OPERATION MANUAL

SEQUENTIAL CIRCUITS INC

Manual No: CM610A

SIX-TRAK

SYNTHESIZER/SEQUENCER

OPERATION MANUAL

By Stanley Jungleib

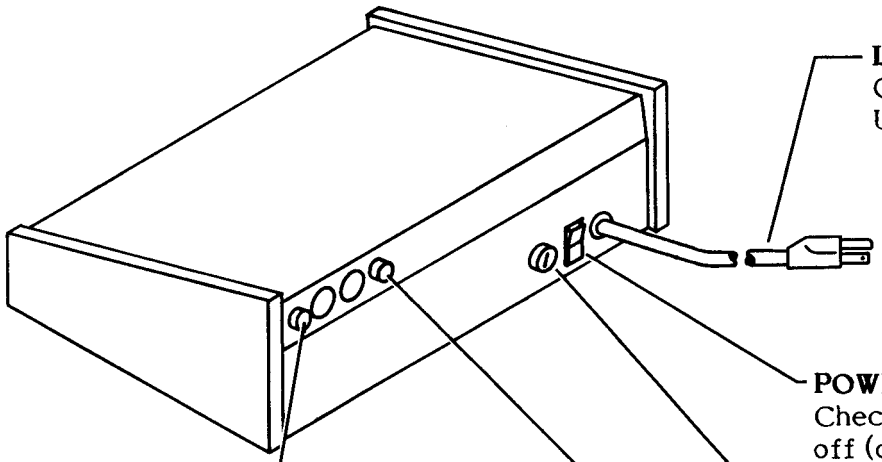
Sequential Circuits, Inc.
Nijverheidsweg 11c
3641 RP Mijdrecht
Netherlands
02979-6211
TELEX: 12721 SQNTL NL

Sequential Circuits, Inc.
3051 North First Street
San Jose, CA 95134-2093
U.S.A.
408/946-5240
TELEX: 364412 INTR 706

Table of Contents

1 BASIC SETUP

WARNING! Switch power off to all equipment in use before connecting or disconnecting anything.



LINE CORD
Connect to correct power source.
U.S./Japan: 115V. Europe: 230V.

POWER SWITCH
Check that back-panel power switch is off (down).

FUSE
115V: 1/8A
230V: 1/4A

AUDIO OUT
Composite monophonic signal. Connect to monitor system with monophonic cable. Will drive stereo headphones with a monophonic signal.

CONTROL FOOTSWITCH
If available, connect footswitch to CONTROL FOOTSWITCH jack.

Figure 1-1
BASIC SETUP

2 BASIC OPERATION

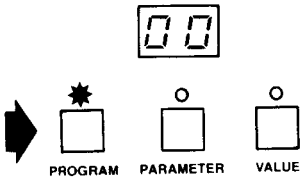
This section covers basic operation using the factory programs.

2-1 PREPARATION

Connect the Six-Trak as described on the previous page.

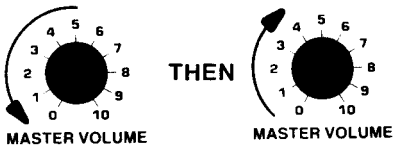
Switch power on.

It is normal for 00 to be displayed and PROGRAM to be lit.

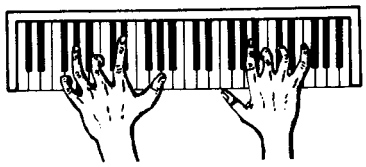


(If there is a memory error, the display will count from 1 through 6. This indicates voice tuning. Also, any sequences will be erased. See page 2-4.)

CAUTION: To protect speakers (and ears!), first lower MASTER VOLUME all the way, then raise it to desired level while playing.

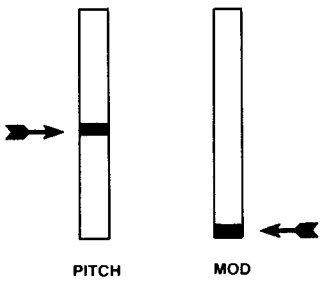


Since program 00 has been pre-programmed, the keyboard will now play in this sound. The keyboard will be homophonic: all voices will be programmed with #00.



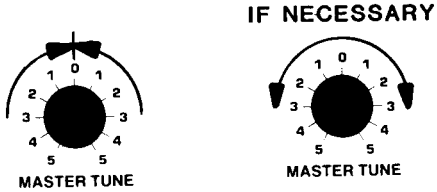
Check that PITCH wheel is centered in its detent position.

Check that the MOD wheel is fully down.



Check that MASTER TUNE is centered.

If necessary, adjust MASTER TUNE to tune Six-Trak against piano or other instrument.



2-2 PROGRAM SELECT

To select a new program:

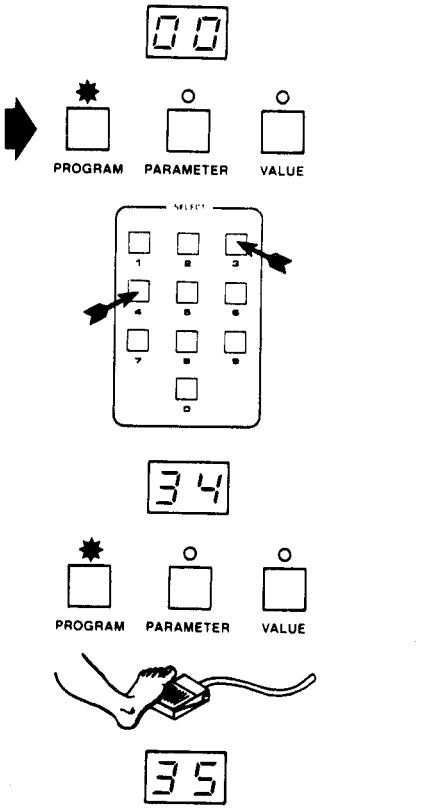
Switch PROGRAM on (if not already). This enables program changes to be made and indicates that the display is showing a program number.

When PROGRAM is lit, pressing any two digits will select a new program.

The new program takes effect when the second digit is entered.

If the sequencer and arpeggiator are off, pressing the footswitch will select the next highest program number.

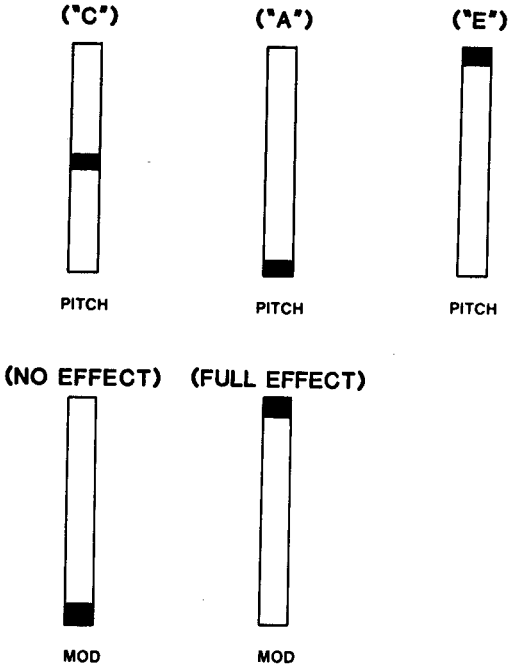
The factory programs are described at the back of this manual.



2-3 WHEELS

The PITCH wheel is normally left in its center-detent position, from which it is possible to "bend" oscillator pitch up or down by about a 3rd.

Check that the MOD wheel is down (minimum modulation). The MOD wheel sets the modulation level. When not in use, the wheel is left "down" and no modulation will occur. When the wheel is advanced fully "up," modulation is maximum.



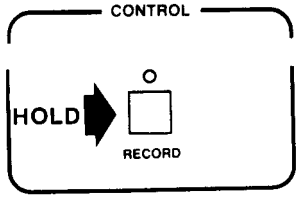
2-4 AUTOMATIC TUNING

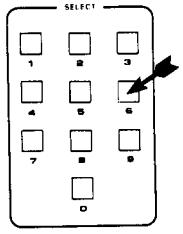
As the Six-Trak warms up, the temperature change causes the oscillators to drift. To correct for this effect, the Six-Trak tunes itself when it is not being played. When the Six-Trak has been "standing by" for 30 seconds, it will tune one oscillator. Thirty seconds later, it will tune the next oscillator, and so on. If you need to play it while it is tuning, go ahead: playing interrupts tuning.

2-5 MANUAL TUNING

If you do not want to wait for automatic tuning to tune the six oscillators:

Hold CONTROL RECORD.
Press SELECT 6.





RECORD will remain lit while tuning is in progress. The display will count from 1 to 6, indicating which voices are tuning. When tuning is concluded, RECORD will go off and the Six-Trak will return to exactly the same state as it was in before the tuning. Even unrecorded Edit Mode changes are retained. It may be necessary to slightly readjust MASTER TUNE.

2-6 NORMAL VOICE ASSIGNMENT

Voice assignment is indicated by the TRACK LEDs (TRACK 1 equals voice 1, etc.).

While you play normally, the computer continuously assigns the six synthesizer voices to the most recently-played keys on the keyboard. You can play a maximum of six keys at once. If more than six keys are held down at the same time, the computer will reassign the earliest-used voices first. For example: playing and holding C, D, E, F, G, A, and B in succession will result in D, E, F, G, A, and B being sustained, while the C will disappear when the B is played. In other words, the Six-Trak normally operates on a "last-note priority" system: each new note played is assigned to the earliest-used voice. If the same key is struck repeatedly, the computer assigns the same voice.

2-7 UNISON

While selecting factory programs, you may have noticed the keyboard switching to Unison mode. If Unison is on in the current program, all six voices will be assigned to the lowest key played.

In Unison, if more than one key is played at once, only the lower note will be heard. The keyboard will also change from multiple- to single-triggering. This keyboard mode was popularized by the Mini-Moog monophonic synthesizer and requires--but also allows--a somewhat different keyboard technique. Instead of retriggering with each keystroke, the envelopes will only retrigger if the previous key is completely released before the new key is pressed. This requires a stacatto touch. By the same token, if you play legato, the envelopes will only trigger on the first note, while the rest of the phrase will be sounded by the sustain settings of the envelopes. With practice, this system allows you to selectively accent notes by touch.

2-8 LEGATO

If UNISON is on and LEGATO is off, the keyboard operates in multi-trigger mode. If UNISON and LEGATO are on, the keyboard operates in single-trigger mode. This is also the case when the sequencer or arpeggiator is on.

2-9 GLIDE

Glide is a program parameter (#02) that affects the keyboard. Glide operates whether Unison is on (monophonic) or off (polyphonic). When programmed to 0, there is no effect: the oscillator steps instantly between specific pitches. As GLIDE is advanced, the rate at which the oscillator pitch changes is decreased. This introduces "portamento" between the notes, which can be subtle or quite extreme.

2-10 IN CASE OF DIFFICULTY

Memory

If the display counts from 1 to 6 when power is switched on, there may be a memory problem. Check your sequences and a few programs to see if they are as recorded.

If this occurs repeatedly, you may want to consult an SCI Authorized Service Center.

Control

If the keyboard or control panel "lock up," check that you are not making an operational error. If necessary, reset the computer by switching power off, then, after a few moments, back on.

If the "lock-up" occurs while using the sequencer, and you are sure that you are not making an operational error, reset the sequencer (see page 3-12).

Power

If the Six-Trak is receiving power, it will display program numbers.

If no LEDs are lit, either the Six-Trak is not switched on, power is not reaching the unit, or the fuse has blown.

Check the power source by plugging in other equipment.

Disconnect power cable and check fuse by opening fuseholder.

Examine the power cable for damage.

(see next page)

Audio

If the PROGRAM display lights but no sound can be obtained, check that MASTER VOLUME is turned up.

Check that parameter #34, VOICE VOLUME, or track volumes are not set too low.

Test the synth by simply connecting stereo headphones directly to the output.

Try substituting the audio output cable with one known to be good.

Check your amplifier by trying a high-level audio input such as another synthesizer or tape deck.

3 SEQUENCER

3-1 INTRODUCTION

The sequencer is the heart of the Six-Trak, recording the individual synthesizer timbres and tracks which result in complete orchestrations. When playing the Six-Trak live, the six voices are each programmed with the same sound (homophonic mode). Live multi-timbres are not possible because the Six-Trak cannot know which keystrokes are intended for which timbres. But the sequencer records each voice on its own track. So each voice can be overdubbed in a different program. The playback mixture of the tracks can also be programmed by individual track volume adjustment.

The sequencer capacity of 800 total notes is alloted to two "banks," SEQ A or SEQ B. (However sequence capacity can be increased to about 4000 notes through the Model 64 MIDI sequencer.)

Typically, you create multi-track sequences one track at a time. The first track recorded is referred to as the "basic" track. It determines the total length of that sequence. The basic track(s) will therefore usually be a bass or rhythm track (but can be whatever you want).

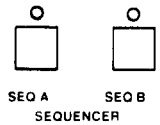
Note: As mentioned, each voice is recorded on its own track. This means, for example, that if one track is being overdubbed, only one note should be played at a time. If more than one note is played, only the last one is recorded. To record two or more voices for either the basic track or overdubbed tracks, two or more tracks need to be switched into record mode.

A previous sequence under "A" or "B" is automatically erased when a new sequence is recorded. To save them permanently, sequences can be "dumped" to the external MIDI sequencer.

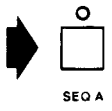
3-2 PLAYBACK START/STOP

Footswitch playback instructions are on the next page. To play sequences:

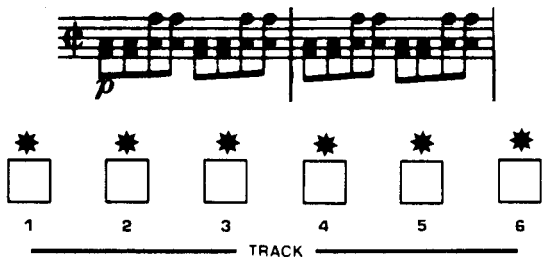
Stack mode and the arpeggiator must be off. One sequence must be stopped before the other can be started. (Both SEQ LEDs must be off.)



To start, press SEQ (A or B). If the sequence is empty, the LED will not light or will go off instantly.



Otherwise, the sequence will begin. SEQ lights, and lit TRACK LEDs indicate which tracks are in playback.



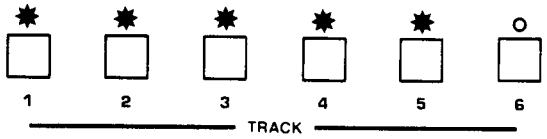
The initial playback speed of the sequence will always be the last speed at which it played.

Adjust SPEED as desired.

Note: Do not turn SPEED all the way counterclockwise, as this will stop the sequencer by selecting MIDI clock input.

The sequence will repeat continuously ("loop"), until SEQ is pressed. At the end of each loop, the TRACK LEDs will blink.

If all TRACK LEDs are lit, no voices will be available for live accompaniment. (The sequencer is using all six voices.)

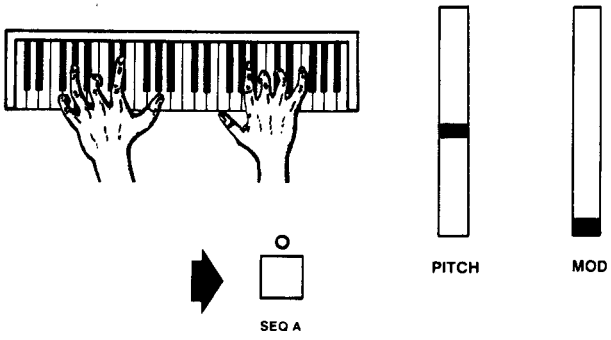


If any TRACK LED is not lit, this means at least one voice is available for live accompaniment. To play along with the sequence:

Select desired program.

Play no more keys at once than the number of available voices (non-used sequencer tracks).

Use the wheels. They will only apply to live playing, not the sequence.

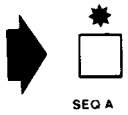


To stop sequencer, press SEQ.

3-3 OPTIONAL FOOTSWITCH START/STOP

To control sequencer playback with the footswitch:

Start playback normally, by selecting SEQ A or B.



Stop sequence by pressing footswitch.

(STOPS)

The SEQ LED will remain lit, indicating standby.

To start the sequence again, press the footswitch.

(STARTS)

The sequence will loop until the footswitch (or SEQ) is pressed.

(STOPS)

3-4 TRACK VOLUME

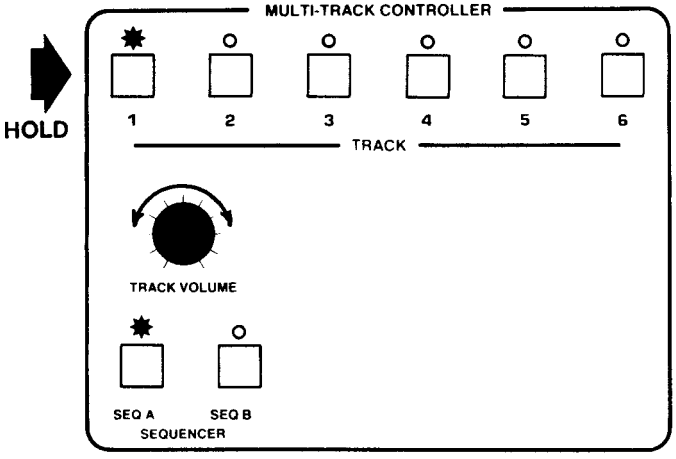
During playback, the mixture of the track volumes can be adjusted. This adjustment is remembered. Whenever the sequence is played, the track levels will be set as they were last adjusted.

With sequence playing back, SEQ and the TRACK LEDs of recorded tracks will light.

Hold desired (lit) TRACK switch.

Adjust TRACK VOLUME as desired. (It is possible to mute the track entirely.)

Release TRACK switch.



3-5 MEMORY FULL

Before recording or overdubbing, you should be aware of how "Memory Full" is indicated.

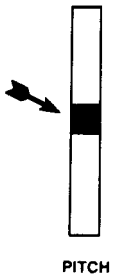
The sequencer has a capacity of about 800 notes.

When 800 notes have been recorded in both sequences, the TRACK RECORD and TRACK LEDs will start blinking rapidly. To escape this situation, switch SEQ (A or B) off. You can create more space by erasing undesired tracks in either sequence, or by erasing either sequence entirely.

If the memory full warning is ignored, excess notes will be recorded over the beginning of the current sequence, producing unpredictable results. (The other sequence is not affected.)

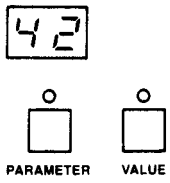
3-6 RECORD BASIC TRACK(S)

Check that the PITCH wheel is centered (detented).

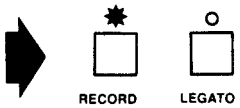


Check that the SPEED knob is centered.

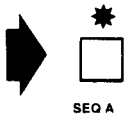
Select program desired for basic track(s).



