

**E-MU SYSTEMS INC**

**EMAX**

**STANDARD DISKETTE CATALOG**

**E-mu Systems, Inc**  
**applied magic for the arts**

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Scotts Valley, CA 95066  
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## **Credits**

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## **Greetings Proud Emax Owner!**

Now that you've listened to all ten sound disks, you probably have a few questions about them. This booklet will help describe what you're hearing, how the sounds were created and hopefully some tips for taking advantage of the full spectrum of Emax's capabilities.

We strongly advise you to make a backup copy of each disk immediately; in case you want to save a change to some aspect of a sound, you'll have a copy of the original version (See the Owners Manual for instructions on Formatting and Copying Disks).

You may have noticed that each disk boots up on its own highest preset. That is, when a disk is inserted into the drive of a powerful Emax, the preset selected to be the first heard (and seen on the display screen) is the highest numbered preset, usually the same as Preset 00).

This indicates the total number of existing presets, so you don't miss any! Should you wish to boot on another preset, merely re-save the sounds to disk while in the preset you want to boot on. Those numbered in the 90's are special versions of pre-existing presets and are used specifically for sequences.

The Emax sequencer provides an instant demonstration of each disk's sounds in a multi-timbral, musical context. In other words, the sequencer can play any or all presets (up to 16, one per track) simultaneously, a manually impossible feat in real time! At least one sequence is included on each of the first ten Emax disks. Press Play in the Sequence module to hear the first one, or press Select and use the data fader to choose other sequences.

If you're wondering why every disk has a sequence called Supermode Map that doesn't make any sound, don't worry, it's not supposed to!

Supermode Map allows the sequencer to access multiple presets through MIDI, and will exist on all future disks, even those without sequences. For a detailed description of Supermode Map applications, see Appendix A at the end of this booklet.

In this booklet each disk is described individually, including its contents, source and a list of each preset (or groups of similar presets) on the disk and how it was created. Many of these parameters may be useful to you as you develop your own samples and presets. Also included are the sound and sequence credits and a glossary of standard terms used throughout this text.

Answers to any questions not addressed in this booklet can be found in your Emax Owner's Manual.

Meanwhile, HAPPY SAMPLING!

## **Grand Piano**

25 Presets, 3 Sequences

8707 Bytes Remaining

**Contents:** 9 Samples of a Yamaha C3 Grand

**Source:** Recorded on F-1 digital recorder at Fane Productions.

**Presets #00 & 25:** Are copies of the boot preset. These are set up with middle C positioned in the correct place on the keyboard (C3).

**Preset #01:** Has middle C shifted up one octave.

**Presets #02 - 07:** Are varied stereo and chorused versions of both presets 00 and 01.

**Presets #08 - 11:** Have been processed to sound synthetic using the analog processors (envelope, filter, pan, etc).

**Presets #12 - 14:** Are not only synthetic, but use the arpeggiator to create a totally techno sound with a twist. The twist being 'CRUZ CONTROL", which allows you to add notes to an arpeggio and have the downbeat fall in the same place every time (See Preset Definition #6)

**Presets #15 - 17:** Have voices doubled up for a more dense sound. Preset 15 uses Dual Mode (Preset Definition #4) to preserve 8 note polyphony.

**Preset #18:** Has a split point at D3-D#3 with each half of the keyboard covering the stereo field. This split point can be moved in either direction using the EDIT ASSIGNMENT function in PRESET DEFINITION.

**Presets #19 & 20:** Are combinations of piano and the Tubular Piano preset. The Tubular Piano is actually a very high-pitched sample that has been stretched down the keyboard until it has lost all resemblance to a piano. It is included to show the synthesis power of Emax.

**Preset #21:** Has the piano layered in octaves that pan in opposite directions as you play up or down the keyboard.

**Presets #22 - 24:** Are 79 note versions of the Piano & Honky Tonk. (For all of you who own 88 note controllers.)

**Preset #99:** Assigned to sequences “Tom & Dean”, “Dear John” and “Dear Ludwig”.

**Credits:**

Sampling:    Janis Chaffin & Kevin Monahan,

Processing: Kevin Monahan

Presets:     Dan Borba,

Sequences: Gerry Bassermann & Dean Telefson.

