

# Nº320S

PREAMPLIFIER





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The N°320S Preamplifier is a direct descendant of the critically acclaimed N°32 Reference Preamplifier. The N°320S features audio circuits, controls, architecture, and phono input option based on the N°32. In fact, some audio circuits, such as the proprietary discrete volume attenuators, are identical to those found in the N°32.

The single-chassis design of the N°320S achieves similar separation of audio circuit, control, and power supply sections as the dual-chassis N°32. Inside the N°320S, these sections are separated by physical layout as well as a steel shield box that protects against electrostatic and magnetic interference. Filtered AC power is routed outside audio circuit sections, providing audio circuits with the quiet, shielded environment essential for superior sound.

Many high-performance audio components rely on clean, noise-free AC power to deliver maximum performance. Unfortunately, most AC power does not meet these standards. Common household appliances such as refrigerators, televisions, and computers often contaminate AC power lines with line noise, spikes, and other irregularities that make it difficult for high-performance audio circuits to reach their full potential.

To compensate for this, the N°320S offers a series of highly effective noise suppression and isolation technologies. AC power is filtered for noise as soon as it enters the chassis. The audio section and control section have completely independent power supplies, each with their own low-noise toroid transformers. The audio power transformer features a Faraday shield between the AC line

and the low voltage secondaries for improved isolation. The N°320S employs two stages of active voltage regulation for the audio sections. A high-power stage absorbs line voltage and temperature variations, while a second high-performance stage provides local, high-speed, low-noise power for the audio section.

Featuring an advanced dual-mono design, the N°320S is endowed with remarkable channel separation and exceptional sonic imaging. Both audio channels use independent power supplies, communication circuits, and audio circuits. In addition, each channel's audio circuits are located in a separate area of the chassis. This innovative design isolates each channel from the other, allowing the N°320S to produce vividly rich, three-dimensional sonic images with stunning precision.

For even greater channel isolation, the N°320S deactivates unused inputs to prevent interference from associated components. When an input is deactivated, the N°320S disconnects the input signal and ground connection, eliminating ground loop noise between the N°320S and the associated component. As a result, input signals pass through the N°320S with exceptional freedom from interference due to other components.

Two Mark Levinson-designed discrete volume attenuator modules control master volume level with unparalleled accuracy and sonic neutrality. Constructed with Arlon 25N circuit boards with local power supply regulation and bypass capacitors, these modules generate optimal power and isolation for even the most sensitive adjustments. Precision surface-mounted resistors accommodate adjustments in 1.0dB increments up to 23.0dB and 0.1dB increments above 23.0dB.

Unlike other stereo preamplifiers, the N°320S is designed to integrate with multi-channel surround sound processors – minus the drawback



of competing master volume level controls. A unique surround sound processor mode allows the N°320S to set its master volume level control to unity gain, passing complete control to the surround sound processor. With no interference from the N°320S, the surround sound processor can maintain the relative volume level of all channels without distorting its carefully calibrated input and output levels.

A modest connector complement includes three balanced (XLR) and four single-ended (RCA) input connectors. Single-ended input signals are converted to balanced signals upon entering the chassis, and processed as balanced signals thereafter. During this conversion process, meticulously balanced circuits preserve all input signal information, passing it to the power amplifier without the limitations of more asymmetrical single-ended designs.

The rear panel also includes separate main and record output connectors, as well as two Link communication ports that make it possible for the N°320S to be included in Mark Levinson Link systems.

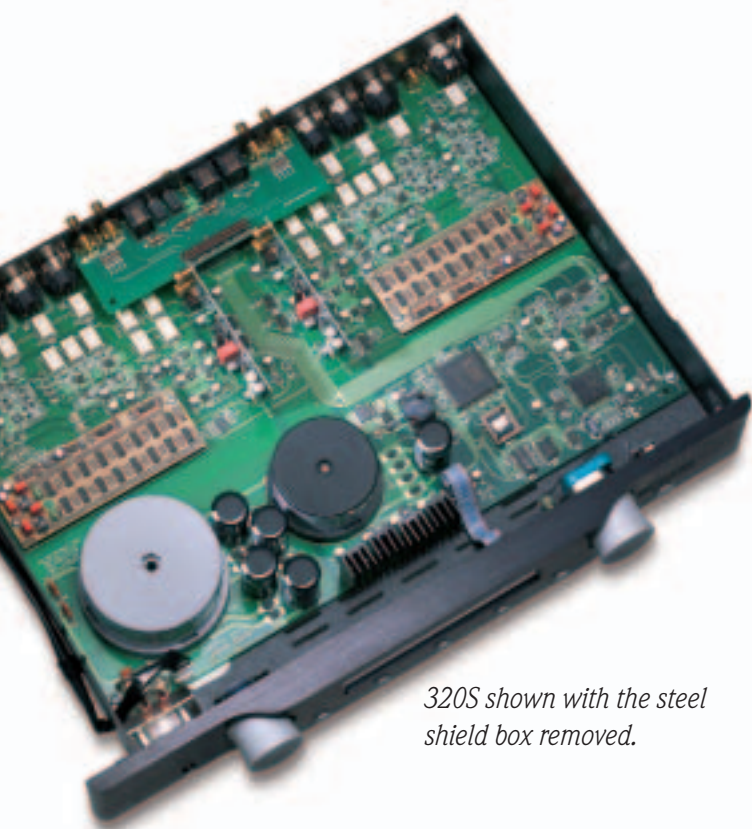
A large front panel “select” knob provides quick selection of the desired input. When an input is selected, just press and hold the front panel or remote control setup button to open the corre-

