
HIPHOP	DanceBeats2	ROM-RTHM
HIPHOP	Hop Loop 1	ROM-RTHM
HIPHOP	HopBallad 2	ROM-RTHM
HIPHOP	Insert Fun 1	ROM-RTHM
HIPHOP	Soul Jam 1	ROM-RTHM
ISLAND	Pop Reggae1	ROM-RTHM
ISLAND	Reggae 1	ROM-RTHM
ISLAND	Reggae 2	ROM-RTHM
ISLAND	Rubba Dub	ROM-RTHM
ISLAND	Kingston	INT-RTHM
JAZZ	6/8 latin jz	ROM-RTHM
JAZZ	Swing #1	ROM-RTHM
JAZZ	Brush Ballad	INT-RTHM
JAZZ	Up Bop	INT-RTHM & DEMORTHM
LATIN	Brush Samba	ROM-RTHM
LATIN	Samba 1	ZRD-100
LATIN	Samba 3	ZRD-100
LATIN	Samba 2	ZRD-100
LATIN	Clave Funk	INT-RTHM
LATIN	Songo	INT-RTHM
LATIN	Marinera	ZRD-100
LATIN	Vals	ZRD-100
ODDMETER	5/4 Groove	INT-RTHM & DEMORTHM
POP	12/8 ballad	ROM-RTHM
POP	16th Perc 1	ROM-RTHM
POP	Dance Pop 1	ROM-RTHM
POP	Old Hits 1	ROM-RTHM
POP	6/8 pop	INT-RTHM
POP	Dance Pop 4	INT-RTHM
RAP	InsertLoop1	ROM-RTHM & DEMORTHM
RAP	JazzyLoop 1	ROM-RTHM
RAP	Loops 1	ROM-RTHM
RAP	Loops 2	ROM-RTHM
RAP	Loops 3	ROM-RTHM
RAP	Loops 4	ROM-RTHM
RAP	Loops 5	ROM-RTHM
RAP	Loops 6	ROM-RTHM
RAP	Loops 7	ROM-RTHM
RAP	Loops 8	ROM-RTHM
RAP	Slow Jam 1	ROM-RTHM
RAP	Slow Loops1	ROM-RTHM
RAP	WakkaLoop 1	ROM-RTHM & DEMORTHM
ROCK	16th Snr 1	ROM-RTHM
ROCK	Basics 1	ROM-RTHM
ROCK	Basics 2	ROM-RTHM
ROCK	Big Rock 1	ROM-RTHM
ROCK	Big Rock 2	ROM-RTHM
ROCK	Classic 1	ROM-RTHM
ROCK	Cookin'	ROM-RTHM & DEMORTHM
ROCK	Cops	ROM-RTHM
ROCK	Dance Pop 2	ROM-RTHM
ROCK	Fast Rock 1	ROM-RTHM
ROCK	Funky Stick	ROM-RTHM
ROCK	Med Rock 1	ROM-RTHM
ROCK	Med. Pop 1	ROM-RTHM
ROCK	Med. Pop 2	ROM-RTHM
ROCK	Pop Ballad	ROM-RTHM
ROCK	Pop Shufl 1	ROM-RTHM
ROCK	Ride/Rim 1	ROM-RTHM
ROCK	RockAnthem1	ROM-RTHM
ROCK	Shuffle 3	ROM-RTHM
ROCK	Shuffle Pop	ROM-RTHM
ROCK	Slow Rock 1	ROM-RTHM
ROCK	Swing 16th1	ROM-RTHM
ROCK	TripShuffle	ROM-RTHM
ROCK	All 4 Stick	INT-RTHM
ROCK	Drum Solo	INT-RTHM & DEMORTHM
ROCK	Sthrn Rock	INT-RTHM & DEMORTHM
ROCK	Pop Rd/Snr1	ZRD-100
ROCK	Stones	ZRD-100
SOUL-R&B	16th Tambo 1	ROM-RTHM
SOUL-R&B	Easy R&B	ROM-RTHM
SOUL-R&B	LoveBallad1	ROM-RTHM
SOUL-R&B	LoveBallad2	ROM-RTHM
SOUL-R&B	Pop Soul 1	ROM-RTHM & DEMORTHM
SOUL-R&B	Dance Hit 1	INT-RTHM & DEMORTHM
SOUL-R&B	Dance Hit 2	INT-RTHM & DEMORTHM
SOUL-R&B	Gospel 1	INT-RTHM
SOUL-R&B	Gospel 2	ZRD-100
SOUL-R&B	Gospel 3	ZRD-100
WORLD	World Pop 1	ROM-RTHM & DEMORTHM
WORLD	World Pop 3	ROM-RTHM
WORLD	PercGroove1	ZRD-100
WORLD	World Pop 2	ZRD-100
WORLD	World Pop 4	ZRD-100
*UTILITY	ClickTracks	ROM-RTHM

EXP-4: The Perfect Piano™ by William Coakley

Your ZR-76 contains ENSONIQ's EXP-4 Wave Expansion board, featuring The Perfect Piano™ by William Coakley. This board adds additional waves and sounds to those built in to the ZR, or provided on the floppy that came with it. The Perfect Piano™ waves are based on a Steinway D grand piano and two electric pianos. These waves can be accessed by the Unisyn editing software and incorporated into your own new sounds.

The Perfect Piano™ Waves

HARP NOISE L	TINE NOISE 2	EPNO HI	WURLIE LOW	WURLIE MED	HAMMER THUMP
HARP NOISE R	WURLIE KEYUP	EPNO MID	EPNO LOW	TINE CLANK	WURLIE HI
TINE NOISE 1	STNWY SOFT-L	STNWY SOFT-R	STNWY HARD-L	EPNO KEY UP	STNWY HARD-R

The Perfect Piano™ Sounds

PIANO-A

Perfect Pno	036:000	MediumReverb
StPno EQwhl	036:001	LightReverb
Mello-Piano	036:002	LightReverb
Warm Pno/EQ	036:003	LightReverb
TrackingPno	036:004	LightReverb
Stately Pno	036:005	LightReverb
Brite Piano	036:006	LightReverb
LatinoPiano	036:007	LightReverb
Honky-Tonky	036:008	15 Chorus->Rev
Warm-ThkSus	036:009	LightReverb
2Lyr-Bright	036:010	01 Parametric EQ
2Lyr-Stereo	036:011	01 Parametric EQ
4Lyr w/Thud	036:012	01 Parametric EQ
Pno/HrpNoiz	036:013	LightReverb
Cheap Seats	036:014	23 DDL->EQ
Lt Chor Pno	036:015	15 Chorus->Rev
EQ Piano	036:016	01 Parametric EQ
HrdLyrs/Thd	036:017	01 Parametric EQ
Reflex Pno	036:018	24 Multi-Tap DDL
DarkSt Pno*	037:001	MediumReverb
Seq. Piano	037:063	01 Parametric EQ

PIANO-E

Real Thing	036:033	LightReverb
Chorus EPno	036:034	Chorus
3Lyr ElPno	036:035	17 Phaser->Rev
Cuttin'Tine	036:036	18 EQ->Reverb
4X Med EPno	036:037	Chorus
Subtle EPno	036:038	Chorus
Tine-In	036:039	17 Phaser->Rev
Busted Tine	036:040	17 Phaser->Rev
PhasedWurli	036:042	17 Phaser->Rev
WurliFat	036:043	12 Rev->Chorus
WurliGtrAmp	036:044	36 Guitar Amp
Talkin'Wurli	036:046	32 Chatter Box
TrashdWurli	036:047	27 Dist->Phaser
Rock Wurlie	036:048	25 Dist->Chorus
Pianet	036:050	01 Parametric EQ
Hybrid EP*	037:004	10 Stereo Chorus
Tine-Wurli	037:006	19 Spinner->Rev
TexturedEP*	037:012	15 Chorus->Rev

DigiPianet*	037:013	17 Phaser->Rev
AttackEPno*	037:014	17 Phaser->Rev
Sweet EPno*	037:015	Chorus
WrliHybrid*	037:016	15 Chorus->Rev
FM Hybrid*	037:017	Chorus
PercWurlie*	037:020	MediumReverb
Tite Wurlie	037:023	MediumReverb
Amped ElPno	037:024	27 Dist->Phaser
ClaviWurlie	037:027	LightReverb
BritePhase	037:028	17 Phaser->Rev
Dark Wurlie	037:029	LightReverb
Jazzy Phase	037:030	17 Phaser->Rev
Wurli-Organ	037:031	34 RotarySpeaker

PNOLYR-A

Piano-Bell	036:019	12 Rev->Chorus
ElPno Attack	036:020	01 Parametric EQ
Piano/ElPno	036:021	01 Parametric EQ
Toy-Piano	036:022	10 Stereo Chorus
Acoustatine	036:023	12 Rev->Chorus
New Age Piano	036:024	40 EQ->Chorus->DDL
TineNoisePd	036:025	15 Chorus->Rev
HarpNoisePd	036:026	15 Chorus->Rev
Padulatiary	036:027	12 Rev->Chorus
Feisty Pad	036:029	40 EQ->Chorus->DDL
Quack Comp	036:030	15 Chorus->Rev
Pno/Orgn-Wh	036:031	34 RotarySpeaker
PercOrg Pno	036:032	10 Stereo Chorus
Piano/Wurly	036:049	01 Parametric EQ
Piano/Strg*	037:000	01 Parametric EQ
Pno/VibStr*	037:002	40 EQ->Chorus->DDL
Piano/Aahs*	037:003	01 Parametric EQ
NylonPiano*	037:007	12 Rev->Chorus
DeepPnoPad*	037:008	14 Rev->Phaser
KeithJ Pno*	037:009	06 Small Plate
Air Piano*	037:021	19 Spinner->Rev
StPno+EPno*	037:025	05 Large Plate
StPno+Strg*	037:026	05 Large Plate
PnoPdDetun*	037:033	31 Pitch Detuner
Harp-Piano*	037:034	12 Rev->Chorus
Deep Piano*	037:035	14 Rev->Phaser
SqrWavPiano	037:037	02 Hall Reverb

Pno Squared	037:039	12 Rev->Chorus
Piano-Tri	037:040	12 Rev->Chorus
4L Pno-Synt	037:044	12 Rev->Chorus
4L Pno-Harm	037:045	12 Rev->Chorus
Quack Atak*	037:046	15 Chorus->Rev
Piano-Gamln	037:047	12 Rev->Chorus
Pno/MrmbaPd	037:048	15 Chorus->Rev
PianoVoiln*	037:049	12 Rev->Chorus
Pno/Org-Wh*	037:050	34 RotarySpeaker
SlapAttack*	037:056	16 Flanger->Rev
PnoHrpStrg*	037:057	01 Parametric EQ
PnoSynLead*	037:058	40 EQ->Chorus->DDL
Pno-Kalmba*	037:062	01 Parametric EQ

PNOLYR-E

RhythmicPad	036:028	40 EQ->Chorus->DDL
HarpTinePad	036:041	15 Chorus->Rev
Wurli-Rotor	036:045	34 RotarySpeaker
ElPnoGamPad	037:005	15 Chorus->Rev
Orgn Hybrid*	037:018	10 Stereo Chorus
Org-EP Mix*	037:019	10 Stereo Chorus
Weird EPLyr	037:022	40 EQ->Chorus->DDL
Wurli-Rez*	037:032	20 DDL->Chorus
EPno-Strgs*	037:036	12 Rev->Chorus
Wurli Synth	037:038	12 Rev->Chorus
EP-Mute Gtr	037:041	11 8-Voice Chorus
East Piano*	037:042	11 8-Voice Chorus
ElPno-Squr*	037:043	12 Rev->Chorus
EPnoDigVoi*	037:01	11 8-Voice Chorus

SPLITS

AcBs/Piano*	037:010	04 Small Room
Pno/TenrSx*	037:011	04 Small Room
AcBs/ElPno*	037:052	17 Phaser->Rev
Frtls/EPno*	037:053	17 Phaser->Rev
BsGtr/EPno*	037:054	17 Phaser->Rev
SynBs/EPno*	037:055	17 Phaser->Rev
Piano/Alto*	037:059	04 Small Room
Piano/Sopr*	037:060	04 Small Room
Pno/Clarnt*	037:061	04 Small Room

ENSONIQ Drum Map

ZR-76 drum kits that are mapped to the ENSONIQ drum map have eight predefined zones. These predefined zones allow you to swap between the different drum kits that use this map in any of your sequences or songs and have expected results. Within some of the zones there are single keys and/or groups of keys designed to be in finish mode as far as their envelopes are concerned.

ZONE	KEY RANGE	NAME	NOTES
1	B1 to E2 (6 keys)	KICK	The key C#2 allows for non-finish envelope sounds.
2	F2 to D3 (10 keys)	SNARE	Includes sidestick—the keys from A2-C3 allow for non-finish envelope sounds (Snare rolls, brush swirls, etc.)
3	D#3 to C4 (10 keys)	HATS	The keys G#3 and B3 allow for non-finish envelope sounds (closed hats first, opens on A#3 and B3; foot closed on C4).
4	C#4 to A4 (9 keys)	CYMBL	The key A4 allows for non-finish envelope sounds (rides C#4 to E4; followed by crashes).
5	A#4 to F#5 (9 keys)	TOMS	All keys in finish envelope mode.
6	G5 to C#6 (7 keys)	PERC1	Shaken or small hits—tambourine (G5 to A5); shaker, cabasa, or maracas (A#5 to C6); claps (C#6); snap; woodblock
7	D6 to G6 (6 keys)	PERC2	Latin non-pitched Percussion—bongo; conga slap; low conga; high conga; timbale
8	G#6 to D7 (7 keys)	PERC3	Pitched and Bell-like Percussion—Triangle (A6 closed, A#6 long); cowbell (G#6); high agogo: low agogo; claves (B6, or at D#6 if there are no congas); vinyl surface noise (C7). The keys from B6-D7 allow for non-finish envelope sounds.

ENSONIQ Percussion Map

Percussion kits are subject to the same zone rules as drum kits. Within some of the zones there are single keys and/or groups of keys designed to be in finish mode as far as their envelopes are concerned.

The ZR-76 percussion map consists of eight zones:

ZONE	KEY RANGE	NAME	NOTES
1	B1 to E2 (6 keys)	KICK	Low Drums—the key C#2 allows for non-finish envelope sounds.
2	F2 to D3 (10 keys)	SNARE	Medium drums such as Conga, Tabla, Udu—the keys from A2-C3 allow for non-finish envelope sounds.
3	D#3 to C4 (10 keys)	HATS	Small things that keep time (shakers, small drums, etc) Clave (G#3); sleighbells, castanets (C4). The keys G#3 and B3 allow for non-finish envelope sounds.
4	C#4 to A4 (9 keys)	CYMBL	Small time-keeping instruments including ride cymbals and instruments like Guiro (C#4 to E4);. crash cymbals, or other accent instruments like windchime, vibraslap, gong (F4 to A4). The key A4 allows for non-finish envelope sounds.
5	A#4 to F#5 (9 keys)	TOMS	Things struck that play fills—like timbali, woodblocks, log drums, small pitched drums.
6	G5 to C#6 (7 keys)	PERC1	Tambourines or similar shaken instruments (G5-A5); small high-pitched shakers like maraccas, egg shakes (A#5 - C6); claps, clave (C#6)
7	D6 to G6 (6 keys)	PERC2	Multi hits of bongos, high drums, cuica, guiro (D6-E6); multi hits of agogo, or other metallic inst. (F6-G6)
8	G#6 to D7 (7 keys)	PERC3	Cowbell (G#6); Triangle (A6 closed, A#6 long); Long sounds like rainsticks (B6-D7) The keys from B6-D7 allow for non-finish envelope sounds.

