

MEMORYMOOG SOUND CHARTS

The following page shows the Memorymoog programs listed by title and category. Units shipped from the factory have the 10 program chains built with the 10 categories listed.

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We would like to thank the countless people whose comments, suggestions and musical creativity have contributed to the making of the Memorymoog.

For purposes of quick identification, the voices have been grouped in a rough decimal order as follows:

SYNTH	STRINGS	BRASS	SYNTH	ORGAN/MONO
0 Synth Sweep w/ Glide	1 String 1	2 Brass 1	3 Vocal Chorus	4 Organ 1
10 Octave Trill	11 String 2	12 Brass 2	13 Tuned Percussion	14 Organ 2 (Pipes)
20 Sync Sample & Hold	21 String 3	22 Brass 3	23 Octave Synth	24 Organ 3
30 Poly Glide	31 String 4	32 Brass 4	33 Sizzle	34 Calliope
40 Synth Sweep 1	41 String 5	42 Brass 5	43 Sync 4	44 Organ 5
50 Wind Chimes	51 String 6	52 Brass 6	53 Double Reed	54 Mono 1
60 FM 1	61 String 7	62 Brass 7	63 Synth Organ	64 Mono 2
70 Bowed Octaves	71 String 8	72 Brass 8	73 Release Voice	74 Mono 3
80 Synth Woodwinds	81 String 9	82 Brass 9	83 Surprise	84 Mono 4
90 Quint Synth	91 String 10	92 Brass 10	93 Triangle Waves	94 Mono 5

EFFECTS	SYNTH	KB	SYNTH	KB
5 Filter Trill	6 Synth (Sq. Waves 1)	7 Electric Piano 1	8 Sync 1	9 Harp
15 Bells	16 Recorder	17 Power Synth	18 Sync 2	19 Steel Drums
25 Take-Off	26 Butterflies in Space	27 Clav 1	28 Sync 3	29 Clav 2
35 Log Drum	36 Flutes	37 Clav Wah	38 Unconditional Contour	39 Vibes
45 Sirens	46 Synth Sweep 2	47 Celeste	48 Sync Sweep 3	49 Harpsichord 1
55 UFO	56 Chorus Synth	57 Clav 3	58 Echo Whistle	59 Electric Piano 2
65 Synth Sweep 4	66 Square Waves 2	67 Quint Harpsichord	68 Wind Chimes 2	69 Electric Piano 3
75 Quint Filter Trill	76 Quint Oscillator Trill	77 Accordion	78 Synth Plectrum	79 Sync 5
85 Drop Off	86 Ring Mod	87 Harpsichord 2	88 Repeat Voice	89 Clav 4
95 Ring Mod 2	96 Dupe No. 75	97 Octave Synth 2	98 Synth Plectrum 2	99 Clav 5

A conscious effort has been made to keep similar voices from being next to each other.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

RECORD INTERLOCK

FOOT PEDALS

AMOUNT 1

100

PITCH VOLUME

FILTER

0

MOD-AMT OSC 2

MODULATION

LFM MODULATION

DIRECTION

OSC 1 OSC 2 OSC 3

OSC 1 OSC 2 OSC 3

RATE (HZ)

15

OSCILLATORS

OCTAVE

16 8 4 2

WAVESHAPES

1 50

SYNC 2 TO 1

PULSE WIDTH (N)

50

FREQUENCY

49 2

MIXER

LEVEL

100

NOISE

0

VOLTAGE CONTROLLED FILTER

RETRACK

0

EMPHASIS

52

CONTOUR AMOUNT

95

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR

UNCONDITIONAL DECAY

UNCONDITIONAL RELEASE

UNCONDITIONAL SUSTAIN

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR

UNCONDITIONAL DECAY

UNCONDITIONAL RELEASE

OUTPUTS

PROGRAMMABLE

100

MASTER VOLUME

HEADPHONE VOLUME

0. SYNTH (SWEEP WITH GLIDE)

KB MODE 1 (cyclic) ensures that each new chord played will glide from somewhere else. Pedal 1 is programmed at 100; it can be used to control volume.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

RECORD INTERLOCK

FOOT PEDALS

AMOUNT 1

100

PITCH VOLUME

FILTER

0

MOD-AMT OSC 2

MODULATION

LFM MODULATION

DIRECTION

OSC 1 OSC 2 OSC 3

OSC 1 OSC 2 OSC 3

RATE (HZ)

56

OSCILLATORS

OCTAVE

16 8 4 2

WAVESHAPES

1 51

SYNC 2 TO 1

PULSE WIDTH (N)

50

FREQUENCY

48 2

MIXER

LEVEL

26

NOISE

0

VOLTAGE CONTROLLED FILTER

RETRACK

0

EMPHASIS

18

CONTOUR AMOUNT

0

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR

UNCONDITIONAL DECAY

UNCONDITIONAL RELEASE

UNCONDITIONAL SUSTAIN

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR

UNCONDITIONAL DECAY

UNCONDITIONAL RELEASE

OUTPUTS

PROGRAMMABLE

100

MASTER VOLUME

HEADPHONE VOLUME

1. STRING 1

Advance the Modulation Wheel about halfway for broader vibrato effects. Pedal 1 can be used to control volume.

OCTAVE

PITCH

MOD

2. BRASS 1

The Keyboard Follow function makes higher notes "snappier" than low notes.
Turn on MOD AMT in the Pedal section for foot control of vibrato.

3. VOCAL CHORUS

The high Emphasis setting produces a characteristic vocal resonance. Note: The character of this voice changes dramatically when the left-hand Octave controls are changed. Pedal 1 can control loudness.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

RECORD INTERLOCK

FOOT PEDALS

AMOUNT 1

100

PITCH

VOLUME

FILTER

AMOUNT 2

0

MOD AMT OSC 2

OSCILLATORS

OCTAVE

16' 8' 4' 2' 1' 0

WAVESHAPES

1 48

PULSE WIDTH (N)

0 50 100

2 48

FREQUENCY

0 50 100

3 49

FREQUENCY

0 50 100

KEYBOARD CONTROL

LOW

MODULATION

LED MODULATION

RATE (HZ)

38

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

DESTINATION

OSC 1 PW1

OSC 2 PW2

OSC 3 PW3

FILTER

VOICE MODULATION

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

DESTINATION

OSC 1 PW1

OSC 2 PW2

OSC 3 PW3

FILTER

MIXER

52

LEVEL

44

LEVEL

100

LEVEL

0

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

1/3 2/3

31

CUTOFF

0 100

EMPHASIS

28

CONTOUR AMOUNT

0 14

RELEASE

2MSSEC

20SEC

2MSSEC

20SEC

UNCONDITIONAL CONTOUR FOLLOW

0 100

KEYBOARD FOLLOW

0 100

RELEASE

2MSSEC

20SEC

2MSSEC

20SEC

ATTACK

0 100

DECAY

1MSSEC

10SEC

2MSSEC

20SEC

1MSSEC

10SEC

2MSSEC

20SEC

PROGRAMMABLE

100

VOLUME

HEADPHONE

0 10

VOLUME

4. ORGAN 1

OCTAVE

PITCH

MOD

A high Level plus multiple waveshape outputs on Oscillator 3 add a little "dirt" to this sound. Pedal 1 can control loudness.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

RECORD INTERLOCK

FOOT PEDALS

AMOUNT 1

0

PITCH

VOLUME

FILTER

AMOUNT 2

0

MOD AMT OSC 2

OSCILLATORS

OCTAVE

16' 8' 4' 2' 1' 0

WAVESHAPES

1 50

PULSE WIDTH (N)

0 50 100

2 50

FREQUENCY

0 50 100

3 48

FREQUENCY

0 50 100

KEYBOARD CONTROL

LOW

MODULATION

LED MODULATION

RATE (HZ)

0

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

DESTINATION

OSC 1 PW1

OSC 2 PW2

OSC 3 PW3

FILTER

VOICE MODULATION

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

DESTINATION

OSC 1 PW1

OSC 2 PW2

OSC 3 PW3

FILTER

MIXER

100

LEVEL

100

LEVEL

100

LEVEL

0

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

1/3 2/3

18

CUTOFF

0 100

EMPHASIS

83

CONTOUR AMOUNT

0 60

RELEASE

2MSSEC

20SEC

2MSSEC

20SEC

UNCONDITIONAL CONTOUR FOLLOW

0 100

KEYBOARD FOLLOW

0 100

RELEASE

2MSSEC

20SEC

2MSSEC

20SEC

ATTACK

0 100

DECAY

1MSSEC

10SEC

2MSSEC

20SEC

1MSSEC

10SEC

2MSSEC

20SEC

PROGRAMMABLE

50

VOLUME

HEADPHONE

0 10

VOLUME

5. FX 1

OCTAVE

PITCH

MOD

A contoured Osc 3 amount controls the Filter. Since Osc 3 is under keyboard control, the rate of the effect changes as a function of keyboard location.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

INTERLOCK

PEDALS

AMOUNT 1

0 2 4 6 8 10

PITCH

MOD

AMOUNT 2

0 2 4 6 8 10

PITCH

MOD

MODULATION

LFM MODULATION

RATE (HZ)

0 5 10 20 30 40 50

DESTINATION

OSC 1 OSC 2 OSC 3

PW 1 PW 2 PW 3

FILTER

VOICE MODULATION

0 2 4 6 8 10

DESTINATION

OSC 1 OSC 2 OSC 3

PW 1 PW 2 PW 3

FILTER

OSCILLATORS

OCTAVE

18' 8' 4' 2'

WAVESHARE

50

PULSE WIDTH (NS)

0 100

FREQUENCY

0 5 10 15 20 25 30 35 40 45 50

LOW

KEYBOARD CONTROL

MIXER

LEVEL

0 2 4 6 8 10

NOISE

VOLTAGE CONTROLLED FILTER

RETRACK

0 10 20 30 40 50

CUTOFF

0 2 4 6 8 10

EMPHASIS

0 2 4 6 8 10

CONTOUR AMOUNT

0 2 4 6 8 10

UNCONDITIONAL CONTOUR

0 2 4 6 8 10

KEYBOARD FOLLOW

0 2 4 6 8 10

RELEASE

0 2 4 6 8 10

ATTACK

0 2 4 6 8 10

2MSEC 20MSEC

DECAY

0 2 4 6 8 10

2MSEC 20MSEC

RELEASE

0 2 4 6 8 10

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

0 2 4 6 8 10

UNCONDITIONAL CONTOUR

0 2 4 6 8 10

KEYBOARD FOLLOW

0 2 4 6 8 10

RELEASE

0 2 4 6 8 10

ATTACK

0 2 4 6 8 10

2MSEC 20MSEC

DECAY

0 2 4 6 8 10

2MSEC 20MSEC

RELEASE

0 2 4 6 8 10

OUTPUTS

PROGRAMMABLE

0 2 4 6 8 10

MASTER VOLUME

0 2 4 6 8 10

HEADPHONE

0 2 4 6 8 10

VOLUME

6. SYNTH (SQUARE WAVES)

With the Filter attack and decay times at zero, each note has a "click" at the beginning. Pedal 2 can control modulation amount.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

INTERLOCK

PEDALS

AMOUNT 1

0 2 4 6 8 10

PITCH

MOD

AMOUNT 2

0 2 4 6 8 10

PITCH

MOD

MODULATION

LFM MODULATION

RATE (HZ)

0 5 10 20 30 40 50

DESTINATION

OSC 1 OSC 2 OSC 3

PW 1 PW 2 PW 3

FILTER

VOICE MODULATION

0 2 4 6 8 10

DESTINATION

OSC 1 OSC 2 OSC 3

PW 1 PW 2 PW 3

FILTER

OSCILLATORS

OCTAVE

18' 8' 4' 2'

WAVESHARE

50

PULSE WIDTH (NS)

0 100

FREQUENCY

0 5 10 15 20 25 30 35 40 45 50

LOW

KEYBOARD CONTROL

MIXER

LEVEL

0 2 4 6 8 10

NOISE

VOLTAGE CONTROLLED FILTER

RETRACK

0 10 20 30 40 50

CUTOFF

0 2 4 6 8 10

EMPHASIS

0 2 4 6 8 10

CONTOUR AMOUNT

0 2 4 6 8 10

UNCONDITIONAL CONTOUR

0 2 4 6 8 10

KEYBOARD FOLLOW

0 2 4 6 8 10

RELEASE

0 2 4 6 8 10

ATTACK

0 2 4 6 8 10

2MSEC 20MSEC

DECAY

0 2 4 6 8 10

2MSEC 20MSEC

RELEASE

0 2 4 6 8 10

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

0 2 4 6 8 10

UNCONDITIONAL CONTOUR

0 2 4 6 8 10

KEYBOARD FOLLOW

0 2 4 6 8 10

RELEASE

0 2 4 6 8 10

ATTACK

0 2 4 6 8 10

2MSEC 20MSEC

DECAY

0 2 4 6 8 10

2MSEC 20MSEC

RELEASE

0 2 4 6 8 10

OUTPUTS

PROGRAMMABLE

0 2 4 6 8 10

MASTER VOLUME

0 2 4 6 8 10

HEADPHONE

0 2 4 6 8 10

VOLUME

7. ELECTRIC PIANO 1

The overtone that creates the "tines" sound is produced by Osc 3. Pedal 1 can control volume.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK ENTER

PEALS

AMOUNT 1

0

PITCH VOLUME

MOD AMT OSC 2

MODULATION

LED MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW1 PW2 PW3

VOICE MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW1 PW2 FILTER

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHAPE

PULSE WIDTH (NS)

