

MULLINAX OPERATION MANUAL

750UEULIAL

Manual No: CM615B

MULTI-TRAK SYNTHESIZER/SEQUENCER

OPERATION MANUAL

By Stanley Jungleib

and Chet Wood

Sequential PO Box 16 3640 AA Mijdrecht Netherlands 02979-6211 TELEX: 12721 SQNTL NL Sequential 3051 North First Street San Jose, CA 95134-2093 U.S.A. 408/946-5240 TELEX: 364412 INTR 706

MULTI-TRAK MODEL 615

OPERATION MANUAL

by Stanley Jungleib and Chet Wood

Factory Programs: John Bowen

The MULTI-TRAK Design Team:

Project Manager/Engineer: Product Support Engineer: Keyboard Scanner Design:

Mechanical Engineer:

PCB Design:

Joshua Jeffe Phil Wilson Matt Isaacson Tom Benningfield

Jeff Oglevee

Manual No. CM615B Issued: January, 1985

© 1985 by SEQUENTIAL All rights reserved.

Table of Contents

	Drof	face	page
	rie	MULTI-TRAK Block Diagram	vii
1	SET	-UP INSTRUCTIONS Set-Up Diagram	1-1 1-1
2	1	SIC OPERATION PLAY THE KEYBOARD	2-1
	2	PROGRAM SELECT VELOCITY	2-1 2-2
	4 5	WHEELS	2-2
		CHORUS UNISON	2-2 2-3
		GLIDE	2-3
		AUTOMATIC TUNING	2-3
	9	MANUAL TUNING	2-3
3	SEO	UENCER	
		RODUCTION	3-1
3-2	SEQ	UENCE PLAYBACK	3-2
	1	START	3-2
	2	STOP PLAY WITH THE SEQUENCE	3-2 3-2
	4	DISPLAY TRACK PROGRAM NUMBER	3-2
		SPEED	3-3
	6	FOOTSWITCH	3-3
		CHAINED PLAYBACK	3-3
	8	TRACK VOLUME ADJUST TRACK PROGRAM CHANGE	3-4 3-4
	10	ERASE TRACK	3-5
3-3	SEQ	UENCE RECORD	3-6
	1	STORAGE CAPACITY	3-6
	2	SELECT PROGRAM	3-6
	4	ERASE AND RECORD SEQUENCE METRONOME	3-6 3-6
	5	SPEED	3-7
		RECORD BASIC TRACK	3-7
	7	OVERDUB (SEQUENCER IN RECORD)	3-7
	8	OVERDUB (SEQUENCER STOPPED) FOOTSWITCH	3-8 3-9
	10	TRUNCATE	3-9 3-9
	11	ERASE INDIVIDUAL NOTES	3-9
	12	APPEND	3-10
		AUTOCORRECT	3-10
	14 15	SYNC TO DRUM BOX	3-12 3-12

3-4	SEQUENCE EXAMPLE "MAXimum Blues"	page 3-14 3-16
	ARPEGGIATE INTRODUCTION	4–1
	UP/DOWN	4-1
	ASSIGN	4-2
5	STACKS/SPLITS	5-1
	PROGRAMMING THE SYNTHESIZER	
	INTRODUCTION EDITING A PROGRAM	6-1 6-2
	RESTORING A PROGRAM	6-2
	AN EDITING EXAMPLE	6-2
	RECORDING A PROGRAM	6-4
6-6	USING THE BASIC PATCH	6-4
	SYNTHESIZER PARAMETERS	
/-1	INTRODUCTION Figure 7.1 Concret Voice Diagram	7-1 7-1
7-2	Figure 7-1 General Voice Diagram OSCILLATOR FREQUENCY	7-2
,-2	Figure 7-2 Voice Block Diagram	7-3
7-3	OSCILLATOR WAVESHAPE	7-4
	MODIFIERS	7-5
	TLO BONGROES INC.	7-6
	OSCILLATOR ENVELOPE	7-7
	FILTER FILTER ENVELOPE	7-9
	VELOCITY SENSITIVITY	7-10 7-11
	UNISON	7-13
	AMPLIFIER ENVELOPE	7-13
7-12	2 CHORUS	7-14
	CASSETTE INTERFACE	
	INTRODUCTION	8-1
	RECORDER AND TAPE SELECTION PRECAUTIONS	8-1 8-2
	SAVING PROGRAMS OR SEQUENCES TO TAPE	8-3
	LOADING PROGRAMS OR SEQUENCES FROM TAPE	
9	TROUBLE?	9-1
10	FACTORY PROGRAMS	10-1
11	YOUR PROGRAMS	11-1

Preface

The velocity-sensitive, multi-timbral MULTI-TRAK combines the superior expressiveness of velocity touch sensitivity with the compositional flexibility of multi-timbral sound, as pioneered by Sequential with the Six-Trak and MAX synthesizers. Other features of the MULTI-TRAK include a built-in multi-track sequencer, a chorus effect for richer sounds, a split keyboard, individual audio outputs for each voice, a cassette interface for program and sequence storage, and, of course, MIDI (Musical Instrument Digital Interface).

The block diagram (page vii) shows the main sub-sections: keyboard, sequencer, sound memory, voices, and MIDI. Using this as a basis for discussion, we trace backwards from the audio output, to see how the sub-sections work together. There are two types of audio outputs, the Mix outputs and the Track outputs. The Mix outputs, A and B, provide a pseudo-stereo effect from the chorus. Stereo headphones can be plugged into either Mix output. The Track outputs are useful in studio situations, where each voice can be run through its own channel of the main mixer board. If a Track output is used, its voice is removed from the MULTI-TRAK's Mix outputs.

These audio outputs come from the six independent synthesizer voices. In contrast to homophonic synthesizers, which program each voice with the same sound, each of the MULTI-TRAK's voices can have a different sound (multi-timbre). Each voice has a multiwaveform oscillator (or noise) as the principal sound source. The oscillator drives a resonant low-pass filter which contours the timbre, and an amplifier which contours the dynamics. There are three attack-decay-sustain-release (ADSR) envelope generators: one for oscillator frequency, one for filter cutoff frequency, and one for amplifier gain. (The polarity of the first two can be inverted.) A triangle- or square-wave low frequency oscillator (LFO) can modulate oscillator frequency, pulse width, or filter frequency. The amount of LFO modulation can be controlled with the Mod wheel. A second modulation route runs from the oscillator triangle output to the filter frequency, for frequency modulation (FM). Frequency glide ("portamento") and voice volume are programmable. A Pitch wheel is provided for bending notes. Non-programmable master volume and tuning controls are provided. The TUNE switch has been eliminated by fully-automatic oscillator tuning, although a manual tune command is still available.

A voice has two types of inputs. First are the sound <u>parameters</u> from the sound memory. These operate on the synthesizer voices to define the track's timbre--in other words, the instrumental sound. The synthesizer program memory stores 100 sound programs, each consisting of 40 voice parameters. 100 instrumental sounds and effects are factory-programmed, but the player can modify (edit) these as desired. Light-emitting diodes (LEDs) clearly indicate the selected program, and if the program is being edited, they also display the parameter value and indicate which parameter is being edited. You use a single knob to change all parameter values. Programs can be copied. And the non-volatile memory is retained when power is off, thanks to a long-life backup battery. To permanently back-up programs and sequences, provision is made for storing them on audio cassette.

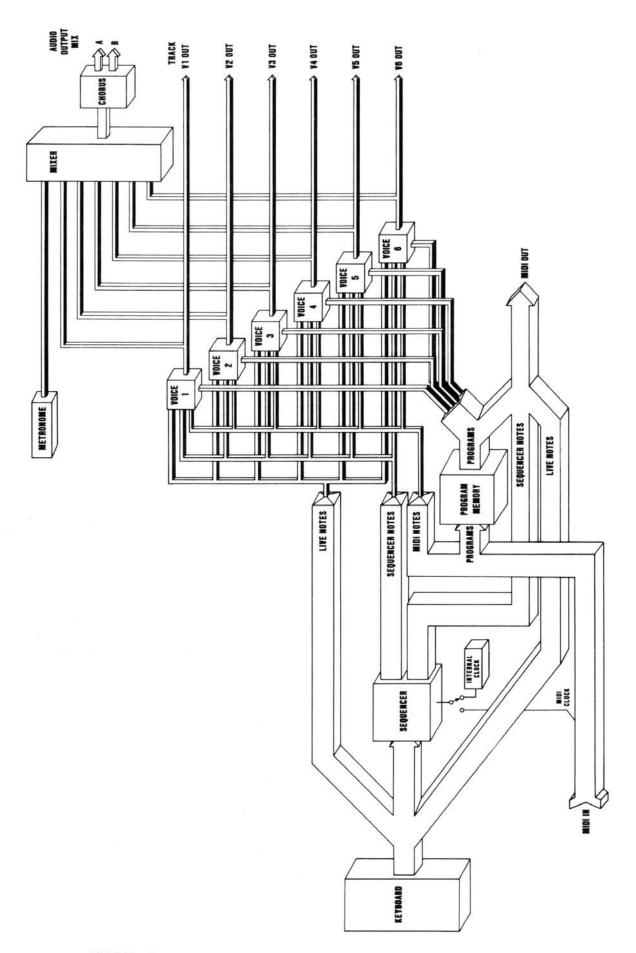
The second type of input to a voice are notes. Notes tell the voice when to play and what pitch to play. A voice can be played by notes coming from three sources: the keyboard, the sequencer, and MIDI. The MULTI-TRAK has a five-octave keyboard which you can use to overdub tracks, to play one or more voices live along with recorded sequences, or to play six voices live with either one sound (polyphonic or unison), or multiple timbres (in Stack or Split modes). The velocity with which a key is played can affect the loudness or brightness of the note, or the amount of LFO modulation applied. Other keyboard modes include voice stacking (for fatter sounds), a programmable split point, and a flexible arpeggiator.

When playing the MULTI-TRAK keyboard "live," each key played has the same sound (homophonic mode), except in Split mode, where the keyboard can be divided into two parts, each with its own timbre. When playing live, more complex multi-timbres are not possible because the MULTI-TRAK cannot know which keystrokes you intend for which timbres.

But the sequencer can record whatever you play on the keyboard as a separate track using its own voice. So each track can be overdubbed with a different sound. The sequencer allows overdubbing and editing without re-recording, splicing, or accumulating noise and distortion by "mixing-down" and "bouncing" audio tape tracks.

The 1600-note memory can be allocated to four sequences. Sequencer functions include overdubbing, programmable playback speed, programmable track volume, track erase, warning of memory-full, built-in metronome and autocorrect, an append function (which adds sequences together), and sync-to-tape.

Thirdly, the voices can play notes coming in from MIDI, which may be from another synthesizer or an external sequencer.



MULTI-TRAK BLOCK DIAGRAM

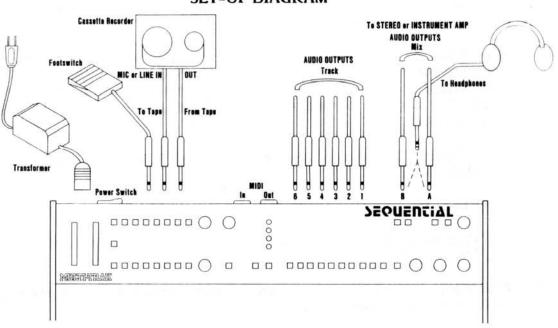
The MULTI-TRAK can send live notes, recorded notes, or sounds out to MIDI. For example, Sequential's Model 242 MIDI Interface Cartridge for the Commodore 64, and associated 900- series software, offers increased sequencer storage (up to 4000 notes), program and sequence storage on cassette or disc, and song transposition, as well as forthcoming music display and editing functions.

Finally, if you use a MIDI rhythm unit (such as the Sequential Model 400 Drumtraks), it sends a MIDI clock to the MULTI-TRAK sequencer, which synchronizes the MULTI-TRAK song to the drum song (or pattern).

Note: For more information on MIDI applications and use with Sequential's Drumtraks, please see the MULTI-TRAK MIDIGUIDE.

In order to get the most from the wealth of features found in your new MULTI-TRAK, we hope you will study this manual and the MIDIGUIDE thoroughly, and keep the reference card on hand while performing. You will find the MULTI-TRAK to be a most versatile music tool, both in itself and with its powers of MIDI expandability.

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



SET-UP DIAGRAM

1. CONNECT AUDIO OUTPUTS.

<u>CAUTION!</u> If you are using an external amplifier, switch the amplifier power off.

<u>CAUTION!</u> Ordinary home stereo speakers and amplifiers may be damaged by the high transients produced by synthesizers. It is best to use sound equipment specifically designed for musical instrument amplification.

The MULTI-TRAK has stereo Mix A and B outputs which can be connected to the left and right auxiliary or tape monitor inputs of a stereo amplifier, to produce stereo-enhanced effects when the MULTI-TRAK's built-in chorus is in use.

Or, either the Mix A or the Mix B output can drive a monaural musical instrument amplifier or stereo headphones (either output will drive both sides of a stereo headset).

For studio use, the MULTI-TRAK has **Track** outputs for each voice. When these outputs are used, the corresponding voice(s) disappear from the **Mix** outputs. The **Track** outputs are not affected by the **Master Volume**.

- 2. IF USED, CONNECT FOOTSWITCH FOR REMOTE CONTROL.
- 3. FOR MIDI CONNECTIONS AND OPERATION, SEE THE MULTITRAK MIDIGUIDE.

4. CONNECT POWER TRANSFORMER.

WARNING! Leave enough room around the transformer for cooling air. Do not close it up in a box.

WARNING! Be sure you are using the correct transformer for your location. For the USA and Japan, use only Sequential Model E-170 (110 volts). For Europe, use only Sequential Model E-175 (220 volts). Transformers not supplied by Sequential could damage your MULTI-TRAK.

Connect the transformer cable to the **POWER** jack on the MULTI-TRAK.

Check that the MULTI-TRAK POWER switch is Off.

Plug the transformer into a power outlet of the correct voltage. (The transformer requires no grounding.)

WARNING! The transformer should be disconnected from the power outlet when not in use.

5. SWITCH POWER ON.

Switch the MULTI-TRAK POWER switch to On.

Switch amplifier power on (if used).

(Later, when you are done playing, to prevent a "pop" switch off amplifier power first, then switch off the MULTI-TRAK.)

6. OBSERVE THE Value/Program DISPLAY. IT SHOULD READ '00.'

When you apply power, 00 appears in the Value/Program display. This indicates that the MULTI-TRAK is ready to play, and that program number 00 is selected. If the factory programs are in place, program 00 is an organ sound.

One of the **Seq** LEDs is also lit. This means that the multi-track sequencer is ready. **CHORUS On/Off** may also be lit.

If the display, instead of showing 00, counts slowly from 1 to 6, this means the non-volatile memory has lost information. The MULTI-TRAK is tuning, and will be ready to play when 00 appears. However, sequences or programs may have been damaged. If this happens more than once, consult an authorized Sequential service center.

- 7. CHECK THAT THE Pitch WHEEL IS CENTERED IN ITS DETENT POSITION, AND THE Mod WHEEL IS FULLY DOWN.
- 8. CHECK THAT Master Tune IS CENTERED. IF NECESSARY, ADJUST TO TUNE THE MULTI-TRAK TO ANOTHER INSTRUMENT.

<u>CAUTION!</u> To protect speakers (and ears!), first lower **Master Volume** all the way, then, while playing, gradually raise it to the desired level.

Note: For best signal-to-noise ratio when using external amplifiers, raise MULTI-TRAK Master Volume and lower the amplifier level.

1. PLAY THE KEYBOARD.

When you play the keyboard, the MULTI-TRAK should now produce an organ sound, which is factory program number 00. At this point all six track voices play the same sound. This is called homophonic (same-sounding) mode.

As you play the keys, the **Track** LEDs show which voices are active. These indicate <u>voice</u> <u>assignment</u>. While you play, the computer continuously assigns the voices to the most recently-played keys. You can play a maximum of six keys at once. If you play more than six keys at the same time, then the computer assigns the voices to only the latest six keys.

For example, play and hold C, E, G, A, C, and E. Listen carefully while also pressing G. Notice that the first C disappears when you play the G. In other words, the MULTI-TRAK normally operates on a "last-note priority" system: each new note played is assigned to the earliest-used voice. If you strike the same key repeatedly, the computer re-assigns the same voice (unless six or more keys are held).

2. TO SELECT PROGRAMS: ENTER TWO DIGITS USING THE PROGRAM/PARAMETER SWITCHES.

The MULTI-TRAK is "ready-to-play," with 100 factory-programmed sounds in memory. These present a wide range of instruments and effects.

If **Parameter Edit** is on, switch it off. The **Value/Program** display now shows a program number.

When Parameter Edit is off, pressing any two PROGRAM/PARAMETER switches selects a new program.

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

If the sequencer and arpeggiator are off, pressing the footswitch selects the next higher program number within the current group of ten programs. (It wraps around from, for instance, 28, 29, to 20.)

The factory programs are described in Section 10 of this manual. Try playing them, and see how they sound.

3. SELECT PROGRAMS WITH VELOCITY, SUCH AS #43. LISTEN TO THE VARIATION IN SOUND DEPENDING ON HOW HARD YOU PLAY THE KEYS.

When you hit a key with more force, the note will be louder, brighter, or have a stronger vibrato, than the same key played with less force. This is due to the velocity response of the MULTI-TRAK. This feature is very useful for giving more expression to your music.

In programs where velocity is set very high, it may take some practice to acheive a consistent sound. Alternatively, you can reduce the sensitivity (see Sections 6 and 7).

4. USE THE WHEELS TO ADD EXPRESSION TO YOUR PLAYING.

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 third.

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 occurs. When the wheel is advanced fully "up," modulation is maximum. As you try various programs, try advancing the **Mod** wheel.

Note: To prevent mysterious tuning and modulation effects, it is good to develop a habit of always checking the wheel positions before playing.

5. SELECT A CHORUS PROGRAM, SUCH AS #33, OR SWITCH CHORUS On WITH ANY PROGRAM. VARY THE CHORUS EFFECT WITH THE Depth AND Rate KNOBS.

On some factory programs, you may notice that the CHORUS On/Off LED is lit. While playing these programs, experiment with the CHORUS Depth and Rate controls. As these are increased, the sound becomes richer, and if the Mix A and Mix B outputs are connected to a stereo system, a lively stereo effect is heard. Since, like Master Tune and Master Volume, the CHORUS Depth and Rate controls are not programmed, they do not change when the program is changed, but always produce the effect indicated by their front panel settings (providing the CHORUS On/Off switch is on).

6. SELECT A UNISON PROGRAM, SUCH AS #80. NOTICE THAT YOU CAN ONLY PLAY ONE NOTE AT A TIME.

If the Unison parameter is on in the current program, all six voices are assigned to the lowest key played.

The keyboard remains in multiple-trigger mode, that is, with each new keystroke, the envelopes retrigger. However, if two or more keys are being held and the lowest one is released, the pitch changes to the lowest key still held, but without retriggering.

7. SELECT A PROGRAM WITH A LONG GLIDE RATE, SUCH AS #85. COMPARE IT WITH #80. NOTICE THAT ALTHOUGH BOTH ARE UNISON PROGRAMS, #85 TAKES A LONG TIME TO SLIDE BETWEEN KEYS.

GLIDE determines how long it takes to slide between notes. When programmed to 0, there is no effect: the oscillator steps instantly between specific pitches. As GLIDE is advanced, it takes longer for the oscillator pitch to change. This introduces "portamento" between the notes, which can be subtle or quite extreme.

Glide operates whether Unison is on (monophonic) or off (polyphonic). Polyphonic glide is unpredictable but can be a good effect. For an example of polyphonic glide, try program #98.

8. AUTOMATIC TUNING: THE MULTITRAK TUNES ITSELF AFTER 30 SECONDS OF NOT PLAYING.

As the MULTI-TRAK warms up, temperature change causes the oscillators to drift. To correct for this, the MULTI-TRAK tunes itself when it is not being played. After the MULTI-TRAK has been "standing by" for 30 seconds, it tunes one oscillator. Thirty seconds later, it tunes the next oscillator, and so on. If you need to play it while it is tuning, go ahead: playing interrupts tuning. It may be necessary to slightly readjust **Master Tune** after automatic tuning takes place.

9. MANUAL TUNING: IF YOU DO NOT WANT TO WAIT FOR AUTOMATIC TUNING TO TUNE THE SIX OSCILLATORS:

Hold Program Record.
Press PROGRAM/PARAMETER 6.

While tuning is in progress, the display counts from 1 to 6, indicating which voice is tuning. When tuning is concluded, the MULTI-TRAK returns to exactly the state it was in before the tuning. (Even unrecorded Edit Mode changes are retained.) It may be necessary to slightly readjust **Master Tune**.

3-1 INTRODUCTION

The sequencer is the heart of the MULTI-TRAK, recording the synthesizer tracks which result in complete orchestrations. The sequencer records each voice on its own track, so each track can have a different sound (multi-timbre). The sequencer capacity of 1600 total notes is alloted to four sequences, Sequence A through Sequence D. You can program the track playback mixture for each sequence.

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 will therefore usually be a rhythm or bass 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.

There are three basic sequencer modes: RECORD BASIC TRACK, OVERDUB, and PLAYBACK. RECORD BASIC TRACK and OVERDUB are both considered RECORD modes. The difference is that when entering RECORD BASIC TRACK mode, the previous sequence is erased and Track 1 is set up for recording (if desired, other tracks may also be switched into record). In OVERDUB mode, the previous tracks are not erased, new tracks can be recorded, and notes can be added to or erased from previously recorded tracks.

Other features of the sequencer include:

- When the sequencer is stopped, complete tracks can be erased;
- In RECORD modes, a built-in metronome is provided and recorded notes are automatically synchronized with it using autocorrect;
- · An append function merges sequences to form longer ones;
- · Sequences can be stored on tape or dumped via MIDI;
- The sequencer can be synchronized to a standard clock or MIDI clock from a drum machine (such as Sequential's Drumtraks) or other source, or to a sync pulse on tape; and,
- A footswitch can be used for convenient sequencer control.

3-2 SEQUENCE PLAYBACK

Before trying to record sequences, familiarize yourself with the playback functions explained in this section.

When the MULTI-TRAK left the factory, four demonstration sequences were loaded in memory. You can play these sequences to show that the MULTI-TRAK is properly connected and operating correctly, and we will use them for examples in the instructions below.

NOTE: All references to the **Record** switch in this section refer to the **SEQUENCER Record** switch, unless otherwise indicated.

- 1. TO START PLAYBACK: SELECT DESIRED SEQUENCE THEN PRESS Start.
 - a. The arpeggiator and stack mode must be off, and the sequencer must be stopped (no Track LEDs lit).
 - b. Select desired sequence, A-D, if not already lit, by repeatedly pressing **Seq**. Each time you press **Seq**, the selection advances.
 - c. Press Start. The selected sequence starts playing back. If the sequence is empty, no sound is heard and the Track LEDs do not light.
- 2. TO STOP PLAYBACK: PRESS Stop.

Sequences always repeat continuously until stopped. Each repetition is called a "loop." During playback, **Track** LEDs light for those tracks which are recorded in the sequence.

- 3. DURING SEQUENCE PLAYBACK, IF ANY TRACKS ARE NOT LIT, YOU CAN PLAY THE KEYBOARD "LIVE," USING THE PROGRAM WHICH IS CURRENTLY SELECTED.
 - a. Select desired program.
 - b. Play no more keys at once than the number of available voices (non-lit sequencer tracks).
 - c. Use the wheels. They only affect live playing, not the sequence.
- 4. TO DISPLAY A TRACK'S CURRENT PROGRAM NUMBER: PRESS THE DESIRED Track SWITCH.

If you have just switched on the MULTI-TRAK, for example, the program selection is 00. Sequences, though, often have different sound selections for each track.

While a sequence is playing, try pressing the six Track switches. As long as Track is held down, that track's program number appears in the Value/Program display.

If a track has not been recorded, when you press its switch, the display shows horizontal bars (--).

5. TO ADJUST PLAYBACK SPEED: USE THE Speed KNOB.

- a. The initial playback speed of the sequence is always the last speed at which it played.
- b. Adjust Speed as desired.
- c. <u>Note:</u> do not turn **Speed** all the way counterclockwise, as this will stop the sequencer by selecting MIDI or external clock input. (For more information on MIDI clock see the MIDIGUIDE, and for external clock, see page 3-12.)

6. PLAYBACK CAN BE PAUSED AND CONTINUED USING THE OPTIONAL FOOTSWITCH.

- a. Plug in the footswitch (the jack is on the rear panel).
- b. Start playback normally, by selecting a sequence, then pressing **Start**.
- c. Pause the sequence by pressing the footswitch.
- d. The **Track** LEDs for tracks used by the sequence remain lit, indicating standby.
- e. To continue playback, press the footswitch. The sequence again loops until the footswitch (or **Stop**) is pressed.

7. CHAINED PLAYBACK: WHILE A SEQUENCE IS PLAYING, SELECT ANOTHER SEQUENCE WITH **Seq.**

The LED of the new sequence blinks, while the current one remains steady.

At the end of the current sequence, its LED goes out, the new sequence starts playing, and its LED lights steadily. The speed of the new sequence is determined by the speed of the first sequence.

If the new sequence is empty, the sequencer stops.

Note: This feature can be used to make a sequence stop precisely at the end of the current loop (rather than having to stop "manually.")

- 8. TO ADJUST A TRACK VOLUME: HOLD DESIRED Track SWITCH WHILE ADJUSTING Track Volume KNOB.
 - a. Start playback.
 - b. Hold one of the lit Track switches.
 - c. Adjust **Track Volume** as desired. A volume value of 0-15 is displayed. (It is possible to mute the track entirely.)
 - d. Release Track switch.
 - e. The track always plays at the volume to which it was last adjusted.

During playback you can adjust the "mixture" of the track volumes. For example, start Sequence A. Hold **Track 6** (which is lit) and turn down **Track Volume**. The volume of the lead line drops until you can not hear the track and it is said to be "muted." Now stop Sequence A and start it again. **Track 6** is lit, but you do not hear the lead line. Keep this in mind as a reminder to check the track volume when a track appears to be off. Now raise the volume of **Track 6** by holding its switch and turning up **Track Volume**.

(Each sequence has independent volumes. In other words, if Sequence A volumes are adjusted, Sequence B is not affected.)

Adjust the volume of the other tracks in the demonstration sequences. You can emphasize or deemphasize any of the tracks, to make many variations of one sequence.