Note: Percussion map zones use the drum map zone names when viewed in the Drum Machine Edit pages.

Built-In ROM Presets

Location	Preset	Location	Preset	Location	Preset	Location	Preset
ROM004:000	DefaultPset	ROM004:008	SynBs/RzClv	ROM004:016	ElPno/Vibes	ROM004:024	BsnOboe-Ped
ROM004:001	Piano+Strgs	ROM004:009	BigFatSynth	ROM004:017	ElPno/JzGtr	ROM004:025	PizArco-Ped
ROM004:002	ElPnoStrLyr	ROM004:010	Org/SqueaLd	ROM004:018	BoneSaxTrpt	ROM004:026	StrngSwpPad
ROM004:003	Piano Blend	ROM004:011	UprBs/Piano	ROM004:019	NyGtr/SopSx	ROM004:027	Harp Pad
ROM004:004	Lwr/UprMnul	ROM004:012	Bs/ElPnoPed	ROM004:020	MariachiBnd	ROM004:028	WetBelChoir
ROM004:005	OrgClavLyr	ROM004:013	Piano/Sax	ROM004:021	AcGtr/PnFlt	ROM004:029	IceMakerPad
ROM004:006	RubberWurly	ROM004:014	Pno/Mut-Flt	ROM004:022	ChicknPickn	ROM004:030	PercRainPad
ROM004:007	PipeLyr-Ped	ROM004:015	PnoStr/AcGtr	ROM004:023	Clo/Vln-Ped	ROM004:031	IslandStack
						ROM005:000	FarEastPhaz

Velocity Response Curves in the ZR-76

The Touch Curve parameter allows you to adjust the velocity response of the ZR-76 keyboard to match your playing style and technique. There are six velocity curve (touch) settings:

- Table-1 — This is for someone with a light touch. On this setting, it is easier to reach the maximum level of any velocity controlled parameter.

- Table-2 — This setting represents average velocity sensitivity. This setting should be right for most players.

- Table-3 — This velocity best represents the "classically-trained" player with strong fingers, and offers a wide dynamic range for skilled pianists.

- Table-4 — This velocity setting is for skilled players who desire morevolume for softer playing. It still requires strong playing to reach the top velocity levels.

- Fixed 64 — With this setting the velocity curve always generates a fixed value, set at the halfway point. This may be useful in simulating vintage synth sounds that originally had no velocity control.

- Fixed127 — This setting is also a fixed velocity curve, with full volume. This is good for playing drum/percussion parts when you want a part without dynamic changes.

List of Quantize Templates

The following is a list of all the quantize parameters and their settings for the available quantize templates (there is no data recorded for High Key and Low Key):

Name	Q. to:	Strength	Swing	Random	Shift	Win. Min	Win. Max.	Q Offs?	Move Offs?	Deltas
Strict 1/4	1/4	100	50	0	0	0	50	off	on	off
Strict 1/8	1/8	100	50	0	0	0	50	off	on	off
Strict 1/16	1/16	100	50	0	0	0	50	off	on	off
Strict 1/8T	1/8T	100	50	0	0	0	50	off	on	off
Tighten 1	1/8	5	50	0	0	0	50	off	on	off
Tighten 2	1/8	20	50	0	0	0	50	off	on	off
Tighten 3	1/8	50	50	0	0	0	50	off	on	off
Tighten 4	1/8	70	50	0	0	0	50	off	on	off
Tighten 5	1/16	5	50	0	0	0	50	off	on	off
Tighten 6	1/16	20	50	0	0	0	50	off	on	off
Tighten 7	1/16	50	50	0	0	0	50	off	on	off
Tighten 8	1/16	70	50	0	0	0	50	off	on	off
Randomize 1	1/8	50	50	3	0	0	50	off	on	off
Randomize 2	1/8	60	50	15	0	0	50	off	on	off
Randomize 3	1/16	50	50	3	0	0	50	off	on	off
Randomize 4	1/16	60	50	15	0	0	50	off	on	off
Note Offs 1	1/8	100	50	0	0	0	50	on	on	off
Note Offs 2	1/16	100	50	0	0	0	50	on	on	off
Swing 1	1/16	90	55	0	0	0	50	off	on	off
Swing 2	1/16	92	57	1	0	0	50	off	on	off
Swing 2	1/16	100	63	0	0	0	50	off	on	off
Humanize 1	1/16	75	51	2	0	0	50	off	on	off
Delta 1/8	1/8	100	50	0	0	0	50	off	on	on

What Is MIDI?

Musical instrument and computer manufacturers have agreed upon a set of standards that allows their products to communicate with each other. It's called "MIDI," an acronym for "Musical Instrument Digital Interface." There are two basic aspects to the MIDI standards: the kind of wiring to be used for connecting MIDI devices, and the nature of messages will be sent through those wires.

Life In The MIDI World

MIDI has opened up incredible possibilities for musicians and music lovers alike. Here are some of the things MIDI has made possible:

• Musicians can record their performances into MIDI recorders—called *sequencers*—which are found in keyboard workstations, such as the ZR-76, in stand-alone boxes, and in computers. Once recorded, MIDI-recorded performances can be tweaked and nudged to perfection. Musical arrangements can be re-orchestrated after they've been recorded. Full-blown multi-instrument recordings can be easily created.

• Keyboardists can connect their instruments to a myriad of sound-producing MIDI boxes. MIDI allows a conventional-looking keyboard, such as the ZR-76, to control a number of such devices at the same time, providing for the creation of new, complex timbres. Keyboardists can also set up specific areas on their keyboards to control specific external MIDI devices. These same capabilities are available to computer users. Actually, most musical instruments can be outfitted to control MIDI devices.

• Musicians can benefit from the communication possible between MIDI instruments and computers to program sounds for their instruments on their computers, taking advantage of the computers' large graphic displays, familiar keyboards and comfortable mice.

• Home enthusiasts can enjoy pre-recorded MIDI music by taking advantage of General MIDI, a separate-but-related standard described later in this section. General MIDI (GM) sequences can be performed by any GM-compliant MIDI sequencer, such as the ZR-76, or personal computer.

• Internal data from one MIDI device can be transmitted to another for storage.

• Recording engineers can control mixing consoles and effects devices with MIDI.

• Stage lights in concert halls can be automated to respond to musical cues using MIDI.

Understanding MIDI

MIDI Hardware

The architects of MIDI had to settle, first of all, on the MIDI hardware: the wires. All MIDI cables have the same kind of plug on either end:

There are three MIDI sockets, or *jacks*, on the back of most MIDI instruments. The *MIDI In* jack is for MIDI information coming into the instrument. The instrument sends out its own MIDI information through the *MIDI Out* jack. The *MIDI Thru* jack is for MIDI data that passes through the instrument unchanged, on its way to some other MIDI device.

MIDI Thru   MIDI Out   MIDI In
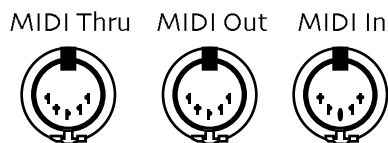
The MIDI cable itself can carry 16 independent channels of MIDI information that travel together through the wire. This means that you can have 16 separate MIDI conversations going on at once among instruments and/or computers connected together with MIDI cables.

How MIDI Channels Work

MIDI instruments can be set up to listen to specific channels and ignore everything else that's going on. This allows a central device such as the ZR-76 or your personal computer to control each instrument individually.
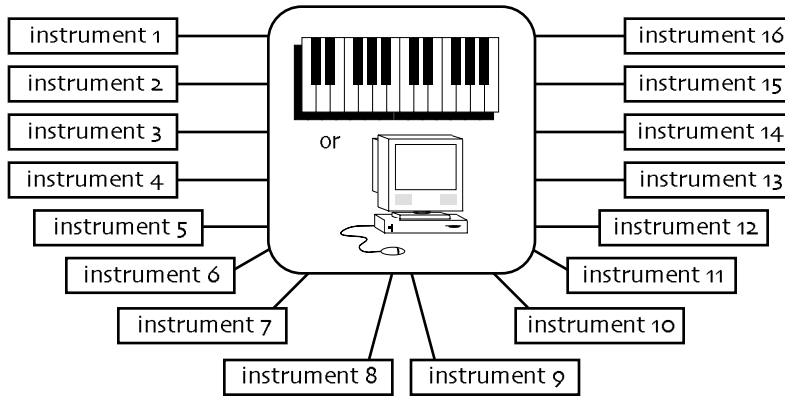
Some devices—such as the ZR-76—are capable of responding to as many as 16 channels at once. Such instruments are referred to as being *multi-timbral*—it's as if there are up to 16 musical instruments in one box, and MIDI allows you to control each sound separately.
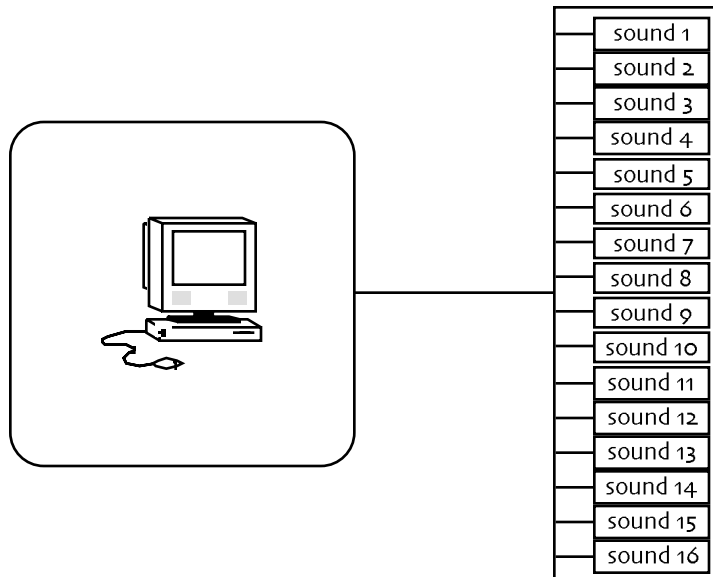
MIDI rigs can also combine both possibilities, with some instruments programmed to respond to one MIDI channel or another, and multi-timbral devices set up to receive up to 16 channels at once.
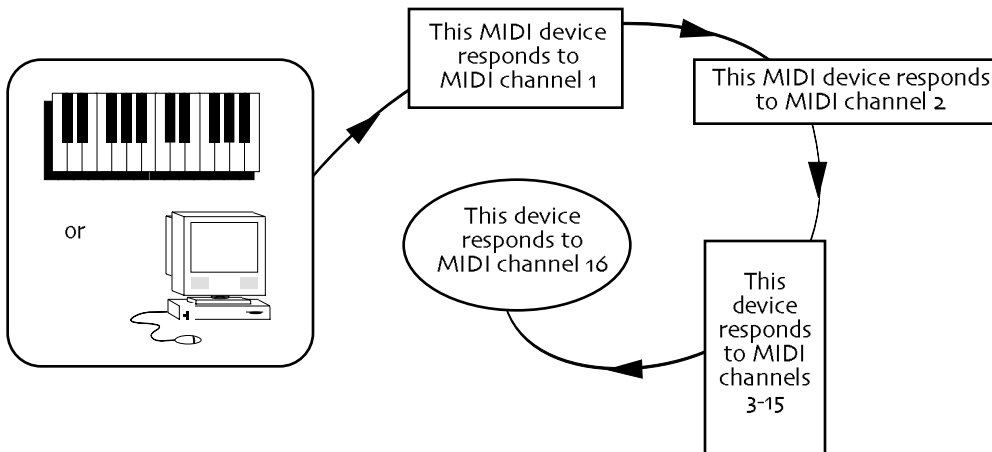
MIDI messages travel up and down all these channels, and these constitute the second major component of the MIDI Spec.

How MIDI Messages Work

MIDI works in a manner reminiscent of the old player pianos, whose sheets of hole-punched paper told the keyboard mechanism which keys to press down and when. It's not sound that's sent through MIDI cables; it's instructions from one MIDI device—called the "controller"—to another. Of course, MIDI generally doesn't cause any keys to physically move.

Suppose a keyboardist presses a note on a keyboard which is controlling some sound-producing MIDI box. The controller would send out a *Key Down* message for that note. The MIDI box receiving such a message would play the note. When the keyboardist lets go, the controller would send out a *Key Up* message, and the receiving device would stop sounding the note. At heart, it's as simple at that.

MIDI captures the expressive nuances in a performance by sending out other kinds of messages. Controllers can sense how hard a musician plays—referred to in the MIDI world as *velocity*—and can instruct other devices to respond accordingly. Sustain and sostenuto foot pedals also send out MIDI messages. There are many tools for expression that can be transmitted and responded to via MIDI.

To tell a MIDI instrument which sound or effect program you want to hear, you would send a MIDI *Program Change*.

MIDI can also send messages that have the same effect as pushing buttons and twirling knobs on a receiving device. To make sure that only the intended instrument listens to such instructions, MIDI sends it a special greeting in a language only it can understand. Every MIDI device has such a language, and these "hey there" messages are referred to as "System Exclusive headers." System Exclusive data is often referred to as *SysEx* data. SysEx is also used for the "dumping" of a MIDI instrument's memory to an external storage device, such as a hard disk or floppy drive; it helps the data find its way back home when it's time to load it back into the instrument.

In MIDI recording, all of the messages that a controller produces are sent to a sequencer. Most sequencers have Record, Stop and Play buttons, since they're usually designed to resemble tape recorders. When the Record button is pressed, the sequencer captures incoming MIDI information. Pressing Stop tells the sequencer to store that information in its memory. When Play is pressed, it sends it back out.

The Art of MIDI

The fact that MIDI is so simple to use is a testament to the cleverness of its designers. Its true magic, however, lies in MIDI's power as a tool in the creative process, and in the imaginations of those artists who wield it.

What Is General MIDI?

General MIDI is an agreed-upon set of sounds and protocols which aims to ensure that, no matter what brand or model General MIDI-compatible instrument you use when playing a General MIDI recording, the music will sound essentially the same. General MIDI provides a tremendous convenience for listeners and multimedia fans who want to enjoy MIDI-based music without having to delve too deeply into its mechanics. All General MIDI-supporting products sport the General MIDI logo:

The ZR-76 is fully General MIDI-compliant instruments. General MIDI accomplishes its predictability by employing a very specific set of agreements on a number of MIDI issues.

General MIDI Sounds

In the larger MIDI universe, any sound may reside anywhere in an instrument's memory. In the General MIDI world, the same sounds always reside in the same-numbered memory locations. This guarantees that if a programmer calls up a particular sound when he or she programs some General MIDI music, any time anyone anywhere plays that music back on a General MIDI instrument, that same sound will be invoked. See "List of General MIDI Sounds" in this chapter for a full list of the General MIDI sounds.

General MIDI Drum Kits

Another important convention employed by General MIDI instruments are the General MIDI drum maps. The GM drum maps are available in several different styles, with a different drum or percussion sound on every key on the keyboard, running from the B two octaves below Middle C to the D# or E two octaves above. Some sounds in the GM drum maps are consistent from style to style—the low key on a 61-note keyboard will always be a bass drum of some kind and the note two semitones above it will always be a snare drum, for instance. Drum maps in General MIDI are always addressed via MIDI channel number 10. See "General MIDI Drum Maps" in this chapter for details of the various General MIDI drum map layouts.