Switch TRACK RECORD on. (If you decide to not record, you can switch RECORD off, without erasing any existing sequences.)

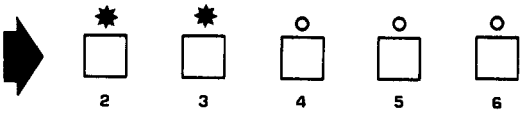


To record, switch SEQ A or B on.
Note: This erases any previous sequences in these banks.)

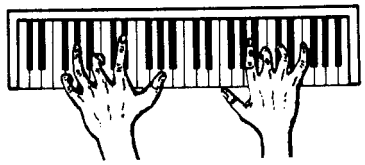


TRACK 1 will light automatically.

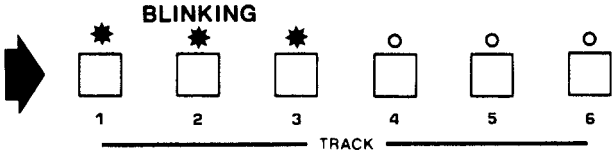
If more than one voice is needed for the basic track, switch on additional TRACK switches (2, 3, etc.).



Recording will start automatically when you begin to play.



When recording starts, the selected TRACK LEDs will blink.

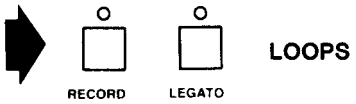


While the sequencer is recording, the PITCH and MOD wheels are locked out.

NOTE

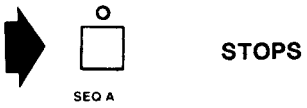
To stop recording, in time with the desired ending, either:

Switch RECORD off. The recorded basic track(s) will playback and loop. (If the playback is transposed, the PITCH wheel was not centered before recording.)



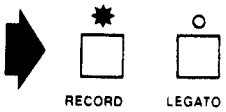
OR

or, Switch SEQ off. The sequence will not playback.



3-7 RECORDING USING THE OPTIONAL FOOTSWITCH

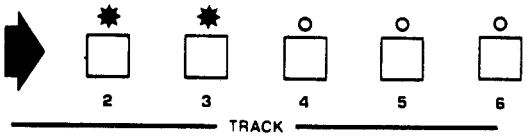
Switch TRACK RECORD on.



Select SEQ A or B.

TRACK 1 will light automatically.

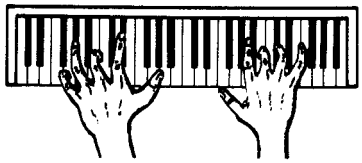
If desired, select additional tracks.



If you press the footswitch, recording will begin with a rest.

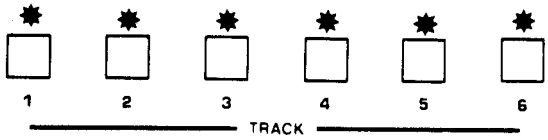
OR

Or, recording will start automatically when you begin to play.



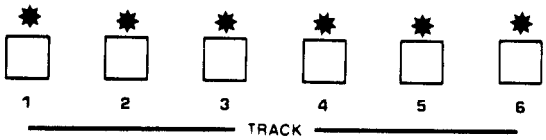
BLINKING

The TRACK LEDs will blink.

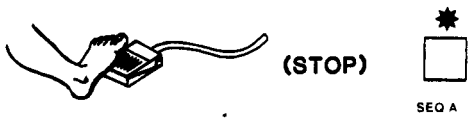


To stop recording, press the footswitch in exact time with the desired ending.

The recorded basic track(s) will playback and loop. The LEDs for tracks recorded will remain lit during playback.



To stop playback, press the footswitch again. SEQ will remain lit.



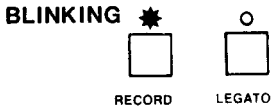
Pressing the footswitch again will start the sequence.

3-8 BASIC OVERDUBBING

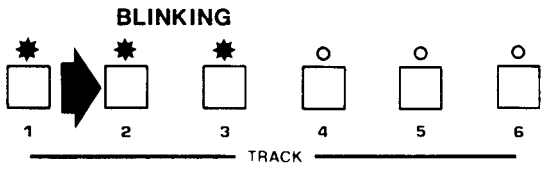
If not already playing back, start playback of basic track(s), by pressing SEQ.

While playing live, select program desired for this overdub.

Switch TRACK RECORD on. It will blink.

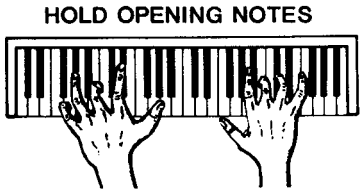


Switch on desired overdub tracks. These TRACK LEDs will blink, indicating the tracks are ready to record.
(It is possible--but not recommended--to overdub on a track which already is recorded.)



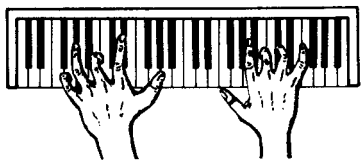
During this first loop, while both RECORD and TRACKs are blinking, anything played on the keyboard will be ignored.

NOTE



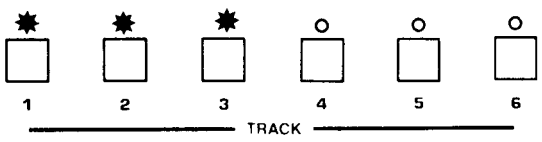
(Before playing, you can switch RECORD off without affecting anything already recorded on that track. RECORD will continue to blink "ready" through this loop. Then it will go off.)

If desired, play notes intended for the first overdub beat, just before the end of this first loop. At the end, RECORD will light solidly. If any notes are being held when this occurs, they will be recorded exactly on the first beat of the sequence.



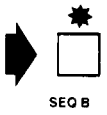
If no notes are held, during the next loop when RECORD is lit, overdubbing starts whenever you play on the keyboard.

Overdub as desired. When the end of the sequence is reached, RECORD will go off, and all recorded tracks will play back.

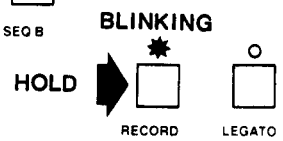


3-9 ERASING TRACKS

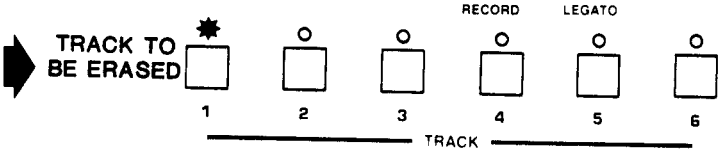
Start playback by pressing SEQ.



Hold TRACK RECORD. It will blink.

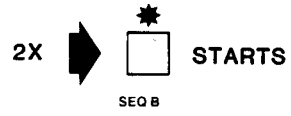


Press lit TRACK switch of track to be erased.



The sequence will stop and SEQ will be lit. The track is erased.

To restart, press SEQ twice, or the footswitch once.



OR

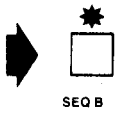
STARTS

(To erase another track, it is not necessary to restart. Tracks can be erased when the sequence has been stopped while SEQ A or B is still lit. In this case the TRACK LEDs will not be lit.)

Note: To erase an entire sequence, just re-record. Do not erase all tracks.

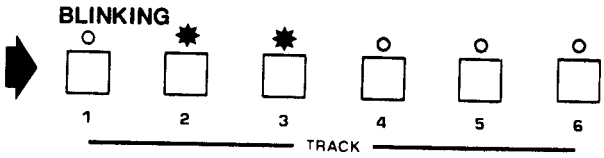
3-10 FOOTSWITCH CUE

Press SEQ to start playback.



Switch TRACK RECORD on.

Switch on desired overdub tracks.

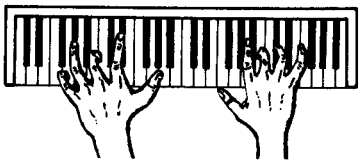


The RECORD and TRACK LEDs will blink. (After one loop, RECORD will light solidly.)

Press footswitch. This will reset the sequence to its beginning. (You will hear nothing. The sequence is ready to start.)

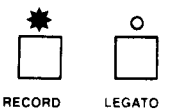
RESETS TO BEGINNING

Now, anything you play will automatically start overdub mode and be recorded as opening notes.



STARTS OVERDUB

At the end of the loop, RECORD will automatically switch off.

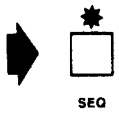


SWITCHES OFF AUTOMATICALLY

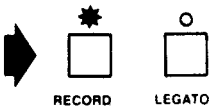
3-11 EDIT TRACK PROGRAM

To change a track's program:

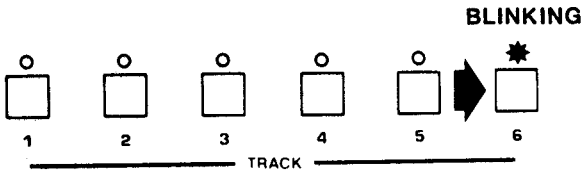
Start playback by switching SEQ (A or B) on.



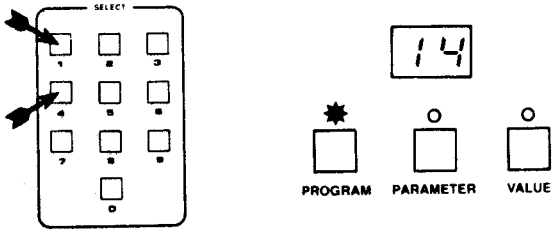
Switch TRACK RECORD on.



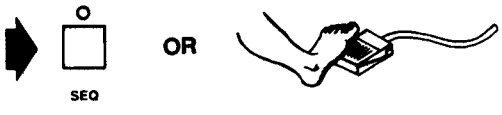
Press TRACK switches of track(s) to be reprogrammed. The LED(s) will blink.



Select desired program.

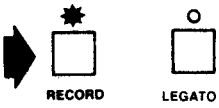


To stop, press SEQ or the footswitch.



OR

To return to normal playback without stopping, press TRACK RECORD.



3-12 MULTI-TRACK/MULTI-TIMBRE EXAMPLE

For example, multi-track an instrumental version of a 12-bar blues:

Decide the basic arrangement for up to six voices.

For this example, we'll use voice 1 for the bass program and voices 2 - 4 for a comping organ part. This leaves two voices for thematic lines. Voice 5 will be recorded, while Voice 6 will be left for live play.

Decide the programs.

Voice/Track	Program
1	13
2	00
3	00
4	00
5	09
6	live

Check that the PITCH wheel is in center detent position.

If the wheel is not centered, the sequence will playback transposed, because the sequencer ignores the PITCH wheel during playback.

Check that the SPEED knob is approximately centered.

This gives the central control range of running speed, from approximately 1/4 to 4X real-time (recording speed). If--while recording the basic tracks--the SPEED knob is set almost fully counterclockwise (slow), then the playback rate will only be able to be increased, from 1/1 to 8X real time. If it is fully clockwise (fast), only a decrease, from 1/1 to 1/8, will be possible.

Select program for basic track.

The basic track is the first one laid down in a sequence, which establishes the basic length. It is fairly natural to lay down the bass line first, so we select that program:

PROGRAM must be on.
Select 13.

Switch TRACK RECORD on.

If you decide to not record, you can switch RECORD back off at this point, without erasing any existing sequences.

Switch SEQ A or B on.

This selection erases any sequences in these banks.
TRACK 1 will light automatically.
If more than one voice is needed for the basic track, switch on additional TRACK switches (2, 3, etc.). All selected tracks will record with the same program; however, each track program can be changed later.

If desired, start metronome for basic track. Or use Drumtraks! (See section 9.)

At this point SEQ A, RECORD, and TRACK 1 are lit.

Play the bass line.

When you play the first note, the TRACK 1 LED will start blinking, to indicate that recording has begun.

Stop recording at the right time, with RECORD or footswitch.

To record an accurate loop, press the footswitch or the RECORD switch exactly in time with the first beat of the next measure.

If you made a mistake in the bass line, just switch SEQ off, then start over.

With the basic track playing (SEQ A and TRACK 1 on), select program #00, for overdubbing the comping part.

If you want to change the pace, adjust the SPEED control.

Switch on TRACK RECORD and TRACKS 2, 3, and 4. They will all blink until the end of this first loop.

The sequencer is playing through the loop to give you time to get ready to record. If you hit the keyboard while the LEDs are blinking, nothing will be recorded. But if any keys are played or held at the end of this loop, they will automatically be recorded exactly on the first beat on the new recording loop. (This autocorrect downbeat recording only is possible on the first loop. On following loops, be sure to play overdub notes just after the start of the sequence.)

At the end of the first loop, the RECORD LED will go solid to indicate that playing will be recorded.

Again, recording does not begin until you begin to play. You can "preview" the loop as often as necessary.

Record the comping part. Play only three voices maximum.

When the sequence end is reached, RECORD will go off and all four tracks will play back.

Suppose you make a mistake on this recording.

You can erase just the track which contains the mistake, or erase all of the overdubbed parts, and re-record the whole part. What you do at this point depends on how you like to work.

Erase undesired tracks.

Hold TRACK RECORD. It will blink.
Press lit TRACK switch of track to be erased.
The sequence will stop and SEQ will be lit.
Restart and repeat for each track to be erased.

Overdub Correct Parts.

Switch to Program 09 and overdub a theme on track 5.

Select program 09.
Press SEQ A to start sequence.
Switch TRACK RECORD on.
Switch TRACK 5 on.
While RECORD blinks, hold opening note of solo.
When the next loop starts, RECORD will light solidly and recording will begin.
When the loop has finished, RECORD will go off.

Select another solo program and play, accompanied by the sequence. The wheels can be used.

3-13 IN CASE OF SEQUENCER PROBLEMS

Control

If the keyboard or control panel "lock up," check that you are not making an operational error. If necessary, reset the computer by switching power off, then, after a few moments, back on.

Sequencer

If while recording, the TRACK and TRACK RECORD LEDs start blinking rapidly, the sequencer memory is full. To escape, switch SEQ A or B off. Create more space by erasing undesired tracks.

If sequences have been lost and the sequencer is not functioning ("locked-up"), it can be reset. Be sure you are not making an operational error, because resetting will erase anything you have recorded under both sequences.

To reset the sequencer:

Hold both RECORD switches.
Press SELECT 0.

4 ARPEGGIATOR

4-1 INTRODUCTION

The arpeggiator is a very useful keyboard memory feature with two basic modes: UP/DOWN and ASSIGN. In either mode you can "latch" the arpeggiator, so it continues to play even when you remove your hands from the keyboard.

The arpeggiator uses voice 6 only. For either UP/DOWN or ASSIGN modes, the arpeggiator will recognize a maximum of sixteen held keys.

4-2 UP/DOWN

With UP/DOWN on, the Six-Trak sequences between any held keys according to their position, from low to high and back down. For example, C E G B G E C E G...

To arpeggiate:

Switch UP/DOWN on.

Hold desired keys.

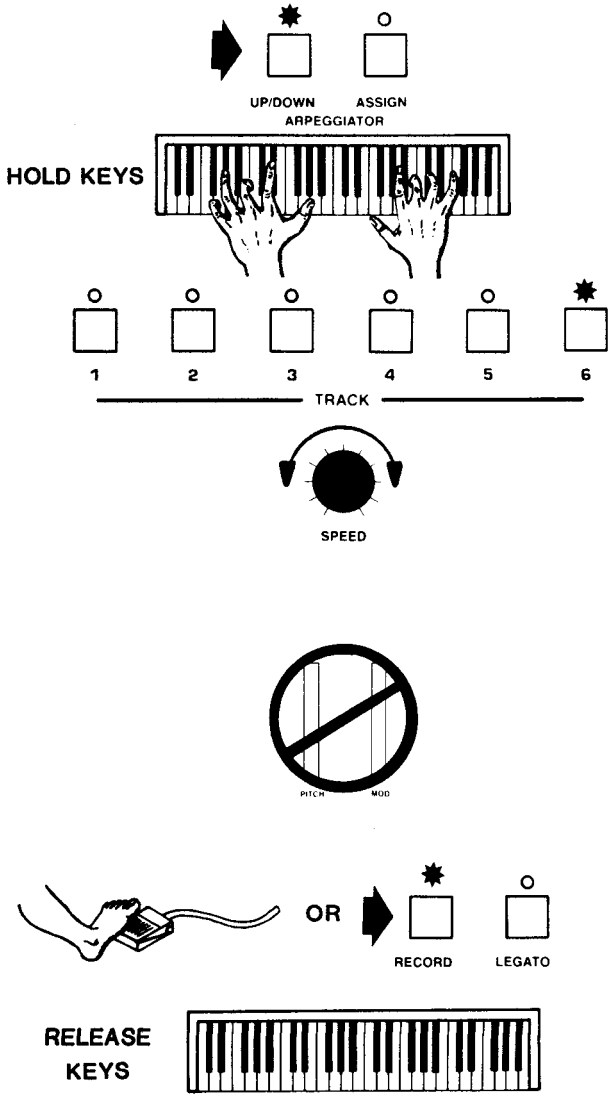
The arpeggiator will play, using Voice 6.

Adjust SPEED as desired.

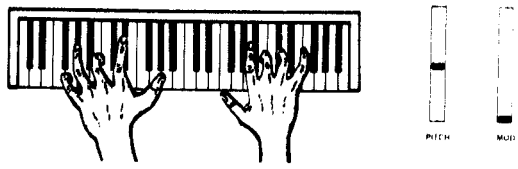
If only one key is held, there will be no arpeggiating. Monophonic lines can be played normally, with the arpeggiator brought in only when more than one key is held down simultaneously.

The PITCH and MOD wheels will not operate.

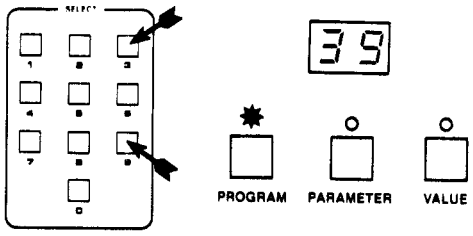
To latch, press the footswitch or TRACK RECORD while you hold down keys. You can then remove your hand(s) and the notes will continue to arpeggiate.



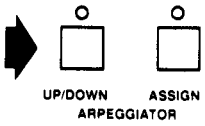
While the arpeggiator is latched, you can play along with up to five more keys, which will not be arpeggiated or latched. The wheels will operate on these live voices.



If desired, select program desired for the five play-along voices. (This can be a Unison program.)



To stop, switch UP/DOWN off.



4-3 ASSIGN

ASSIGN sequences between keys according to the order they are played. For example, C G E B C G E B. This allows you to create intense riffs, without necessarily having to play them.

ASSIGN operation is the same as UP/DOWN, except you press keys in the order you want them to be played.

4-4 FOOTSWITCH NOTES

Once an arpeggiator sequence has been entered, it is possible to set up the arpeggiator to advance either by single presses of the footswitch, or in response to an external clock connected to the FOOTSWITCH jack:

Turn the SPEED knob fully counterclockwise. The arpeggiator will stop.

Tap the footswitch quickly.

