



**Fredenstein**  
*Professional Audio*

**F601A**  
**MIC-PRE**

**Operating Manual**

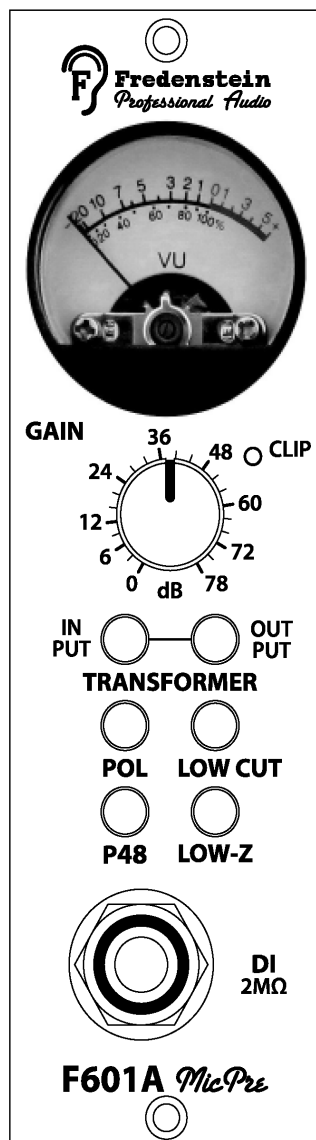
# Fredenstein F601A Microphone Preamplifier

The F601A is a high performance professional microphone preamplifier. It's innovative Zero-Negative-Feedback design improves low frequency and transient reproduction dramatically. In addition, the F601A delivers detailed high frequency information without being harsh, a truly silky and smooth experience. It's fully discrete Class-A gain stage with its high performance Lundahl LL1578XL input and LL1517 output transformers outperforms "classic" microphone preamplifiers by a wide margin. To give engineers a greater control of the tonality, both transformers are individually switchable. Combined with the F601's very low noise the F601A will provide exceptional sonic results. If used in a Fredenstein Bento D rack, all parameters will be displayed on the Bento LCD screen.

As all Fredenstein products, the F601 is designed by a German-American team and manufactured in Taiwan.

## Installation:

Please power down your rack or box first before inserting the F601A. The power requirements are maximum +/-16V, +/-150mA. In case you don't use a Fredenstein Bento, please make sure your box or rack can support the current. Please consult your third party documentation in case of any doubt.



## Overview:

### **Output Level Indicator**

0VU = +4dBu

### **Clip Indicator**

Threshold +24 dBu

### Rotary Controls:

**GAIN** : Gain Control, maximum +78 dB

### Switches:

**INPUT** : activates the input transformer

**OUTPUT** : activates the output transformer

**POL** : Output Polarity

**LOW CUT** : 60Hz High Pass Filter

**P48** : +48 Volt Phantom Power

**LOW-Z** : Changes the input impedance to 300 Ohms

### Connector:

**DI** : High impedance input for instruments  
: accepts balanced or unbalanced signals  
TS or TRS

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## **Gain Control:**

Microphone Preamplifier Gain Control, maximum +78dB when input transformer is activated, +58 dB in transformerless mode.

## **Input Transformer:**

When lit, the input transformer (Lundahl LL1578XL) is inserted in the signal path, if not lit, the F601A work in the transformerless input mode. Any resulting change in gain is automatically compensated by the internal CPU.

## **Output Transformer:**

When lit, the output transformer (Lundahl LL1517) is inserted in the signal path, if not lit, the F601A work in the transformerless output mode.

## **POL – Polarity Control:**

Setting the signal polarity, when turned on (LED lit) the signal is inverted.

## **Low Cut – High Pass Filter:**

when turned on (LED lit), the 60 Hz High Pass Filter is activated to suppress unwanted low frequencies.

## **P48 Phantom Power:**

Most FET condenser microphones as well as some other microphones with built-in amplifiers require +48V Phantom Power. Setting the P48 switch to the right enables +48V through the balanced microphone line. Please check your microphone documentation if you are not 100% sure. Enabling P48 on microphones not designed for P48 might cause severe damage. Please note, if the rack does not supply +48V, the LED in the button will not turn on.

## **LOW-Z:**

To avoid impedance mismatches between the F601A and connected dynamic and ribbon microphones, the input impedance can be lowered to 300 Ohms independent of the input transformer setting.

## **DI – Direct Input:**

The most common use for the DI input is to connect instruments like guitars directly to the F601A. The input impedance is greater than 500 KOhm to insure compatibility with most instrument pickups. After inserting a balanced (TRS, Tip-Ring-Sleeve) or an unbalanced (TS, Tip-Sleeve) plug, the balanced microphone input through the box or rack is automatically disabled.

All parameters are internally stored in a non-volatile memory and are automatically recalled at power-up. The F601A is powered by a 32bit ARM CPU.

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## **Technical Data:**

Frequency Response	:	20 Hz – 20,000 Hz, +/- 0.5dB
Distortion	:	< 0.1%
Input Noise	:	< -129 dB
Input Impedance	:	> 1KOhm (300 Ohms LOW-Z)
Max. Input Level	:	+ 12 dBu
Output Impedance	:	20 Ohms
Max. Output Level	:	+ 26 dBu
Clip Indicator	:	+ 24 dBu
Input Attenuator	:	- 20 dB (automatic)
High Pass Filter	:	60 Hz (switchable)

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