1 51

FREQUENCY

2 76

3 51

KEYBOARD CONTROL

LOW

MIXER

92

100

85

0

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

1/3 2/3

EMPHASIS

0 15

CUTOFF

3 0

CONTOUR AMOUNT

5 55

PROGRAMMABLE

56

VOLUME

HEADPHONE

2 5 8

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

700 1 1.5 3 800 200 400

ATTACK 10 SEC 20 SEC 30 SEC

DECAY 10 SEC 20 SEC 30 SEC

UNCONDITIONAL FOLLOW

1.4 2 3

KEYBOARD FOLLOW

5

RELEASE

800 200 400

ATTACK 10 SEC 20 SEC 30 SEC

DECAY 10 SEC 20 SEC 30 SEC

UNCONDITIONAL FOLLOW

1.4 2 3

KEYBOARD FOLLOW

5

RELEASE

54

96

5

2 5 8

8. SYNTH (SYNC 1)

OCTAVE

PITCH MOD

Any attempt to change the frequency of Osc 2 produces the "sync" effect. The Program routes the Filter Contour to Osc 2; manual changes can be made with Pedal 2.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK ENTER

PEALS

AMOUNT 1

0

PITCH VOLUME

MOD AMT OSC 2

MODULATION

LED MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW1 PW2 PW3

VOICE MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW1 PW2 FILTER

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHAPE

PULSE WIDTH (NS)

1 7

2 100

3 48

41

48

41

48

KEYBOARD CONTROL

LOW

MIXER

21

20

17

0

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

1/3 2/3

EMPHASIS

0 42

CUTOFF

3 0

CONTOUR AMOUNT

5 68

PROGRAMMABLE

100

VOLUME

HEADPHONE

2 5 8

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

700 1 1.5 3 800 200 400

ATTACK 10 SEC 20 SEC 30 SEC

DECAY 10 SEC 20 SEC 30 SEC

UNCONDITIONAL FOLLOW

1.4 2 3

KEYBOARD FOLLOW

5

RELEASE

800 200 400

ATTACK 10 SEC 20 SEC 30 SEC

DECAY 10 SEC 20 SEC 30 SEC

UNCONDITIONAL FOLLOW

1.4 2 3

KEYBOARD FOLLOW

5

RELEASE

56

76

5

2 5 8

9. HARP

OCTAVE

PITCH MOD

Narrow pulse waves produce the plucked-string effect. A characteristic playing style is arpeggiated or rolled chords.

10. SYNTH (OCTAVE TRILL)

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK ENTER

PEDESTALS

AMPLANT 1

PITCH VOLUME

FILTER

AMPLANT 2

MODAMT OSC 2

MODULATION

LFO MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

FILTER

VOICE MODULATION

CONTROLED OSC 3 AMOUNT

INVERT

OSCILLATORS

OCTAVE

WAVESHARE

PULSE WIDTH (NS)

FREQUENCY

KEYBOARD CONTROL

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

EMPHASIS

CONTOUR AMOUNT

RELEASE

OUTPUTS

PROGRAMMABLE

VOLUME

HEADPHONE

VOLUME

10. SYNTH (OCTAVE TRILL) The LFO modulates all six voices at the same rate. If the trill is not exactly an octave, adjust the Modulation Amount

11. STRING 2

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK ENTER

PEDESTALS

AMPLANT 1

PITCH VOLUME

FILTER

AMPLANT 2

MODAMT OSC 2

MODULATION

LFO MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

FILTER

VOICE MODULATION

CONTROLED OSC 3 AMOUNT

INVERT

OSCILLATORS

OCTAVE

WAVESHARE

PULSE WIDTH (NS)

FREQUENCY

KEYBOARD CONTROL

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

EMPHASIS

CONTOUR AMOUNT

RELEASE

OUTPUTS

PROGRAMMABLE

VOLUME

HEADPHONE

VOLUME

11. STRING 2 Setting the VCA attack time slower than the Filter produces a "bowing" effect. Pedal 1 can control volume.

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

MOD AMT OSC 2

MOD AMT OSC 1

MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 MOD OSC 2 MOD OSC 3 MOD

OSC 1 DEST OSC 2 DEST OSC 3 DEST

OSC 1 FILTER OSC 2 FILTER OSC 3 FILTER

OSC 1 INVERT OSC 2 INVERT OSC 3 INVERT

OSC 1 AMT OSC 2 AMT OSC 3 AMT

OSC 1 ON OSC 2 ON OSC 3 ON

OSC 1 OFF OSC 2 OFF OSC 3 OFF

OSCILLATORS

1 50

2 48

3 50

MIXER

100

100

100

0

VOLTAGE CONTROLLED FILTER

23

12

26

55

71

96

48

VOLTAGE CONTROLLED AMPLIFIER

48

OUTPUTS

MASTER VOLUME

48

HEADPHONE VOLUME

12. BRASS 2

For a chorus brass sound, turn on the sawtooth waveshape for Osc 2 and/or Osc 3.
Pedal 1 can control filter cutoff (brightness).

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

MOD AMT OSC 2

MOD AMT OSC 1

MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 MOD OSC 2 MOD OSC 3 MOD

OSC 1 DEST OSC 2 DEST OSC 3 DEST

OSC 1 FILTER OSC 2 FILTER OSC 3 FILTER

OSC 1 INVERT OSC 2 INVERT OSC 3 INVERT

OSC 1 AMT OSC 2 AMT OSC 3 AMT

OSC 1 ON OSC 2 ON OSC 3 ON

OSC 1 OFF OSC 2 OFF OSC 3 OFF

OSCILLATORS

1 50

2 55

3 35

MIXER

56

27

28

0

VOLTAGE CONTROLLED FILTER

0

12

35

52

100

63

VOLTAGE CONTROLLED AMPLIFIER

63

OUTPUTS

MASTER VOLUME

48

HEADPHONE VOLUME

13. FX (PERCUSSION)

"Tapping" a key and releasing it immediately lets the percussive effect ring longer;
holding a key down damps the effect.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER
 PROGRAM: []
 1 2 3 4 5 6 7 8 9 0 ENTER
 RECORD INTERLOCK

PEDESTAL PEDALS
 AMOUNT 1: 0
 AMOUNT 2: 0
 MOD AMT OSC 2: []

MODULATION
 LFO MODULATION: RATE (HZ) 31, DESTINATION []
 VOICE MODULATION: CONTAMINANT OSC 3 AMOUNT 0, DESTINATION []
 FILTER: CONTAMINANT OSC 3 AMOUNT 0, DESTINATION []

OSCILLATORS
 WAVESHAPES: [] [] []
 PULSE WIDTH (NS): 50, 100, 150
 FREQUENCY: 48, 2, 3, 5
 OCTAVE: 16', 8', 4', 2', LOW

MIXER
 LEVEL: 100, 100, 100, 0
 NOISE: 0

VOLTAGE CONTROLLED FILTER
 KB TRACK: 1/3, 2/3
 CUTOFF: 64
 EMPHASIS: 0
 CONTOUR AMOUNT: 0
 ATTACK: 0, 1MSEC, 10SEC, 2MSEC, 20SEC
 DECAY: 0, 1.4, 2, 3
 UNCONDITIONAL KEYBOARD FOLLOW: 0
 RELEASE: 0, 1.4, 2, 3
 SUSTAIN: 0, 1.4, 2, 3

OUTPUTS
 PROGRAMMABLE: 100
 HEADPHONE VOLUME: 0

The key to this voice is pitching the oscillators at different octaves to simulate the different ranks of a pipe organ.

14. ORGAN 2 (PIPES)

SYSTEM CONTROLLER
 PROGRAM: []
 1 2 3 4 5 6 7 8 9 0 ENTER
 RECORD INTERLOCK

PEDESTAL PEDALS
 AMOUNT 1: 100
 AMOUNT 2: 0
 MOD AMT OSC 2: []

MODULATION
 LFO MODULATION: RATE (HZ) 25, DESTINATION []
 VOICE MODULATION: CONTAMINANT OSC 3 AMOUNT 0, DESTINATION []
 FILTER: CONTAMINANT OSC 3 AMOUNT 0, DESTINATION []

OSCILLATORS
 WAVESHAPES: [] [] []
 PULSE WIDTH (NS): 50, 100, 150
 FREQUENCY: 84, 2, 55, 48, 3, 50
 OCTAVE: 16', 8', 4', 2', LOW

MIXER
 LEVEL: 100, 100, 100, 0
 NOISE: 0

VOLTAGE CONTROLLED FILTER
 KB TRACK: 1/3, 2/3
 CUTOFF: 38
 EMPHASIS: 0
 CONTOUR AMOUNT: 0
 ATTACK: 0, 1MSEC, 10SEC, 2MSEC, 20SEC
 DECAY: 0, 1.4, 2, 3
 UNCONDITIONAL KEYBOARD FOLLOW: 0
 RELEASE: 0, 1.4, 2, 3
 SUSTAIN: 0, 1.4, 2, 3

OUTPUTS
 PROGRAMMABLE: 100
 HEADPHONE VOLUME: 0

Pitches produced by this voice intentionally do not match the key played. Pedal 1 can control volume.

15. BELLS

SYSTEM CONTROLLER

AUTO TUNE TUNE

1 MONO MULTIPLE TRIGGER

50 GLIDE ON/OFF

4 KEMODE HOLD ARPEGGIATOR

36 MOD AMOUNT

PROGRAM

1 2 3 4 5 6 7 8 9 0

ENTER

RECORD INTERLOCK

MODULATION

LFO MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 RATE OSC 2 RATE OSC 3 RATE

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 1 DESTINATION OSC 2 DESTINATION OSC 3 DESTINATION

OSC 1 CONTAMINANT OSC 2 CONTAMINANT OSC 3 CONTAMINANT

OSC 1 INVERT OSC 2 INVERT OSC 3 INVERT

OSC 1 FILTER OSC 2 FILTER OSC 3 FILTER

OSCILLATORS

1 50 PULSE WIDTH (NS)

2 48 50 FREQUENCY

3 48 50 FREQUENCY

WAVESHAPES

MIXER

22 LEVEL

22 LEVEL

22 LEVEL

0 NOISE

VOLTAGE CONTROLLED FILTER

30 CUTOFF

21 ATTACK

28 DECAY

34 SUSTAIN

37 EMPHASIS

41 CONTOUR AMOUNT

61 RELEASE

64 KEYBOARD FOLLOW

85 UNCONDITIONAL CONTOUR

34 RETURN TO ZERO

34 ATTACK

85 DECAY

64 SUSTAIN

16 RELEASE

VOLTAGE CONTROLLED AMPLIFIER

30 CUTOFF

21 ATTACK

28 DECAY

34 SUSTAIN

37 EMPHASIS

41 CONTOUR AMOUNT

61 RELEASE

64 KEYBOARD FOLLOW

85 UNCONDITIONAL CONTOUR

34 RETURN TO ZERO

34 ATTACK

85 DECAY

64 SUSTAIN

16 RELEASE

OUTPUTS

PROGRAMMABLE MASTER VOLUME

100

VOLUME

HEADPHONE VOLUME

16. RECORDER

Vibrato can be introduced with the Mod Wheel or Pedal 2.

SYSTEM CONTROLLER

AUTO TUNE TUNE

1 MONO MULTIPLE TRIGGER

45 GLIDE ON/OFF

3 KEMODE HOLD ARPEGGIATOR

37 MOD AMOUNT

PROGRAM

1 2 3 4 5 6 7 8 9 0

ENTER

RECORD INTERLOCK

MODULATION

LFO MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 RATE OSC 2 RATE OSC 3 RATE

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 1 DESTINATION OSC 2 DESTINATION OSC 3 DESTINATION

OSC 1 CONTAMINANT OSC 2 CONTAMINANT OSC 3 CONTAMINANT

OSC 1 INVERT OSC 2 INVERT OSC 3 INVERT

OSC 1 FILTER OSC 2 FILTER OSC 3 FILTER

OSCILLATORS

1 96 PULSE WIDTH (NS)

2 46 49 50 FREQUENCY

3 48 50 FREQUENCY

WAVESHAPES

MIXER

0 LEVEL

61 LEVEL

0 LEVEL

0 NOISE

VOLTAGE CONTROLLED FILTER

30 CUTOFF

0 ATTACK

83 DECAY

26 SUSTAIN

26 EMPHASIS

31 CONTOUR AMOUNT

91 RELEASE

53 KEYBOARD FOLLOW

74 UNCONDITIONAL CONTOUR

0 RETURN TO ZERO

0 ATTACK

74 DECAY

53 SUSTAIN

91 RELEASE

VOLTAGE CONTROLLED AMPLIFIER

30 CUTOFF

0 ATTACK

83 DECAY

26 SUSTAIN

26 EMPHASIS

31 CONTOUR AMOUNT

91 RELEASE

53 KEYBOARD FOLLOW

74 UNCONDITIONAL CONTOUR

0 RETURN TO ZERO

0 ATTACK

74 DECAY

53 SUSTAIN

91 RELEASE

OUTPUTS

PROGRAMMABLE MASTER VOLUME

68

VOLUME

HEADPHONE VOLUME

17. POWER SYNTH

This voice is especially powerful in the lower register. Try turning on the GLIDE ON/OFF switch.

18. SYNC 2

This voice produces an octave overtone effect on sustained tones. Pedal 2 can produce additional sync effects.

