



# PRE-73 MKII

## Vintage Style Pre Amplifier



### INTRODUCTION

Congratulations on choosing the Golden Age Project PRE-73 MKII microphone preamplifier!

The PRE-73 MKII is a one-channel vintage style microphone-, line- and instrument preamplifier. The signal path uses only discrete components like resistors, capacitors and transistors. The line and microphone 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.

Integrated circuits are small and cheap and they are widely used in most modern designs. It is clear though that audio components built with modern technology doesn't always provide the best perceived sound quality or the type of character that the modern user desires.

On the contrary, the subjective sound quality delivered by vintage equipment is often preferred over the one delivered by modern units, a situation that is even more obvious now when music is recorded with clean-sounding digital audio equipment.

This is the reason why so many vintage audio components are cloned and produced again and also why the vintage originals are often very expensive on the second hand market.

The circuit used in the PRE-73 MKII is similar to the preamp 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 intergrated circuits in the signal path.
- Maximum gain on the mic input is 80 dB, enough to handle passive ribbon mics with quiet sound sources.
- Gain range on the Line input: -20 to + 10 dB.
- Switchable impedance on the mic input, 1200 or 300 Ohms, will change the tone of most mics.
- 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 and then lower the signal to a suitable level before the output stage.
- Combo XLR/TRS input jacks and separate output XLR and TRS jacks for flexible connections.
- Insert jack for inserting EQ's and other units.
- Selectable 600 ohm output termination.
- External high power 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 a 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 Ohms or 300 Ohms.

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

After the gain stages, the signal goes to the output level potentiometer and from there 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.

So, all in all, the complete signal chain only contains a maximum of nine active elements. 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 PRE-73 MKII 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.

This is not to suggest that modern, transparent sounding audio circuits is 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 definitely a good thing.

And doesn't it feel good to use audio components built according to the old, minimalistic approach where one can follow the signal from one discrete component to another?

#### USING THE PRE-73 MKII

Using a preamplifier is not rocket science. Here are some points though to help you getting the maximum out of the PRE-73 MKII:

- Connect the cable from the power supply to the AC 24V connector at the back of the PRE-73 MKII. Power on the unit with the POWER switch at the front.
- Connect your Mic and/or Line sources to the input XLR/TRS combo jacks at the back. A Mic and Line source can be connected at the same time.
- Switching between Mic and Line input is simply done by setting the MIC/LINE switch to one of the MIC or LINE 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 MIC/LINE gain switch.
- If you want more character, turn the OUTPUT level potentiometer counterclock-wise and increase the gain with the MIC/LINE switch. This will drive the input gain stage(s) 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 usually need a level control after the PRE-73 MKII 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 PRE-73 MKII. The Shure A15AS is also useful for reducing the output level if the PRE-73 MKII is connected to a unit that has a standard operating level of -10 dBu. The standard operating level of the PRE-73 MKII is +4 dBu, the output level into a 600 ohm load will be about 1.23V when the "0" VU LED is lit.

- Instruments can be connected to the TRS input at the front which has an input impedance of about 100 kohm. Press the DI switch to engage this input. The DI input works in the MIC positions of the gain switch. Mic and Line sources at the back can remain connected.

- Engage the +48V phantom power for any mic that needs it. It is 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 Mic input drops from 1200 Ohms to 300 Ohms. This will change the tone of most mics and will give you one more soundshaping option. It also increases the level, which is normal.

- The phase switch simply reverses the phase by reversing the wires from the secondary winding of the output transformer. Reversing the phase of the signal is useful on a number of occasions, one example is phase reversing the the lower mic of a snare drum to make it sum in phase with the upper mic.

- There is an unbalanced Insert jack located at the back panel where you can insert Equalizers and other external effect units that has an operating level of about -18dBu. Send is on "tip" and return on "ring".

- The output transformer used in the PRE73 MkII is made for having an ideal load of about 600 ohm. The input impedance of most modern units is 10 kohm or more. The PRE73 MKII therefore has a 600 ohm output termination that can be disconnected by removing a jumper (JP1) located just behind the XLR output jack. This should normally only be made if you are connecting the PRE-73 MKII to a vintage style unit with a low input impedance.

#### WARRANTY

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

There is a 1.5A, fast blow fuse located inside the unit. If the unit dies, please check this fuses. If it has blown, replace it with a new one. You can also try with another 24V 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)

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I would like to thank you for choosing the PRE-73 MKII! I hope it will serve you well and that it will help you in making many great sounding recordings.

Yours,  
Bo Medin

**Create music**  
**- Be happy!**