

The Natural Instrument Interface

As the Martech MSS-10 Microphone Preamplifier became popular with discerning users, requests increased for a direct box that would give them that same "high fidelity with soul" they love about their MSS-10s.

Staying true to the design of the MSS-10, the MSS-01 starts by using the same custom transformer to provide a sonically superior passive path that accommodates both balanced and unbalanced sources, and then adds a German microphone quality active input to lighten the load when required for vintage guitars.

Join the hit makers who have already discovered magic in the Martech Modular Studio Series. Experience the artistic satisfaction from using an MSS-01 and turn your dreams into legend.

"Bitchin'! It's really nice how unadulterated everything sounds. As a matter of fact, I'm taking it with me. I'm changing my address and phone number so chances are you're gonna have to hunt me down to get this stuff back!"

Bass Player Extrordinaire
Lee Sklar

recording with the Barefoot Servants
using the MSS-01 through an MSS-10

"Fantastic! Warm and uncolored."

Engineer and Mixer
Al Schmitt

on sessions with Anita Baker, Diana Krall,
Chris Botti, and others

Our free report, **How the Modular Studio Series Takes the Hassle Out of Tracking & Mixing**, explains how the MSS-10 and MSS-01 makes recording and mixing less troublesome and time consuming and why you will hear an immediate improvement in your productions when you use our Natural Sound Mic Preamp and Instrument Interface. Phone us now at (800) 582-3555 or visit our website at www.martinsound.com to request your free copy.

MSS-01

Turn Your Dreams Into Legend



Another Direct Box?

At Martinsound we build and offer exclusively to our studio clients, a passive direct box based on the design of our renowned Martech MSS-10 Microphone Preamplifier. Musicians, engineers, and producers who try it agree that our direct box sounds bigger, clearer and more open than the high-end boxes they bring to the sessions. With no surprise, demand grew for a commercial version.

A transformer is used in a passive direct box to match the high impedance output of an instrument to the low impedance input of a mic preamp. By lowering the impedance of the signal, it is less susceptible to interference and can drive longer distances without reacting to cable capacitance, thus preventing high frequency loss. The transformer also reflects a proportionally higher input impedance from the mic preamp, lessening the load on the instrument.

The Martech MT-1005 input transformer has a 10:1 ratio, dividing the output impedance of the instrument by 100 while multiplying the mic preamp input impedance by 100. Mic preamps have an input impedance ranging from 1.5kΩ to 10kΩ, which, when reflected across the transformer, will range from 150kΩ to 1MΩ. Some vintage guitar pickups can sound dull and lifeless when driving less than 500kΩ, rendering the MT-1005 unsuitable for these instruments if the mic preamp input is below 5kΩ. Adding a FET to the front end would fix the input impedance at a high value, but at what cost to the transparent sound of the transformer?

The best of both worlds was our design decision: the ultimate passive direct box, and the finest sounding high impedance active direct box. Adding an active path meant addressing issues such as power supply, headroom, and sonic degradation, and our decisions are what sets the Martech MSS-01 apart from the pack.

Phantom power was an obvious choice for this design. We added large power reserve capacitors for maximum headroom, and optimized supply rails providing 40 volts peak to peak for clean operation. The circuit is similar to that found in high-end condenser microphones, rather than a standard FET direct box, with a little Martech design magic to minimize the characteristic 'tzzzz' of the FET. Martech went over the top once again to minimize components in the signal path, basing the design on how it sounds, not just test equipment measurements.

The MSS-01 is a unique choice in a vast universe of direct boxes. It provides a phenomenally transparent interface that allows instruments to bloom and sound the way they're supposed to: natural.

Why Use the MSS-01?

The unique instrument interface provides a sonically superior passive path that accommodates both balanced and unbalanced sources, and a German microphone quality active input to lighten the load on vintage guitars.

How Does It Sound?

Actually the question should be, "How does your instrument sound?" For that is what the MSS-01 will reveal. The soul intent of the MSS-01 is to let you hear every nuance from your instrument, without adding any coloration.

Why Not Always Use the Active Input?

