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Sonic Farm Silk Road

Dual Solid State Microphone/Instrument Preamplifier

USER MANUAL



Dear Audio Professional,

Thank you for purchasing the **Silk Road**. We hope it will deliver exceptional recordings for many years into the future. Please take the time to read this manual. It describes **Silk Road**'s design philosophy as well as its most important functions.

DESIGN PHILOSOPHY

After launching our first solid-state preamp, the series 500 Silkworm, we wanted to take this concept to the next level. Series 500 has some serious limitations, like low supply voltage, low maximum current draw and finally lack of room. Although addressing all of those challenges successfully with the Silkworm, a desire arose to design a compact, portable preamp with an integrated power supply featuring an uncompromising sound and headroom.

So we took the Silkworm circuit, raised the supply voltage to dual 24V and upgraded the components to work smoothly within the increased headroom. To our surprise, the sound changed as well: there was more clarity and definition with no signs of harshness or brittleness.

Like Silkworm, **Silk Road** is a **clean** preamp. That means the use of an extremely low distortion gain stage that adds no harmonics to the sound. The configuration is as follows: Low distortion Cinemag mic transformer, followed by a discrete OP-amp circuit, which in turn drives the 100% Fe output transformer or, if switched in, a solid-state balanced line driver. The iron on both input and output is there to add some sweetness to the sound and avoid sterility often resulting from the “wire-with-gain” design approach (see specs; the transformer THD is actually beneficial! The OT has more “juice” the more it’s pushed!). We didn’t “listen with our eyes” fixed on the distortion meter but made sure we had an emotional response while listening to the sound coming out of the **Silk Road**.

The instrument input first goes to a FET buffer IC before, if switched in, it replaces the mic transformer in front of the gain stage. The idea is to keep the signal path of the whole preamp 100% DC, with no capacitors in the signal path, other than the ones adding character (see “vibe switch” in front panel controls description). This ensures even the deepest low end with no phase shift whatsoever, something impossible with tube preamps. The old, “vintage” solid-state preamp designs didn’t pay too much attention to that either, and today we see a lot of need for replacing dried-out capacitors in praised vintage preamps.

The discrete gain stage was designed for maximum transient preservation and transparency while having a stable operation. We kept the open loop gain high enough for low distortion but not too high to have to use extreme feedback, which would kill transients. The very output of the gain circuit is a complementary stage, and this is very common. However, our version is free of crossover distortion even before feedback is applied. This pretty much limits feedback to gain regulation only. A dual stage servo-loop takes any DC offset out.

The final result can be described as a very clean, transparent sound, but the one that can never sound boring. Thanks to the output transformer option and the vibe switch, the **Silk Road** can take on different personalities, easily impersonate vintage solid-state preamps current top producers favor, or just convey the pristine realism to accommodate the other end of the music genre stick, like classical music.

Please put this preamp to hard work in your studio and be amazed how it takes on any task with ease and in fact shines at it!

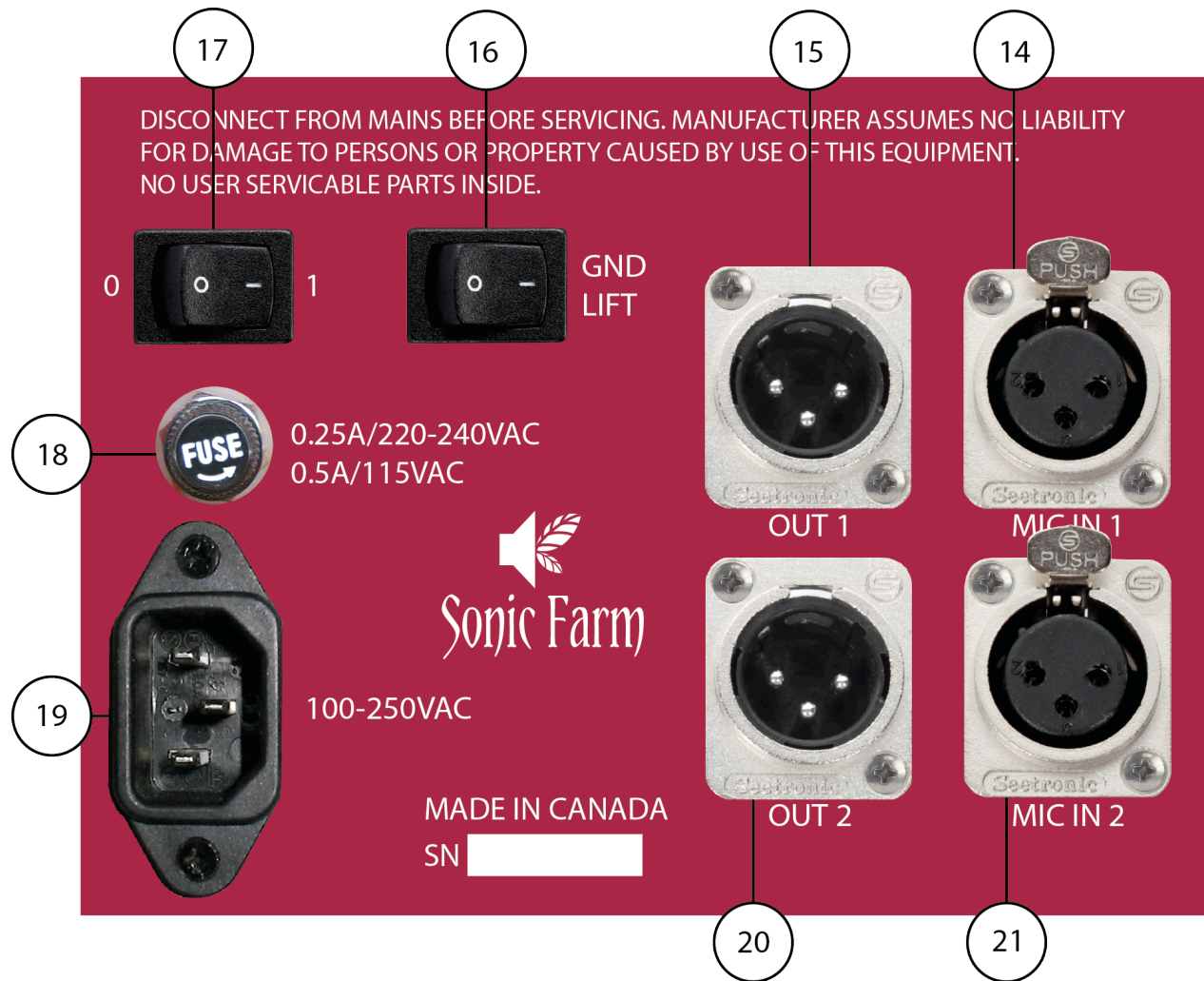
SILK ROAD'S FRONT PANEL CONTROLS:



- 1 High Pass filter to remove unwanted low frequency content. Post Gain. Flip to the right to activate.
- 2 Gain Trim control. **Silk Road's** gain is controlled using the 3-pos gain range switch (10), and this conductive plastics pot for fine, smooth adjustment.

- 3 The proper name should be “character” but there was no room for that on the panel. Think of the “Vibe” switch as a complex impedance manipulator. Medium position is flat 8k input impedance, and the associated sound is “Present”. The other 2 use a capacitive- resistive network. The left position is a gentle warm up of hi mids and treble, and we mark that as “Smooth”. The right position produces a mild hump in high mids or treble, depending on microphone’s output impedance, typically around 8 or 10kHz. We called that “Warped”.
- 4 Phase reverse (at the very output of the preamp). Affects both mic and instrument inputs. Left for phase reversal.
- 5 Output select: low-distortion solid-state balanced driver IC or transformer (driven directly by the discrete gain stage). Solid-state mode will sound somewhat cleaner, and the transformer rounder and fatter. Left: OT. Right: SS.
- 6 Bi-color (green/red) LED for signal presence/overload indicator. Red indicates clipping distortion. To eliminate it, lower the gain using the trim control (2) or the 3-pos gain range switch (10). The last resort is the pad (11).
- 7 ¼” unbalanced instrument input. Good for guitar, bass or keyboards. The input impedance is 2.2MΩ.
- 8 This LED is a Power “ON” indicator.
- 9 Phantom power switch with the corresponding light. **Silk Road**’s soft phantom circuit eliminates the annoying audible “crack” with MOST microphones. However, some rare microphones, due to their circuit design, will still cause a loud pop a few seconds AFTER the phantom voltage is switched off. With those, you will still need to mute or lower your monitoring level.
- 10 Gain range switch has 3 positions: High (left), Low (middle) and Medium (right). It enables very smooth and precise gain adjustment using the gain trim pot. For condenser mics, you will most probably use “L” or “M” with pot almost CCW (counterclockwise). Dynamics and Ribbons on loud instruments, “M”, sometimes even “L”. Use “H” with soft sounds on ribbons or dynamics. Instrument input limits gain to “L” and “M”.
- 11 Mic input attenuation 15dB pad, pre-transformer. Also lowers mic input impedance.
- 12 Input selector: left for mic (XLR on the back), right for ¼” instrument jack.
- 13 High Pass filter cut-off frequency selector: 80Hz left, 320Hz middle and 160Hz right. Activated by the switch (1).

SILK ROAD'S FRONT PANEL CONTROLS:



14 and **21** XLR balanced Microphone inputs.

15 and **20** XLR Line level balanced outputs, to feed balanced inputs only.

16 Ground lift switch. Engage to prevent hum caused by ground loops. This function cannot remove hum already present in the mic or instrument signal.

17 Power switch

18 20mm slow-blow fuse. Replace only with same type and rating. 0.25A (250mA) for 220-240VAC power, 0.5A (500mA) for 115VAC power.

19 Standard IEC-type power receptacle. You can use any AC power from 100 to 250VAC, 50 or 60Hz. Just make sure that the fuse rating corresponds to the mains voltage you are using.

TECHNICAL SPECIFICATIONS:

2 channels

Microphone input impedance: 8k Ω m (for middle “vibe” switch setting only; more complex for the other 2).

Frequency response: 5Hz-50kHz +/- 3dB

Maximum gain, microphone: 66.2dB

Maximum gain for instrument: 42.7dB

Gain stage THD at 1kHz: <0.0005%

Input mic transformer THD at 0dBu: 0.03% at 100Hz, 0.01% at 200Hz, 0.001 % at 2kHz, 0.0007% at 10kHz.

Output transformer THD 20Hz to 20kHz up to 10dBu: <0.15%; up to 20dBu<0.2%; up to 28dBu<1%

Maximum output level: 32dBu

Minimum output load: 600 Ω

Instrument input: 1/4” unbalanced, mono

Power consumption: 30W

WARRANTY INFORMATION

Sonic Farm gives a one-year warranty on parts and labor from the date of purchase.

Should you need to send in your unit for warranty-covered service, please contact us for an RMA number first.

We will also tell you where to send the unit.

Any Modification of the unit voids the warranty.

CONTACT INFORMATION:



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