19. STEEL DRUMS

The key to this voice is the detuning of Osc 3. It can be tweaked in or out of tune to fit individual taste.





SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK ENTER

FOOT PEDALS

AMOUNT 1

PITCH VOLUME

0 10

MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHAPE

PULSE WIDTH (NS)

50

FREQUENCY

200 100 50

MIXER

LEVEL

5

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

EMPHASIS

45

CUTOFF

69

DECAY

31

ATTACK

800 400 200 100

UNCONDITIONAL FOLLOW

KEYBOARD FOLLOW

RELEASE

54

SUSTAIN

27

DECAY

100 50

ATTACK

800 400 200 100

VOLTAGE CONTROLLED AMPLIFIER

RELEASE

96

SUSTAIN

58

DECAY

100 50

ATTACK

800 400 200 100

OUTPUTS

PROGRAMMABLE VOLUME

100

HEADPHONE VOLUME

5

20. SYNC SAMPLE AND HOLD

The Sample and Hold voltage is sent to the synced Osc 2. Try this voice with Glide and with additional sync effects from Pedal 2.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK ENTER

FOOT PEDALS

AMOUNT 1

PITCH VOLUME

0 10

MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHAPE

PULSE WIDTH (NS)

50

FREQUENCY

200 100 50

MIXER

LEVEL

5

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

EMPHASIS

18

CUTOFF

33

DECAY

58

ATTACK

800 400 200 100

UNCONDITIONAL FOLLOW

KEYBOARD FOLLOW

RELEASE

44

SUSTAIN

41

DECAY

100 50

ATTACK

800 400 200 100

VOLTAGE CONTROLLED AMPLIFIER

RELEASE

73

SUSTAIN

68

DECAY

100 50

ATTACK

800 400 200 100

OUTPUTS

PROGRAMMABLE VOLUME

100

HEADPHONE VOLUME

5

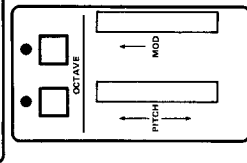
21. STRING 3

Long attack times and heavy modulation make this voice useful for chord background work. For more vibrato, advance the MOD WHEEL to about 1/2.

OCTAVE

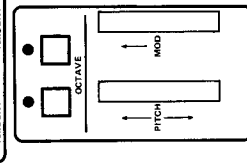
PITCH

MOD



22. BRASS 3

The "brassiness" of this voice is generated in the voice modulation section. Pedal 2 can control vibrato.



23. OCTAVE SYNTH

Try this voice with and without Glide. Pedal 1 can control Filter Cutoff (brightness).

SYSTEM CONTROLLER

PROGRAM: []

1 2 3 4 5 6 7 8 9 0

ENTER

INTERLOCK

PEALS

AMOUNT 1: 100

PITCH VOLUME

AMOUNT 2: 0

MOD AMT OSC 2

MODULATION

LEG MODULATION: []

DESTINATION: []

RATE (Hz): 65

OSC 1 FREQ: []

OSC 2 FREQ: []

OSC 3 FREQ: []

VOICE MODULATION: []

OSC 1 FREQ: []

OSC 2 FREQ: []

OSC 3 FREQ: []

CONToured OSC 3 AMOUNT: []

OSC 1 FREQ: []

OSC 2 FREQ: []

OSC 3 FREQ: []

OSCILLATORS

OCTAVE: []

WAVESHAPe: []

PULSE WIDTH (Hz): 55

FREQUENCY: 49

KEYBOARD CONTROL: []

OCTAVE: []

WAVESHAPe: []

PULSE WIDTH (Hz): 50

FREQUENCY: 88

KEYBOARD CONTROL: []

OCTAVE: []

WAVESHAPe: []

PULSE WIDTH (Hz): 60

FREQUENCY: []

KEYBOARD CONTROL: []

MIXER

LEVEL: 100

LEVEL: 100

LEVEL: 82

NOISE: 0

VOLTAGE CONTROLLED FILTER

KB TRACK: []

CUTOFF: 37

EMPHASIS: 54

CONTOUR AMOUNT: 17

ATTACK: 0

DECAY: 16

RELEASE: 82

UNCONDITIONAL FOLLOW ON: []

KEYBOARD FOLLOW ON: []

UNCONDITIONAL FOLLOW OFF: []

KEYBOARD FOLLOW OFF: []

ATTACK: 0

DECAY: 100

RELEASE: 0

VOLTAGE CONTROLLED AMPLIFIER

PROGRAMMABLE VOLUME: 36

HEADPHONE VOLUME: []

24. ORGAN 3

For more animation to the sound, move the MOD WHEEL up to about 1/2. Pedal 1 can control volume.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM: []

1 2 3 4 5 6 7 8 9 0

ENTER

INTERLOCK

PEALS

AMOUNT 1: 0

PITCH VOLUME

AMOUNT 2: 0

MOD AMT OSC 2

MODULATION

LEG MODULATION: []

DESTINATION: []

RATE (Hz): 64

OSC 1 FREQ: []

OSC 2 FREQ: []

OSC 3 FREQ: []

VOICE MODULATION: []

OSC 1 FREQ: []

OSC 2 FREQ: []

OSC 3 FREQ: []

CONToured OSC 3 AMOUNT: 61

OSC 1 FREQ: []

OSC 2 FREQ: []

OSC 3 FREQ: []

OSCILLATORS

OCTAVE: []

WAVESHAPe: []

PULSE WIDTH (Hz): 50

FREQUENCY: 71

KEYBOARD CONTROL: []

OCTAVE: []

WAVESHAPe: []

PULSE WIDTH (Hz): 50

FREQUENCY: 14

KEYBOARD CONTROL: []

OCTAVE: []

WAVESHAPe: []

PULSE WIDTH (Hz): 81

FREQUENCY: []

KEYBOARD CONTROL: []

MIXER

LEVEL: 25

LEVEL: 100

LEVEL: 70

NOISE: 100

VOLTAGE CONTROLLED FILTER

KB TRACK: []

CUTOFF: 51

EMPHASIS: 100

CONTOUR AMOUNT: 67

ATTACK: 31

DECAY: 100

RELEASE: 100

UNCONDITIONAL FOLLOW ON: []

KEYBOARD FOLLOW ON: []

UNCONDITIONAL FOLLOW OFF: []

KEYBOARD FOLLOW OFF: []

ATTACK: 0

DECAY: 100

RELEASE: 54

VOLTAGE CONTROLLED AMPLIFIER

PROGRAMMABLE VOLUME: 48

HEADPHONE VOLUME: []

25. TAKE-OFF

The amount of pitch rise is determined by how long a key is held down. Try turning on different destinations in the LFO Modulation section.

OCTAVE

PITCH

MOD

The Filter "flutter" rates will be slightly different for each voice.
 For a more unified effect, turn up the MOD WHEEL.

26. BUTTERFLIES IN SPACE

27. CLAV 1

For a chorus clay sound, turn on the pulse waveshapes for Osc 2 or Osc 3.
 Pedal 1 can control brightness; the Mod Wheel brings in vibrato.

SYSTEM CONTROLLER

PROGRAM: []

RECORD INTERLOCK: []

PEAKS

AMOUNT 1: [0] PITCH: []

AMOUNT 2: [75] FILTER: []

MOD AMT: [] OSC 2: []

MODULATION

LF0 MODULATION: []

DESTINATION: []

OSC 1: [] OSC 2: [] OSC 3: []

VOICE MODULATION: []

OSC 1: [] OSC 2: [] OSC 3: []

MOD AMT: [] OSC 2: []

OSCILLATORS

WAVESHARE: []

PULSE WIDTH (N): [50]

SYNCHRO: []

FREQUENCY: [48]

OCTAVE: []

KEYBOARD CONTROL: []

VOLTAGE CONTROLLED FILTER

RETRACT: []

EMPHASIS: [0]

CONTOUR AMOUNT: [94]

UNCONDITIONAL CONTOUR: []

KEYBOARD FOLLOW: []

RELEASE: []

ATTACK: []

DECAY: []

2MSEC: []

20SEC: []

2000SEC: []

RELEASE: []

OUTPUTS

PROGRAMMABLE: [34]

MASTER VOLUME: []

HEADPHONE VOLUME: []

28. SYNC 3

Pedal 2 can control additional sync effects; the Mod Wheel will introduce vibrato.

SYSTEM CONTROLLER

PROGRAM: []

RECORD INTERLOCK: []

PEAKS

AMOUNT 1: [0] PITCH: []

AMOUNT 2: [80] FILTER: []

MOD AMT: [] OSC 2: []

MODULATION

LF0 MODULATION: []

DESTINATION: []

OSC 1: [] OSC 2: [] OSC 3: []

VOICE MODULATION: []

OSC 1: [] OSC 2: [] OSC 3: []

MOD AMT: [] OSC 2: []

OSCILLATORS

WAVESHARE: []

PULSE WIDTH (N): [92]

SYNCHRO: []

FREQUENCY: [70]

OCTAVE: []

KEYBOARD CONTROL: []

VOLTAGE CONTROLLED FILTER

RETRACT: []

EMPHASIS: [27]

CONTOUR AMOUNT: [21]

UNCONDITIONAL CONTOUR: []

KEYBOARD FOLLOW: []

RELEASE: []

ATTACK: []

DECAY: []

2MSEC: []

20SEC: []

2000SEC: []

RELEASE: []

OUTPUTS

PROGRAMMABLE: [80]

MASTER VOLUME: []

HEADPHONE VOLUME: []

29. CLAV 2

Pedal 2 can control additional sync effects; the Mod Wheel will introduce vibrato.

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

PEDESTALS

AMOUNT 1

PITCH

FILTER

MOD AMT OSC 2

MODULATION

LFO MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

OSC 3 AMOUNT

CONToured INVERT

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHAPES

PULSE WIDTH (N)

FREQUENCY

KEYBOARD CONTROL

LOW

MIXER

61 62 65 0

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KEY TRACK

EMPHASIS

CONTOUR AMOUNT

100 42 100 100 61

ATTACK 10SEC 10SEC 10SEC 10SEC 10SEC

DECAY 20SEC 20SEC 20SEC 20SEC 20SEC

RELEASE 20SEC 20SEC 20SEC 20SEC 20SEC

UNCONDITIONAL FOLLOW ON

KEYBOARD FOLLOW ON

RETURN TO ZERO

ATTACK 10SEC 10SEC 10SEC 10SEC 10SEC

DECAY 20SEC 20SEC 20SEC 20SEC 20SEC

RELEASE 20SEC 20SEC 20SEC 20SEC 20SEC

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

37

VOLUME

HEADPHONE

VOLUME

30. POLY GLIDE

OCTAVE

PITCH

MOD

Modulation can be introduced from the Mod Wheel and/or Pedal. Note that Osc 1 is not modulated. With small amounts of modulation, this produces a chorus effect.

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

PEDESTALS

AMOUNT 1

PITCH

FILTER

MOD AMT OSC 2

MODULATION

LFO MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

OSC 3 AMOUNT

CONToured INVERT

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHAPES

PULSE WIDTH (N)

FREQUENCY

KEYBOARD CONTROL

LOW

MIXER

100 100 84 0

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KEY TRACK

EMPHASIS

CONTOUR AMOUNT

100 27 87 100 53

ATTACK 10SEC 10SEC 10SEC 10SEC 10SEC

DECAY 20SEC 20SEC 20SEC 20SEC 20SEC

RELEASE 20SEC 20SEC 20SEC 20SEC 20SEC

UNCONDITIONAL FOLLOW ON

KEYBOARD FOLLOW ON

RETURN TO ZERO

ATTACK 10SEC 10SEC 10SEC 10SEC 10SEC

DECAY 20SEC 20SEC 20SEC 20SEC 20SEC

RELEASE 20SEC 20SEC 20SEC 20SEC 20SEC

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

34

VOLUME

HEADPHONE

VOLUME

31. STRING 4

OCTAVE

PITCH

MOD

This is a synth string voice; try it with and without Glide, and with varying amounts of modulation.

32. BRASS 4

SYSTEM CONTROLLER

PROGRAM: []

RECORD INTERLOCK: []

ENTER: []

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

AMOUNT 1: 0

PITCH: []

VOLUME: []

FILTER: []

AMOUNT 2: 50

MIDI/AMT: []

OSC 1: []

OSC 2: []

OSC 3: []

MODULATION

MODULATION RATE (HZ): 61

DESTINATION: []

OSC 1: []

OSC 2: []

OSC 3: []

FREQ: []

FREQ: []

FREQ: []

FILTER: []

CONT. AMT: []

OSC 1: []

OSC 2: []

OSC 3: []

OSCILLATORS

OCTAVE: [] [] [] [] [] [] [] [] [] []

WAVESHAPES: [] [] [] [] [] [] [] [] [] []

PULSE WIDTH (%): 50

FREQUENCY: 48

KEYBOARD CONTROL: [] [] [] [] [] [] [] [] [] []

LOW: []

MIXER

LEVEL: 61

LEVEL: 0

LEVEL: 0

NOISE: 0

VOLTAGE CONTROLLED FILTER

RETRACK: [] [] [] [] [] [] [] [] [] []

CUTOFF: 30

EMPHASIS: 0

CONTOUR AMOUNT: 18

ATTACK: 65

DECAY: 76

UNCONDITIONAL CONTOUR: [] [] [] [] [] [] [] [] [] []

UNCONDITIONAL FOLLOW: [] [] [] [] [] [] [] [] [] []

UNCONDITIONAL RELEASE: [] [] [] [] [] [] [] [] [] []

ATTACK: 25

DECAY: 100

RELEASE: 100

44

VOLTAGE CONTROLLED AMPLIFIER

ATTACK: 65

DECAY: 76

RELEASE: 18

PROGRAMMABLE VOLUME: 78

HEADPHONE VOLUME: [] [] [] [] [] [] [] [] [] []

This is a very subtle voice; modulation (from the Mod Wheel and/or Pedal 2) should be used sparingly.