Earning the General MIDI Logo

There are a number of other standards with which an instrument must comply in order to deserve its General MIDI logo. You can be sure that, if the MIDI music you purchase displays the General MIDI logo, it will work perfectly with your ZR-76.

General MIDI Sound Map

The following map shows the General MIDI sound name and program change number of each sound as they appear in the ZR-76. This map also shows how General MIDI divides the instruments into 16 categories of similar sounds:

PROG #	INSTRUMENT	PROG #	INSTRUMENT	PROG #	INSTRUMENT	PROG #	INSTRUMENT
0-7	PIANO	32-	BASS	64-	REED	96-	SYNTH
0	Piano 1	39	Ac.Bass	71	Sop.Sax	103	EFFECTS
1	Piano 2	32	FingBass	64	Alto Sax	96	Ice Rain
2	Piano 3	33	PickBass	65	TenorSax	97	Soundtrk
3	HonkyTnk	34	FrtlsBas	66	Bari.Sax	98	Crystal
4	E.Piano1	35	SlapBs1	67	Oboe	99	Atmspher
5	E.Piano2	36	SlapBs2	68	Eng.Horn	100	Britness
6	Harpsi.	37	SynBass1	69	Bassoon	101	Goblin
7	Clavinet	38	SynBass2	70	Clarinet	102	EchoDrop
		39		71		103	StarThm.
8-15	CHROM	40-	STRINGS	72-	PIPE	104-	ETHNIC
8	PERCUSSION	47	Violin	79	Piccolo	111	Sitar
9	Celesta	40	Viola	72	Flute	104	Banjo
10	Glockens	41	Cello	73	Recorder	105	Shamisen
11	Musicbox	42	CntrBass	74	PanFlute	106	Koto
12	Vibes	43	TremStrg	75	BotlBlow	107	Kalimba
13	Marimba	44	PizzStrg	76	Shaku.	108	Bagpipe
14	Xylophon	45	Harp	77	Whistle	109	Fiddle
15	Tubular	46	Timpani	78	Ocarina	110	Shannai
	Santur	47		79		111	
16-	ORGAN	48-	ENSEMBLE	80-	SYNTH LEAD	112-	PERCUSSIVE
23	Organ 1	55	Strings	87	SquareWv	119	TinklBell
16	Organ 2	48	SlowStrg	80	Saw Wv	112	Agogo
17	Organ 3	49	SynStrg1	81	SynCalio	113	SteelDrm
18	Ch.Organ	50	SynStrg2	82	Chiff.Ld	114	Woodblok
19	ReedOrgn	51	ChoirAah	83	Charang	115	Taiko
20	Accord.	52	Vox Oohs	84	Solo Vox	116	MeloTom1
21	Harmnica	53	Syn.Vox	85	5ths Wv	117	Syn.Drum
22	Bandneon	54	Orch.Hit	86	Bs.&Lead	118	Rev.Cym.
23		55		87		119	
24-	GUITAR	56-	BRASS	88-	SYNTH PAD	120-	SOUND
31	NylonGtr	63	Trumpet	95	Fantasia	127	EFFECTS
24	SteelGtr	56	Trombone	88	Warm Pad	120	FretNois
25	Jazz Gtr	57	Tuba	89	PolySyn.	121	BrthNois
26	CleanGtr	58	MuteTrpt	90	SpaceVox	122	Seashore
27	Mute Gtr	59	Fr.Horn	91	BowedGls	123	Birds
28	OvDrvGtr	60	Brass 1	92	MetalPad	124	Telephon
29	Dist.Gtr	61	SynBrs.1	93	Halo Pad	125	Hlicoptr
30	Gtr.Harm	62	SynBrs.2	94	SweepPad	126	Applause
31		63		95		127	Gunshot

The names listed above are as they appear in the ZR-76, and not as they appear in the General MIDI Spec. The only differences are in spelling.

GM and GS Percussion Key Maps (Channel 10)

MIDI Note #		0 - Std.Kit-GM 32 - Jazz Kit-GM	8 - RoomKit-GM	16 - Pwr. Kit-GM	24 - Elec Kit-GM	25 - SynthKit-GM
35	B1	AcoustcKick	AcoustcKick	AcoustcKick	AcoustcKick	AcoustcKick
36	C2	Bright Kick	Bright Kick	Fat Kick1	Elec Kick1	Syn Kick-GM
37	C#2	SideStick 1	SideStick 1	SideStick 1	SideStick 1	SynRimshot
38	D2	Snare-GM	Snare-GM	Snare-GM	Elec Sn-GM	Syn Snr-GM
39	D#2	HouseClap1	HouseClap1	HouseClap1	HouseClap1	HouseClap1
40	E2	Rock Snare	Rock Snare	Gated Sn-GM	Gated Sn-GM	Rock Snare
41	F2	Dry Tom 1	Room Tom 1	Room Tom 1	Elec Tom-GM	Syn Tom-GM
42	F#2	4xCl Hat3	4xCl Hat3	4xCl Hat3	4xCl Hat3	SynClHat-GM
43	G2	Dry Tom 1	Room Tom 1	Room Tom 1	Elec Tom-GM	Syn Tom-GM
44	G#2	Pedal Hat	Pedal Hat	Pedal Hat	Pedal Hat	SynClHat-GM
45	A2	Dry Tom 1	Room Tom 1	Room Tom 1	Elec Tom-GM	Syn Tom-GM
46	A#2	OpenHat-GM	OpenHat-GM	OpenHat-GM	OpenHat-GM	SynOpHat-GM
47	B2	Dry Tom 1	Room Tom 1	Room Tom 1	Elec Tom-GM	Syn Tom-GM
48	C3	Dry Tom 1	Room Tom 1	Room Tom 1	Elec Tom-GM	Syn Tom-GM
49	C#3	Crash 1-GM	Crash 1-GM	Crash 1-GM	Crash 1-GM	808 Cymbal
50	D3	Dry Tom 1	Room Tom 1	Room Tom 1	Elec Tom-GM	Syn Tom-GM
51	D#3	Ride 1-GM	Ride 1-GM	Ride 1-GM	Ride 1-GM	Ride 1-GM
52	E3	China 1-GM	China 1-GM	China 1-GM	R.Crash-GM	China 1-GM
53	F3	RideBell-GM	RideBell-GM	RideBell-GM	RideBell-GM	RideBell-GM
54	F#3	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine
55	G3	Splash1-GM	Splash1-GM	Splash1-GM	Splash1-GM	Splash1-GM
56	G#3	Cowbell	Cowbell	Cowbell	Cowbell	Syn Cowbell
57	A3	Crash 1-GM	Crash 1-GM	Crash 1-GM	Crash 1-GM	Crash 1-GM
58	A#3	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap
59	B3	Ride 1-GM	Ride 1-GM	Ride 1-GM	Ride 1-GM	Ride 1-GM
60	C4	Bongo	Bongo	Bongo	Bongo	Bongo
61	C#4	Bongo	Bongo	Bongo	Bongo	Bongo
62	D4	Conga Mute	Conga Mute	Conga Mute	Conga Mute	SynHiCongGM
63	D#4	Conga High	Conga High	Conga High	Conga High	SynHiCongGM
64	E4	Conga Low	Conga Low	Conga Low	Conga Low	SynLoCongGM
65	F4	Timbali	Timbali	Timbali	Timbali	Timbali
66	F#4	Timbali	Timbali	Timbali	Timbali	Timbali
67	G4	Agogo	Agogo	Agogo	Agogo	Agogo
68	G#4	Agogo	Agogo	Agogo	Agogo	Agogo
69	A4	Cabasa	Cabasa	Cabasa	Cabasa	Cabasa
70	A#4	Maracas	Maracas	Maracas	Maracas	Syn Maracas
71	B4	Whistle B	Whistle B	Whistle B	Whistle B	Whistle B
72	C5	Whistle A	Whistle A	Whistle A	Whistle A	Whistle A
73	C#5	Guiro Short	Guiro Short	Guiro Short	Guiro Short	Guiro Short
74	D5	Guiro Long	Guiro Long	Guiro Long	Guiro Long	Guiro Long
75	D#5	Clave	Clave	Clave	Clave	Synth Clave
76	E5	Woodblock 1	Woodblock 1	Woodblock 1	Woodblock 1	Woodblock 1
77	F5	Woodblock 1	Woodblock 1	Woodblock 1	Woodblock 1	Woodblock 1
78	F#5	Cuica 1	Cuica 1	Cuica 1	Cuica 1	Cuica 1
79	G5	Cuica 5	Cuica 5	Cuica 5	Cuica 5	Cuica 5
80	G#5	Tri Mute-GM	Tri Mute-GM	Tri Mute-GM	Tri Mute-GM	Tri Mute-GM
81	A5	Tri Open-GM	Tri Open-GM	Tri Open-GM	Tri Open-GM	Tri Open-GM
82	A#5	Shaker	Shaker	Shaker	Shaker	Shaker
83	B5	Sleighbell	Sleighbell	Sleighbell	Sleighbell	Sleighbell
84	C6	WindchimeGM	WindchimeGM	WindchimeGM	WindchimeGM	WindchimeGM
85	C#6	Castanets 1	Castanets 1	Castanets 1	Castanets 1	Castanets 1
86	D6	Mt Surdo-GM	Mt Surdo-GM	Mt Surdo-GM	Mt Surdo-GM	Mt Surdo-GM
87	D#6	Op Surdo-GM	Op Surdo-GM	Op Surdo-GM	Op Surdo-GM	Op Surdo-GM
88	E6	Silence	Silence	Silence	Silence	Silence

GM and GS Percussion Key Maps (Channel 10)

MIDI Note #		40 - Brsh Kit-GM	48 - Orch Kit-GM	64 - DanceKit-GM	65 - TeknoKit-GM	66 - FormtKit-GM
35	B1	AcoustcKick	Big Kick1	Boom Kik C	PtchDwnKik3	HouseKick2
36	C2	Bright Kick	ConcrtBD-GM	PtchDwnKik3	PtchDwnKik1	HouseKick1
37	C#2	SideStick 1	SideStick 1	SideStick 1	House Rim	House Rim
38	D2	Brush Tap	ConcrtSnare	CrackSnare1	House Snare1	House Snare1
39	D#2	Brush Slap	Castanets 1	HouseClap1	Stereo Clap	HouseClap1
40	E2	Brush Swish	ConcrtSnare	HiPass Snr2	HiPass Snr3	HouseSnare4
41	F2	Dry Tom 1	Tympani	HouseTom1	HouseTom1	HouseTom1
42	F#2	4xCl Hat3	Tympani	4xCl Hat3	HouseClHat2	HouseClHat1
43	G2	Dry Tom 1	Tympani	HouseTom1	HouseTom1	HouseTom2
44	G#2	Pedal Hat	Tympani	Pedal Hat	HouseClHat2	Pedal Hat
45	A2	Dry Tom 1	Tympani	HouseTom1	HouseTom1	HouseTom1
46	A#2	OpenHat-GM	Tympani	ShrtOpHat 1	HouseOpHat2	HouseOpHat1
47	B2	Dry Tom 1	Tympani	HouseTom1	HouseTom1	HouseTom2
48	C3	Dry Tom 1	Tympani	HouseTom1	HouseTom1	HouseTom1
49	C#3	Crash 1-GM	Tympani	HouseCrash2	HouseCrash2	HouseCrash1
50	D3	Dry Tom 1	Tympani	HouseTom1	HouseTom1	HouseTom2
51	D#3	Ride 1-GM	Tympani	Cool Ride 1	Cool Ride 1	HouseRide1
52	E3	China 1-GM	Tympani	Gong mf	Gong mf	China Crash
53	F3	RideBell-GM	Tympani	HouseRide2	HouseRide1	Ride Bell
54	F#3	Tambourine	Tambourine	Dyn.Tambo	Dyn.Tambo	Tambourine
55	G3	Splash1-GM	Splash1-GM	ChokeSplash	ChokeSplash	SplashCym 1
56	G#3	Cowbell	Cowbell	Cowbell	Cowbell	Cowbell
57	A3	Crash 1-GM	Crash 1-GM	808 Cymbal	808 Cymbal	Crash Cym 1
58	A#3	Vibraslap	Vibraslap	Vibraslap	Pole	Vibraslap
59	B3	Ride 1-GM	Piatti-GM	SizlRideCym	SizlRideCym	Ride Cym 1
60	C4	Bongo	Bongo	Bongo	Synth Drip	Bongo
61	C#4	Bongo	Bongo	Bongo	Synth Kiss	Bongo
62	D4	Conga Mute	Conga Mute	CongaLO/whl	SynLoCongGM	Conga Mute
63	D#4	Conga High	Conga High	CongaHi/whl	SynHiCongGM	Conga High
64	E4	Conga Low	Conga Low	CongaMoose1	SynLoCongGM	Conga Low
65	F4	Timbali	Timbali	Timbali	Timbali	Tambourine
66	F#4	Timbali	Timbali	Timbali	Timbali	Timbali
67	G4	Agogo	Agogo	Agogo	Agogo	Agogo
68	G#4	Agogo	Agogo	Agogo	Agogo	Agogo
69	A4	Cabasa	Cabasa	Cactus Hit1	Cactus Hit1	Cabasa
70	A#4	Maracas	Maracas	Egg Shaker	Egg Shaker	Maracas
71	B4	Whistle B	Whistle B	Synth Hit 1	Synth Hit 1	Whistle A
72	C5	Whistle A	Whistle A	Synth Hit 4	Synth Hit 2	Whistle A
73	C#5	Guiro Short	Guiro Short	Synth Hit 6	Synth Hit 3	HouseRide1
74	D5	Guiro Long	Guiro Long	Synth Hit 7	Synth Hit 4	Guiro Long
75	D#5	Clave	Clave	Synth Hit12	Synth Hit 5	Clave
76	E5	Woodblock 1	Woodblock 1	Synth Hit11	Synth Hit 6	Woodblock 1
77	F5	Woodblock 1	Woodblock 1	Wakka 1	Synth Hit 7	Woodblock 1
78	F#5	Cuica 1	Cuica 1	Wakka 3	Synth Hit 8	Cuica 1
79	G5	Cuica 5	Cuica 5	Wakka 5	Synth Hit 9	Cuica 1
80	G#5	Tri Mute-GM	Tri Mute-GM	Wakka 7	Synth Hit 10	Triangle Mt
81	A5	Tri Open-GM	Tri Open-GM	Scratch 1	Synth Hit 11	Triangle Op
82	A#5	Shaker	Shaker	Scratch 2	Synth Hit 12	Cym Swell2
83	B5	Sleighbell	Sleighbell	Scratch 3	Synth Hit 10	AltRevCrash
84	C6	WindchimeGM	WindchimeGM	Scratch 4	Synth Hit 10	HiPass Kik1
85	C#6	Castanets 1	Castanets 1	Scratch 6	Synth Hit 8	Synth Hit 4
86	D6	Mt Surdo-GM	Mt Surdo-GM	Scratch 10	Synth Hit 7	HiPass Snr1
87	D#6	Op Surdo-GM	Op Surdo-GM	Scratch 11	Synth Hit 5	HouseClap2
88	E6	Silence	Applause-GM	Silence	Silence	HiPass Snr2

ZR-76 MIDI Implementation

The ZR-76 features an extensive MIDI (Musical Instrument Digital Interface) implementation. For normal applications, you will find all the information you need regarding the ZR-76's MIDI functions in this manual. You can also refer to the following MIDI Implementation Chart for a summary of the ZR-76 MIDI implementation.