- 9. TO CHANGE A TRACK'S PROGRAM: HOLD Track(s), AND SELECT NEW PROGRAM:
 - a. The sequence must be either running or paused (stopped in PLAYBACK with the footswitch).
 - b. Press and hold the **Track** switch(es) for the track (or tracks) you want to change.
 - c. Enter the two digits for the desired program (even if the program number is already displayed). While holding the **Track** switch, you can try several program selections.
 - d. Release the Track switch. The track now has the new program.

Experiment with changing the track's programs in the four demonstration sequences. Verify the changes (by simply pressing the **Track** switches).

- 10. TO ERASE A TRACK FROM A SEQUENCE: HOLD Record AND PRESS THE Track SWITCH.
- a. Select sequence.
- b. The sequence must be stopped.
- c. Press and hold the **Record** switch. It blinks, and "Er" appears in the **Value/Program** display.
- d. Press the switch for the track you want to erase.
- e. To erase another track, repeat from step b.

Note: Before continuing, be sure you have saved the factory sequences on cassette if you want to keep them. See Section 8.

For example, select demonstration Sequence A and erase Track 6. You now have an unrecorded track to use for live playing. While holding **Record**, be sure to press the correct **Track** switch, or you may accidentally erase a part you wanted to keep.

(When you erase the last track of a sequence, the speed is not erased.)

3-3 SEQUENCE RECORD

Having covered the playback functions, we now turn to recording and overdubbing.

Before recording, estimate the memory space you'll need to record.

- 1. THE MULTI-TRAK STORES A MAXIMUM OF 1600 NOTES. WHEN CAPACITY IS REACHED, RECORD MODE SWITCHES OFF AUTOMATICALLY AND HORIZONTAL BARS (--) FLASH IN THE Value/Program DISPLAY.
 - a. To stop the LEDs from blinking, press Stop.
 - b. You can create more space by erasing undesired tracks in any sequence, or by erasing another sequence entirely. (1600 notes is the total for all four sequences.)
 - c. You may erase the tracks you were recording when you ran out of memory, and record them over, or you can place the sequencer in OVERDUB and take up where they stopped.
- 2. SELECT THE PROGRAM DESIRED FOR YOUR BASIC TRACK OR TRACKS.

Rehearse a bit using this program.

- 3. TO RECORD A NEW SEQUENCE AND ERASE CURRENT SEQUENCE: HOLD Record, AND PRESS Start.
 - a. Select the sequence you want to erase and record.
 - b. The sequence must be stopped.
 - c. Hold Record. "Er" blinks in the Value/Program display.
 - d. Press Start. The Record LED blinks, Track 1 LED blinks, and the metronome begins to click.
 - e. If you are not ready to start recording now, hit **Stop.** The sequence is now erased, and RECORD BASIC TRACK can be started again by first pressing **Record**, then **Start**.
- 4. TO TURN OFF THE METRONOME, PRESS Metronome.

The metronome appears automatically when you start recording. If you don't want to use it, turn it off. It can be turned on and off whenever you are in RECORD mode, but doesn't work in PLAYBACK.

5. IF DESIRED, ADJUST THE Speed CONTROL.

Now that the metronome is running, adjust its speed to your liking. Each click equals one quarter note, which equals 24 external or MIDI clocks, the same standard which most drumboxes observe. If your keyboard playing skills are slower than your ideas, you may want to record your tracks slowly, speeding them up with the **Speed** knob on playback.

6. TO RECORD BASIC TRACK: START PLAYING. AT THE END, PRESS Record.

The basic track or tracks are the first recorded in a sequence. They determine the sequence length. Therefore you usually use the basic tracks for the rhythmic or bass foundations of a sequence, but of course you can record anything you want.

- a. One track can only play one note at a time. If you need more than one voice for the basic track, switch on additional **Track** switches (2, 3, etc.).
- b. Play the notes for the basic track(s). Recording starts automatically with the first note you play.
- c. Just before the desired ending, either:
 - 1. Press **Record**. The sequence plays back, looping, in OVERDUB mode. The track or tracks recorded remain in record until switched off.

or,

2. Press **Stop.** The tracks do not play back. (If desired, press **Start** to start playback.)

NOTE: The ending of the sequence is autocorrected to the following quarter note (except in "HI-RES" autocorrect mode). If you record the ending too early (before the quarter note before the desired ending), you will have to re-record the basic track(s). If you record it too late, it is possible to correct the mistake by truncating the sequence to the correct length. (See page 3-9.)

7. TO OVERDUB TRACKS (SEQUENCER ALREADY IN OVERDUB):

If you have recorded the ending of the basic track using the **Record** switch, the sequencer is now looping in overdub. The basic tracks are still in Record mode (**Record** and **Track**(s) blinking), so anything you play is recorded.

a. Switch off the track or tracks already recorded. Notice the **Track** LEDs stop blinking and light steadily, indicating the change from RECORD to PLAYBACK.

- b. While waiting for the beginning to come around again, listen to the sequence. You can play along to practice before recording the next track. Although the sequencer is in OVERDUB mode (Record blinking), it can record nothing, since no Tracks are blinking.
- c. Adjust playback speed, if desired.
- d. Select the program desired for this overdub. (You can try various programs by playing live on the keyboard.)
- e. Switch on desired overdub tracks. After selection, the Track LEDs blink. Anything played now is recorded.
- f. When recording is done, go back to step "a", and repeat until all desired tracks have been recorded. The entire sequence can be built up, track by track, without the sequence ever stopping.

8. TO OVERDUB TRACKS (SEQUENCER STOPPED):

- a. Before starting overdub, listen to the sequence in playback.
- b. Adjust playback speed to desired rate.
- c. If desired, adjust volumes of track(s) which are playing back.
- d. Select the program desired for this overdub. (You can try various programs by playing live on the keyboard.)
- e. Stop sequence.
- f. Switch Record on. The LED lights.
- g. Switch on desired overdub tracks. After selection, the Track LEDs blink.
- h. Press **Start**. Previously recorded tracks now start playing back, and their **Track** LEDs light steadily. The sequence plays and loops continuously. Anything played on the keyboard is recorded in the tracks which have blinking LEDs. If your new track has notes at or near the beginning of the sequence, it is best to let the sequence play through once, then start playing at the beginning of the next loop.
- i. Note that it is possible to overdub notes on a track which you have already recorded. (For more practical information on overdubbing, see the example which follows.)
- j. From this point on, follow the procedures in step $\underline{7}$ (previous page), since the sequencer is now in OVERDUB.

9. FOR EASIER CONTROL, USE THE OPTIONAL FOOTSWITCH.

There are three ways to use the footswitch when recording:

- a. When recording the basic track of a sequence, the actual recording of the sequence may be started with the footswitch (before the first note is played). This produces a rest at the beginning of the sequence.
- b. When recording the basic track of a sequence, the footswitch may be used to end the sequence. In this case it duplicates the function of the **Record** switch, so the sequence end is recorded and the basic track(s) start looping in OVERDUB.
- c. In OVERDUB mode, the footswitch stops the sequence, just like the **Start/Stop** switch does.
- 10. TO TRUNCATE A SEQUENCE, IN OVERDUB, HOLD Record AND PRESS Stop.
 - a. Sequencer must be in OVERDUB mode (Record blinking).
 - b. As the desired ending approaches, hold **Record.** It blinks rapidly, and "Er" blinks in the display.
 - c. Within one quarter note before the desired ending, press Stop.
 - d. The ending will be autocorrected to the next quarter note (except in "Hi-Res" Autocorrect mode).

This feature is useful for correcting an ending that was improperly recorded, or for deleting a sequence that was mistakenly appended.

- 11. TO ERASE INDIVIDUAL NOTES FROM THE SEQUENCE, WHILE IN OVERDUB, HOLD Record AND EITHER THE Track OR THE KEY YOU DESIRE TO ERASE.
 - a. Enter overdub mode as described in previous instruction (Record blinking), switching into RECORD those tracks which have notes you want to erase (they blink).
 - b. While the sequence is playing in OVERDUB, hold Record. Record blinks rapidly and "Er" blinks in the display.
 - c. While holding Record, either:
 - 1. Hold one **Track** switch. While held, all notes occuring in this track are erased.

-or-

2. Hold a key. While held, all occurances of this note are erased from all recording (blinking) tracks.

- 12. TO APPEND ONE SEQUENCE TO ANOTHER: SELECT THE SEQUENCE YOU WANT AT THE END, PRESS Append To, SELECT THE SEQUENCE YOU WANT TO APPEND IT TO, THEN PRESS Record.
 - a. The sequence must be stopped.
 - b. Select the sequence to be appended.
 - c. Press Append To. It blinks.
 - d. Select the sequence you want to append it to. (It is possible to append a sequence to itself. For that, don't do anything--it's already selected.)
 - e. Press Record. That's it.
 - f. (If you need to abort the procedure while Append To is blinking, press Append To again.)

13. SET AUTO CORRECT RESOLUTION: HOLD Autocorrect AND ADJUST THE Parameter Value KNOB.

Autocorrect is a feature of the MULTI-TRAK which adjusts the timing of notes that you record, so that they coincide with the metronome beat. This is done automatically, when the sequence is recorded. What it does is move notes so they're played exactly on the nearest beat—the nearest eighth note, for example, if autocorrect is set to "8". If, while recording, you tend to anticipate, or play a little ahead of the beat, the sequencer delays the notes, playing them "right on". If your playing is a little behind, it will correct that as well.

Auto correction is useful for rhythmically 'tightening up' a sequence, especially if you plan to later synchronize it to a drum box, or if your keyboard technique leaves something to be desired. To some people, autocorrected sequences sound too crisp, too machine-like. Therefore the feature can be defeated, or adjusted for the amount of correction desired. But autocorrect not only corrects the notes, but the ending of the sequence as well. And this is of great use to everybody, because even a very slight error in timing on the ending accumulates into a gross error after the sequence has looped a number of times—an error which is especially noticeable when the sequencer is synchronized to a drumbox. For this reason, use of autocorrect is recommended when a drumbox is used or your sequences loop repeatedly, unless your playing and use of the footswitch (or Record switch) is exceptionally precise.

Autocorrect resolution may be adjusted during recording. For instance, you may want to record the basic track at the coarsest (Eighth note) resolution, and change to finer and finer resolutions as you overdub tracks with faster notes.

While the sequencer is stopped, press **Autocorrect** and turn the **Parameter Value** knob through its range. You will see five different numbers in the display. Here is the translation:

INDICATION MEANING

- 8 EIGHTH NOTE correction. The notes are moved to the nearest eighth note. Since the metronome clicks every quarter note, autocorrected notes play either on the clicks of the metronome, or exactly halfway between them.
- 16 SIXTEENTH NOTE correction. Autocorrected notes play either on the clicks, or at one of three points between them (one quarter, one half, or three quarters).
- 8. (Note decimal point).

 EIGHTH NOTE TRIPLET correction.

 Autocorrected notes play on the clicks or at one of two points between them (one third or two thirds).
- 16. (Note decimal point.)
 SIXTEENTH NOTE TRIPLET correction. Notes play on the click or at one of five points between them (one sixth, one third, one half, two thirds, or five sixths).
- 96 "HI-RES" (high resolution) correction. This is essentially "autocorrect off." Notes are recorded exactly as you play them. In this mode, the ending is not autocorrected.

Note: Sequence endings are always autocorrected to the next quarter note, unless Autocorrect resolution is set to "HI-RES".

Try recording with each of these different settings. When playing them back, notice that unless the resolution corresponds to the rhythms used, what you played comes out askew. If it does correspond, however, the recorded version should sound more precise than the original.

- 14. USE AN EXTERNAL CLOCK PULSE TO SYNCHRONIZE THE MULTI-TRAK WITH A DRUM MACHINE:
 - a. Connect the drum box's clock output to From Tape. (The MULTI-TRAK expects 24 pulses-per-quarter note.)
 - b. To record a sequence in time with a drum pattern:
 - 1. Turn the sequencer **Speed** knob all the way to the left (counterclockwise). This tells the sequencer to use the clock coming in from the drum box (**From Tape**).
 - 2. Place sequencer in RECORD BASIC TRACK mode.
 - 3. Start the drum box. The sequencer's metronome and autocorrect now work as usual. As the drum box pattern loops, start playing at the beginning of a loop. At the end, press **Record** or **Stop** to record the end of the sequence loop. The end is autocorrected as usual.
 - 4. If it is desired to start the sequence with a rest, press the footswitch at the beginning of the drum box loop.
 - c. Alternatively, you can connect **To Tape** to the drum box's clock input. (The MULTI-TRAK puts out 24 pulses-per-quarter note.)
- 15. USE SYNC-TO-TAPE TO SYNCHRONIZE WITH A TAPE RECORDER:
 - a. Connect To Tape to the recorder's line input.
 - b. Connect the recorder's line output to From Tape.
 - c. To set up the record level for the sync track, start the sequence. The level should be set between 0 and +3 VU. Stop the sequence.
 - d. Place the tape recorder in record and play the sequence, while recording the sync track.
 - e. When done recording, switch the MULTI-TRAK to external clock (turn the **Speed** knob all the way counterclockwise).
 - f. Now, play the first sequence and record it on tape while the sync track plays back, synchronizing the sequencer. Start the sequencer slightly before the beginning of the sync track. It waits for the first clock pulse from tape, then synchronizes exactly.
 - g. Other sequences can now be laid down on other tracks, using the sync track.

- g. To record a new sequence while listening to tracks already on tape, use the drum box procedure (14. c. 2-5), substituting the sync track for the drumbox. (The recorder's playback and record heads must be in line--i.e., "sel-sync.")
- h. To start a new sequence at the beginning of a taped sequence (without letting it play through an extra loop), use the following procedure:
 - 1. Set up RECORD BASIC TRACK, external clock, as before.
 - 2. Start tape. Before the taped sequence and sync track actually start, hold the starting key or keys (or footswitch, if the new sequence is to start with a rest) until the taped sequence begins. Then continue playing as usual.

3-4 SEQUENCE EXAMPLE

This section shows how to multi-track record a complete sequence, "MAXimum Blues," a song originally written to demonstrate another Sequential instrument, the "MAX".

Before attempting to record the sequence, you may want to practice the parts (see page 3-16).

NOTE: For instructions on synchronous MIDI operation with the Drumtraks, see the MULTI-TRAK MIDIGUIDE.

1. DECIDE THE BASIC ARRANGEMENT AND PROGRAMS.

As you know from reading the playback instructions, you can change a track's program at any time. Yet it is best to record using the desired program, because of the interaction between the characteristics of the program and the exact way that you play it.

We choose the following programs:

Track 1 42 Res-bass I

Track 2 07 Heavy Leslie

Track 3 07 Heavy Leslie

Track 4 07 Heavy Leslie Track 5 65 Pleiades

Track 6 17 Brass II

2. ESTIMATE THE NUMBER OF NOTES.

You do not need an exact count, just enough information to know that what you have in mind won't exceed 1600 notes. Looking at track 1 of the score, we find four notes per bar, for a total of 48. Tracks 2, 3, and 4 each have fifteen notes, making a total of 93 (48+45). Track 5 has 30. This makes 123 total notes--well under the limit.

3. SET AUTOCORRECT TO "EIGHTH NOTE" CORRECTION.

Press and hold Autocorrect while turning Parameter Value until display shows "8" (without a decimal point).

4. ERASE SEQUENCE AND START RECORDING.

We are going to use sequence A. With no Track LEDs lit, select Sequence A. Press and hold Record and press Start. Record blinks, Track 1 blinks, and the metronome begins clicking.

5. SET Speed TO ABOUT 90 QUARTER NOTES PER MINUTE OR WHATEVER SPEED YOU CAN PLAY COMFORTABLY.

Of course a main benefit of using the sequencer is that you can record at a much slower, error-free speed, then raise the speed for playback (without any pitch-change as there is with audio tape).

6. SELECT PROGRAM 42, USING THE PROGRAM/PARAMETER SWITCHES.

This bass program is used for recording the basic track on track 1.

7. PLAY THE BASS LINE WITH THE METRONOME.

Because this program is very low, you should play it on the keyboard one octave higher than written. Recording starts with the first note you play. Concentrate on placing the notes directly on each beat. When you get to measure 10, prepare to press the **Record** switch or footswitch.

Especially when laying down a bass line such as this track it is important to play at a steady rate. If the timing of this part is too far off, Autocorrect may move notes as far as a full eighth note, depending on the Autocorrect setting.

8. PRESS Record (or footswitch) JUST BEFORE WHAT WILL BE THE FIRST BEAT OF THE NEXT LOOP. THE BASS LINE PLAYS BACK.

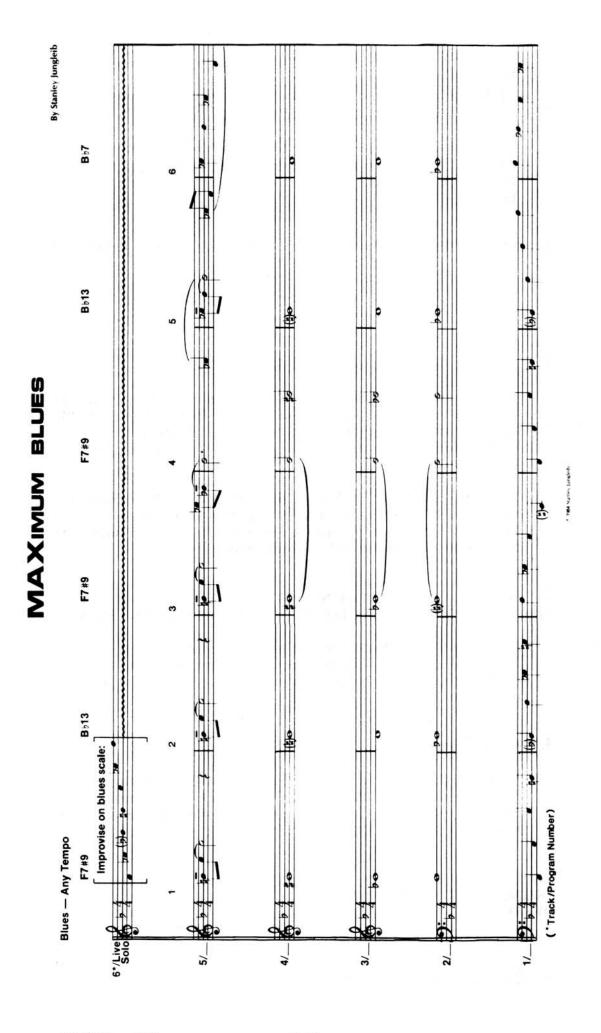
Listen to the playback. Remember that the sequencer is now in OVERDUB for Track 1. Any notes you play are added into the track. Take this opportunity to add in any note you omitted or played too late.

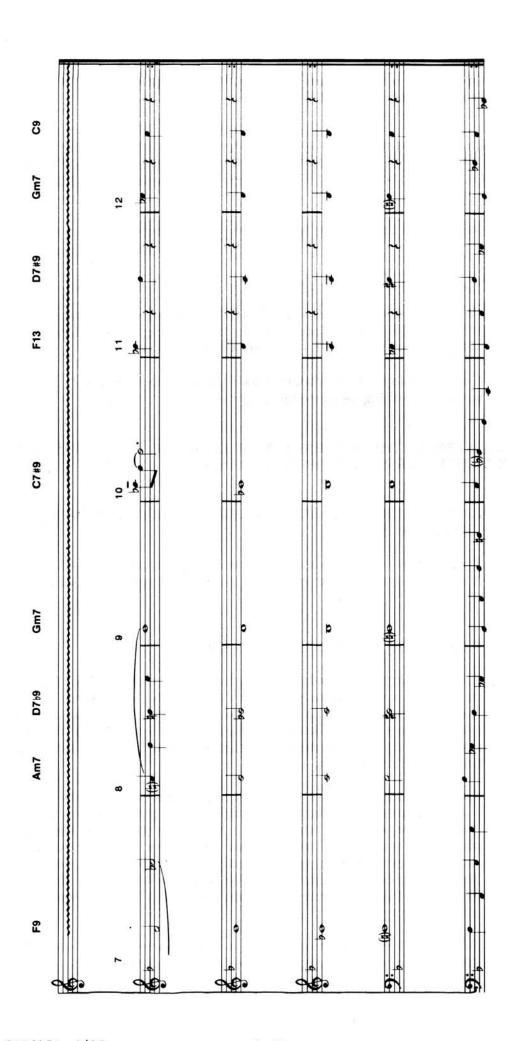
9. SWITCH Track 1 OFF.

Although the sequencer is still in OVERDUB, switching track 1 off eliminates the danger of adding unwanted notes while listening. Now you can play along and rehearse for the next track.

10. IF THE BASIC TRACK IS NOT CORRECT, CORRECT IT USING TRUNCATE (TO CORRECT LOOP LENGTH), ERASE A NOTE AND OVERDUB, OR JUST ERASE THE TRACK AND RE-RECORD.

11. IF THE BASIC TRACK IS CORRECT, SELECT PROGRAM NUMBER 07 (FOR OVERDUBBING TRACK 2).





12. SWITCH Track 2 ON. IT BLINKS.

13. WAIT WHILE THE SEQUENCE PLAYS THROUGH TO THE END, AND BE READY TO PLAY WHEN THE BEGINNING OF THE SEQUENCE COMES AROUND AGAIN. PLAY THROUGH TO THE END.

Record and Track LEDs blink during this procedure.

14. AT THE END (OF THE BASIC TRACK), PRESS Track 2.

This takes the track out of RECORD. Although the sequencer is still in OVERDUB (as indicated by the blinking **Record** LED), no notes are recorded if you accidentally hit the keyboard.

You can play the keyboard now, using voices (tracks) 3 - 6, without anything being recorded.

15. LISTEN TO THE SEQUENCE AS IT LOOPS. IF TRACK 2 IS NOT CORRECT, CORRECT IT OR ERASE IT AND RE-RECORD.

16. WHEN TRACK 2 HAS BEEN RECORDED, LOWER ITS VOLUME TO A VALUE OF 8.

This makes it easier to hear the bass line when overdubbing tracks 3 and 4. After adjusting, press **Track 2** again to take it out of record.

17. PREPARE TO RECORD TRACKS 3 AND 4.

The advantage of recording more than one track at a time is that by playing simultaneously you can add rhythmic nuances which may be more difficult to create one track at a time. Chords, for example, are more likely to sound like chords when they're played all at once--instead of building them up one note at a time on different loops.

Note that since tracks 1 and 2 were recorded on different loops, you know exactly which notes each track plays. If you erase track 2, for example, this has no effect on the bass line. But when two tracks are recorded at the same time, they may exchange parts, depending on exactly how you play the keyboard. The disadvantage to recording more than one track at a time is, therefore, that it is more difficult to find a single error in a track and correct it.

If this point is unclear now, with a little more practice you will learn how to best apply your own keyboard technique.

18. THE PROGRAM SELECTION IS STILL 07.

If you wish to change the program, do so.

19. SWITCH Tracks 3 AND 4 ON.

They blink because they are ready to record. Tracks 1 and 2 are lit because they have already been recorded.

- 20. WAIT UNTIL THE END OF A LOOP, THEN PLAY PARTS 3 AND 4 THROUGH TO THE END.
- 21. SWITCH OFF Tracks 3 AND 4, AND LISTEN.
- 22. FOR BETTER BALANCE, ADJUST VOLUMES OF TRACKS 3 AND 4 DOWN TO ABOUT 8.
- 23. SELECT PROGRAM NUMBER 65, FOR TRACK 5.
- 25. RECORD THE MELODY FOR TRACK 5.

Use velocity, playing with more force the notes you want to bring out.

26. AFTER RECORDING, SWITCH OFF TRACK 5, AND ADJUST THE VOLUMES OF ALL TRACKS FOR THE BEST BALANCE.

You can turn Track 5 all the way down, to give you a version of the sequence without the melody.

27. WITH THE SEQUENCE PLAYING, SELECT PROGRAM 17 (OR ANYTHING ELSE YOU WANT TO TRY), AND PLAY ALONG LIVE WITH THE SEQUENCE.

You can record track 6, too. Possibilities for this track might include percussion, an alternate bass line, an alternate melody, adding more harmonic density, or doubling the melody with a "Hi-Res" Autocorrect version.

28. FOR PRACTICE, TRY THE FOLLOWING:

Change the programs for any track.

Try recording tracks 2, 3, and 4 all at once--inserting rhythm and syncopation instead of the held chords.

Record your own harmonies and melodies over the bass line.

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. After latching, the arpeggiated notes can be transposed.

The arpeggiator uses voice 6 only. For either **Up/Down** or **Assign** modes, the arpeggiator will recognize a maximum of sixteen held keys.

Note: SEQUENCER, Stacks, and Parameter Edit must all be off before using the arpeggiator.

4-2 Up/Down

With **Up/Down** on, the MULTI-TRAK sequences between any held keys according to their position, from low to high and back down. For example, if you were holding the notes C, E, G, and B, all in the same octave, the sequence would be: C E G B G E C E G...

1. TO ARPEGGIATE: SWITCH Up/Down ON, HOLD KEYS.

The arpeggiator will play, using voice 6.

Adjust Speed as desired.

If only one key is held, the note re-triggers at the rate set by the Speed knob.

The Pitch and Mod wheels do not affect the arpeggiated voice, but do affect voices 1-5.

2. TO LATCH, PRESS THE FOOTSWITCH OR SEQUENCER 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 $\underline{\text{will}}$ operate on these live voices, and another program can be selected for them. (This can be a unison program.)

3. TO TRANSPOSE, WHILE LATCHED, HOLD Record OR THE FOOTSWITCH AND PRESS A KEY.

The distance of the key you hit from C2 (the C under the **Program Record** switch) determines the interval of transposition. For instance, if you play E2 (the E above C2), the arpeggiated notes transpose up a major third.

4. 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.

1. TO ARPEGGIATE: SWITCH Assign ON, PRESS KEYS IN THE ORDER YOU WISH THEM TO ARPEGGIATE, AND HOLD THEM.

Assign operation, including latching, is the same as Up/Down, except you press keys in the order you want them to be played.

- 2. TO LATCH, PRESS THE FOOTSWITCH OR SEQUENCER Record WHILE YOU HOLD DOWN KEYS.
- 3. TO TRANSPOSE, WHILE LATCHED, HOLD Record OR THE FOOTSWITCH AND PRESS A KEY.
- 4. TO STOP, SWITCH Assign OFF.

In the MULTI-TRAK a stack consists of up to six different timbres (programs) assigned to each note played on the keyboard. Intervals can be stacked, usually by simply adjusting the OSCILLATOR COARSE FREQUENCY parameter for the various programs. This enables the creation of very complex sounds by playing up to six programs at once. Stack mode can be played polyphonically, with two or three notes playable at a time, depending on how many tracks are used for the stack.

