Flexiguy FG500

Mic/Line/D.I. preamplifier module

Specs and Operating Characteristics:

Rear Connector: Mic/Line input and Line outputs on card edge (xlr i/o on standard “500” racks)
Front Connector: Hi-Z 1/4” unbalanced (instrument) input

Nominal Gain figures: (actual gain can be somewhat dependent on source and load impedances)
- Mic/Line input to Line output: 6dB to 65dB or 20 to 70dB depending on operating mode (see below)
- Front Panel D.I. input to Line output: 0dB to 59dB or 14dB to 64dB depending on operating mode

Max Input Levels: (with pad switched out)
- +19dBu at Mic/Line input
- +22dBu at D.I. input

Input Impedance: (changes depending on operating mode - see description below)
- Mic/Line input in “Guy” mode ranges from 3,900 to 600 Ohms with gain changing min to max
- Mic/Line input in “Gal” mode is fixed at nominal 1200 Ohms at any gain
- Mic/Line input with Pad engaged is nominal 1200 Ohms in both modes and at any gain
- Unbalanced D.I. 1/4” Input is 100,000 Ohms

Output Impedance:
- nominal 150 Ohms balanced at Main output
- nominal 50 Ohms unbalanced at alternate output (1/4” Opt Out on Purple Audio Sweet Ten rack)

Clip Level:
- +24 dBu at balanced output
- +20.5 dBu at unbalanced output

Equivalent Input Noise EIN:
- -119dB at Mic/Line input
- -111dB at D.I. input

Power Consumption:
- 55mA @ ±15Vdc = 1.65Watts
- +48Vdc current is mic dependent - limited to max 15mA with all pins of mic input shorted

The Flexiguy is a microphone/line/direct inject (D.I.) preamplifier that offers up detailed and flexible tone, useful and controlled harmonic contribution and a somewhat “tape-like” dynamic response.

The overall architecture and design, careful component selection and custom parts manufactured exclusively for the Flexiguy combine to make this a unique device that is anything but a one trick pony. Overload characteristics, when pushed, are designed to be creatively useful. When operated more conservatively, working between the two operating modes (described below) and with or without the impedance converting pad engaged, the utility of this module is quite broad.

While Flexiguy is primarily intended as a mic preamp, it’s large core input transformer and D.I. input can easily handle line level input sources (i.e. for additional makeup gain, tonal coloration, line driving, or other creative purposes). Its transformer-balanced output is capable of driving loads as low as 300 Ohms. When used in Purple Audio Sweet Ten racks you get access, via the 1/4” Opt Out connector, to an additional unbalanced output which can drive even heavier loads.

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Front Panel Features and Controls - top down:

Mode Switch and "Winky" Level Indicator:

Operating mode (gain range and input impedance) is selected with a latching illuminated button just above the gain control. The back lighting of this switch includes a very good level indicator.

Mode 1: (button out - pale greenish white back light) is our original Flexiguy custom preamp setup with a gain range of 6dB to 65dB. The input impedance changes with gain, going lower as gain is increased, making for a more saturated "compressed" character at high gains. As gain is reduced input impedance rises, which makes for a more open sound. Conveniently, the 600 Ohm impedance at max gain is a great match for Lo-Z, low output ribbon microphones.

Mode 2: (button in - deep blue back light) is a feature we added to the production Flexiguy. Our in-house term for this is "Gal mode". In Gal mode the gain range, min to max, shifts to 20dB and 70dB, respectively, and the input impedance remains constant. The overall sonic imprint in Gal mode is subtly wider, more open and less colored.

"Winky" level indicator shows output amplitude over a wide dynamic range. Indication begins at -30dBu with a dim green that brightens with increasing level and changes through yellow and into red over a wide enough range and with enough variation in color and brightness that one can see what is happening level-wise even from across a room. There is a peak detector that "pops" the red brightness roughly 3dB below Full Scale on most A/D converters. There is a lot of information in this single-point level indicator.

Gain Control:

Two gain ranges as described above... 6dB to 65dB or 25dB to 70dB for Mic/Line, and 6dB less for D.I.

Phase or Polarity Reverse: (marked " Ø ")

This is an electronic phase reverse that works in all modes with both Mic/Line and Direct Inject.

Pad:

This is a nominal 20dB pad. It's an impedance converting pad so it presents the microphone with a 1200 ohm load and presents the input transformer with a 200 ohm source. This helps with some microphones having higher output source impedances... 1200 ohms is a pretty universal good load for mics and our input transformer likes being sourced from something low. Invoking the pad and cranking the gain a little will often get you to another place that some mics may like better. This control works in all modes, including D.I.

Phantom Power: marked " 48 "

When active, 48 volts is applied to the rear panel input for phantom powered mics, D.I.s and accessory boxes. There is an orange LED sunk into the bottom of the numeral 8 to let you know it's active.

All Toggle Switches are "active" when switched to the right.

Front Panel Direct Inject (D.I.) input:

Inserting a 1/4" Guitar or Instrument plug into the D.I. jack bypasses the rear panel XLR input, defeats 48V phantom power and inserts an unbalanced buffer amplifier and dedicated interstage transformer ahead of the mic input transformer. This maintains the full transformer-coupled signal path and feature set for both mic and instrument signals. Gain adjustment, metering, modes, PAD and Polarity Invert (Ø) function the same as with microphones. The gain through the DI is 6dB less; plugging in synthesizers and other line sources (up to +22dBu) is encouraged. The input impedance is 100K Ohms, which is high enough for passive pickups. Although optimized for low level Hi-Z instrument sources, this D.I. input will safely accept the majority of high level Lo-Z line sources, without clipping.

Removing the 1/4" plug returns Flexiguy to normal microphone operation.

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