If you are writing a computer program to communicate with the ZR-76 via MIDI, or otherwise require a copy of the full MR-76 System Exclusive Specification, it is available free of charge by writing to:

> ENSONIQ Corp.
> MIDI Specification Desk
> 155 Great Valley Parkway
> P.O. Box 3035
> Malvern PA 19355-0735
> USA

Include in your written request your name and address, and indicate that you would like a copy of the "MR-76 System Exclusive Specification." Please allow 2 to 3 weeks for delivery.

| ZR-76 | MIDI Implementation Chart | | Version: 1.45 |

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 1-16	1-16 1-16	Each of ZR-76's 16 tracks may be set to any MIDI channel
Mode	Default Messages Altered	POLY X X	MULTI X X	
Note Number	True voice	21-108	21-108	Note reception is filtered by Key Lo and Key High track parameters
Velocity	Note On Note Off	O O	O O	Note On velocity reception is filtered by VelocityRange Lo and VelocityRange Hi track parameters Note Off velocity is filtered by VelocityRange Lo and VelocityRange Hi track parameters when modulating keyup layers
After Touch	Key Channel	O O	O O	ZR keyboard produces channel pressure only
Pitch Bend		O	O	supports held mode
Control Change		0-119	0-119	see "MIDI Controllers Behavior" below
Program Change	 True#	0-119 0-119	0-119 0-119	select sounds from the currently selected bank invalid program changes select silent sound
System Exclusive		O	O	see MR-76 SysEx Specification recognizes Universal Non-Real Time SysEx General MIDI On/Off messages recognizes MIDI Tuning Dump Standard and Single-Note Tuning Change messages
System Common	Song Position Song Select Tune Request	O X X	O X X	
System Real Time	Clock Commands	O X	O X	
Aux Messages	Local On/Off All Notes Off Active Sensing System Reset	X O X X	X O X X	
Notes	Response to received Controllers varies depending on the nature of the ZR-76 parameter affected—see parameter descriptions for details When the ZR-76 is configured for General MIDI, Bank Select reception is disabled, and new sequences cannot be selected by program changes—see "Using the ZR-76 with General MIDI Standard MIDI Files", in *Chapter 3*			

Mode 1: Omni On, Poly   Mode 2: Omni On, Mono   O : Yes
Mode 3: Omni Off, Poly   Mode 4: Omni Off, Mono   X: No

MIDI Controllers Reception Behavior

Control Change	Description	Remark
0-119	SysCTRL 1-4	assignable controllers
0	Bank Select MSB	always 0
1	Mod Wheel	
4	Foot (Pedal)	
5	Portamento Time	
6	Data Entry MSB	for editing of registered and non-registered parameters only, after registered or non-registered parameter MSB and LSB are received
7	Volume	
10	Pan	
11	Expression Controller	
32	Bank Select LSB	
64	Sustain	
65	Portamento On/Off	
66	Sustenuto	
72	Release Time	Amp Env Release
73	Attack Time	Amp Env Attack
74	Brightness	Filter Cutoff
75	Sound Controller 6	Normal LFO Rate
76	Sound Controller 7	Amp Env Decay
91	Effects 1 Depth	GM reverb depth, described in "Adding Effects to Tracks," *Chapter 8*
93	Effect 2 Depth	GM chorus depth, described in "Adding Effects to Tracks," *Chapter 8*
98	Non-Reg. Param. Select LSB	Track parameter descriptions in *Chapter 4* list track parameters' Non-Registered parameter LSB values
99	Non-Reg. Param. Select MSB	always 0
100	Reg. Param. Select LSB	always 0, 1 or 2 only
101	Reg. Param. Select MSB	always 0

List of MIDI Controller Names

This list of MIDI Controller names (as found in the ZR-76) represents the current state-of-the-art MIDI controller assignments as defined in the MIDI Detailed Specification, version 95.1:

Bank Select #000 - Bank Select	Expression#043 - Expression LSB	MIDIContrl#086 - UNDEFINED
Mod Wheel #001 - Mod Wheel or Lever	FXControl1#044 - Effect Control 1 LSB	MIDIContrl#087 - UNDEFINED
Breath #002 - Breath Controller	FXControl2#045 - Effect Control 2 LSB	MIDIContrl#088 - UNDEFINED
MIDIContrl#003 - UNDEFINED	MIDIContrl#046 - UNDEFINED	MIDIContrl#089 - UNDEFINED
FootContrl#004 - Foot Controller	MIDIContrl#047 - UNDEFINED	MIDIContrl#090 - UNDEFINED
Glide Time#005 - Portamento Time	GenPurpse1#048 - UNDEFINED	FX Depth 1#091 - Effects Depth 1
Data Entry#006 - Data Entry MSB	GenPurpse2#049 - General Purpose 1 LSB	FX Depth 2#092 - Effects Depth 2
Volume #007 - Volume	GenPurpse3#050 - General Purpose 2 LSB	FX Depth 3#093 - Effects Depth 3
Balance #008 - Balance	GenPurpse4#051 - General Purpose 3 LSB	FX Depth 4#094 - Effects Depth 4
MIDIContrl#009 - UNDEFINED	MIDIContrl#052 - General Purpose 4 LSB	FX Depth 5#095 - Effects Depth 5
Pan #010 - Pan	MIDIContrl#053 - UNDEFINED	Data Inc #096 - Data Inc
Expression#011 - Expression	MIDIContrl#054 - UNDEFINED	Data Dec #097 - Data Dec
FX Control1#012 - Effect Control 1	MIDIContrl#055 - UNDEFINED	NonRgPmLSB#098 - Non-Reg param Num LSB
FX Control2#013 - Effect Control 2	MIDIContrl#056 - UNDEFINED	NonRgPmMSB#099 - Non-Reg param Num MSB
MIDIContrl#014 - UNDEFINED	MIDIContrl#057 - UNDEFINED	RgParamLSB#100 - Reg param Num LSB
MIDIContrl#015 - UNDEFINED	MIDIContrl#058 - UNDEFINED	RgParamMSB#101 - Reg param Num MSB
GenPurpse1#016 - General Purpose 1	MIDIContrl#059 - UNDEFINED	MIDIContrl#102 - UNDEFINED
GenPurpse2#017 - General Purpose 2	MIDIContrl#060 - UNDEFINED	MIDIContrl#103 - UNDEFINED
GenPurpse3#018 - General Purpose 3	MIDIContrl#061 - UNDEFINED	MIDIContrl#104 - UNDEFINED
GenPurpse4#019 - General Purpose 4	MIDIContrl#062 - UNDEFINED	MIDIContrl#105 - UNDEFINED
MIDIContrl#020 - UNDEFINED	MIDIContrl#063 - UNDEFINED	MIDIContrl#106 - UNDEFINED
MIDIContrl#021 - UNDEFINED	Sustain #064 - Sustain	MIDIContrl#107 - UNDEFINED
MIDIContrl#022 - UNDEFINED	PortOn/Off#065 - Portamento On/Off	MIDIContrl#108 - UNDEFINED
MIDIContrl#023 - UNDEFINED	Sostenuto #066 - Sostenuto	MIDIContrl#109 - UNDEFINED
MIDIContrl#024 - UNDEFINED	Soft Pedal#067 - Soft Pedal	MIDIContrl#110 - UNDEFINED
MIDIContrl#025 - UNDEFINED	LegatoFtsw#068 - Legato Ftsw	MIDIContrl#111 - UNDEFINED
MIDIContrl#026 - UNDEFINED	Hold 2 #069 - Hold 2	MIDIContrl#112 - UNDEFINED
MIDIContrl#027 - UNDEFINED	PatchSelct#070 - Snd Variation (Patch Select)	MIDIContrl#113 - UNDEFINED
MIDIContrl#028 - UNDEFINED	Timbre #071 - Harmonic Content (Timbre)	MIDIContrl#114 - UNDEFINED
MIDIContrl#029 - UNDEFINED	Release #072 - Release	MIDIContrl#115 - UNDEFINED
MIDIContrl#030 - UNDEFINED	Attack #073 - Attack	MIDIContrl#116 - UNDEFINED
MIDIContrl#031 - UNDEFINED	Brightness#074 - Brightness	MIDIContrl#117 - UNDEFINED
BankSelect#032 - Bank Select LSB	SoundCntl6#075 - Sound Controller 6	MIDIContrl#118 - UNDEFINED
Mod Wheel #033 - Mod Wheel LSB	SoundCntl7#076 - Sound Controller 7	MIDIContrl#119 - UNDEFINED
Breath #034 - Breath Controller LSB	SoundCntl8#077 - Sound Controller 8	
MIDIContrl#035 - UNDEFINED	SoundCntl9#078 - Sound Controller 9	
FootContrl#036 - Foot Controller LSB	SoundCtl10#079 - Sound Controller 10	
Glide Time#037 - Portamento Time LSB	GenPurpse5#080 - General Purpose 5	
Data Entry#038 - Data Entry LSB	GenPurpse6#081 - General Purpose 6	
Volume #039 - Volume LSB	GenPurpse7#082 - General Purpose 7	
Balance #040 - Balance LSB	GenPurpse8#083 - General Purpose 8	
MIDIContrl#041 - UNDEFINED	Portamento#084 - Portamento Control	
Pan #042 - Pan LSB	MIDIContrl#085 - UNDEFINED	

Note: Controllers #000-031 are the MSBs and #032-063 are the LSBs for controllers with 14 bit resolution, and their names are displayed identically in the list of values.

Reset All Controllers (MIDI controller 121) Reception Behavior

When the system ResetControlRecv=Off, the reset all controllers message will be ignored.

When system ResetControlRecv=On, the following MIDI messages and parameters on all tracks assigned to the MIDI channel on which the message was received will be reset to the following values:

Assignable SysCtrl1-4=000	Controller 008=064	Controller 070 to 071=000
Pitch Bend=center	Controller 009=000	Controller 072 to 079=064
Channel Pressure=000	Controller 010=064	Controllers 080 to 097=000
Polyphonic Pressure=000 for all 88 keys	Controller 011=127	Controller 098 to 101=cleared
Controllers 001 to 004=000	Controllers 012 to 031=000	Controllers 102 to 119=000
Controller 005=064	Controllers 033 to 064=000	Controllers 120 to 127=left unchanged
Controller 006=000	Controller 065=000	
Controller 007=100	Controllers 066 to 069=000	

When system Track ParamReset=Off:

Controllers 005, and 070 to 079 will be left unchanged.

When system Track ParamReset=On:

Controllers 005, and 070 to 079 will be reset to the values listed above.

Track MIDI reception filters do not affect reception of the Reset All Controllers message.

Registered Parameters

Registered parameters 0, 1 and 2 are received multi-timbrally by the ZR-76. When received on a track's MIDI channel, RPN 0 affects the track's pitch bend up and down simultaneously: Pitch bend up is raised and pitch bend down is lowered by the same RPN value. RPNs 1 and 2 edit Semitone Shift and Fine Tuning parameters, respectively, when received on the track's MIDI channel.

Registered parameters must be transmitted to the ZR-76 as a Continuous Controller status byte followed by three consecutive Continuous Controller messages: The registered parameter MSB and LSB values select the track parameter that will be edited, and a Data Entry value invokes the track parameter's desired setting.

Controllers Number	Name	Value
101	Registered Parameter Select MSB (Most Significant Byte)	always 0
100	Registered Parameter Select LSB (Least Significant Byte)	00, 01 or 02 (see below)
6	Data Entry MSB	0-127, desired track parameter setting

Registered Parameters Number	Name	ZR Parameter Range
00	Pitch Bend Range	0-12 (displayed as Pitch Bend Up =0-12 up; raises pitch; Pitch Bend Down=0-12 down
01	Fine Tuning	0-127 (displayed as -50 cents to +49 cents)
02	Coarse Tuning	0-127 (displayed as -64st to +63st)

Non-Registered Parameters

Non-registered parameters are received multi-timbrally by the ZR-76, affecting track parameters when received on the track's MIDI channel.

Non-registered parameters must be transmitted to the ZR-76 as a continuous controller status byte followed by three consecutive continuous controller messages. The non-registered parameter MSB and LSB select the track parameter, and a data entry value invokes the track parameter's desired setting.

Controllers Number	Name	Value
99	Non-Registered Parameter Select MSB (Most Significant Byte)	always 0
98	Non-Registered Parameter Select LSB (Least Significant Byte)	see track parameter descriptions in *Chapter 4* for each parameter's Non-Registered parameter LSB value
6	Data Entry MSB	0-127, desired track parameter setting

Registered and Non-Registered Parameters (RPN/NRPN)

Expression	Responds to MIDI controller 011 and NRPN LSB LSB 034.
FX Bus assignment (Insert, Chorus, LightReverb, MediumReverb, WetReverb, Dry)	Responds to MIDI NRPN LSB 033.
Pitch Bend Up	Responds to MIDI RPN LSB 000 and NRPN LSB 022.
Pitch Bend Down	Responds to MIDI RPN LSB 000 and NRPN LSB 023.
Octave Shift (-4oct to +4oct)	Responds to MIDI NRPN LSB 011.
Semitone Shift	Responds to MIDI RPN LSB 002.
Fine Tuning	Responds to MIDI RPN LSB 001.
Pitch Table	Responds to MIDI NRPN LSB 021.
Glide Mode	Responds to MIDI controller 065 (see below) and NRPN LSB 031. When a value of 64 or greater for MIDI controller 065 is received, glide is enabled for the part; values below 64 do not disable glide.
Glide Time	Responds to MIDI controller 005 and NRPN LSB 032.
Delay Offset (positive-only)	Responds to MIDI NRPN LSB 024.
Sync LFO&Noise (system tempo time division)	Responds to MIDI NRPN LSB 025.
Normal LFO Rates	Responds to MIDI controller 075 and NRPN LSB 008.
LFO Depth	Responds to MIDI NRPN LSB 009.
LFO Delay Time	Responds to MIDI NRPN LSB 010.
Amplitude Envelope Attack time	Responds to MIDI controller 073 and NRPN LSB 014.
Amplitude Envelope Decay time	Responds to MIDI controller 076 and NRPN LSB 015.
Amplitude Envelope Release time	Responds to MIDI controller 072 and NRPN LSB 016.
Filter Cutoff (lo-pass & hi-pass)	Responds to MIDI controller 074 and NRPN LSB 012.
Filter Envelope Attack time	Responds to MIDI NRPN LSB 017.
Filter Envelope Decay time	Responds to MIDI NRPN LSB 018.
Filter Envelope Release time	Responds to MIDI NRPN LSB 019.
Amp & Filter Envelope Velocity sensitivity	Responds to MIDI NRPN LSB 020.
Key Range Low limit	Responds to MIDI NRPN LSB 026.
Key Range High limit	Responds to MIDI NRPN LSB 027.
Velocity Range Low limit	Responds to MIDI NRPN LSB 028.
Velocity Range High limit	Responds to MIDI NRPN LSB 029.
Pressure Mode	Responds to MIDI NRPN LSB 030.
Velocity MIDI reception converter	Responds to MIDI NRPN LSB 035.
Mute button	Responds to MIDI NRPN LSB 036 (0=normal muted, 1=unmuted, 2=solo muted, 3=solo, 4-127=solo).

For an explanation of how to use RPNs and NRPNs with the ZR-76, see "Using RPNs and NRPNs to Edit Parameters" at the end of *Chapter 4*.

