



# PREQ-73 PREMIER

## Vintage style preamplifier and equalizer



### INTRODUCTION

Congratulations on choosing the Golden Age Project PREQ-73 PREMIER microphone preamplifier and equalizer!

The PREQ-73 PREMIER is a one-channel vintage style microphone-, line- and instrument preamplifier with a three-band equalizer with inductor based midrange offering a smooth and effective sound shaping. The signal path uses only discrete components like resistors, capacitors and transistors. The microphone and line input and the line output are transformer balanced, using three different transformers, each one optimized for its purpose. This is the way audio components were built before integrated circuits became available.

The circuit used in the PREQ-73 PREMIER is similar to the preamp and the equalizer section in the classical 1073 module with a corresponding sound character that is warm, punchy, sweet and musical. These classic characteristics have been heard on countless recordings through the years and it is a versatile sound that works very well on most sound sources and in most genres. The essence of this sound is now available at a surprisingly low cost, making it available to nearly everyone.

### FEATURES

- Vintage Style electronics. No integrated circuits in the signal path.
- Maximum gain in mic mode is 80 dB, enough to handle passive ribbon mics with quiet sound sources.
- Classic 23-position Gain/Line switch with 5 dB steps and a gain range of 20 to 80 dB for mic and -10 to +20 dB for line.
- A two band LF (+/-15 dB) and HF (+/-20 dB) shelving equalizer with two selectable frequencies for each band.
- Inductor based +/- 15 dB midrange equalizer section with three selectable frequencies. The lowest one is selectable between 350 and 700 Hz.
- Switchable impedance in mic mode, 1200 or 300 Ohm, will change the tone of most mics. The input impedance in line mode is 10 kOhm.
- Switchable phantom power and absolute phase.
- A high-impedance instrument input for any sound module, electric guitar or bass.
- A simple but effective 4-step LED output level meter.
- The output level control makes it possible to make fine gain adjustments and also to overload the main gain stage(s) for more character.
- Separate combo XLR/TRS jack for the MIC and LINE input and separate output XLR and TRS jacks for flexible connections.
- Selectable 600 Ohm output termination.
- Classic style knobs and buttons.
- Prepared for mounting one of two units in the UNITE PREMIER rack kit. It can also be mounted in one of the other UNITE rack kits and combined with --the red and black Golden Age Project products.
  - Connector free internal wiring, all connections except the ones to the gain switch are soldered for the purest signal and most longterm stable signal path.
  - UK made Carnhill microphone input and line output transformers.
  - The pcb is prepared for the Carnhill 9046M line input transformer.
  - Polystyrene capacitors in the amplifier circuits.
  - Tantalum capacitors in the signal path.
  - Beefed up power supply.
  - Sturdy toggle switches with gold plated contacts.
  - External power supply to avoid interaction with the audio circuits and transformers.
  - A solid build quality that will last many years of normal use.



#### CIRCUIT DESCRIPTION

The signal first enters an input transformer, one for the mic input and another one for the line input. The primary of the mic input transformer has two windings that are either connected in series or in parallel which results in an input impedance of either 1200 or 300 Ohm.

The transformers are followed by two input gain stages. For gains up to 50 dB, only one of them is being used. For gains above 50 dB, the second gain stage is inserted in the signal path. Both gain stages uses only three transistors each.

The signal is then fed to the equalizer section if it is engaged and onwards to the output level potentiometer and from there on to the output stage. This stage again only uses three transistors, the last one in the chain is a hefty 2N3055 power transistor run in class-A mode, driving the output transformer.

All in all, the complete signal chain contains a maximum of only 15 active elements including the six transistors in the eq section. Compare that to the big number of transistors that are usually used in one single integrated circuit!

#### MODERN VERSUS OLD

It is true that there are some great IC's available today that achieves very low levels of static and dynamic distortion. The simple circuits that the PREQ-73 PREMIER uses, and even more so the transformers, cannot match the low distortion specifications of modern IC's.

It is the distortion components that imparts a sound character to the audio signal and, if the distortion components are of the right sort, this is a good thing since it makes the recorded voice or instrument sound "better", more musical, more pleasing to the ear.