Additionally, the stacks can be used to store split-points for the MULTI-TRAK's keyboard. Any number of tracks (up to five) can be assigned to the left side of the keyboard, with the remainder assigned to the right. And each side of the split can be programmed to either play polyphonically or as a monophonic stack.

Ten different stack/split <u>presets</u> can be stored in the MULTI-TRAK's memory.

1. TO PLAY A STACK OR SPLIT:

- a. Switch off SEQUENCER, ARPEGGIATE, or Parameter Edit.
- b. Switch Stacks on. One of the PROGRAM/PARAMETER LEDs light, indicating the current preset number (0-9). If the current preset is a stack, the number is also shown in the Value/Program display. If it is a split, "SP" appears in the display.
- c. To change to a different preset, press one of the PROGRAM/PARAMETER switches.
- d. Play the keyboard.

When a stack is selected and a key is played, the number of **Track** LEDs lit indicates the number of tracks used for that stack. If only 2 tracks are used, the MULTI-TRAK is three-voice polyphonic--that is, up to three notes can be played at once (since each note uses two voices, and 2x3=6, the maximum available). Likewise, if three tracks are used for a stack, two notes can be played at once. And if four or more are used, the MULTI-TRAK is monophonic (one note only).

- 2. TO CREATE OR MODIFY A STACK OR SPLIT: SELECT THE STACK AS ABOVE, THEN:
 - a. To select whether stack or split, or change the split point, either:
 - 1. To program a stack, hold Track 1 and press any key.

2. To program a split, first decide how many voices are to be on each side of the split, and where on the keyboard the split is to be. Hold the **Track** switch corresponding to the first voice for the right side, and press the key which will be the first one on the right side.

For example, let's say you want to assign two voices to the left side and four to the right side of the keyboard, with the split-point at C2. The left side, then, would get tracks 1 and 2, so track 3 would be the first for the right side. Press and hold **Track 3**, and press C2. C2 is now the first key on the right side of the split.

For a split side to be polyphonic requires that all tracks on that side be set to the same (non-unison) program, and they must all be set to the same volume. If any are different (or if a unison program is chosen), the side will behave as a monophonic stack. Use the following procedure to select programs:

b. To display the program assigned to a track:

Press the desired Track switch.

If the track is not deleted, the program is displayed.

If it has been deleted, horizontal bars (--) appear in the display.

c. To change the program for a track:

Press and hold desired Track switch.

Select desired program.

Repeat as required to assign programs to desired tracks.

If the track has been deleted, changing the program produces no effect until the track has been added to the stack (see below).

d. To adjust track volume:

Hold desired Track switch.

Adjust Track Volume as desired.

Note: All tracks on a polyphonic side must be manually set to the same volume.

e. To delete a track from the stack:

Adjust the track's Track Volume to 0.

Note: No tracks should be deleted from a polyphonic split side.

f. To add a track to the stack:

Raise the track's Track Volume above 0.

Change program if desired.

6-1 INTRODUCTION

Basic operation with the factory programs has already been covered. You can use the MULTI-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 MULTI-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 MULTI-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 10). Seeing exactly how these programs are constructed makes it easier for you to begin to create your own programs. At first, practice synthesizing by editing the factory programs. For many, this is the best way to learn exactly how the parameters on the MULTI-TRAK operate. Then try creating programs "from scratch" (see page 6-4).

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.

It is also a good idea to save programs on cassette. This gives you more freedom to experiment with the programs in the MULTI-TRAK, as well as protecting against accidental loss of programs—whether due to technical malfunction or just hitting the wrong button at the wrong time.

6-2 EDITING A PROGRAM

1. IF THEY ARE ON, SWITCH THE SEQUENCER, ARPEGGIATOR, OR STACK MODE OFF.

If any of these are on, the Parameter Edit switch will not light.

2. SWITCH Parameter Edit ON.

The current parameter value is displayed in the Value/Program display.

The current parameter is indicated by a parameter matrix above the PROGRAM/PARAMETER switches. The parameters in the matrix are organized into four rows (labelled A, B, C, and D), and ten columns (0-9). The current parameter is at the intersection of the LEDs lit when Parameter Edit is on. For instance, if the D Parameter Group and the O PROGRAM/PARAMETER LEDs are lit, KYBD TRACK is the current parameter.

3. SELECT THE PARAMETER TO BE EDITED BY FIRST PRESSING THE Parameter Group SWITCH REPEATEDLY UNTIL THE CORRECT ROW IS SELECTED, THEN SELECT THE COLUMN USING A PROGRAM/PARAMETER SWITCH.

Actually this can be done in either order, and if the new parameter you are selecting happens to be in the same row or column as the last one, only one switch needs to be pressed.

4. TO EDIT THE PARAMETER VALUE, TURN THE Parameter Value KNOB.

The changing value is shown in the display. The parameters don't all have the same range (see Section 7).

6-3 RESTORING A PROGRAM

TO CANCEL ALL EDITS AND RESTORE THE ORIGINAL PROGRAM: SWITCH Parameter Edit OFF, THEN RE-ENTER THE PROGRAM DIGITS.

6-4 AN EDITING EXAMPLE

Select Factory Program 94. Now, 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:

A. Switching Waveforms

- 1. SWITCH Parameter Edit ON.
- 2. SELECT 'A' AND '3' FOR THE SAWTOOTH PARAMETER.

Observe the Value/Program display. If the sawtooth is currently on, the value is 1.

3. TO SWITCH OFF THE SAWTOOTH, TURN THE Parameter Value KNOB COUNTERCLOCKWISE.

The displayed value changes to 0, indicating the sawtooth is off.

4. PRESS '5' FOR PULSE PARAMETER. ('A' IS ALREADY SELECTED.)

If the pulse is off, the current value is 0.

5. TO SWITCH ON THE PULSE, TURN THE Parameter Value KNOB CLOCKWISE.

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

B. Editing Modulation Rate

1. SELECT 'B' AND 'O' FOR LFO FREQUENCY.

Observe the **Value/Program** display. A number from 00 to 15 is displayed. This is the current programmed value.

- 2. WHILE OBSERVING THE DISPLAY, TURN THE Parameter Value KNOB ACROSS ITS FULL RANGE.
- 3. WHILE PLAYING, ADJUST THE Parameter Value KNOB FOR DESIRED MODULATION RATE.

C. Editing Brightness

- 1. SELECT 'C' FOR FILTER CUTOFF PARAMETER. ('0' IS ALREADY SELECTED.)
- 2. ADJUST Parameter Value KNOB FOR DESIRED BRIGHTNESS.

(Note that only the CUTOFF parameter has a value range from 0 to 127, and that the "1" representing hundreds is represented by a decimal point.)

6-5 RECORDING A PROGRAM

TO RECORD AN EDITED PROGRAM OR COPY AN EXISTING ONE, SWITCH Program Record ON, AND ENTER THE PROGRAM NUMBER WITH THE PROGRAM/PARAMETER SWITCHES.

- a. Switch **Program Record** on. (Do not hold it, or you may accidentally activate "hidden functions.")
- b. Select the first digit of the program number being recorded, using the PROGRAM/PARAMETER switches.

(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.)

- c. If you made a mistake in selecting the first digit, you can exit record mode at this point by merely switching **Program Record** off. The program memory will not be affected.
- d. Press the second digit, and the program is recorded in that location.

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

e. When the second digit is entered, the **Program Record** LED goes off.

6-6 USING THE BASIC PATCH

When creating programs it is often convenient to begin with a basic sound instead of editing an existing program. 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 Program Record and press PROGRAM/PARAMETER 8.

This will set all parameters to 0, except:

SAWTOOTH 1 (on)
CUTOFF 127
FILTER KEYBOARD 2 (full)
AMP SUSTAIN 15
VOICE VOLUME 15

The keyboard will now play with a basic sound.

If desired, you can record the basic patch as a program.

7-1 INTRODUCTION

This section describes the MULTI-TRAK's programmable voice parameters.

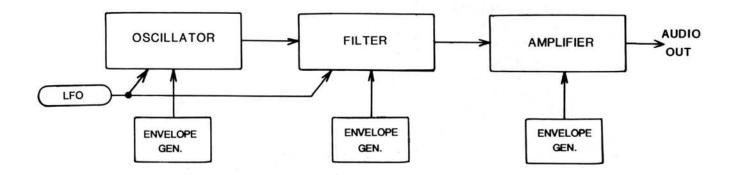


Figure 7-1
MULTI-TRAK GENERAL VOICE DIAGRAM

The MULTI-TRAK actually contains six synthesizers, termed "voices." Figure 7-1 diagrams one of these voices at a very general level. The MULTI-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 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.

7-2 OSCILLATOR FREQUENCY

The oscillator is an audio-frequency source always under control of COARSE and FINE FREQUENCY, the keyboard, **Pitch** wheel, and **Master Tune**. Oscillator frequency can be modulated by the LFO and by the envelope generator.

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 five-octave keyboard, for a total range of nine 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 FINE at a value of 0.

FINE FREQUENCY

Value Range: 00-31

0= no offset

31= almost one semitone above

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.

FREQUENCY LFO MOD

Value Range: 00/01

00= Off

01= On

This enables LFO modulation to the oscillator frequency, according to the level set by LFO AMOUNT, VELOCITY LFO AMOUNT, and the **Mod** wheel. This produces a vibrato or trill, depending on whether LFO TRIANGLE or LFO SQUARE is on.

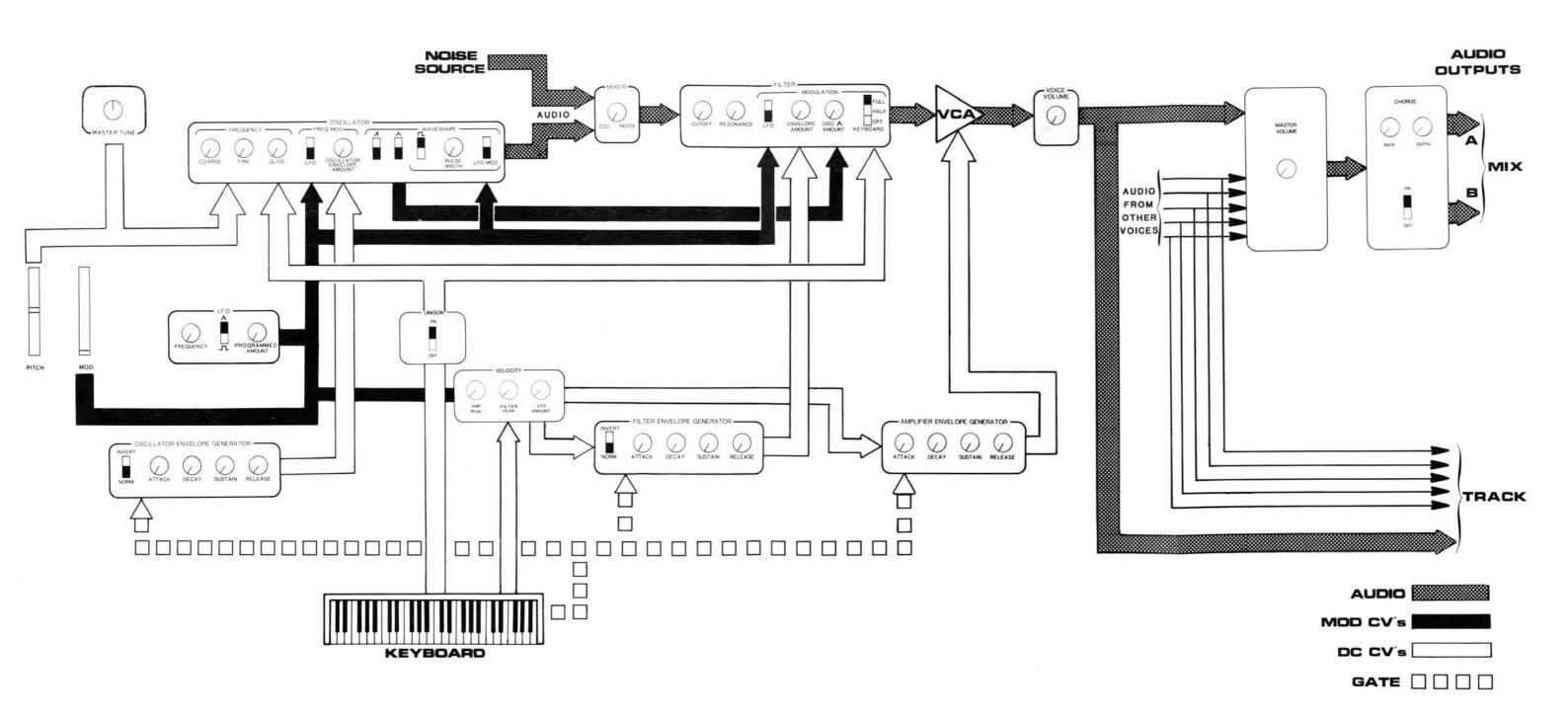


Figure 7-2 MULTI-TRAK VOICE BLOCK DIAGRAM

7-3 OSCILLATOR WAVESHAPE

If no waveshape parameter is on, the oscillator has 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.

SAWTOOTH

Value Range: 00/01 00= Off 01= On

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

TRIANGLE

Value Range: 00/01 00= Off 01= On

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

PULSE

Value Range: 00/01 00= Off 01= On

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

7-4 MODIFIERS

PULSE WIDTH

Value Range: 00-63

01= 1%

15= 25%

32= 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 32).

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

PW MOD

Value Range: 00/01 00= Off 01= On

Applies LFO modulation to oscillator pulse width.

GLIDE

Value Range: 00-15
0= no glide
15= maximum glide (five octaves in approximately fifteen 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 UNISON on, because polyphonic (UNISON off) use is difficult to predict--but can produce interesting effects.

NOISE MIX

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.

7-5 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 <u>source</u> and a modulated <u>destination</u>. The MULTI-TRAK contains two modulation systems in each voice: LFO-MOD and FREQUENCY-MOD. FREQUENCY-MOD has one source, the oscillator, and one destination, the filter. For more information see FILTER OSC TRIANGLE MOD.

LFO-MOD has a low-frequency oscillator (LFO) as a source, but has three selectable destinations. The LFO frequency, basic output level, and waveshape, are adjusted by the next four parameters. To this modulation level is added any contribution of VELOCITY LFO AMOUNT and the **Mod** wheel. Total modulation is applied to three destinations by the switches: FREQUENCY LFO MOD, PULSE-WIDTH LFO MOD, and FILTER LFO MOD.

FREQUENCY

Value Range: 00-15

Adjusts LFO frequency from about % to 20 Hz.

AMOUNT

Value Range: 00-31

Programs modulation depth. The Mod wheel is added to this amount.

TRIANGLE WAVE

Value Range: 00/01 00=Off 01=On

Selects a triangle wave for vibrato. If a square wave is selected, the triangle wave turns off automatically.

SOUARE WAVE

Value Range: 00/01 00=Off 01=On

Selects a square wave for trills. If a triangle wave is selected, the square wave turns off automatically.

7-6 OSCILLATOR ENVELOPE

Each voice contains three independent ADSR envelope generators: one controls oscillator frequency; one controls filter cutoff frequency; and one 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.

ENVELOPE AMOUNT

Value Range: 00-15

This parameter controls the depth of oscillator envelope modulation.

INVERT

Value Range: 00/01 00=Normal 01=Invert

This turns the oscillator envelope upside down. Normally, the envelope drives the oscillator sharp. When inverted, the oscillator is driven flat.

ATTACK

Value Range: 00-31 15= ½ second 31= 15 seconds

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

DECAY

Value Range: 00-31 15= ½ second 31= 15 seconds

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

SUSTAIN

Value Range: 00-15

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

RELEASE

Value Range: 00-31 15= ½ second 31= 15 seconds

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 was 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.

To hear the effect of this parameter, the Amplifier and Filter envelopes must be set for an equal or longer release time.

7-7 FILTER

CUTOFF

Value Range: 00-127

(The "hundreds" digit is displayed as a decimal point. For example, value 127 is displayed as "2.7".)

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: the FILTER ENVELOPE parameters (as affected by velocity), LFO, KYBD TRACK, and OSCILLATOR TRIANGLE MOD.

RESONANCE

Value Range: 00-63

43= approximate oscillation point (may vary from voice to 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 even further increased, the filter breaks into oscillation, acting like a sine-wave audio source whose pitch is determined by CUTOFF (and the various filter modulation sources).

LFO MOD

Value Range: 00/01 00= Off 01= On

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

OSC MOD

Value Range: 00-63

This parameter controls FREQ-MOD. Increasing this parameter applies the oscillator triangle waveform as a control voltage to the filter cutoff frequency. This high-frequency modulation is used to create "ring" modulation and bell effects.

This parameter operates regardless of whether OSCILLATOR TRIANGLE WAVESHAPE is switched on.

7-8 FILTER ENVELOPE

The filter cutoff may be varied over time by the filter envelope generator. For more information on the following six parameters, see Section 7-6, OSCILLATOR FILTER ENVELOPE.

ENVELOPE AMOUNT

Value Range: 00-15

00= no envelope modulation

This parameter adjusts the depth of filter envelope modulation.

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.

ATTACK

Value Range: 00-31

DECAY

Value Range: 00-31

SUSTAIN

Value Range: 00-15

RELEASE

Value Range: 00-31

If filter release produces no effect, check that AMP ENVELOPE RELEASE is set to approximately the same value or longer.

KYBD TRACK

Value Range: 00-02

00= Off

01= Half

02= Full

When Full, the KYBD TRACK control voltage (CV) is applied to the filter's cutoff frequency just as it is normally applied to the oscillator. With the filter thus "tracking" the keyboard, cutoff frequency is maintained at a constant point relative to the notes being played. This results in a consistency of timbre over the whole keyboard range. When KYBD TRACK is off, notes played higher on the keyboard will have have a duller timbre. Obviously, the 1/2 value selects the midrange between these two effects.

If FILTER RESONANCE is set for self-oscillation, setting KYBD TRACK on Full will allow the filter to be played from the keyboard. However, since the filters in resonance are not precisely tuned, there will be considerable error from the normal keyboard scale. (Unless a complex effect is desired, FILTER ENVELOPE AMOUNT will in this case normally be set to 0, to maintain a steady frequency from voice to voice).

If the KYBD TRACK parameter is changed while holding keys down, the effect will not be heard until the key is restruck.

7-9 VELOCITY SENSITIVITY

To provide more expression for the musical performer, Sequential has provided velocity sensitivity in the MULTI-TRAK. Whenever a key is played, the force, or velocity with which it is played is scaled by the three velocity parameters, then applied to the respective destinations.

The velocity sensitivity, as adjusted by the two peak parameters (AMP PEAK and FILTER PEAK), can be varied from zero to the current value of the envelope amount parameter it is going to modulate. If velocity sensitivity is set to zero, then velocity is disabled. If set to maximum, then the softest keystroke will set that envelope amount parameter to zero, and the hardest will drive it to whatever value it would have had, had velocity been disabled (its current value). In other words, velocity is <u>subtractive</u>: Soft keystrokes subtract from the modulated parameter, while forceful ones leave it the same.

If the velocity parameter is set to some intermediate value, that value is the maximum that will be subtracted from the modulated parameter for the softest keystroke. Say, for instance, if AMP ENVELOPE VOICE VOLUME is set to 15, and VELOCITY AMP PEAK is set to 2, the softest keystroke will result in an overall VOICE VOLUME of 13, a medium one will produce 14, and a more forceful one, 15. A subtle change, yes, but if VELOCITY AMP PEAK is set to 15, the softest keystroke will turn the voice off completely, while the most forceful will turn it all the way on--making VOICE VOLUME much more sensitive to velocity.

AMP PEAK

Value Range: 00-15

Controls the sensitivity of velocity modulation of amplifier envelope amount.

FILTER PEAK

Value Range: 00-15

Controls the sensitivity of velocity modulation of filter envelope amount.

LFO AMOUNT

Value Range: 00-15

Controls the sensitivity of velocity modulation of LFO amount. This works slightly differently than the peak controls. Here, the **Mod** wheel and LFO AMOUNT (in the LFO section) set a base amount to which the velocity information is added. If this parameter is set to maximum, the LFO can be driven from the base amount (as low as zero) to full amplitude by velocity. If set to zero, velocity is off. Intermediate values limit the range of the velocity effect.

7-10 UNISON

UNISON

Value Range: 00/01

00= Off 01= On

When off, the keyboard plays polyphonically with six voices. When on, all voices are assigned to the last note played. The keyboard operates in multiple-trigger mode: every new keystroke triggers an attack/decay. (See "Unison" under Basic Operation).

7-11 AMPLIFIER ENVELOPE

The amplifier controls are VOICE VOLUME and the envelope generator attack, decay, sustain, and release parameters, which shape the envelope applied to the VCA. These parameters control the note dynamics. For more information on envelopes, see Section 7-6, OSCILLATOR ENVELOPE.

VOICE VOLUME

Value Range: 00-15

15= maximum signal-to-noise ratio

Programmable voice volume is a convenient way to balance the loudness of programs so you don't have to readjust **Master Volume** each time you switch programs. Use it after the program is basically created.

ATTACK

Value Range: 00-31

DECAY

Value Range: 00-31

SUSTAIN

Value Range: 00-15

Unless this parameter is turned up slightly, nothing will be heard after the attack and decay periods have elapsed.

RELEASE

Value Range: 00-31

7-12 CHORUS

CHORUS On/Off

Value Range: 00/01 00= Off

01= On

Turns the Chorus on or off. This is the only programmable parameter associated with the Chorus, as **Depth** and **Rate** are set by the actual front-panel knob settings.

8-1 INTRODUCTION

The MULTI-TRAK microcomputer transforms the instrument's sonic identity into digital data stored in semiconductor memory (RAM). The cassette interface enables this sonic data to be transfered to and from common audio cassettes, enabling you to build up an unlimited stock of programs and sequences. It then becomes easy to change the MULTI-TRAK's personality at any time, since reprogramming by tape takes only a few minutes. This means if a MULTI-TRAK is going to be at your destination, you can leave your MULTI-TRAK home and bring only the cassettes you need to personalize the instrument. However, the most important benefit of tape storage is program protection from accidental erasure, component failure, or instrument damage.

The 100 Factory Programs and four demonstration sequences are included on a cassette with each MULTI-TRAK. Inasmuch as the Factory Programs provide many points of departure for editing into custom sounds, we suggest making a backup copy of this cassette as soon as you learn how to use the interface.

Operation of the cassette interface is extremely simple, as programs or sequences are saved or loaded in one operation.

8-2 RECORDER AND TAPE SELECTION

Virtually any portable cassette recorder will work satisfactorily with this interface. High-fidelity cassette decks will work, too. But since high-fidelity contributes little to the recording of digital data, an expensive component deck does not help.

In other words, you can try any recorder you may already own (including reel-to-reel) with the interface. But if you intend to acquire a portable for specific use with the MULTI-TRAK, here are some features to look for:

AC-supply, included or available--to help regulate tape speed. MIC or LINE IN jack.

EAR or MONITOR jack.

Adjustable output level in play.

Built-in speaker--for monitoring voice announcements and locating files.

Built-in microphone--handy for voice-announcing files.

Tape counter--for indexing multiple files on the same cassette.

The interface verification system prevents accidental recording over a "dropout"—or any problem area—on the cassette tape. So, dropout-tested tape is not necessary. High-fidelity is not a consideration with regard to tape selection. But once recorded, the data's permanence will depend on the durability of the tape emulsion and the reliability of the cassette mechanism. So while it is true that even the most exotic audio tape formulations may not be 100% dropout tested, we recommend the use of high-fidelity cassettes because they generally have tough emulsions and solid mechanics. Besides being less likely to jam, "name" cassettes assembled with machine screws are preferred because they can be opened and repaired without destroying the cassette itself.

8–3 PRECAUTIONS

Assume that it is always possible for a computer error to occur. You don't have to always have 100 perfect programs or four perfect sequences before storing them. Backup your programs and sequences any time you have a program or sequence into which you've invested time which you don't want to spend in rework.

It is best to use two different backup cassettes, alternately saving to one, then the other. This protects you from mechanical failures of a cassette.

For protection from loss or damage, maintain a duplicate set of cassettes in a safe place.

Protect "permanent" programs and sequences from accidental erasure by removing the "write protect" tab on the back of the cassette.

Be careful with cassettes. Do not touch the tape itself (with your oily fingers). Don't leave them in direct sunlight or freeze them overnight in a car.

Make sure there is no tape sticking out of the cassette when inserting it into the recorder.

Use an AC-supply with portable recorders. Using (weak) batteries may cause tape speed variations outside of the interface's range.

Don't copy tapes between recorders. Instead load the master into and record the copy from the MULTI-TRAK.

Clean and demagnetize your recorder every 10 - 20 hours.

Protect cassettes from the (slight) possibility of magnetic transients by removing them from the recorder when switching its power on or off. If using a stereo deck, record on both channels simultaneously to preserve monophonic compatibility. (Otherwise, playback noise from an unrecorded channel can interfere with data loading).

If two recorders have been used satisfactorily by themselves, and tapes exchanged between them produce errors, the two recorders probably have quite different tape speeds. The same error could occur on a single recorder operated at one time from batteries and another time from an AC-supply.

8-4 SAVING PROGRAMS OR SEQUENCES TO TAPE

- 1. Connect recorder to MULTI-TRAK as diagrammed on page 1-1.
- 2. Insert cassette into recorder and rewind to start of tape.
- 3. To save sequences, press SEQUENCER Record, or to save programs, Program Record.
- 4. If the correct record level has already been set, skip to step 8. Otherwise, to set the record level, press the To Tape switch. Value/Program displays "CS" for Cassette Save.
- 5. Check that the record level is at 0 VU during the twelve second "sync" tone that precedes the actual data.

NOTE: Tape interface data recording is quite different from typical audio practice, where the tape is rarely allowed to saturate. Instead, data recording is done at saturation level. Recorders with VU meters should be at 0 dB or above. Recorders with single-LED peak detectors should be set so the LED stays lit. Recorders with automatic level control (ALC) can't be adjusted, but usually work fine.

- 6. After setting the record level, wait for the Value/Program display to change from "CS" to "CH", then press Parameter Group.
- 7. Press SEQUENCER or Program Record.
- 8. Place recorder into record mode and wait a moment for the tape leader to pass.
- 9. Press the **To Tape** switch. **Value/Program** displays "CS" for Cassette Save.
- 10. When, after about 50 seconds, (for programs—an unpredictable period for sequences) the **Value/Program** display shows "CH" (for check), stop the recorder.
- 11. Now the recording should be verified. If this is not desired, to return to normal operation press **Parameter Group**.