This is a subjective issue that only you can decide. Many purists want a minimal signal path, so they go straight for the Passive Input. It is recommended that you listen to the instrument on both inputs instead of assuming which will sound better. The unique circuit for the Active Input requires a 15 minute 'warm up' period, much like tube equipment. It is important that you apply phantom power and wait for the circuit to settle before comparing the two inputs. Listen to the Passive Input during warm up for a reference and then switch to the Active Input. Listen for excessive dullness or fly away in the top end, keeping in mind that brighter is not always better. Also listen for depth and imaging before determining the best loading for the instrument.

Why a Balanced Input On a Direct Box?

When a typical guitar cable is used the tip/sleeve plug will automatically unfloat the input of the transformer, making it like most other DIs, but the MSS-01 can handle the rare occasion when an instrument has a balanced output. And clever engineers will figure out all sorts of uses for the 10:1 transformer.

What is Natural Sound?

If something sounds "better" than its source, the coloration is called euphonic, whereas if it sounds worse, we have many esoteric or vulgar words to describe it. But when it sounds the same, the only word to describe it is natural. Natural is not sterile or neutral. Sterile means unable to produce or lacking vitality. If anything, natural sound is the antithesis of sterility. And natural isn't just accuracy, for it moves one into the realm of realism.

Natural Sound is breathtaking, an aural seduction. Unconstrained dynamics that never get pinched at high levels. A highly focused image with low level ambience and room information that doesn't mysteriously disappear. Brilliant tonal quality with lots of air. It's top end that isn't smeared, midrange with warmth, and extra octaves of an extended bottom that is fat and solid. And when punch is required, stand back. Natural sound is all this and more because nothing is removed.

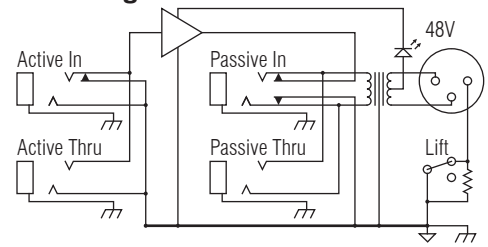


Judge for Yourself

If you crave astonishing realism, then check out the MSS-01. Judge for yourself what Natural sounds like. The experience is so awesome, that we sell the MSS-01 with a no risk, no questions asked, 60-day buy back guarantee.

Visit www.martinsound.com for the full story. Call us today at (800) 582-3555 to order your very own. So, what are you waiting for, go make history on your next session.

Block Diagram



Signal Interface

Active Input and Thru

Source or Destination	Plug Type	Active Input	Active Thru
Unbalanced	TS	Valid	Valid
Unbalanced	TRS	Valid ¹	Valid ¹
Balanced	TRS	Valid ^{2,3}	Valid ²
Stereo	TRS	Invalid ⁴	n/a

¹ Shorts the ring to ground

² Shorts the ring/signal low to ground

³ Headroom reduced 6dB, Noise increased 3dB
Level potentially reduced 6dB

⁴ Shorts the ring/signal left to ground

Passive Input and Thru

Source or Destination	Plug Type	Active Input	Active Thru
Unbalanced	TS	Valid	Valid ^A
Unbalanced	TRS	Valid ^B	Valid ^C
Balanced	TRS	Valid	Valid
Stereo	TRS	Invalid ^D	n/a

^A Unbalances the Passive Input

^B Ring must tie to ground at other end of cable

^C Reduced CMRR if following input is balanced

^D Ties outputs through transformer

Technical Specifications

Active Input

Input Type	Unbalanced - FET input
Input Jack	TRS with Ring to ground
Input Impedance	800kΩ
Circuit Gain	Unity
EIN (Typical)	-116dBu
Frequency Response	20Hz—20kHz (±0.1dB)
Headroom	+18dBu Typical into 2.5kΩ
THD+N (Typical)	-10dBu in, ≤0.007% @ 1kHz +20dBu in, ≤0.200% @ 1kHz

Active Thru

Thru Type	Unbalanced - hard wired
Thru Jack	TRS with ring to ground
Insertion Loss	0dBu

Passive Input

Input Type	Transformer balanced
Input Jack	TRS, tip half-normalled to FET
Input Impedance	100x mic pre input impedance

Passive Thru

Thru Type	Balanced - hard wired
Thru Jack	TRS
Insertion Loss	0dBu

Direct Output

Output Type	Transformer balanced
Output XLR	Pin 2 high
Insertion Loss	0dBu

Power Requirement

Phantom	+48V
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The MSS-01 is available from selected dealers or directly from Martinsound

(800) 582-3555

Call to order or find a dealer near you



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