## **Alto Strings**

24 Presets 1 Sequence

119 Bytes Remaining

**Contents:** 10 samples of bowed strings and 1 modified sample used for Artifacts presets.

**Source:** Recorded on F-1 digital recorder.

**Presets #00 & 25:** Are copies of the boot preset. This preset has the string section narrowly spread across the stereo field.

**Presets #01-02:** Are respectively, a wider stereo (the sound extends from hard left to hard right) and a mono version of preset #00.

**Presets #03-05:** Employ the LFO (Presets #03 & 05) and KEYBOARD VELOCITY (Preset #04) to control stereo panning effects.

**Presets #06-09:** Use ANALOG PROCESSING as well as doubled voices to create synthetic strings.

**Presets #10-12:** Are all really crazy sounding arpeggios that use E-mu's own "CRUZ CONTROL". With this feature you can add notes to an arpeggio without losing time, i.e. the down beat will always fall in the same place. (See manual under PRESET DEFINITION #6.)

**Presets #13-15:** Have a static high pitched drone note layered over the lower two octaves of the string preset. This dramatic effect was created by assigning the three highest string voices (with original pitches of G (#13), E (#14) and C (#15)) to the lower two octaves of the keyboard, then these drone voices were switched into NON -TRANPOSE MODE (ANALOG PPROCESSING #21) to allow them to drone at their original pitch as you play other notes in the key.

**Presets #16-18:** Utilize VELOCITY SWITCH (PRESET DEFINITION #5) to alternately trigger two voices simply by

playing soft or hard. This parameter can be fine tuned with the VELOCITY CURVE function. (MASTER #3).

**Presets #19-24:** Are based on a single voice (as in “One Sample!”, Preset #24). In these presets the voice is placed on key G5 then transposed up to C6 and down to C1. The effect is startling, and while it loses all resemblance to a string sound, it gains an interesting set of harmonics to base synthesizer presets on.

**Preset #99:** Is assigned to the “La Primavera” sequence.

**Credits:**

Sampling:    Janis Chaffin  
Processing:  Janis Chaffin & Dan Borba,  
Presets:      Dan Borba,  
Sequences:  Gerry Bassermann.



## **Rock Kit**

26 Presets 2 Sequences

104,432 Bytes Remaining

**Contents:** Rockman Strat electric guitar, SP-12 percussion, Funk/Rock bass guitar.

**Source:** All instruments were directly sampled from the E-II and cross-fade looped on the Emax.

**Preset #00 (& 26):** Is the unadulterated version, without stereo panning, or various other treatments- an instrumental building block, so to speak!

**Preset #01:** Starts with the lowest note on the keyboard and pans the Strat from far left gradually to far right on top, enhancing spatial placement. Be sure to set up the audio for your Emax in stereo or this effect, like most others, will be completely lost.

**Preset #02:** Has two identical samples layered on the same key. The primary voice is panned hard left, the secondary voice is panned hard right, and has a delay of 01 for increased presence. You may notice that if you play more than 4 notes at once, the first notes played disappear. This is called “ripping off”, and occurs after 4 rather than 8 notes because two voices are layered on each channel. Normally Dual Mode will allow 8-voice polyphony, but you’ll have a loss of most of the analog functions for the second voice. (See Preset Definition #4).

**Preset #03:** Uses the same idea as #02, except the voices are gradually panned left to right like #01.

**Preset #04:** Is also the same idea as #02- a popular preset! - but doesn’t delay the secondary voice so the sound comes at you from both sides at once!

**Preset #05:** Like #03, has both voices gradually panned left to right, yet without the delay on the secondary voice.

**Preset #06:** Has the fundamental pitch doubled with one an octave higher and placed in Dual Mode, so 8 voice polyphony is preserved! Voila! Instant electric 12-string!

**Preset #07:** Is just like EchoStrat, except each key contain two notes an octave apart.

**Presets #08 & 09:** Are filtered treatments of #02.

**Preset #10:** Is an arpeggiated version of Echosphere.

**Preset #11:** Contains a spunky funk/rock bass on the lowest two octaves, with the rest of the keyboard covered with Strat. The voices are panned left to right.