32. BRASS 4

33. SIZZLE

SYSTEM CONTROLLER

PROGRAM: []

RECORD INTERLOCK: []

ENTER: []

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

AMOUNT 1: 0

PITCH: []

VOLUME: []

FILTER: []

AMOUNT 2: 50

MIDI/AMT: []

OSC 1: []

OSC 2: []

OSC 3: []

MODULATION

MODULATION RATE (HZ): 62

DESTINATION: []

OSC 1: []

OSC 2: []

OSC 3: []

FREQ: []

FREQ: []

FREQ: []

FILTER: []

CONT. AMT: []

OSC 1: []

OSC 2: []

OSC 3: []

OSCILLATORS

OCTAVE: [] [] [] [] [] [] [] [] [] []

WAVESHAPES: [] [] [] [] [] [] [] [] [] []

PULSE WIDTH (%): 50

FREQUENCY: 49

KEYBOARD CONTROL: [] [] [] [] [] [] [] [] [] []

LOW: []

MIXER

LEVEL: 53

LEVEL: 75

LEVEL: 54

NOISE: 8

VOLTAGE CONTROLLED FILTER

RETRACK: [] [] [] [] [] [] [] [] [] []

CUTOFF: 67

EMPHASIS: 72

CONTOUR AMOUNT: 20

ATTACK: 0

DECAY: 30

UNCONDITIONAL CONTOUR: [] [] [] [] [] [] [] [] [] []

UNCONDITIONAL FOLLOW: [] [] [] [] [] [] [] [] [] []

UNCONDITIONAL RELEASE: [] [] [] [] [] [] [] [] [] []

ATTACK: 26

DECAY: 53

RELEASE: 73

PROGRAMMABLE VOLUME: 100

HEADPHONE VOLUME: [] [] [] [] [] [] [] [] [] []

Modulation can be introduced from the Mod Wheel and/or Pedal 2.

33. SIZZLE

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

RECORD INTERLOCK

FOOT PEDALS

AMOUNT 1-5

PITCH VOLUME

FILTER

MOD.AMT OSC 2

MODULATION

LD MODULATION

RATE (HZ) 60

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

VOICE MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

CONToured OSC 3 AMOUNT

CONToured INVERT

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

WAVESHARE

1 76

PULSE WIDTH (IN)

2 48

FREQUENCY

3 50

PULSE WIDTH (IN)

KEYBOARD CONTROL

MIXER

LEVEL

58

41

36

0

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

22

CUTOFF

56

EMPHASIS

27

1.5SEC 10SEC 2.5SEC 20SEC 40SEC 80SEC 160SEC 320SEC 640SEC 1280SEC 2560SEC 5120SEC 10240SEC

CONTour AMOUNT

22

58

RELEASE

1.4 2 3

800 200 2000 20000 200000 2000000

KEYBOARD FOLLOW

45

RETURN TO ZERO

58

UNCONDITIONAL CONTour

45

ATTACK

1.5SEC 10SEC 2.5SEC 20SEC 40SEC 80SEC 160SEC 320SEC 640SEC 1280SEC 2560SEC 5120SEC 10240SEC

RELEASE

1.4 2 3

800 200 2000 20000 200000 2000000

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

100

VOLUME

HEADPHONE

VOLUME

34. CALLIOPE

For a slightly brighter sound, turn on any of the waveshapes for Osc 3.

OCTAVE

PITCH MOD

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

RECORD INTERLOCK

FOOT PEDALS

AMOUNT 1-5

PITCH VOLUME

FILTER

MOD.AMT OSC 2

MODULATION

LFO MODULATION

RATE (HZ) 60

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

VOICE MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

CONToured OSC 3 AMOUNT

CONToured INVERT

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

WAVESHARE

1 50

PULSE WIDTH (IN)

2 88

FREQUENCY

3 50

PULSE WIDTH (IN)

KEYBOARD CONTROL

MIXER

LEVEL

68

73

61

0

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

25

CUTOFF

0

EMPHASIS

29

1.5SEC 10SEC 2.5SEC 20SEC 40SEC 80SEC 160SEC 320SEC 640SEC 1280SEC 2560SEC 5120SEC 10240SEC

CONTour AMOUNT

21

74

RELEASE

1.4 2 3

800 200 2000 20000 200000 2000000

KEYBOARD FOLLOW

66

RETURN TO ZERO

66

UNCONDITIONAL CONTour

66

ATTACK

1.5SEC 10SEC 2.5SEC 20SEC 40SEC 80SEC 160SEC 320SEC 640SEC 1280SEC 2560SEC 5120SEC 10240SEC

RELEASE

1.4 2 3

800 200 2000 20000 200000 2000000

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

68

VOLUME

HEADPHONE

VOLUME

35. LOG DRUM

Try this voice with the Arpeggiator turned on; experiment with different LFO rates.

OCTAVE

PITCH MOD

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

AMOUNT 1

PITCH

FILTER

AMOUNT 2

MOD AMT OSC 2

MODULATION

LFO MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 1 DESTINATION OSC 2 DESTINATION OSC 3 DESTINATION

OSC 1 FILTER OSC 2 FILTER OSC 3 FILTER

OSC 1 INVERT OSC 2 INVERT OSC 3 INVERT

OSCILLATORS

OCTAVE

WAVESHARE

PULSE WIDTH (NS)

1 50

2 50

3 50

MIXER

LEVEL

100

42

42

10

VOLTAGE CONTROLLED FILTER

KEY TRACK

CUTOFF

EMPHASIS

26

17

42

54

23

42

100

68

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

UNCONDITIONAL CONTOUR

KEYBOARD FOLLOW

RELEASE

ATTACK

DECAY

SUSTAIN

RELEASE

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

100

VOLUME

HEADPHONE

VOLUME

36. FLUTES

For a chorus flute sound, turn on the sawtooth waveshapes for Osc 2 or Osc 3. The small amount of noise simulates the air moving through the flute. Modulation is available from the Mod Wheel and/or Pedal 2.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

AMOUNT 1

PITCH

FILTER

AMOUNT 2

MOD AMT OSC 2

MODULATION

LFO MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 1 DESTINATION OSC 2 DESTINATION OSC 3 DESTINATION

OSC 1 FILTER OSC 2 FILTER OSC 3 FILTER

OSC 1 INVERT OSC 2 INVERT OSC 3 INVERT

OSCILLATORS

OCTAVE

WAVESHARE

PULSE WIDTH (NS)

1 92

2 10

3 50

MIXER

LEVEL

100

72

36

62

34

68

VOLTAGE CONTROLLED FILTER

KEY TRACK

CUTOFF

EMPHASIS

72

36

62

34

68

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

UNCONDITIONAL CONTOUR

KEYBOARD FOLLOW

RELEASE

ATTACK

DECAY

SUSTAIN

RELEASE

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

100

VOLUME

HEADPHONE

VOLUME

37. CLAV WAH

Vibrato is available at the Mod Wheel; Pedal 2 will control sync effects.

OCTAVE

PITCH

MOD

38. UNCONDITIONAL CONTOUR

SYSTEM CONTROLLER

RECORD INTERLOCK ENTER

PROGRAM

1 2 3 4 5 6 7 8 9 0

FOOTS

AMOUNT 1

PITCH VOLUME

AMOUNT 2

MOD AMT OSC 2

MODULATION

LFO MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 1 FILTER OSC 2 INVERT OSC 3 FILTER

VOICE MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 1 FILTER OSC 2 INVERT OSC 3 FILTER

OSCILLATORS

OCTAVE

WAVESHARE

50

1 2 3

SYNCH 2 TO 1

PULSE WIDTH (NS)

FREQUENCY

KEYBOARD CONTROL

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

EMPHASIS

CONTOUR AMOUNT

UNCONDITIONAL CONTOUR

KEYBOARD FOLLOW

RELEASE

ATTACK

DECAY

SUSTAIN

RELEASE

OUTPUTS

MASTER VOLUME

HEADPHONE VOLUME

38. UNCONDITIONAL CONTOUR

The Unconditional Contour completes a note's cycle whether or not the key is held down; the Keyboard Follow makes that cycle shorter toward the top of the keyboard.

39. VIBES

SYSTEM CONTROLLER

RECORD INTERLOCK ENTER

PROGRAM

1 2 3 4 5 6 7 8 9 0

FOOTS

AMOUNT 1

PITCH VOLUME

AMOUNT 2

MOD AMT OSC 2

MODULATION

LFO MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 1 FILTER OSC 2 INVERT OSC 3 FILTER

VOICE MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 1 FILTER OSC 2 INVERT OSC 3 FILTER

OSCILLATORS

OCTAVE

WAVESHARE

50

1 2 3

SYNCH 2 TO 1

PULSE WIDTH (NS)

FREQUENCY

KEYBOARD CONTROL

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

EMPHASIS

CONTOUR AMOUNT

UNCONDITIONAL CONTOUR

KEYBOARD FOLLOW

RELEASE

ATTACK

DECAY

SUSTAIN

RELEASE

OUTPUTS

MASTER VOLUME

HEADPHONE VOLUME

39. VIBES

For more tremolo effect, move the Mod Wheel up to approximately 3/8 to 1/2.

SYSTEM CONTROLLER

AUTO TUNE: 0

MICRO MULTIPLE REBOUT TRIGGER: 1

GLIDE: 0

RECORD INTERLOCK: 0

MODULATION

OSC 1 FREQ: 62

OSC 2 FREQ: 0

OSC 3 FREQ: 0

MOD. AMT: 0

OSCILLATORS

OCTAVE: 16', 8', 4', 2'

WAVESHAPES: 1, 2, 3

PULSE WIDTH (NS): 50

FREQUENCY: 48

MIXER

LEVEL: 40

NOISE: 0

VOLTAGE CONTROLLED FILTER

KB TRACK: 74

CUTOFF: 14

EMPHASIS: 57

CONTOUR AMOUNT: 60

ATTACK: 1

DECAY: 27

UNCONDITIONAL CONTOUR: 54

KEYBOARD FOLLOW: 100

OUTPUTS

MASTER VOLUME: 72

HEADPHONE VOLUME: 0

40. SYNC SWEEP

Turning up the Mod Wheel adds a tremolo effect.

SYSTEM CONTROLLER

AUTO TUNE: 0

MICRO MULTIPLE REBOUT TRIGGER: 1

GLIDE: 50

RECORD INTERLOCK: 0

MODULATION

OSC 1 FREQ: 55

OSC 2 FREQ: 0

OSC 3 FREQ: 0

MOD. AMT: 0

OSCILLATORS

OCTAVE: 16', 8', 4', 2'

WAVESHAPES: 1, 2, 3

PULSE WIDTH (NS): 48

FREQUENCY: 48

MIXER

LEVEL: 48

NOISE: 0

VOLTAGE CONTROLLED FILTER

KB TRACK: 0

CUTOFF: 51

EMPHASIS: 21

CONTOUR AMOUNT: 0

ATTACK: 0

DECAY: 34

UNCONDITIONAL CONTOUR: 33

KEYBOARD FOLLOW: 70

OUTPUTS

MASTER VOLUME: 42

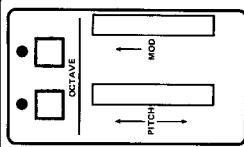
HEADPHONE VOLUME: 0

41. STRING 5

To add more animation to the sound, turn up the Mod Wheel (or the Modulation Amount control).

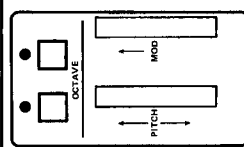
42. BRASS 5

The "splat" of the attack is produced in the Voice Modulation section.
Pedal 2 can control vibrato.



43. SYNC 4

Pedal 1 can control brightness; the Mod Wheel will introduce vibrato.



SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

AMOUNT 1

PITCH VOLUME

FILTER

MOD AMT OSC 2

MODULATION

LED MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ

DESTINATION

PW1 PW2 PW3

VOICE MODULATION

OSC 1 FREQ OSC 2 FREQ

FILTER CONTOUR OSC JAMOUNT

CONTAINED INVERT

PW1 PW2 PW3

OSCILLATORS

OCTAVE

16" 8" 4" 2"

WAVESHARE

PULSE WIDTH (NS)

1 48 2 48 3 49

FREQUENCY

0 100

MIXER

52 44 100 0

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

31 28 17

CUTOFF EMPHASIS CONTOUR AMOUNT

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR

RETURN TO ZERO

ATTACK 1MSEC 20SEC 2MSEC 20SEC 4MSEC 20SEC 7MSEC 20SEC

RELEASE

1.4 2 3 1.4 2 3

VOLTAGE CONTROLLED AMPLIFIER

54 58

VOLUME

HEADPHONE VOLUME

PROGRAMMABLE

44. ORGAN 5

The amount of percussion effect can be controlled with the Osc 3 Level control; Pedal 2 (or the Mod Wheel) will introduce a "rotating speaker" effect.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

AMOUNT 1

PITCH VOLUME

FILTER

MOD AMT OSC 2

MODULATION

LED MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ

DESTINATION

PW1 PW2 PW3

VOICE MODULATION

OSC 1 FREQ OSC 2 FREQ

FILTER CONTOUR OSC JAMOUNT

CONTAINED INVERT

PW1 PW2 PW3

OSCILLATORS

OCTAVE

16" 8" 4" 2"

WAVESHARE

PULSE WIDTH (NS)

1 50 2 50 3 50

FREQUENCY

0 100

MIXER

100 100 100 0

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

64 68 83

CUTOFF EMPHASIS CONTOUR AMOUNT

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR

RETURN TO ZERO

ATTACK 1MSEC 20SEC 2MSEC 20SEC 4MSEC 20SEC 7MSEC 20SEC

RELEASE

1.4 2 3 1.4 2 3

VOLTAGE CONTROLLED AMPLIFIER

54 58

VOLUME

HEADPHONE VOLUME

PROGRAMMABLE

45. SIRENS

The speed of the "pulsing" effect is dependent on keyboard location; high notes pulse faster than low notes.

