

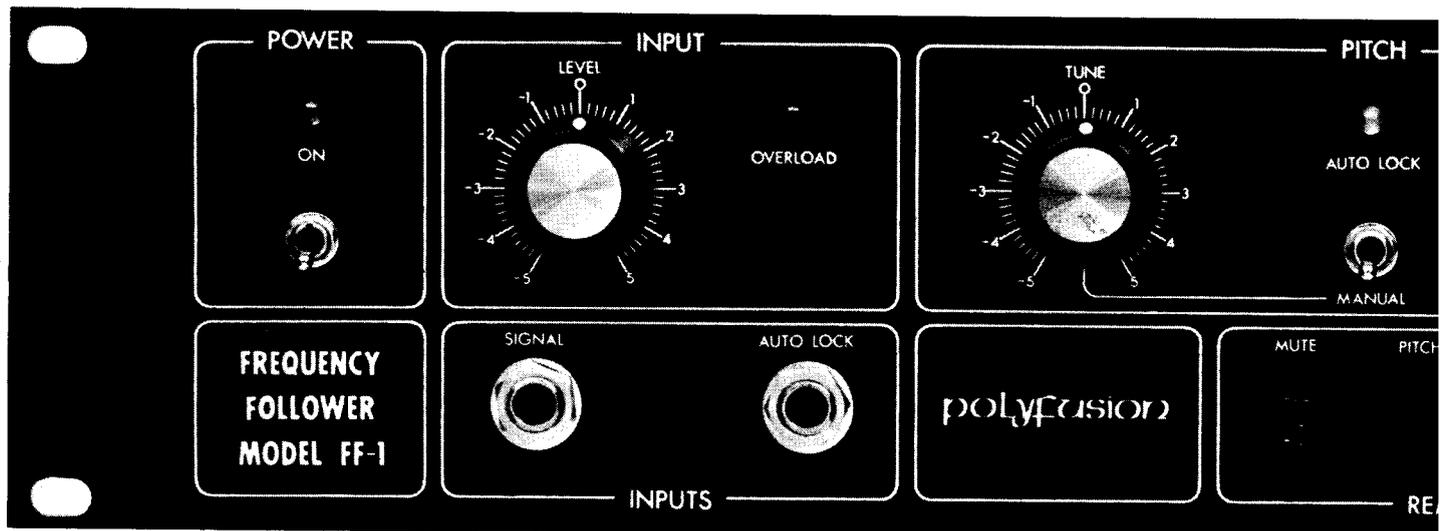
The PITCH-HOLD capability permits you to hold the pitch control voltages from the FF-1 constant while the pitch of the input signal may be changing. The PITCH-HOLD is activated with a footswitch as well. During PITCH-HOLD, the GATE and ENVELOPE OUTPUTS continue to respond to the input signal.

The MUTE function gives you the ability to inhibit the gate and envelope outputs of the FF-1 during a performance without removing any plugs. The MUTE is engaged with a footswitch also.

Still another footswitch operated function is the GATE. The GATE simply causes a gate voltage at the GATE OUTPUT jack regardless of the input signal level. This feature is useful for setting up the

synthesizer envelope generator parameters and, along with the INTERVAL and PITCH-HOLD, for creating a duet effect between the instrument you are playing and the synthesizer which is controlled by the Frequency Follower.

As you can see, the FF-1 Frequency Follower does it all! Imagine the thrill of hearing a synthesizer respond to all the subtle facets of a guitar tone, the moody personality of a saxophone, or the incomparably articulate human voice. You know that the weakest part of a synthesizer is its keyboard -- that the keyboard can only provide a pale reflection of your musical concepts to control the synthesizer. Keyboards were invented for instruments that can't "sing"! The FF-1 brings the synthesizer to your world of warm, responsive musical sound.



JACKS:

INPUTS:

SIGNAL: accepts the signal from the instrument you will use to control the synthesizer. The outputs of many instrument pick-ups, some microphones, and all line level sources may be applied to the SIGNAL INPUT JACK.

AUTO-LOCK: accepts any waveshape output of a VCO in the synthesizer being controlled by the FF-1. This VCO signal is compared to the input signal by the AUTO-LOCK circuit. Based on this comparison, the AUTO-LOCK corrects the pitch control output of the FF-1 to cause the VCO to exactly match the pitch of the input signal.