Or, if desired, connect a 5-15V clock source, preferably a square wave. The maximum useful frequency will be 10 - 15 Hz. (Note that for the Six-Trak computer to recognize the clock pulse, the pulse must be at least 20 milliseconds long--both high and low. Note also that a satisfactory pulse can be obtained from the Drumtraks METRONOME OUT jack. This allows the Drumtraks to control the arpeggiator speed according to the drum pattern beat note.)

5 STACK MODE

In the Six-Trak, a stack consists of up to six different timbres (programs) assigned to one note played on the keyboard. Two separate stacks (A and B) can be created. Intervals can be stacked, usually by simply adjusting the OSCILLATOR COARSE FREQUENCY parameter (#00) for the various programs. This enables the creation of very complex sounds.

To create a stack:

Switch STACK (A or B) on.

To change the program for a voice:
Select desired program.
Switch TRACK RECORD on.
Press desired TRACK switch.
RECORD will switch itself off.
Repeat as required to assign programs to desired voices.

To adjust voice volume:
Hold desired TRACK switch.
Adjust TRACK VOLUME as desired.

To delete the voice from the stack:
Adjust voice/track volume to 0.

If LEGATO is off, the keyboard will play as in Unison mode, with multi-triggering and low-note priority. (The Unison program parameter is ignored.)

If LEGATO is on, the keyboard will play with single-triggering.

To see the program assigned to each track, simply press the desired TRACK switch. The program number for that track will be displayed.

6 PROGRAMMING THE SYNTHESIZER

6-1 INTRODUCTION

Basic operation with the factory programs has already been covered. You can use the Six-Trak solely with the factory programs. However, as good as they are, the musician is bound to feel that some are more useful than others in specific musical contexts. This is why you want to be able to create your own custom programs.

There are several aspects to programming custom sounds: knowing the Six-Trak's modes of operation and accompanying switch functions, knowing what the synthesizer parameters do in a functional sense, and knowing how to use the parameters for musical purposes.

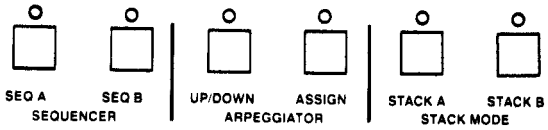
The modes and switch functions are explained in this section. The parameters are explained in the next section. The use--the art--is your part. To exploit the Six-Trak's sonic possibilities fully, learn as much about it as you can by studying the parameters (see Section 7) and the factory programs (see Section 14). Seeing exactly how these programs are constructed will make it easier for you to begin to create your own programs. At first, practice synthesizing by editing the factory programs. For many, this will be the best way to learn exactly how the parameters on the Six-Trak operate. Then try creating programs "from scratch" (see page 6-6.)

Be advised that in the excitement of creation, new and interesting programs tend to escape if not documented. Program parameter forms are provided for this purpose following the factory program listings.

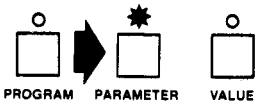
For more information, see also "Editing" in the Details section.

6-2 EDITING A PROGRAM

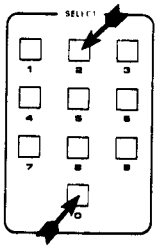
If they are on, switch the sequencer, arpeggiator, or stack mode off. If any of these are on, the PARAMETER switch will not light.



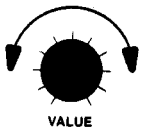
Switch PARAMETER on. PROGRAM will switch off and the current parameter number will be displayed.



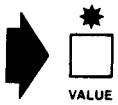
Enter two digits for the parameter to be edited. (For parameter codes, see front panel.)



To edit the parameter value, turn the VALUE knob. (To edit, it is not necessary to switch VALUE on.)



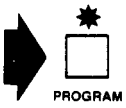
To display the current parameter value, switch VALUE on.



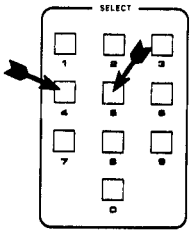
6-3 RESTORING A PROGRAM

To cancel all edits and restore the original program:

Switch PROGRAM on.



Re-enter the program digits.



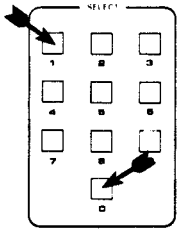
6-4 AN EDITING EXAMPLE

For example, suppose you want to change oscillator waveforms from sawtooth to pulse, change the LFO-modulation rate, and you prefer a brighter tone in the program:

Switching Waveforms

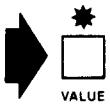
Switch PARAMETER on.

Enter two digits for SAWTOOTH parameter (10).



CURRENT PARAMETER

Switch VALUE on. If the sawtooth is currently on, the value will be 1.



PROGRAMMED VALUE

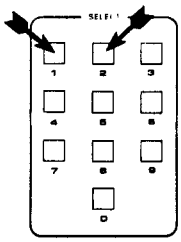
To switch off the sawtooth, turn the VALUE knob counterclockwise.

The displayed value will be changed to 0, indicating the sawtooth is off.

EDITED VALUE

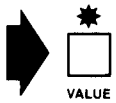
Switch PARAMETER back on.

Enter 12 for PULSE parameter.



CURRENT PARAMETER

Switch VALUE on. If the pulse is off, the current value will be 0.



PROGRAMMED VALUE

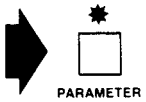
To switch on the pulse, turn the VALUE knob clockwise.

The displayed value will be changed to 1, indicating the pulse is on.

EDITED VALUE

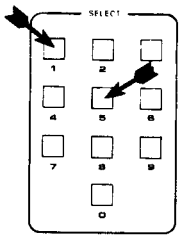
Editing Modulation Rate

Switch PARAMETER on.

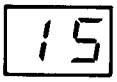


If you hit any SELECT numbers while VALUE is on, PARAMETER will be selected automatically. This feature saves time when doing extensive editing.

NOTE

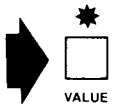


Enter 15 for LFO FREQUENCY.



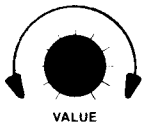
CURRENT PARAMETER

Switch VALUE on. A number from 00 to 15 will be displayed. This is the current programmed value.



CURRENT VALUE

While observing the display, turn the VALUE knob across its full range.

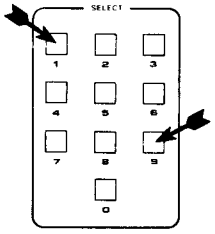


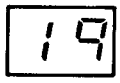
While playing, adjust the VALUE knob for desired modulation rate.

EDITED VALUES

Editing Brightness

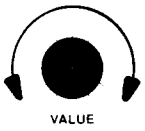
Enter 19 for FILTER CUTOFF FREQUENCY parameter.



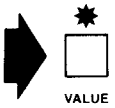


CURRENT PARAMETER

Adjust VALUE knob for desired brightness.



The knob will work even though the VALUE switch is not on. If you want to display the cutoff value, switch VALUE on.



(Note that only the CUTOFF parameter has a value range from 0 to 127, and that the "1" representing hundreds is not displayed.)

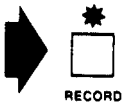
6-5 RECORDING A PROGRAM

To record an edited program or copy an existing one:

PROGRAM must be on.

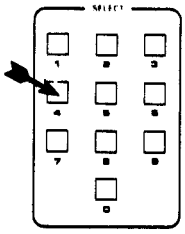
CURRENT PROGRAM

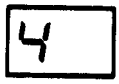
Switch CONTROL RECORD on. (Do not hold it, or you may accidentally activate "hidden functions". See Section 8.)



Select the first digit of the program number being recorded.

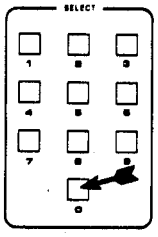
(If the original program is to be saved, use the number of an unneeded program. If the original program is to be replaced by the edited version, use that number.)





If you somehow made a mistake, you can exit record mode at this point by merely switching RECORD off. The program memory will not be affected.

Press the second digit, and the program will be recorded in that location.



RECORDED PROGRAM

Note: be sure to hit the correct SELECT digit or you may erase a program you wanted to keep.

When the second digit is entered, the RECORD LED will go off.

GOES OFF AUTOMATICALLY

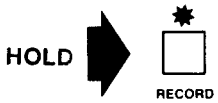
6-6 USING THE BASIC PATCH

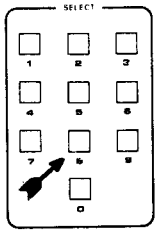
When creating progams it is often convenient to begin with a basic sound instead of just editing an existing program. Starting over from a basic patch can also free you from your existing sounds to find new ones.

Rather than having to manually check and edit all of a program's parameters, a function is available which clears all parameters to 0, except for the minimum needed to produce a basic sound. To switch to this basic patch:

Hold RECORD.

Press SELECT 8.





This will set all parameters to 0, except:

#10 SAWTOOTH	1 (on)
#19 CUTOFF	127
#28 FILTER KEYBOARD	2 (full)
#32 AMP SUSTAIN	15
#34 VOICE VOLUME	15

The keyboard will now play with a basic sound.

If desired, the basic patch can be recorded as a program.

Switch to other parameters and edit their values.

7 SYNTHESIZER PARAMETERS

7-1 INTRODUCTION

This section describes the Six-Trak's programmable voice parameters.

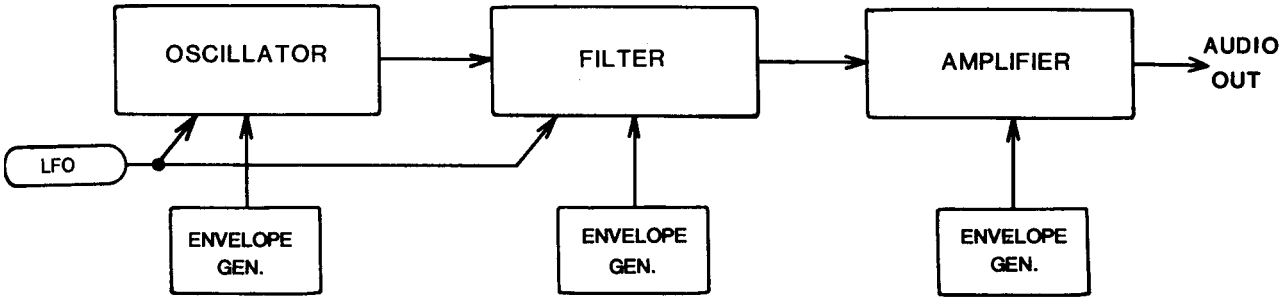


Figure 7-1
SIX-TRAK GENERAL VOICE DIAGRAM

The Six-Trak actually contains six synthesizers, termed "voices." Figure 7-1 diagrams one of these voices at a very general level. The Six-Trak fits into the tradition of voltage-controlled analog synthesizers. To understand these instruments it has proven useful to identify three basic functions: controllers, audio sources, and modifiers (filters and amplifiers). Each voice contains several of each type of function, which are represented on the block diagram, Figure 7-2.

Basically, controllers provide the control voltages (CVs) which determine the pitch of the audio sources, or the filtering or attenuation effects of the modifiers. Controllers can be mechanical devices such as keyboards and wheels. For example, as the CV from the keyboard to the oscillator (audio source) is increased, the oscillator frequency increases. Or controllers can be electronic, such as the LFO or the three envelope generators. For example, as a rapidly-decreasing CV from an envelope generator sweeps down the the filter cutoff frequency, it imparts a "pluck" to the voice. Other controllers include The MASTER TUNE knob and PITCH wheel, which in effect provide two CVs which control all of the oscillators.

There are three audio sources: the oscillator, the noise source, and the filter, if it is adjusted for self-resonance.

The mixer, filter (when not in self-resonance), and amplifier are modifiers.

A more detailed examination of the voice parameters follows. Parameter numbers are indicated by a "#."

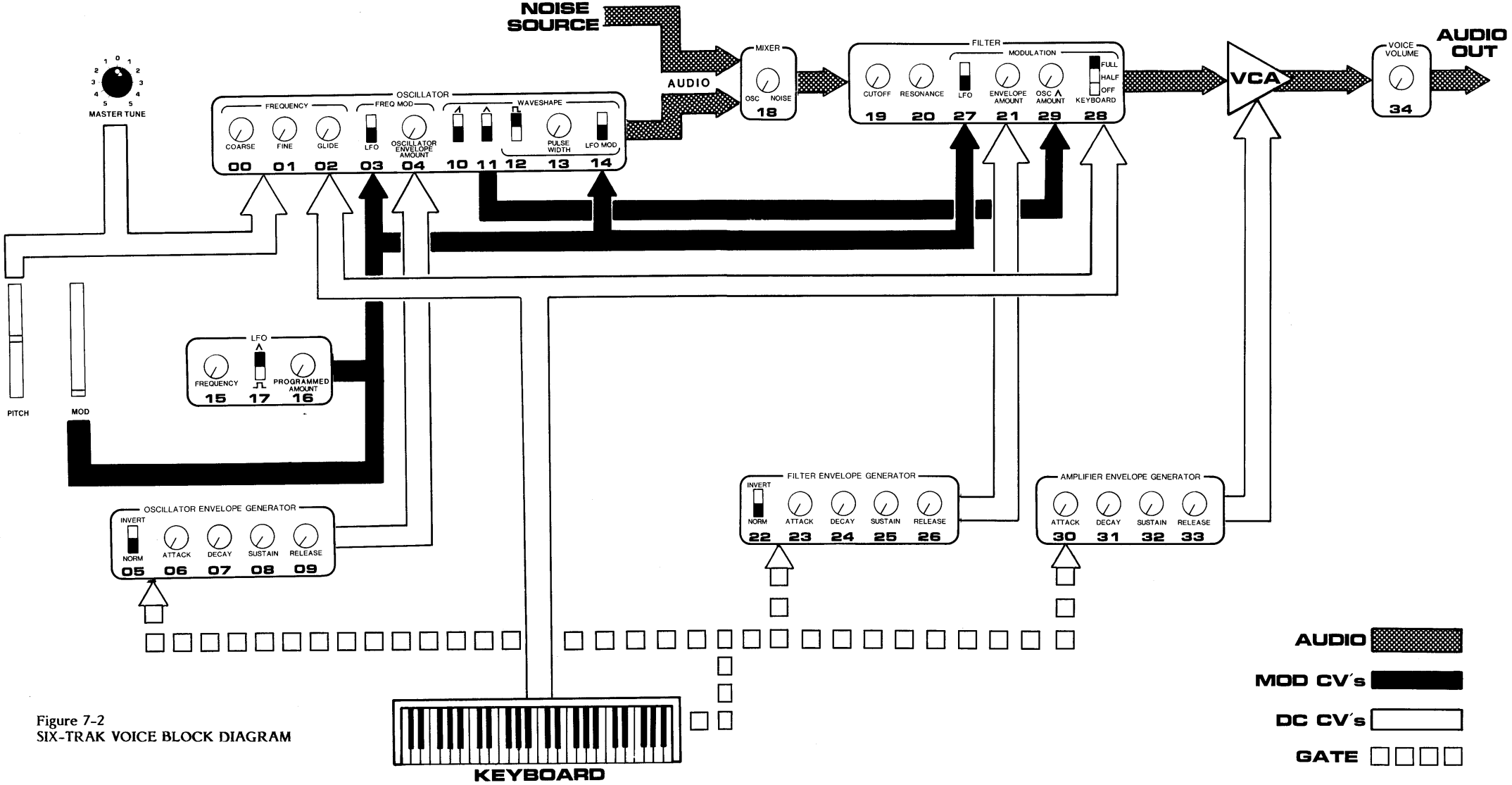


Figure 7-2
SIX-TRAK VOICE BLOCK DIAGRAM

7-2 OSCILLATOR

The oscillator is an audio-frequency source always under control of #00 COARSE and #01 FINE FREQUENCY, the keyboard, PITCH wheel, and MASTER TUNE. Oscillator frequency can be modulated by the LFO and by the envelope generator. PULSE-WIDTH (PW) can also be modulated by the LFO.

If no waveshape parameter is on, the oscillator will have no audio output. If two or three waveshapes are on, they are mixed at full level and supplied as the oscillator's output to the MIXER.

#00 COARSE FREQUENCY

Value Range: 00-48

00= lowest octave
12= one octave up
24= two octaves (middle C)
36= three octaves
48= four octaves

Adjusts oscillator pitch in semitones, over a four-octave range. To this is added the four-octave keyboard, for a total range of eight octaves.

Note that to keep programs in tune, this parameter should normally be adjusted to the octaves (00, 12, 24...).

Exact oscillator pitch should be fine-tuned with MASTER TUNE, with #01 FINE at a value of 0.

#01 FINE FREQUENCY

Value Range: 00-31

32= one semitone

Normally this parameter is set to 0, while oscillator pitch is adjusted with MASTER TUNE. This parameter adjusts oscillator frequency by up to just less than a semitone. This allows detuning of the oscillator, usually for use only in SEQUENCER or STACK modes.

#02 GLIDE RATE

Value Range: 00-15

0= no glide
15= maximum glide (four octaves in approximately ten seconds)

When set to 0, the keyboard CV, which controls the oscillator pitch, instantly steps between notes. As GLIDE is raised, the CV does not step between the notes, but begins to slide. This introduces "portamento" between notes. Usually used with #35 Unison on, because polyphonic (Unison off) use is difficult to predict--but can produce interesting effects.

#03 LFO FREQUENCY MODULATION
Value Range: 00/01
00= Off
01= On

This enables LFO modulation to the oscillator frequency, according to the level set by #16 LFO AMOUNT and the MOD wheel. This produces a vibrato or trill, according to the value of #17 LFO SHAPE.

#04 OSCILLATOR ENVELOPE AMOUNT
Value Range: 00-15

This parameter controls the depth of oscillator envelope modulation.

Each voice contains three independent ADSR envelope generators: one (#05-09) controls oscillator frequency; one (#22-26) controls filter cutoff frequency; and one (#30-33) controls the amplifier gain. The following comments on the ADSR envelope generators are valid for all three.

An "envelope" changes value over time at a rate adjusted by the ATTACK, DECAY, and RELEASE parameters. As the envelopes are generated with each keystroke, they "contour" the voice intonation, timbre, and dynamics, animating the otherwise raw waveshapes which come from the mixer.

The contour pattern is initiated when a key is struck. This "triggers" the envelope generator(s) to proceed through their attack and decay periods. These periods can each range from zero to about 11 seconds. The envelope voltage rises to its full value, then falls (decays) to the level set by the sustain parameter, where it remains until the key is released. When the key is released, the gate goes off and the envelope voltage drops to zero at a rate set by the release parameter.

#05 INVERT
Value Range: 00/01
00=Normal
01=Invert

This turns the oscillator envelope upside down. When normal, the envelope will drive the oscillator sharp. If inverted, the oscillator will be driven flat.

#06 ATTACK
Value Range: 00-15
8= 1 second
15= 11 seconds

Adjusts the length of time for the envelope to go from zero level (when key is initially depressed) to maximum level.

