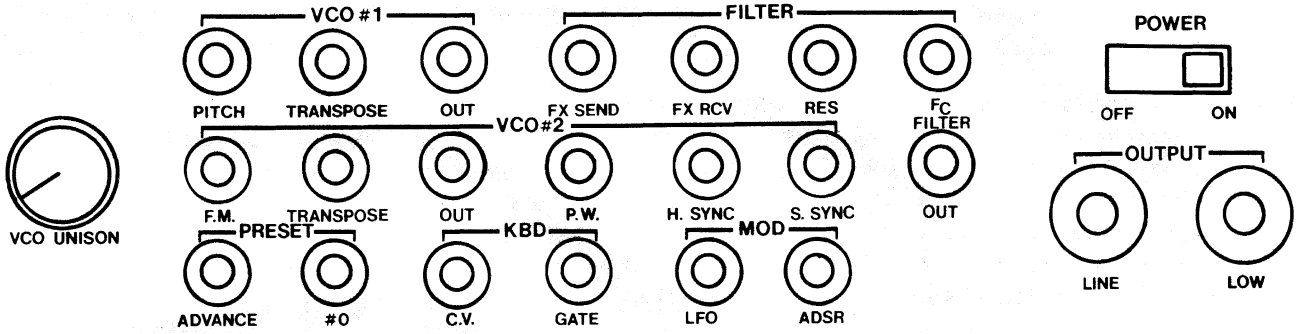
REAR PANEL PATCH BAY

For those times when the exact voice that you want cannot be configured with the front panel controls, numerous patch-over-hardwire points are provided on the PROTEUS I rear panel PATCH BAY.



UNISON

UNISON- The rear panel UNISON control allows the #1 and #2 VCO's to be set to essentially exact unison (even without sync) or to be slightly out of sync for phasing type effects.

VCO #1

PITCH- Control voltage input, 1v./oct. response, 100k input impedance. Inserting a miniature phone plug into this jack simultaneously interrupts the normal keyboard pitch control voltage and provides an external input point. Anticipated primary use is in FM synthesis techniques where the output of the #1 oscillator (which is running at a frequency other than the keyboard pitch) is used as an FM source for OSC 2.

TRANSPOSE- Control voltage input, 1v./oct. response, 100k input impedance. Similar to the PITCH input described above, but does not interrupt the keyboard control voltage

OUT- Signal output, less than 1k output impedance. This is the direct output of the oscillator as selected by the front panel W.F. select control. Waveforms are compensated for different energy content of selected waveform. Amplitudes are as below.

sine	4v. p-p 0v. offset
triangle	3v. p-p 1.5v. offset
ramp	2v. p-p 1v. offset
pulse	1.5v. p-p .75v. offset

VCO #2

F.M.- Control voltage input, linear control scale, 10k input impedance. This a.c. coupled linear response input allows a frequency modulating control voltage to be applied to the oscillator. Useful for generating non-harmonic timbres such as chimes. Example - patch the VCO #1 OUT to this F.M. input.

TRANSPOSE- Control voltage input, 1v./oct. response, 100k input impedance. Same as TRANSPOSE on VCO #1. Does not interrupt keyboard control voltage.

OUT- Signal output, less than 1k output impedance.
The direct output waveform of the source as selected by the front panel W.F. select control.

triangle	3v. p-p 1.5v. offset
ramp	2v. p-p 1v. offset
square	1.5v p-p .75v. offset
noise	5v. p-p 0v. offset

P.W.- Control voltage input, linear control scale, input impedance 10k.
Allows pulse width modulation of the VCO #2 square wave output. -2v. input for 0% duty factor, +6v. for 100% duty factor.

H. SYNC- Signal input, can be used for both negative and positive hard sync, low input impedance.
Provides an external input to the hard sync control for the #2 oscillator.

S.SYNC- Signal input, low input impedance.
Provides an external input to the soft sync control for the #2 oscillator.

FILTER

FX SEND- Signal output, less than 1k output impedance.
This output jack allows the signal chain to be interrupted ahead of the filter and in conjunction with the FX RCV input jack allows for the insertion of processing elements into the signal path. Output level is a function of excitation waveform and filter control settings but is typically on the order of 2v. p-p.

FX RCV- Signal input, 47k input impedance.
This is the companion input jack to the FX SEND output described above. In the signal path it appears ahead of the front panel filter pre/post control. External signals may be applied to this input and mixed with the oscillator signals.

RES- Control voltage input, exponential response. 100k input impedance.
This is the direct input to the resonance control of the filter. Control voltage inputs here are approximately summed with the front panel resonance control.

Fc- Control voltage input, 1v./oct. response, 100k input impedance.
This is a true summing input to the corner frequency of the filter. Response is 1v./oct. Front panel control of Fc is not disabled. Modulation sources selected from front panel are not disabled.

OUT- Signal output, less than 1k output impedance.
This is the direct output from the filter. In the signal chain it follows the front panel pre/post control but is ahead of the VCA input. Output level is dependent on input waveform and filter parameter settings - typically 2v. p-p.

PRESET

ADVANCE- Logic input, wired OR, local 0 activated.
Primary intended use of this control jack is as a foot control of the preset advance feature. Contact closure is to ground.

#0- Logic input, wired OR, logic 0 activated.
A foot switch plugged into this control jack duplicates the action of the front panel #0 PRESET switch. Contact closure is to ground.

KEYBOARD

C.V.- Control voltage output, 1v./oct. control scale, less than 1k output impedance.
This is the keyboard control voltage output after the front panel transpose switch. Selected glide does not affect at this output. Selected keyboard transpose does not affect this output.

GATE- Logic output, logic 0 when no keys, logic 1 when any key down.
This is the gate output from the keyboard. As long as any key on the keyboard is down a 5v. gating signal appears at this jack. When all keys are released this output returns to ground.

MOD

LFO- Control voltage output, less than 1k output impedance.
This is the direct output of the LFO after square or triangle waveform has been selected.

triangle	3v. p-p
square	4v. p-p

ADSR- Control voltage output, 4v. p-p, less than 1k output impedance.
This is the output of the transient generator after the NORM/INVERT selection. 4v. p-p output level with 0.5v. offset.

POWER

ON/OFF- Sliding the bat of this switch to the right turns on the power. Preset memory is preserved when power is turned off whether with this switch or by turning off power to the PROTEUS I line cord.

OUTPUT

LINE- Signal output, less than 100 ohms output impedance.
This is the main PROTEUS I output. Signal level is dependant on the setting of the front panel VOLUME control. Max output level is on the order of 10v. p-p.

LOW- Signal output, less than 1k output impedance.
An attenuated version of the LINE output above. Signal level is on the order of several hundred millivolts.