- 12. To verify, first rewind to start of tape.
- 13. Check playback level. For portable recorders, the rule-of-thumb for playback level into the **From Tape** jack is about 75% of full volume. The interface is difficult to overdrive (but it can happen).
- 14. Place recorder into play mode and wait for the sync tone.
- 15. As soon as a steady sync tone appears, press the **From Tape** switch. The **Value/Program** display continues to show a "CH." The timing of this operation is important, since the MULTI-TRAK needs 2 or 3 seconds of sync tone before the data begins, and the total sync tone is only about twelve seconds long. But pressing the **From Tape** switch too soon, while the sync tone is garbled or not present, can also cause problems.
- 16. If verification is positive, the MULTI-TRAK returns to normal operation (Value/Program displays the last-selected program). Turn off the tape recorder.
- 17. If instead, an "Er" (error) appears in the **Value/Program** display, a tape error has occurred. Try verification again, by repeating from step $\underline{9}$.
- 18. If verification fails a second time try re-recording a file, by repeating from step 4.
- 19. If the tape will still not verify, try different record and playback levels or try a new cassette.
- 20. If it is desired to return to normal operation at this point, press Parameter Group.
- 21. It is possible to store several program or sequence files on a cassette. Just be careful to leave plenty of time (1-2 minutes) between data recordings on the tape. You may wish to voice-announce each file, for example, "MULTI-TRAK file number 4, containing 100 string programs, follows in ten seconds."

8-5 LOADING PROGRAMS OR SEQUENCES FROM TAPE

- 1. Connect recorder to MULTI-TRAK as diagrammed on page 1-1.
- 2. Insert cassette into recorder and rewind to start of tape.
- 3. Check playback level. For portable recorders, the rule-of-thumb for playback level into the **From Tape** jack is about 75% of full volume. The interface is difficult to overdrive (but it can happen).
- 4. To load sequences, press **SEQUENCER Record**, or to load programs, **Program Record**.
- 5. Place recorder into play mode and wait a few seconds for the synctone.
- 6. As soon as a steady sync tone appears, press the **From Tape** switch. The **Value/Program** display shows a "CL." The timing of this operation is important, since the MULTI-TRAK needs two or three seconds of sync tone before the data begins, and the total sync tone is only about twelve seconds long. But pressing the **From Tape** switch too soon, while the sync tone is garbled or not present, can also cause problems.
- 7. When tape loading is completed, the MULTI-TRAK returns to normal operation (Value/Program displays the last-selected program). Turn off the tape recorder.
- 8. If instead, an "Er" (error) appears in the Value/Program display, a tape error has occurred. Return to normal operation at this point by pressing Parameter Group. If desired, try loading again, by repeating from step 4.

9 TROUBLE?

Power

If the MULTI-TRAK is receiving power, it displays program numbers. If no LEDs are lit, either the MULTI-TRAK is not switched on, or power is not reaching the unit. Check the power source by plugging in other equipment. Examine the transformer cable for damage. There is no fuse to check.

Audio

If the Value/Program display lights but no sound is heard, check that Master Volume is turned up. Check that track volumes are not set too low. Test the synth by simply connecting stereo headphones directly to the output. Try other programs or the "Basic Patch" (page 6-4). 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.

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 authorized Sequential Service Center.

Control

If the keyboard or controls "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 sequencer controls are still working, stop the sequence before turning power off.)

Sequencer

If the sequencer does not work, check that the external (MIDI) clock has not accidentally been enabled (try turning **Speed** clockwise).

If sequences play back with erroneous note timing, check the Autocorrect setting.

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 in all four sequences.

To reset the sequencer:

Turn on **SEQUENCER Record**. Hold **Seq** and press **Program Record**.

(For more control information, see the MIDIGUIDE.)

Two sets of programs are supplied on the MULTI-TRAK factory program tape. Although the sets contain the same programs, for the most part, they are in different order. Set "A," the set loaded in the MULTI-TRAK before it leaves the factory, has the sounds in a random order, to create the most interest while stepping through them. Set "B" has similar sounds in each bank of 10, arranged to be complementary to MAX sounds when a MAX is slaved to a MULTI-TRAK via MIDI. (See MIDIGUIDE.)

Beginning on page 10-4, the parameters for each program in Set A are given in detail.

00 - Filt Res. Low Sweep	50 - Organ I
01 - Brass I	51 - Vox Humana
02 - String III	52 - StringsSlow Swell
03 - Square	53 - Chloe
04 - Clavtron	54 - Flute
05 - Syn-Tom I	55 - Agogo Bell
06 - Miridium	56 - Noise Burst I
07 - Heavy Leslie	57 - Mock Horn
08 - Lead I	58 - Heavy Bass
09 - Europa	59 - Groan
10 - Sawtooth	60 - OrganBright
11 - OrganVelocity Leslie I	61 - Digi Horn
12 - String IV	62 - Sci-Fi
13 - Res II	63 - Echo
14 - Bass II	64 - Backwards Triangles
15 - Space Drum	65 - Pleiades
16 - Glide/Res	66 - Organ III
17 - Brass III	67 - Artemeides
18 - Lucky Man	68 - Taur II
19 - Lazar	69 - Falling trill
20 - Triangle	70 - Organ II
21 - Kari	71 - Cornet
22 - High String I	72 - String V
23 - Res III	73 - High synth
24 - Taur I	74 - String Bass
25 - African Log	75 - 5 th 's Release
26 - Electric Piano I	76 - Discovery
27 - Pop Brass	77 - Funk
28 - Lead II	78 - Backwards Bass
29 - Leeches	79 - Frankenstein
30 - Synthy	80 - Wak Lead
31 - Clav I	81 - Bach Trumpet
32 - Harpsichord	82 - String I
33 - E. Piano with Chorus	83 - Lead IV
34 - Synthy Chorus	84 - Lead III
35 - Synth/Clav	85 - UnisonLong Glide
36 - Electric Piano II	86 - Dropped Pitch Lead
37 - Piano (Acoustic) High Half	87 - Low Brass
38 - Piano (Acoustic) Low Half	88 - String II
39 - Fluty-Clav	89 - Bass Drum
40 - OrganFlutes	90 - Saran
41 - Brass IV	91 - Brass II
42 - Bass-Res I	92 - High String II
43 - Res I	93 - Descending Bells
44 - Jaco Bass	94 - Square Wave Trill
45 - Syn Tom II	95 - Wind
46 - Synth chords	96 - Almost Bomb
47 - Bass with Release Tick	97 - 5 th of sawtooth
48 Clari uni	98 Polychards

48 - Clari-uni 49 - Scratch 98 - Polychords 99 - Alien

FACTORY PROGRAMS-SET "B"

00 - Organ I	50 - Syn-Tom I
01 - OrganFlutes	51 - Bass Drum
02 - OrganVelocity Leslie I	52 - Syn Tom II
03 - OrganVelocity Leslie II	53 - Synth. Cowbell
04 - Organ II	54 - African Log
05 - OrganBright	55 - Space Drum
06 - Organ 4' Stop	56 - Noise Burst I
07 - Heavy Leslie	57 - Scratch
08 - Organ III	58 - Noise Burst II
09 - Organ 8' Stop	59 - Agogo Bell
10 - Brass I	60 - Synth chords
11 - Brass II	61 - Sci-Fi
12 - Pop Brass	62 - Res I
13 - Cornet	63 - Echo
14 - Bach Trumpet	64 - Miridium
15 - Mock Horn	65 - Pleiades
16 - Digi Horn	66 - Res II
17 - Brass III	67 - High synth
18 - Brass IV	68 - Artemeides
19 - Low Brass	69 - Flute
20 - String I	70 - Chloe
21 - String II	71 - Kari
22 - High String I	72 - 5 th 's Release
23 - String III	73 - Glide/Res
24 - String IV	74 - Filt Res. Low Sweep
25 - High String II	75 - Res III
26 - String V	76 - Electric Piano I
27 - StringsSlow Swell	77 - Triangle
28 - High String II	78 - Sawtooth
29 - High String III 30 - Synthy	79 - Square 80 - Lead I
31 - Clav I	(2.1.) 및 10 10 10 10 10 10 10 10 10 10 10 10 10
	81 - Lead II 82 - Lead III
32 - Harpsichord	
33 - E. Piano with Chorus	83 - Lead IV
34 - Synthy Chorus 35 - Synth/Clav	84 - Clari-uni
	85 - UnisonLong Glide
36 - Electric Piano II	86 - Dropped Pitch Lead
37 - Piano (Acoustic) High Half	87 - Wak Lead
38 - Piano (Acoustic) Low Half	88 - Lucky Man
39 - Fluty-Clav	89 - Backwards Triangles
40 - Taur I	90 - Saran
41 - String Bass	91 - Groan
42 - Bass-Res I	92 - Wind
43 - Clavtron	93 - Leeches
44 - Jaco Bass	94 - Square Wave Trill
45 - Bass II	95 - Lazar
46 - Backwards Bass	96 - Almost Bomb
47 - Bass with Release Tick	97 - Discovery
48 - Heavy Bass	98 - Polychords
49 - Taur II	99 - Alien

Program Number 00 Name FILT RES. LOW SWEEP Chorus: ON

Program Number O 2 Name STRING III

Chorus: ON

		Osc Waveshape	hape			fiers	
Carolinator Envelope Carolinator Envelope		<u> </u>	_	43	-	olide	Noise Mix
Care Attack Decay Sustain Filter Envelope Care Care	-		NO. SEC.	Oscillator	Envelope		
Sec. Mod	_			Attack	Decay	Sustain	Release
2 3 27 11 11 11 11 11 11 11	-		_	Filter Er	nvelope		
11 3 27 11 11 11 11 11 11 11	oso por	Mod Env Amou		Attack	Decay	Sustain	Release
11y LFO Ami Unison Voice Volume Altack Decay Sustain 12 11 28 13 3 4 5 6 7 8		7		3	27	=	7
12 11 28 13 3 4 5 6 7 8	Velocity Sensitivity				plifier Envelo	obe	
4 5 6 7 8		-			28 28	_ Sustain	Helease
			S	9	7	8	6

Program Number O | Name BRASS I

Chorus: OFF

0	Osc. Frequency	cy	0	Osc. Waveshape	be a		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	ב	Pulse Width	PW Mod	Glide	Noise Mix
2		_	-		-	12		-	
	-	LFO	NOT THE OWNER.			Oscillato	Oscillator Envelope		N. MARIES
Frequency	Amount	<	2	Env Amount	Invert	Attack	Decay	Sustain	Release
Ξ		-							
	Ē	Filter	The state of the s	No. of Lot	100	Filter E	Filter Envelope		
Cutoff	Resonance	LFO Mod		Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
26				ī,		9	17	6	4
	Veic	Velocity Sensitivity	24			Am	Amplifier Envelope	obe	
ybd Track	Kybd Track Amp Peak Filter Peak	Filter Peak	LFO Amt	. Unison V	Voice Volume	e Attack	Decay	Sustain	Release
7	7	00			5		17	δ	=
0	1	2	3	•	5	9	7	8	6
111		STATE OF THE PARTY	No.				1		
			4	PROGRAM/PARAMETER	ARAME	ER			

Program Number 03 Name SQUARE

Chorus: OZ

,	Osc. Frequency	lcy	ŏ	Osc Waveshape	e.		Mod	Modifiers	S. Deser
Coarse	Fine	LFO Mod	7	<	ן ⊶	Pulse Width	PW Wod	Glide	Noise Mix
į.	T. Comments	LFO	Section 1		0.000	Oscillator Envelope	Envelope		
Frequency	Amount	٠ -	2	Env Amount	Invert	Attack	Decay	Sustain	Release
	正	Filter	THE STATE OF		100	Filter Envelope	velope		
Cutoff 2.7	Resonance	Resonance LFO Mod Osc. Mod Env Amount	Osc. Mod	Env Amount	Invert	Attack	Decay	Sustain 9	Release 2
		Velocity Sensitivity	vity		STATE AND ADDRESS OF THE PARTY		Amplifier Envelope	obe	
Kybd Irack		10 10 10	LFO Amit	N ——	Voice Volume	- Attack	Decay	Sustain 15	Helease
0		2	3	•	2	9	7	8	6

Program Number 04 Name CLAVTRON

Chorus: OFF

0	Osc. Frequency	cy	0	Osc Waveshape	abe		Modi	Modifiers	
Coarse	Fine	LFOMod	7	<	د ب	Pulse Width	PW Mod	Glide	Noise Mix
		LFO				Oscillator	Oscillator Envelope		
Frequency	Amount	<	٦.	Env Amount	Invert	Altack	Decay	Sustain	Release
=		-							
	Fil	Filter				Filter Envelope	velope		
Cutoff	Resonance	LFOMod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
45	33			0			27	þ	9
	Vel	Velocity Sensitivity	vity			Amp	Amplifier Envelope	obe	
Kybd Track		Amp Peak Filter Peak	LFO Amt	Unison	Unison Voice Volume	ne Attack	Decay	Sustam	Release
-1		<u></u>	œ		15		26	6	7
0		2	3	4	5	9	7	8	6
E			PP	PROGRAM/PARAMETER	PARAMET	TER			No.

Program Number 06 Name MIRIDIUM

Chorus: OZ

0	Osc. Frequency	ıcy	0	Osc Waveshape	ade		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	լ .	Pulse Width	PW Mod	Glide	Noise Mix
		LFO			1	Oscillator	Oscillator Envelope		
Frequency	31	< -1	۲	Env Amount	Invert	уашь -	Decay	Sustain	Release
E	ī	Filter				Filter Er	Filter Envelope		
Cutoff	Resonance	Resonance LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
91	38		51	o			8	13	59
	Vel	Velocity Sensitivity	ivity			Am	Amplifier Envelope	ado	
Kybd Track		Amp Peak Filter Peak	LFOAmt	Unison	13	e Attack	Pecay	Sustain	Release 27
0	-	2	9	4	5	9	7	8	6
			ď	PROGRAM/PARAMETER	PARAMET	ER			

Program Number 05 Name 5YN - TOM I

Chorus: OFF

0	Osc. Frequency	cy	Ö	Osc. Waveshape	be		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	٦ -	Pulse Width	bowwod r	Glide	Noise Mix
12					_	32			18
	an Ir	LFO				Oscillato	Oscillator Envelope		
Frequency	Amount	<	7	Env Amount	Invert	Attack	Decay	Sustain	Release
=	1	-1		15			23		
	Filter	ter				Filter E	Filter Envelope		
Cutoff	Resonance	Resonance LFO Mod Osc. Mod Env Amount	Osc. Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
26	56		22	9				~	15
	Velo	Velocity Sensitivity	vity			Am	Amplifier Envelope	obe	I
Kybd Track		Amp Peak Filter Peak	LFO Amt	Unison	Voice Volume	ne Attack	Decay	Sustain	Release
7	7				15		17		5
0	4	2	3	4.	2	9	7	8	6
I									

Program Number O7 Name HEAVY LESLIE

Fine LFOMod	35 I
1 3. 1	35 1
1 2. 1	1 66
13	Continue Continue Continue
13	Scillator Envelope
13	Attack Decay Sustain
1	
Filter F	
Resonance LFO Mod Osc. Mod Env Amount Invert Attac 28 28 2	Filter Envelope
Amp Peak Filter Peak LFO Amt Unison Voice Volume Attac	Attack Decay Sustain
Amp Peak Filter Peak LFO Amt Unison Voice Volume Attac	-
Velocity Sensitivity Amp Peak Filter Peak LFO Amt Unison Voice Volume Attac	n
Amp Peak Filter Peak LFO Amt Unison Voice Volume Attac	Amplifier Envelope
	Alfack Decay Sustain
	4
	-
0 1 2 3 4 5 6 7	6 7 8

Program Number 08 Name LEAD I

Chorus:

100000	Noise Mix	02.00.00	Release			Release	25	Release		6	
Modifiers	Glide	_	Sustain			Sustain	<u>~</u>	Sustain	-5	8	
Mo	N N	Oscillator Envelope	Decay		Filter Envelope	Decay	27	Amplifier Envelope	0	1	
	Pulse Width	Oscillato	Attack		Filter E	Attack		Allac		9	ER
De	۲ –	-	Invert			Invert		Hoison Voice Volume	5	5	ARAMET
Osc Waveshape	< -	-	Env Amount		THE PARTY.	Osc. Mod Env Amount	Ē	Lloison	_	4	PROGRAM/PARAMETER
ŏ	7		٦.		100 A			ivity I FO Amt	6	8	P
>	LFO Mod	. 0	<	_	ier	LFO Mod		Velocity Sensitivity	0	2	
Osc. Frequency	Fine	LFO	Amount		Filter	Resonance	37	Velocity Sensit	Ø	-	S (1988)
č	Coarse 24		Frequency	=	RATE A	Cutoff	8	Kybd Track	2	0	

Program Number 10 Name SAW TOOTH

Chorus: ON

	Osc. Frequency Fine	CFO Mod	7.	Osc Waveshape	g _	Pulse Width	PW Mod	Modifiers And Glide	Noise Mix
71	[F0	0	7			Oscillator Envelope	Envelope		
Frequency	Amount	⟨ ⊣	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	ier		1		Filter Envelope	velope	Total Paris	大の一般
2.7	Resonance	LFOMod	Osc Mod	Osc Mod Env Amount	Invert	Attack	Decay	Sustain	Release
	Velo	Velocity Sensitivity	vity	Contract of the last		Amp	Amplifier Envelope	ado	10
Kybd Track	Amp Peak Filter Peak	Filter Peak	LFOAmt	Unison	Unison Voice Volume	Attack	Decay	Sustain 15	Release 13
0		2	3	4	5	9	7	80	6
300	C. C. L. S. S. S.	STATE OF THE PARTY OF	1	0.0000000000000000000000000000000000000			No. of Lot	No. of Street, or other Persons	Contract of the

Program Number 09 Name EUROPA

Chorus: OZ

72		_		`		Stelling of			
Frequency 72	Amount	< -	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
Cutoff	Resonance	Filter nce LFO Mod	Osc. Mod	Filter Resonance LFO Mod Osc. Mod Env Amount	Invert	Filter Er Attack	Filter Envelope	Sustain	Release
96	20	_					28		53
Kybd Track	Velo Amp Peak	Velocity Sensitivity	VITY LFO Amt	Unison	Voice Volume	Attac	Amplifier Envelope	ope	Release
~	9/	4	90		15			/5	25
0		2	3	4	5	9	7	8	6

Chorus: ON Program Number / Name ORGAN - VELOCITY LESLIE I

0	Osc. Frequency	cy	0	Osc. Waveshape	e		Modi	Modifiers	
Coarse 7	Fine	LFO Mod	7	<	۲ –	Pulse Width	Pw wod	Glide	Noise Mix
	LFO	0				Oscillator Envelope	Envelope	51	
Frequency	Amount	< –	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	ter	Service of the last			Filter Envelope	velope		A
Cutoff 73	Resonance 27	LFO Mod	Osc. Mod	Osc Mod Env Amount	Invert	Attack	Decay	Sustain	Release
B4500	100	Velocity Sensitivity	rity				Amplifier Envelope	obe	
Kybd Track		Amp Peak Filter Peak	LFO Amr	Unison Voice Volume	U Oice Volun	— Attack	Decay	Sustain 4	Release
0		2	3	4	5	9	7	8	6
									1

Program Number 12 Name STRING IV

rogram	Number	Program Number 12 Name STRING IL	STRIP	14 17			0	Chorus: ON	Z
0	Osc. Frequency	lcy.	ő	Osc. Waveshape	adi		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	٦	Pulse Width	PW Mod	Glide	Noise Mix
24	54				-	33	-		
	17	LFO				Oscillato	Oscillator Envelope		I
Frequency 5	Amount 31	< -	ל	Env Amount	Invert	Attack	Decay	Sustain	Release
	Ξ	Filter				Filter E	Filter Envelope		
Cutoff	Resonance	Resonance LFO Mod Osc. Mod Env Amount	Osc. Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
94				7		و	27	=	20
	Velo	Velocity Sensitivity	vity			Am	Amplifier Envelope	obe	
ybd Track	Amp Peak	Kybd Track Amp Peak Filler Peak	LFO Amt	Unison	Unison Voice Volume	e Attack	Decay	Sustain	Release
7	Μ	7			12	<u>~</u>	28	<u>6</u>	<u> </u>
0	-	2	3	4	2	9	7	8	6
			PF	PROGRAM/PARAMETER	ARAMET	FER	E		E

Program Number 14 Name BASS II

Chorus: OFF

0	Osc. Frequency	JCV	0	Osc Waveshape	pe		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PW Mod	Glide	Noise Mix
			-1	н	-1	7			
	7	LFO				Oscillator	Oscillator Envelope		
Frequency	Amount	<	٦	Env Amount	Invert	Attack	Decay	Sustain	Release
12		Н							
	ī	Filter				Filter E	Filter Envelope		
Cutoff	Resonance	FO Mod		Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
36	59			12		4	Ξ	80	Ŋ
	Vel	Velocity Sensitivity	vity			Am	Amplifier Envelope	lope	
bd Track	Amp Peak	Kybd Track Amp Peak Filter Peak	LFO Amt	Unison V	Voice Volume	ne Attack	Decay	Sustain	Release
2	M	=		_	15		15	Ŋ	4
0	-	2	3	4	2	9	7	8	6
							I		

Program Number 13 Name RES I

	•		7	,	
4	٤				
•	()		
			i		
		1			
		i			
		9	2		
	1			١	
	1	۰	•		

0	Osc. Frequency	cy	0	Osc. Waveshape	ec ec		Mod	Modifiers	
Coarse	Fine	LFO Mod	۲ ٦	<	2	Pulse Width 32	PW Mod	Glide	Noise Mix
	LFO	0				Oscillator Envelope	Envelope		
Frequency	Amount	۲ -	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	er				Filter Envelope	velope		
Cutoff	Resonance	LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
2.7	30			15	-1		3	ω	25
		Velocity Sensitivity	/ity				Amplifier Envelope	obe	
~	2 15		ELO A	- Loseo	15	— Alfack	Decay	Sustain 5	24
0	-	2	3	4	2	9	7	8	6
								1	

Program Number 15 Name SPACE DRUM

Chorus: OFF

0	Osc. Frequency	ıcy	Ö	Osc Waveshape	pe		Modifiers	fiers	ST. ST.
Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PW Mod	Glide	NoiseMix
	7	LFO				Oscillator Envelope	Envelope	ı	ı
Frequency	Amount	< -	ל	Env Amount	Invert	Attack	Decay	Sustain	Release
	-	Filter	I			Filter Envelope	velope	2	ı
Cutoff	Resonance	LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
	63		63	4				1	<u>~</u>
	Vel	Velocity Sensitivity	vity			Amp	Amplifier Envelope	ado	
Kybd Track		Amp Peak Filter Peak	LFO Amt	V nosinU	Voice Volume	e Attack	Decay	Sustam	Release
2	00				\bar{v}		23		7
0	-	2	3	4	5	9	7	8	6

Program Number 16 Name GLIDE / RES

Z
0
2
2
O

Coarse	Osc. Frequency Fine	LFO Mod	0 4	Osc Waveshape	8 	Pulse Width	PWA	Modifiers And Glide	Noise Mix
24	H			<u>-</u>	4	51	7	•	
E	11	LFO		の子が		Oscillator	Oscillator Envelope		Tage To
Frequency 12	y Amount	< न	ב	Env Amount	Invert	Attack	Decay	Sustain	Release
	Ē	Filter	STATE OF	Several parcel		Filter Er	Filter Envelope		
Cutoff	Resonance	LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
9	27	-1		15			54	n	28
the Traci	Velocity Sensit	Velocity Sensitivity	vity				Amplifier Envelope	lope	
~	10	ထ	15		15	Aliack	neca)	15	27
0		2	3	4	5	9	7	80	6
		THE REAL PROPERTY.	PF	PROGRAM/PARAMETER	ARAMET	ER	Sec. 19.	Contract of the second	

Program Number 18 Name LUCKY MAN

CKY MAN Chorus: ON

so	Osc. Frequency	cy	0	Osc Waveshape	adi	25.10	Mod	Modifiers	H. S. S. S.
Coarse	Fine	LFOMod	7	⟨ ←	۲	Pulse Width	PW Mod	Slide ~	Noise Mix
1		LFO				Oscillato	Oscillator Envelope	SAL LANGE	
Frequency	Amount	۲	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
200	F	Filter	SAL STAN	188		Filter	Filter Envelope	2 462	STATE OF
Cutoff	Resonance	Resonance LFO Mod Osc Mod Env Amount	Osc Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
75	29			15			27	0	23
F 10 20 5	Vel	Velocity Sensitivity	vity	Street Co.		Am	Amplifier Envelope	obe	1500
Kybd Track	Amp Peak	Amp Peak Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay	Sustain	Release
2		9	10	-1	5		19	15	28
0	-	2	3	4	- 5	9	7	8	6
	Sec. Sec.		ā	PPOCPAMIDABAMETER	DADAMET	03		Southers	The second

Program Number 17 Name BRASS III

Chorus: ON

Coarse									
	Fine	LFO Mod	7	<	2	Pulse Width	PW Wod	Glide	Noise Mix
7		-	_			32			
	LFO	0		Manage	No.	Oscillator	Oscillator Envelope		
Frequency	Amount	<	7	Env Amount	Invert	Attack	Decay	Sustain	Release
=		-							
	Filter	er				Filter Er	Filter Envelope		
Cutoff P	Resonance	LFO Mod		Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
26				ī		0	17	6	ũ
	Velo	Velocity Sensitivity	vity	1	No. of Contract of	Am	Amplifier Envelope	lope	1
Kybd Track	Amp Peak	Amp Peak Filter Peak	LFO Amt	Unison V	Voice Volume	e Attack	Decay	Sustain	Release
7	7	00			ū		7	6	=
0		2	3		5	9	7	8	6
	No. of Street,	CONTRACTOR OF		The second secon			THE REAL PROPERTY.	STATE OF THE PERSON NAMED IN	100000

Program Number 19 Name LAZAR

Chorus: OFF

			0						
Coarse	Fine L	LFO Mod	7	Csc navesuape	2	Pulse Width	PW Mod Gi	Glide	Noise Mix
						35			
	1 4 4 6 1	LFO		(公司等		Oscillator Envelope	Envelope		William W.
Frequency	Amount	۲ -	ב	Env Amount	Invert	Attack	Decay	Sustain	Release
	F	Filter		Section 2		Filter Envelope	velope		
Cutoff	Resonance	LFO Mod		Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
	39	-	36	5			24		26
	Vel	Velocity Sensitivity	vity		N. S. S. S. D.	Amp	Amplifier Envelope	obe	5
bd Track	. Amp Peak	Kybd Irack Amp Peak Filter Peak	LFO Amt	Unison Voice Volume Attack	oice Volun	ne Attack	Decay	Sustain	Release
-1	4	4	0	-	15			15	33
0		2	3	4	5	9	7	8	6
	The Real Property lies								

Program Number 20 Name TRIANGLE

0	Osc. Frequency	cy	0	Osc Waveshape	ed		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	٠ -	ר	Pulse Width	PWMod	Glide	Noise Mix
	1	LFO				Oscillator Envelope	Envelope		
Frequency 11	Amount	< -	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
I	Filter	ter				Filter Envelope	velope		
2.7	Resonance	LFOMod	Osc. Mod	Osc. Mod. Env Amount	Invert	Attack	Decay	Sustain	Release 2
	Velo	Velocity Sensitivity	vity			Атр	Amplifier Envelope	obe	
od Track	Kybd Irack Amp Peak Filter Peak	Filter Peak	LFO Amt	N nosinU	Voice Volume	e Attack	Decay	Sustain 7	Release
1 0		2	3	4	5	9	7	2 8	6
0.00	Division of		ă						

Program Number 22 Name STRING HIGH I

NO		Noise Mix			Release		THE PARTY	Release	20		Release	61	6	
Chorus:	Modifiers	Glide			Sustain			Sustain	=	obe	Sustain	$\bar{\omega}$	8	
0	Modi	PW Mod	_	Envelope	Decay		velope	Decay	27	Amplifier Envelope	Decay	28	7	
		Pulse Width	28	Oscillator Envelope	Altack		Filter Envelope	Attack	20	Amp	Attack	<u>~</u>	9	8
Н	9	2	_	Kara Maria	Invert		1	Invert		1000	Unison Voice Volume	2	2	RAMETE
HIGH	Osc Waveshape	<		200	Env Amount			nv Amount	7		Unison Ve		4	PROGRAM/PARAMETER
STRING	Osc	7	-	1	7			Resonance LFO Mod Osc. Mod Env Amount		ity	LFO Amt		3	PRC
Name .		LFO Mod		Section 1	<	_		LFO Mod (Velocity Sensitivity		0	2	
umber 2	Osc. Frequency	Fine		LFO	Amount	7	Filter	esonance		Veloc	mp Peak F	m	-	
Program Number 22 Name STRING HIGH I	Osc	Coarse	24	No. of Contract	Frequency	0	THE STATE OF	Cutoff R	94		Kybd Track Amp Peak Filter Peak	7	0	
а.					u.			l			Y			

Program Number 21 Name KAR!