OCTAVE

PITCH

MOD

46. SYNC SWEEP 2

46. SYNC SWEEP 2

Pedal 2 (or the Mod Wheel) will add more animation to the sound.

47. CELESTE

47. CELESTE

The character of this voice will change dramatically if the left-hand Octave controls are changed to - 1.

48. SYNC SWEEP 3

The sync sweep effect is slow while keys are held down and accelerates when the key is released.

49. HARPSICHORD 1

Modulation can be introduced from Pedal 2 and/or the Mod Wheel.

50. WIND CHIMES

SYSTEM CONTROLLER
PROGRAM: []
[1] [2] [3] [A] [B] [C] [D]
[4] [5] [6] [7] [8] [9] [0]
[ENTER]
[INTERLOCK]

PITCH BEND AMPLITUDE
[36] (0-10)
MODULATION AMPLITUDE: [22] (0-10)

GLIDE ON/OFF
[3] (0-10)
[2] (0-10)
[1] (0-10)

MONO MULTIPLE KEY OUT
[1] [5]
TRIGGER: [] [] []

AUTO TUNE
[1] (0-10)

MODULATION
OSC 1: [] [] [] [] [] [] [] [] [] []
OSC 2: [] [] [] [] [] [] [] [] [] []
OSC 3: [] [] [] [] [] [] [] [] [] []

VELOCITY MODULATION
OSC 1: [] [] [] [] [] [] [] [] [] []
OSC 2: [] [] [] [] [] [] [] [] [] []
OSC 3: [] [] [] [] [] [] [] [] [] []

VOICE MODULATION
OSC 1: [] [] [] [] [] [] [] [] [] []
OSC 2: [] [] [] [] [] [] [] [] [] []
OSC 3: [] [] [] [] [] [] [] [] [] []

OSCILLATORS
OCTAVE: [] [] [] [] [] [] [] [] [] [] []
WAVESHAVE: [] [] [] [] [] [] [] [] [] [] []
PULSE WIDTH (IN): [] [] [] [] [] [] [] [] [] []
FREQUENCY: [] [] [] [] [] [] [] [] [] []

MODULATION
LED MODULATION: [] [] [] [] [] [] [] [] [] []
DESTINATION: [] [] [] [] [] [] [] [] [] []

MIXER
LEVEL: [60] [33] [0] [0]

VOLTAGE CONTROLLED FILTER
CUTOFF: [27] [64] [67] [52] [0] [91]
ENPHASIS: [] [] [] [] [] [] [] [] [] []

VOLTAGE CONTROLLED AMPLIFIER
ATTACK: [0] [74] [53] [91] [0]
DECAY: [] [] [] [] [] [] [] [] [] []

OUTPUTS
PROGRAMMABLE VOLUME: [68] [91] [0]
HEADPHONE VOLUME: [] [] [] [] [] [] [] [] [] []

The “chime” effect builds up if keys are held down longer.

50. WIND CHIMES

51. STRING 6

SYSTEM CONTROLLER
PROGRAM: []
[1] [2] [3] [A] [B] [C] [D]
[4] [5] [6] [7] [8] [9] [0]
[ENTER]
[INTERLOCK]

PITCH BEND AMPLITUDE
[37] (0-10)
MODULATION AMPLITUDE: [24] (0-10)

GLIDE ON/OFF
[3] (0-10)
[2] (0-10)
[1] (0-10)

MONO MULTIPLE KEY OUT
[1] [5]
TRIGGER: [] [] []

AUTO TUNE
[1] (0-10)

MODULATION
OSC 1: [] [] [] [] [] [] [] [] [] []
OSC 2: [] [] [] [] [] [] [] [] [] []
OSC 3: [] [] [] [] [] [] [] [] [] []

VELOCITY MODULATION
OSC 1: [] [] [] [] [] [] [] [] [] []
OSC 2: [] [] [] [] [] [] [] [] [] []
OSC 3: [] [] [] [] [] [] [] [] [] []

OSCILLATORS
OCTAVE: [] [] [] [] [] [] [] [] [] [] []
WAVESHAVE: [] [] [] [] [] [] [] [] [] [] []
PULSE WIDTH (IN): [] [] [] [] [] [] [] [] [] []
FREQUENCY: [] [] [] [] [] [] [] [] [] []

MODULATION
LED MODULATION: [] [] [] [] [] [] [] [] [] []
DESTINATION: [] [] [] [] [] [] [] [] [] []

MIXER
LEVEL: [48] [47] [55] [0]

VOLTAGE CONTROLLED FILTER
CUTOFF: [42] [46] [44] [62] [0] [28]
ENPHASIS: [] [] [] [] [] [] [] [] [] []

VOLTAGE CONTROLLED AMPLIFIER
ATTACK: [0] [48] [62] [55] [0]
DECAY: [] [] [] [] [] [] [] [] [] []

OUTPUTS
PROGRAMMABLE VOLUME: [50] [44] [0]
HEADPHONE VOLUME: [] [] [] [] [] [] [] [] [] []

Short, articulated playing will accentuate the “bowing” sound. Pedal 1 can control volume.

51. STRING 6

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORDER INTERLOCK

ENTER

FOOT PEDALS

AMOUNT 1

PITCH VOLUME

MOD.AMT OSC 2

MODULATION

LED MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

VOICE MODULATION

FILTER CONTOUR OSC.AMOUNT

CONToured INVERT

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW 1 PW 2

OSCILLATORS

OCTAVE

16' 8' 4' 2' 1' 0' 1' 2' 4' 8' 16'

WAVESHAPe

PULSE WIDTH (NS)

50

1 91

2 11

3 15

FREQUENCY

0 50 100

2 48

3 50

15

50

100

MIXER

LEVEL

0 5 10

38

35

32

0

VOLTAGE CONTROLLED FILTER

KEY TRACK

1/3 2/3

700 1.5 3 6

100 6 300 12 600 24

1 MSEC 10 SEC 2 MSEC 20 SEC

ATTACK DECAY

EMPHASIS

0 5

0

34

74

14

CONTOUR AMOUNT

1.4 2.3

800 200 400 600 800

1.4 2.3

RELEASE

OUTPUTS

PROGRAMMABLE

5 10 0 10 0 10

2 8 2 8 2 8

VOLUME

HEADPHONE

5 10 0 10 0 10

2 8 2 8 2 8

VOLUME

52. BRASS 6

This voice differs from most brass patches in that no sawtooth waves are used. The Mod Wheel will introduce vibrato.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORDER INTERLOCK

ENTER

FOOT PEDALS

AMOUNT 1

PITCH VOLUME

MOD.AMT OSC 2

MODULATION

LED MODULATION

RATE (HZ)

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

VOICE MODULATION

FILTER CONTOUR OSC.AMOUNT

CONToured INVERT

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

DESTINATION

PW 1 PW 2

OSCILLATORS

OCTAVE

16' 8' 4' 2' 1' 0' 1' 2' 4' 8' 16'

WAVESHAPe

PULSE WIDTH (NS)

50

1 50

2 50

3 50

FREQUENCY

0 50 100

2 48

3 54

50

50

100

MIXER

LEVEL

0 5 10

54

0

0

0

VOLTAGE CONTROLLED FILTER

KEY TRACK

1/3 2/3

700 1.5 3 6

100 6 300 12 600 24

1 MSEC 10 SEC 2 MSEC 20 SEC

ATTACK DECAY

EMPHASIS

0 5

0

82

0

100

28

CONTOUR AMOUNT

1.4 2.3

800 200 400 600 800

1.4 2.3

RELEASE

OUTPUTS

PROGRAMMABLE

5 10 0 10 0 10

2 8 2 8 2 8

VOLUME

HEADPHONE

5 10 0 10 0 10

2 8 2 8 2 8

VOLUME

53. DOUBLE REED

A high Emphasis setting produces a characteristic double reed resonance. This voice is most effective in the upper register. The Mod Wheel and/or Pedal 2 will introduce vibrato.

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

0 1 2 3 4 5 6 7 8 9

FOOT PEDALS

AMOUNT 1

PITCH

MOD

AMOUNT 2

MOD AMT OSC 2

MODULATION

LEO MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

VOICE MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

CONTROUR OSC 3 AMOUNT

INVERT

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHAP

PULSE WIDTH (N)

50

1 54 2 54 3 50

MIXER

LEVEL

0 5 10

49 52 47 0

VOLTAGE CONTROLLED FILTER

KEY TRACK

1/3 2/3

CUTOFF

0 5

28 0 34 33 44

UNCONDITIONAL CONTROUR FOLLOW

KEYBOARD FOLLOW

RELEASE

OUTPUTS

PROGRAMMABLE MASTER VOLUME

0 10

40

HEADPHONE VOLUME

0 10

54. MONO 1

Experiment with the Pitch Bend and Mod Wheels. This voice is programmed for low-note priority; try the other modes. Pedal 1 will control Filter Cutoff.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

0 1 2 3 4 5 6 7 8 9

FOOT PEDALS

AMOUNT 1

PITCH

MOD

AMOUNT 2

MOD AMT OSC 2

MODULATION

LEO MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

VOICE MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

CONTROUR OSC 3 AMOUNT

INVERT

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHAP

PULSE WIDTH (N)

50

1 88 2 50 3 48

MIXER

LEVEL

0 5 10

43 38 0 0

VOLTAGE CONTROLLED FILTER

KEY TRACK

1/3 2/3

CUTOFF

0 5

42 0 45 100 91

UNCONDITIONAL CONTROUR FOLLOW

KEYBOARD FOLLOW

RELEASE

OUTPUTS

PROGRAMMABLE MASTER VOLUME

0 10

49

HEADPHONE VOLUME

0 10

55. UFO

The Pitch Wheel is programmed at maximum; it can speed up, slow down, or reverse the falling effect.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

ENTER

RECORD INTERLOCK

PEAKS PEDALS

AMOUNT 1

PITCH

FILTER

MOD AMT OSC 2

OSCILLATORS

OCTAVE

16" 8" 4" 2"

50

PULSE WIDTH (IN)

1 13

2 14

3 50

FREQUENCY

0 -5 -10 -15

21 2

3

KEYBOARD CONTROL

LOW

MODULATION

LFO MODULATION

RATE (HZ)

1 100

53

DESTINATION

OSC 1 FREQ

OSC 2 FREQ

PW 1

PW 2

PW 3

FILTER

VOICE MODULATION

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

CONTROLED OSC AMOUNT

INVERT

MIXER

LEVEL

41

46

0

0

NOISE

VOLTAGE CONTROLLED FILTER

RETRACK

1/3 2/3

45

CUTOFF

EMPHASIS

12

16

68

ATTACK

100 100

1MSEC 10SEC

2MSEC 20SEC

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR FOLLOW

800 200 100

1.4 2 3

RELEASE

46

75

81

ATTACK

100 100

1MSEC 10SEC

2MSEC 20SEC

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR FOLLOW

800 200 100

1.4 2 3

RELEASE

OUTPUTS

PROGRAMMABLE

VOLUME

50

HEADPHONE

VOLUME

56. CHORUS SYNTH

Try this voice with and without Glide. For more modulation, use Pedal 2 and/or the Mod Wheel.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

ENTER

RECORD INTERLOCK

PEAKS PEDALS

AMOUNT 1

PITCH

FILTER

MOD AMT OSC 2

OSCILLATORS

OCTAVE

16" 8" 4" 2"

50

PULSE WIDTH (IN)

1 96

2 97

3 96

FREQUENCY

0 -5 -10 -15

48 2

48 3

KEYBOARD CONTROL

LOW

MODULATION

LFO MODULATION

RATE (HZ)

1 100

0

DESTINATION

OSC 1 FREQ

OSC 2 FREQ

PW 1

PW 2

PW 3

FILTER

VOICE MODULATION

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

CONTROLED OSC AMOUNT

INVERT

MIXER

LEVEL

100

100

100

0

NOISE

VOLTAGE CONTROLLED FILTER

RETRACK

1/3 2/3

13

CUTOFF

EMPHASIS

0

40

64

ATTACK

100 100

1MSEC 10SEC

2MSEC 20SEC

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR FOLLOW

800 200 100

1.4 2 3

RELEASE

0

68

ATTACK

100 100

1MSEC 10SEC

2MSEC 20SEC

UNCONDITIONAL FOLLOW

UNCONDITIONAL CONTOUR FOLLOW

800 200 100

1.4 2 3

RELEASE

OUTPUTS

PROGRAMMABLE

VOLUME

80

HEADPHONE

VOLUME

57. CLAV 3

For a chorus clay sound, turn on the pulse waveshape for Osc 3.