**Preset #12:** Is laid out like #11, but with identical samples doubled on each key, one hard left, one hard right for an amazingly full sound.

**Preset #13:** Is the same as #12, but shorter!

**Preset #14:** Is like #12 with arpeggiated bass to use with unarpeggiated Strat.

**Preset #15:** They are indeed BIG!

**Preset #16:** Contains the Big Drums, all at their original pitch, yet changing pitch when played harder or softer.

**Presets #17 and #18:** Are proof that the big get bigger-especially if doubled on each key!

**Preset#19:** Is the same as #17, panned like #12.

**Preset #20:** Contain Big Drum percussion on the bottom, guitar on the top of the keyboard.

**Preset #21:** The same but doubled.

**Preset #22:** Has percussion on bottom, funk /rock bass on top.

**Preset #23:** is the same but with velocity to pitch on the percussion.

**Preset #24:** Is the same as #22, but doubled.

**Preset #25:** is the same as #24, and panned.

**Preset #98 & 99:** Are used only for sequences.

**Credits:**

Sampling/Processing/Presets	Janis Chaffin.
Looping:	Kevin Monahan
Sequence:	Gen'y Bassermafl.

## **Rock Organ**

14 Presets 1 Sequence

3493 Bytes Remaining

**Contents:** Hammond Organ, Pizzicato Bass.

**Source:** The organ samples were taken from an actual Hammond with Leslie, and cross-fade looped on the Emax. The pizzicato bass samples were taken from a computer-processed F-1 tape of orchestral solo strings, then cross-fade looped on the Emax.

**Presets:** All presets of Hammond pan back and forth to enhance the Leslie speaker effect.

**Presets #00 & 14:** Are the unprocessed versions of this ever-popular organ.

**Preset #01:** Is a slower modulating version of Hammond with Leslie.

**Presets #02 and 03:** Are faster Leslie versions of Preset #00 with the latter chorused.

**Preset #04:** Is a doubled and chorused version of Preset #00.

**Preset #05:** Layers two octaves on each key . Since Dual Mode is used, 8-voice polyphony is retained.

**Preset #06:** Provides three octaves of plucky upright bass.

**Preset #07:** Contains two octaves of pizzicato bass and three of Hammond organ.

**Preset #08:** Is split the same as #07, but doubled with a treated version of the Hammond in the bottom octave. Layered with itself in the second octave and positionally crossfaded into the Hammond. Zatzabass?!

**Preset #09:** Is identical to #08, except the Hammond is

shortened with two octaves layered on each key.

**Preset #10:** Contains arpeggiated bass in the lower two octaves, with unarpeggiated Hammond in the top 3.

**Presets #11 and #12:** Are filtered versions of #02.

**Preset #13:** Has velocity assigned to the filter so the sound becomes brighter as the key is played harder.

**Credits:**

Sampling and digital processing: Kevin Monahan

Presets: Janls Chaffin

Sequence: Doug Morton

## **Big Brass / Cymbal Crash**

15 Presets 1 Sequence

5774 Bytes Remaining

**Contents:** 5 samples of Section Brass, 1 sample Cymbal Crash, 1 sample Timpani.

**Source:** Recorded on F-1 digital recorder.

**Presets #00 & 15:** Are copies of the boot preset. These presets have the brass section narrowly spread across the stereo field.

**Presets #01 & 02:** Are respectively, a wider stereo (the sound pans from hard left to hard right) and a mono version preset #00.

**Presets #03-06:** Employ ENVELOPING (ANALOG PROCESSING #12) to shape the sound. Presets 5 & 6 use KEYBOARD VELOCITY (ANALOG PROC. #18) to control the attack rate of the AMP and FILTER envelope.

**Presets #07 & 08:** Have the brass layered in octaves. While Preset 07 has only 4-note polyphony (due to the PRIMARY and SECONDARY voices being layered), Preset 08 uses DUAL VOICE MODE to preserve 8 note polyphony, at the cost of some of the analog parameters of one of each voice pairs.