REMOTES: (provide a means of connecting remote controls such as footswitches to activate special performance features of the FF-1)

GATE: causes the gate outputs of the FREQUENCY FOLLOWER to activate the synthesizer envelope generators regardless of the input signal.

INTERVAL: engages the interval tuned with the INTERVAL control.

PITCH-HOLD: causes the FF-1 to retain the pitch control voltage at the time the switch is closed and to ignore any new pitch information until the switch is opened again.

CONTROLS:

INPUT LEVEL: controls the audio signal input level to the frequency and envelope followers over a gain range of 0.1 to 10. This control allows you to optimize the FF-1 performance for a specific input signal.

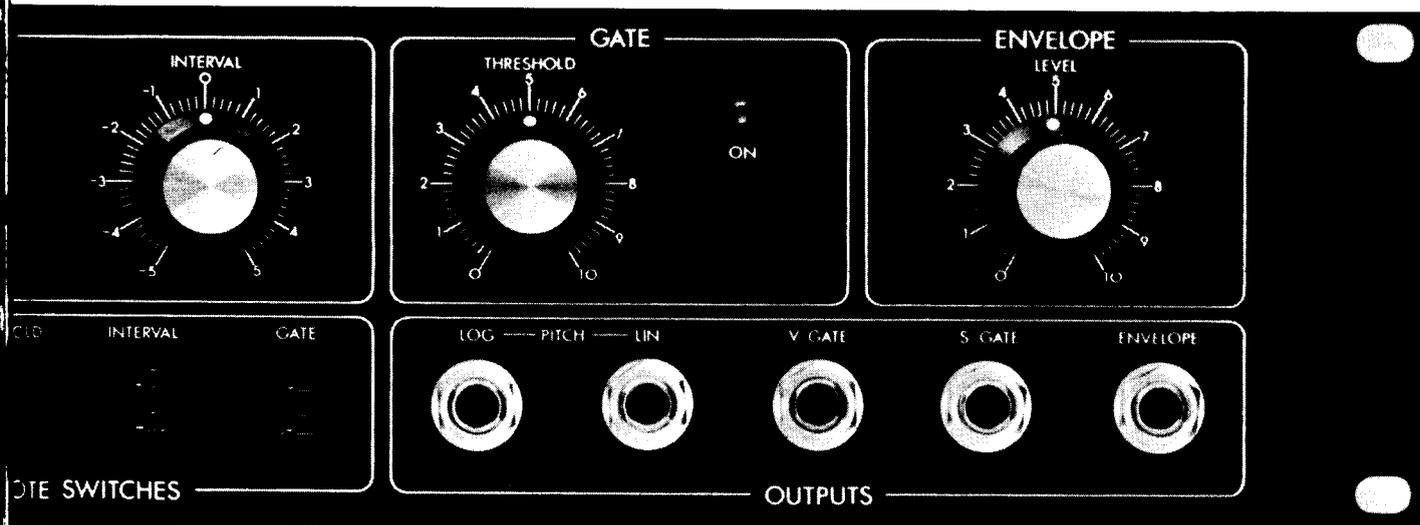
TUNE: adjusts the frequency control outputs of the FF-1 so that the VCO's which it is controlling may be tuned to the input signal. This control has a range of more than two octaves.

INTERVAL: determines the musical interval size that is selected by the remote INTERVAL SELECT switch. This control has a range of more than two octaves centered on whatever pitch the TUNE control has been set for.

AUTO LOCK switch: engages the AUTO LOCK feature if a signal has been applied to the AUTO LOCK INPUT jack.

GATE THRESHOLD: adjusts the sensitivity of the gate producing circuit relative to the loudness of the input signal. This control is normally used after the optimum input level has been set with the INPUT LEVEL control.

ENVELOPE LEVEL: controls the range of the envelope follower output so that the envelope control voltage will match the control requirement of virtually any VCA.



MUTE: inhibits all outputs of the FF-1 to provide a fast and effective means of turning the unit on and off during performance.

OUTPUTS:

LOG PITCH: the control voltage output used to drive the pitch of a conventional exponentially responding synthesizer VCO (1V per octave).