Chorus: ON

ľ	Osc Waveshape	-			fiers	
	< <u> </u>	d	Sulse Width	PW Wod	Glide	Notse Mix
			Oscillator	Envelope	0.00	
ر 	Env Amount	Invert	Attack	O _{becay}	Sustain	Release
			Filter Er	nvelope	I	
O Mod Osc. Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
_ ≥)	plifier Envelo	8	
				<u>2</u>	2 2	24 24
2 3	4	\$	9	7	8	6
STATE OF THE PERSON			STATE STATE OF			Contract of the last
	Amount LFO Amount Filter Resonance LFO Mod Osc. Mod 2 5 Velocity Sensitivity Amp Peak Filter Peak LFO Ami 1 2 9	080. Mily 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36	36 36 36 36 36 36 36 36	36

Program Number 23 Name RES III

so	Osc. Frequency	ıcy	0	Osc Waveshape	e e	1000000	Modifiers	fiers	
Coarse	Fine	LFO Mod	7	<	۲	Pulse Width	PW Mod	Glide	Noise Mix
24		-1		-	-	21		4	
		LFO			S. C.	Oscillator Envelope	Envelope	Section 2	
Frequency	Amount	<u>-</u> ا	2	Env Amount	Invert	Attack	Decay	Sustain	Release
	Fi	Filter	STATE OF	The second		Filter Envelope	velope		
Cutoff	Resonance	Resonance LFO Mod		Osc Mod Env Amount	Invert	Antack	Decay	Sustain	Release
5	30		26	15		13	56	က	27
	Vel	Velocity Sensitivity	vity			Атр	Amplifier Envelope	ado	
Kybd Track	Amp Peak	Amp Peak Filter Peak	LFO Amt	Unison V	Voice Volume	e Attack	Decay	Sustain	Release
~	۵	5	0		15	7		15	24
0	-	2	3	4	2	9	7	8	6
THE REAL PROPERTY.	The same of		I		I				

Program Number 24 Name TAUR I

JFF		Noise Mix		Release		Release	50		Release	12	6
Chorus: OFF	Modifiers	Glide		Sustain		Sustain	7	ado	Sustain	=	8
5	Mod	T T	Oscillator Envelope	Decay	velope	Decay	21	Amplifier Envelope	Decay		7
		Pulse Width	Oscillator	Attack	Filter Envelope	Attack		Amp	Attack		9
	be	- -1		Invert		Invert			Unison Voice Volume	15	5
н	Osc. Waveshape	<		Env Amount		Env Amount	10		Unison V	_	4
TAUR	SO	¬ , , ,		۲		Osc Mod		vity	LFO Ami		3
4 Name	34	LFO Mod	0	٠ -	er	LFO Mod		Velocity Sensitivity	Filter Peak	و	2
Number 2	Osc. Frequency	Fine	LFO	Amount 28	Filter	Resonance LFO Mod Osc Mod Env Amount	_	Velo	Amp Peak	œ	-
Program Number 24 Name TAUR I	so	Coarse	THE CASE	Frequency	The state of the s	Cutoff	72		Kybd Track Amp Peak Filter Peak	-	0

PROGRAM/PARAMETER

Program Number 26 Name ELECTRIC PLAND I Chorus: ON

Fine LF	LFO Mod	7	\ < 	ر سا	Pulse Width	PW Mod	Glide	Noise Mix
LFO					Oscillator Envelope	Envelope		Section 18
Amount	<	כ	Env Amount	Invert	Attack	Decay	Sustain	Release
Filter			2		Filter Envelope	velope	100	
Resonance Li	LFO Mod	Osc Mod	Osc Mod Env Amount	Invert	Attack	Decay	Sustain	Release
			ω			26		12
Velocity	Velocity Sensitivity	vity .		Mose Molecular	Attack	Amplifier Envelope	ope	Release
1 6 4	4			5		25		9
100	2	3	4	s	9	7	8	6
		P	PROGRAM/PARAMETER	PARAMET	ER			See See

Program Number 25 Name AFRICAN LOG

Chorus: ON

Osc. Frequency	7	ő,	Osc. Waveshape	be I	Dalos Midth	Modifiers	flers	Mosco Miss
 e	LFU MOd	7	<	_	32	DOM AL	Oligo	Noise Mix
LFO	0		The state of		Oscillator Envelope	Envelope	į	SERVICE SERVIC
Amount	< -	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
Filter	- ·				 Filter Envelope	velope	i	
c 2	LFO Mod	Osc. Mod	Resonance LFO Mod. Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
C o	Velocity Sensitivity	7	+		Amp	Amplifier Envelope	obe	
Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay	Sustain	Release
2				\bar{c}		$\overline{\mathbf{v}}$		12
1	2	3	4	5	9	7	8	6
		ā	DDOCDAN DADANETED	ABAMET	90		1	

Program Number 27 Name POP BRASS

Coarse Fine LFO Mod A C C C C C C C C C	ogram	Tagminu.	Linguage Number 7 I name		1					
	Ö	sc. Frequen	cv	ő	sc Waveshap	e e		Modi	fiers	
	Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PW Mod	Glide	Noise Mix
1 1 2 1 1 1 1 1 1 1	7		-	_			32			
Amount	1	_	_	-	_		/	_		
Amount		E. L.	FO .	THE PARTY OF	MINKE	THE PARTY	Oscillator	Envelope		
3 Filter Envelope Sustain 48 T 21 T 21 T 11 T 21 T 11 T 21 T 21	squency		<	2	Env Amount	Invert	Attack	Decay	Sustain	Releas
2 Filter Envelope Coc. Mod Env Amount Invert Attack Decay Sustain 48 15 7 21 7 7	=		-		'n			0		
48 15 7 21 7 7 1 1 1 1 1 1 1	=		_		ر ا		_	0		
48 15 7 21 7 7 1 1 1 1 1 1		Fil	ter	A ST		1000	Filter En	velope		
48 15 7 21 7 7 1 1 1 1 1 1 1	Sutoff	Resonance			Env Amount	Invert	Attack	Decay	Sustain	Releas
15	(5	Ļ		1	-	٢	0
LFO Amt Unison Voice Volume Attack Decay Sustain 15 15 8 8 8	4		>	9	2		_	1	-	_
LFO Amt Unison Voice Volume Attack Decay Sustain 15 8 8 8 8 8 8 8 8 8	0.00	Velc	ocity Sensiti	ivity	Town Services		Amp	olifier Envel	obe	
2 7 15 8 8 15 15 15 15 15	bd Track	Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volum	122	Decay	Sustain	Releas
1 2 3 4 5 6 7 8	_	٨	7			5		ω	œ	00
1 2 3 4 5 6 7										
	0	1	. 2	3	4	2	9	7	8	6
					2000	The state of the s	2000			

Program Number 28 Name LEAD IL

Ö	Osc. Frequency	ıcy	0	Osc Waveshape	be	I	Mod	Modifiers	I
Coarse	Fine	LFO Mod	7	<	۲	Pulse Width	PWA	Glide	Noise Mix
24		-	_			25			
	1	LFO				Oscillator	Oscillator Envelope		
Frequency	Amount	< <u> </u>	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
	Fil	Filter				Filter Er	Filter Envelope		I
92	Resonance	LFO Mod	Osc. Mod	Resonance LFO Mod Osc Mod Env Amount 18 63 8	Invert	Attack	Decay 27	Sustain	Release 12
	Velo	Velocity Sensitivity	vity			Am	Amplifier Envelope	obe	I
Kybd Track		Amp Peak Filter Peak	LFO Amt	Unison V	Voice Volume	e Attack	Decay	Sustain	Release
_	4	0	0	~	$\bar{\boldsymbol{v}}$			5	7
0	-	2	3	4	9	9	7	8	6
	NA STATE		ja	DBOCBAMIDABAMETER	ADAMET	9		New Co	Service and

Program Number 30 Name SYNTHY

NO	Section 1	Noise Mix		Release		Release		Release	<u></u>	6	NAME OF TAXABLE PARTY.
Chorus: ON	Modifiers	Glide		Sustain		Sustain 9	ado	Sustain	15	8	
0	Mod	L L	Oscillator Envelope	Decay	velope	Decay	Amplifier Envelope	Decay		7	
	STATE OF	Pulse Width	Oscillator	Attack	Filter Envelope	Attack	Amp	Attack		9	R
	e e	۲ –		Invert		Invert		Voice Volume	5	5	ARAMETE
¥	Osc. Waveshape	<		Env Amount	STATE OF THE PERSON NAMED IN	Osc Mod Env Amount		Unison V		4	PROGRAM/PARAMETER
SYNT	os	~	THE STATE	ح		Osc Mod	vity	LFO Amt	=	3	PA
0 Name	у.	LFO Mod	c	\ \ -	er	LFO Mod	Velocity Sensitivity	Filter Peak	0	2	To the same
Number 3	Osc. Frequency	Fine	LFO	Amount 4	Filter	Resonance LFO Mod	Velo	Kybd Track Amp Peak Filter Peak	=	-	
Program Number 30 Name SYNTHY	Os	Coarse		Frequency 5		2.7		ybd Track	7	0	

Program Number 29 Name LEE CHES

Chorus: OZ

32 Gide Oscillator Envelope Attack Decay Sustain Filter Envelope Attack Decay Sustain	Noise Mix
Decay 31 Envelope Decay	
Envelope Decay	
Envelope Decay	-
Decay	H
<u>σ</u>	21
Amplifier Envelope	I
ack Decay Sustain	un Release
15	23
8 2	6
Samuel Statement	The state of the s
	Ampliter Envelope Attack Decay Susta 6 7 8

Program Number 31 Name CLAV 1

0	Osc. Frequency	icy .	0	Osc Waveshape	e		Mod	Modifiers	HE CO
Coarse	Fine	LFO Mod	7	< 	۲ 🕶	Pulse Width Pw Mod	PW Mod	Glide	NoiseMix
		LFO	1			Oscillator Envelope	Envelope		
Frequency	Amount	۲ -	ל	Env Amount	Invert	Attack	Decay	Sustain	Release
	E	Filter		No.		Filter Envelope	velope		
Cutoff	Resonance	Resonance LFO Mod Osc. Mod Env Amount	Osc. Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
38	12			Ξ			21	Ø	2
	Vel	Velocity Sensitivity	vity			Amp	Amplifier Envelope	obe	I
Kybd Track		Amp Peak Filter Peak	LFO Amt	Unison Vo	Voice Volume	ne Attack	Decay	Sustain	Release
2	૭	7			15		4	15	7
0	1	2	3	4	2	9	7	80	6

Program Number 32 Name HARPSICHORD

Chorus: OFF

Modifiers PW Mod Glide Noise Mix	Nelope. Decay Sustain Release	Alope Decay Sustam Release	Amplifier Envelope k Decay Sustain Release	
Pulse Width PW	- Aror E	Filter Envelope Attack Deca	Attac	9
۲ -	Invert	Invert	Voice Volume	s ARAMETE
Osc. Waveshape	Env Amount	Env Amount	Nusson V	PROGRAM/PARAMETER
,	2	Osc Mod Env Amount	LFO Amt	3 PB
Y LFO Mod	< _	LFOMod	Velocity Sensitivity Sak Filter Peak LF	2
Osc. Frequency	LFO Amount	Filter Resonance LFO Mod	Velo Amp Peak	
Coarse	Frequency	Cutoff 8	×	0

Program Number 34 Name SYNTHY CHORUS

Chorus: ON

12	Fine		,						
		LFOMOd	ς	<	د جا	Pulse Width	- L	Glide	Noise Mix
	-	LFO			A 41 1	Oscillator	Oscillator Envelope	0,0	
Frequency A	31	٠ -	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	ier		STEE STATE	California .	Filter Envelope	velope		
Cutoff Re	sonance	Resonance LFO Mod		Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
72	2		11	_			6	œ	12
No. of Lot	Velo	Velocity Sensitivity	vity		D. C. S.	Ami	Amplifier Envelope	ado	
Kybd Track An	тр Реак	Amp Peak Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay	Sustain	Release
~	9	ω			15		24		13
0	7	2	3	4	5	9	7	8	6
		STATE OF THE PERSON SERVICES					- The second		

Program Number 33 Name E. PIANO WITH CHORUS

Chorus: ON

1	0	Osc. Frequency	ıcy	0	Osc. Waveshape	abe		MOM	Modifiers	
1	Coarse	Fine	LFO Mod	7	<	۲	Pulse Width		Glide	Noise Mix
Amount	24		-	-		-1	21	-		
1 Filter Attack Decay Sustain			FO				Oscillato	r Envelope		
1	Frequency	Amount	<	۲.	Env Amount		Attack	Decay	Sustain	Release
Filter Filter Envelope Filter Envelope Sustain	V		-							
Color Colo		13	ter				Filter E	nvelope		
6	Cutoff	Resonance		Osc. Mod	Env Amount		Attack	Decay	Sustain	Release
rack Amp Peak Filter Peak LFO Amt Unison Voice Volume Attack Decay Sustain 7 4 5 6 7 8	69	9		25	~			13	00	9_
Amp Peak Filter Peak LFO Amt Unison Voice Volume Attack Decay Sustain 7 4 24 24			ocity Sensit	2	The second		Am	plifier Enve	obe	
7 4 15 24	ybd Track		Filter Peak			Voice Volum	e Attack	Decay	Sustain	Release
1 2 3 4 5 6 7 8 B DDGGGAMBATTED	2	7	4			15		24		Ξ
POCCOAN PADAMETED	0		2	3	4	5	9	7	8	6
		STATE OF STREET	1	0	TI VOSO	THE STATE OF	9	100	1000	1

Program Number 35 Name SYNTH/CLAV

Chorus: OFF

0	Osc. Frequency	cv	ő	Osc Waveshape	96		Modifiers	fiers	
Coarse	Fine	LFO Mod	7	<	٦	Pulse Width	PW Mod	Glide	Noise Mix
12					-1	20	٦		
	-	LFO	100	Mary Carlo	100	Oscillator Envelope	Envelope		
Frequency 4	Amount	۲ ۲	ט	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	ter	See and the	SELECTED SE		Filter Envelope	velope		200
Cutoff	Resonance	LFO Mod	Osc. Mod	LFO Mod Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
24	22		44	Ξ			12	œ	-
	Velc	Velocity Sensitivity	vity			H.	Amplifier Envelope	edo	
And Hack	dinp reak	- Cliffer reday	TO SHIP	Offisor Voice volume	oice void	- Alldex	Appan	Sustain	nerease
2	ထ	<u>n</u>		_	13		4	15	-
0	•	2	3	4	5	9	7	8	6
	The State of the S								

Program Number 36 Name ELECTRIC PIANO IL Chorus: OFF

1			cy	,	adams and a	be		MODIFIES	21011	
1	Coarse	Fine	LFOMod	7	<	2	Pulse Width	1111	Glide	Noise Mix
1 1 1 1 1 1 1 1 1 1	12		-	Н		-	21			N.
## Amount Invert Attack Decay Sustain 1		-	0.				Oscillator	Envelope		
1	equency	Amount	<	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
Fesonance LFOMod Osc. Mod Env Amount Invert Attack Decay Sustain Velocity Sensitivity Amplifier Envelope Amplifier Envelope	12		П							
Pesonance LFOMod Osc. Mod Env Amount Invert Attack Decay Sustain		Fil	ter	T. YE			Filter Er	velope		
7 24 8	Cutoff	Resonance		Osc. Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
Velocity Sensitivity Amplifier Envelope Amp Peak LFO Amt Unison Voice Volume Attack Decay Sustain 1 1 15 24 1 1 2 3 4 5 6 7 8	50				~			24	8	17
AmpPeak LFOAmt Unison VoiceVolume Attack Decay Sustain 8 1 15 24 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8		Velo	ocity Sensiti	vity			Amp	olifier Envel	obe	
8 1 15 24 1 15 24 1 1 1 1 1 1 1 1 1	rbd Track	Amp Peak	Filter Peak	LFO Amt		foice Volum		Decay	Sustain	Release
1 2 3 4 5 6 7 8 PROGRAMPARAMETER	7	Ø	-			15		24		12
PROGRAMIPARAMETER	0	11	2	3	4	5	9	7	89	6
	All one	THE PARTY		jd	ROGBAMIP	ABAMET	FB			

Program Number 38 Name PIANO (ACOUSTIC) LOW HALF Chorus: OFF

Coarse Fine LFOMod 1	0	Osc. Frequency	icy	0	Osc. Waveshape	be		Mod	Modifiers	
1 2 3 4 5 6 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7	Coarse	Fine	LFOMod	7	<	٠ -	Pulse Width	No.	Glide	Noise Mix
1		-	FO				Oscillator	Envelope		
Filter	adneucy		۲ >	۲	Env Amount	1	Attack	Decay	Sustain	Release
Resonance LFOMod Osc. Mod Env Amount Invert Attack Decay Sustain 26 26		F	iter				FilterEn	velope		1
Velocity Sensitivity Amplifier Envelope Amp Peak Filter Peak LFO Amt Unison Voice Volume Attack Decay Sustain 6 4 1 15 2 3 4 5 6 7	Sutoff	Resonance	1000		Env Amount	١.	Attack	Decay	Sustain	Release
Velocity Sensitivity Amplifier Envelope Armp Peak LFO Amt Unison Voice Volume Attack Decay Sustain 6 4 15 25 1 1 2 3 4 5 6 7 8	29				ω			56		21
Amp Peak Filter Peak LFO Amt Unison Voice Volume Attack Decay Sustain 6 4 15 25 1 2 3 4 5 6 7 8		Vel	ocity Sensiti	vity			Amp	lifier Envel	obe	STATE OF THE PARTY
6 4 15 25 1	bd Track	Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volum	the second	Decay	Sustain	Release
1 2 3 4 5 6 7 8	_	ی	4			15	i,	25		13
DEPOCEAMIRABAMETER	0	1	2	3	4	5	9	7	8	6
			A CONTRACT	id.	NOGRAM/F	ABAMET	E.B.			

Program Number 37 Name PIANO (ACOUSTIC) HIGH HALF Chorus: OFF

45			5	 	-	2	DOM MA	elle	Noise Mix
		LFO		Sec. or a		Oscillato	Oscillator Envelope	Section 1	
Frequency	Amount	< 1	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
	E	Filter				Filter E	Filter Envelope	No. 15	
Cutoff	Resonance	Resonance LFO Mod Osc. Mod Env Amount	Osc. Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
99	16			~			23		19
	Vel	Velocity Sensitivity	vity		1000	Am	Amplifier Envelope	obe	
Kybd Track	Amp P	Amp Peak Filter Peak	LFOAmt	V Unison V	Voice Volume	ne Attack	Decay 23	Sustain	Release
0	1	2	3	4	5	9	7	89	6
1		STATE AND	JO.	PROGRAM PARAMETER	PINING	95			

Program Number 39 Name FLUTY- CLAV

Coarse	Osc. Frequency	cy LFO Mod	Ö	Osc Waveshape	e C	Pulse Width	PWA	Modifiers And Glide	Noise Mix
12		-	_	ᇉ	-	8			
1	F.	LFO			18	Oscillator	Oscillator Envelope		
Frequency 11	Amount	۲ >	ל	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	ter				Filter Envelope	velope		
Cutoff	Resonance	Resonance LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
84				و			0		8
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	ade	
Kybd Track		Amp Peak Filter Peak	LFO Amt	V nosinU	Voice Volume	ie Attack	Decay	Sustain	Release
2	σ	13			12		22	15	6
0	1	2	3	4	5	9	7	8	6
					l				

Program Number 40 Name ORGAN - FLUTES

Chorus: ON

ő	Osc. Frequency	LCY	Ó	Osc Waveshape	be		MOM	Modifiers	
Coarse 24	Fine	LFO Mod	7	< -	۲	Pulse Width	- PW Mod	Girde	Noise Mix
		LFO			I	Oscillator	Oscillator Envelope		
Frequency	Amount	<	۲.	Env Amount	Invert	Attack	Decay	Sustain	Release
	3	_							
	F	Filter			2000	Filter En	Filter Envelope		
Cutoff	Resonance	Resonance LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
83	29			7			î.	m	
	Vel	Velocity Sensitivity	vity			Am	Amplifier Envelope	lope	
Kybd Track	Amp Peak	Amp Peak Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay	Sustain	Release
= 1/2			ī.		5			<u>–</u>	_
		2	3	4	2	9	7	8	6
		1000	ā	PROGRAMIPARAMETER	PABAMET	E.B.			
				MAHION	AHAME	E S	STANK		

Program Number 42 Name BASS - RES I

Chorus: OFF

	Osc. Frequency	cy	Ö	Osc. Waveshape	adı		Modifiers	fiers	のの
	Fine .	LFO Mod	7	<	۲.	Pulse Width	PW Mod	Glide	Noise Mix
			-1	-	-1	45	-1		
	r,	LFO	SCHINE	1000		Oscillator Envelope	Envelope	A STATE	
4	Amount	<	ב	Env Amount	Invert	Attack	Decay	Sustain	Release
, ,	23	-					i		
	Filter	er	NAME OF TAXABLE PARTY.	No. of Lot, Lot, Lot, Lot, Lot, Lot, Lot, Lot,	0.000	Filter Envelope	velope		-
es	onance	Resonance LFO Mod		Osc Mod Env Amount	Invert	Altack	Decay	Sustain	Release
	-			12			=	~	7
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	obe	A 1887
E	p Peak	ybd Track Amp Peak Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay	Sustain	Release
	2	~			15			15	7
100	1	2	3	4	\$	9	7	8	6
ı.	l					1			
			Ja	GENERAL MANAGEMENT	A PLANT OF THE	20			

Ħ
BRASS
Name
Number
Program

Chorus: OFF

Ö	Osc. Frequency	ncy	0	Osc. Waveshape	ipe	1	Mod	Modifiers	100
Coarse	Fine	LFO Mod	7	<	۲	Pulse Width	PW Mod	Glide	Noise Mix
24		_	-			$\bar{\omega}$			
	7	LFO				Oscillator Envelope	Envelope		
Frequency	Amount	< -	2	Env Amount	Invert	Attack	Decay	Sustain	Release
	Ē	Filter	Singer Park	100		Filter Envelope	velope		
Cutoff	Resonance	- LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
9	/			5		0	9	0	=
	Vel	Velocity Sensitivity	vity			Amp	Amplifier Envelope	ado	
2 Pod Track	Amp Peak	Kybd Track Amp Peak Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay 17	Sustain 9	Release
0	1	2	3	4	5	9	7	8	6
		TO TO TO	P	PROGRAM/PARAMETER	PARAMET	ER			

Program Number 43 Name RES I

0	Osc. Frequency	cy	ő	Osc Waveshape	ec ec		Modifiers	fiers	
Coarse	Fine	LFO Mod	7	<	۲	Pulse Width	PW Mod	Glide	Noise Mix
36		+	-1			32			2
	1	LFO		1		Oscillator Envelope	Envelope	1.82	
Frequency	Amount	<	7	Env Amount	Invert	Attack	Decay	Sustain	Release
=		-1							
	Fil	Filter		TOTAL PROPERTY.		Filter Envelope	velope	SALES REAL	
Cutoff	Resonance	Resonance LFO Mod Osc. Mod Env Amount	Osc. Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
20	31			11			9	80	26
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	obe	I
Kybd Track		Amp Peak Filter Peak	LFO Amt	Unison V	Voice Volume	e Attack	Decay	Sustain	Release
2	_	œ	7		14	17.0	=	15	27
0	-	2	3	4	5	9	7	8	6
	No. of Particular Part		To the same of	THE RESIDENCE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN					