#07 DECAY
Value Range: 00-15
8= 1 second
15= 11 seconds

Adjusts the length of time for the envelope to go from maximum level to sustain level. If sustain is set at maximum then the decay parameter value is irrelevant, because level is already maximum.

#08 SUSTAIN
Value Range: 00-15

Adjusts the sustain level from zero to maximum. This is a level control, not a time control. Sustain time is the period between the end of the decay period and the beginning of the release period. This is the length of time the key is held after attack and decay.

#09 RELEASE
Value Range: 00-15

Adjusts the length of time for the envelope to go from sustain level to zero. If the key is released before the attack or decay periods have elapsed, release controls the time taken for the envelope to drop to zero from whatever its level when the key was released. If the attack and decay periods have elapsed and sustain is set to 0, then the release value is irrelevant, because the level is already minimum.

#10 SAWTOOTH WAVE
Value Range: 00/01
00= Off
01= On

Enables full-level waveshape containing all harmonics. This basic shape is often described as "brassy."

#11 TRIANGLE WAVE
Value Range: 00/01
00= Off
01= On

Enables full-level triangle wave, containing little harmonic energy, thus having a dull tone.

#12 PULSE WAVE
Value Range: 00/01
00= Off
01= On

Enables full-level waveshape whose harmonic content, thus timbre, depends on the value of #13 PULSE WIDTH and LFO modulation. If switching this on produces no sound, try adjusting #13 to a value between 2 and 60.

Note: If all three waveshapes are on (#10, 11, 12), and the filter is on well open (#19 and #28), some distortion may occur when several keys are played simultaneously. If this occurs, compensate by simply reducing VOICE VOLUME.

#13 PULSE WIDTH
Value Range: 00-63
01= 1%
15= 25%
31= square wave
47= 75%
63= 99%

Adjusts the harmonic content of the pulse wave by varying its duty cycle from approximately 1 to 99%. At the extreme parameter values (00-02 and 60-63) the pulses may be barely audible. A 50% duty-cycle pulse (having only odd harmonics), also called a square wave, can be selected (approximately value 31).

This parameter is only effective if #12 PULSE is on. This parameter has no effect on the sawtooth or triangle waves.

#14 PULSE-WIDTH LFO-MODULATION
Value Range: 00/01
00= Off
01= On

Applies LFO-modulation to oscillator pulse width.

7-3 LFO

"Modulation" refers to a periodic or consistent (as opposed to accidental) aural change which is interesting or musically useful. Modulation is created by electronic controllers when it is not possible to adjust a mechanical controller with the required speed or precision. Modulation systems thus free the hands for playing the keyboard.

Modulation involves a signal-generating source and a modulated destination. The Six-Trak contains two modulation systems in each voice: LFO-MOD and FREQUENCY-MOD. FREQ-MOD has one source, the oscillator, and one destination, the filter. For more information see #29 OSC TRIANGLE MODULATION AMOUNT.

LFO-MOD has a low-frequency oscillator (LFO) as a source, but has three selectable destinations. The LFO frequency, waveshape, and basic output level are adjusted by parameters #15-18. To this modulation level will be added any contribution of the MOD wheel. Total modulation is applied by LFO switches #03, 14, and 27 to three destinations.

#15 FREQUENCY
Value Range: 00-15

Adjusts LFO frequency from about ¼ to 20 Hz.

#16 PROGRAMMED AMOUNT
Value Range: 00-31

Programs modulation depth independently from the MOD wheel.

#17 TRIANGLE/SQUARE WAVE
Value Range: 00/01
00=Triangle
01=Square

Selects a triangle wave for vibrato, or a square wave for trills.

7-4 FILTER

The FILTER section contains parameters of the filter itself and of its ADSR envelope generator. The envelope generator is identical to the oscillator envelope generator, discussed above (see #04-09).

#18 OSC/NOISE MIXER

Value Range: 00-31

00= maximum oscillator level
15= even mixture
31= maximum noise level

Adjusts the ratio of the oscillator and noise source input to the filter.

#19 CUTOFF FREQUENCY

Value Range: 00-127

(The "hundreds" digit is not displayed. For example, value 127 is displayed as 27.)

Adjusts cutoff frequency of the 24 dB/octave (4-pole) low-pass filter. This parameter is rather like a tone control. "Cutoff" is the frequency below which all elements of the mixer's output signal are let through. The higher-frequency components of the input signal (that is, all those above the cutoff frequency) are suppressed. The higher the parameter value, the higher the frequencies are which pass through the filter. Thus, the "brighter" the sound.

In addition to this parameter, overall cutoff frequency is the result of all the filter modulation parameters (#21-29).

#20 RESONANCE

Value Range: 00-63

43= approximate oscillation point (may vary by voice)

Adjusts the amount of filter resonance. As the value is increased from 0, the amount of resonance ("emphasis," "regeneration," or "Q") applied to those signal components at the cutoff frequency will increase. As resonance increases, frequencies lower than the cutoff will become decreasingly audible in comparison with those nearer the cutoff. As the parameter value is increased, the filter breaks into oscillation, acting like a sine-wave audio source whose pitch is determined by #19 CUTOFF FREQUENCY (and the various filter modulation sources).

#21 ENVELOPE AMOUNT

Value Range: 00-15

00= no envelope modulation

The filter cutoff may be varied over time by the filter envelope generator. This parameter adjusts the depth of filter envelope modulation (similar to #04).

#22 INVERT
Value Range: 00/01
00=Normal
01=Invert

When normal, the envelope will drive the filter cutoff positively. If inverted, the filter cutoff contour will be reversed.

#23 ATTACK
Value Range: 00-15

Same as #06.

#24 DECAY
Value Range: 00-15

Same as #07.

#25 SUSTAIN
Value Range: 00-15

Same as #08.

#26 RELEASE
Value Range: 00-15

Same as #09.

If filter release produces no effect, check that #33 AMPLIFIER RELEASE is set to approximately the same value.

#27 LFO
Value Range: 00/01
00= Off
01= On

This parameter switches LFO-modulation to the filter, which normally produces a vibrato effect.

8 HIDDEN FUNCTIONS

Note: All hidden functions are performed by using the listed control switches simultaneously. While holding the RECORD switches, press the indicated SELECT switch. CONTROL RECORD is on the right. TRACK RECORD is on the left.

8-1 GENERAL

Manual Tune	CONTROL RECORD/SELECT 6
Basic Patch	CONTROL RECORD/SELECT 8
Sequencer Reset	Hold both RECORDs/SELECT 0 (Erases any sequences.)

8-2 MIDI

Modes

Mode 1--Omni On/Mono Off	TRACK RECORD/SELECT 1
Mode 3--Omni Off/Mono Off	TRACK RECORD/SELECT 3
Mode 4--Omni Off/Mono On	TRACK RECORD/SELECT 4

Dumps

Dump Current Sequences and Stacks	CONTROL RECORD/SELECT 0.
Dump Current Program	CONTROL RECORD/SELECT 2.
Dump 100 Programs	TRACK RECORD/SELECT 9.

Control Options

Select Double Mode — TRACK RECORD/SELECT 2.
For 610/610 or 610/210. Enables wheel changes, voice-to-voice program changes and note information (Mode 4). Selects Channel 11 if set to higher. All Notes Off.

Select MIDI Clock Input — Turn SPEED knob fully (counterclockwise).

Enable/Disable Program Change — CONTROL RECORD/SELECT 1.
This toggles Program Change over MIDI, send and receive. On power-up, Progam Change is disabled.

Enable/Disable Wheels and Parameters — CONTROL RECORD/SELECT 4.
This toggles PITCH and MOD wheel send/receive and Parameter changes (receive only) over MIDI. On power-up, wheel and paramater changes are disabled.

Local On — TRACK RECORD/SELECT 7.
Enables the 610's keyboard.

Local Off — TRACK RECORD/SELECT 8.
Disables the keyboard. Ignored when either the sequencer, arpeggiator, or stack mode are on.

8-3 FOR SERVICE USE ONLY

CAUTION: Operators should not attempt to use these functions.

Center PITCH Wheel. — CONTROL RECORD/SELECT 3.

Zero DAC — CONTROL RECORD/SELECT 7

Tune Test Toggle — CONTROL RECORD/SELECT 9.

9 USING THE SIX-TRAK WITH DRUMTRAKS

Connect Drumtraks MIDI OUT to Six-Trak MIDI IN.

Create a looping pattern or short drum song on Drumtraks.

Switch Six-Trak RECORD on.

Select SEQ A or B.

Start Drumtraks.

Record basic track(s) on Six-Trak, after one loop.

When basic track(s) are done, stop recording on Six-Trak in time with end of Drumtraks pattern or song.

(For convenience, stopping the Drumtraks will stop the Six-Trak as if it were stopped with its own footswitch.)

On the Six-Trak, turn SPEED knob fully counterclockwise, to select MIDI clock input from Drumtraks for playback.

To overdub more tracks, repeat this same basic process.

A second Six-Trak can be connected in series so both Six-Traks will sync to one Drumtraks:

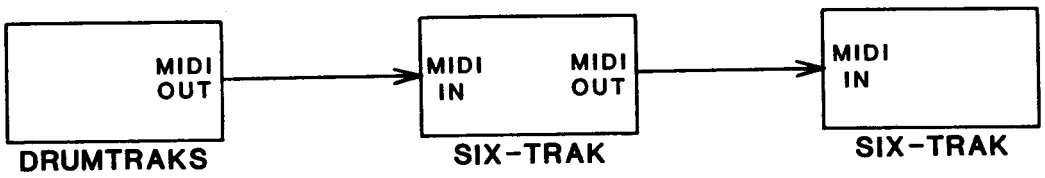


Figure 9-1

Note: If Six-Trak OUT is connected to Drumtraks IN, lowest Six-Trak keys will play certain Drumtraks instruments. (For more information, see the Drumtraks Operation Manual.)

10 USING MIDI

This section will present practical instructions on how to use the 610 with other instruments. When power is switched on, the MIDI system is set up for basic use. However, numerous control options are available for less conservative applications. For programming details, see the MIDI implementation data near the back of this manual.

10-1 CONNECTING TWO SIX-TRAKS

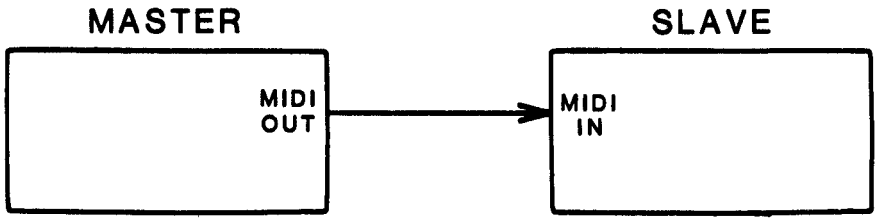


Figure 10-1
DUAL SIX TRAKS

Switch power off!
This is done to establish a common starting point.

Connection
Connect MIDI OUT of master unit to MIDI IN of the slave.
Connect AUDIO OUT of both units to monitor system.

Switch power on.
At power on, some of the features or options described below are enabled, while others are disabled.

Select usable programs on both Six-Traks.
These programs should probably not be transposed. (In other words, playing a C should produce a C.)

Check that both PITCH wheels are centered, and MODs are down.

Tune the two Six-Traks.
On the master, center MASTER TUNE and hold a key. The same key on the slave will be played (by MIDI). Adjust the slave's MASTER TUNE.

10-2 BASIC MIDI OPERATION

Keyboard playing on the master is duplicated by the slave.

On power-up, keyboard information is sent and received. As you play on the master, the same notes will be played on the slave.

Wheel changes on the master have no effect on the slave.

Program changes on the master have no effect on the slave.

You must select programs separately on the master and slave.

When the master's sequencer or arpeggiator is on, the slave will not play the sequenced or arpeggiated notes.

However, the slave will play any notes that you play on the keyboard while the sequencer is running or the arpeggiator is latched.

10-3 DUMP OPERATIONS

If you want to send a specific program from the master to the slave, on the master only, hold CONTROL RECORD and press SELECT 2. (Then, on slave, re-select program number.)

For example, on the master, program 33 is selected. You hold CONTROL RECORD and press SELECT 2. Program 33 on the slave will now have the master's program. To activate this new program, select the new 33 (on the slave).

If you want to send all 100 programs from the master to the slave, on the master only, hold TRACK RECORD (on the left) and press SELECT 9. (Then, on slave, re-select program number.)

RECORD will remain lit for a moment while the data dump occurs.
The master's programs will be copied into the slave.
The slave's current program will not change by itself. Select desired new program(s).

If you want to send the sequences and stacks from the master to the slave, on the master only, hold CONTROL RECORD and press SELECT 0.

RECORD will remain lit for a moment while the data dump occurs.
The master's sequences and stacks will be copied into the slave.
Check that the slave's SPEED knob is not set fully counterclockwise.

10-4 CONTROL OPTIONS

To select Double Mode, on both units, hold TRACK RECORD and press SELECT 2.

When this is done, the slave will become an exact double of the master. It will respond to all notes, live or sequenced, following all voice-to-voice program changes, and wheel changes.

To make the master switch the slave's programs, on both units, hold CONTROL RECORD and press SELECT 1.

Now, for example, when you select program #45 on the master, the slave will automatically switch to its program #45.

To disable program changes, repeat CONTROL RECORD/SELECT 1, on both.

To make wheel changes on the master also apply to the slave, on both units, hold CONTROL RECORD and press SELECT 4.

To disable wheel changes, repeat CONTROL RECORD/SELECT 4, on both.

To have the master sequencer play the slave, select Mode 4 on both units by holding TRACK RECORD and pressing SELECT 4.

To disable this control, select Mode 1 by TRACK RECORD/SELECT 1, on both.

If it is desired to disable the slave's keyboard and wheels, on the slave only, hold TRACK RECORD and press SELECT 8.

Don't do this when either the slave's sequencer, arpeggiator, or stack mode are on. It will be ignored.

To enable keyboard and wheels, do TRACK RECORD/SELECT 7.

Note: MIDI is an evolving system. We encourage you to experiment with various instrument configurations and let us know what, if any, other control options would be useful to you.

10-5 A SIX-TRAK AND PROPHET-T8

This paragraph gives a basic example which should be applicable to many other synthesizers.

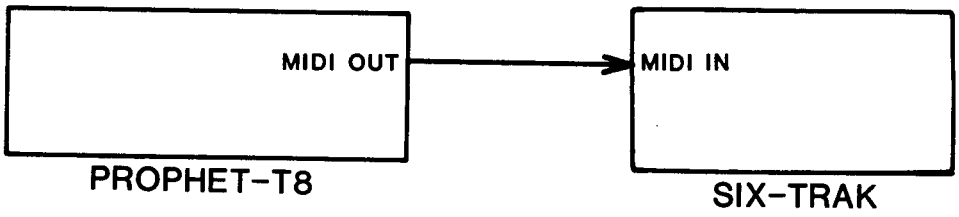


Figure 10-2
PROPHET-T8/SIX-TRAK CONNECTION

Switch power off!

Connection

Connect MIDI OUT of master unit to MIDI IN of the slave.
Connect AUDIO OUT of both units to monitor system.

Switch power on.

Select usable programs on both synthesizers.

These programs should probably not be transposed. (In other words, playing a C should produce a C.)

Check that both PITCH wheels are centered, and MODs are down.

Tune the two synths.

Tune the -T8 to its A-440 reference. Tune the Six-Trak to the -T8.

The Six-Trak is controlled by the lower five octaves (C-C) of the T-8's keyboard, including the sequencer.

This is regardless of keyboard mode (SINGLE, SPLIT, DOUBLE).

If the Six-Trak sequencer is on, the Six-Trak will still try to play the most-recently received notes from the -T8.

To enable -T8 wheel changes to control the Six-Trak, on both units, perform (CONTROL) RECORD/SELECT 4.

If, on the -T8, ENABLE WHEELS is programmed or edited to off on both sides, remote wheel control will be disabled.

To enable -T8 program changes to control the Six-Trak, on both units, perform (CONTROL) RECORD/SELECT 1.

100 of the -T8's LEFT and RIGHT programs correspond to the Six-Trak program numbers , as indicated by the following abbreviated table:

-T8	Six-Track	-T8	Six-Track
L11	00	R11	64
L12	01	R12	65
L21	08	R21	72
L31	16	R31	80
L41	24	R41	88
L51	32	R51	96
L61	40	R54	99
L71	48	R55 and up	not recognized
L81	56		
L88	63		

If you want to disable the Six-Trak's keyboard and wheels, hold TRACK RECORD and press SELECT 8.

Don't do this when either the slave's sequencer, arpeggiator, or stack mode are on. It will be ignored.

To enable keyboard and wheels, do TRACK RECORD/SELECT 7.

11 DETAILS

Arpeggiator: The arpeggiator can be advanced either by:

a. The internal clock which is set by the SPEED knob.
b. When latched, by the footswitch. (Set SPEED to 0.)
c. By an external clock into the footswitch jack. (Set SPEED to 0.)

The arpeggiator cannot be advanced by the MIDI clock.

Editing: All PARAMETERS listed on the front panel are programmable (subject to setting by the computer), while the two wheels, for example, are non-programmable. Generally, the programmable parameters are crucial to establishing the characteristic sound of a program, while the non-programmable wheels are for performance. However, this does not mean that the programmable parameters are unalterable.

Except when the sequencer, arpeggiator, or stack mode is on, the programmable parameters can be altered at any time and each alteration will influence the sound. Adjusting the programmable parameters is called editing.

Edit Mode is a powerful tool that allows you to experiment with program changes by selectively adjusting each front panel parameter. The original program remains unchanged and can be restored at any time. Edited programs can be recorded into the original location if the original program is not desired, or into a program location which contains an undesired program.

Edit Mode is entered when PARAMETER is switched on. The current parameter number will be displayed and can be changed. When the VALUE knob is turned, the parameter will be adjusted. (To edit the current parameter, VALUE does not have to be switched on.) To check the current parameter value, switch VALUE on.

Footswitch: In STACK MODE, the footswitch is ignored.

Glide: Because the six voices are assigned to each new note in rotation, polyphonic glide (Unison off) is not easy to predict. The amount of voice glide is the difference between the last and next note to which it is assigned. For example, if GLIDE is turned up and all voices have been assigned to the bottom of the keyboard (by virtue of six different low notes having been played there), and you then play notes each in the middle and high ranges, the middle notes will "arrive" before the higher notes.

Homophony: Same-sounding. When the sequencer or stack mode isn't on, the Six-Trak voices are homophonic.

Low-note priority: When parameter #35 UNISON is on, all voices are assigned to one key. When two keys are pressed, only the lower note is voiced.

Polyphonic: Many-voiced. Applied to the Six-Trak, this means that up to six different notes can be played simultaneously. The Six-Trak is polyphonic unless #35 UNISON is on.

Program: A program is the set of all parameter values which create a specific sound.

RECORD: There are two RECORD switches. On the left is TRACK RECORD, for the sequencer, arpeggiator, and stack functions. On the right is PROGRAM RECORD, for recording and copying programs.