This is one reason why vintage style units are so popular today. Modern, transparent sounding audio circuits is surely not a bad thing, sometimes they are preferred over colored ones. It's all about taste and it depends on the genre. For most modern music styles, color and character is usually a good thing.

#### USING THE PREQ-73 PREMIER

Using a preamplifier and an equalizer is not rocket science. Find some points below to help you in getting the maximum out of the PREQ-73 PREMIER:

- Connect the cable from the power supply to the 24 V AC connector on the back panel of the PREQ-73 PREMIER. Power on the unit with the POWER switch at the front.
- Connect your mic and/or line sources to one of the input XLR/TRS combo jacks on the back panel. A mic and a line source can be connected at the same time.
- Switching between mic and line input is done by setting the LINE/MIC switch to one of the line or mic gain positions.
- If you want the smallest amount of coloration, always set the OUTPUT level potentiometer at or close to maximum and adjust the output level with the stepped LINE/MIC gain switch.
- If you want more character, turn the OUTPUT level potentiometer counterclockwise and increase the gain with the LINE/MIC switch. This will drive the input gain and the equalizer stages harder and provoke more character from them.
- For even more character, you can also overdrive the output stage and the output transformer but you will then need a level control after the PREQ-73 PREMIER in order to reduce the level to the appropriate one. This level control can be a passive damping device (like the Shure A15AS XLR switchable pad) or an input level control in the unit following the PREQ-73 PREMIER.

- Instruments can be connected to the TS input jack on the front panel. It has an input impedance of about 100 kOhms. Engage the DI switch to select this input.

The DI input works in the MIC positions of the LINE/MIC switch. Mic and Line sources at the back can remain connected while using the DI input.

- Engage the 48 V phantom power for any mic that needs it. It's a good procedure to always disengage the phantom power and wait for about 10 seconds before unplugging the mic.
- When the LOW-Z switch is engaged, the input impedance of the input in MIC mode drops from 1200 Ohms to 300 Ohms. This will change the tone of most mics and will give you one more sound-shaping option. It will also increase the signal level.
- The phase switch simply reverses the phase by reversing the wires from the secondary winding of the output transformer. Reversing the phase of a signal is useful in many situations, one example is phase reversing the lower mic of a snare drum to make it sum in phase with the upper mic.
- To activate the equalizer section, engage the EQ switch and select frequencies with the toggle switches and adjust the level.
- There is an internal jumper just behind the MF frequency switch that can be set to 350 or 700 Hz, the default from factory is 350 Hz.
- The output transformer used in the PREQ-73 PREMIER is made for having an ideal load of about 600 Ohm. The input impedance of most modern units is 10 kOhm or more. The PREQ-73 PREMIER therefore has a 600 Ohm output termination resistor that is engaged by the jumper (JP1) located just behind the XLR output jack. The termination resistor will lower the output level slightly and also affect the upper frequency range. Remove the jumper if the PREQ-73 PREMIER feed a unit with a 600 Ohm input impedance.
- If the PREQ-73 PREMIER is placed close to another unit with a power supply, the input transformers and the eq midrange inductor can pick up the electromagnetic field that especially mains transformers generate. If you notice a small hum or any other noise in the normal noise floor in a case like this, try moving the PREQ-73 PREMIER away from other unit and the hum will most likely disappear.

#### WARRANTY

The PRE-73 PREMIER is built to last. But as in any electronic device, components can break down.

There is a 1,0 A, slow blow fuse located inside the unit, close to the 24 V AC input jack. If the unit dies, check this fuses. If it has blown, replace it with a new one.

You can also try another 24 V AC adaptor if you have one available. If this doesn't help, or if the unit has another problem, it will need repair and you should then contact the reseller where you bought the unit.

The warranty period is decided by the Distributor for your country. The Distributor will support Golden Age Project resellers and end users with repairs and spare parts.

#### REGISTRATION

You are welcome to register your unit at our website:  
[www.goldenageproject.com](http://www.goldenageproject.com)

You are also welcome to visit: [www.goldenagepremier.com](http://www.goldenagepremier.com)

Thank you for choosing the PREQ-73 PREMIER!  
I hope it will serve you well and that it will help you in making many great sounding recordings.

Bo Medin

**Vintage character for modern ideas!**