sponding Set Inputs menu, which can be used to select a custom name, optimize gain levels, set a master volume level offset, or assign record output connectors to individual inputs.

Following in the footsteps of the N°32, the N°320S exceeds all reasonable expectations for a stereo preamplifier. Its flexible design, including seven configurable inputs, separate main and record outputs, and full surround sound processor integration, allow it to accommodate a wide range of demands. Even more, several advanced technologies protect audio circuits for a superior sound sure to complement even the most sophisticated home entertainment systems.

## Highlights

- 7 configurable inputs
- Separate main and record outputs
- 3 balanced (XLR) inputs
- 4 single-ended (RCA) inputs
- Complete surround sound processor integration
- Advanced dual-mono design
- Maximum channel isolation
- Independent power supplies for audio circuit and control sections, each with their own low-noise toroidal transformer
- Effective noise suppression and isolation technologies
- AC power filtering
- Two active voltage regulation stages
- Faraday shield to separate AC power from low-voltage secondaries
- Independent audio circuits, communication circuits, and power supplies for each channel
- Two proprietary discrete volume attenuator modules
- Deactivation of unused inputs to eliminate ground loop noise
- Balanced conversion for single-ended input signals
- Intuitive Set Inputs menu
- Large front panel display
- Two Mark Levinson Link communication ports
- RS-232 communication port
- Trigger output connector
- IR input connector
- Phono input option



*320S shown with the steel shield box removed.*



## N°320S Preamplifier

<b>Gain:</b>	0, 6, 12, or 18dB in the line stage
<b>Volume control range:</b>	80.0dB
<b>Gain resolution:</b>	0.1dB steps above 23.0 in display (-57dB) 1.0dB steps below 23.0 in display (-57dB)
<b>Input overload:</b>	when gain is set to +18dB: 1.6V on XLR, 0.8V on RCA when gain is set to +12dB: 3.3V on XLR, 1.6V on RCA when gain is set to +6dB: 6.6V on XLR, 3.3V on RCA when gain is set to 0dB: 13.2V on XLR, 6.6V on RCA
<b>Input impedance:</b>	100k $\Omega$
<b>Output impedance:</b>	less than 50 $\Omega$
<b>THD + N</b>	less than 0.001%
<b>Crosstalk, any input to any output:</b>	less than -90dB
<b>Residual noise:</b>	20Hz to 20kHz, input terminated: less than -94dBV
<b>Frequency response:</b>	10Hz-40kHz: $\pm 0.2$ dB
<b>Power consumption:</b>	50 watts maximum
<b>Mains voltage:</b>	100V, 120V, 220V, 230V or 240V, factory set for destination country
<b>Mains frequency:</b>	50 or 60Hz, factory set for destination country
<b>Preamplifier inputs*:</b>	(3) pairs balanced on XLR (4) pairs single-ended on RCA
<b>Preamplifier outputs:</b>	(1) pair balanced main output on XLR (1) pair single-ended main output on RCA (2) pairs record outputs on RCA
<b>Other connectors:</b>	(2) link communication (one 8-pin modular RJ-45 connector for "slave-in" and one 8-pin modular RJ-45 connector for "slave-out") (1) phono ground on binding post (1) IR input on 3.5mm miniature phone connector (1) trigger programmable output on 3.5mm miniature phone connector (12V level or 5V pulse) (1) RS-232 on 6-pin RJ-11 modular connector (1) AC input on IEC-standard AC mains receptacle
<b>Overall dimensions:</b>	width: 17.75" (45.1cm) height: 2.915" (7.4cm) depth: 14.04" (35.7cm)
<b>Shipping weight:</b>	30lb (14kg)
<b>Remote control:</b>	Hand-held infrared remote control unit Requires 2 AAA batteries (Alkaline batteries recommended).

\*N°320S phono input option is available at additional charge.  
When installed, input 7 becomes the phono input.

Unless otherwise noted, specifications reflect nominal values over 20Hz to 20kHz measured bandwidth on balanced XLR connections.

*Specifications are subject to change without notice.*

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