Value: Parameter value can only be adjusted when PARAMETER or VALUE is on.

Wheels, PITCH/MOD: The wheels do not operate on sequence tracks, nor upon voice 6 when it is being played by the arpeggiator.

The PITCH and MOD wheels to the left of the keyboard are performance tools which may take some practice to master. The wheels are monophonic. That is, both wheels affect all voices uniformly: all voices are pitch-bent by the same interval and modulated to the same depth. An integral part of playing is using the wheels for expression through pitch and timbral variations.

The PITCH wheel is normally left in its center-detent position, from which it is possible to "bend" oscillator pitch up or down by about a 3rd.

The MOD wheel sets the modulation level, in addition to the programmed LFO AMOUNT (parameter #16). When not in use the wheel is left "down" and no modulation will occur. When the wheel is advanced fully "up," modulation is maximum.

12 MODEL 610 SIX-TRAK SPECIFICATIONS

General Description

Six-voice multi-timbral hybrid analog synthesizer with six-track sequencer.
Homophonic capability.
Four-octave keyboard.
Non-volatile memory (backup battery).
100 user-programmable instrument programs

Synthesizer Functions

Preset mode
Program edit and record
Displays program number, parameter number,
and parameter value
One knob adjusts parameter values
Legato
Autotuning
Pitch wheel
Modulation wheel
Master Volume
Master Tune
Copy Program

Program Parameters

SYNTHESIZER PARAMETERS

OSCILLATOR
00 COARSE FREQUENCY
01 FINE FREQUENCY
02 GLIDE RATE
03 LFO
04 ENVELOPE AMOUNT
05 INVERT
06 ATTACK
07 DECAY
08 SUSTAIN
09 RELEASE
10 SAWTOOTH WAVE
11 TRIANGLE WAVE
12 PULSE WAVE
13 PULSE WIDTH
14 LFO
LFO
15 FREQUENCY
16 PROGRAMMED AMOUNT
17 TRIANGLE/SQUARE WAVE
FILTER
18 OSC/NOISE MIXER
19 CUTOFF FREQUENCY
20 RESONANCE
21 ENVELOPE AMOUNT
22 INVERT
23 ATTACK
24 DECAY
25 SUSTAIN

26 RELEASE
27 LFO
28 KEYBOARD
29 OSC TRIANGLE MOD AMOUNT
AMPLIFIER
30 ATTACK
31 DECAY
32 SUSTAIN
33 RELEASE
34 VOICE VOLUME
UNISON
35 UNISON

Controller Functions

Stack mode	
Arpeggiator Modes	Up/Down, Asign, Latch
Two sequences (SEQ A, SEQ B)	

Sequencer Functions

Capacity	800 notes
Six tracks, one per voice	
Variable playback speed	
Record Basic Track(s)	
Play	
Overdub	
Erase Track	
Edit Track Program	
Program Track Volume	
Memory full warning	

Inputs

Footswitch	¼-inch phone TS. Starts and stops recording and playback
MIDI	5-pin DIN

Outputs

Audio	¼-inch phone TRS. Can drive stereo headphones.
MIDI	5-pin DIN

MIDI Functions

External program storage
External sequence storage (4000 notes with SCI Model 64)
Sequence synchronization to MIDI clock
Alternate keyboard modes

Other

[redacted]

Power	110-125V or 220-240V
Dimensions	
Height	4-½ in.
Width	28 in.
Depth	12 in.
Weight	17.5 lbs

610 SIX-TRAK MIDI IMPLEMENTATION

December 28, 1983

Unless otherwise specified, status/data bytes are given in binary, while numbers in descriptions are in decimal.

TRANSMITTED DATA

Status	Second	Third/Other	Description/Notes
		ROUTINE	
9NH 1001 nnnn	K 0kkk kkkk K = 36(C0) - 84(C4)	40H 0100 0000	**Note On.**
9NH 1001 nnnn	K 0kkk kkkk	00H 0000 0000	**Note Off.**
F8H 1111 1000	--	--	**Timing Clock.** Sent whenever a timing clock status byte (F8H) is received.
FCH 1111 1100			**Stop Song** Sent whenever a Stop Song status byte (FCH) is received.
		CONTROL	
BNH 1011 nnnn	01H 0000 0001	M 000m mmmm	**Mod Wheel Amount.** Only sent when enabled. Wheel values are only sent when a change of position is detected.
CNH 1100 nnnn	P 0ppp pppp P = 00 - 99		**Program Change.** From front panel. Only sent if enabled (see page 9).
ENH 1110 nnnn	Vl 0vvv vvvv LS byte	Vm 0vvv vvvv MS byte	**Pitch Wheel Change.** Wheel Center: LS = 0, MS = 64 Only sent if enabled.

TRANSMITTED DATA

Status	Second	Third/Other				Description/Notes
		SYSTEM EXCLUSIVE				
F0H 1111 0000 (SYS EX	01H 0000 0001 SCI ID	N5H nnnn 0101 610 ID	P 0ppp pppp Program # (00-99)	D data	F7H 1111 0111 EOX)	**Program Data.**

Sent by request only. Data is 16 bytes of program data, sent as 32 four-bit nibbles, right justified, LS nibble sent first.
For bit packing positions, see Table 1.
If P=127, SEQ A and B, and STACK A and B are transmitted.

F0H 1111 0000 SYS EX	01H 0000 0001 SCI ID	7BH 0111 1011 SEL CH	0NH 0000 nnnn channel#	F7H 1111 0111 EOX	**Double Mode**

Set Basic Channel to new channel N (nnnn). Also enables wheels, program change, and parameter change send/receives and selects Mode 4 (Onmi Off/Mono On). Sent with TRACK RECORD/2.

F0H 1111 0000	01H 0000 0001	7FH 0111 1111	F7H 1111 0111	**Pattern Marker.**

Sent whenever a pattern marker sequence is received.

RECOGNIZED RECEIVE DATA

Status	Second	Third/Other	Description/Notes

ROUTINE

8NH
1000 nnnn — K: 0kkk kkkk — V: 0vvv vvvv — **Note Off.**
V is ignored
The status bytes need not be sent every event.

9NH
1001 nnnn — K: 0kkk kkkk — V: 0vvv vvvv — **Note On.**
If K is outside of the range 36-96, it will be transposed to the nearest octave inside this range.
V ignored, except
V = 0, Note Off

CNH
1100 nnnn — P: 0ppp pppp — **Program Change.**
P = 0 - 99, program number
If enabled and with Omni Mode On, changes all six voices to program P (ignore channel number).

ENH
1110 nnnn — Vls: 0vvv vvvv — Vms: 0vvv vvvv — **Pitch Wheel Change.** (if enabled)
V = LS byte
V = MS byte
Goes to all 6 voices. For reference, bit 12 = one semitone in the 610.
Successive Pitch Wheel changes can be received without repeating the Status byte.

F8H
1111 1000 — **Timing Clock.**
Can be received at any time, including between any other messsage. Used to sync internal sequencer to Model 400 Drumtraks.
Note: During record the 610 senses Timing Clocks from the 400 automatically, between the time RECORD is selected and when the first note is played. During playback the MIDI clock is enabled by setting the SPEED knob to zero.

FCH
1111 1100 — **Stop Song**
If sequence A or B is active, receiving this code will act like the footswitch was pressed.

RECOGNIZED RECEIVE DATA

Status	Second	Third/Other	Description/Notes

CONTROL

BNH 1011 nnnn	C 0ccc cccc C = Parameter #	V 0vvv vvvv V = Parameter Value	**Parameter Change** (if enabled). For valid parameter numbers and values, see Table 2.
BNH 1011 nnnn	01H 0000 0001	M 000m mmmm	**External Modulation Amount** (if enabled). Goes to all 6 voices. This amount added to MOD wheel and programmed initial modulation amount. Successive Mod Wheel changes can be received without repeating the Status byte.
BNH 1011 nnnn	7AH 0111 1010	00H 0000 0000	**Select Local Control Off.** When Local Control is Off, the keyboard, wheel, and program change information is only sent over MIDI and the six voices are only controlled by MIDI. This enables elaborate keyboard modes via external controllers. Also selects parameter mode. This should not be sent to the 610 when its sequencer, arpeggiator or stack mode is on. It will be ignored.
BNH 1011 nnnn	7AH 0111 1010	7FH 0111 1111	**Select Local Control On.** When Local Control is On (normal), the 610's keyboard, wheels, and program changes will directly play and assign the six voices.
BNH 1011 nnnn	7BH 0111 1011	00H 0000 0000	**All Notes Off.**
BNH 1011 nnnn	7CH 0111 1100	00H 0000 0000	**Omni Mode Off, All Notes Off.** (Mode 3)
BNH 1011 nnnn	7DH 0111 1101	00H 0000 0000	**Omni Mode On, All Notes Off.** (Mode 1)

RECOGNIZED RECEIVE DATA

Status	Second	Third/Other	Description/Notes
BNH 1011 nnnn	7EH 0111 1110	00H 0000 0000	**Mono Mode On/Poly Mode Off, All Notes Off.** (Mode 4)
BNH 1011 nnnn	7FH 0111 1111	00H 0000 0000	**Poly Mode On/Mono Mode Off, All Notes Off.** (Mode 3)

RECOGNIZED RECEIVE DATA

Status	Second	Third/Other	Description/Notes

SYSTEM EXCLUSIVE

F0H	01H	00H		F7H	
1111 0000	0000 0001	0000 0000	0ppp pppp	1111 0111	**Program Dump Request.**
(SYS EX	SCI ID	REQUEST	Program #	EOX)	Initiates Program Dump.

If ID wrong, message ignored.
P = 0 - 99
If P=127, SEQ A and B, STACK A and B.

F0H	01H	05H			F7H	
1111 0000	0000 0001	0000 0101	0ppp pppp	data	1111 0111	**Program Dump**
(SYS EX	SCI ID	610 ID	Program # 00-99		EOX)	**Receive.**

If either ID wrong, message ignored.
If P=127, SEQ A and B, STACK A and B.
Sent by request only. Data is 16 bytes of program data, sent as 32 four-bit nibbles, right justified, LS nibble sent first.
For bit packing positions, see Table 1 (page 10).

F0H	01H	7BH	0NH	F7H	**Select Double Mode**
1111 0000	0000 0001	0111 1011	0000 nnnn	1111 0111	
SYS EX	SCI ID	SEL CH	channel#	EOX	

Set Basic Channel to new channel N (nnnn). Also enables wheels, program change, and parameter change send/receives and selects Mode 4 (Onmi Off/Mono On).

F0H	01H	7CH	0NH	F7H	**Wheel Enable**
1111 0000	0000 0001	0111 1100	0000 nnnn	1111 0111	
SYS EX	SCI ID	ENABLE	voice#	EOX	

If Mode 4, enables wheels on voice N (nnnn).

F0H	01H	7DH	0NH	F7H	**Wheel Disable**
1111 0000	0000 0001	0111 1101	0000 nnnn	1111 0111	
SYS EX	SCI ID	DISABLE	voice#	EOX	

If Mode 4, disables wheels on voice N (nnnn).

RECOGNIZED RECEIVE DATA

Status	Second	Third/Other		Description/Notes
F0H	01H	7EH	F7H	
1111 0000	0000 0001	0111 1110	1111 0111	**Enable All MIDI Send/Receives.**
(SYS EX	SCI ID	ENABLE	EOX)	

This forces all send/receives to be enabled, including wheels, program changes, and parameter changes.

F0H	01H	7FH	F7H	
1111 0000	0000 0001	0111 1111	1111 0111	**Pattern Marker.**
(SYS EX	SCI ID	PM	EOX)	

Sent by Drumtraks immediately after the first Timing Clock of each pattern, except at the start, when it is not sent.

The 610 uses this marker during sequence recording to auto-correct the start and stop timing of the sequence.

MODE NOTES

The 610 powers-up in Omni Mode (Mode 1). The Channel Number can be changed from the front panel (see Parameter #36, under CODED FUNCTIONS). The Channel Number is ignored while in Omni On Mode, except for the Omni Off command. Mono On commands are ignored in Omni On mode (i.e., Mode 2 is not recognized). On power-up, only Note On/Off and Program Dump messages are sent and received. Wheel changes and program changes can be enabled from the front panel (see CODED FUNCTIONS).

When Omni Off is selected (Mode 3), all messages without the Basic Channel number are ignored.

When Omni Off and Mono On (Mode 4), the 610 will assign one each of its six voices to channels N to N+5, where N is the current basic channel. Note that this will normally mean channels 3 - 8 (n = 2 - 7). Note also that the basic channel must not be set above 11, to allow room for six voices. When Mode 4 is selected, it will automatically be set to 11 if the channel is higher.

If Omni On is selected while Mono is On, Poly On/Mono Off will automatically be executed.

Basic Channel number can be changed by selecting PARAMETER #36, and adjusting for a value for 1 - 16. The channel number is non-volatile--it will remain as selected even through power off. The Basic Channel is set to 3 at the factory.

Note that the Basic Channel number is sent with transmitted data.

CODED MIDI FUNCTIONS

While holding the RECORD switches, press the indicated SELECT switch. CONTROL RECORD is on the right. TRACK RECORD is on the left.

Modes

Mode 1--Omni On/Mono Off
TRACK RECORD/SELECT 1

Mode 3--Omni Off/Mono Off
TRACK RECORD/SELECT 3

Mode 4--Omni Off/Mono On
TRACK RECORD/SELECT 4

Dumps

Dump Current Sequences and Stacks
CONTROL RECORD/SELECT 0.

Dump Current Program
CONTROL RECORD/SELECT 2.
This sends 16 bytes of the program data of the program currently displayed.

Dump 100 Programs
TRACK RECORD/SELECT 9.

Control Options

Change Channel #
Select PARAMETER #36. Switch VALUE on and adjust VALUE knob to select desired channel (1 - 16). Note that in Mode 4, channel 11 is the maximum usable channel. Channel number can also be changed remotely by a Select Double Mode command over MIDI.

Select Double Mode
TRACK RECORD/SELECT 2.
For 610/610 or 610/210. In the master instrument, enables wheel changes, voice-to-voice program changes and note information (Mode 4). Selects Channel 11 if set to higher. Sends SYS EX 7B Double Mode Command to slave, to effect similar changes.

Select MIDI Clock Input
Turn SPEED knob fully counterclockwise.

Enable/Disable Program Change
CONTROL RECORD/SELECT 1.
This toggles Program Change over MIDI, send and receive. On power-up, Program Change is disabled.

Enable/Disable Wheels and Parameter Changes
CONTROL RECORD/SELECT 4.
This toggles PITCH and MOD wheel send/receive and Parameter changes (receive only) over MIDI. On power-up, disabled.

Local On
TRACK RECORD/SELECT 7.
Enables the 610's keyboard, switches, and wheels. Enabled on power-up.

Local Off
TRACK RECORD/SELECT 8.
Disconnects the keyboard, wheels, and switches from the sound-generating circuitry. The information will be sent over MIDI, but only MIDI received data will play the 610. This code will be ignored when the sequencer, arpeggiator, or stack mode is on.

Table 1
610 SIX-TRAK PROGRAM BIT MAP

16 bytes of program data

BYTE	MS BIT						LS BIT	
0	B1	B0	A5	A4	A3	A2	A1	A0
1	D0	C3	C2	C1	C0	B4	B3	B2
2	F0	E3	E2	E1	E0	D3	D2	D1
3	H0	G3	G2	G1	G0	F3	F2	F1
4	I4	I3	I2	I1	I0	H3	H2	H1
5	K2	K1	K0	J3	J2	J1	J0	I5
6	M0	L4	L3	L2	L1	L0	K4	K3
7	N1	N0	M6	M5	M4	M3	M2	M1
8	O3	O2	O1	O0	N5	N4	N3	N2
9	Q3	Q2	Q1	Q0	P3	P2	P1	P0
A	S3	S2	S1	S0	R3	R2	R1	R0
B	U1	U0	T5	T4	T3	T2	T1	T0
C	W1	W0	V3	V2	V1	V0	U3	U2
D	Y1	Y0	X3	X2	X1	X0	W3	W2
E	Z5	Z4	Z3	Z2	Z1	Z0	Y3	Y2
F	-	-	ZB	ZA	Z9	Z8	Z7	Z6

POT BITS/RESOLUTION
A= OSC FREQ/6
B= FINE/5
C= GLIDE/4
D= OSC ENV AMOUNT/4
E= OSC ENV ATTACK/4
F= OSC ENV DECAY/4
G= OSC ENV SUSTAIN/4
H= OSC ENV RELEASE/4
I= PULSE WIDTH/6
J= LFO FREQ/4
K= LFO AMOUNT/5
L= MIXER/5
M= FILTER CUTOFF/7
N= RESONANCE/6
O= FIL ENV AMT/4
P= FIL ENV ATTACK/4
Q= FIL ENV DECAY/4
R= FIL ENV SUSTAIN/4
S= FIL ENV RELEASE/4
T= OSC TRI AMOUNT/6
U= VOICE VOLUME/4
V= AMP ENV ATTACK/4
W= AMP ENV DECAY/4
X= AMP ENV SUSTAIN/4
Y= AMP ENV RELEASE/4

SWITCH BITS

Z0	OSC SAW	Z6	LFO SHAPE (1= TRI)
Z1	OSC TRI	Z7	LFO OSC
Z2	OSC PULSE	Z8	LFO PULSE
Z3	OSC ENV INVERT	Z9	LFO FILTER
Z4	FIL ENV INVERT	ZA	FIL HALF (Only one of
Z5	UNISON	ZB	FIL FULL these can be on.)

Table 2
610 PARAMETER TABLE
(MS bytes only sent)

#	Function	# of Bits Resolution	Maximum Value	Format
1	MOD WHEEL	5	31	x00m mmmm

Mod Wheel data is right-justified in the least-significant five bits of a seven-bit number.

All remaining data is left-justified to the correct number of digits of a seven-bit number (value 0 - 127), as shown.