Universal Non-Real-Time SysEx General MIDI On/Off

The ZR-76 recognizes the Universal Non-Real-Time SysEx General MIDI On/Off messages.

When the ZR-76 receives a SysEx General MIDI On message, it responds as if the ZR's own "ENTER GM mode?" command has been run: the General MIDI set-up is selected, and certain System parameters are reset (see "Using the ZR-76 with General MIDI Standard MIDI Files" in *Chapter 3* for details).

The Universal Non-Real-Time SysEx General MIDI On message is comprised of the Universal Non-Real-Time header, the current SysEx Device ID number of the ZR-76, sub-ID #1and sub-ID #2 messages, and an End of SysEx message.

Turning General MIDI On Via SysEx

Transmit	Description	Notes
F0, 7E	Universal Non-Real-Time SysEx header	
<Device ID>	SysEx Device ID	0-127, determined by the setting of the SysEx Device ID System parameter (see *Chapter 3*)
09	sub-ID#1=General MIDI message	
01	sub-ID#2=General MIDI On	
F7	End of SysEx	

When the ZR-76 receives a Universal Non-Real-Time SysEx General MIDI Off message, it concludes General MIDI operation by selecting the default sequence and track 1. System parameters altered at the start of General MIDI operation are not reset (for a list of these parameters, see "Using General MIDI," *Chapter 3*).

The Universal Non-Real-Time SysEx General MIDI Off message is comprised of the Universal Non-Real-Time header, the SysEx Device ID number of the ZR-76, sub-ID #1and sub-ID #2 messages, and an End of SysEx message.

Turning General MIDI Off Via SysEx

Transmit	Description	Notes
F0, 7E	Universal Non-Real-Time SysEx header	
<Device ID>	SysEx Device ID	0-127, determined by the setting of the SysEx Device ID System parameter (see *Chapter 3*)
09	sub-ID#1=General MIDI message	
02	sub-ID#2=General MIDI Off	
F7	End of SysEx	

Pitch Tables and the MIDI Tuning Standard Format

Pitch tables created using an external computer can be downloaded into the ZR-76's RAM pitch table using the MIDI Tuning Standard format. The ZR-76 can accommodate one user-defined RAM pitch table in addition to the many alternate pitch tables stored in ROM. The ZR-76's pitch tables can be accessed by any of its 16 tracks through the setting of the track's PitchTbl parameter, or via NRPN LSB 021 values sent on the track's MIDI channel. You can also select a system-wide special pitch table by selecting the desired table with the PitchTbl System parameter.

The MIDI Tuning Standard is comprised of two kinds of messages: the MIDI Tuning Dump, a SysEx bulk dump which transmits tunings for all keys, and a Single-Note Tuning Change, which alters the tuning of a specific note. The SysEx bulk dump format is supported by several tuning editors for the Apple Macintosh and Microsoft Windows 95. It is anticipated that the Single-Note Tuning Change message will be employed by third-party tuning controllers to achieve Middle-Eastern music scales.

The ZR-76's response to the Single-Note Tuning Change message has been extended to allow users to apply a single tuning change to the ZR's entire pitch range. If a Single-Note Tuning Change message is sent to user-tuning number 7F (127), and if the note is between Middle C and an octave above (note numbers 60 to 71 inclusive), the tuning change will be applied to all notes in the current RAM pitch table. In all other cases, the note-change message only changes the tuning for the note specified. If a Single-Note Tuning Change message is received during playback of a note (between the key-down and key-up messages), the tuning change takes effect on the next note.

It is suggested that third-party tuning controllers should send a zero-pitch-detune message for each of the twelve notes supported by the Single-Note Tuning Change message and also select the RAM tuning for the receiving channel. The zero-pitch messages need only be sent once before sending their note-change messages.

For more information on the MIDI Tuning Standard, contact:

MIDI Manufacturer's Association
c/o Tom White, President
P.O. Box 3173
La Habra, CA 90632-3173
Phone/FAX: (310) 947-4569
email: mma@earthlink.net

Just Intonation Network
535 Stevenson Street
San Francisco, CA 94103
Phone: (415) 824-5325
FAX: (415) 864-8726
WWW: http://www.dnai.com/~jinetwk

List of ROM System Pitch Tables

The intervals (or relationships) between each note in a scale is called a pitch table. The default pitch table is the western 12-tone equal-tempered pitch table. The ZR-76 offers a large assortment of traditional, modern, ethnic, and exotic pitch tables for use as the System pitch table. These pitch tables are:

Pitch Table	Description
EqualTemper	The Western 12-tone equal-temperament tuning is used for the default pitch table.
Pythagrn-C	Early tuning derived by calculating 12 perfect fifths and adjusting the octaves downward as necessary. Leaves all fifths except the one between G# and D# very pure. The entire mathematical anomaly encountered by tuning up 12 perfect fifths (called the Pythagorean comma) is accounted for in the interval between G# and D#.
Just Int-C	Designed so that the major intervals in any scale are very pure, especially the third and fifth.
Meantone-C	One of the earliest attempts to derive a tuning which would accommodate music played in a variety of keys. The major third interval is very pure.
Wrkmeistr-C	Derived by Andreas Werkmeister, a contemporary of Bach, this is a further attempt to create a temperament which would accommodate music played in any key.
Vallotti-C	A variation of Pythagorean tuning in which the first 6 fifths in the circle of fifths are flat by 1/6 of the Pythagorean Comma. This is probably close to the tuning used by Bach for his Well-Tempered Clavier.
Grk-Diatonc	The basic building block of ancient Greek music (in which most modern Western music has its roots) was the tetra chord - four notes and three intervals spanning a perfect fourth. The placement of the two inner notes of the tetra chord determined its genus — diatonic, chromatic or enharmonic. This pitch table is derived from two diatonic tetra chords, combined to form a seven-note scale similar to the modern diatonic scale. It is to be played only on the white keys. Tone center is E.
Grk-Chromat	This pitch table is derived from two chromatic tetra chords (the intervals are, roughly, quarter-tone, half-step, major third), combined to form a seven-note scale. It is meant to be played on the white keys. Tone center is E.
Grk-Enharm	This pitch table is derived from two enharmonic tetra chords (the intervals are, more or less, two quarter-tones followed by a major third), combined to form a seven-note scale. It is meant to be played on the white keys. Tone center is E.
Turkish-A	This is a typical Turkish octave-based scale using only one quarter tone. The second note in the scale is tuned 40 cents flat from the equal-tempered equivalent. In this tuning B is 40 cents flatter from B natural. The scale rises from A.
Arabic-1	The intervals in this table form the basis for much Middle Eastern music. Here the octave is divided into 17 intervals, corresponding to the fret intervals of some stringed instruments used in this area. The scale rises from the base pitch of C4 in a series of three repeating intervals (in cents) of 90, 90, 24 and so on. From C4 to F5 represents an octave.

Arabic-2	Similar to Arabic 1, except that here the octave is divided into 24 intervals. This makes one pitch octave cover two keyboard octaves, meaning that the fingering will be the same in any octave. This scale rises from the base pitch of C4 in a series of four repeating intervals (in cents) of 24, 66, 24, 90 and so on.
Arabic-3	This is a 12-tone scale using quarter tones (notes tuned sharp or flat by 50 cents from their equal-tempered equivalents) on the C#, E, G# and B keys.
Arabic-4	Another octave-based scale with an Arabic flavor. In this case the "quarter tones" are not perfectly equal, imparting a distinctive character to the notes.
Java-Pelog1	One of the two main scales of the gamelan orchestras of Java and Bali is the seven-tone scale called Pelog. The notes C, D, F , G, and A (which are reproduced on the black keys) are considered primary, with E and B used for grace notes. The octaves are stretched (tuned a little sharp) due to the harmonic content of the instruments in the gamelan. (There are many variations of these tunings, almost as many as there are gamelan ensembles. These tunings are to be considered typical, not definitive.)
Java-Pelog2	Another version of the seven-tone Pelog scale used in gamelan music. The notes C, D, F , G, and A (which are reproduced on the black keys) are considered primary, with E and B used for grace notes. The octaves are stretched (tuned a little sharp) due to the harmonic content of the instruments in the gamelan.
Java-Pelog3	A third version of the seven-tone Pelog scale used in gamelan music. The notes C, D, F , G, and A (which are reproduced on the black keys) are considered primary, with E and B used for grace notes.
Java-Slndro	A 15-tone equal tempered tuning from Java. Playing every third note (as in a diminished chord) yields a typical 5-tone scale of the gamelan. Other notes can be used as passing tones.
Java-Combi	This is actually two pitch tables in one. The white keys play the seven-tone Pelog scale, same as the table JAVA-PELOG1. The black keys play a five-tone scale called Slendro, which is close to a five-tone equi-tempered scale. Both tunings have their octaves stretched (tuned a little sharp) due to the harmonic content of the instruments in the gamelan.
Indian-Raga	Indian scale used to play ragas, based on 22 pure intervals called Srutis. This pitch table uses two keyboard octaves to play one octave in pitch. The 22 Srutis are mapped to keys in this two-octave range omitting the A#s, which play the same pitch as the adjacent A.
Tibetan	This tuning is based on a pentatonic scale from Tibet. Notice that playing the black keys yield a scale similar to the 5-tone Slendro tuning from Indonesia.
Chinese-1	This is a seven-tone scale used widely in China. It is meant to be played on the white keys.
Chinese-2	A seven-tone scale based on an ancient Chinese lute tuning. It is meant to be played on the white keys.
Thailand	This is a seven-tone equi-tempered scale from Thailand. It is meant to be played on the white keys.
24-Tone-Equ	Centered on C4, this scale has an even quarter tone (50 cents) between each keyboard note, and each pitch octave covers 2 keyboard octaves. This tuning has been used by many contemporary composers and can be used in some Middle Eastern music.
19-Tone-Equ	Centered on C4, this scale divides the octave into 19 equal steps. From C4 to G5 forms an octave. This scale yields very pure thirds and sixths, but not fifths. Like the 24-tone scale, this has been used by some modern composers.
31-Tone-Equ	Centered on C4, this scale divides the octave into 31 equal steps. From C4 to G6 forms an octave. Similar to 19-tone in the purity of its intervals.
53-Tone-Equ	This scale divides the octave into 53 equal steps. From C2 to F6 forms an octave. It yields very pure thirds, fourths and fifths.
Harmonic	This is a mathematically generated scale based on the relationships of the partials in the harmonics of the fifth octave of the linear harmonic spectrum. It is interesting mostly from a theoretical standpoint.
CarlosAlpha	Derived mathematically by Wendy Carlos in the search for scales with the maximum purity of primary intervals, This is based on the division of the octave into 15.385 equal steps (78 cents per key). One pitch "octave" covers 16 keys, though because the Carlos scales are asymmetric (not based on whole number divisions of the octave) they do not yield pure octaves.
Carlos-Beta	Wendy Carlos' Beta scale is based on the division of the octave into 18.809 equal steps 63.8 cents per key. One pitch "octave" covers 19 keys; though, being asymmetric, it yields no pure octaves.
CarlosGamma	Wendy Carlos' Gamma scale is based on the division of the octave into 34.188 equal steps (35.1 cents per key). This scale has essentially perfect major thirds, fourths and fifths. One pitch "octave" covers 35 keys, though, again, being asymmetric it yields no pure octaves.
Partch-43	Harry Partch was a pioneer of micro-tonality in the early 20th century. He developed this 43-tone-per-octave scale of pure intervals, and even designed an entire orchestra of instruments using this scale. The tonal center is found on key D2 (the low D on the 76-note keyboard). This pitch table has been transposed up an octave to bring the notes into a more usable range.
Reverse	This pitch table simply reverses the pitch-tracking of the keyboard, putting the highest notes at the bottom of the keyboard and the highest notes at the top. Hours of fun.
Bagpipe	This is the tuning of a traditional Scottish bagpipe.
ShonaMbira1	One tuning of the African Mbira, similar to the Kalimba or thumb-piano. Each Mbira player uses his own "tuning" which is his signature.
ShonaMbira2	Another Mbira tuning.
SuperJust	This is a Just Intonation scale created by Wendy Carlos.
88CET	88CET is a scale with a constant interval of 88 cents. It features three different thirds and close approximations to many just intervals. This keyboard mapping omits the G#/Ab key from the system.
Pierce-Bohl	An octave-repeating stretched scale invented by John Pierce which is derived from a pure twelfth divided into thirteen steps.
WS1	The WS scales are for single samples which span the entire keyboard. WS1 maintains 12 tones per octave for two octaves centered on middle C, then continues to high and low ends of the keyboard with 1/4 of a semitone or 48 tones per octave.
WS2	WS2 maintains 12 tones per octave for three octaves centered on middle C from G to G.
WS3	WS2 maintains 12 tones per octave for four octaves centered on middle C.
Stretch	A stretch tuning, in which the middle C is at unity, C1 is detuned flat 40 cents and C8 is detuned sharp 40 cents. The stretch is a linear ramp between these two offsets.
RandomDetun	Each note has been "tweaked" by + or - up to 10 cents, giving chords a chorused effect which is different for each note.
RAM	Selects pitch tables that can be downloaded via MIDI. See earlier for more information about RAM pitch tables.

Using the ZR-76 Outputs

A Note About the Main and Aux Output Jacks

Use standard balanced (TRS) stereo cables or unbalanced (TS) mono cables for these connections.

TRS Bal/Unbal
Outputs
Aux · Right · Left · Main · Right · Left · Mono · Mono

Aux Outputs sum into Main if Left Aux is not connected. See manual.
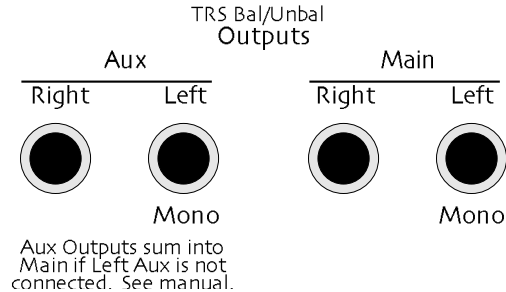
As the labels on the Aux Out jacks and Main Out jacks indicate, the ZR employs automatic switching on each stereo pair of outputs. That is:

• Main Outputs Right and Left are normally stereo outputs. However, if nothing is plugged into the Right Output, the stereo signal will be summed to mono and sent to the Left Output.

• Similarly, the Aux Outputs Right and Left are normally stereo outputs. However, if nothing is plugged into the Right Aux Output, the stereo signal will be summed to mono and sent to the Left Aux Output.

Note: If there is nothing connected to the Left Aux Out jack, any signal sent to the Aux Outputs will be summed into the Main Outputs.

Ground Compensated Outputs

The ZR-76 has "ground compensated" outputs, which offer the advantages of balanced outputs (minimized hum and interference), plus the advantage of a transformer isolated output (eliminates ground loop problems). The output connector "grounds" are not hooked directly to the ZR-76 ground, thus eliminating the possibility of a ground loop. This ground compensating scheme works on both balanced and unbalanced equipment with standard cables.

Using XLR Outs with the ZR-76

The ZR-76 ground compensating outputs make things very easy. Use of a standard 1/4" to XLR cable will work fine with no ground loops.

