

# Chameleon Labs

## Model 581

### Discrete Class AB Microphone Preamplifier Module Owner's Manual

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Your Model 581 microphone preamplifier card has a transformer balanced input with a gain range of +25dB to +80dB.

The Model 581 has been carefully constructed and individually tested for quality. It utilizes class 'AB' circuitry. This unit is made with 100% discrete components and was fabricated to precisely match vintage counterparts manufactured in the early 70's.

The Chameleon Labs Model 581 is based on high audio performance design techniques. By employing classic circuit design, polystyrene capacitors, hand selected components and custom wound transformers, Chameleon Labs ensures that the Model 581 will exhibit classic audio sound. It is also designed to comply with any 500 series powered chassis approved by the API<sup>®</sup> VPR Alliance.

Your Model 581 represents a dramatic breakthrough in delivering vintage audio performance at an affordable price.

## **Features of the Model 581:**

- Fully balanced transformer mic input which can be upgraded to a vintage Carnhill® unit;
- Transformer balanced output;
- 300 Ohms or 1.2K Ohms mic input impedance selectable on the front panel;
- 48VDC phantom power selector on the front panel;
- 12 position Grayhill® gold contact rotary gain switch for Mic gain section;
- LED illuminated push buttons for visual confirmation
- Output level control functions as a fader when going straight to D.A.W. or tape;
- API® 500 series compliant card;
- One-year warranty

## Front Panel Controls:

*General rule: When the button is pressed in, the feature is selected and the LED illuminates.*

### ***48V Button-***

This button supplies +48V (Phantom Power) to the microphone circuit.

### ***1.2K/300 $\Omega$ -***

This button selects the microphone input impedance to either 300 $\Omega$  or 1,200 $\Omega$ .

### ***$\emptyset$ Button-***

This button shifts the phase of the unit 180°.

### ***DI Button-***

This button connects the DI jack to the gain stage of the unit.

### ***Gain-***

This selector switch controls the gain of the preamplifier circuit. The microphone section provides 25 to 80dB of gain in 5dB steps.

### ***Output-***

This control acts as a master fader. This allows for trimming of the output signal, as well as allowing the input to be intentionally overdriven. The normal position for this control is wide open.

### ***Four position LED array-***

This array provides the user with the following information:

**Peak** - Indicates the presence of a peak amplitude signal.

**+4dB** - Indicates the presence of a +4 dB signal.

**Signal** - Indicates the presence of signal.

**Power** - Indicates that the unit has power turned on.

## **Installing the Preamplifier Card**

The Chameleon Labs Model 581 has been designed to be powered by an API® compliant powered chassis. Consult the chassis' product manual for further information.

The card can also be powered by the Chameleon Labs CPS-501 powered chassis.

## *First time users*

### **Set up of the Model 581**

- 1- Select 40 dB on the ***Gain*** control. Turn the Output control fully counter clockwise. Make certain that the ***DI***, ***48V*** and ***Phase*** buttons are all out.
- 2- If the microphone requires Phantom Power, press in the ***48V*** button. The normal position for the ***1.2K/300Ω*** button is 1.2K, this matches most professional microphones used today. If you have microphones that require a lower impedance you may select 300Ω. You can change between the values without damage to the microphone in order to determine which impedance performs best for your application.
- 3- Use the ***Gain*** control to adjust to amount of amplification that your card will produce. The standard gain is 50dB, with some ribbon microphones requiring as much as 70dB gain.
- 4- Turn the ***Output*** control clockwise until you can see level on the input of your recording device. Increase until the desired level is achieved.  
(*Vintage Hint*: Adjusting the Gain control along with the Output control can provide a variety of different sounds by overdriving the amplifier circuits while lowering the final output level in order to not overdrive the recorder.)
- 5- When an electronic instrument such as an electric guitar is used, it may be plugged directly into the ¼" DI plug located on the front of the card. Press the ***DI*** Button to select this input device.
- 6- If phase reversal is needed, press the **Ø** button.

## **Technical Specifications**

**Microphone Input Impedance:** 300 $\Omega$  or 1,200 $\Omega$

**Microphone Amplifier Gain:** +25 dB to +80 dB in 5 dB steps.

**Output Impedance:** 100 $\Omega$

**Noise:** -115.5 dB

**Maximum Output:** +26 dB into 600 $\Omega$

**Frequency Response:** 20Hz – 20 kHz +/- 1 dB.

## **Dimensions and Weight**

**Weight:** 2 pound 8 ounces

**Dimensions:** Width – 1.5”, Height – 5.25”

**Depth to Rear of Mounting Surface:** 5.938” =/- 0.02”

**Power Requirements:** +/- 16 V @  $\leq$  130 ma, +48 V @ 5 ma

## Warranty and Liability

Your Chameleon Labs product is warranted to the original owner for a period of one year. Chameleon Labs guarantees this product to be free from electrical and mechanical defects and will repair or replace defective components, or replace the unit at Chameleon Lab's option. Should service be required for your Chameleon Labs product, please contact the manufacturer. Service is provided for products beyond the warranty period. Seller warrants that the goods are described in this agreement, but no other express warranty is made in respect to the goods. The entire risk as to the quality and performance of the good is with the buyer. Seller disclaims all warranties either expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose, and seller neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of said goods.

MODEL NUMBER \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_

DATE OF PURCHASE \_\_\_\_\_

PURCHASED FROM \_\_\_\_\_

Please visit [www.chameleonlabs.com](http://www.chameleonlabs.com) for the latest updates and technical information.