2	OSC COARSE FREQUENCY	6	48	0FFF FFFx
3	OSC FINE FREQUENCY	5	31	0fff ffxx
4	OSC GLIDE RATE	4	15	0ggg gxxx
5	OSC LFO	1 (off/on)	1	0Lxx xxxx
6	OSC ENVELOPE AMOUNT	4	15	0aaa axxx
7	OSC ENV INVERT	1	1	0ixx xxxx
8	OSC ENV ATTACK	4	15	0aaa axxx
9	OSC ENV DECAY	4	15	0ddd dxxx
10	OSC ENV SUSTAIN	4	15	0sss sxxx
11	OSC ENV RELEASE	4	15	0rrr rxxx
12	OSC SAWTOOTH WAVE	1	1	0sxx xxxx
13	OSC TRIANGLE WAVE	1	1	0txx xxxx
14	OSC PULSE WAVE	1	1	0pxx xxxx
15	OSC PULSE WIDTH	6	63	0ppp pppx
16	OSC PULSE LFO-MOD	1	1	0Lxx xxxx
17	LFO FREQUENCY	4	15	0FFF Fxxx
18	LFO PROG AMOUNT	5	31	0aaa aaxx
19	LFO TRI/SQUARE WAVE	1	1	0wxx xxxx
20	OSC/NOISE MIXER	5	31	0mmm mmxx
21	FILT CUTOFF FREQUENCY	7	127	0FFF FFFF
22	FILT RESONANCE	6	63	0rrr rrrx
23	FILT ENVELOPE AMOUNT	4	15	0aaa axxx
24	FILT ENV INVERT	1	1	0ixx xxxx
25	FILT ENV ATTACK	4	15	0aaa axxx
26	FILT ENV DECAY	4	15	0ddd dxxx
27	FILT ENV SUSTAIN	4	15	0sss sxxx
28	FILT ENV RELEASE	4	15	0rrr rxxx
29	FILT LFO-MOD	1	1	0Lxx xxxx
30	FILT KEYBOARD AMOUNT	2 (off/half/on)	2	0kkx xxxx
31	FILT-OSC TRI MOD AMT	6	63	0rrr rrrx
32	AMP ATTACK	4	15	0aaa axxx
33	AMP DECAY	4	15	0ddd dxxx
34	AMP SUSTAIN	4	15	0sss sxxx
35	AMP RELEASE	4	15	0rrr rxxx
36	VOICE VOLUME	4	15	0vvv vxxx
37	UNISON	1	1	0uxx xxxx

14 Factory Programs

The Six-Trak is shipped "ready-to-play," with 100 factory programs. These present a wide range of instrumental and sound effects. Most were programmed by SCI's Product Specialist, John Bowen, with some contributions from the SCI staff.

On the following two pages the programs are listed by number. Following that are lists of the parameter values for each factory program. Use these values for guidance in creating your custom programs.

As you invest time in custom programs, back them up through storage to an external MIDI sequencer. (For more information, see the sections on MIDI use).

FACTORY PROGRAM LIST

00 Percussive Organ 1
01 Brass 1
02 String 1
03 Synth with Resonance 1
04 Piano 1
05 Ariel
06 Vocalings
07 Plucky 1
08 Son of Org - unison
09 Miridium
10 Percussive Organ 2
11 Brass 3
12 Strings 2
13 Synth with Resonance 2
14 Synth-clav
15 Cut-bass
16 Lead 1 with release
17 Polyglide
18 Res-bass
19 Loris 1
20 Organ Flutes
21 Slow attack brass
22 Strings 3
23 Release Filter
24 Piano 2
25 Synth A
26 Muted Clav-type
27 Sustained lead sound - unison
28 Synthbass 1 - unison
29 Harp
30 Donald Duck organ
31 Cornet
32 Strings (brugel) 4
33 High Josef
34 Electric Piano
35 Obiechords
36 Clav-like w/ slight release
37 Synthbass 2 - unison
38 Synthbass detuned - unison
39 Inverted pluck
40 Unison organ
41 Brassy vibrato
42 String swell
43 Seraphim
44 Jan 1
45 Pennywhistle
46 Loris 2
47 Lucky Man
48 Cut-bass 2 - unison
49 Clav 3
50 Percussive Organ 3
51 Grok brass
52 Marlboro Strings
53 George Frederick
54 Jan 2 - unison
55 Full synth
56 Twang
57 Clavet
58 Bezmod
59 Plucky 2
60 Pleides
61 Synth with Resonance 3
62 String with Filter sweep
63 Echo
64 Synth B
65 Hose Pose
66 Powerpack
67 Lead 2 - unison
68 Pulse-width mod 1
69 Flute
70 High Organ Flutes
71 Digi-Horn
72 Angelic
73 Flutey Pose
74 Pulse-width mod 2
75 Harpsichord
76 Synth with resonance 4
77 Acoustic Piano - part 1
78 Celestial
79 Golliwog Jr.
80 Electronic Percussion
81 Meow
82 Wind
83 Inverted Clangorous
84 Musical Orgs
85 UFO
86 Square wave spacey
87 SFX 1
88 Acoustic Piano - part 2
89 Chirp-dive
90 Puce
91 Thudmon
92 Percussive noise
93 Ascending release
94 4ths drop with release
95 Josef's Cousin
96 Percussive wind - unison
97 Percussion 3 - unison
98 Alien - unison
99 Alien wind - unison

FACTORY PROGRAM #: 00

NAME: Percussive Organ 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	36
14	LFO	01
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	04
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	76
20	RESONANCE	29
21	ENVELOPE AMOUNT	04
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	03
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	14
33	RELEASE	01
34	VOICE VOLUME	12
35	UNISON	

FACTORY PROGRAM #: 01

NAME: Brass 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	78
20	RESONANCE	
21	ENVELOPE AMOUNT	10
22	INVERT	
23	ATTACK	02
24	DECAY	03
25	SUSTAIN	06
26	RELEASE	03
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	01
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 02

NAME: String 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	52
14	LFO	01
LFO		
15	FREQUENCY	08
16	PROG AMOUNT	02
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	105
20	RESONANCE	
21	ENVELOPE AMOUNT	
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	03
31	DECAY	10
32	SUSTAIN	13
33	RELEASE	06
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 03

NAME: Synth with Resonance 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	45
20	RESONANCE	28
21	ENVELOPE AMOUNT	10
22	INVERT	
23	ATTACK	01
24	DECAY	06
25	SUSTAIN	06
26	RELEASE	
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 04

NAME: Piano 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	21
14	LFO	
LFO		
15	FREQUENCY	12
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	62
20	RESONANCE	05
21	ENVELOPE AMOUNT	07
22	INVERT	
23	ATTACK	
24	DECAY	05
25	SUSTAIN	08
26	RELEASE	06
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	11
32	SUSTAIN	
33	RELEASE	02
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 05

NAME: Ariel
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	07
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	09
14	LFO	01
LFO		
15	FREQUENCY	08
16	PROG AMOUNT	02
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	84
20	RESONANCE	08
21	ENVELOPE AMOUNT	01
22	INVERT	
23	ATTACK	07
24	DECAY	13
25	SUSTAIN	04
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	08
31	DECAY	06
32	SUSTAIN	05
33	RELEASE	06
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 06

NAME: Vocalings
MOD-WHEEL:
NOTES:

PARAMETERS (Values are 00 unless otherwise noted)		VALUE
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	01
05	INVERT	01
06	ATTACK	
07	DECAY	02
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	53
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	08
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	68
20	RESONANCE	23
21	ENVELOPE AMOUNT	01
22	INVERT	
23	ATTACK	02
24	DECAY	07
25	SUSTAIN	08
26	RELEASE	03
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	22
AMPLIFIER		
30	ATTACK	01
31	DECAY	
32	SUSTAIN	15
33	RELEASE	02
34	VOICE VOLUME	08
35	UNISON	

FACTORY PROGRAM #: 07

NAME: Plucky 1
MOD-WHEEL:
NOTES:

PARAMETERS (Values are 00 unless otherwise noted)		VALUE
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	43
14	LFO	01
LFO		
15	FREQUENCY	05
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	24
20	RESONANCE	17
21	ENVELOPE AMOUNT	10
22	INVERT	
23	ATTACK	
24	DECAY	02
25	SUSTAIN	11
26	RELEASE	14
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	10
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 08

NAME: Son of Org - unison
MOD-WHEEL:
NOTES:

PARAMETERS (Values are 00 unless otherwise noted)		VALUE
OSCILLATOR		
00	COARSE FREQUENCY	09
01	FINE FREQUENCY	24
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	05
05	INVERT	
06	ATTACK	01
07	DECAY	10
08	SUSTAIN	15
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	42
14	LFO	01
LFO		
15	FREQUENCY	
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	56
20	RESONANCE	38
21	ENVELOPE AMOUNT	04
22	INVERT	
23	ATTACK	
24	DECAY	01
25	SUSTAIN	13
26	RELEASE	12
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	
34	VOICE VOLUME	08
35	UNISON	01

FACTORY PROGRAM #: 09

NAME: Miridium
MOD-WHEEL:
NOTES:

PARAMETERS (Values are 00 unless otherwise noted)		VALUE
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	43
14	LFO	01
LFO		
15	FREQUENCY	02
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	75
20	RESONANCE	38
21	ENVELOPE AMOUNT	06
22	INVERT	
23	ATTACK	
24	DECAY	01
25	SUSTAIN	13
26	RELEASE	12
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	12
34	VOICE VOLUME	07
35	UNISON	

FACTORY PROGRAM #: 10

NAME: Percussive Organ 2
MOD-WHEEL:
NOTES:

PARAMETERS (Values are 00 unless otherwise noted)		VALUE
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	30
14	LFO	01
LFO		
15	FREQUENCY	06
16	PROG AMOUNT	03
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	82
20	RESONANCE	28
21	ENVELOPE AMOUNT	02
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	
34	VOICE VOLUME	12
35	UNISON	

FACTORY PROGRAM #: 11

NAME: Brass 3
MOD-WHEEL:
NOTES:

PARAMETERS (Values are 00 unless otherwise noted)		VALUE
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	61
20	RESONANCE	
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	03
24	DECAY	06
25	SUSTAIN	02
26	RELEASE	02
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	04
34	VOICE VOLUME	09
35	UNISON	01

FACTORY PROGRAM #: 12

NAME: Strings 2
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	49
14	LFO	01
LFO		
15	FREQUENCY	08
16	PROG AMOUNT	01
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	30
20	RESONANCE	
21	ENVELOPE AMOUNT	12
22	INVERT	
23	ATTACK	
24	DECAY	09
25	SUSTAIN	15
26	RELEASE	13
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	03
31	DECAY	10
32	SUSTAIN	12
33	RELEASE	07
34	VOICE VOLUME	09
35	UNISON	

FACTORY PROGRAM #: 13

NAME: Synth with Resonance 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	45
20	RESONANCE	28
21	ENVELOPE AMOUNT	10
22	INVERT	
23	ATTACK	
24	DECAY	03
25	SUSTAIN	06
26	RELEASE	
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 14

NAME: Synth-clav
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	42
14	LFO	01
LFO		
15	FREQUENCY	
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	25
20	RESONANCE	17
21	ENVELOPE AMOUNT	11
22	INVERT	
23	ATTACK	
24	DECAY	05
25	SUSTAIN	10
26	RELEASE	12
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	
34	VOICE VOLUME	12
35	UNISON	

FACTORY PROGRAM #: 15

NAME: Cut-bass
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	42
14	LFO	01
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	47
20	RESONANCE	39
21	ENVELOPE AMOUNT	08
22	INVERT	
23	ATTACK	
24	DECAY	01
25	SUSTAIN	11
26	RELEASE	12
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	29
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	
34	VOICE VOLUME	08
35	UNISON	

FACTORY PROGRAM #: 16

NAME: Lead 1 with release
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	127
20	RESONANCE	
21	ENVELOPE AMOUNT	
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	05
34	VOICE VOLUME	08
35	UNISON	01

FACTORY PROGRAM #: 17

NAME: Polyglide
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	12
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	29
14	LFO	01
LFO		
15	FREQUENCY	07
16	PROG AMOUNT	13
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	21
20	RESONANCE	22
21	ENVELOPE AMOUNT	13
22	INVERT	
23	ATTACK	11
24	DECAY	06
25	SUSTAIN	08
26	RELEASE	15
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	11
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 18

NAME: Res-bass
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	45
14	LFO	01
LFO		
15	FREQUENCY	02
16	PROG AMOUNT	23
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	33
20	RESONANCE	24
21	ENVELOPE AMOUNT	12
22	INVERT	
23	ATTACK	
24	DECAY	03
25	SUSTAIN	09
26	RELEASE	09
27	LFO	
28	KEYBOARD	
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	01
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 19

NAME: Loris 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	08
14	LFO	01
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	03
17	TRI/SQUARE WAVE	01
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	127
20	RESONANCE	34
21	ENVELOPE AMOUNT	09
22	INVERT	01
23	ATTACK	
24	DECAY	09
25	SUSTAIN	
26	RELEASE	09
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	11
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 20

NAME: Organ Flutes
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	
13	PULSE WIDTH	38
14	LFO	01
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	01
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	76
20	RESONANCE	29
21	ENVELOPE AMOUNT	02
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	03
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	14
33	RELEASE	01
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 21

NAME: Slow attack brass
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	44
20	RESONANCE	
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	05
24	DECAY	11
25	SUSTAIN	
26	RELEASE	04
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	04
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 22

NAME: Strings 3
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	46
14	LFO	01
LFO		
15	FREQUENCY	05
16	PROG AMOUNT	18
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	90
20	RESONANCE	
21	ENVELOPE AMOUNT	04
22	INVERT	
23	ATTACK	02
24	DECAY	
25	SUSTAIN	15
26	RELEASE	08
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	03
31	DECAY	
32	SUSTAIN	15
33	RELEASE	07
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 23

NAME: Release Filter
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	08
14	LFO	
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	03
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	110
20	RESONANCE	15
21	ENVELOPE AMOUNT	08
22	INVERT	01
23	ATTACK	
24	DECAY	02
25	SUSTAIN	06
26	RELEASE	08
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	11
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 24

NAME: Piano 2
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	21
14	LFO	
LFO		
15	FREQUENCY	12
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	63
20	RESONANCE	05
21	ENVELOPE AMOUNT	07
22	INVERT	
23	ATTACK	
24	DECAY	05
25	SUSTAIN	08
26	RELEASE	06
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	11
32	SUSTAIN	
33	RELEASE	02
34	VOICE VOLUME	09
35	UNISON	

FACTORY PROGRAM #: 25

NAME: Synth A
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	18
14	LFO	01
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	03
19	CUTOFF FREQUENCY	55
20	RESONANCE	29
21	ENVELOPE AMOUNT	08
22	INVERT	
23	ATTACK	
24	DECAY	10
25	SUSTAIN	
26	RELEASE	07
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	08
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 26

NAME: Muted Clav-type
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	12
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	17
20	RESONANCE	
21	ENVELOPE AMOUNT	12
22	INVERT	
23	ATTACK	
24	DECAY	04
25	SUSTAIN	10
26	RELEASE	10
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	08
32	SUSTAIN	15
33	RELEASE	02
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 27

Sustained lead sound - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	28
14	LFO	
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	03
19	CUTOFF FREQUENCY	44
20	RESONANCE	32
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	
24	DECAY	10
25	SUSTAIN	12
26	RELEASE	12
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	12
34	VOICE VOLUME	10
35	UNISON	01

FACTORY PROGRAM #: 28

NAME: Synthbass 1 - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	
01	FINE FREQUENCY	
02	GLIDE RATE	06
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	24
14	LFO	01
LFO		
15	FREQUENCY	
16	PROG AMOUNT	23
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	23
20	RESONANCE	30
21	ENVELOPE AMOUNT	09
22	INVERT	
23	ATTACK	
24	DECAY	07
25	SUSTAIN	11
26	RELEASE	09
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	03
34	VOICE VOLUME	11
35	UNISON	01

FACTORY PROGRAM #: 29

NAME: Harp
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	08
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	68
20	RESONANCE	
21	ENVELOPE AMOUNT	05
22	INVERT	
23	ATTACK	
24	DECAY	03
25	SUSTAIN	
26	RELEASE	05
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	11
32	SUSTAIN	
33	RELEASE	03
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 30

NAME: Donald Duck organ
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	15
14	LFO	01
LFO		
15	FREQUENCY	12
16	PROG AMOUNT	08
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	84
20	RESONANCE	37
21	ENVELOPE AMOUNT	04
22	INVERT	01
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	01
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 31

NAME: Cornet
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	57
20	RESONANCE	05
21	ENVELOPE AMOUNT	07
22	INVERT	
23	ATTACK	01
24	DECAY	03
25	SUSTAIN	06
26	RELEASE	01
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	01
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 32

NAME: Strings (brugel) 4
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	41
14	LFO	01
LFO		
15	FREQUENCY	08
16	PROG AMOUNT	02
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	104
20	RESONANCE	
21	ENVELOPE AMOUNT	01
22	INVERT	
23	ATTACK	02
24	DECAY	13
25	SUSTAIN	04
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	05
31	DECAY	06
32	SUSTAIN	05
33	RELEASE	04
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 33

NAME: High Josef
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	18
14	LFO	
LFO		
15	FREQUENCY	09
16	PROG AMOUNT	04
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	126
20	RESONANCE	
21	ENVELOPE AMOUNT	
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 34

NAME: Electric Piano
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	43
14	LFO	01
LFO		
15	FREQUENCY	02
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	47
20	RESONANCE	03
21	ENVELOPE AMOUNT	06
22	INVERT	
23	ATTACK	
24	DECAY	01
25	SUSTAIN	13
26	RELEASE	12
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	03
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 35

NAME: Obiechords
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	31
14	LFO	
LFO		
15	FREQUENCY	03
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	05
20	RESONANCE	34
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	
24	DECAY	12
25	SUSTAIN	10
26	RELEASE	15
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	18
AMPLIFIER		
30	ATTACK	
31	DECAY	03
32	SUSTAIN	13
33	RELEASE	03
34	VOICE VOLUME	09
35	UNISON	

FACTORY PROGRAM #: 36

NAME: Clav-like w/slight release
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	61
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	102
20	RESONANCE	06
21	ENVELOPE AMOUNT	02
22	INVERT	
23	ATTACK	
24	DECAY	04
25	SUSTAIN	07
26	RELEASE	15
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	11
32	SUSTAIN	14
33	RELEASE	03
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 37

NAME: Synthbass 2 - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	10
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	32
14	LFO	01
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	117
20	RESONANCE	12
21	ENVELOPE AMOUNT	
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	12
34	VOICE VOLUME	09
35	UNISON	01

FACTORY PROGRAM #: 38

NAME: Synthbass detuned - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	10
14	LFO	01
LFO		
15	FREQUENCY	02
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	116
20	RESONANCE	08
21	ENVELOPE AMOUNT	
22	INVERT	
23	ATTACK	
24	DECAY	02
25	SUSTAIN	09
26	RELEASE	09
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	01
32	SUSTAIN	10
33	RELEASE	01
34	VOICE VOLUME	15
35	UNISON	01

FACTORY PROGRAM #: 39

NAME: Inverted pluck
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	17
14	LFO	01
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	01
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	113
20	RESONANCE	11
21	ENVELOPE AMOUNT	07
22	INVERT	01
23	ATTACK	02
24	DECAY	
25	SUSTAIN	02
26	RELEASE	04
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	05
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 40

NAME: Unison organ
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	13
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	09
20	RESONANCE	22
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	11
26	RELEASE	09
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	02
34	VOICE VOLUME	11
01		
35	UNISON	

FACTORY PROGRAM #: 41

NAME: Brassy vibrato
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	02
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	42
20	RESONANCE	
21	ENVELOPE AMOUNT	10
22	INVERT	
23	ATTACK	03
24	DECAY	09
25	SUSTAIN	
26	RELEASE	02
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	01
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 42