**Presets #09 & 10:** Are affected beyond recognition with the use of the ANALOG PROCESSING module. This really shows off the synthesis power of Emax.

**Presets #11 & 12:** Are used with the sequences.

**Presets #13:** No, I'm not superstitious.

**Presets #14:** Contain both the Crash Cymbal used in the earlier Brass presets, as well as Timpani.

**Credits:**

Sampling:    Janis Chaffin

Processing:  Janls Chaffin

Presets:     Dan Borba

Sequences:  Gerry Bassermann.

## **French Horn (Section)**

11 Presets 2 Sequences

48,775 Bytes Remaining

**Contents:** Section French horns, piatti (orchestral crash and timpani).

**Source:** These are digital recordings of a French horn section. All loops are cross-faded.

**Preset #00 & 11:** Contain four and one half octaves of orchestral section French horns.

**Preset #01:** Gradually pans left to right, from the lowest note to the highest.

**Preset #02:** Layers two octaves on one key in Dual Mode, keeping 8-voice polyphony.

**Preset #03:** Uses Emax's one touch chorus function.

**Preset #04:** Layers two identical voices on one key, panning one left, one right for sonic depth.

**Preset #05:** Is identical to #04 except the secondary voice uses a delay of 01.

**Presets #06 & 07:** Allow attack velocity to determine the sounds' loudness and brightness.

**Preset #08 & 09:** Are long and short versions of the basic envelopes set in #00.

**Preset #10:** Contains a slightly processed synth horn sound.

### **Credits:**

Processing, and presets: Janis Chaffin.

Sequences: Gerry Bassermann



## **Mixed Chorus/Synth String**

17 Presets 2 Sequences

13,073 Bytes Remaining

**Contents:** Female voices, male voices, synth strings, and special “ghost” appearances.

**Source:** These samples were taken from a digital recording of a female choir. The synth strings were sampled directly from the Emulator II. All samples were cross-fade looped on the Emax.

**Preset #00 (& 17):** Contains three octaves of female choral voices singing “ah”s in unison. The second and third octaves are repeated in the fourth and fifth octaves to cover the entire keyboard with voices.

**Preset #01:** Is a slower version of #00. The attacks are lengthened to 12 and velocity is assigned to attack as well for a subtler swell of sound.

**Preset #02:** Contains two samples on each key of a male voice mixed with strings, one panned left, one panned right on the bottom two octaves. The female voices fill the top three octaves for a complete keyboard of mixed voices.

**Preset #03:** Has only one octave of male voices and four of females.

**Preset #04:** Assigns velocity to attacks of the mixed voices, so that playing the key more quickly results in a faster attack.

**Preset #05:** Transposes the bottom female voice down two and a half octaves for an eerie growl.

**Preset #06:** A slower version of #05.

**Presets #07 & 08:** Contain three octaves of female voices doubled with voices an octave higher, and two octaves of double-octaved synth strings.

**Presets #09 & 10:** Add synth strings to the top octave of female voices, like #07 and 08, except without double octaves.

**Preset #11:** Is a single string sample from the fifth octave transposed down to the bottom octave for an unusual effect. An artifact at work!

**Presets #12-15:** Are single and double octave-processed versions of #11.

**Preset #16:** Contains the stereo male voices on the bottom two octaves and a haunting blend of strings and male voices in the middle two octaves, with strings on top. LEO pan is assigned to all voices and all have long VCA release times.

**Credits:**

Processing and presets:    Janis Chaffin

Sequences:                    Gerry Bassermann

## Kyodai Synth Collage

18 Presets 2 Sequences

914 Bytes Remaining

**Contents:** 8 samples of MIDI'd analog synth, digital synth and Emulator II, 1 sample of Prophet 5 bass patch, bass drum, 2 snares, tom tom, hi-hat, electro-clap.

**Source:** Kevin Monahan, Herb Jimmerson & Richard Burmer created the Multi-Synth monster, Dan Borba supplied the bass sample, the drums came from the SP-12 library.

**Presets #00 & 18:** Are copies of the boot preset. This preset has the Multi-Synth preset with the P5 bass layered over the lower two octaves of the keyboard.