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

RECORD INTERLOCK

FOOT PEDALS

AMOUNT 1

PITCH VOLUME FILTER

MOD AMT OSC 2

MODULATION

LED MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ RATE (Hz)

VOICE MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

16 8 4 2

WAVESHARE

PULSE WIDTH (N)

50 0 100

MIXER

LEVEL

5 0 10

VOLUME CONTROLLED FILTER

KB TRACK

1/3 2/3

CUTOFF

0 5

EMPHASIS

0 10

CONTOUR AMOUNT

1.4 2 3

800 200 20

2MSEC 20SEC

RELEASE

OUTPUTS

PROGRAMMABLE VOLUME

0 10

HEADPHONE VOLUME

0 10

58. ECHO WHISTLE

OCTAVE

PITCH MOD

37 11

3 1

KEYMODE HOLD ARPEGGIATOR

MOD AMT OSC 2

MODULATION

LED MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ RATE (Hz)

VOICE MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

16 8 4 2

WAVESHARE

PULSE WIDTH (N)

50 0 100

MIXER

LEVEL

5 0 10

VOLUME CONTROLLED FILTER

KB TRACK

1/3 2/3

CUTOFF

0 5

EMPHASIS

0 10

CONTOUR AMOUNT

1.4 2 3

800 200 20

2MSEC 20SEC

RELEASE

OUTPUTS

PROGRAMMABLE VOLUME

0 10

HEADPHONE VOLUME

0 10

58. ECHO WHISTLE

The echo effect will only be heard after a key is released. Because the Unconditional Contour is on, the Filter Contour will complete its attack stage before jumping to the release stage.

OCTAVE

PITCH MOD

37 11

3 1

KEYMODE HOLD ARPEGGIATOR

MOD AMT OSC 2

MODULATION

LED MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ RATE (Hz)

VOICE MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

16 8 4 2

WAVESHARE

PULSE WIDTH (N)

50 0 100

MIXER

LEVEL

5 0 10

VOLUME CONTROLLED FILTER

KB TRACK

1/3 2/3

CUTOFF

0 5

EMPHASIS

0 10

CONTOUR AMOUNT

1.4 2 3

800 200 20

2MSEC 20SEC

RELEASE

OUTPUTS

PROGRAMMABLE VOLUME

0 10

HEADPHONE VOLUME

0 10

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

RECORD INTERLOCK

FOOT PEDALS

AMOUNT 1

PITCH VOLUME FILTER

MOD AMT OSC 2

MODULATION

LED MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ RATE (Hz)

VOICE MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

16 8 4 2

WAVESHARE

PULSE WIDTH (N)

50 0 100

MIXER

LEVEL

5 0 10

VOLUME CONTROLLED FILTER

KB TRACK

1/3 2/3

CUTOFF

0 5

EMPHASIS

0 10

CONTOUR AMOUNT

1.4 2 3

800 200 20

2MSEC 20SEC

RELEASE

OUTPUTS

PROGRAMMABLE VOLUME

0 10

HEADPHONE VOLUME

0 10

59. ELECTRIC PIANO 2

OCTAVE

PITCH MOD

37 0

3 0

KEYMODE HOLD ARPEGGIATOR

MOD AMT OSC 2

MODULATION

LED MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ RATE (Hz)

VOICE MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

16 8 4 2

WAVESHARE

PULSE WIDTH (N)

50 0 100

MIXER

LEVEL

5 0 10

VOLUME CONTROLLED FILTER

KB TRACK

1/3 2/3

CUTOFF

0 5

EMPHASIS

0 10

CONTOUR AMOUNT

1.4 2 3

800 200 20

2MSEC 20SEC

RELEASE

OUTPUTS

PROGRAMMABLE VOLUME

0 10

HEADPHONE VOLUME

0 10

59. ELECTRIC PIANO 2

Advance the Mod Wheel for a tremolo effect.

OCTAVE

PITCH MOD

37 0

3 0

KEYMODE HOLD ARPEGGIATOR

MOD AMT OSC 2

MODULATION

LED MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ RATE (Hz)

VOICE MODULATION DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSCILLATORS

OCTAVE

16 8 4 2

WAVESHARE

PULSE WIDTH (N)

50 0 100

MIXER

LEVEL

5 0 10

VOLUME CONTROLLED FILTER

KB TRACK

1/3 2/3

CUTOFF

0 5

EMPHASIS

0 10

CONTOUR AMOUNT

1.4 2 3

800 200 20

2MSEC 20SEC

RELEASE

OUTPUTS

PROGRAMMABLE VOLUME

0 10

HEADPHONE VOLUME

0 10

SYSTEM CONTROLLER
 PROGRAM: []
 1 2 3 4 5 6 7 8 9 0
 RECORD INTERLOCK ENTER

FOOT PEDALS
 AMOUNT 1: [0] FILTER []
 AMOUNT 2: [0] MOD AMT []
 OSC 1 FREQ [] OSC 2 FREQ [] OSC 3 FREQ []
 OSC 1 FREQ [] OSC 2 FREQ [] OSC 3 FREQ []

MODULATION
 LFO MODULATION: []
 VOICE MODULATION: []
 OSC 1 FREQ [] OSC 2 FREQ [] OSC 3 FREQ []
 OSC 1 FREQ [] OSC 2 FREQ [] OSC 3 FREQ []

OSCILLATORS
 OCTAVE: [] [] [] [] [] [] [] [] [] [] [] []
 SYNC Z TO 1: [] [] [] [] [] [] [] [] [] [] [] []
 PULSE WIDTH (IN): [] [] [] [] [] [] [] [] [] [] [] []
 FREQUENCY: [48] [2] [13] [48] [3] [42]

MIXER
 LEVEL: [45] [50] [0] [0]
 NOISE: [] [] [] []

VOLTAGE CONTROLLED FILTER
 KB TRACK: [] [] [] [] [] [] [] [] [] [] [] []
 CUTOFF: [10] [68] [18] [61] [44] [55]
 UNCONDITIONAL CONTOUR: [] [] [] [] [] [] [] [] [] [] [] []
 RETURN TO ZERO: [] [] [] [] [] [] [] [] [] [] [] []
 UNCONDITIONAL FOLLOW: [] [] [] [] [] [] [] [] [] [] [] []

OUTPUTS
 MASTER VOLUME: [] [] [] [] [] [] [] [] [] [] [] []
 HEADPHONE VOLUME: [] [] [] [] [] [] [] [] [] [] [] []

60. FM 1

This sound is produced by audio-range modulation of the Filter. The Mod Wheel will introduce vibrato.

SYSTEM CONTROLLER
 PROGRAM: []
 1 2 3 4 5 6 7 8 9 0
 RECORD INTERLOCK ENTER

FOOT PEDALS
 AMOUNT 1: [0] FILTER []
 AMOUNT 2: [0] MOD AMT []
 OSC 1 FREQ [] OSC 2 FREQ [] OSC 3 FREQ []
 OSC 1 FREQ [] OSC 2 FREQ [] OSC 3 FREQ []

MODULATION
 LFO MODULATION: []
 VOICE MODULATION: []
 OSC 1 FREQ [] OSC 2 FREQ [] OSC 3 FREQ []
 OSC 1 FREQ [] OSC 2 FREQ [] OSC 3 FREQ []

OSCILLATORS
 OCTAVE: [] [] [] [] [] [] [] [] [] [] [] []
 SYNC Z TO 1: [] [] [] [] [] [] [] [] [] [] [] []
 PULSE WIDTH (IN): [] [] [] [] [] [] [] [] [] [] [] []
 FREQUENCY: [49] [2] [47] [16] [3] [0]

MIXER
 LEVEL: [26] [30] [0] [0]
 NOISE: [] [] [] []

VOLTAGE CONTROLLED FILTER
 KB TRACK: [] [] [] [] [] [] [] [] [] [] [] []
 CUTOFF: [40] [18] [32] [41] [44] [71]
 UNCONDITIONAL CONTOUR: [] [] [] [] [] [] [] [] [] [] [] []
 RETURN TO ZERO: [] [] [] [] [] [] [] [] [] [] [] []
 UNCONDITIONAL FOLLOW: [] [] [] [] [] [] [] [] [] [] [] []

OUTPUTS
 MASTER VOLUME: [] [] [] [] [] [] [] [] [] [] [] []
 HEADPHONE VOLUME: [] [] [] [] [] [] [] [] [] [] [] []

61. STRING 7

For more animation to the sound, advance the Mod Wheel 3/8 to 1/2.

62. BRASS 7

This voice is another example of audio-frequency filter modulation. Try different waveshape settings for Osc 3; note the change in timbre.

63. SYNTH ORGAN

Switching the left-hand Octave setting will have a pronounced effect on the tone color of this voice.

64. MONO 2

64. MONO 2

The LFO setting determines the speed of the Arpeggiator. At high speeds, the tremolo effect becomes more pronounced.

65. SYNC SWEEP 4

65. SYNC SWEEP 4

The reiterating effect comes from LFO Modulation; the long fall effect is from the Voice Modulation section. Pedal 2 controls additional sync effects.

SYSTEM CONTROLLER
 PROGRAM: []
 RECORD INTERLOCK: []
 ENTER: []

FOOT PEDALS
 AMOUNT 1: [35]
 AMOUNT 2: [0]
 PITCH: []
 FILTER: []
 VOLUME: []

MODULATION
 LFO MODULATION: []
 DESTINATION: []
 RATE (HZ): [62]
 OSC 1 FREQ: []
 OSC 2 FREQ: []
 OSC 3 FREQ: []
 VOICE MODULATION: []
 DESTINATION: []
 OSC 1 FREQ: []
 OSC 2 FREQ: []
 OSC 3 FREQ: []
 CONTROLED OSC 3 AMOUNT: []
 INVERT: []

OSCILLATORS
 WAVE SHAPE: []
 PULSE WIDTH (N): [51]
 FREQUENCY: [48]
 OCTAVE: []
 KEYBOARD CONTROL: []

MIXER
 LEVEL: [100]
 LEVEL: [100]
 LEVEL: [100]
 NOISE: [0]

VOLTAGE CONTROLLED FILTER
 KB TRACK: []
 RETURN TO KEYBOARD: []
 UNCONDITIONAL KEYBOARD FOLLOW: []
 ATTACK: [0]
 DECAY: [36]
 SUSTAIN: [0]
 RELEASE: [49]
 CONTROUR AMOUNT: [19]

OUTPUTS
 PROGRAMMABLE VOLUME: [100]
 HEADPHONE VOLUME: []

Pedal 1's control of the Filter will dramatically change the character of this voice.

66. SQUARE WAVE 2

SYSTEM CONTROLLER
 PROGRAM: []
 RECORD INTERLOCK: []
 ENTER: []

FOOT PEDALS
 AMOUNT 1: [0]
 AMOUNT 2: [0]
 PITCH: []
 FILTER: []
 VOLUME: []

MODULATION
 LFO MODULATION: []
 DESTINATION: []
 RATE (HZ): [62]
 OSC 1 FREQ: []
 OSC 2 FREQ: []
 OSC 3 FREQ: []
 VOICE MODULATION: []
 DESTINATION: []
 OSC 1 FREQ: []
 OSC 2 FREQ: []
 OSC 3 FREQ: []
 CONTROLED OSC 3 AMOUNT: []
 INVERT: []

OSCILLATORS
 WAVE SHAPE: []
 PULSE WIDTH (N): [6]
 FREQUENCY: [88]
 OCTAVE: []
 KEYBOARD CONTROL: []

MIXER
 LEVEL: [51]
 LEVEL: [45]
 LEVEL: [12]
 NOISE: [0]

VOLTAGE CONTROLLED FILTER
 KB TRACK: []
 RETURN TO KEYBOARD: []
 UNCONDITIONAL KEYBOARD FOLLOW: []
 ATTACK: [0]
 DECAY: [61]
 SUSTAIN: [20]
 RELEASE: [72]
 CONTROUR AMOUNT: [37]

OUTPUTS
 PROGRAMMABLE VOLUME: [100]
 HEADPHONE VOLUME: []

67. QUINT HARPISICHORD

Modulation (vibrato) can be introduced with the Mod Wheel.

68. WIND CHIMES 2

This is an example of "cascaded" modulation; the LFO modulates Osc 3, which in turn modulates the Filter. Note that the chime effect on any one voice subtly speeds up and slows down.

69. ELECTRIC PIANO 3

For more animation in the sound, turn up the Mod Wheel. Pedal 1 will control brightness.

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

AMOUNT 1

AMOUNT 2

PITCH VOLUME

FILTER

MOD AMT OSC 2

MODULATION

LEO MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

Voice Modulation

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 3 AMOUNT

CONToured INVERT

OSCILLATORS

OCTAVE

WAVESHAPe

PULSE WIDTH (N)

FREQUENCY

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

EMPHASIS

UNCONDITIONAL FOLLOW

ATTACK

DECAY

RELEASE

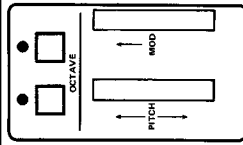
OUTPUTS

PROGRAMMABLE VOLUME

HEADPHONE VOLUME

70. BOWED OCTAVES

The key to this patch is using pulse waves that are nearly mirror images: Osc 1 at 11%, Osc 2 at 94%. The Voice Modulation section first drives one oscillator to 0%, then the other, resulting in a smooth transition between octaves.



SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

FOOT PEDALS

AMOUNT 1

AMOUNT 2

PITCH VOLUME

FILTER

MOD AMT OSC 2

MODULATION

LEO MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

Voice Modulation

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 PW1 OSC 2 PW2 OSC 3 PW3

OSC 3 AMOUNT

CONToured INVERT

OSCILLATORS

OCTAVE

WAVESHAPe

PULSE WIDTH (N)

FREQUENCY

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

EMPHASIS

UNCONDITIONAL FOLLOW

ATTACK

DECAY

RELEASE

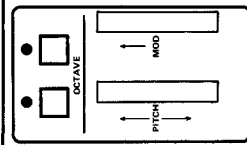
OUTPUTS

PROGRAMMABLE VOLUME

HEADPHONE VOLUME

71. STRING 8

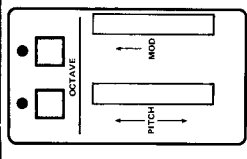
Additional modulation can be introduced from Pedal 2 and/or the Mod Wheel.



72. BRASS 8

72. BRASS 8

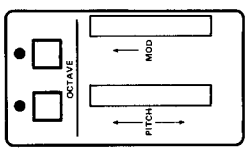
Try this voice with and without Glide. Vibrato is available at the Mod Wheel.



73. RELEASE VOICE

73. RELEASE VOICE

The Voice Modulation section drives the pulse signal of Osc 2 to zero while keys are held down; when the keys are released, the second oscillator can sound.



74. MONO 3

74. MONO 3

This is not a true mono voice; only one voice card is triggered at a time, but the long release allows voices to overlap.

75. QUINT FILTER TRILL

75. QUINT FILTER TRILL

The high Filter Sustain level keeps the trill effect from "falling" until keys are released.

SYSTEM CONTROLLER
PROGRAM:
1 2 3 4 5 6 7 8 9 0
RECORD INTERLOCK
ENTER

FOOT PEDALS
AMOUNT 1
PITCH VOLUME
0 10
2 8
0 10
FILTER

MODULATION
LED MODULATION
DESTINATION
OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ
VOICE MODULATION
OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ
FILTER CONTOUR OSC 3 AMOUNT
CONToured INVERT
PW1 PW2 PW3 FILTER

OSCILLATORS
OCTAVE
WAVESHAPES
PULSE WIDTH (IN)
1 50
2 44
3 50
FREQUENCY
KEYBOARD CONTROL

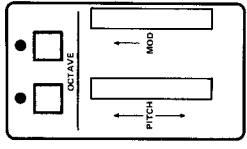
MIXER
35 LEVEL
62 LEVEL
57 LEVEL
0 NOISE

VOLTAGE CONTROLLED FILTER
VOLUME PROGRAMMABLE
31
VOLUME
HEADPHONE
VOLUME
EMPHASIS
CONTOUR AMOUNT
61
RELEASE
SUSTAIN
UNCONDITIONAL CONTOUR
57
KEYBOARD FOLLOW
27
SUSTAIN
KEYBOARD FOLLOW
65
RELEASE
SUSTAIN

VOLTAGE CONTROLLED AMPLIFIER
VOLUME PROGRAMMABLE
31
VOLUME
HEADPHONE
VOLUME
ATTACK
DECAY
15
2MSEC 20SEC
UNCONDITIONAL CONTOUR
57
KEYBOARD FOLLOW
27
SUSTAIN
KEYBOARD FOLLOW
65
RELEASE
SUSTAIN

76. QUINT OSCILLATOR TRILL

The interval trill is produced by the LFO Modulation section; the “thump” on the beginning of each note is produced by the Voice Modulation section.



SYSTEM CONTROLLER
PROGRAM:
1 2 3 4 5 6 7 8 9 0
RECORD INTERLOCK
ENTER

FOOT PEDALS
AMOUNT 5
PITCH VOLUME
0 10
2 8
0 10
FILTER

MODULATION
LED MODULATION
DESTINATION
OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ
VOICE MODULATION
OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ
FILTER CONTOUR OSC 3 AMOUNT
CONToured INVERT
PW1 PW2 PW3 FILTER

OSCILLATORS
OCTAVE
WAVESHAPES
PULSE WIDTH (IN)
1 54
2 26
3 50
FREQUENCY
KEYBOARD CONTROL

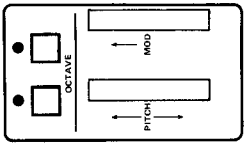
MIXER
48 LEVEL
32 LEVEL
23 LEVEL
0 NOISE

VOLTAGE CONTROLLED FILTER
VOLUME PROGRAMMABLE
36
VOLUME
HEADPHONE
VOLUME
EMPHASIS
CONTOUR AMOUNT
21
RELEASE
SUSTAIN
UNCONDITIONAL CONTOUR
86
KEYBOARD FOLLOW
100
SUSTAIN
KEYBOARD FOLLOW
51
RELEASE
SUSTAIN

VOLTAGE CONTROLLED AMPLIFIER
VOLUME PROGRAMMABLE
36
VOLUME
HEADPHONE
VOLUME
ATTACK
DECAY
50
2MSEC 20SEC
UNCONDITIONAL CONTOUR
100
KEYBOARD FOLLOW
100
SUSTAIN
KEYBOARD FOLLOW
51
RELEASE
SUSTAIN

77. ACCORDION

The detuning of Oscillators 2 and 3 produces the “musette” effect; for a different effect, hit C, hit 5, hit ENTER.



78. SYNTH PLECTRUM

SYSTEM CONTROLLER

PROGRAM []

RECORD INTERLOCK []

ENTER []

1 2 3 4 5 6 7 8 9 0

PEDESTALS

AMOUNT 1 []

PITCH []

MOD AMT []

OSC 2 []

MODULATION

LFO MODULATION []

DESTINATION []

OSC 1 FREQ []

OSC 2 FREQ []

OSC 3 FREQ []

CONTAMINATED OSC SAMPLING []

INVERT []

OSCILLATORS

OCTAVE []

WAVESHAPE []

PULSE WIDTH (IN) []

FREQUENCY []

KEYBOARD CONTROL []

MIXER

LEVEL []

NOISE []

VOLTAGE CONTROLLED FILTER

KB TRACK []

EMPHASIS []

CONTOUR AMOUNT []

ATTACK []

DECAY []

RELEASE []

OUTPUTS

MASTER VOLUME []

PROGRAMMABLE []

VOLUME []

HEADPHONE []

VOLUME []

78. SYNTH PLECTRUM

Pedal 2 can control Filter Cutoff; the Mod Wheel will introduce vibrato.

79. SYNC 5

SYSTEM CONTROLLER

PROGRAM []

RECORD INTERLOCK []

ENTER []

1 2 3 4 5 6 7 8 9 0

PEDESTALS

AMOUNT 1 []

PITCH []

MOD AMT []

OSC 2 []

MODULATION

LFO MODULATION []

DESTINATION []

OSC 1 FREQ []

OSC 2 FREQ []

OSC 3 FREQ []

CONTAMINATED OSC SAMPLING []

INVERT []

OSCILLATORS

OCTAVE []

WAVESHAPE []

PULSE WIDTH (IN) []

FREQUENCY []

KEYBOARD CONTROL []

MIXER

LEVEL []

NOISE []

VOLTAGE CONTROLLED FILTER

KB TRACK []

EMPHASIS []

CONTOUR AMOUNT []

ATTACK []

DECAY []

RELEASE []

OUTPUTS

MASTER VOLUME []

PROGRAMMABLE []

VOLUME []

HEADPHONE []

VOLUME []

79. SYNC 5

Pedal 2 can be used to change the basic tone color of the initial sound; the Mod Wheel will add vibrato.

80. SYNTH WOODWINDS

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

ENTER

RECORD INTERLOCK

PEDESTALS

AMOUNT 1

PITCH

VOLUME

FILTER

AMOUNT 2

MOD AMT OSC 2

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHARE

PULSE WIDTH (%)

50

FREQUENCY

2701

KEYBOARD CONTROL

LOW

MODULATION

LFO MODULATION

RATE (Hz)

1 100

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

VOICE MODULATION

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

31

EMPHASIS

70

CONTOUR AMOUNT

49

RELEASE

2MSEC 20SEC

VOLTAGE CONTROLLED AMPLIFIER

ATTACK

0

1MSEC 10SEC

DECAY

52

SUSTAIN

100

UNCONDITIONAL FOLLOW

35

RETURN TO ZERO

35

1MSEC 10SEC

DECAY

45

SUSTAIN

100

2MSEC 20SEC

RELEASE

48

OUTPUTS

PROGRAMMABLE

VOLUME

100

HEADPHONE

VOLUME

100

Modulation (vibrato) can be added via Pedal 2 and/or the Mod Wheel.

80. SYNTH WOODWINDS

81. STRING 9

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

ENTER

RECORD INTERLOCK

PEDESTALS

AMOUNT 1

PITCH

VOLUME

FILTER

AMOUNT 2

MOD AMT OSC 2

OSCILLATORS

OCTAVE

16' 8' 4' 2'

WAVESHARE

PULSE WIDTH (%)

50

FREQUENCY

2701

KEYBOARD CONTROL

LOW

MODULATION

LFO MODULATION

RATE (Hz)

1 100

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

VOICE MODULATION

OSC 1 FREQ

OSC 2 FREQ

OSC 3 FREQ

DESTINATION

PW 1 PW 2 PW 3

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

36

EMPHASIS

62

CONTOUR AMOUNT

44

RELEASE

2MSEC 20SEC

VOLTAGE CONTROLLED AMPLIFIER

ATTACK

0

1MSEC 10SEC

DECAY

46

SUSTAIN

62

UNCONDITIONAL FOLLOW

48

RETURN TO ZERO

48

1MSEC 10SEC

DECAY

62

SUSTAIN

55

2MSEC 20SEC

RELEASE

OUTPUTS

PROGRAMMABLE

VOLUME

50

HEADPHONE

VOLUME

50

Short, articulated playing will accentuate the "bowing" effect in this voice.

81. STRING 9

82. BRASS 9

The Keyboard Follow produces faster contours for higher notes in a manner characteristic of conventional brass instruments.

83. SURPRISE

Short notes produce a pleasant, flute-like timbre; the longer they're held, the nastier they get!

84. MONO 4

SYSTEM CONTROLLER
 PROGRAM: []
 1 2 3 4 5 6 7 8 9 0
 RECORD INTERLOCK
 ENTER

FOOT PEDALS
 AMOUNT 1: 0
 AMOUNT 2: 60
 FILTER
 MOD AMT OSC 2

MODULATION
 LFO MODULATION: 61
 RATE (HZ): 100
 DESTINATION: []
 OSC 1 FREQ: [] OSC 2 FREQ: []
 VOICE MODULATION: 100
 FILTER CONTOUR: 30
 CONTAMOUNT: []
 OSC JAMOUNT: []
 OSC 1 FREQ: [] OSC 2 FREQ: []

OSCILLATORS
 OCTAVE: []
 WAVE SHAPE: []
 PULSE WIDTH (IN): 50
 FREQ: 1 50
 FREQ: 2 44
 FREQ: 3 71
 KEYBOARD CONTROL: []

MIXER
 LEVEL: 48
 LEVEL: 62
 LEVEL: 0
 NOISE: 0

VOLTAGE CONTROLLED FILTER
 KB TRACK: []
 CUTOFF: 74
 EMPHASIS: 0
 CONTOUR AMOUNT: 61
 RELEASE: 0
 SUSTAIN: 0
 UNCONDITIONAL CONTOUR: []
 KEYBOARD FOLLOW: []
 ATTACK: 0
 DECAY: 59
 SUSTAIN: 45
 RELEASE: 78

OUTPUTS
 PROGRAMMABLE MASTER VOLUME: 20
 HEADPHONE VOLUME: 0

This is an example of audio-frequency modulation of the synced Osc 2. Note that multiple triggering is active; this ensures clean playing at rapid tempos.

84. MONO 4

85. DROPOFF

SYSTEM CONTROLLER
 PROGRAM: []
 1 2 3 4 5 6 7 8 9 0
 RECORD INTERLOCK
 ENTER

FOOT PEDALS
 AMOUNT 1: 0
 AMOUNT 2: 0
 FILTER
 MOD AMT OSC 2

MODULATION
 LFO MODULATION: 62
 RATE (HZ): 100
 DESTINATION: []
 OSC 1 FREQ: [] OSC 2 FREQ: []
 VOICE MODULATION: 0
 FILTER CONTOUR: 34
 CONTAMOUNT: []
 OSC JAMOUNT: []
 OSC 1 FREQ: [] OSC 2 FREQ: []

OSCILLATORS
 OCTAVE: []
 WAVE SHAPE: []
 PULSE WIDTH (IN): 50
 FREQ: 1 50
 FREQ: 2 50
 FREQ: 3 15
 KEYBOARD CONTROL: []

MIXER
 LEVEL: 43
 LEVEL: 60
 LEVEL: 0
 NOISE: 0

VOLTAGE CONTROLLED FILTER
 KB TRACK: []
 CUTOFF: 58
 EMPHASIS: 52
 CONTOUR AMOUNT: 100
 RELEASE: 0
 SUSTAIN: 0
 UNCONDITIONAL CONTOUR: []
 KEYBOARD FOLLOW: []
 ATTACK: 0
 DECAY: 12
 SUSTAIN: 40
 RELEASE: 76

OUTPUTS
 PROGRAMMABLE MASTER VOLUME: 100
 HEADPHONE VOLUME: 0

85. DROPOFF

The dropoff effect will occur only when a key is released. The Filter Contour (with maximum sustain) is routed to the oscillators.