1/4" to XLR Balanced Cable

Red · Black · Shield · Case

ENSONIQ 1/4" output (ground compensated) · 3-Pin XLR male input (balanced)
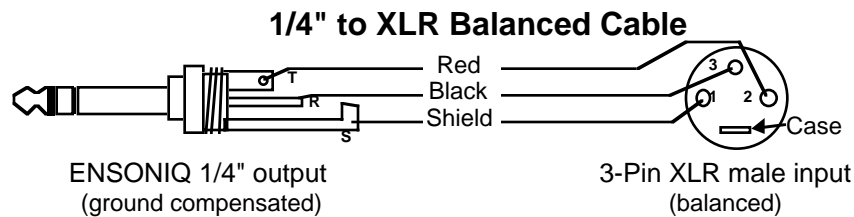
A Note about Stereo Foot Switches

The recommended stereo foot switch for use with the ZR-76 is the ENSONIQ SW-10 Dual Foot Switch. The SW-10 is a dual (piano-type) foot switch with two separate pedals.

Foot Switch 1-L   Foot Switch 1-R
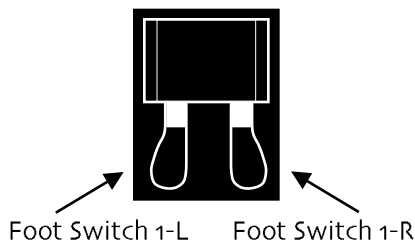
When the SW-10 is connected, the pedals can be assigned to a number of different functions, allowing a total of four independent foot switch controllers (when two optional SW-10 Dual Foot Switches are connected). If you are considering using a foot switch, we highly recommend the ENSONIQ SW-10 Dual Foot Switch. Why not get two?

> **Note:** If you are using a foot switch manufactured by another company, there is a possibility that the wires inside the foot switch may be reversed. This could make the ZR recognize Foot Switch 1-R as left, and Foot Switch 1-L as right.

A Note about Mono Foot Switches

The ZR-76 has two stereo foot switch jacks. When any mono foot switch is plugged in, it functions like the right side of a stereo foot switch, and acts as a permanent shut-off switch for the (non-existent) left side of the foot switch.

If you are using a single foot switch (SW-2 or SW-6) in either of the Foot Switch jacks, the FtSw 1-L and/or FtSw 2-L values on the System page should *always* be set to "Unused". This will prevent note drones. Remember that the foot switch jacks are optimized for use with a stereo foot switch (SW-10), and when a single foot switch is connected, it behaves like the right foot switch.

The SW-10 is a stereo foot switch and has a stereo plug

SW-10

The SW-6 and SW-2 are mono foot switches and both use a mono plug

SW-6   SW-2
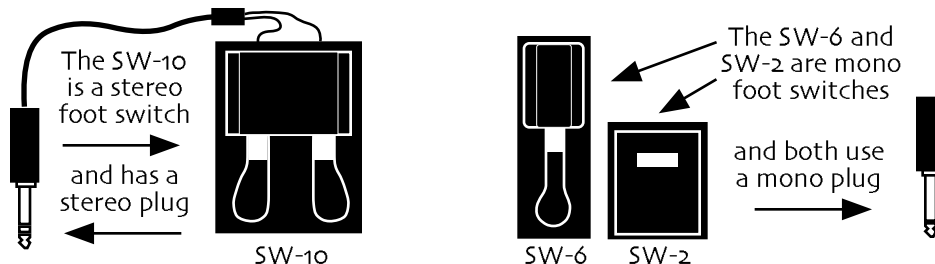
To optimize the usage of mono foot switches, please consider performing one of the two modifications explained in "HOT MODS" on the following pages.

HOT MODS!

Although mono foot switches can be used as is, their usage can be optimized if you are willing to make either of the following modifications. If you are not comfortable performing the following modifications, we recommend asking a qualified technician for assistance:

Replace the Mono Foot Switch Plug with a Stereo Plug

The advantage of this modification is that you will eliminate the "shorted" left foot switch signal (see "About Mono Foot Switches" earlier).
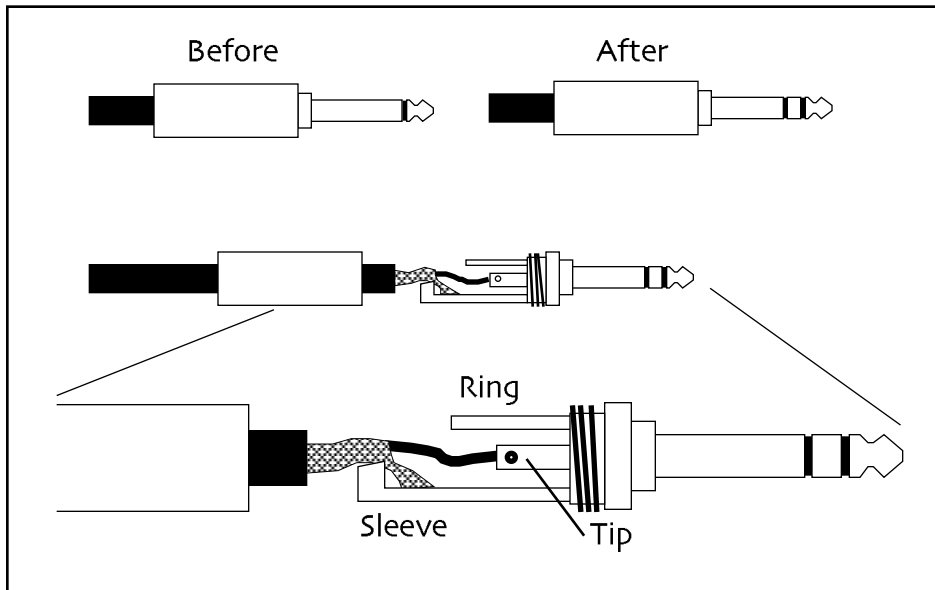
Tools/supplies required:
> soldering iron
> solder
> wire cutters
> 1/4" stereo plug

1. Unscrew the mono plug cover, and slide it out of the way (down the cable).
2. Either with wire cutters or a soldering iron, remove the wires from the mono plug.
3. Replace the mono plug cover with the stereo plug cover on the mono foot switch cable.
4. Solder the "hot" wire (the insulated wire in the center of the cable) to the tip connector, and the ground (shield) wire to the sleeve on the stereo plug as shown in the diagram.
5. Screw the stereo plug cover onto the stereo plug to complete the modification.

HOT MODS!

Build a Splitter Box to Merge Two Mono Foot Switches into One Stereo Jack

The advantage of this modification is that it will allow you to make two mono foot switches function as one stereo foot switch.
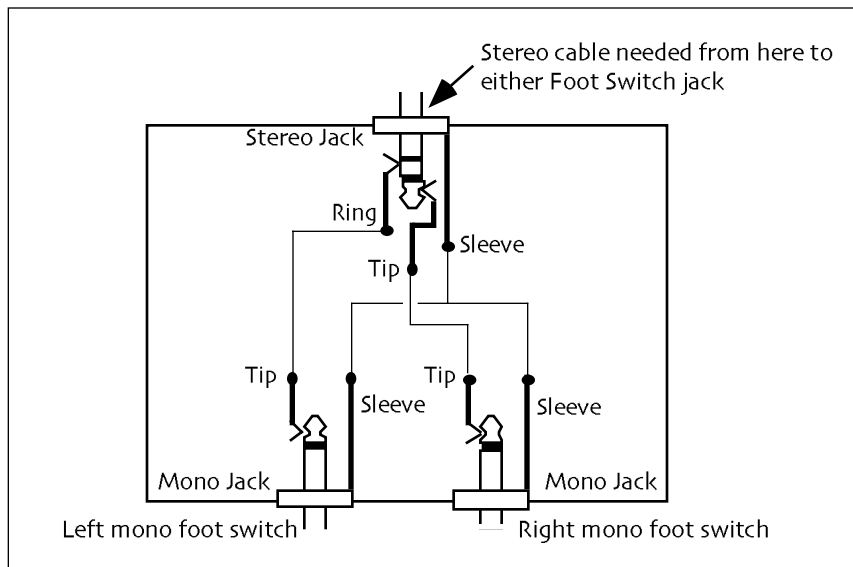
Tools/supplies required:
> soldering iron
> solder
> wire cutters
> drill and drill bits
> one plastic housing assembly (must be large enough to mount three jacks)
> one stereo jack
> two mono jacks
> shielded wire
> 1/4" stereo-to-stereo cable

1. Drill three holes in the housing assembly and mount the stereo and mono jacks.
2. Solder a wire from the tip of the left mono jack to the ring of the stereo jack.
3. Solder a wire from the tip of the right mono jack to the tip of the stereo jack.
4. Solder a wire(s) connecting the sleeves of all three jacks.
5. Connect the mono foot switch(es) to the mono jacks.
6. Connect the stereo-to-stereo cable between the stereo jack and either Foot Switch jack.
7. You might want to mark the housing assembly to easily identify the jacks.

Tip: By doubling the above instructions, you could build a splitter box to merge four mono foot switches into two stereo jacks, for maximum ZR-76 control!

Using Headphones with the ZR-76

Headphones can be used with the ZR-76 when connected to the rear panel 1/4" stereo Phones jack to listen to the keyboard in stereo. The signals going to this jack are the same signals that appear at the main output jacks, even if they are not connected. The main outputs are mapped to the stereo headphone as follows: Main Out Left is mostly to the left; Main Out Right is mostly to the right. The outputs are not routed hard left and right to the headphone jack, to provide a "mixed stereo" signal:

Headphones

Left Ear Hears
Main Out Left - mostly
Main Out Right - a little

Right Ear Hears
Main Out Right- mostly
Main Out Left - a little

Headphone volume is controlled by the Master Volume slider. Plugging headphones into the Phones jack does not turn off the audio in the outputs.

Warning: The headphone output circuit is designed to minimize the volume differences between low and high impedance headphones. Because some headphones are more efficient than others, make sure you set the Master Volume slider accordingly—high output volume levels could damage your hearing.

Sending the Aux Signals to the Headphones

Since the headphone jack always mirrors the Main Output jacks, the easiest way to send the Aux signals to the headphones is to route the Aux signals to the Main Outputs. Here's how:

To Route the Aux Signals to the Main Outputs:

1. Press the System button.
2. Using the Parameter knob, locate the "AuxToMainOuts" parameter.
3. Turn the Value knob, or press the up and down arrow buttons to select "AuxToMainOuts=Always."

    Now whatever was routed to the Aux jacks is now being sent to the Main Outputs, and therefore, can be heard in the headphones.

Note: Remember to reset the System "AuxToMainOuts" parameter if you do not want to send the aux signals to the main outputs.

Error/Informational Messages

The following error/informational messages are organized alphabetically.

16 Track Recorder Messages

`Add track parameters to track #?`	This appears when the selected sequence has had it's track #'s and MIDI channel #'s aligned (i.e., "Align MIDI channels to track numbers" has been performed, and the track contains a GM sound), but the selected track does not yet contain track parameters. This prompt appears when you: - Turn the left knob on the Track select page. - Turn the Mix knob - Turn the Pan knob - Press the Mixdown/FX Routing button Answering No or Yes will re-display the track select page.
`Align MIDI channels to track numbers?`	This appears when the selected sequence has not had it's tracks/channels aligned. This prompt appears when you: - Press a track button - Press Enter from the SoundFinder Send To page (which always sends to the current song) - Press Enter from the Idea Pad Send To page when Send To=Current Song Pressing Yes will move all the data around to make track numbers and channel numbers the same, add track parameters to the selected track, and add the sequence name, the sequence insert effect, and the ability to store the Region settings to the sequence as a SysEx. The next available empty track will become the selected track; if there is no available empty track, pressing Enter will do nothing.
`Can't append to an empty track!`	This appears when you try to append a track to another track on which nothing has been recorded.
`Can't change FX when playlist is active!`	This appears when you try to change the Insert Effect or track routing with an active playlist.
`Can't copy a rhythm track to itself!`	When performing the Track Copy command on a rhythm track, if you try to select the Dest Part to be the same as the current and press Enter on that page, this message will appear.
`Can't copy playlist! Select a seq first!`	This appears when you press the the Song Editor copy button with an active playlist.
`Can't copy when playlist is active!`	This appears when you press the 16 Track Recorder Copy button with an active playlist.
`Can't edit drum kit on rhythm track!`	This appears when you try to edit a drum key on the rhythm drum kit on track 10.
`Can't edit multiple time signatures!`	If a sequence has more than one time signature, attempting to edit the time signature value on the sequence select page will show this message. The displayed time signature value is read only.
`Can't erase when playlist is active!`	This appears when you press the 16 Track Recorder Erase button with an active playlist.
`Can't locate when playlist is active!`	This appears when the sequencer is not playing, and you press the 16 Track Recorder Stop button with an active playlist.
`Can't loop when playlist is active!`	This appears when you press the Loop button with an active playlist.
`Can't mix when playlist is active!`	This appears when you move the Mix knob with an active playlist.
`Can't mute when playlist is active!`	This appears when you press the Mute button with an active playlist.
`Can't pan when playlist is active!`	This appears when you move the Pan knob with an active playlist.

Can't quantize track rhythm playback!	When a Rhythm is on track 10, the 16 Track Recorder Quantize function will only quantize any note data that exists on the track; it will not quantize the rhythm playback, and will not quantize events that control rhythm playback (start/stop/fill/var). If there is a rhythm on track 10, but there are no note events on track 10, pressing the 16 Track Recorder Quantize button will display this momentary error message.
Can't quantize when playlist is active!	This appears when you press the 16 Track Recorder Quantize button with an active playlist.
Can't record when playlist is active!	This appears when you press the 16 Track Recorder Record button with an active playlist.
Can't rename an empty sequence!	When you try to rename a nameless, empty sequence that has no sounds assigned to any tracks, this error message is displayed.
Can't smooth step! Step #4 = Bank1: D	If there is insufficient RAM to play all playlist steps seamlessly, and you still go ahead and build the playlist even though it cannot be smoothed, the ZR will tell you which steps cannot be smoothed by timed messages similar to this (step numbers and bank locations will vary).
Can't solo when playlist is active!	This appears when you press the Solo button with an active playlist.
No playlist defined! Hold to define one.	This message is displayed when the Playlist button is pressed and released and no Playlist has been defined.
No seqs to select!	This appears when there are no sequences in the currently selected song, and you press the Playlist button.
Not enough memory to finish alignment!	This error message is displayed if the aligning of tracks has begun, but there's insufficient memory to complete the process. **Tip:** We recommend that when an SMF that contains either 1) multiple MIDI channels per track, 2) multiple tracks with the same MIDI channel, or 3) more than 16 tracks is loaded, sequencer memory should be empty to give the aligning process the highest odds for success.

Press STOP first!	This appears in several situations:
	 • when you press the Bank button and the playlist is selected, and playing.
	 • when you attempt to change the time signature of a sequence while it's playing
	 • while the sequencer is running, if you press:
	    16 Track Recorder Edit
	    16 Track Recorder Copy
	    16 Track Recorder Erase
	    16 Track Recorder Quantize
	    Song Editor Copy
	    Song Editor Erase
	    Song Editor Misc.
	    Song Editor Select Song
	    Song Editor New Song
	    Song Editor Song Playlist
	 • Any sequence button except for the selected one

RAM low! Playlist not smooth. Proceed?	This prompt is displayed when there is insufficient RAM to play all playlist steps seamlessly.
Recording stopped! Out of song memory.	This appears when you run out of sequencer memory while recording.
Replace contents of rhythm & target trk?	After aligning tracks on a sequence as the result of doing a Send to Track from SoundFinder (or the Idea Pad), if there is something recorded on both the target track, and track 10 (a rhythm, or a normal track), this is displayed.
Replace contents of rhythm track?	After aligning tracks on a sequence as the result of doing a Send to Track from the Drum Machine, if track 10 contains data, this is displayed.
Replace rhythm from Drum Machine only!	This message is displayed when you attempt to change the rhythm on the rhythm track by tunring the Value knob.
Replace sound on target track?	After aligning tracks on a sequence as the result of doing a Send to Track from SoundFinder (or the Idea Pad), if the target track contains data, this is displayed.
Rhythm data is not available!	When the Drum Machine cannot find the rhythm that should be in the selected rhythm location, this message will be displayed.