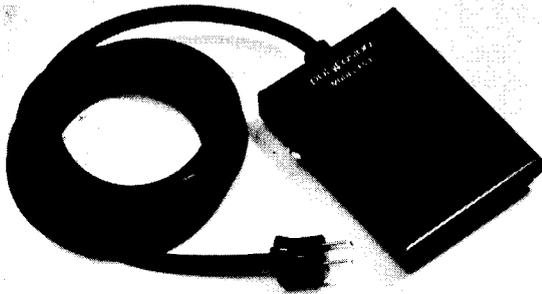
LIN PITCH: the control voltage output used to control the pitch of a linearly responding VCO (1V per 1 KHz).

V GATE: a command signal of the positive going type, used to turn most synthesizer envelope generators on and off in response to the presence of the input signal.

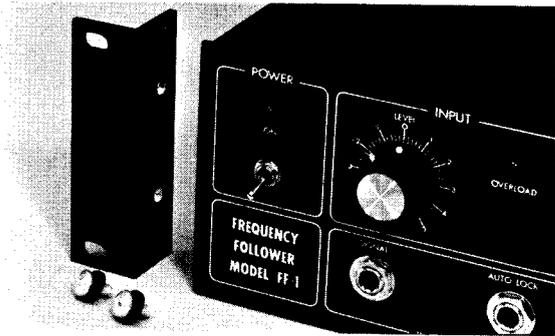
S GATE: occurs simultaneously with the V Gate, this switching or shorting type gate is required to control the envelope generators of certain manufacturers.

ENVELOPE: the control voltage output of the Envelope Follower which is used to control a VCA to create the same loudness contour as the input signal.

MODEL FF-1 FREQUENCY FOLLOWER



FS-1 Foot Switch (Included)



Rack Mounting Brackets Are Removable.

SPECIFICATIONS

LEADING PARTICULARS:

Acquisition Time	20 Milliseconds
Frequency Range	80 Hz to 5 KHz
Pitch Accuracy	Log. $\pm 0.1\%$ to 2.5 KHz $\pm 0.2\%$ to 5 KHz Lin. $\pm 1.0\%$ to 2.5 KHz $\pm 2.5\%$ to 5 KHz

SIGNAL INPUT:

Waveform Required	Any
Input Level (useable range)	-45 to +35 dBm
Dynamic Range	40 dB

AUTO-LOCK INPUT:

Waveform Required	Any
Input Level (useable range)	-20 to +20 dBm
Capture Range	± 1 Semitone

CONTROL RANGES:

INPUT LEVEL control	From 10X attenuation to 10X gain
TUNE control	2½ Octaves Total (+1¼ and -1¼)
INTERVAL control	2½ Octaves Total (+1¼ and -1¼)
GATE THRESHOLD control	25 mV to 2.5 Volts RMS*
ENVELOPE LEVEL control	0 to 2X input envelope amplitude

*With input level control at "0".

OUTPUTS:

Log Control Voltage	1 Volt/Octave from -2.70 to +3.35V with 0 VDC at 500 Hz
Lin Control Voltage	1 Volt/KHz from -2.40 V to -2.45 V with 0 VDC at 2.5 KHz
V-Gate	On = +15 Volts, Off = 0 Volts
S-Gate	On = Ground, Off = Open Circuit
Envelope	Positive going DC control voltage proportional to the amplitude of the input signal, variable gain from 0 to 2X the input signal envelope amplitude.

REMOTE SWITCH JACKS:

All remote functions are "enabled" by shorting Pin 1 to Pin 2 of the remote switch jacks.

POWER REQUIREMENTS:

105 to 125 Volts
50 to 60 Hz
60 Watts Max.

DIMENSIONS:

Width x Depth x Height 17.0 x 13.5 x 3.5 inches
(rack mount brackets provide standard 19 in. width)
Depth behind panel 12.75 inches

WEIGHT:

8 lbs.

ACCESSORIES:

1	FS-1 Footswitch
2	Rack Mounting Brackets and Hardware
1	S-trig Adapter Patch Cord
2	Standard Patch Cords
1	Operator's Manual

OPTIONAL ACCESSORIES:

Additional FS-1 Footswitches
Patch Cords in lengths of from 1 to 5 feet
Series 2000 Synthesizer modules and systems to create the finest electronic sounds available today

polyfusion

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