86. RING MOD

86. RING MOD

The ring mod effect shifts upward because the Filter Contour voltage sent to Osc 2 has been inverted.

87. HARPSICHORD 2

87. HARPSICHORD 2

A small amount of Filter Contour sent to the pulse width of Osc 2 enhances the brilliance of the plucking effect.

C

C

C

USED EXPANDED RANGE
FOR VOICING
AND RELEASE
TO 153

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

INTERLOCK

PEDESTALS

AMOUNT 1

PITCH

MOD AMT OSC 2

MODULATION

MOD AMT OSC 1

REPEAT VOICE

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

INTERLOCK

PEDESTALS

AMOUNT 1

PITCH

MOD AMT OSC 2

MODULATION

MOD AMT OSC 1

REPEAT VOICE

OCTAVE

PITCH

MOD

MODULATION

LFO MODULATION

RATE HZ

OSC 1 OSC 2 OSC 3

DESTINATION

PW 1 PW 2 PW 3

OSC AMOUNT

OSC INVERT

OSCILLATORS

WAVE SHAPE

PULSE WIDTH (%)

FREQUENCY

OCTAVE

LOW

KEYBOARD CONTROL

OSCILLATORS

WAVE SHAPE

PULSE WIDTH (%)

FREQUENCY

OCTAVE

LOW

KEYBOARD CONTROL

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

EMPHASIS

CONTOUR AMOUNT

RELEASE

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

UNCONDITIONAL CONTOUR

KEYBOARD FOLLOW

RELEASE

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

HEADPHONE VOLUME

REPEAT VOICE

OCTAVE

PITCH

MOD

88. REPEAT VOICE

The low-frequency audio square wave and triangular waveshapes of Osc 3, in combination, form a unique kind of "reversing" waveshape (listen to a single note).

100 130 92 96

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

INTERLOCK

PEDESTALS

AMOUNT 1

PITCH

MOD AMT OSC 2

MODULATION

MOD AMT OSC 1

CLAV 4

OCTAVE

PITCH

MOD

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0 ENTER

INTERLOCK

PEDESTALS

AMOUNT 1

PITCH

MOD AMT OSC 2

MODULATION

MOD AMT OSC 1

CLAV 4

OCTAVE

PITCH

MOD

MODULATION

LFO MODULATION

RATE HZ

OSC 1 OSC 2 OSC 3

DESTINATION

PW 1 PW 2 PW 3

CONTROLED OSC AMOUNT

OSC INVERT

OSCILLATORS

WAVE SHAPE

PULSE WIDTH (%)

FREQUENCY

OCTAVE

LOW

KEYBOARD CONTROL

OSCILLATORS

WAVE SHAPE

PULSE WIDTH (%)

FREQUENCY

OCTAVE

LOW

KEYBOARD CONTROL

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

KB TRACK

CUTOFF

EMPHASIS

CONTOUR AMOUNT

RELEASE

VOLTAGE CONTROLLED AMPLIFIER

RETURN TO ZERO

UNCONDITIONAL CONTOUR

KEYBOARD FOLLOW

RELEASE

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

HEADPHONE VOLUME

89. CLAV 4

Try this voice with and without Glide. Pedal 1 can control brightness; Pedal 2 can add sync effects; the Mod Wheel will introduce vibrato.

SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

A B C D

PEDESTALS

AMOUNT 1

PITCH

MOD AMT OSC 2

0 10

MODULATION

LFO MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

0 100

0 10

0 10

0 10

OSCILLATORS

OCTAVE

16' 8' 4' 2'

50

0 100

0 100

0 100

MIXER

LEVEL

0 5

38

28

44

0

VOLTAGE CONTROLLED FILTER

KB TRACK

EMPHASIS

0 10

42

57

24

31

20

69

21

67

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

85

0 10

2 5

8

HEADPHONE VOLUME

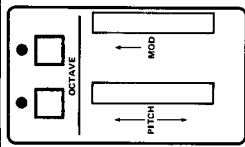
0 10

2 5

8

90. QUINT SYNTH

The inverted Filter Contour sent to Osc 1 puts a short "scoop" on the beginning of each note.



SYSTEM CONTROLLER

PROGRAM

RECORD INTERLOCK

ENTER

1 2 3 4 5 6 7 8 9 0

A B C D

PEDESTALS

AMOUNT 1

PITCH

MOD AMT OSC 2

0 10

MODULATION

LFO MODULATION

DESTINATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

0 100

0 10

0 10

0 10

OSCILLATORS

OCTAVE

16' 8' 4' 2'

50

0 100

0 100

0 100

MIXER

LEVEL

0 5

41

46

0

0

VOLTAGE CONTROLLED FILTER

KB TRACK

EMPHASIS

0 10

12

60

32

18

100

47

25

62

50

46

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

43

0 10

2 5

8

HEADPHONE VOLUME

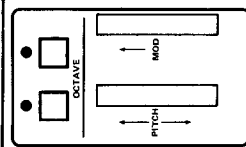
0 10

2 5

8

91. STRING 10

This string patch has a very pronounced "bowing" effect; try it with short, repeated chords.



92. BRASS 10

Modulation (vibrato) can be added via the Mod Wheel.

93. TRIANGLE WAVES

The triangle waves generate a basic signal unique to the synthesizer. Try this voice with and without Glide.

94. MONO 5

94. MONO 5

Holding down thirds (or other chords) produces a very authentic marimba sound.

95. RING MOD 2

95. RING MOD 2

In this patch, the "ring mod" (audio-frequency modulation) is sent equally to all three oscillators.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK

ENTER

FOOTS PEDALS AMOUNT 1

0

PITCH

FILTER

AMOUNT 1

MOD.AMT OSC.2

MODULATION

LFO MODULATION

DESTINATION

OSC.1 FREQ. OSC.2 FREQ. OSC.3 FREQ.

VOICE MODULATION

CONToured OSC. AMOUNT

OSC.1 FREQ. OSC.2 FREQ. OSC.3 FREQ.

OSCILLATORS

1 50

2 50

3 50

MIXER

40

41

100

0

VOLTAGE CONTROLLED FILTER

59

0

100

OUTPUTS

0

80

96. DUPE # 75

This is a "free" position, useful if you need a temporary holding position while swapping program locations.

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK

ENTER

FOOTS PEDALS AMOUNT 1

50

PITCH

FILTER

AMOUNT 1

MOD.AMT OSC.2

MODULATION

LFO MODULATION

DESTINATION

OSC.1 FREQ. OSC.2 FREQ. OSC.3 FREQ.

VOICE MODULATION

CONToured OSC. AMOUNT

OSC.1 FREQ. OSC.2 FREQ. OSC.3 FREQ.

OSCILLATORS

1 50

2 50

3 50

MIXER

52

50

56

0

VOLTAGE CONTROLLED FILTER

61

0

100

OUTPUTS

0

100

97. OCTAVE SYNTH 2

Pedal 1 can control Filter Cutoff (brightness); the Mod Wheel will add vibrato.

98. SYNTHE PLECTRUM 2

SYSTEM CONTROLLER
PROGRAM: []
RECORD INTERLOCK: []
ENTER: []

FOOT'S PEDALS
AMOUNT 1: [100] PITCH: [] FILTER: []
AMOUNT 2: [0] MOD/AMT: [] OSC 2: []

MODULATION
LFO MODULATION: []
RATE (HZ): [62] OSC 1 FREQ: [] OSC 2 FREQ: [] OSC 3 FREQ: []
DESTINATION: [] PW 1: [] PW 2: [] PW 3: []
VOICE MODULATION: []
CONToured OSC AMOUNT: []
FILTER CONTOUR: []
OSC 1 FREQ: [] OSC 2 FREQ: [] OSC 3 FREQ: []

OSCILLATORS
OCTAVE: []
WAVESHAPES: []
PULSE WIDTH (IN): []
FREQUENCY: [48] [2] [3] [25] [48] [3] [25]

MIXER
LEVEL: [100] [100] [100] [0]

VOLTAGE CONTROLLED FILTER
KB TRACK: []
ATTACK: [0] DECAY: [46] SUSTAIN: [40] RELEASE: [79]
CUTOFF: [0] EMPHASIS: [0] CONTOUR AMOUNT: [100]

VOLTAGE CONTROLLED AMPLIFIER
ATTACK: [0] DECAY: [7] SUSTAIN: [36] RELEASE: [82]

OUTPUTS
PROGRAMMABLE: [100] VOLUME: []
HEADPHONE: [] VOLUME: []

Using Pedal 1 to open up the Filter will enhance the Sustain segment of this program. Modulation (vibrato) is available from the Mod Wheel.

98. SYNTHE PLECTRUM 2

99. CLAV 5

SYSTEM CONTROLLER
PROGRAM: []
RECORD INTERLOCK: []
ENTER: []

FOOT'S PEDALS
AMOUNT 1: [0] PITCH: [] FILTER: []
AMOUNT 2: [0] MOD/AMT: [] OSC 2: []

MODULATION
LFO MODULATION: []
RATE (HZ): [61] OSC 1 FREQ: [] OSC 2 FREQ: [] OSC 3 FREQ: []
DESTINATION: [] PW 1: [] PW 2: [] PW 3: []
VOICE MODULATION: []
CONToured OSC AMOUNT: []
FILTER CONTOUR: []
OSC 1 FREQ: [] OSC 2 FREQ: [] OSC 3 FREQ: []

OSCILLATORS
OCTAVE: []
WAVESHAPES: []
PULSE WIDTH (IN): []
FREQUENCY: [48] [2] [7] [50] [3] [7]

MIXER
LEVEL: [100] [20] [17] [0]

VOLTAGE CONTROLLED FILTER
KB TRACK: []
ATTACK: [0] DECAY: [65] SUSTAIN: [46] RELEASE: [79]
CUTOFF: [0] EMPHASIS: [0] CONTOUR AMOUNT: [68]

VOLTAGE CONTROLLED AMPLIFIER
ATTACK: [0] DECAY: [50] SUSTAIN: [56] RELEASE: [82]

OUTPUTS
PROGRAMMABLE: [100] VOLUME: []
HEADPHONE: [] VOLUME: []

For a chorus clay sound, turn on the rectangular waveshapes for Osc 2 and/or Osc 3. The Mod Wheel will introduce a tremolo effect.

99. CLAV 5

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK ENTER

LEFT PEDALS

AMOUNT 1

PITCH

MOD AMT OSC 2

MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 RATE OSC 2 RATE OSC 3 RATE

OSC 1 PHASE OSC 2 PHASE OSC 3 PHASE

OSC 1 DESTINATION OSC 2 DESTINATION OSC 3 DESTINATION

OSC 1 FILTER OSC 2 FILTER OSC 3 FILTER

OSC 1 INVERT OSC 2 INVERT OSC 3 INVERT

OSC 1 CONTOUR OSC 2 CONTOUR OSC 3 CONTOUR

OSC 1 AMOUNT OSC 2 AMOUNT OSC 3 AMOUNT

OSC 1 OSC 2 OSC 3

OSCILLATORS

1

2

3

SYNCH 270.1

PULSE WIDTH (NS)

FREQUENCY

OCTAVE

18' 8' 4' 2'

KEYBOARD CONTROL

LOW

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

18 TRACK

CUTOFF

EMPHASIS

CONTOUR AMOUNT

ATTACK 10SEC 20SEC 30SEC

DECAY 10SEC 20SEC 30SEC

UNCONDITIONAL CONTOUR

RETURN TO ZERO

KEYBOARD FOLLOW

RELEASE

ATTACK 10SEC 20SEC 30SEC

DECAY 10SEC 20SEC 30SEC

SUSTAIN

RELEASE

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

HEADPHONE VOLUME

SYSTEM CONTROLLER

PROGRAM

1 2 3 4 5 6 7 8 9 0

RECORD INTERLOCK ENTER

LEFT PEDALS

AMOUNT 1

PITCH

MOD AMT OSC 2

MODULATION

OSC 1 FREQ OSC 2 FREQ OSC 3 FREQ

OSC 1 RATE OSC 2 RATE OSC 3 RATE

OSC 1 PHASE OSC 2 PHASE OSC 3 PHASE

OSC 1 DESTINATION OSC 2 DESTINATION OSC 3 DESTINATION

OSC 1 FILTER OSC 2 FILTER OSC 3 FILTER

OSC 1 INVERT OSC 2 INVERT OSC 3 INVERT

OSC 1 CONTOUR OSC 2 CONTOUR OSC 3 CONTOUR

OSC 1 AMOUNT OSC 2 AMOUNT OSC 3 AMOUNT

OSC 1 OSC 2 OSC 3

OSCILLATORS

1

2

3

SYNCH 270.1

PULSE WIDTH (NS)

FREQUENCY

OCTAVE

18' 8' 4' 2'

KEYBOARD CONTROL

LOW

MIXER

LEVEL

NOISE

VOLTAGE CONTROLLED FILTER

18 TRACK

CUTOFF

EMPHASIS

CONTOUR AMOUNT

ATTACK 10SEC 20SEC 30SEC

DECAY 10SEC 20SEC 30SEC

UNCONDITIONAL CONTOUR

RETURN TO ZERO

KEYBOARD FOLLOW

RELEASE

ATTACK 10SEC 20SEC 30SEC

DECAY 10SEC 20SEC 30SEC

SUSTAIN

RELEASE

OUTPUTS

MASTER VOLUME

PROGRAMMABLE

HEADPHONE VOLUME

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