`Select new rhythm & send to track!`	Rhythms cannot be selected on track 10. This display informs you that you have to use the Drum Machine Send To function to change the rhythm on track 10.
`Seq tempo/meter will be used! Proceed?`	Pressing Send To Track in the Idea Pad will display this prompt after pressing a track button or after pressing Yes, if the idea was recorded with a rhythm, and the target sequence contains data on at least one track (i.e., has a tempo & time signature already), but both the target track and track 10 are empty.
`Set Method to Normal for quantize params!`	When the 16 Track Recorder Quantize command has Method=Deltas, and all of the subsequent parameters are no longer displayed, turning the left knob clockwise will display this message as an informational tip.
`Song playlist does not have a region!`	This appears when you press the Region From or To with an active playlist.
`Sound not available!`	When a sequence or drum pattern contains a RAM or FLASH resident sound on a track, and you erase all RAM or FLASH sounds in the librarian, pressing the track button will display this message.
`Tempo read-only when playlist is active!`	When the Song Playlist is selected, and the Song Editor Tempo page is displayed, the Current Tempo parameter is read-only—attempting to edit the value will display this momentary error message.
`Update track params with MIDI values?`	When any MIDI input has been received by the ZR-76 in sequencer mode (multi mode), on any track (the track could be defined with track params, defined without track params, or *UNDEFINED) in a sequence that has had its tracks/channels aligned, pressing any of the following controls will display this prompt: - pressing a track button - pressing the FX/Mixdown Routing button - turning the Mix knob - turning the Pan knob - pressing the Mute button - pressing the Solo button Pressing Yes will copy the last received values for all track parameters into the SysEx's that contain the track parameters in the current sequence; any tracks that were either defined without track params, or *UNDEFINED, will become defined with track parameters. Pressing No will leave the track unchanged, and will redisplay the sequence select page.

Disk/Global/Storage Messages

`Bad location`	This is displayed when trying to send a sound into a ROM location.
`Bad MIDI file data! File can't be loaded`	This appears when a corrupted .MID, .SMF, .MFF file is loaded. The ZR-76 will abort the load and show this error message.
`Can only load first 100 files from disk!`	The ZR floppy disk system has a file limit of 100 files. This means that you can only view the first 100 files on a disk. This momentary warning message is displayed if the disk you've inserted contains more than 100 files.
`Can't close file!`	This appears if a specific file on the floppy disk is corrupted and can't be closed.
`Can't erase file!`	This appears if try to erase a file that exists in ROM memory.
`Can't format floppy!`	This appears when the floppy disk is corrupted and cannot be formatted.
`Can't open disk!`	Interrupted disk writes (by ejecting the disk during the write cycle) shows this message.
`Can't open <filename>`	This appears if a specific file on the floppy disk is corrupted and can't be opened.
`Can't rename file!`	This appears if try to rename a file that exists in ROM memory.
`Can't save more than 100 files to disk!`	The ZR floppy disk system has a file limit of 100 files. This means that you can only save 100 files to disk. This error message is displayed if you try to save more than 100 files to a disk.
`Couldn't find pattern to save!`	This appears if you try to save a pattern that doesn't exist or that's been erased from memory.
`Couldn't find preset to save!`	This appears if you try to save a preset that doesn't exist or that's been erased from memory.

Couldn't find rhythm to save!	This appears if you try to save a rhythm that doesn't exist or that's been erased from memory.
Couldn't find sound to save!	This appears if you try to save a sound that doesn't exist or that's been erased from memory.
Couldn't find target preset!	This appears if you try to load a preset into a location that doesn't exist, or that's corrupted.
Couldn't find target rhythm!	This appears if you try to load a rhythm from floppy into a location that doesn't exist, or that's corrupted.
Couldn't find target sound!	This appears if you try to load a sound into a location that doesn't exist, or that's corrupted.
Disk not readable!	Ejecting the disk while loading directories displays this message.
Disk Utilities: No disk in drive!	This appears when you press the Disk Utility button when there is no disk in the drive.
Disk write-protected	If you try to process any disk command and the disk's write-protect window is open, this will be displayed.
Disk is full!	This appears when there is no more room to store information on the floppy disk.
Disk read failed!	This appears if there is corrupted data on the floppy disk during a disk load command.
Disk write failed!	If either the floppy disk or the file is corrupted, this will be displayed when trying to save the data to a floppy disk.
Disk's been changed!	This appears whenever you try to load data from a disk, and there's a different floppy disk in the drive.
Dump: <dump type> Sending...	Message to inform that the ZR-76 is transmitting MIDI SysEx.
Failed! May be hosed	Message to inform you that the disk file may be corrupted.
Fatal memory error!	This appears when the ZR's memory bank becomes corrupted. Restarting the ZR should remedy the problem.
File is bigger than free memory!	This appears when there is not enough allocated memory in the ZR to load a file from the floppy disk.
File is too big	This appears when you've exceeded the available memory for your file.
File with same name exists! Overwrite?	This appears when a file of the same name exists on a disk and a disk save is invoked.
Insufficient memory!	When there is not enough memory to complete an operation, this is displayed.
Load from disk? No disk in drive!	This appears when you press the Disk Load button when there is no disk in the drive.
Load from disk? No readable files!	After pressing Disk Load, if no legal files are found on a disk, this error message will be displayed on the bottom line of the Load page.
Not a valid preset file!	This appears when you try to load in preset data that is corrupted, or data that was saved improperly.
Not a valid program file!	This appears when you try to load in sound data that is corrupted, or data that was saved improperly.
Not a valid rhythm file!	This appears when you try to load in rhythm data that is corrupted, or data that was saved improperly.

`Not enough FLASH memory!`	This appears when the information you are trying to save exceeds the available allocated memory.
`Not enough FLASH rhythm memory!`	This appears when the information you are trying to save exceeds the available allocated memory.
`Not enough memory for this RAM setup!`	This appears when the information you are trying to save exceeds the available allocated memory.
`Pattern is too big`	This appears when you've exceeded the available memory for your pattern.
`RCV: <message type> Receiving <msg type>`	Message to inform that the ZR-76 is receiving MIDI SysEx.
`RCV: <message type> Successful!`	Message to inform that MIDI SysEx reception is complete.
`Save to disk? No disk in drive!`	This appears when you press the Disk Save button when there is no disk in the drive.
`Sorry! No memory for sound sent from MIDI`	Message to inform that the ZR-76 does not have sufficient memory to store the single sound SysEx message that was sent to it.
`Turn Layer off to save to disk!`	This appears if you try to save the current sound to disk and layer is on. Saving a single sound to disk will only save the primary sound in SoundFinder mode.
`Turn Split&Layer off to save to disk!`	This appears if you try to save the current sound to disk and split and layer are on. Saving a single sound to disk will only save the primary sound in SoundFinder mode.
`Turn Split off to save to disk!`	This appears if you try to save the current sound to disk and split is on. Saving a single sound to disk will only save the primary sound in SoundFinder mode.

SoundFinder Message

`Too few free layers to save as a sound!`	This is displayed when trying to save a split or layered sound to the internal FLASH RAM when there is not enough memory available. To remedy the problem, press the Librarian button until the display shows "Erase memory item?" Press the Yes button. The ZR will then display "Sound : XXX". Use the up/down arrows or the Value knob to select which FLASH sounds you want to erase from memory, thereby freeing memory for your sound. Press the Yes button to begin the process of creating more space for your custom, split or layered sounds.

Global Error Message

`Sorry! An Unexpected Event xxx occured.`	Message to indicate that the ZR-76 has experienced a fatal error. This will cause the ZR-76 to soft restart after displaying the message for about three seconds. The bottom line shows the event code number (000 to 256).
`Unknown error Error code = xxx`	This also indicates that the ZR-76 has experienced a fatal error. This will cause the ZR-76 to soft restart after displaying the message for about three seconds. The bottom line shows the error code number (000 to 256).

Glossary

Active	The state of a drum kit zone when it's audible. Also the audible state of the phrase a zone plays in a variation or fill. The opposite of "Muted."
Add Mode	A mode of recording in the 16 Track Recorder where recording new material on a previously recorded track superimposes the new music on top of the old without erasing it. See "Recording Modes."
Alt. FX Bus	The "second-choice" effect bus routing for sounds routed to the insert effect bus. Also an alternate term for the effect bus routing parameter of any sound not routed to the insert bus. In the ZR Unisyn editor, the Alt. FX Bus is the means by which a sound's effect routing is programmed when it's not being routed to the insert or dry effect busses.
Ambience	The sound of the physical space—real or simulated—in which a sound occurs.
Amplify	To increase the level, or loudness, of a signal.
Amplitude	The level, or loudness, of a signal.
A0-C8	The MIDI pitch range of an 88-note keyboard. The lowest note is an A, designated as "A0," and the highest note, a C, is referred to as "C8." The numbers increment at each C—A0 is followed by A#0, B0 and C1, for example. Middle C is "C4." Most MIDI manufacturers use this scheme; however, a few manufacturers refer to Middle C as "C3."
Append	To attach one track to the end of another. One of the 16 Track Recorder Copy functions.
Attenuate	To decrease the level, or loudness, of a signal.
Balanced-Line Input	Three-conductor balanced lines are used to interconnect various pieces of equipment, and are often used in professional studios. These balanced-line inputs tend to reject hum and/or radio frequency interference. The ZR-76 has balanced-line outputs, for connecting with professional balanced-line input studio equipment.
Bandwidth	The overall frequency spectrum of a sound or effect, measured in Hertz (Hz) and kiloHertz (kHz).
Bank	A collection of sounds, presets or rhythms. The ZR-76 contains ROM sound banks and rhythm banks, FLASH sound, preset and rhythm banks, and can contain RAM sound and rhythm banks. Each sound bank in the ZR-76 can hold up to 361 sound layers; each rhythm bank is 80, 000 bytes in size; the FLASH preset bank can hold 32 presets. Sound banks may be selected via MIDI through the use of MIDI Bank Select messages.
Bank Select	A type of MIDI message that can select sound banks in MIDI devices that store sounds in bank groupings and support Bank Select messages. The ZR-76 responds to Bank Select messages, and transmit them when a MIDI-OUT sound is selected.
Base MIDI Channel	The MIDI channel on which SoundFinder receives MIDI data. Also the channel upon which SoundFinder transmits MIDI when a non-MIDI-OUT sound is selected.
C4	The MIDI designation for Middle C on a MIDI keyboard or controller. Note: some MIDI manufacturers refer to Middle C as "C3."
Chorusing	An audio effect that results from the mixing together of a source signal with slightly delayed copies of itself where the delay time of the copies is fluctuating in a regular, rhythmic fashion. The timing variations create phasing anomalies that cause the source signal to swirl, and sound wider and/or bigger.
Click	A term for the metronome in the ZR's 16 Track Recorder; not necessarily a description of the sound the metronome uses.
Clock	1/384th of a quarter note in the ZR-76; the ZR's finest metric value. Locations within sequences are measured in bars, beats and clocks.
Clock Source	A built-in reference pulse generated by the ZR-76 for the synchronizing of LFOs, delays and noise modulators used in sounds and effects. The rate of the pulse is derived from the 16 Track Recorder's tempo, or the Drum Machine's tempo when in SoundFinder. The clock source can also be synchronized to received MIDI clocks.
Compression	A sound conditioning process that reduces a source signal's dynamic range. Loud signals get softer and softer signals get louder.
Compression Ratio	The amount by which a signal is compressed, expressed as a ratio. For example, a 4 to 1 compression ratio will result in an increase of 1dB in output level for every 4dB increase in input level. At high ratios (such as 20:1 and above), the compressor acts as a limiter.
Computer	A personal computer typically using either the Mac OS or an IBM-compatible operating system (such as Windows 3.1 or Windows 95). To be used in conjunction with a ZR-76, a personal computer must be able to mount DOS-formatted 3.5" floppy disks.

Countoff	Beats heard before recording begins that allow a musician to become accustomed with the tempo of the music about to be recorded.
CTRL	Synonym for "system controller."
Cutoff Frequency	The filter setting that determines which frequencies a filter will leave un-attenuated. In a low-pass filter, the cutoff frequency setting determines the highest frequency that will be allowed to pass through the filter. In a high-pass filter, it determines the lowest frequency.
Cycle	A sound wave's single journey from exerting a greater amount of air pressure to a lesser one and back to its starting point. The number of cycles per second determines the pitch—or frequency—of the sound wave. The number of cycles per second is expressed in Hertz (Hz) and kiloHertz (kHz).
Damping	A reverb parameter that determines how quickly the high-frequency content of a reverb will be reduced as it decays to silence.
DDL	Abbreviation for "digital delay line," an effect that creates a digital copy, or copies, of a source signal and plays it (or them) back later than the original signal. These delays can be used to create a myriad of audio effects.
Delta Quantize	A new ENSONIQ form of rhythm auto-correction, delta quantizing analyzes the spaces, or deltas, between recorded notes to ascertain the musician's intent and corrects timing mistakes without the artifacts often introduced when using standard quantization methods. Allows the rhythmic auto-correction of tracks recorded without a metronome reference.
Diffusion	A reverb parameter used to smear a reverb's transients in order to smooth the reverb's sound. Low diffusion values will cause transients to appear as a series of discrete echoes, while higher values tend to increase the blurring effect for a smoother sound.
Drum Key	Any of the keys on the keyboard when a ZR-76 drum or percussion kit sound is selected. Each key in a ZR drum or percussion kit sound plays a standard ZR sound and has its own set of parameters.
Drum Kit Sound	A special type of sound program that assigns a standard sound to each key on the keyboard. Drum (and percussion) kit sounds can access up to 64 standard sounds at once.
Drum Map	A standardized selection of sounds for the drum keys in a drum or percussion kit sound.
Dry	The effect description for a sound not routed to any of the ZR's effects.
Early Reflections (ER)	Early reflections are delayed signals that aurally suggest the size of ambient spaces. In the real world, sound bounces off surfaces it encounters—walls, ceiling and floor. Quick early reflections suggest small spaces, with these surfaces close by. Longer early reflections imply to the ear that the surfaces are farther away, and that the ambient space is therefore larger.
Edit Buffer	An area of the ZR's memory that temporarily stores changes to a sound, preset, rhythm or track. When editing sounds, presets and rhythms, the edit buffer hold changes you've made until a new sound, preset or rhythm is selected, or until you save your work. After each new recording and track command in the 16 Track Recorder, the edit buffer temporarily retains the track's previous state, allowing you to undo your most recent track procedure.
Effect	Signal processing typically applied to sounds as a final touch. Many effects simulate ambiences of a realistic or fantastic nature. Effects include reverbs, delays, choruses, flangers, phasers, distortion and so on. Every ZR-76 song offers a global chorus and a global reverb setup. Each sequence offers an insert effect. Many of the ZR-76 sounds also contain insert effects. Any sound in SoundFinder or on a track in the 16 Track Recorder can be routed to any of the ZR effects.
Effect Bus	A pathway leading to each of the effect possibilities: insert, global chorus, global reverb or dry. A sound assigned to an effect bus is processed by the effect for which the pathway is named. Synonym for "FX Bus."
Envelopes	Devices that allow the shaping of sounds and effects.
EPROM	A memory chip found inside the ZR-76 containing the computer programming code for the ZR's operating system. The ZR operating system requires a pair of EPROMS.
Equalization (EQ)	The process of altering the frequency content of a sound. Everything we hear is comprised of a number of sound waves occurring at the same time, at different pitches, or "frequencies." Equalization allows you to change the volume balance of the frequencies within a sound.
Feedback	A signal routing in which the output of an effect is mixed back into the input. Feedback of a delay line is also called regeneration.
Fill	A non-repeating drum or percussion phrase typically used to set up transitions in a musical arrangement.