**Presets #01 - 03:** Are respectively the Multi-Synth (without bass) and two stereo variations of it.

**Presets #04 & 05:** Utilize enveloping to transform the Multi-Synth into a "Celestial Wash of Synth and Strings". The KEYBOARD VELOCITY is being used to control AMP ATTACK RATE, as well as, the FILTER Fc (Brightness).

**Preset #06:** Have the sustain portion of the Multi-Synth preset enveloped out, leaving only the digital piano sort of sound to be plunked on.

**Presets #07 - 11:** Have variations of the Bass Synth covering the top two octaves of the keyboard (-2 semi tones), with the drum kit covering the lower three octaves. Preset #10 uses the ARPEGGIATOR Preset #11 has the Multi-Synth layered with the Bass Synth with one more trick used. SOLO MODE (ANALOG PROCESSING #21) is switched on, so playing staccato you'll hear the Multi-Synth on every key depression. But if you play legato the Synth will be heard only on the first depression of the passage.

**Presets #12 - 16:** Show off Emax' stereo capabilities with combinations and layering of the drum kit being flanged, echoed, VELOCITY PITCH SHIFTED and panned around. Note that Preset 16 is set up to receive sequences from the SP-12 via MIDI. All that is required is to connect the MIDI "out" of the SP-12 to the MIDI "in" of Emax and sequence away.

If you don't own the SP-12, but own another MIDI percussion unit you can create your own template by reassigning the Emax voices to keys that coincide with the play keys on your percussion unit.

**Preset #17:** Is a long release version of the Multi-Synth preset.

**Credits:**

Sampling:    Borba, Burmer, Jimmerson & Monahan  
Processing:  Borba, Chaffin & Monahan,  
Presets:     Borba & Monahan  
Sequences:  Gerry Bassermann.

## **Rock Guitar- Lead/Rhythm**

15 Presets 2 Sequences

35,188 Bytes Remaining

**Contents:** Electric guitar chords, mutes, lead and heavily processed percussion.

**Source:** F-1 samples of a Stratocaster guitar, recorded through a Mesa Boogie amp and directly sampled SP-12 percussion. All guitar samples were cross-fade looped on the Emax.

**Note:** The first lead sample is actually a lead and a higher harmonic spliced together on the Emax. The attack is that of a lead, then the sustain eventually turns into an overtone,

**Preset #00:** Contains 1 octave of guitar mutes, 1 1/2 octaves of power chords and 2 1/2 octaves of lead notes.

**Preset #01:** Is a different arrangement of Preset #00.

**Preset #02:** Has all the drums necessary for a rock kit.

**Presets #03-05:** All contain mutes, chords, lead notes and drums; in mono (#03), panned left to right (#04), doubled with one note panned left, one panned right for a gigantic sound (#05).

**Preset #06:** The same kit as #05 with panning from left to right as key is held.

**Preset #07:** Preset 00 with notes an octave above layered on each key. BIG!!!

**Preset #08:** Doubles each guitar note with one an octave higher. The low note is panned right, the high note panned left for spatial breadth.

**Preset #09:** Has two identical notes assigned to each key. One note has the LFO to Pitch Control Enable disengaged, So that

moving the pitch wheel won't effect its pitch. The pitch of the second voice can still be changed with the wheel resulting in Harmony Bending. The maximum interval of this bend is  $\pm 3$  semi-tones.

**Preset #10:** Sounds all wet, like an underwater concert... but is actually just a processed version of #00.

**Preset #11:** Uses the sounds from #00 and layers notes either a fourth or fifth (depending on keyboard location) above, on each key, for harmonies.

**Presets #12 &13:** Are stereo versions of the drum kit. #12 is divided into 3 keys of the same note, and panned stereophonically left, right and center. The toms are split into individual samples and from top to bottom, panned right to left.

**Preset #14:** Allows the user to download sequences from the SP-12 or any other drum machine, with sounds in the proper location for drum programming.