Chorus
S. P. Seller
3A55
JACO F
4 9 Name
Number
Program

1 2 3 4 5 6 7 8	Numbe	4 9 Name	JACO	Program Number 9 Name JACO BASS			5	Chorus: OFF	7.
1 58	. Frequ	ency	so	c. Waveshape		1000	I	ifiers	
Osc Mod Env Amount Invert Attack Decay Sustain Osc Mod Env Amount Invert Attack Decay Sustain Filter Envelope Filter Envelope Filter Envelope T 18 9 with LFO Amt Unison Voice Volume Attack Decay Sustain 1	Fine	LFOMod	7	<	۲ –	58 S	PWMod	Glide	Noise Mix
Company Comp		LFO			ı	Oscillator	Envelope		
1 1 1 1 1 1 1 1 1 1	Amount	् । 		Env Amount	Invert	Attack	Decay	Sustain	Release
1 18 9 9 9 9 9 9 9 9 9		Filter		STATE OF		Filter En	velope		
Nity Amplifier Envelope LFO Amt Unison Voice Volume Attack Decay Sustain 3 4 5 6 7 8 PROGRAMIPARAMETER	Resonant	ce LFO Mod	Osc Mod 8	Ľ.	Invert	Attack	Decay	Sustain	Release
LFO Amt Unison Voice Volume Attack Decay Sustain 15 2 10	5			~			18	6	18
150 Ami Unison Voice Volume Attack Decay Sustain 15 2 10	×	elocity Sensiti	wity				olifier Envel	obe	
5 15 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2 10 2	Атр Реа	k FilterPeak	LFO Amt		ce Volun		Decay	Sustain	Release
3 4 5 6 7 8 PROGRAM/PARAMETER		5			15		N	9	7
PROGRAMIPARAMETER	-	2	3	4	5	9	7	8	6
			PR	OGRAM/PAR	RAME	ER	E	Ė	H

ogram	Program Number 46 Name SYNTH CHORDS	46 Name	N/S	H CH	ORDS		o	Chorus: ON	2
0	Osc. Frequency	icy.	0	Osc Waveshape	ape		Mod	Modifiers	ı
Coarse	Fine	LFO Mod	7	<	٦.	Pulse Width PW Mod	PW Mod	Glide	Noise Mix
29		٦	-		-	34	٦		
	7	LFO		H		Oscillator	Oscillator Envelope		ı
Frequency	Amount	<	2	Env Amount	Invert	Attack	Decay	Sustain	Release
Ξ		-							
H	ī	Filter				Filter Er	Filter Envelope		
Cutoff	Resonance	Resonance LFO Mod Osc Mod Env Amount	Osc Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
69	7			0		က	9	=	14
	Velc	Velocity Sensitivity	ivity			Ami	Amplifier Envelope	obe	
Kybd Track		Amp Peak Filter Peak	LFO Amt	Unison	Unison Voice Volume Attack	e Attack	Decay	Sustain	Release
7	0	10			15			15	12
0	-	2	3	4	5	9	7	89	6
			ā	PROGRAMIPARAMETER	MANAGA	9			9

T MOT NYS

differs Glide	8-	ede	Sustain	Ē	SCHOOL STATE	Sustain	0	nvelope	Sustain		8
h PWA	32	Oscillator Envelo	Attack Deca	<u>-</u>	Filter Envelope	Attack Deca	9	Amplifier E	Attack		2 9
Sc. Waveshape	_		Env Amount Invert	-5	No. of Lot of Lo	Env Amount Invert	2	PATER PROPERTY.	Unison Voice Volum	<u> </u>	4 5
7			ر . د .	_		FO Mod Osc. Mod		Sensitivity	er Peak LFO Amt	m	2 3
Pso: Frequency Fine		LFO	ncy Amount		Filter	_		Velocity		<u>ο</u>	
	LFO Mod 1	Sec. Frequency Fine LFO Mod A A IL Pulse Width PW Mod Glide 32	Sc. Frequency Osc. Waveshape Modifiers Fine LFO Mod A A Dulse Width PW Mod Glide	Percentage Modifiers Fine LFO Mod A A A Delise Width PW Mod Glide		Fine LFO Mod					

Chorus: OZ Program Number 47 Name BASS WITH RELEASE TICK

S	Glide Noise Mix		Sustain Release			Sustain Release	15		Sustain Helease	6 01	8	-
 Modifiers	Pw Wod	1	Attack Decay St		Filter Envelope	Decay Su	_	elop	ne de se		7	
	₫	67			Filter	rt Attack	14	An	lume Alldex		9	CTED
Osc Waveshape	ر -	- 1	Env Amount Invert			iv Amount Invert	89		Omson voice vointile Atlack	1 15	4 5	DECCENTIONEMETER
	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	7				Resonance LFO Mod Osc. Mod Env Amount		tivity	-	_	3	Odd
tneuck	e LFO Mod	τ —	<	-	Filter	ince LFO Mod	_	Velocity Sensitivity	-	9	2	
Osc.	Coarse Fine	-	Frequency Amount			Cutoff Resona	0.8 15	Kybd Track		1 3	0 1	

40 Program Nu

7.1		Noise Mi
Chorus: OFF	iers	Glide
5	Modif	PW Mod
	S 300 10	Pulse Width PW Mod Glide Noise Mi
	9	٢
CLAKI-UNI	Osc Waveshap	<
CLA	0	7
Number 10 Name	ıcy	LFOMod
Number	c. Frequen	Fine

ő	Osc. Frequency	20	Ö	Osc Waveshape	De		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	۲	Pulse Width	PW Mod	Glide	Noise Mix
		-		-	-	32			
	-	LFO	TOWNS THE REAL PROPERTY.		THE REAL PROPERTY.	Oscillator Envelope	Envelope	7711	
Frequency	Amount	< - 1	ב	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	ter			ė	Filter Envelope	velope		
Cutoff	Resonance	LFO Mod	Osc Mod	Osc Mod Env Amount	Invert	Attack	Decay	Sustain	Release
	13		52	14		4	19	14	25
	Velo	Velocity Sensitivity	vity	THE REAL PROPERTY.		Amp	Amplifier Envelope	obe	
Kybd Track	Amp Peak	Amp Peak Filter Peak	LFO Amt	Unison .	Voice Volun	Unison Voice Volume Attack	Decay	Sustain	Release
2	2	٥	0	-	6	૭	22	12	7
0	-	2	3	4	5	9	7	8	6
			P	PROGRAM/PARAMETER	ARAME	rea			
			Ā	HOGRAM/P	ARAME	ren			

Program Number 50 Name ORGAN I

Chorus: ON

Section of the second	Glide Noise Mix	S STATE OF STREET	Sustain Release	SHAPE SERVICE	Sustain Release	~	The second	Sustain Release	4	8	The state of the s
Modifiers	Dowwod 0	Envelope	Decay Su	velope	Decay Su		Amplifier Envelope	Decay Su	_	7	
Name of Street	Pulse Width	Oscillator Envelope	Attack	Filter Envelope	Attack		Amp	e Attack		9	0
pe	د –		Invert		Invert		STATISTICS.	Voice Volume	5	5	- HARA
Osc Waveshape	<		Env Amount		Resonance LFO Mod Osc Mod Env Amount	7	SHAPE STATE	Unison	_	4	PPOCEAUTEAEA
ő	- 7	The state of	c	STATE OF	Osc Mod		vity	LFO Amt	5	3	6
cy	LFOMod	0	< _	ier	LFO Mod		Velocity Sensitivity	Filter Peak		2	
Osc. Frequency	Fine	LFO	3	Filter	Resonance	59	Velo	Amp Peak Filter Peak	σ	54.5	
so	Coarse 12		Frequency 3		Cutoff	2	STATE OF	Kybd Track	7	0	September 1

Program Number 49 Name SCRATCH

Chorus: OFF

Coarse	Osc. Frequency Fine	LFO Mod	7	Osc wavesnape	ed C	Pulse Width	PW Mod	Modifiers And Glide	Noise Mix
<u>@</u>		-				32			
		LFO		Transfer of		Oscillator Envelope	Envelope		
Frequency	Amount	< _	ל	Env Amount	Invert	Attack	Decay	Sustain	Release
=		_		_		_			
	Œ	Filter		THE REAL PROPERTY.		Filter Envelope	velope		
Cutoff	Resonance	LFOMod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
90	ق		34	7		7			
	Vel	Velocity Sensitivity	vity			Amp	Amplifier Envelope	edo	
Kybd Track		Amp Peak Filter Peak	LFO Amt	V nosinU	Voice Volume	ne Attack	Decay	Sustain	Release
_	4	m			5	0	_		
0	1	2	3	4	2	9	7	8	6
	The state of the s	Name and Address of the Owner, where the Owner, which is the Owner, which is the Owner, where the Owner, which is the Owner	The second second	The second section of the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the section is the second section in the section is the section in the section in the section is the section in the section in the section is the section in the section is the section in the	CONTRACTOR OF	SECTION AND PERSONS	The second second		

Program Number 51 Name VOX HUMANA

0	Osc. Frequency	cy	Ö	Osc Waveshape	pe	Signature 1	Modi	Modifiers	
Coarse	Fine	LFOMod	۲ ٦	<	۲	Pulse Width	PWMod	Glide	Noise Mix
		LFO		C. Carlo		Oscillator Envelope	Envelope		200
Frequency	Amoun	< .	ב	Env Amount	Invert	Attack	Decay	Sustain	Release
12	2	7							
M. M. S.	E	Filter	SEE SEE	GAMMA	HIZE MAR	Filter Envelope	velope		NAME OF STREET
Cutoff	Resonance	Resonance LFO Mod Osc. Mod Env Amount	Osc. Mod	Env Amount	Invert	Allack	Decay	Sustain	Release
20	26	7							
	Velo	Velocity Sensitivity	vity	Section 1		Amp	Amplifier Envelope	obe	
Kybd Track	Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volume	a Attack	Decay	Sustain	Release
~	ø				15	/5	77	0	13
0		2	3	4	5	9	7	8	6
Sec. 17.00		S ST. Phys.	0	PROGRAMIPARAMETER	ABAMET	6.0			

Program Number 52 Name STRINGS - SLOW SWEL Chorus: ON

0	Osc. Frequency	cy	0	Osc. Waveshape	be		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	7	Pulse Width PW Mod	PWMod	Glide	Noise Mix
2					-	20	_		
	LFO	0.			No. of Lot of Lo	Oscillator	Oscillator Envelope		
Frequency	Amount	<	2	Env Amount	Invert	Attack	Decay	Sustain	Release
0	0	7			/				
	Filter	ier				Filter Envelope	velope		
Cutoff	Resonance	LFO Mod	Osc. Mod	Osc. Mod. Env. Amount	Invert	Artack	Decay	Sustain	Release
46				7		20	27	=	20
	Velo	Velocity Sensitivity	vity			Am	Amplifier Envelope	ado	
bd Track	Kybd Track Amp Peak Filter Peak	Filter Peak	LFO Amt	Unison V	Unison Voice Volume	e Attack	Decay	Sustain	Release
7	w	7			2	12 24	28	<u>~</u>	61
0	-	2	3	4	S	9	7	80	6
-					District Co.				

Program Number 54 Name FLUTE

Chorus: OFF

Osc. Frequency
LFOMOd 7
LFO
ر — خ —
Filter
Resonance LFO Mod Osc Mod Env Amount
<u>_</u>
Velocity Sensitivity
(ybd Track Amp Peak Filter Peak LFO Amt
4
2 3
BOOCBAMBABANETER

Program Number 53 Name CHLOE

Chorus: ON

0	Osc. Frequency	cy	5	Osc. wavesnape	ad		MOG	Modifiers	
Coarse	Fine	LFO Mod	7	<	כ	Pulse Width	PW Mod	Glide	Noise Mix
2					-	26	_		
	LFO	0.				Oscillato	Oscillator Envelope		1
Frequency.	Amount	<	7	Env Amount	Invert	Attack	Decay	Sustain	Release
N	26	_							
	Filter				I	Filter E	Filter Envelope		
Cutoff	Resonance	LFO Mod	Osc. Mod	Resonance LFO Mod Osc Mod Env Amount	Invert	Attack	Decay	Sustain	Release
0:	~		ī,	00	-	20	4		7
	Velo	Velocity Sensitivity	vity			Am	Amplifier Envelope	obe	
od Track	Kund Track Amp Peak Filter Peak	Filter Peak	LFO Amt	Unison	Unison Voice Volume	۷.	Decay	Sustain	Release
_		4			\bar{c}	Φ	~	2	24
0	-	2	3	4	2	9	7	8	6
				No. of Concession, Name of Street, or other Persons and Street, or other P		-		4	
			PF	PROGRAM/PARAMETER	ARAMET	ER			

Program Number 55 Name AGOGO BELL

Chorus: OFF

ő	Osc. Frequency	ıcy	Ö	Osc. Waveshape	e e		Modifiers	fiers	
Coarse	Fine	LFO Mod	7	<	۲	Pulse Width	PW Mod	Glide	Noise Mix
5	_	LFO 1				Oscillator Envelope	Envelope		
Frequency	Amount	< <	۲ -	Env Amount	Invert	Attack	Decay	Sustain	Release
=			-	2			C 7		
Cutoff	Resonance	Resonance LFO Mod Osc Mod Env Amount	Osc Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
09	26	_	7						
	Ş	Velocity Sensitivity	vity			Amp	Amplifier Envelope	ado	
Kybd Track		Amp Peak Filter Peak	LFO Amt	Unison V	Voice Volume	ne Attack	Decay	Sustain	Release
~	0	_			5		0		$\bar{\omega}$
0	-	2	8	4	2	9	7	8	6
				DECCEANIDADAMETER		100			

Program Number 56 Name NOISE BURST I

Chorus: OFF

Sustain Pulse Width PW Mod Oscillator Envelope 4 Filter Envelope 32 Attack PROGRAM/PARAMETER \bar{c} Osc. Waveshape ū LFO Amt LFO Mod Osc. Frequency Kybd Track Amp Peak -requency Coarse

Program Number S B Name HEAVY BASS

	Glide Noise Mix	П	Sustain Release		Sustain Release	2		Sustain Release	2 2	8
Modifiers	PW Mod GI		Decay Sus	velope	Decay Sus	13 6	Amplifier Envelope	Decay Sus	15	7
	Pulse Width	Oscillator Envelope	Attack	Filter Envelope	Attack		Атр	Attack .		9
edi	۲ 🕶		Invert	No.	Invert		The Marie	Voice Volume	12	. 5
Osc Waveshape	۲ ۲	Charles .	Env Amount		Osc. Mod Env Amount	15	THE PARTY	Unison	-	4
0	۲ –۱		۲	100			ivity	LFO Ami		3
icy	LFO Mod	LFO	⟨ →	Filter	LFOMod		Velocity Sensitivity	Filter Peak	~	2
Osc. Frequency	Fine		Amount 23	Ē	Resonance	14	Vel	Amp Peak	2	-
ő	Coarse		- L		Cutoff	50	To the same of	ybd Track		0

Program Number 57 Name MOCK HORN

Chorus: ON

Fine LFOMod 1	٥	Osc. Frequency	cy	Ö	Osc. Waveshape	be	1	Modifiers	riers	
1 1	Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PW Mod 1	Glide	Noise Mix
1	24		_	_			$\overline{\omega}$			
		LF	0				Oscillato	r Envelope		
1 Filter Envelope	equency	2.5	<	2	Env Amount	Invert	Attack	Decay	Sustain	Release
Filter Filter Envelope Filter Envelope Filter Envelope Sustain	=	ŀ	_							
15		Eili	er				Filter E	nvelope		
9 6 17 12	Cutoff	Resonance		Osc. Mod	Env Amount	36	Attack	Decay	Sustain	Release
Velocity Sensitivity Amplifier Envelope Amp Peak Filter Peak LFO Amt Unison Voice Volume Attack Decay Sustain 10 10 15 17 9 1 2 3 4 5 6 7 8	37	ī			0		9	17	12	00
Amp Peak Filter Peak LFO Amt Unison Voice Volume Attack Decay Sustain 10 10 10 15 9 1 2 3 4 5 6 7 8		Velo	city Sensiti	vity			Am	plifier Envel	obe	7
10 15 17 9 4 5 6 7 8 8 8 8 8 8 8 8 8	bd Track		Filter Peak	LFO Amt	Unison	Voice Volum		Decay	Sustain	Release
3 4 5 6 7 8	N	0	0			$\bar{\nu}$			6	4
	0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	3	4	5	9	7	8	6
			STATISTICS.					1		

Program Number 59 Name GROAN

Chorus: ON

- rine	LFO Mod	so	Osc Wavesnape	- - -	Pulse Width	PWA	Modifiers fod Glide	NoiseMix
	-	-4			32 oscillator Envelope	Envelope		31
Amount	<u> </u>	2	Env Amount	Invert	Attack	Decay	Sustain	Release
Filter Filter Besonance LFO Mod Osc. Mod Env Amount	O Mod Os	C Mod	Env Amount	Invert	Filter En	Filter Envelope	Sustain	Release
09		51	12	ч		31	0	27
Velocity Sensit Amp Peak Filter Peak	.≥	Ity LFO Amt	Unison Voice Volume	Oice Volum	Attac	Amplifier Envelope	Ope	Release
01	0		н	5			15	23
	2	3	4	2	9	7	8	6
		-	DECCEANIDABANICTED	-	9			

Program Number 60 Name ORGAN-BRIGHT Chorus: ON

0	Osc. Frequency	LCy .	0	Osc Waveshape	abe		Mod	Modifiers	
Coarse 24	Fine	LFOMod	7	<	د –	Pulse Width	- PW Mod	Glide	Noise Mix
		LFO				Oscillator	Oscillator Envelope	-	
Frequency	Amount 2	<u><</u>	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
	F	Filter	The same			Filter E	Filter Envelope		Ì
Cutoff	Resonance	LFOMod	Osc. Mod	Osc. Mod Env Amount	I Invert	Attack	Decay	Sustain	Release
84	5		n	~				~	
	Vel	Velocity Sensitivity	vity	101		Am	Amplifier Envelope	obe	
Kybd Track	A -	Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay	Sustain	Release
7	~		0		<u>m</u>			<u>4</u>	_
0	-	2	3	4	5	9	7	8	6
			PF	PROGRAMIPARAMETER	PARAMET	ER	E		

Program Number 62 Name SC 1-F1 Chorus: ON

1	0	Osc. Frequency	JCV .	0	Osc Waveshape	ape		Mod	Modifiers	ı
LFO	Coarse 24	Fine	LFOMod		<	17.5	Pulse Width		Glide	Noise Mix
Amount	I		FO		ť		Oscillator	Envelope		I
S	requency 11	J	<	ւ -1	Env Amount		Attack	Decay	Sustain	Release
S		==	Iter			I	Filter Er	velope		
8	Cutoff	Resonance		Osc. Mod	Env Amount		Attack	Decay	Sustain	Release
Velocity Sensitivity Amplifier Envelope Amplifier Posar LFO Amt Unison Voice Volume Attack Decay Sustain 10 10 9 15 15 15 1 2 3 4 5 6 7 8 PROGRAM/PARAMETER	93	Φ			m			7	7	24
10 10 9 15 6 7 8 15 8 15 15 15 15 15		Velo	ocity Sensiti	vity			Amp	olifier Envel	obe	
. 10 10 9 15 15 15 15 15 PHOGRAMIPARAMETER	ybd Track		Filter Peak	LFO Amt		Voice Volum	Attac	Decay	Sustain	Release
1 2 3 4 5 6 7 8 PROGRAM/PARAMETER	7	10	0	6		15			15	22
PROGRAMIPARAMETER	0	-	. 2	3	4	2	9	7	8	6
		200	STATE	PF	3OGRAM/P	ARAMET	ER			

Program Number 6 Name DIGI HORN

ш	
Ϋ́	
O	
2	
å	
0	

	0	Osc. Frequency	cy	0	Osc Waveshape	e		Modi	Modifiers	
	Coarse	Fine	LFO Mod	7	<	۲	Pulse Width		Glide	Noise Mix
Continuount Invert Attack Decay Sustain Continuount Invert Attack De	36		_	-		~	4			
Company Invert Attack Decay Sustain		T.	FO		Name and Address of the Party o	Section 1	Oscillator	Envelope		
Filter Envelope Sustain	equency		<	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
Sc. Mod	=		_							
3 6 1 7 7	-	Ē	ter	The state of	STATE AND ADDRESS OF THE PARTY	Safety Samuel	Filter En	ivelope		
3 6 1 7	Cutoff	Resonance			Env Amount	Invert	Attack	Decay	Sustain	Release
LFO Amt Unison Voice Volume Attack Decay Sustain 1	36	4		3	9	_		_		
Peak LFO Amt Unison Voice Volume Attack Decay Sustain 1 1 15 19 19 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10		Velo	ocity Sensiti	vity			Ami	olifier Envelo	ade	
	bd Track	Amp Peak	Filter Peak			oice Volum		Decay	Sustain	Release
3 4 5 6 7 8	N	7		=		$\bar{\kappa}$		61		6
	0	-	2	3	4	2	9	7	8	6
				-0	ACC DAMED	-	9	1		

Program Number 63 Name ECHO

Chorus: OFF

ŏ	Osc. Frequency	cv	Ö	Osc Waveshape	e e		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PWA	Glide	Noise Mix
36			-1	_ _		32			
	-	LFO				Oscillator	Oscillator Envelope	Ī	
Frequency	Amount	<	7	Env Amount	Invert	Attack	Decay	Sustain	Release
Ξ		-1							
	E	Filter				Filter Er	Filter Envelope		
Cutoff	Resonance	Resonance LFO Mod Osc. Mod Env Amount	Osc. Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
6.0				ന	7	4			
	Velc	Velocity Sensitivity	vity			Am	Amplifier Envelope	obe	
bd Track	Kybd Track Amp Peak Fitter Peak	Filter Peak	LFO Amt	Unison V	Voice Volume	ne Attack	Decay	Sustain	Release
-	0				15			15	12
0	-	2	3	4	5	9	7	8	6
4	100		bd	PROGRAMIPARAMETER	ARAME	FB	Name of Street		

Program Number 64 Name BACKWARD TRIANGLES Chorus: ON

Coarse	Usc. Frequency Fine	LFO Mod	7	Osc waveshape	e L	Pulse Width	PW Mod	Modifiers And Glide	Noise Mix
12		ᅱ		-1	н	32			
	17	LFO			1	Oscillator Envelope	Envelope		
Frequency	Amount	< .	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
=	ე —	_							
No.	Fil	Filter	100	11.5	- 100	Filter Envelope	velope		
Cutoff	Resonance	LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
19	S			6	-		21		૭
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	edo	1
Kybd Track	Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay	Sustain	Release
~		9	ထ		13		S	15	15
0		2	3	4	2	9	7	8	6
	No. of the	PETRICIA	P	PROGRAM PARAMETER	ABAMET	83	0.11	No.	1.7.2

Program Number 66 Name ORGAN III

Chorus: OFF

ő	Osc. Frequency	ıcy	0	Osc Waveshape	abe		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PW Wod	Glide	Noise Mix
24			_		<u>m</u>	35	_		
	The state of the s	LFO		AND THE	STATE OF THE PARTY OF	Oscillator	Oscillator Envelope		
Frequency	Amount	<	۲	Env Amount	Invert	Attack	Decay	Sustain	Refease
=	<u>∞</u>	_					,	On	
THE SECTION	Fil	Filter	STATE OF THE PARTY.		240	Filter En	Filter Envelope		THE PERSON
Cutoff	Resonance	LFO Mod	Osc Mod	Osc Mod Env Amount	Invert	Attack	Decay	Sustain	Release
83	32			m				m	
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	obe	
Kybd Track		Amp Peak Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay	Sustain	Release
7	N				5			<u>7</u>	_
0	1	2	3	4	5	9	7	8	6
	S. S. Park	N. WES	٩	PROGRAM/PARAMETER	PARAMET	ER	S. Contraction		Solo S

Program Number 65 Name PLE JADES

Chorus: ON

0	Osc. Frequency	icy	0	Osc Waveshape	ec.		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PW Wod	Glide	Noise Mix
12			-		~	23	-	ч	
See See	Li	LFO				Oscillato	Oscillator Envelope	Las Mills	24 July 188
Frequency	Amount	۲	ב	Env Amount	Invert	Attack	Decay	Sustain	Release
080	Fill	Filter	N. T. S.		Contract of the	Filter E	Filter Envelope	THE PERSON NAMED IN	
Cutoff	Resonance	LFO Mod	Osc. Mod	Resonance LFO Mod Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
67	7			~			20	7	20
	Velo	Velocity Sensitivity	vity		1	Am	Amplifier Envelope	lope	100
bd Track	Kybd Track, Amp Peak, Filter Peak	Filter Peak	LFO Amt	V nosinU	Voice Volume	e Attack	Decay	Sustain	Release
4	ω	5			15			=	17
0	12	2	3	4	5	9	7	8	6
			P	PROGRAM/PARAMETER	ARAMET	ER		THE RES	

Program Number 67 Name ARTEMEIDES

Ħ
4
TAU
8Name
Number 6
rogram

Chorus: ON

0	Osc. Frequency	ıcy	0	Osc Waveshape	ape		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	۲.	Pulse Width	PW Wod	Glide	NoiseMix
			_		-	20	-1	m	
	-	LFO				Oscillator	Oscillator Envelope		
Frequency	Amount	<	7	Env Amount	1 Invert	Attack	Decay	Sustain	Release
<u>-</u>	31	н	.0					g.	
	Ē	Filter			I	Filter Er	Filter Envelope		
Cutoff	Resonance	LFO Mod	Osc. Mod	Osc. Mod Env Amount	t Invert	Attack	Decay	Sustain	Release
77	ω			6			23	7	24
I	Velc	Velocity Sensitivity	vity			Am	Amplifier Envelope	lope	
(ybd Track	Kybd Track Amp Peak Filter Peak	Filter Peak	LFO Amt	Unison	Unison Voice Volume	e Attack	Decay	Sustain	Release
-1	80	4		-	=		1	15	24
0	-	2	3	4	2	9	7	8	6
			PF	PROGRAM PARAMETER	PARAMET	ER.	H		

Program Number 70 Name ORGAN II

Ö	Osc. Frequency	ıcy	0	Osc Waveshape	36		Mod	Modifiers	F
Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PW Wod	Glide	Noise Mix
12				_	_	7	_		
		LFO			ı	Oscillator Envelope	Envelope	I	
Frequency	Amount 25	< <u> </u>	ל	Env Amount	Invert	Attack	Decay	Sustain	Release
	E	Filter				Filter Envelope	velope		ı
Cutoff 77	Resonance 29	29 3 3	Osc Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
	Vel	Velocity Sensitivity	vity			Amp	Amplifier Envelope	ado	
bd Track	Amp Peak	Kybd Track Amp Peak Filler Peak	LFO Amt	Unison Voice Volume	oice Volum	e Attack	Decay	Sustain	Release
7	0		ω		5			4	_
0	-	2	3	4	5	9	7	8	6
		STATE OF THE PERSON							