Filter	A device that attenuates selected frequencies within a sound or effect. For example, a high-pass filter passes all signals higher than a selected frequency, attenuating all those frequencies below it. A low-pass filter passes all signals below a selected frequency, attenuating all those frequencies above it.
Flanger	A processor that simulates the effect of two synchronized tape machines playing back the same signal, with the speed of one machine being slowed slightly by the gentle pressing on the outer shell—or flange—of one of its tape reels. This small amount of delay causes a phasing cancellation that momentarily filters out elements of the sound being processed. Changing the delay time causes the "flange" effect. In the ZR-76, flanging is achieved using interpolated digital delay lines.
FLASH	A long-lasting form of computer memory utilized in the ZR-76.
Frequency	The number of times per second that a sound wave repeats its excursion from maximum compression of air pressure to minimum compression and back to its starting point—each excursion is called a cycle. The number of cycles per second is expressed in Hertz (Hz) and kiloHertz (kHz). Lower frequencies produce lower pitches and higher frequencies produce higher pitches. Sounds are comprised of a number of sound waves of varying frequencies occurring at roughly the same time. "Frequency" may be used a shorthand for one of those sound waves, or "frequencies" for a group of them.
FX	Abbreviation for "effect." See "Effect."
FX Bus	Synonym for "Effect Bus."
Gate (Noise Gate)	A device that attenuates a source signal falling below a pre-determined volume threshold. A useful tool in eliminating noise and controlling signals that use an effect. Ambiences such as reverb may be gated to produce an extreme and artificial-sounding decay.
General MIDI	A set of standards providing a uniform palette of sounds, drum kits and effects to be used in the creation of MIDI recordings.
Global	"Global" has two meanings in the ZR-76: 1. parameters that affect the operations on the entire ZR-76; these are accessed by pressing the System button in the Disk/Global section of the ZR's front panel. 2. a description of the chorus and reverb effects universally available in every ZR song.
Hysteresis	The property of a system whose behavior is determined by the level, direction and history of a controlling signal. Used in the ZR-76 to provide greater control over gating, triggering and compression.
Idea	A piece of music played on the ZR's keyboard, and/or produced by the ZR's Drum Machine, that's been captured by the Idea Pad.
Layer	"Layer" has two usages in the ZR-76: 1. a set of digital sound recordings—or samples—that span the entire MIDI pitch range, and their associated parameters. Up to 16 of these can be combined to create a standard ZR-76 sound (split and/or layer single sounds can have more than 16). 2. a function available in SoundFinder that allows you to stack two sounds on top of each other so that when a key is pressed, both sounds are heard.
LED	LEDs (Light Emitting Diodes) are small solid-state lamps found embedded in a number of the ZR's buttons. Under normal conditions, they have a virtually unlimited lifetime.
LFO	An oscillator that generates sound waves at a frequency below the audio spectrum. These low-frequency waves can modulate audible sound waves to produce vibrato, tremolo, and other effects. They can also be employed to produce rhythmic changes in various effects.
LFO Depth	The amount of LFO modulation.
LFO Rate	The speed at which an LFO wave completes a single cycle.
Limiter	A device that will prevent a source signal from exceeding a pre-set amplitude threshold. A limiter can be thought of as a compressor with an infinite compression ratio.
Loop Length	The length, in bars, of a Drum Machine variation; when the variation plays to its end, it starts playing again from its beginning without stopping.
LSB	Many MIDI controllers use a pair of MIDI messages. The first—the MSB—for "Most Significant Byte"—chooses among 128 sets of MIDI values, each of which contains 128 values of its own. The LSB—for "Least Significant Byte"—selects one of the 128 values contained in each MSB set. The ZR-76 MIDI Implementation Chart in this chapter provides information on the proper use of MSB/LSB values with various MIDI controllers and the ZR-76.
Merge	To combine the data on one track in the 16 Track Recorder with the data of another. One of the 16 Track Recorder Copy functions.
MIDI	Musical Instrument Digital Interface. A communication protocol for musical instruments. MIDI has expanded the ability of the electronic musician to interconnect products from different manufacturers through the use of this single communication protocol. See "What Is MIDI?" elsewhere in this chapter for more information.

MIDI Controller	"MIDI controller" has two different usages in the ZR-76: 1. a physical device that produces MIDI messages, including the ZR's keyboard, pitch bend wheel, mod wheel and foot controls, as well as external devices that can be used to access the ZR's sounds. 2. the types of messages produced by devices such as those described in the first meaning, including Pitch Bend messages, Volume messages and many others. MIDI controllers are referred to by name and/or number. The ZR-76 responds to all MIDI controller messages.
MIDI In	Theon the ZR's rear panel that receives MIDI data transmitted to the ZR from an external MIDI device.
MIDI Merger	A device that allows a MIDI instrument to receive MIDI data from multiple transmitting instruments through a single MIDI In jack by combining all of the instruments' data into a single MIDI data stream. MIDI Mergers are available as self-contained devices; many MIDI patchbays also offer built-in MIDI merging. See "MIDI Patchbay."
MIDI Out	The jack on the ZR's rear panel that transmits MIDI data from the ZR to an external MIDI device.
MIDI Thru	The jack on the ZR's rear panel that passes along MIDI data received by the ZR's MIDI In jack.
Modulation	Any change made to a sound, sound wave or effect, either through pre-programmed automatic devices or real-time manual manipulation.
Modulator	Any device, real or software-based, that can be used to change a sound, sound wave or effect.
MSB	Many MIDI controllers use a pair of MIDI messages. The first—the MSB—for "Most Significant Byte"—chooses among 128 sets of MIDI values, each of which contains 128 values of its own. The LSB—for "Least Significant Byte"—selects one of the 128 values contained in each MSB set. The ZR-76 MIDI Implementation Chart in this chapter provides information on the proper use of MSB/LSB values with various MIDI controllers and the ZR-76.
Muted	The state of a drum kit zone when it's silenced, and the inaudible state of a phrase played by a zone in a variation or fill. The opposite of "active." Also the state of a track in the 16 Track Recorder when the FX/Mixdown Mute button has been pressed in order to silence it.
Noise	A software mechanism that produces a randomly fluctuating level, used to create random modulation in a sound or effect.
Normal LFO	A ZR-76 LFO whose rate is set to a fixed time value.
Overdubbing	Adding a new recording to material previously recorded on the track. In the ZR-76, this is accomplished through the use of the Add recording mode. Historically, this was achieved by making a copy of tape recording as new recording occurred, and combining both elements into a new recording.
Pan	The apparent location of a sound relative to the left and right speakers used in a stereophonic sound system.
Parameter	Any setting of the ZR-76 that can be changed or modified.
Parametric EQ	An equalizer for targeting specific frequency regions in a sound with pinpoint accuracy.
Paste	To copy data from one track to another, replacing any data already on the track. One of the 16 Track Recorder Copy functions.
Patchbay	A central junction box for audio or MIDI cables. A patchbay allows the interconnection of instruments, consoles, recorders and effect devices—and the changing of those connections—through electronic switching, eliminating the need for physically unplugging and re-plugging cables.
Phaser	Originally conceived as an approximation to the flange effect. All-pass filters are used in place of the delay lines. All-pass filters introduce delay by modifying signal phase, hence the name.
Pick-up	A few lead-in notes that occur prior to the beginning of a composition, or prior to a section of a composition.
Pitch Table	A set of tuning instructions that tell the ZR-76 what pitch to sound in response to the receipt of MIDI note-ons.
Portamento	The gliding in pitch of one note to another.
Pre-roll	To listen to music from a point prior to the location at which recording will begin, in order to allow a musician to become accustomed to the music before recording commences. Similar in use to a countoff.
Program Change	A MIDI message that instructs the ZR-76 to select the sound whose Program Change number corresponds to the Program Change's numerical value.

Punching	To re-record a portion of a track. To "punch in" is to start recording somewhere in the middle of a track; to "punch out" is to stop recording somewhere in the middle of a track.
Q	A bandwidth control that determines the width of the resonant peak at the center of the frequency band. This is equal to the cutoff frequency divided by the bandwidth. By raising the Q value, a narrower bandwidth is selected.
Quantize	To align the notes in a track to multiples of a selected metric value. For example, to quantize a track to quarter notes is to move each note in a track to its nearest quarter note.
Quantize To	The metric value to which notes on a track in the ZR-76 will be aligned when quantized.
RAM	For "Random Access Memory." A very fast type of temporary computer memory used in the ZR-76.
Recording Modes	The various ways that recording can occur in the 16 Track Recorder. In Replace mode, newly recorded music replaces music already on the selected track; in Add mode, new music is combined with music already on the track; Track Mix mode allows the recording of Mix and Pan knob movements onto the selected track.
Regeneration	A signal routing in which some of the output is mixed back into the input. The feedback of a delay line is also called regeneration.
Region	A section of a sequence determined by the settings of the Region From and Region To parameters. A sequence's region is the portion of the sequence that will be heard when the sequence is played back, and can determine an area of the sequence to be processed by the 16 Track Recorder Copy, Erase and Quantize functions.
Region From	The start point of a region, as in, "the region goes from here to here."
Region To	The end point of a region, as in, "the region goes from here to here."
Release Velocity	The speed at which you let go of keys on a keyboard. Release velocity sensitivity can be used as a modulator of ZR-76 sounds.
Replace Mode	A mode of recording in the 16 Track Recorder where new material recorded on a track replaces music previously recorded on the track. See "Recording Modes."
Resonant Peak	The frequency selected in an equalizer (EQ) or filter. Q may be as narrow as a single frequency or broadened, using a Q control, to include adjacent frequencies.
Reverb	Multiple echoes and reflections that combine to create an ambient effect that fades to silence in imitation of the manner in which sound naturally decays. Different devices have been used to simulate these ambiences: springs, plates, tubes and chambers. The ZR-76 uses digital processing to create new environments and simulate these classic ambiences.
Rhythm	A collection of complementary Drum Machine variations and fills. Each rhythm uses a stylistically appropriate drum kit sound.
Rhythm Name	The name of an individual Drum Machine rhythm.
Rhythm Track	A special track in the 16 Track Recorder that can play a rhythm from the Drum Machine, and can record drum or percussion notes played on the selected rhythm's drum kit.
Rhythm Type	One of the categories into which Drum Machine rhythms are sorted.
RhythmFinder	The method for selecting Drum Machine rhythms. Rhythms can be selected using the Rhythm Type and Rhythm Name knobs, or by holding down the Select Rhythm button and spelling the name of the desired rhythm on the ZR's keyboard.
ROM	For "Read-Only Memory." A type of permanent computer memory used in the ZR-76. ROM memory contains sounds and rhythms programmed by ENSONIQ.
RPN	For "Registered Parameter," a set of MIDI Controller values used for the adjustment of various pitch bend and tuning parameters.
Sample	A digital recording used as the basic building block of ZR-76 sounds.
Scoop	To selectively erase notes out of a track. Notes can be scooped out one-by-one, or all of a specified note's occurrences in a track can be scooped out at once.
Sequence	A piece of music recorded as MIDI data.
Sequencer	A device that records and plays back MIDI data.
Signal	A general term for sound.
Silence	
SMF	The abbreviation for "Standard MIDI File." See "Standard MIDI File."
Song	In the ZR-76, a song is a collection of up to 24 sequences, a song playlist if one has been created, and a set of global chorus and global reverb settings.

Song Memory	The area of RAM memory in which the ZR-76 holds song data. The ZR-76 song memory can hold as many songs as available memory allows. There is always a song active and available in the ZR's Song Editor.
Song Playlist	A list of sequences arranged into a song structure. In the ZR-76, to hear a completed song, you play its song playlist.
Sound	A sound in the ZR-76 is a collection of one or more layers of samples. Most standard ZR-76 sounds have a maximum of 16 layers, though split and/or layer single sounds may have more. Drum and percussion kit sounds are a special type of sound in that they contain no layers of their own—each key uses a separate sound.
Sound Name	The name of an individual ZR-76 sound.
Sound Type	One of the categories into which sounds are sorted.
Sound Wave	A periodic disturbance in air pressure that causes the eardrum to vibrate in response.
SoundFinder	SoundFinder has two meanings in the ZR-76: 1. The method by which sounds (and presets) are selected in the ZR-76. You can select sounds using the Sound Type and Sound Name knobs, or by holding down the Select Sound button and spelling the desired sound's name on the ZR's keyboard. 2. The area in the ZR-76 where sounds, splits, layers and presets are created, edited and used; also, in a sense, the arena in which the Idea Pad and Drum Machine operate.
Split	A combination of two sounds, each played from its own area of the ZR's keyboard. Splits are created by pressing the Split button in SoundFinder.
Split Key	The key on the ZR's keyboard below which the split sound is heard in SoundFinder.
Standard MIDI File	A disk file containing a sequence recorded using the Standard MIDI File format. Standard MIDI File sequences can be played by any sequencer of any brand or type that supports the Standard MIDI File format.
Standard Sound	A ZR-76 sound program that is heard over the entire keyboard range. Standard sounds typically have up to 16 sound layers, though split and/or layer single sounds may have more.
Sync LFO	A ZR-76 LFO whose rate is synchronized to the ZR's clock source.
SysCTRL	Synonym for "system controller."
System Controller	Any of four assignable MIDI controllers available in the ZR-76, useful for enabling system-wide ZR response to non-standard MIDI controllers. Each system controller may be set to any MIDI controller number (000-127), and may be used in the modulation of sounds and effects. Each system controller may also be referred to as "SysCTRL" or "CTRL."
Template	A collection, stored in the ZR's FLASH memory, of 16 Track Recorder quantization settings.
Track	A receptacle for recorded MIDI data. Each musical performance recorded in the ZR-76 is recorded on a track. Each sequence in the 16 Track Recorder contains 16 tracks.
Track Mix Mode	A method of recording in the 16 Track Recorder that allows you to record Mix and Pan knob movements for a track onto the track. See "Recording Modes."
Transient	A quick, momentary burst of high-amplitude sound.
Value	A ZR-76 parameter setting.
Variation	A repeating drum or percussion phrase used in the Drum Machine.
Velocity	The force—interpreted in MIDI terms as speed—with which you strike keys on a keyboard. Velocity sensitivity can be used as a modulator of ZR-76 sounds and effects.
Voltage-Controlled Filter	A filter whose cutoff frequency is modulated by input voltage. Useful for creating distortion, wah wah, and envelope (auto) wah effects.
XLR Connector	A type of professional audio connector, with three pins: pin 1 is the ground reference, pin 2 carries the "hot" signal, and pin 3 carries the anti-phase "cold" signal. Designed for use with balanced inputs and outputs.
Zone	A range of keys on the keyboard within a drum kit sound that's allocated for the reproduction of an instrument (or type of instrument) in a real drum kit.