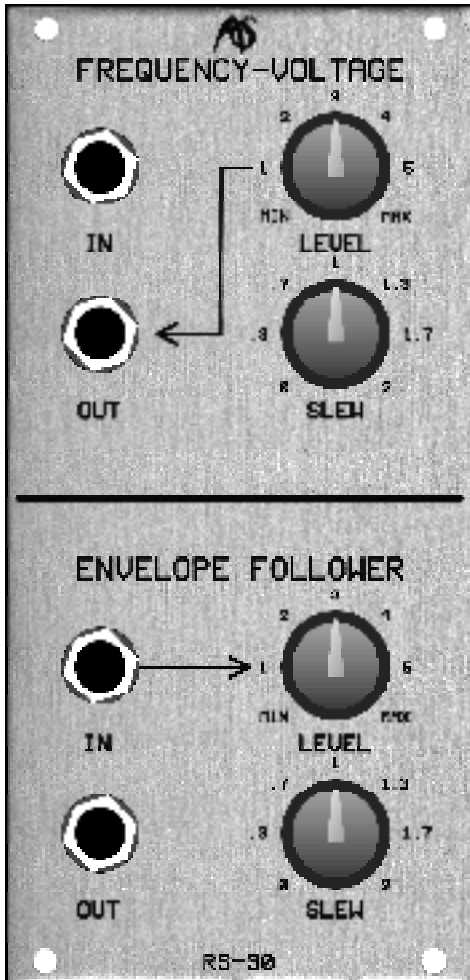


RS30

FREQUENCY TO VOLTAGE CONVERTER AND ENVELOPE FOLLOWER



INTRODUCTION

There are times when you might want to use external signals to control the Integrator. Obvious examples of this are using a guitar to 'play' the Integrator, or using your voice to make the synthesiser 'speak'.

This requires two facilities: a Frequency to Voltage (F/V) Converter that converts the frequency of the incoming signal into a CV; and an Envelope Follower that converts the amplitude of the incoming signal into a second CV. With these defined you can use the guitar or voice (or whatever) to determine the pitch and volume of a sound generated within the Integrator itself. In other words, the Integrator provides the timbre of the new sound, but the incoming signal articulates it.

FREQUENCY TO VOLTAGE CONVERTER

The RS30 incorporates an F/V converter that accepts a single signal at its input, analyses the pitch of that signal, and outputs a pitch CV conforming (very approximately) to the 1V/Oct standard at its output.

The RS30 also incorporates a Slew rate limiter that acts upon any rapid changes in the signal received by the converter, slowing those changes by an amount determined by the SLEW control. This reduces glitching. However, and in common with other synths, the F/V converter will work most effectively

when the external signal is both pure and monophonic.

A LEVEL control is also provided, but it may be beneficial to pre-amplify low amplitude signals using the RS70 Pre-Amp before presenting them to the RS30.

IN

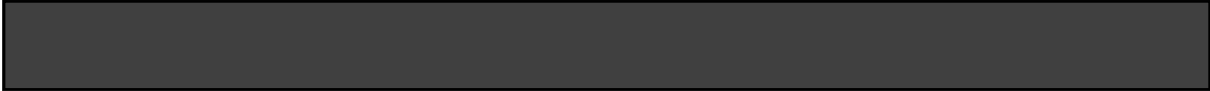
The input accepts any audio signal in the range 10V. Signals ranging from DC to 20kHz may be presented, but only those lying between 0.5Hz and 500Hz will be interpreted correctly.

LEVEL

At the maximum anticlockwise setting of the LEVEL control (MIN) the input signal will be fully attenuated. As you turn the control clockwise, the gain will increase. You should use this control to set the signal level so that you obtain the best response from the converter.

SLEW

The SLEW control prevents rapid changes in the signal derived from the input. At its minimum, the slew



rate is approximately 1mS, thus allowing signals of up to 500Hz to be converted. At its maximum slew rate of approximately 2S the slew will provide portamento and other smooth transitions between pitch voltages.

OUT

The converter provides a single output in the range 0V to +6V.

ENVELOPE FOLLOWER

The RS30's Envelope Follower (which also incorporates a Level control and a Slew limiter) outputs a CV corresponding to the average amplitude of the signal presented to its input.

IN

The input accepts any AC signal in the range $\pm 10V$. Signals ranging from 1Hz to 20kHz may be presented, but only those lying between 0.5Hz and 1kHz will be correctly interpreted.

LEVEL

At the maximum anticlockwise setting of the LEVEL control (MIN) the input signal will be fully attenuated. As you turn the control clockwise, the gain will increase. You should use this control to set the signal level so that you obtain the best response from the Envelope Follower.

SLEW

The SLEW control prevents rapid changes in the signal derived from the input. At its minimum, the slew rate is approximately 1mS. At its maximum, the slew rate is approximately 2S.

OUT

The Envelope Follower provides a single output in the range 0V to +10V.