Program Number 69 Name FALLING TRILL

Chorus:

32 32	0	Osc. Frequency	ncy	0	Osc Waveshape	abe		Mod	Modifiers	
Care Amount Invert Attack Decay Sustain Care Amount Invert Amount Invert Attack Decay Sustain Care Amount Invert Amount Invert Attack Decay Sustain Care Amount Invert Amount In	27	Fine	LFOMod,	7	<	ر	Pulse Widt	1	Glide	Noise Mix
Company Comp			FO			THE PERSON	Oscillato	or Envelope		
Osc. Mod Env Amount Invert Attack Decay Sustain 9 7 7 7 9 IFIGE Envelope Printy Amplifier Envelope LFO Amil Unison Voice Volume Attack Decay Sustain 13 4 5 6 7 8	Frequency /5		<	۲ 🖊	Env Amoun		Attack	Decay	Sustain	Release
9 7 7 7 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Œ.	ilter			The second	Filter	nvelope		I
45 7 7 19 19 19 19 19 19	Cutoff	Resonance	e LFO Mod	Osc. Mod	Env Amoun		Attack	Decay	Sustain	Release
LFO Amt Unison Voice Volume Attack Decay Sustain 13 4 5 6 7 8	44	45	_	6	~		_	6/		21
1		Ve	locity Sensiti	vity			An	nplifier Enve	lope	
3 4 5 6 7 8	Kybd Track	Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volum		Decay	Sustain	Release
3 4 5 6 7 8	~		=			/3	~	2/		18
DDOCDAM BABANCTED	0	-	2	3	4	5	9	7	8	6
				30	Mydood	DADAMET	9			1

Program Number 7 | Name CORNET

Chorus: OFF

Osc E	I								
1350	Osc Frequency	cy	Ö	Osc Waveshape	96		Mod	Modifiers	
Coarse 24	Fine	LFO Mod	· –	< _	٦	Pulse Width PW Mod	PW Mod	Glide	Noise Mix
-	LFO	0	١			Oscillator Envelope	Envelope		
Frequency Ar	Amount	< -	ל	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	er				Filter Envelope	velope		
Cutoff Res	Resonance	LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
69			20	=		∞	61	9	n
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	obe	
Kybd Track Am	p Peak	Amp Peak Filter Peak	LFO Amt	Unison Voice Volume	oice Volun	ne Attack	Decay	Sustain	Release
7	2	0	W		\bar{c}	-		=	0
0	-	2	3	4	S	9	7	8	6
				STATE OF THE PERSON NAMED IN COLUMN 1					

Program Number 72 Name STRING X

Chorus: ON

5	Carried action		The state of the s						
Coarse 24	Fine	LFO Mod	7	<	۲ –	Pulse Width	PW Mod	Glide	Noise Mix
	LFO	0				Oscillator Envelope	Envelope	O TOWN	
Frequency	Amount 13	< -	2	Env Amount	Invert	Attack	Decay	Sustain	Release
	Ē	Filter	Section 1		1000	Filter Envelope	velope	Co State	15005
Cutoff	Resonance	LFO Mod	Osc. Mod	Osc. Mod. Env Amount	Invert	Attack	Decay	Sustain	Release
0.3				7		20	27	=	20
	Velo	Velocity Sensitivity	vity				Amplifier Envelope	ado	
~	2 3 1		6	noseno 	12		28 S	4	19
0		2	3	4	5	9	7	89	6
The state of	Paris I	Street, or other Persons	P	PROGRAMIPABAMETER	ABAMET	FB	STATE OF	TESTINE ST	

Program Number 74 Name STRING BASS

Chorus: OFF

Coarse Fine LFOMOd 1 1 1 1 1 1 1 1 1	< - -	۲.	Pulse Width	PW Mod	Chato	
Amount Filte Resonance 36					Sing	Noise Mix
Amount Filte	-	-1	21	7		
Amount Filte Resonance 36	THE RESERVE TO SERVE THE PARTY OF THE PARTY	State 1	Oscillator Envelope	Envelope		
Filtr Resonance	PL Env Amount	Invert	Artack	Decay	Sustain	Release
Resonance 36 Veloc				K		16
Resonance 36	Contract Street, or other	The second second	Eilter Envelope	velope		1000000
36	c Mod Env Amount	Invert	Attack	Decay	Sustain	Release
8 36	-	9. 9. <u>16</u>		-	(
Velocity Sensitivity	5			22	7	6
			Amp	Amplifier Envelope	ado	
Kybd Track Amp Peak Filter Peak LFO Amt	Unison	Voice Volume	Attack	Decay	Sustain	Release
7 2		15	-	20		=
0 1 2	3 4	\$	9	7	80	6
THE REAL PROPERTY AND ADDRESS OF THE PERSON NAMED IN						

Program Number 73 Name HIGH SYNTH

Chorus: ON

٥	Osc. Frequency	icy	5	Osc. wavesnape			DOW	Modifiers	
A 8	Fine	LFO Mod		۲ -	2	32	PW Wod	Chide	Noise Mix
提 从	T	LFO	N-MAN	20 20 20	13/2	Oscillator Envelope	Envelope	11/2/11	NO.
Frequency	Amount	<	۲ _	Env Amount	Invert	Attack	Decay	Sustain	Release
Ξ		-1							
を と の と の と の と の と の と の と の と の と の と	E	Filter			E S	Filter Envelope	velope		0.000
Cutoff	Resonance	LFOMod		Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
20	14			Ξ			16	œ	26
Kybd Track	Amp Pe	Velocity Sensitivity	ivity LFO Amt	Unison	Voice Volume	Attac	Amplifier Envelope	Sustain	Release
7	7	Φ	7		13		=	15	27
0	-	2	3	•	5	9	7	8	6
	1000		STATE OF THE PARTY.	The state of the s		-	Section 1		

Program Number 75 Name 5 TH'S RELEASE

		Noise Mix		-		Helease 17	Release	24	6	1
5	差し			-	-					
20 :	iers	Glide		5	0.00	o	Sustain	12	8	200
5	Modifiers	PW Wod	Oscillator Envelope		Filter Envelope	17	Amplifier Envelope k Decav St	12	7	THE STATE OF THE PARTY OF THE P
		Pulse Width	Oscillator	Alldex	Filter Er	Artack M	Am) e Attack		9	
A>F		۲ ႕	1	٦		Invert	ice Volum	15	5	
Program Number o Name O 11 S KELEASE	Osc. Waveshape	<	STATE OF STA	14		7	Unison Voice Volume Attack			The second secon
0	so	7				19 7	ivity LFO Ami		3	1
Name		LFO Mod	<	-		LFC Mod	Velocity Sensitivity eak Filter Peak LF	12	2	
Number .	Osc. Frequency	Fine	LFO		Filter	N	Velocity Sensit	_		LANGA -
Program	so	19	100 Cont.			73	Kybd Track	~	0	The same

Program	Number	78 Name	BACK	Program Number 78 Name BACKWARDS BASS	BAS	~		Chorus: OFF	SFF
0	Osc. Frequency	ıcy	O	Osc Waveshape	be		Mod	Modifiers	ı
Coarse	Fine	LFO Mod	7	<	۲	Pulse Width	PW Wod	Glide	Noise Mix
			-		•	4	-		
			4		4	5	4		
	רנ	LFO				Oscillator	Oscillator Envelope		
Frequency	Amount	<	7	Env Amount	Invert	Attack	Decay	Sustain	Release
	0	-							
	2	4							
	Fil	Filter			ı	Filter Er	Filter Envelope		
Cutoff	Resonance	LFO Mod	Osc. Mod	Resonance LFO Mod Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
,	C		((,		,	•	2
0.	77		9	<u></u>	1		2	4	62
	Velc	Velocity Sensitivity	vity		i	Am	Amplifier Envelope	obe	
Kybd Track	Kybd Track Amp Peak Filter Peak	Filter Peak	LFO Amt	Unison Voice Volume Attack	oice Volum	e Attack	Decay	Sustain	Release
-	V			-	7			11	20
4	>			-	2			:)
0	-	2	3	4	9	9	7	8	6
			١	1	I			I	
			ď	PROGRAM/PARAMETER	ARAMET	ER			
			1000		Children or winds				

Program Number 77 Name FUNK

_
~
-
n
v
80
ä
-
0
£
O

Coarse	Fine	LFO Mod	۲ -	<	د _	Pulse Width	PW Mod	Glide	Noise Mix
,		LFO				Oscillato	Oscillator Envelope		
Frequency	Amount	< -	2	Env Amount	Invert	Attack	Decay	Sustain	Release
ı	Fill	Filter				Filter E	Filter Envelope		
Cutoff	Resonance	Resonance LFO Mod Osc Mod Env Amount	Osc. Mod	Env Amoun	Invert	Attack	Decay	Sustain	Release
21	33		21	0			27		9/
	Velo	Velocity Sensitivity	vity			Am	Amplifier Envelope	obe	
Kybd Track	11100	Amp Peak Filter Peak	LFO Amt	Unison	Voice Volume	Attac	Decay	Sustain	Release
-		15	Ø		15		56	0	~
0	1	2	3	4	5	9	7	8	6
							1		
				OGHAM	PHOGHAM PAHAMETER	4			

Program Number 79 Name FRANKENSTEIN

Chorus: OZ

0	Osc. Frequency	lcy	0	Osc Waveshape	e.		Mod	Modifiers	
Coarse	Fine	LFO Mod	7	\ < -	7	Pulse Width	PW Mod	Glide	Noise Mix
						Oscillator Envelope	Envelope		28
Frequency	Amoun	<	ב	Env Amount	Invert	Attack	Decay	Sustain	Release
9		`		15			23		
	F	Filter				Filter Envelope	velope		
Cutoff	Resonance	Resonance LFO Mod Osc Mod Env Amount	Osc Mod	Env Amount	Invert	Altack	Decay	Sustain	Release
	53		39	13			ო	15	9
	Vel	Velocity Sensitivity	vity		N.	Атр	Amplifier Envelope	ade	
Kybd Track	20.	Amp Peak Filter Peak	LFO Amt	Unison Voice-Volume Attack	oce-Volum	e Attack	Decay	Sustain	Release
~	49	00			13		2/		15
0	-	2	3	4	5	9	7	8	6
			10000						

Program Number 80 Name WAK LEAD

Chorus: OFF

1 54 1 1 54 1 1 54 1 1 54 1 1 54 1 1 54 1 1 54 1 1 54 1 1 54 1 1 54 1 1 54 1 1 1 54 1 1 1 1 1 1 1 1 1	0	Osc. Frequency	icv	Ö	Osc. Waveshape	De		Mod	Modifiers	
	Coarse	Fine	LFO Mod		<	ב	Pulse Width	PW Mod	Glide	Noise Mi
Care Amount Invert Attack Decay Sustain Care Amplifier Envelope Care	36		-1			-	54	٦		
Coc. Mod		17	FO				Oscillator	Envelope		
13 15 15 15 15 15 15 15	10		⟨ ⊣	۲	Env Amount		Attack	Decay	Sustain	Release
13		E	ter	STATE AND			Filter En	velope		
13	Sutoff	Resonance		Osc. Mod	Env Amount	2000	Attack	Decay	Sustain	Release
1 1 3 4 5 6 7 8 19 19 19 19 19 19 19		4			13				15	23
1 13 3 15 8 15 9 PROGRAMIPARAMETER		Velo	ocity Sensiti	vity				olifier Envel	lope	
1 2 3 4 5 6 7 8 PROGRAM/PARAMETER	od Track	e Amb Leak	Filter Peak	LFO Ami	- H	Joice Volum		Э	Sustairi 15	Release
PROGRAMIPARAMETER	0	1	2	3	4	5	9	7	8	6
		N. S.	THE PER	P	ROGRAMIP	ARAMET	ER	Section 1	STATE OF	

Program Number 82 Name STRING I

Chorus: ON

0	Osc. Frequency	ncy.	Ö	Osc Waveshape	pe	7 50 CS V	Modifiers	liers	
Coarse	Fine	LFO Mod	7	<	٦	Pulse Width	PW Mod	Glide	Noise Mix
24			-		-	43	-		3
		LFO	Section 2	- Miller	6/8 -	Oscillator Envelope	Envelope	STATE OF	
Frequency	Amount	< -	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
,		Filter				Filter Envelope	velope		
Cutoff	Resonance	Resonance LFO Mod Osc Mod Env Amount	Osc Mod	Env Amount	Invert	Attack	Decay	Sustain	Release
84				7		W	27	=	21
THE PERSON	Vel	Velocity Sensitivity	vity		Notice of	Amp	Amplifier Envelope	obe	TOTAL P
bd Track	Kybd Track Amp Peak Filter Peak	Filter Peak	LFO Amt	Unison	Voice Volume	e Attack	Decay	Sustain	Release
7	9				12	=	28	6	17
0	1	2	3	4	5	9	7	8	6
Designation of the last	STATE OF STREET				100000				

Program Number 81 Name BACH TRUMPET

Chorus: OFF

	Fine LFO	Fine LFO Mod	- -	<	נ	Pulse Width 32	ulse Width PW Mod Gi 32 Oscillator Envelope	Glide	Noise Mix
9	Amount	< -	۲	Env Amount	Invert	Attack	Decay	Sustain	Release
8	Filter	er FO Mod		Oer Mod Fou Amount	loung 1	Filter Envelope	velope	Sign	Pological Control of the Control of
1 -	7			5		=	2	9	Ŋ
7	Velo	Velocity Sensitivity Kybd Track Amp Peak Filter Peak LF	vity LFO Amt	Unison	Unison Voice Volume Attack	Amp a Attack	Amplifier Envelope k Decay St	ope	Release
HI	\overline{v}	m	ω		\bar{c}	_		7	6
-		2	3	+	5	9	7	8	6
7.0	W	300	à					A COLUMN	N. P. S. S.

Tam Number 83Name LEAD IV

1 1 36 2	rogram	Number	Program Number O3Name LEAV IX	E S	¥			5	CHOIDS:	
Fine LFOMod	0	sc. Frequer	ncy	0	sc Wavesha	be		Mod	fiers	
	Coarse	Fine	LFO Mod	7	<	2	Pulse Width		Glide	NoiseMix
1	24		_	_		_	36		7	
Amount			FO	4000	Market of	W. Carlo	Oscillator	Envelope	0125400	
1	Frequency	Amount	<	٢	Env Amount		Attack	Decay	Sustain	Release
Filter	7	TY.	_							
16	Section 2	ŭ.	lter				Filter E	nvelope		
16	Cutoff	Resonance	e LFO Mod	Osc. Mod	Env Amount		Attack	Decay	Sustain	Release
Velocity Sensitivity	63	<u>9</u>			m		(^	1	0
Amp Peak LFO Amt Unison Voice Volume Attack Decay Sustair 7 8 1 15 12 1 2 3 4 5 6 7 8	SUS COL	Ve	locity Sensit	ivity	STORY ST	200	Am	plifier Envel	obe	(P) (S)
7 8 1 15 12 1 1 2 3 4 5 6 7 8	ybd Track		k Filter Peak	LFO Amt	Unison	Voice Volur		Decay	Sustairi	Release
1 2 3 4 5 6 7 8	7	7	ω_		_	<u> </u>			12	7
DESCRIPTION OF THE PROPERTY OF	0		2	3	4	2	9	7	8	6
	1	Section 1		THE REAL PROPERTY.				No.		

Program Number 89 Name LEAD I

ı				
Ļ	1			
Ļ	Į	Ļ		
ξ)	١	
	1			
	1	U.	١	
	ì	ï	:	
	1	٥	١	
	å		į	
	١	-	•	

Fine LFOMod A	Ö	Osc. Frequency	cy	Õ	Osc. Waveshape	ape		Mod	Modifiers	
Continuo	Soarse 36	Fine	LFO Mod	< -	<	د —	Pulse Width	1	Glide	Noise Mix
1 Env Amount Invert Attack Decay Sustain Filter Envelope		- 1	0	The same of			Oscillator	Envelope		
1	Frequency	Amount	<	۲	Env Amoun		Attack	Decay	Sustain	Release
Filter Filter Filter Envelope Filter Envelope 14			_							
16			ter				Filter En	ivelope		
16	Cutoff	Resonance		Osc. Mod	Env Amoun		Attack	Decay	Sustain	Release
Track Amp Peak Filter Peak LFO Amt Unison Voice Volume Attack Decay Sustain 1	_	9			ø				<u>4</u>	-
Amp Peak Filter Peak LFO Amt Unison Voice Volume Attack Decay Sustain 5 7 1 16 15 1 2 3 4 5 6 7 8		Velo	ocity Sensiti	vity			Amp	olifier Envel	obe	
5 7 1 15 15 15 15 15 1	Track		Filter Peak	LFO Amt		Voice Volum		Decay	Sustain	Release
1 2 3 4 5 6 7 8 PROGRAM/PARAMETER	OI.	rv.	/		_	$\bar{\kappa}$			2	~
PROGRAM/PARAMETER	0	1	2	3	4	2	9	7	80	6
		100	STATE IN	P	ROGRAM	PARAMET	ER	N. S. S.	1218181	1

Program Number 86 Name DROPPED PITCH LEAD Chorus: OFF

Ö	Osc. Frequency	ıcy	Ö	Osc. Waveshape	be	Total Street	Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	כ	Pulse Width	PW Mod	Glide	Noise Mix
23		-	н			32			
	7	LFO		- X 5 - X -		Oscillator Envelope	Envelope		
Frequency	Amount	<	۲.	Env Amount	Invert	Artack	Decay	Sustain	Release
Ξ		-1		ڡ			૭	૭	23
	F	Filter			200	Filter Envelope	velope		
Cutoff	Resonance	Resonance LFO Mod	Osc Mod	Osc Mod Env Amount	Invert	Altack	Decay	Sustain	Release
16	σ			ო			7	7	31
	Vel	Velocity Sensitivity	ivity			Amp	Amplifier Envelope	obe	
Kybd Track	Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volume	ne Attack	Decay	Sustain	Release
7	9	9	2	٦	15			4	20
0	-	2	3	4	2	9	7	8	6
			id.	PROGRAM/PARAMETER	ARAME	FER			

Program Number 85 Name UNISON - LONG GLIDE

)FF	Noise Mix	_	Release			Release	27		Release	29	6	
Chorus: OFF	Modifiers fod Glide	12	Sustain		N. I	Sustain	Ξ	obe	Sustain	15	8	
Ö	Mod PW Mod	Envelope	Decay		velope	Decay		Amplifier Envelope	Decay		7	
SLIDE	Pulse Width PW Mod	32 Oscillator Envelope	Attack	_	Filter Envelope	Attack		Атр	e Attack		9	ER
NG			Invert			Invert			oice Volum	15	5	ARAMET
Program Number 85 Name UNISON - LONG GLIDE	Osc Waveshape		Env Amount			Env Amount	9		Unison Voice Volume	,,	4	PROGRAM/PARAMETER
UNISO	Ö	-1	٦			Osc. Mod		vity	LFO Amt	12	8	PP
5 Name	cy LFO Mod	- - -	<	-1	Filter	Resonance LFO Mod Osc. Mod Env Amount		Velocity Sensitivity	Kybd Track Amp Peak Filter Peak	2	2	100 miles
Number	Osc. Frequency Fine [Amount	_	FI	Resonance	21	Velo	Amp Peak	4	-	
Program	Coarse		Frequency	Ξ	THE STATE OF	Cutoff	84		Kybd Track	7	0	

Program Number 87 Name LOW BRASS

0	Osc. Frequency	cy	0	Osc Waveshape	e	STREET, SQUARE	Modifiers	fiers	
Coarse	Fine .	LFO Mod	7	<	۲	Pulse Width	PW Mod	Glide	Noise Mix
		_	_			w			
	LFO	0.			į	Oscillator Envelope	Envelope		
Frequency	Amount	< -	ל	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	ier				Filter Envelope	velope		
Cutoff	Resonance	LFO Mod	Osc. Mod	LFO Mod Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
	7			ī.		6	4	7	7
	Velo	Velocity Sensitivity	rity			Amp	Amplifier Envelope	obe	
rbd Track	Kybd Track Amp Peak Filter Peak	Filter Peak	LFO Amt	Unison Voice Volume	oice Volun	ne Attack	Decay	Sustain	Release
7	o	9			\bar{c}		1	6	=
0		2	3	4	5	9	1	8	6
100									

Program Number 88 Name STRING IL

Chorus: ON

	Noise Mix		Release			Release	8		Release	9	6	
fiers	Glide		Sustain			Sustain	=	edo	Sustain	$\bar{\omega}$	8	
Modifiers	PWMod	Envelope	Decay		velope	Decay	27	Amplifier Envelope	Decay	28	7	
	Pulse Width	Oscillator Envelope	Attack		Filter Envelope	Attack	9	Amp	Attack	9	9	В
	۲ -	-	Invert			Invert			Voice Volume	$\overline{\Box}$	5	ARAMETE
Osc Waveshape	<		Env Amount		te.	Osc. Mod Env Amount	2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Unison Vc		4	PROGRAM/PARAMETER
os	7		٦.		U.X.	Osc. Mod		rity	LFO Amt		3	PA
y	LFOMod	-	<	_	ie.	LFO Mod		Velocity Sensitivity	Filter Peak	2	2	
Osc. Frequency	Fine	LFO	Amount	25	Filter	Resonance		Velo	Amp Peak Filter Peak	ΓZ.		
OS	Coarse	1	Frequency	7		Cutoff	4		Kybd Track	7	0	N. Park

Program Number 90 Name SARAN

Chorus: ON

Modifie	Pulse Width PW Mod Glide Noise Mix	Oscillator Envelope	Altack Decay Sustain release	Filter Envelope	1 Altack Decay Sustain Release	15	Amplifier Envelope	ume Attack Decay Sustain Release	21 15	6 7 8 9
Osc Waveshape	ر 		5 Invert	DESCRIPTION OF THE PERSON NAMED IN	Env Amount Invert	10 1	CATTON FORE COME.	Unison Voice Volume	15	4 5
	LFO.Mod 7			AND PARTY AND PERSONS	Resonance LFO Mod Osc Mod Env Amount	63	Velocity Sensitivity	Iter Peak LFO Ami		2 3
Osc. Frequency	Coarse Fine L		requency Amount	Filter	Cutoff Resonance L	99 09	Velocit	ybd Track Amp Peak Filter Peak	2 10	0 1

Program Number89 Name BASS DRUM

Chorus: OFF

Coarse Fine LFO Mod LFO Frequency Amount Frequency Amount Frequency Amount Frequency Amount Frequency Amount Frequency Amount Frequency Frequency FO Mod Oce		<	۲	D. den tallation	DW MAN	Glide	Minne han
Amount A				No expense			- L
Amount Amount Beconance Follow	ŀ	-		Oscillator Envelope	Envelope		
Filter Reconance FO.Mod	ح بو	Env Amount	Invert	Attack	Decay	Sustain	Release
Resonance FO Mod		-		Filter Envelope	velope		
DOWN CT POLICE	Osc. Mod Env Amount	v Amount	Invert	Attack	Decay	Sustain	Release
40 63		4				10	7
2					Amplifier Envelope	ado	
Kybd Irack Ampreak Filler Peak LF	LFCAMI	Nuison V	Voice Volume	e Attack	Decay	Sustain	Release
1 4 1			2		•		_
0 1 2	3	4	5	9	7	8	6
CHARLES STREET, STREET					The second		

Program Number 9 | Name BRASS II

Coarse	Osc. Frequency	CV	Ö	Osc Waveshape	De		Modi	Modifiers	
	Fine	LFO Mod	7	<	۲	Pulse Width	PWA	Glide	Noise Mix
24		-	-			32			
	LFO	0	State of the	Service Market	10 mm	Oscillator Envelope	Envelope		
Frequency Ar	Amount	<	٦	Env Amount	Invert	Attack	Decay	Sustain	Release
=		_		6			À.		
	Filter	er	STATE OF THE PARTY	THE REAL PROPERTY.		Filter Envelope	velope		
Cutoff Res	sonance	LFO Mod	Osc. Mod	Resonance LFO Mod Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
4	0			\bar{c}		/	22	=	2
A 13.20	Velo	Velocity Sensitivity	vity	STATE OF		Ami	Amplifier Envelope	obe	
Kybd Track Am	np Peak	Amp Peak Filter Peak	LFO Amt	Unison	Voice Volume	Attac	Decay	Sustain	Release
_	0				<u>~</u>	m	7	0	=
0	-	2	3	4	2	9	7	S	6
		88							

Program	Program Number 92 Name STRING HIGH I	Name	STRII	14	HIGH	H		5	Chorus: ON	z
0	Osc. Frequency	cy	0	Osc. Waveshape	eshape			Mod	Modifiers	
Coarse	Fine	LFO Mod	7	<	-	7	Pulse Width	Pulse Width PW Mod	Glide	Noise Mix
36		_	-		=	Ú	9	-	\\	Ñ
	LFO	0					Oscillator	Oscillator Envelope		N. S. IN
Frequency 9	Amount 2	< -	۲	Env Amount		Invert	Attack	- Decay	Sustain	Release
N. C. C.	Filter	er					Filter Er	Filter Envelope		
Cutoff	Resonance LFO Mod Osc. Mod Env Amount	LFO Mod	Osc. Mod	Env Am	5.0	Invert	Attack	Decay	Sustain	Release
85				m	_		0	27	=	21
	Velo	Velocity Sensitivity	vity			ile.	Am	Amplifier Envelope	obe	
Kybd Track	Amp Peak Filter Peak	Filter Peak	LFO Amt	Unisc	on Voic	Unison Voice Volume	Attack	Decay	Sustain	Release
7	m	2				2	4	28	$\bar{\omega}$	2
0	7	2	3	4		s	9	7	8	6
	SWOOD L		20	0000	MAN	PPOCPAMIDAPANIETED	9	0.00	THE STATE OF	NAME OF STREET

