Blenda PLP502

Parallel Loop Processor module

Specs and Operating Characteristics:

Rear Connector:
- Line input and Line output on card edge (XLR i/o on standard “500” racks)
- Send output and Return input on card edge (TRS 1/4” i/o on Purple Audio Sweet Ten racks)

Front Connector:
- Send output and Return input are TRS 1/4” jacks

Nominal Gain figures: note that gain figures assume Trim control is set to center (unity) - actual gain is somewhat dependent on source and load impedances - Trim range is ±12dB.
- Line input to Line output (“direct” path): unity gain with blend knob fully COW
- Total Parallel Loop Gain: unity gain regardless of operating mode - however loop operating level shifts with selection of loop mode “line” operates at unity, “synth” at -10 dB and “pedal” at -20dB from main i/o levels
- Return input to Line output (“return” path): unity gain in “line” mode with blend knob fully CW

Max Input Levels:
- +28dBu at Line input (as well as loop Return input when in “line” mode)
- +18dBu at Return input (“synth” mode)
- + 8dBu at Return input (“pedal” mode)

Input Impedance: (changes depending on operating mode - see description below)
- 20,000 Ohms at line input (as well as loop Return input when in “line” mode)
- >300,000 Ohms at Return input in “synth” and “pedal” modes

Output Impedance: (loop Send changes depending on operating mode - see description below)
- 130 Ohms Line output
- 1,300 Ohms Send output (“synth” mode)
- 2,700 Ohms Send output (“pedal” mode)
- Send output in “line” mode carries the source impedance of whatever device is feeding Blenda’s main input

Clip Level:
- +34dBu at Line output with bridging load (+28dBm into a 600 Ohm load)
- +18dBu at Send output (“synth” mode)
- + 7dBu at Send output (“pedal” mode)
- Send output in “line” mode carries the clip level of whatever preceding device is feeding Blenda’s Line input

Power Consumption:
- 60mA @ ±15Vdc = 900mW

The Blenda “blend-O-matic null-O-matic” module provides a parallel insert loop with three selectable loop operating levels/impedances for optimal utilization of a wide range of external signal processors, and continuously variable blend and output level trim controls to optimize the balance between the un-effected direct and effected loop return signals and output level.

Three loop modes accommodate balanced or unbalanced signals, matching the operating level and impedance to a variety of different equipment, including effects pedals and electronic instruments, as well as traditional outboard gear. A polarity reversal switch (“phase”) inverts the return signal for creative nulling and cancellation effects, such as turning an EQ into a bandpass filter, or turning a compressor into an expander/gate.

Blenda enables classic parallel processing (parallel compression, for instance), while occupying only one slot of any standard “500” Series enclosure. Parallel inserts have traditionally required that one splits signal to two mixer inputs to create direct and effected channels. Blenda provides the functionality and signal path of a premium analog studio mixer and adds optimization of level and impedance of the effects insert loop to match to pedals, synth and hi-fi devices... a feature that no studio console we know of incorporates.

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Front Panel Features and Controls - top down:

Blend:

The Blend control is a continuously variable crossfader. At counterclockwise rotation the “direct” signal is unity gain (0dB) through the module while the “return” signal is fully attenuated (off). At center each signal is attenuated by half for equal volume summing (where signals are in phase) or nulling (where signals are out of phase). At clockwise rotation the “direct” signal is fully attenuated (off) while the “return” signal is at 0dB.

Phase:

The Phase switch invokes an electronic polarity reverse that affects only the loop “return” signal

Trim:

The Trin control is a continuously variable output level adjust providing -12dB at counterclockwise rotation, 0dB unity gain at center, and +12dB at clockwise rotation.

IN:

The IN switch is a master bypass control. In the up position Blenda signal path is engaged and an orange LED illuminates. In the down position, a relay sends line input directly to line output to create a straight wire system bypass. Useful for making before-and-after processing comparisons.

Loop Mode:

This is a three position toggle for selecting Send/Return loop operating level and impedance. Toggle left for Lo-Z high level balanced “line” mode. Toggle center for medium-Z unbalanced “synth” mode operating at -10dB. Toggle right for hi-Z unbalanced “pedal” mode operating at -20dB.

Send and Return Jacks:

Standard 1/4” TRS connectors provide a front panel insert loop. These are normalling jacks which break the connection to rear panel loop connections (i.e. the optional input and output jacks found on Purple Audio Sweet Ten racks) when a plug is inserted.

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