**Credits:**

Sampling and Processing: Kevin Monahan, Janis Chaffin

Presets: Janis Chaffin, Dan Borba

Sequences: Gerry Bassennenn

## **Marimbas/Vibes**

19 Presets   1 Sequence

9386 Bytes Remaining

**Contents:** Marimbas and vibraphones all recorded with medium hard mallets.

**Source:** Factory digital recording. Loops were created by the Emax.

**Presets #00 & 19:** Contain an entire keyboard of hard-struck marimbas. These samples are unlooped, and decay naturally.

**Preset #01:** Contains an entire keyboard of hard-struck vibraphones. These are looped after they naturally resolve into a sine wave.

**Presets #02 & 03:** Are stereo versions of #00 and #01 respectively.

**Preset #04:** Contains the marimbas from #00, but with a shorter sustain, for reduced room ambience.

**Preset #05:** Contains the vibes from #01, but with added vibrato and tremolo, characteristic of one playing style.

**Preset #06 & 07:** Contain the #00 marimbas with octaves (06) and fifths (07) layered on each key for a very full sound!

**Presets #08 - 10:** Are arpeggiated versions of marimbas and vibes. #09 & 10 use the two harmonies available on the arpeggiator (Software version 3.0.). The first harmony is a perfect fifth, the second is an octave.

**Presets #11 - 13:** Are combinations of vibes and marimbas, with slowed attack rates for the marimbas (11) and delayed marimba attacks (12).

**Presets #14-18:** Are processed combinations of marimbas and vibes. #17 & 18 use the ability of the Analog Processing module

to simulate digital sound splices without losing sample memory or permanently altering the original voices. To start this process, first the two samples to be “fake spliced” are layered on the keyboard using Copy Voice in Preset Definition. Then the sample that will be the second part of the splice is delayed using Delay in Analog Processing #11.

Finally when the decay of the first sample and the attack of the second sample are set there will be a smooth fade between the two samples.

**Credits:**

Sampling/Processing/Presets:	Janis Chaffin and Kevin Monahan
Looping:	Janis Chaffin
Sequence:	Gerry Bassennann.



## **APPENDIX A INSTANT GRATIFICATION SUPERMODE APPLICATIONS**

### **To access multiple presets through MIDI:**

- 1) Turn Supermode on (Setup #6)
- 2) Select Supermode Map (Sequence 00)
- 3) Press Setup #2 (Track Preset)
- 4) In this Supermode map the track numbers correspond to the MIDI channel numbers, so you can assign proper preset to desired tracks (ie. MIDI Channels) of the sequencer.

### **To download sequences into Emax through MIDI:**

- 1) Copy Supermode Map with proper track/preset assignments (see above) to another sequence location (01-149) (Manage #5).
- 2) Turn on Auto Extend (Setup #3)
- 3) Turn MIDI Start/Stop on for current preset (Preset Definition #7).
- 4) Choose MIDI clock (Manage #2).
- 5) Press 'PLAY' on source sequencer.

## **APPENDIX B**

### **INVASION OF THE MEMORY EATERS**

The following list will describe briefly how the Emax memory is allocated to its various functions. Sample & Sequence memory are shared, so the more sample memory used (and sampling does use the bulk of the memory), the less sequence time will be available and vice versa.

**Sampling:** Memory used for each sample can be found in the Truncation window of the Digital Processing Module. The total number of bytes used can be calculated by subtracting the number of start bytes from the end bytes. It should also be noted that each sample uses 32 bytes of preset memory.

**Sequencing:** Uses 39 bytes/sequence by default and 6 bytes/note played while controllers use 3 bytes/change in controller status. This means that if you're using a footswitch there will be 6 bytes used every time you push/release the switch. If you're using the wheels or the pedal the memory will be used at a much faster rate, because the sequencer sees each minute movement of the controller as a change in status. An average number of bytes used for a quick pitch bend is about 342. So watch those pitch bends if you have little very memory remaining.

**Preset:** Each preset uses 144 bytes by default and 32 bytes/voice. As an example, if you had a preset with 5 Primary voices (one for each octave) the number of bytes consumed would be 304 [ $144 + (32 \times 5) = 304$ ] bytes. Now, if you were to copy these samples as Secondary voices you would have 10 voices in the preset, and would use 464 bytes [ $144 + (32 \times 10) = 464$ ].