NAME: String Swell
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	14
14	LFO	01
LFO		
15	FREQUENCY	07
16	PROG AMOUNT	11
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	88
20	RESONANCE	
21	ENVELOPE AMOUNT	12
22	INVERT	
23	ATTACK	10
24	DECAY	06
25	SUSTAIN	06
26	RELEASE	11
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	02
31	DECAY	13
32	SUSTAIN	
33	RELEASE	07
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 43

NAME: Seraphim
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	09
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	09
16	PROG AMOUNT	02
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	62
20	RESONANCE	08
21	ENVELOPE AMOUNT	12
22	INVERT	
23	ATTACK	11
24	DECAY	07
25	SUSTAIN	
26	RELEASE	08
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	10
AMPLIFIER		
30	ATTACK	02
31	DECAY	
32	SUSTAIN	15
33	RELEASE	05
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 44

NAME: Jan 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	42
14	LFO	
LFO		
15	FREQUENCY	12
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	63
20	RESONANCE	12
21	ENVELOPE AMOUNT	08
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	12
26	RELEASE	06
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	10
33	RELEASE	
34	VOICE VOLUME	15
35	UNISON	01

FACTORY PROGRAM #: 45

NAME: Pennywhistle
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	
13	PULSE WIDTH	34
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	01
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	37
20	RESONANCE	
21	ENVELOPE AMOUNT	09
22	INVERT	
23	ATTACK	
24	DECAY	08
25	SUSTAIN	09
26	RELEASE	02
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	07
AMPLIFIER		
30	ATTACK	01
31	DECAY	01
32	SUSTAIN	12
33	RELEASE	01
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 46

NAME: Loris 2
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	08
14	LFO	01
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	01
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	127
20	RESONANCE	34
21	ENVELOPE AMOUNT	09
22	INVERT	01
23	ATTACK	
24	DECAY	09
25	SUSTAIN	
26	RELEASE	09
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	11
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 47

NAME: Lucky Man
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	11
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	64
20	RESONANCE	26
21	ENVELOPE AMOUNT	11
22	INVERT	
23	ATTACK	
24	DECAY	12
25	SUSTAIN	
26	RELEASE	12
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	15
34	VOICE VOLUME	15
35	UNISON	01

FACTORY PROGRAM #: 48

NAME: Cut-bass 2 - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	31
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	03
20	RESONANCE	34
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	
24	DECAY	12
25	SUSTAIN	13
26	RELEASE	15
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	18
AMPLIFIER		
30	ATTACK	
31	DECAY	03
32	SUSTAIN	13
33	RELEASE	03
34	VOICE VOLUME	09
35	UNISON	01

FACTORY PROGRAM #: 49

NAME: Clav 3
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	22
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	71
20	RESONANCE	11
21	ENVELOPE AMOUNT	06
22	INVERT	
23	ATTACK	
24	DECAY	05
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	07
32	SUSTAIN	
33	RELEASE	02
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 50

NAME: Percussive Organ 3
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	35
14	LFO	01
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	84
20	RESONANCE	29
21	ENVELOPE AMOUNT	04
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	03
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	14
33	RELEASE	01
34	VOICE VOLUME	12
35	UNISON	

FACTORY PROGRAM #: 51

NAME: Grok brass
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	55
14	LFO	01
LFO		
15	FREQUENCY	08
16	PROG AMOUNT	02
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	71
20	RESONANCE	
21	ENVELOPE AMOUNT	05
22	INVERT	
23	ATTACK	02
24	DECAY	13
25	SUSTAIN	04
26	RELEASE	
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	06
32	SUSTAIN	05
33	RELEASE	06
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 52

NAME: Marlboro Strings
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	37
14	LFO	01
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	08
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	113
20	RESONANCE	
21	ENVELOPE AMOUNT	01
22	INVERT	
23	ATTACK	05
24	DECAY	09
25	SUSTAIN	15
26	RELEASE	13
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	02
31	DECAY	10
32	SUSTAIN	12
33	RELEASE	03
34	VOICE VOLUME	08
35	UNISON	

FACTORY PROGRAM #: 53

NAME: George Frederick
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	54
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	41
14	LFO	01
LFO		
15	FREQUENCY	07
16	PROG AMOUNT	11
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	38
20	RESONANCE	
21	ENVELOPE AMOUNT	11
22	INVERT	
23	ATTACK	
24	DECAY	06
25	SUSTAIN	03
26	RELEASE	09
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	06
32	SUSTAIN	14
33	RELEASE	07
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 54

NAME: Jan 2 - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	42
14	LFO	
LFO		
15	FREQUENCY	12
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	63
20	RESONANCE	12
21	ENVELOPE AMOUNT	08
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	12
26	RELEASE	06
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	10
33	RELEASE	
34	VOICE VOLUME	15
35	UNISON	01

FACTORY PROGRAM #: 55

NAME: Full synth
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	42
14	LFO	01
LFO		
15	FREQUENCY	02
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	40
20	RESONANCE	
21	ENVELOPE AMOUNT	12
22	INVERT	
23	ATTACK	
24	DECAY	08
25	SUSTAIN	07
26	RELEASE	10
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	04
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 56

NAME: Twang
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	21
14	LFO	
LFO		
15	FREQUENCY	12
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	60
20	RESONANCE	25
21	ENVELOPE AMOUNT	12
22	INVERT	
23	ATTACK	
24	DECAY	03
25	SUSTAIN	07
26	RELEASE	06
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	41
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	14
33	RELEASE	02
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 57

NAME: Clavet
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	50
14	LFO	01
LFO		
15	FREQUENCY	04
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	24
20	RESONANCE	10
21	ENVELOPE AMOUNT	11
22	INVERT	
23	ATTACK	
24	DECAY	06
25	SUSTAIN	08
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	14
32	SUSTAIN	15
33	RELEASE	
34	VOICE VOLUME	12
35	UNISON	

FACTORY PROGRAM #: 58

NAME: Bezmod
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	02
03	LFO	
04	ENVELOPE AMOUNT	15
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	11
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	52
14	LFO	01
LFO		
15	FREQUENCY	08
16	PROG AMOUNT	13
17	TRI/SQUARE WAVE	01
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	37
20	RESONANCE	36
21	ENVELOPE AMOUNT	11
22	INVERT	
23	ATTACK	
24	DECAY	06
25	SUSTAIN	10
26	RELEASE	15
27	LFO	01
28	KEYBOARD	48
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	06
32	SUSTAIN	13
33	RELEASE	06
34	VOICE VOLUME	09
35	UNISON	

FACTORY PROGRAM #: 59

NAME: Plucky 2
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	56
14	LFO	01
LFO		
15	FREQUENCY	07
16	PROG AMOUNT	11
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	21
20	RESONANCE	08
21	ENVELOPE AMOUNT	10
22	INVERT	
23	ATTACK	
24	DECAY	02
25	SUSTAIN	11
26	RELEASE	11
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	45
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	11
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 60

NAME: Pleides
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	15
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	15
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	34
14	LFO	01
LFO		
15	FREQUENCY	08
16	PROG AMOUNT	06
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	31
20	RESONANCE	
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	
24	DECAY	10
25	SUSTAIN	
26	RELEASE	13
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	39
AMPLIFIER		
30	ATTACK	
31	DECAY	11
32	SUSTAIN	
33	RELEASE	05
34	VOICE VOLUME	08
35	UNISON	

FACTORY PROGRAM #: 61

NAME: Synth with Resonance 3
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	22
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	04
05	INVERT	
06	ATTACK	01
07	DECAY	
08	SUSTAIN	15
09	RELEASE	03
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	34
14	LFO	01
LFO		
15	FREQUENCY	07
16	PROG AMOUNT	11
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	37
20	RESONANCE	25
21	ENVELOPE AMOUNT	10
22	INVERT	
23	ATTACK	01
24	DECAY	07
25	SUSTAIN	06
26	RELEASE	06
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	01
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 62

NAME: String with Filter sweep
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	40
14	LFO	01
LFO		
15	FREQUENCY	12
16	PROG AMOUNT	13
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	49
20	RESONANCE	
21	ENVELOPE AMOUNT	13
22	INVERT	
23	ATTACK	06
24	DECAY	06
25	SUSTAIN	09
26	RELEASE	11
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	11
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 63

NAME: Echo
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	01
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	93
20	RESONANCE	08
21	ENVELOPE AMOUNT	04
22	INVERT	01
23	ATTACK	02
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	05
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 64

NAME: Synth B
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	24
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	21
20	RESONANCE	09
21	ENVELOPE AMOUNT	13
22	INVERT	
23	ATTACK	
24	DECAY	06
25	SUSTAIN	10
26	RELEASE	05
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	04
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 65

NAME: Hose Pose
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	15
05	INVERT	
06	ATTACK	01
07	DECAY	01
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	12
14	LFO	01
LFO		
15	FREQUENCY	09
16	PROG AMOUNT	01
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	09
20	RESONANCE	01
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	
24	DECAY	05
25	SUSTAIN	10
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	08
32	SUSTAIN	15
33	RELEASE	
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 66

NAME: Powerpack
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	14
14	LFO	01
LFO		
15	FREQUENCY	08
16	PROG AMOUNT	01
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	85
20	RESONANCE	27
21	ENVELOPE AMOUNT	13
22	INVERT	
23	ATTACK	
24	DECAY	03
25	SUSTAIN	10
26	RELEASE	12
27	LFO	
28	KEYBOARD	
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	12
32	SUSTAIN	09
33	RELEASE	08
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 67

NAME: Lead 2 - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	21
14	LFO	
LFO		
15	FREQUENCY	12
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	63
20	RESONANCE	05
21	ENVELOPE AMOUNT	07
22	INVERT	
23	ATTACK	
24	DECAY	05
25	SUSTAIN	08
26	RELEASE	06
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	14
33	RELEASE	02
34	VOICE VOLUME	09
35	UNISON	01

FACTORY PROGRAM #: 68

NAME: Pulse-width mod 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	06
05	INVERT	
06	ATTACK	
07	DECAY	02
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	
14	LFO	01
LFO		
15	FREQUENCY	09
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	110
20	RESONANCE	
21	ENVELOPE AMOUNT	04
22	INVERT	
23	ATTACK	
24	DECAY	08
25	SUSTAIN	
26	RELEASE	09
27	LFO	01
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	03
31	DECAY	
32	SUSTAIN	15
33	RELEASE	09
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 69

NAME: Flute
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	08
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	78
20	RESONANCE	09
21	ENVELOPE AMOUNT	01
22	INVERT	
23	ATTACK	02
24	DECAY	
25	SUSTAIN	10
26	RELEASE	04
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	01
31	DECAY	05
32	SUSTAIN	11
33	RELEASE	01
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 70

NAME: High Organ Flutes
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	
13	PULSE WIDTH	36
14	LFO	01
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	01
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	100
20	RESONANCE	29
21	ENVELOPE AMOUNT	02
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	03
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	14
33	RELEASE	01
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 71

NAME: Digi-Horn
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	44
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	95
20	RESONANCE	14
21	ENVELOPE AMOUNT	06
22	INVERT	01
23	ATTACK	
24	DECAY	01
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	31
AMPLIFIER		
30	ATTACK	
31	DECAY	09
32	SUSTAIN	
33	RELEASE	02
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 72

NAME: Angelic
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	12
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	56
14	LFO	01
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	03
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	76
20	RESONANCE	32
21	ENVELOPE AMOUNT	01
22	INVERT	
23	ATTACK	07
24	DECAY	13
25	SUSTAIN	04
26	RELEASE	06
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	06
31	DECAY	06
32	SUSTAIN	09
33	RELEASE	06
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 73

NAME: Flutey Pose
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	01
05	INVERT	01
06	ATTACK	
07	DECAY	02
08	SUSTAIN	
09	RELEASE	03
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	
13	PULSE WIDTH	13
14	LFO	01
LFO		
15	FREQUENCY	08
16	PROG AMOUNT	17
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	76
20	RESONANCE	03
21	ENVELOPE AMOUNT	05
22	INVERT	
23	ATTACK	
24	DECAY	07
25	SUSTAIN	
26	RELEASE	04
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	09
32	SUSTAIN	
33	RELEASE	04
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 74

NAME: Pulse-width mod 2
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	56
14	LFO	01
LFO		
15	FREQUENCY	06
16	PROG AMOUNT	31
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	83
20	RESONANCE	
21	ENVELOPE AMOUNT	05
22	INVERT	
23	ATTACK	
24	DECAY	04
25	SUSTAIN	
26	RELEASE	05
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	06
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 75

NAME: Harpsichord
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	61
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	105
20	RESONANCE	26
21	ENVELOPE AMOUNT	01
22	INVERT	01
23	ATTACK	
24	DECAY	
25	SUSTAIN	15
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	10
32	SUSTAIN	
33	RELEASE	02
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 76

NAME: Synth with resonance 4
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	1
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	1
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	1
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	63
20	RESONANCE	22
21	ENVELOPE AMOUNT	10
22	INVERT	
23	ATTACK	
24	DECAY	11
25	SUSTAIN	01
26	RELEASE	06
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	14
33	RELEASE	04
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 77

NAME: Acoustic Piano - part 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	14
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	68
20	RESONANCE	
21	ENVELOPE AMOUNT	05
22	INVERT	
23	ATTACK	
24	DECAY	05
25	SUSTAIN	
26	RELEASE	05
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	11
32	SUSTAIN	
33	RELEASE	03
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 78

NAME: Celestial
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	09
14	LFO	01
LFO		
15	FREQUENCY	09
16	PROG AMOUNT	13
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	127
20	RESONANCE	14
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	03
32	SUSTAIN	08
33	RELEASE	10
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 79

NAME: Golliwog Jr.
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	33
01	FINE FREQUENCY	24
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	05
05	INVERT	
06	ATTACK	02
07	DECAY	33
08	SUSTAIN	15
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	42
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	75
20	RESONANCE	31
21	ENVELOPE AMOUNT	04
22	INVERT	
23	ATTACK	
24	DECAY	01
25	SUSTAIN	13
26	RELEASE	12
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	
34	VOICE VOLUME	09
35	UNISON	

FACTORY PROGRAM #: 80

NAME: Electronic Percussion
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	04
05	INVERT	
06	ATTACK	
07	DECAY	05
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	07
19	CUTOFF FREQUENCY	45
20	RESONANCE	42
21	ENVELOPE AMOUNT	03
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	04
26	RELEASE	02
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	11
AMPLIFIER		
30	ATTACK	
31	DECAY	05
32	SUSTAIN	
33	RELEASE	05
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 81

NAME: Meow
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	07
05	INVERT	
06	ATTACK	04
07	DECAY	04
08	SUSTAIN	
09	RELEASE	06
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	11
14	LFO	
LFO		
15	FREQUENCY	03
16	PROG AMOUNT	10
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	45
20	RESONANCE	18
21	ENVELOPE AMOUNT	08
22	INVERT	
23	ATTACK	02
24	DECAY	05
25	SUSTAIN	07
26	RELEASE	12
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	03
31	DECAY	06
32	SUSTAIN	
33	RELEASE	01
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 82

NAME: Wind
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	
01	FINE FREQUENCY	
02	GLIDE RATE	15
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	07
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	31
19	CUTOFF FREQUENCY	63
20	RESONANCE	32
21	ENVELOPE AMOUNT	03
22	INVERT	
23	ATTACK	12
24	DECAY	12
25	SUSTAIN	
26	RELEASE	10
27	LFO	01
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	11
31	DECAY	
32	SUSTAIN	15
33	RELEASE	15
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 83

NAME: Inverted Clangorous
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	41
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	10
05	INVERT	
06	ATTACK	07
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	116
20	RESONANCE	55
21	ENVELOPE AMOUNT	15
22	INVERT	01
23	ATTACK	02
24	DECAY	
25	SUSTAIN	04
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	12
32	SUSTAIN	
33	RELEASE	07
34	VOICE VOLUME	08
35	UNISON	

FACTORY PROGRAM #: 78

NAME: Celestial
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	01
12	PULSE WAVE	01
13	PULSE WIDTH	09
14	LFO	01
LFO		
15	FREQUENCY	09
16	PROG AMOUNT	13
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	127
20	RESONANCE	14
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	03
32	SUSTAIN	08
33	RELEASE	10
34	VOICE VOLUME	11
35	UNISON	

FACTORY PROGRAM #: 79

NAME: Golliwog Jr.
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	33
01	FINE FREQUENCY	24
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	05
05	INVERT	
06	ATTACK	02
07	DECAY	33
08	SUSTAIN	15
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	42
14	LFO	
LFO		
15	FREQUENCY	11
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	75
20	RESONANCE	31
21	ENVELOPE AMOUNT	04
22	INVERT	
23	ATTACK	
24	DECAY	01
25	SUSTAIN	13
26	RELEASE	12
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	
34	VOICE VOLUME	09
35	UNISON	

FACTORY PROGRAM #: 80

NAME: Electronic Percussion
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	12
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	04
05	INVERT	
06	ATTACK	
07	DECAY	05
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	07
19	CUTOFF FREQUENCY	45
20	RESONANCE	42
21	ENVELOPE AMOUNT	03
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	04
26	RELEASE	02
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	11
AMPLIFIER		
30	ATTACK	
31	DECAY	05
32	SUSTAIN	
33	RELEASE	05
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 81

NAME: Meow
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	07
05	INVERT	
06	ATTACK	04
07	DECAY	04
08	SUSTAIN	
09	RELEASE	06
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	11
14	LFO	
LFO		
15	FREQUENCY	03
16	PROG AMOUNT	10
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	45
20	RESONANCE	18
21	ENVELOPE AMOUNT	08
22	INVERT	
23	ATTACK	02
24	DECAY	05
25	SUSTAIN	07
26	RELEASE	12
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	03
31	DECAY	06
32	SUSTAIN	
33	RELEASE	01
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 82

NAME: Wind
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	
01	FINE FREQUENCY	
02	GLIDE RATE	15
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	07
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	31
19	CUTOFF FREQUENCY	63
20	RESONANCE	32
21	ENVELOPE AMOUNT	03
22	INVERT	
23	ATTACK	12
24	DECAY	12
25	SUSTAIN	
26	RELEASE	10
27	LFO	01
28	KEYBOARD	01
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	11
31	DECAY	
32	SUSTAIN	15
33	RELEASE	15
34	VOICE VOLUME	10
35	UNISON	

FACTORY PROGRAM #: 83

NAME: Inverted Clangorous
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	41
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	10
05	INVERT	
06	ATTACK	07
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	116
20	RESONANCE	55
21	ENVELOPE AMOUNT	15
22	INVERT	01
23	ATTACK	02
24	DECAY	
25	SUSTAIN	04
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	12
32	SUSTAIN	
33	RELEASE	07
34	VOICE VOLUME	08
35	UNISON	

FACTORY PROGRAM #: 84

NAME: Musical Orgs
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	10
05	INVERT	01
06	ATTACK	
07	DECAY	03
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	38
14	LFO	01
LFO		
15	FREQUENCY	01
16	PROG AMOUNT	24
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	101
20	RESONANCE	40
21	ENVELOPE AMOUNT	15
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	03
32	SUSTAIN	15
33	RELEASE	04
34	VOICE VOLUME	07
35	UNISON	

