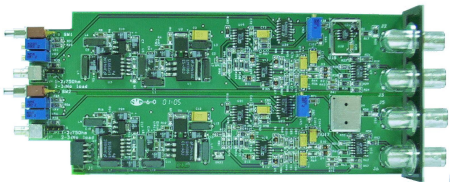
APOGEE LABS



AL2173
INTERFACER
IOC801

AUTOMATIC GAIN CONTROLLED (AGC) AMPLIFIER

FEATURES

- 19" W x 9" D x 3.5" H (2 U Rack Units)
- Rack Mountable
- Up to 14 Pluggable Interface Modules
- Front panel Module Adjustments
- Front Panel Power Indicator
- Pluggable Power Supply (2173-880)
- Two Independent Channels per Module
- DC to 20 MHz Response
- Input Level Range: 400mV p-p to 20V p-p into 75 Ohms
- Output Level: 2.83V p-p Adjustable (Manual) or Preset (AGC)
- Output Impedance: 75 Ohms
- DC Coupled Amplifier
- Buffered Output Test Point per Channel
- Harmonic Distortion: ≥ 40 dB Below Rated Output
- DC Offset: Adjustable Output Offset ±4V
- Channel-to-Channel Isolation: ≥ 60 dB at 20 MHz; ≥ 80 dB at 1 MHz
- Signal Port Return Loss: ≥ 20 dB
- Contributed Noise: ≥ 60 dB Below Rated Output

OVERVIEW

The Apogee Labs model AL2173 Interfacer is a wide band, Automatic Gain Control (AGC) analog signal buffer amplifier system implemented by one or more IOC801 module(s). A typical use of the IOC801 is as an automatic gain control for telemetry receiver outputs that are input to recorders.

The model 2173 chassis houses up to 14 single–slot dual-channel IOC801 modules. Front-panel access is provided for test points, toggle switches and trimmers. Each IOC801 module is a self-contained dual channel, wideband AGC analog signal buffer amplifier. Front panel controls for each channel include an AGC mode selector (Fast, Slow attack / Manual), Offset control, and a Gain control. A Test Point connector provides an accurate buffered signal output. The design of the 2173 and its complement of IOC801 modules stress the concepts of signal integrity, channel isolation and low noise contribution. So as to minimize the possibility of signal contamination, there is no interconnection between modules on the backplane of the chassis.

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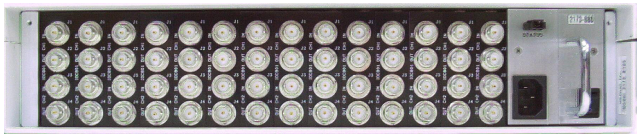

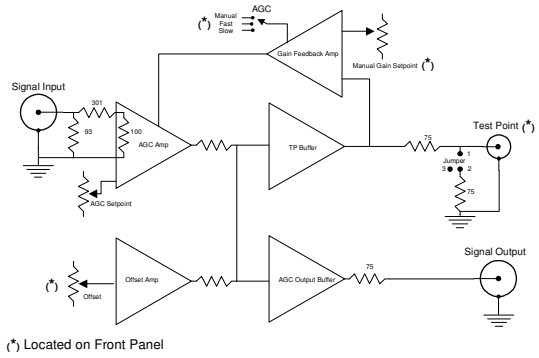

Figure 1: AL2173 REAR VIEW **Figure 2: IOC801 Functional Block Diagram (One of Two Channels)**

SPECIFICATIONS

CHASSIS:

Size: 19” W, 9” D, 3.5” H
Weight: Less Than 15 Pounds
14 Independent Card Slots

POWER SUPPLY:

109-240 Vac (47-63 Hz)
75 Watts ±12V

ENVIRONMENT:

Operating Temperature:
0° to 50° C (32° to 122° F)
Relative Humidity:
15-95% Non-Condensing
Altitude:
Sea Level to 10,000 ft.

IOC801 AGC AMPLIFIER:

2 Independent DC-Coupled Channels per Module
Single Slot Module (3” x 6” x 0.9”)

INPUT:

Isolated BNC Connector, One per Channel
75 Ohm Shunt Terminated
Minimum Input Level: ±200 mV
Maximum Input Level: ±10 V
Input Impedance: 75 Ohms

OUTPUT:

Isolated BNC Connector, One per Channel
75 Ohm Series Terminated
Maximum Output Level: 2.83Vp-p
Output Resistive Drive: 75 Ohms
DC Output Offset ± 4 Volts

FRONT PANEL TEST POINT:

Isolated SMB, One per Channel
Series Termination: 75 Ohm
Shunt Termination: Jumper Enabled 75 Ohm

PERFORMANCE:

FREQUENCY RESPONSE:
DC to 20 MHz ± 0.5dB
HARMONIC DISTORTION
≥40dB Below rated Output
NOISE
≥60dB below rated output
SIGNAL PORT RETURN LOSS
≥20dB
CHANNEL TO CHANNEL ISOLATION
60dB @ 20MHz; 80 dB @ 1MHz

CONTROLS AND ADJUSTMENTS:

Switch Selectable Modes
AGC FAST (10 Milli-Second)
AGC SLOW (1-Second)
MANUAL
Manual Adjustments
Gain: -16dB to + 24 dB
Output Offset: ±4V