**Memory Remaining:** Can be found in Master Module #2.

## **APPENDIX C**

### **GLOSSARY OF TERMS FOR EMAX**

#### **ABV/TERM**

**Art = Artifact** A single sample transposed down most of the keyboard. A buzzy metallic sound, an artifact of transposition, occurs about an octave below the original pitch. While uncharacteristic of the instrumental idiom, musically very useful.

**Atk = Attack** Refers to the attack rate (AHDSR) (0-32) of the VCA AHDSR envelop in the Analog Processing module.

**Arp = Arpeggiated** Using the Arpeggiator function in the Preset Definition module to create repeatable patterns in precise tempo, which can be synced to an external MIDI clock.

**Chr = Chorused** Using the Chorus function in the Analog Processing module to give a chorused effect with full 8-voice polyphony.

**Chrd = Chord** The musical kind, not electrical!

**Db1 = Doubled** Refers to the layering of two voices on one key. (See Edit Assignment in Preset Definition.)

**Dcy = Decay** Refers to the VCA or Filter AHDSR envelop decay rates in the Analog Processing module.

**Dly = Delay** The amount of time after a key is pressed before the sample is triggered, useful for creating echo and other effects. (See Analog Processing #11.)

**Echo Delay** The result of layering two voices on one key and delaying one of them to create a single discrete echo. Makes a great slap back. (See Delay)

**Fatk = Filter attack** Refers to the attack rate of the filter AHDSR envelop in the Analog Processing module.

**Fc = Filter cut-off** The point at which the low pass filter begins rolling off high frequencies, useful for making noisy samples quiet or as a special effect.

**Flg = Flange** A technique where two identical voices are doubled on one key, with LFO to pitch (vibrato) enabled. Raise the LFO rate to create the effect of slow chorusing (flanging).

**Hi = High**

**Lev = Level** The amplitude (volume) of a sample, used in conjunction with key velocity.

**Ld = Lead** As in lead guitar, not chordal.

**Lo = LOW**

**Kb or KB = Keyboard**

**Nar** Narrow Refers to the width of stereo panning. (Usually  $\pm 2$  increments or less.)

**Oct = Octaved** The placement of a fundamental pitch and one an octave higher on the same key. This creates the 12 string guitar effect.

**Pan = Panorama** The movement of a sample through a stereo field, controlled by the LFO or a Real-Time Controller.

**Perc = Percussion**

**Pitz = Pizzicato** A technique where the strings of a bowed instrument are instead plucked.

**Pxtd or PXF = Positional Cross-Fade** Used to blend two samples with slightly different timbres over the keyboard. Also can be used to positionally blend two dissimilar sounds for effect.

**Q Filter = Resonance** Increasing the Q will give the sample a nasal quality.

**Rad = Radical** Vernacular for extreme.

**RTC = Real Time** Controller Used where a controller (wheels, foot switches or pedals) has been assigned to an analog function such as level, filter Fc or pan.

Example: RTC 1:2 means that the Real Time Controller 1 (left wheel) is routed to destination 2 (filter cut-off frequency).

**Sfrz = Sforzando** An articulation marked by a pronounced increase in volume after the attack of the note. (Generally used with brass sounds.)

**Shrt = Short**

**Ster = Stereo** Where voices are placed in a static stereo field, as opposed to panning where the voices move about.

**Spic = Spiccato** A bowing technique that punctuates the attack of the instrument with a forceful, unsustained single downstroke.

**Trem = Tremolonde** A dramatic effect created by rapidly alternating bow strokes (back and forth) on the same note. Sounds sort of like a swarm of killer bees.

**Vel = Velocity** Refers to the player's attack on the keyboard, where soft and hard key depression can be routed to different destinations, such as Level or Filter Cut-Off, etc. These routings are shown as follows: Vel->Lev or Vel->Fc, etc.

**Wide Wide Refers to a Wide Stereo field**, usually of  $\pm 5$  increments or more. (Analog Processing #19)

**Xfd = Cross fade** Used in conjunction with other terms from the list, such as RtcXfd (Real Time Cross Fade) or PXfd (Positional Cross Fade.)