FACTORY PROGRAM #: 85

NAME: UFO
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	39
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	15
16	PROG AMOUNT	04
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	127
20	RESONANCE	63
21	ENVELOPE AMOUNT	13
22	INVERT	01
23	ATTACK	
24	DECAY	13
25	SUSTAIN	
26	RELEASE	12
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	34
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	14
34	VOICE VOLUME	08
35	UNISON	01

FACTORY PROGRAM #: 86

NAME: Square wave spacey
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	24
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	43
14	LFO	01
10		
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	27
17	TRI/SQUARE WAVE	01
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	28
20	RESONANCE	38
21	ENVELOPE AMOUNT	11
22	INVERT	
23	ATTACK	
24	DECAY	11
25	SUSTAIN	04
26	RELEASE	13
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	01
31	DECAY	15
32	SUSTAIN	05
33	RELEASE	15
34	VOICE VOLUME	08
35	UNISON	

FACTORY PROGRAM #: 87

NAME: SFX 1
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	41
01	FINE FREQUENCY	20
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	15
05	INVERT	01
06	ATTACK	07
07	DECAY	01
08	SUSTAIN	11
09	RELEASE	06
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	01
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	15
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	77
20	RESONANCE	48
21	ENVELOPE AMOUNT	
22	INVERT	
23	ATTACK	06
24	DECAY	07
25	SUSTAIN	05
26	RELEASE	09
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	10
34	VOICE VOLUME	08
35	UNISON	

FACTORY PROGRAM #: 88

NAME: Acoustic Piano - part 2
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	45
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	08
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	68
20	RESONANCE	
21	ENVELOPE AMOUNT	05
22	INVERT	
23	ATTACK	
24	DECAY	03
25	SUSTAIN	
26	RELEASE	05
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	11
32	SUSTAIN	
33	RELEASE	03
34	VOICE VOLUME	06
35	UNISON	

FACTORY PROGRAM #: 89

NAME: Chirp-dive
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	13
16	PROG AMOUNT	18
17	TRI/SQUARE WAVE	01
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	43
20	RESONANCE	63
21	ENVELOPE AMOUNT	09
22	INVERT	
23	ATTACK	
24	DECAY	15
25	SUSTAIN	
26	RELEASE	15
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	12
32	SUSTAIN	15
33	RELEASE	13
34	VOICE VOLUME	05
35	UNISON	

FACTORY PROGRAM #: 90

NAME: Puce
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	15
05	INVERT	01
06	ATTACK	01
07	DECAY	02
08	SUSTAIN	11
09	RELEASE	07
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	26
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	66
20	RESONANCE	38
21	ENVELOPE AMOUNT	01
22	INVERT	
23	ATTACK	02
24	DECAY	04
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	05
32	SUSTAIN	15
33	RELEASE	06
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 91

NAME: Thudmon
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	64
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	15
05	INVERT	01
06	ATTACK	01
07	DECAY	02
08	SUSTAIN	11
09	RELEASE	07
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	26
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	18
19	CUTOFF FREQUENCY	66
20	RESONANCE	38
21	ENVELOPE AMOUNT	03
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	05
32	SUSTAIN	15
33	RELEASE	05
34	VOICE VOLUME	12
35	UNISON	

FACTORY PROGRAM #: 92

NAME: Percussive noise
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	36
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	31
19	CUTOFF FREQUENCY	69
20	RESONANCE	34
21	ENVELOPE AMOUNT	06
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	06
26	RELEASE	11
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	07
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 93

NAME: Ascending release
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	28
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	09
05	INVERT	01
06	ATTACK	
07	DECAY	03
08	SUSTAIN	15
09	RELEASE	13
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	10
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	01
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	127
20	RESONANCE	
21	ENVELOPE AMOUNT	
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	
32	SUSTAIN	15
33	RELEASE	12
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 94

NAME: 4ths drop with release
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	19
01	FINE FREQUENCY	64
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	12
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	13
09	RELEASE	
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	34
14	LFO	01
LFO		
15	FREQUENCY	07
16	PROG AMOUNT	11
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	50
20	RESONANCE	09
21	ENVELOPE AMOUNT	08
22	INVERT	
23	ATTACK	
24	DECAY	03
25	SUSTAIN	06
26	RELEASE	11
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	
AMPLIFIER		
30	ATTACK	
31	DECAY	13
32	SUSTAIN	
33	RELEASE	07
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 95

NAME: Josef's Cousin
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	26
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	01
04	ENVELOPE AMOUNT	05
05	INVERT	01
06	ATTACK	01
07	DECAY	01
08	SUSTAIN	11
09	RELEASE	07
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	50
14	LFO	01
LFO		
15	FREQUENCY	12
16	PROG AMOUNT	05
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	68
20	RESONANCE	29
21	ENVELOPE AMOUNT	04
22	INVERT	
23	ATTACK	
24	DECAY	03
25	SUSTAIN	13
26	RELEASE	
27	LFO	
28	KEYBOARD	01
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	05
32	SUSTAIN	15
33	RELEASE	
34	VOICE VOLUME	15
35	UNISON	

FACTORY PROGRAM #: 96

NAME: Percussive wind - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	02
05	INVERT	01
06	ATTACK	01
07	DECAY	02
08	SUSTAIN	11
09	RELEASE	07
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	26
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	18
19	CUTOFF FREQUENCY	66
20	RESONANCE	38
21	ENVELOPE AMOUNT	03
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	05
32	SUSTAIN	15
33	RELEASE	05
34	VOICE VOLUME	12
35	UNISON	01

FACTORY PROGRAM #: 97

NAME: Percussion 3 - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	48
01	FINE FREQUENCY	
02	GLIDE RATE	03
03	LFO	
04	ENVELOPE AMOUNT	15
05	INVERT	01
06	ATTACK	01
07	DECAY	02
08	SUSTAIN	11
09	RELEASE	07
10	SAWTOOTH WAVE	01
11	TRIANGLE WAVE	
12	PULSE WAVE	01
13	PULSE WIDTH	26
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	66
20	RESONANCE	38
21	ENVELOPE AMOUNT	03
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	
31	DECAY	05
32	SUSTAIN	15
33	RELEASE	
34	VOICE VOLUME	15
35	UNISON	01

FACTORY PROGRAM #: 98

NAME: Alien - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	41
01	FINE FREQUENCY	
02	GLIDE RATE	
03	LFO	
04	ENVELOPE AMOUNT	
05	INVERT	
06	ATTACK	
07	DECAY	
08	SUSTAIN	
09	RELEASE	
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	08
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	81
20	RESONANCE	55
21	ENVELOPE AMOUNT	
22	INVERT	01
23	ATTACK	02
24	DECAY	
25	SUSTAIN	04
26	RELEASE	
27	LFO	01
28	KEYBOARD	02
29	OSC TRI MOD AMT	63
AMPLIFIER		
30	ATTACK	15
31	DECAY	12
32	SUSTAIN	15
33	RELEASE	15
34	VOICE VOLUME	09
01		
35	UNISON	

FACTORY PROGRAM #: 99

NAME: Alien wind - unison
MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
(Values are 00 unless otherwise noted)		
OSCILLATOR		
00	COARSE FREQUENCY	
01	FINE FREQUENCY	
02	GLIDE RATE	15
03	LFO	
04	ENVELOPE AMOUNT	11
05	INVERT	01
06	ATTACK	12
07	DECAY	12
08	SUSTAIN	
09	RELEASE	12
10	SAWTOOTH WAVE	
11	TRIANGLE WAVE	
12	PULSE WAVE	
13	PULSE WIDTH	
14	LFO	
LFO		
15	FREQUENCY	
16	PROG AMOUNT	06
17	TRI/SQUARE WAVE	
FILTER		
18	OSC/NOISE MIXER	
19	CUTOFF FREQUENCY	69
20	RESONANCE	63
21	ENVELOPE AMOUNT	
22	INVERT	
23	ATTACK	
24	DECAY	
25	SUSTAIN	
26	RELEASE	
27	LFO	01
28	KEYBOARD	
29	OSC TRI MOD AMT	27
AMPLIFIER		
30	ATTACK	15
31	DECAY	
32	SUSTAIN	15
33	RELEASE	15
34	VOICE VOLUME	09
35	UNISON	01

15 YOUR PROGRAMS

NUMBER	NAME/DESCRIPTION
00	
01	
02	
03	
04	
05	
06	
07	
08	
09	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

97

98

99

SCI SIX-TRAK

PROGRAM NUMBER:

DESCRIPTION:

MOD-WHEEL:
NOTES:

PARAMETERS		VALUE
OSCILLATOR		
00	COARSE FREQUENCY	_____
01	FINE FREQUENCY	_____
02	GLIDE RATE	_____
03	LFO	_____
04	ENVELOPE AMOUNT	_____
05	INVERT	_____
06	ATTACK	_____
07	DECAY	_____
08	SUSTAIN	_____
09	RELEASE	_____
10	SAWTOOTH WAVE	_____
11	TRIANGLE WAVE	_____
12	PULSE WAVE	_____
13	PULSE WIDTH	_____
14	LFO	_____
LFO		
15	FREQUENCY	_____
16	PROGRAMMED AMT	_____
17	TRI/SQUARE WAVE	_____
FILTER		
18	OSC/NOISE MIXER	_____
19	CUTOFF FREQUENCY	_____
20	RESONANCE	_____
21	ENVELOPE AMOUNT	_____
22	INVERT	_____
23	ATTACK	_____
24	DECAY	_____
25	SUSTAIN	_____
26	RELEASE	_____
27	LFO	_____
28	KEYBOARD	_____
29	OSC TRI MOD AMT	_____
AMPLIFIER		
30	ATTACK	_____
31	DECAY	_____
32	SUSTAIN	_____
33	RELEASE	_____
34	VOICE VOLUME	_____
35	UNISON	_____

SEQUENTIAL CIRCUITS, INC.
LIMITED WARRANTY

Please read this warranty as it gives you specific legal rights. You may also have other rights which can vary from state to state.

LENGTH OF WARRANTY

This warranty will remain in effect for six months from the date of purchase.

WHAT IS COVERED

This warranty covers all defects in material and workmanship in this product, under the condition as discussed in the following sections.

WHAT IS NOT COVERED

1) Damage due to accident, misuse, neglect or abuse—including damage resulting from failure to follow instructions contained in the operation manual.

2) Damage or deterioration of cabinet or keyboard.

3) Damage occurring during any shipment of the product for any reason. All claims must be handled directly with the carrier.

4) Damage resulting from repair or attempted repair by anyone other than Sequential Circuits, Inc. (S.C.I.) or an authorized S.C.I. Service Center.

5) Any unit on which the serial number has been defaced, modified or removed is not covered under this warranty.

6) Any modification or alteration of any kind performed by anyone including S.C.I. or an Authorized S.C.I. Service Center, will void the warranty on your unit. The only exception to this is an Authorized S.C.I. modification which includes its own warranty coverage. Due to the complexity of the circuitry, modifications tend to extend repair time and therefore increase repair costs.

HOW TO VALIDATE THE WARRANTY

With this warranty you will find a Warranty Registration Card. This card is to be filled out and returned to S.C.I. within fourteen (14) days of the date of purchase.

The warranty is applicable to the original purchaser only and you must present the original purchase receipt to obtain warranty performance, unless applicable laws state otherwise.

HOW TO OBTAIN WARRANTY PERFORMANCE

Your unit may be serviced by any Authorized S.C.I. Service Center. If you are unable to find a service center in your area please contact the S.C.I. Factory Service Department. We will either refer you to an Authorized Service Center or request that you return your unit to the factory. If you are to return your unit to the factory, you will be given a Return Authorization Number. Please mark all packages and shipping documents with this number.

Do not return your unit to the factory without prior authorization as your unit may not be accepted.

You must pay all shipping charges to and from S.C.I. or Authorized Service Centers and you will be responsible for damage and/or loss resulting from shipment in either direction. If you desire a fully insured shipment you must arrange for this coverage with the carrier. If you wish your return shipment to be insured, you must request this in writing at the time your unit is delivered to S.C.I. All additional charges must be prepaid or your unit will be returned to you C.O.D. Details and costs can be obtained from the S.C.I. Shipping Department.

LIMITATIONS OF IMPLIED WARRANTIES

Any implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF CERTAIN DAMAGES

S.C.I.'s liability, for any defective product, is limited to repair or replacement of the product at S.C.I.'s option. S.C.I. shall not be liable, under any circumstances for:

1) Damages based upon inconvenience, loss of use of the unit, loss of time, interrrupted operation or commercial loss, or

2) Any other damages, whether incidental, consequential or otherwise, except damages which may not be excluded under applicable law.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

March 6, 1981

Please fill in the following information for our Marketing Department. Thank you for your cooperation.

NAME _____ (PLEASE PRINT)

ADDRESS _____

CITY _____ STATE _____

ZIP _____ PHONE ( ) _____

MODEL _____ SERIAL NO. _____

DATE PURCHASED _____

PURCHASED FROM _____

AGE:

Under 21 ☐
22-26 ☐
27-35 ☐
Over 35 ☐

TYPE OF MUSICIAN:

Student ☐ Professional ☐
Amateur ☐ Recording/ Session ☐
Semi-Pro ☐ Other _____

INSTRUMENTS PLAYED:

Brass ☐ Woodwind ☐
Percussion ☐ Keyboard ☐
Guitar ☐ Synthesizer ☐
Other _____

Do you own a computer? _____

TYPE OF MUSIC PLAYED:

Country ☐ Electronic ☐
Jazz ☐ Classical ☐
Rock ☐ R & B ☐
New Wave ☐ Disco ☐
Other _____

MUSICAL PUBLICATIONS REGULARLY READ AND REVIEWED:

Rolling Stone ☐
Guitar Player ☐
down beat ☐
International Musician ☐
Contemporary Keyboard ☐
Musician Player Listener ☐
Other _____

WHAT INFLUENCED YOUR DECISION TO PURCHASE AN SCI PRODUCT?

WHAT DO YOU LIKE MOST ABOUT YOUR SCI PRODUCT?
ADDITIONAL COMMENTS:

WHAT OTHER PRODUCTS WOULD YOU LIKE SCI TO CREATE?

TO VALIDATE WARRANTY THIS CARD MUST BE RETURNED TO SCI

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 6907 SAN JOSE, CA

Postage will be paid by addressee

SEQUENTIAL CIRCUITS INC

3051 North 1st Street
San Jose, California 95134

Announcing the Sequential Circuits Model 64 MIDI Sequencer, a powerful new performance and composition tool for musicians.

The Model 64 is the first SCI sequencer available using MIDI (Musical Instrument Digital Interface). It is a cartridge which plugs in to the memory expansion port of a Commodore 64 personal computer, taking advantage of that system's portability, memory capacity, cassette or disc storage, and video interface.

The Model 64 Sequencer records whatever is played by storing the MIDI information sent from any MIDI equipped instrument compatible with the Rev 1.0 MIDI spec. Up to 4000 notes can be recorded. The Model 64 also stores velocity, pitch-bend and modulation information (if the synthesizer is so equipped). For playback, the sequencer sends MIDI information back to the synthesizer either as recorded in real time, or auto-corrected for subtle timing errors. The playback tempo can be varied by using either the internal clock or an external drum machine clock.

As a digital recorder, the sequencer's editing facilities allow for multi-track overdubbing, duplication, and correcting parts without re-recording, splicing, or accumulating noise through the processes of "mix-down" and "bouncing" generations of tape tracks. The sequencer memory can be allocated to eight independent variable-length sequences, each of which can have six tracks. Eight different timing error-correct values are available, from a quarter-note (lowest resolution) to a sixty-fourth note (highest resolution). A sequence can be transposed within a six-octave range. A library of songs can be built by chaining sequences together and storing them on disc or cassette. Songs can also be overdubbed and transposed.

For precise start and stop control of recording and playback, the Model 64 cartridge has a jack for an optional footswitch. A second jack accepts the synchronizing clock from an external drum box. The sequencer will record this drum box clock with the sequence. On playback the drum box clock can then keep the sequence synchronized to the drum part.

Operation is simple. For portability, the Model 64 Sequencer is designed for use with or without a monitor. LEDs on the cartridge identify up to four sequences and indicate record, play, overdub, and storage functions.

The Model 64 Sequencer is another new concept from Sequential Circuits, the leader in affordable high-technology for the electronic musician. It is ready to use with our new Sixtrak, Prophet-600 and Prophet-T8 synthesizers, with the Prophet-5 or Prophet-10 equipped with a Model 841 MIDI retrofit kit, or with any other MIDI-equipped synthesizer.

SEQUENTIAL CIRCUITS INC
3051 North First Street
San Jose, California 95134
(408)946-5240

SCI HAS A GREAT NEW DIGITAL DRUM MACHINE AVAILABLE NOW!

ANNOUNCING DRUMTRAKS! A fully programmable drum machine featuring 13 digitally recorded instruments and MIDI (Musical Instrument Digital Interface).

DRUMTRAKS lets you program volume and tuning individually for each of its 13 real drum and cymbal sounds. This allows you to "expand" your "drum set" to include the sounds of gongs, 32-tom rolls, gorilla claps and more! Extensive editing options include auto-correct, overdub, record, erase, and copy modes.

Drumtraks features a programmable mixer with a monophonic output (which can drive stereo headphones). For control by external mixers or processors, six audio channels (plus the metronome) are available at the back panel through standard 1/4-inch phone jacks.

The Drumtraks overall memory capacity of over 3300 notes can be allocated to up to 100 different drum patterns, any of which can be up to 100 measures long in any time signature. Tempo range is 40 - 250 beats-per-minute. Each overdub of a pattern can be recorded with a different instrument volume or tuning, in real time, or auto-corrected to one of eight levels of resolution. Any part of an instrumental track can be erased. Patterns can be copied and added together (appended).

Once drum patterns (sequences) are recorded in the Drumtraks memory, up to 100 songs can be defined. Basically, songs are made by chaining patterns together. Each song can consist of up to 100 steps. Steps specify how the song is built by selecting patterns and inserting volume or tempo changes. Songs, too, can be edited, copied and appended.

The Drumtraks' memory is retained even when power is off thanks to a backup battery with a ten-year life. For permanent storage and reprogramming, the built-in interface can be used to store the contents of memory on a common cassette.

The Drumtraks features two built-in interface systems. There is a selectable 24, 48 or 96 pulse-per-quarter note clock input, and a 24-pulse clock output for older sequencers or rhythm units and sync-to-tape. For operation with computer-controlled sequencers, the new MIDI interface is also provided. This enables the Drumtraks to synchronize to SCI's new Model 610 Six-Trak multi-timbral synthesizer/sequencer, or any other MIDI-equipped instrument. For example, the Drumtraks can be played with full velocity control from the keyboard of the Prophet-T8, allowing for easy, real-time recording of drum dynamics!

SEQUENTIAL CIRCUITS INC
3051 North First Street
San Jose, California 95134
(408)946-5240