NO	STATE STATE	Noise Mix	ī	10000	, Release			Release	25	THE STATE OF	n Release	24	6	数がある
Chorus: ON	Modifiers	Glide			Sustain	1		Sustain	0	obe	Sustain	75	8	S. S. S.
	Mod	PW Mod	5	nvelope	Decay	TIP MO	relope	Decay	78	Amplifier Envelope	Decay	59	7	
Program Number 94 Name SQUARE WAVE TRILL	Name of Street	Pulse Width	32	Oscillator Envelope	Attack		Filter Envelope	Attack	و	Ampl	Voice Volume Attack	17	9	FER
AVE .	ed.	۲			Invert		Saleston	Invert			oice Volum	12	5	ARAMET
RE W	Osc. Waveshape	<		Section 2	Env Amount	-	STATE OF THE PARTY	Env Amount	6	THE SETTING	Unison V		4	PROGRAM/PARAMETER
SQUA	so	7	-1		7	-1		Osc. Mod		vity	LFO Amt		3	PR
d Name	cy	LFO Mod	-1	0	<		er	Resonance LFO Mod Osc Mod Env Amount		Velocity Sensitivity	Filter Peak	4	2	Sales and
Number 9	Osc. Frequency	Fine		LFO	Amount	15	Filter	Resonance	37	Velo	Kybd Track Amp Peak Filter Peak	و	1	
Program	so	Coarse	24		Frequency	0	THE PARTY	Cutoff	44	(Septiment)	Kybd Track	~	0	

0	Osc. Frequency	cy	0	Osc Waveshape	9		Mod	Modifiers	
Coarse 24	Fine	LFO Mod	۲.,	< <	۲ .	Pulse Width PW Mod	PW Mod	Girde	Noise Mix
1	LFO	0		N. Kana		Oscillator Envelope	Envelope	STATE OF	
Frequency	Amount	<	ı,	Env Amount Invert	Invert	Attack	Decay	Sustain	Release
79	ij	(13			28		3
ST. ST.	Filter	er				Filter Envelope	velope		1
Cutoff	Resonance	LFOMod	Osc. Mod	Resonance LFO Mod Osc Mod Env Amount Invert	Invert	Attack	Decay	Sustain	Release
23	2		2	2			20		7

rogram	Program Number 95 Name WIND	S Name	WIND	^			5	Chorus: OFF	FF
0	Osc. Frequency	cy	0	Osc Waveshape	96	and the second	Mod	Modifiers	200
Coarse	Fine	LFOMod	7	<	۲ ۾	Pulse Width PW Mod	PW Mod	Glide	Noise Mix
AL BANK	WEST WILL	LFO	101	-	200	Oscillator	Oscillator Envelope		
Frequency	Amoun	< بـ	2	Env Amount Invert	Invert	Attack	Decay	Sustain	Release
BINE	歪	Filter	A. 19.60	No. of Persons	Sec. 18	Filter E	Filter Envelope	The same	
Cutoff	Resonance	LFO Mod	Osc. Mod	Resonance LFO Mod Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
20	17	٦		14		53	27	ω	28
	Velo	Velocity Sensitivity	vity		No.	Am	Amplifier Envelope	obe	
ybd Track	Kybd Track Amp Peak Filter Peak	Filter Peak	LFO Amt	Unison V	Unison Voice Volume Attack	e Attack	Decay	Sustain	Release
-1	2	00	-		15	20	21	15	31
0	21.5	2	3	4	5	9	7	8	6
	SERVICE NO.					-	Section 1		

Program Number 96 Name ALMOST BOMB

Chorus: ON

Ö	Osc. Frequency	icy	Ö	Osc. Waveshape	ed		Mod	Modifiers	Name and Address of the Owner, where
Coarse	Fine	LFO Mod	7	<	5	Pulse Width	PW Wod	Glide	Noise Mix
	1	LFO				Oscillator	Oscillator Envelope		
Frequency	3 Samount	< —	ď	Env Amount	Invert	Altack	23	Sustain	Release
1	E.	Filter	STATE OF THE PARTY	THE PARTY		Filter Er	Filter Envelope		
Cutoff	Resonance	Resonance LFO Mod	Osc. Mod	Osc. Mod Env Amount	Invert	Attack	Decay	Sustain	Release
22	63	3	17	=			24	5	3
	Velo	Velocity Sensitivity	wity			Am	Amplifier Envelope	obe	
Kybd Track	Amp Peak	Amp Peak Filler Peak	LFOAmt	- Unison	Unison Voice Volume	Altack	Decay 2	Sustain	Release
0	-	2	3	4	5	9	7	8	6
			PF	PROGRAM/PARAMETER	PARAMETE	ER.		5	

LFO Mod Osc. Frequency

Program Number 98 Name POLY CHORDS

Pulse Width PW Mod Oscillator Envelope 32 requency

Release 3 \bar{c} Decay Filter Envelope Unison Voice Volume $\bar{\kappa}$ Resonance LFO Mod Osc Mod Env Amount Kybd Track Amp Peak Filter Peak LFO Ami Velocity Sensitivity 2.7 Cutoff

PROGRAM/PARAMETER

Program Number 97 Name 5TN OF SAW TOOTH

Chorus: 02

fier Envelope Oscillator Envelope Decay Filter Envelope 32 Attack PROGRAM/PARAMETER 15 Osc Waveshape Env Amount Resonance LFO Mod Osc. Mod Velocity Sensitivity Kybd Track Amp Peak Filter Peak LFO Mod 2 Osc. Frequency LFO 0 requency Coarse 9 Cutoff

Program Number 99 Name ALIEN

Chorus: ON

Chorus: ON

0	Osc. Frequency	cy	ő	Osc Waveshape	ape	Contract of the	Modifiers	fiers	
Coarse 7	Fine	LFOMod	7	<	2 0	Pulse Width	PW Mod	Glide	Noise Mix
	17	LFO		N 18 8 8	No.	Oscillator Envelope	Envelope		
Frequency	Amount	< _	F(4)3	Env Amount	Invert	Attack	Decay	Sustain	Release
	Filter	ter			STATE OF	Filter Envelope	velope		
Cutoff 89	Cutoff Resonance 89 63	Resonance LFOMod Osc. Mod Env Amount 63 63	63 63	Env Amoun	Invert	Attack	Decay	Sustain	Release
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	edo	ı
Kybd Track		Amp Peak Filter Peak	LFO Amt	Unison	Unison Voice Volume	26 Attack	Decay	Sustain	Release
0		2	3	4	5	9	7	8	_

PROGRAM/PARAMETER

These blanks are provided for you to record your own programs. Feel free to reproduce them for your personal use. (For quantities, printing at a "quick print" shop will often be more economical and more readable than xerography.)

Chorus: Program Number Name

Chorus:

Program Number Name

	Noise Mix	P. F. S. D. S.	Release	On south	Release		Release	6	
Modifiers	Gide		Sustain	September 1	Sustain	obe	Sustain	8	
Mod	PW Wod	Envelope	Decay	velope	Decay	Amplifier Envelope	Decay	7	
	Pulse Width	Oscillator Envelope	Attack	Filter Envelope	Attack	Amp	Attack	9	
96	۲ ,	がし	Invert	-	Invert	0.00	Voice Volume	5	ARAMETE
Osc Waveshape	<	100	Env Amount		env Amount		V noson V	4	PROGRAM/PARAMETER
Osc	7		اد اد		Osc Mod Env Amount	rity	LFO Ami	3	PR
,	LFO Mod	0	<	-	LFO Mod	Velocity Sensitivity	Filter Peak	2	Sec. Ask
Osc. Frequency	Fine	LFO	Amount	Filter	Resonance	Veloc	Amp Peak Filter Peak		1881
Osc	Coarse		Frequency		Cutoff F	1000	Kybd Track	0	

•
9
9
9
a ma
ama
Amer
Name
Dan Name
Dall
DOLL NAME
mper Name
mper Name
umper Name
umper name
Name Name
Number Name
Number Name
Number Name
n Number Name
m Number Name
am Number Name
am Number Name
ram number name
ram number name
gram number name
gram number name
ogram number name

Chorus:

0	Osc. Frequency	*	Ö	Osc. Waveshape	ape		Modifiers	fiers	
Coarse	Fine	LFO Mod	7	<	۲	Puise Width	PW Mod	Glide	Noise Mix
	LFO	0	1	1000	STATE OF THE PARTY OF	Oscillator Envelope	Envelope	STATE OF THE PARTY	
edneucy	Amount	<	2	Env Amount	It Invert	Attack	Decay	Sustain	Release
					4		\$ T		
	Filter	er		A POST OF SERVICE		Filter Envelope	velope		
Cutoff	Resonance LFO Mod Osc Mod Env Amount	LFOMod	Osc Mod	Env Amour	II Invert	Attack	Decay	Sustain	Release
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	edo	
/bd Track	/bd Track Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volume	Attack	Decay	Sustain	Release
0		2	3	4	5	9	7	8	6
							A STATE OF	THE REAL PROPERTY.	Sept Sept

			~	ARAMETE	PROGRAM/PARAMETER	H			
6	8	7	9	5	4	3	2		0
					G	37	Ī		I
Relea	Sustain	Decay	Attack	Voice Volume	Unison Vc	LFO Amt	Filter Peak	Amp Peak	bd Track
	ado	Amplifier Envelope	Amp	Series.		rity	Velocity Sensitivity	Velo	
						4			2
	CONTRACTOR OF	velope	Filter Envelope		Transfer Market St.	To the second	er	Filter	
					į.				
Rele	Sustain	Decay	Attack	Invert	Env Amount	۲	<	Amount	equency
		Envelope	Oscillator Envelope	STATE OF		100	0	LFO	
	I						h		
Noise	Glide	PW Mod	Puise Width	۲	<	7	LFO Mod	Fine	Coarse
	Modifiers	Modi		94	Osc Waveshape	ŝ	cy.	Osc. Frequency	ō

		7
_		
₩.		
-		
E		
-		
20		
~		
-		
=		
Ð		

Program Number	Number	Name					ō	Chorus:	
ő	Osc. Frequency	^	SO	Osc Waveshape	9		Modifiers	fiers	The second
Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PWMod	Glide	Noise Mix
ľ				1					
	LFO		TO TO	The second second	No. of Control	Oscillator Envelope	Envelope		N. R. C. W.
Frequency	Amount	<	۲	Env Amount	Invert	Allack	Decay	Sustain	Rotease
			<i>X</i> .					1	
ALC: NO.	Filter	a.				Filter Envelope	velope	o orthogo	S. Carlotte
Cutoff	Resonance LFO Mod	LFOMod		Osc. Mod. Env Amount	Invert	Attack	Decay	Sustain	Release
			1				1		
THE PARTY	Veloc	Velocity Sensitivity	vity	Description of the last	X IN.	Ami	Amplifier Envelope	lope	THE LOS
Kybd Track	Amp Pe	Filter Peak	LFO Amt	V nosinU	Voice Volume	e Attack	Decay	Sustain	Release
						Ç.		P	1
0		2	3		\$	9	7	8	6

Program Number Name Chorus:

Chorus:

Program Number Name

Release Sustain Glide Sustain Modifiers Amplifier Envelope Pulse Width PW Mod Oscillator Envelope Decay Decay Decay Filter Envelope Attack Attack Unison Voice Volume Attack PROGRAM/PARAMETER Invert Invert Osc Waveshape Resonance LFO Mod Osc Mod Env Amount Env Amount Velocity Sensitivity

Kybd Track Amp Peak Filter Peak LFO Amt LFO Mod 2 < Osc. Frequency LFO Frequency Cutoff Coarse

Program Number Name

Chorus:

9	Osc. Frequency	cy	5		The second second				
Coarse	Fine	LFO Mod	7	<	۲	Pulse Width	PW Wod	Glide	Noise Mix
	LFO	0		110	No. of Concession, Name of Street, or other Persons and Persons an	Oscillator Envelope	Envelope		
requency	Amoun	<	ב	Env Amount	Invert	Attack	Decay	Sustain	Release
ş	Fill	Filter		SECTION S	Contraction of	Filter Envelope	velope	Service 1	SHEE
Cutoff	Resonance	Resonance LFO Mod Osc Mod Env Amount	Osc Mod	Env Amour	Invert	Attack	Decay	Sustain	Release
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	obe	STATE OF THE PARTY
bd Track	kybd Track Amp Peak	Filter Peak	LFO Amt	Unison	Unison Voice Volume	Attack	Decay	Sustain	Release
0	-	2	3	4	5	9	1	8	6
				Total State of	A STATE OF THE PARTY OF THE PAR			A STATE OF THE PARTY OF	Committee of the Commit

			a	ARAMETE	PROGRAM/PARAMETER	ą.			
o	8	7	9	s	*	3	2		0
Releaso	Sustain	Decay	Attack	Voice Volume	Unison Vc	LFO Amt	Filter Peak	Kybd Track Amp Peak Filter Peak	Kybd Track
	edo	Amplifier Envelope	Amp	Contract of		vity	Velocity Sensitivity	Veloc	Sept.
Release	Sustain	Decay	Attack	Invert	Osc. Mod Env Amount		LFOMod	Resonance	Cutoff
	STATE OF	velope	Filter Envelope	STATE		Property.	31	Filter	-0.75
					į.				R.
Release	Sustam	Decay	Attack	Invert	Env Amount	۲	<	Amount	Frequency
		Envelope	Oscillator Envelope					LFO	
Noise M	Glide	PW Mod	Puise Width	۲ –	<	ς -	LFOMod	Fine	Coarse
	Modifiers	Mod		94	Osc Waveshape	Ö	,	Osc. Frequency	Ö

CPC	Name	Number	Program

	Noise Mix	Robertse	Releases	Releaso	6
iers	Glide	Sustain	Sustam	Sustain	8
Modifiers	PWMod	Decay	Velope	Amplifier Envelope	7
	Pulse Width	Oscillator Envelope Attack Decay	Filter Envelope Attack Deca	Attac	9
٠	۲ .	Invert	Invert	Voice Volume	5
Osc Waveshape	< .	Env Amount	Env Amount	Unison Ve	1
Osc	7	۲ .	Osc. Mod E	LFO Amt	3
	LFO Mod	<	LFOMod	Velocity Sensitivity	2
Osc Frequency	Fine	Amount	Filter Resonance LFOMod Osc Mod Env Amount	Velocity Sensit Amp Peak Filter Peak	1
Osc	Coarse	Frequency	Cutoff	Kybd Track	0

Chorus: Program Number Name

Chorus:

Program Number Name

	Noise Mix	P. F. S. D. S.	Release	On south	Release		Release	6	
Modifiers	Gide		Sustain	September 1	Sustain	obe	Sustain	8	
Mod	PW Wod	Envelope	Decay	velope	Decay	Amplifier Envelope	Decay	7	
	Pulse Width	Oscillator Envelope	Attack	Filter Envelope	Attack	Amp	Attack	9	
96	۲ ,	がし	Invert	-	Invert	0.00	Voice Volume	5	ARAMETE
Osc Waveshape	<	100	Env Amount		env Amount		V noson V	4	PROGRAM/PARAMETER
Osc	7		اد اد		Osc Mod Env Amount	rity	LFO Ami	3	PR
,	LFO Mod	0	<	-	LFO Mod	Velocity Sensitivity	Filter Peak	2	Sec. Ask
Osc. Frequency	Fine	LFO	Amount	Filter	Resonance	Veloc	Amp Peak Filter Peak		1881
Osc	Coarse		Frequency		Cutoff F	1000	Kybd Track	0	

•
9
9
9
a ma
ama
Amer
Name
Dan Name
Dall
DOLL NAME
mper Name
mper Name
umper Name
umper name
Name Name
Number Name
Number Name
Number Name
n Number Name
m Number Name
am Number Name
am Number Name
ram number name
ram number name
gram number name
gram number name
ogram number name

Chorus:

0	Osc. Frequency	*	Ö	Osc. Waveshape	ape		Modifiers	fiers	
Coarse	Fine	LFO Mod	7	<	۲	Puise Width	PW Mod	Glide	Noise Mix
	LFO	0	1	1000	STATE OF THE PARTY OF	Oscillator Envelope	Envelope	STATE OF THE PARTY	
edneucy	Amount	<	2	Env Amount	It Invert	Attack	Decay	Sustain	Release
					4		\$ T		
	Filter	er		A POST OF SERVICE		Filter Envelope	velope		
Cutoff	Resonance LFO Mod Osc Mod Env Amount	LFOMod	Osc Mod	Env Amour	II Invert	Attack	Decay	Sustain	Release
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	edo	
/bd Track	/bd Track Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volume	Attack	Decay	Sustain	Release
0		2	3	4	5	9	7	8	6
							A STATE OF	THE REAL PROPERTY.	Sept Sept

			~	ARAMETE	PROGRAM/PARAMETER	H			
6	8	7	9	5	4	3	2		0
					G	37	Ī		I
Relea	Sustain	Decay	Attack	Voice Volume	Unison Vc	LFO Amt	Filter Peak	Amp Peak	bd Track
	ado	Amplifier Envelope	Amp	Series.		rity	Velocity Sensitivity	Velo	
						4			2
	CONTRACTOR OF	velope	Filter Envelope		Transfer Market St.	To the second	er	Filter	
					į.				
Rele	Sustain	Decay	Attack	Invert	Env Amount	۲	<	Amount	equency
		Envelope	Oscillator Envelope	STATE OF		100	0	LFO	
	I						h		
Noise	Glide	PW Mod	Puise Width	۲	<	7	LFO Mod	Fine	Coarse
	Modifiers	Modi		94	Osc Waveshape	ŝ	cy.	Osc. Frequency	ō

		7
_		
₩.		
-		
E		
-		
20		
~		
-		
=		
Ð		

Program Number	Number	Name					ō	Chorus:	
ő	Osc. Frequency	^	SO	Osc Waveshape	9		Modifiers	fiers	The second
Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PWMod	Glide	Noise Mix
ľ				1					
	LFO		TO TO	The second second	No. of Control	Oscillator Envelope	Envelope		N. R. C. W.
Frequency	Amount	<	۲	Env Amount	Invert	Allack	Decay	Sustain	Rotease
			<i>X</i> .					1	
ALC: NO.	Filter	a.				Filter Envelope	velope	o orthogo	S. Carlotte
Cutoff	Resonance LFO Mod	LFOMod		Osc. Mod. Env Amount	Invert	Attack	Decay	Sustain	Release
			1				1		
THE PARTY	Veloc	Velocity Sensitivity	vity	Description of the last	X IN.	Ami	Amplifier Envelope	lope	THE LOS
Kybd Track	Amp Pe	Filter Peak	LFO Amt	V nosinU	Voice Volume	e Attack	Decay	Sustain	Release
						Ç.		P	1
0		2	3		\$	9	7	8	6

Program Number Name Chorus:

Chorus:

Program Number Name

Release Sustain Glide Sustain Modifiers Amplifier Envelope Pulse Width PW Mod Oscillator Envelope Decay Decay Decay Filter Envelope Attack Attack Unison Voice Volume Attack PROGRAM/PARAMETER Invert Invert Osc Waveshape Resonance LFO Mod Osc Mod Env Amount Env Amount Velocity Sensitivity

Kybd Track Amp Peak Filter Peak LFO Amt LFO Mod 2 < Osc. Frequency LFO Frequency Cutoff Coarse

Program Number Name

Chorus:

9	Osc. Frequency	cy	5		The second second				
Coarse	Fine	LFO Mod	7	<	۲	Pulse Width	PW Wod	Glide	Noise Mix
	LFO	0		110	No. of Concession, Name of Street, or other Persons and Persons an	Oscillator Envelope	Envelope		
requency	Amoun	<	ב	Env Amount	Invert	Attack	Decay	Sustain	Release
ş	Fill	Filter		SECTION S	Contraction of	Filter Envelope	velope	Service 1	SHEE
Cutoff	Resonance	Resonance LFO Mod Osc Mod Env Amount	Osc Mod	Env Amour	Invert	Attack	Decay	Sustain	Release
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	obe	STATE OF THE PARTY
bd Track	kybd Track Amp Peak	Filter Peak	LFO Amt	Unison	Unison Voice Volume	Attack	Decay	Sustain	Release
0	-	2	3	4	5	9	1	8	6
				Total State of	A STATE OF THE PARTY OF THE PAR			A STATE OF THE PARTY OF	Committee of the Commit

			a	ARAMETE	PROGRAM/PARAMETER	ą.			
o	8	7	9	s	*	3	2		0
Releaso	Sustain	Decay	Attack	Voice Volume	Unison Vc	LFO Amt	Filter Peak	Kybd Track Amp Peak Filter Peak	Kybd Track
	edo	Amplifier Envelope	Amp	Contract of		vity	Velocity Sensitivity	Veloc	Sept.
Release	Sustain	Decay	Attack	Invert	Osc. Mod Env Amount		LFOMod	Resonance	Cutoff
	STATE OF	velope	Filter Envelope	STATE		Property.	31	Filter	-0.75
					į.				R.
Release	Sustam	Decay	Attack	Invert	Env Amount	۲	<	Amount	Frequency
		Envelope	Oscillator Envelope					LFO	
Noise M	Glide	PW Mod	Puise Width	۲ –	<	ς -	LFOMod	Fine	Coarse
	Modifiers	Mod		94	Osc Waveshape	Ö	,	Osc. Frequency	Ö

CPC	Name	Number	Program

	Noise Mix	Robertse	Releases	Releaso	6
iers	Glide	Sustain	Sustam	Sustain	8
Modifiers	PWMod	Envelope. Decay	Velope	Amplifier Envelope	7
	Pulse Width	Oscillator Envelope Attack Decay	Filter Envelope Attack Deca	Attac	9
٠	۲ .	Invert	Invert	Voice Volume	5
Osc Waveshape	< .	Env Amount	Env Amount	Unison Ve	1
Osc	7	۲ .	Osc. Mod E	LFO Amt	3
	LFO Mod	<	LFOMod	Velocity Sensitivity	2
Osc Frequency	Fine	Amount	Filter Resonance LFOMod Osc Mod Env Amount	Velocity Sensit Amp Peak Filter Peak	1
Osc	Coarse	Frequency	Cutoff	Kybd Track	0

Chorus: Program Number Name

Chorus:

Program Number Name

	Noise Mix	P. F. S. D. S.	Release	On the All	Release		Release	6	
Modifiers	Gide		Sustain		Sustain	obe	Sustain	8	
Mod	PW Wod	Envelope	Decay	velope	Decay	Amplifier Envelope	Decay	7	
	Pulse Width	Oscillator Envelope	Attack	Filter Envelope	Attack	Amp	Attack	9	8
96	۲ ,	がし	Invert	-	Invert	STATE OF	Voice Volume	9	ARAMETE
Osc Waveshape	<	100	Env Amount		env Amount	1	V noson V	•	PROGRAM/PARAMETER
Osc	7		ار ا		Osc Mod Env Amount	rity	LFO Amt	3	PR
,	LFO Mod	0	<	-	LFO Mod	Velocity Sensitivity	Filter Peak	2	Sec. Ask
Osc. Frequency	Fine	LFO	Amount	Filter	Resonance	Veloc	Amp Peak Filter Peak		
Osc	Coarse		Frequency		Cutoff F		Kybd Track	0	

1	
1	0
	9
	a E
	ЭШ
	аше
	аше
-	маше
-	маше
-	Name
-	маше
-	маше
	Name
	Name
	маше
	маше
-	- Name
-	er Name
	er Name
	Der Name
	Der Name
	nber Name
	mber name
	прег маше
	umber name
	tumber Name
	Number Name
	m Number Name
	IM NUMBEL NAME
	вш мишрег маше
	am Number Name
	ram number name
	gram number name
	gram Number Name
	ogram number name
	ogram number name

Chorus:

0	Osc. Frequency	*	Ö	Osc. Waveshape	ape		Modifiers	fiers	
Coarse	Fine	LFO Mod	7	<	۲	Puise Width	PW Mod	Glide	Noise Mix
	LFO	0	1	1000		Oscillator Envelope	Envelope	Section 2	
edneucy	Amount	<	2	Env Amount	It Invert	Attack	Decay	Sustain	Release
					4		W		
	Filter	er		A POST OF SERVICE		Filter Envelope	velope		
Cutoff	Resonance LFO Mod Osc Mod Env Amount	LFOMod	Osc Mod	Env Amour	Inveri	Attack	Decay	Sustain	Release
	Velo	Velocity Sensitivity	vity			Amp	Amplifier Envelope	ado	
/bd Track	rack Amp Peak	Filter Peak	LFO Amt	Unison	Voice Volume	Attack	Decay	Sustain	Release
0	1	2	3	4	5	9	7	8	6
	Section 1						W. China	THE REAL PROPERTY.	Sept Sept

			~	ARAMETE	PROGRAM/PARAMETER	H			
6	8	7	9	5	4	3	2		0
					G	37	Ī		I
Relea	Sustain	Decay	Attack	Voice Volume	Unison Vc	LFO Amt	Filter Peak	Amp Peak	bd Track
	ado	Amplifier Envelope	Amp	Series.		rity	Velocity Sensitivity	Velo	
						4			2
	CONTRACTOR OF	velope	Filter Envelope		Transfer Market St.	To the second	er	Filter	
					į.				
Rele	Sustain	Decay	Attack	Invert	Env Amount	۲ -	<	Amount	equency
		Envelope	Oscillator Envelope	STATE OF		100	0	LFO	
	I						h		
Noise	Glide	PW Mod	Puise Width	۲	<	7	LFO Mod	Fine	Coarse
	Modifiers	Modi		94	Osc Waveshape	ŝ	cy.	Osc. Frequency	ō

		7
_		
₽.		
-		
E		
-		
20		
~		
-		
=		
Ð		

Program Number	Number	Name					ō	Chorus:	
ő	Osc. Frequency	^	SO	Osc Waveshape			Modifiers	fiers	The second
Coarse	Fine	LFO Mod	7	<	2	Pulse Width	PWMod	Glide	Noise Mix
ľ				1					
	LFO		TO TO	A 100 MILES	No.	Oscillator Envelope	Envelope		N. R. C. W.
Frequency	Amount	<	۲	Env Amount	Invert	Allack	Decay	Sustain	Rotease
			<i>X</i> .					1	
ALC: NO.	Filter	a.				Filter Er	Filter Envelope	o orthogo	S. Carlotte
Cutoff	Resonance LFO Mod	LFOMod		Osc. Mod. Env Amount	Invert	Attack	Decay	Sustain	Release
			1				1		
THE PARTY	Veloc	Velocity Sensitivity	vity	Description of	X INSE	Am	Amplifier Envelope	lope	THE LOS
Kybd Track	Amp Pe	Filter Peak	LFO Amt	V nosinU	Voice Volume	e Attack	Decay	Sustain	Release
						84		P	1
0		2	3		5	9	1	80	6
				THE COLUMN					

Sequential 3051 North First Street San Jose, CA 95134

Sequential, Europe Post Bus 16 3640AA Mijdrecht Netherlands