

Equipment Report



Soudation 3 Series Electronics: 350 Phonostage, 326 Preamplifier, and 312 Stereo Amplifier

The More “Affordable” Solutions

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In March 2024, the Swiss manufacturer Soudation introduced its second-generation 3 Series product lineup. Soudation says the new entry-level second-gen 3s incorporate technologies and design elements derived from the company’s upper-end 5 and 7 Series products. The 350 phonostage, 326 preamplifier, and 312 stereo power amplifier are the subjects of this equipment review. Given the number of products being evaluated, let’s get started with an overview of each component.

312 Stereo Amplifier

The 312 stereo amplifier (\$28,975) is spec’d at 120Wpc into 8 ohms, which doubles to 240Wpc into 4 ohms and doubles again to 480Wpc into 2 ohms (albeit the latter sustained for five seconds). Input impedance is a low 2k ohms; to realize wide and flat frequency response, be cautious if matching with a high output impedance tube preamp. Gain is 26dB, and the amplifier has a damping factor greater than 5000.

Equipped with three stages of current amplification plus a voltage amplification stage linearized to function up to 80MHz internally, the external input/output of the amplifier is limited to a frequency response of DC to 800kHz, which is still impressive. The 312 has four switch-mode power supplies that feed its amplification circuits (low-wattage Class A and high-wattage Class AB) mentioned above. The power supplies are physically sepa-

rated from the signal circuitry via distance and effective shielding. The amplifier also incorporates constrained-layer damping to limit vibrations from external sources.

The 312’s front panel features a 5" x 2.25" display (left of center) with incorporated IR receiver and a small power button just to the right of the display. On the rear of the unit are a left/right pair of speaker binding posts and balanced XLR inputs, with a switch to lift the input ground if necessary. In the center rear of the amplifier is an IEC power inlet connector toward the bottom and a link-com plus firmware update connectors near the center-top.

326 Preamplifier

The 326 (\$21,975) is a four input (two balanced XLR and two unbalanced RCA)

preamp with two additional dedicated custom slots that can house an optional internal 60dB-gain phonostage (moving-coil only), and a D/A converter for the other slot. The optional D/A converter supports Network, USB, SPDIF, and AES/EBU inputs. Data rates up to 192kHz are available for PCM formats, with up to 24-bit/384kHz for USB and network playback, and DSD 1x or 2x are accepted. All input data is converted to DXD via an onboard DSP. The 326 preamp under review did not include either optional internal input (phono or DAC).

The 326 also uses switch-mode power supplies feeding DC-DC converters coupled to low-noise linear regulators. Like the 312, the same attention to separation of power supplies from audio signal

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boards and shielding is implemented in the 326. The volume control uses individual relay-switched resistor networks for each channel. Additionally, when adjusting output level, the 326 uses a chip-based programmable gain array (PGA) to ensure click-free volume adjustments. A second or two after volume adjustment, the precision relayed resistor network is activated, and the chip-based PGA is disabled. With very low 5-ohm (unbalanced) and 10-ohm (balanced) output impedance, the output stage of the 326 can deliver up to 200mA max current when called for. This ensures the preamp can drive long cables and/or lower impedance amplifier inputs, like those of Soulution's own 312 amplifier, without concern.

The front panel of the 326 mirrors the front panel of the 312 amplifier with an additional pair of buttons horizontally in-line with the power button. Those two buttons are a mute button and a program button. The mute button is self-explanatory. The program button is used to enter program mode. Center-right on the front panel is an optically controlled rotary knob used for volume control and push-button input selection under normal operation, and option-navigation/selection in program mode. The rear of the 326 contains the two XLR and two RCA inputs mentioned above, plus a set of balanced XLR and unbalanced RCA outputs at the outer left and right edges. The left of center location has provisions for the optional internal DAC with the inputs mentioned above and the right of center area has a similar location reserved for the optional phono stage with unbalanced RCA input and phono cable/turtable ground terminal. The IEC input connector and link-com and firmware update ports are located in the center.

350 Phono stage

The 350 (\$22,975) is a dedicated moving-coil phono-

stage with a single unbalanced input. The gain is fixed at 60dB with loading options of 20 ohms up to 1260 ohms in 20-ohm increments. Soulution says the phono stage has tight-tolerance passive components, wide bandwidth, and low noise two-stage amplification with ideal frequency and phase response.

The 350 follows the design feature of the 326 preamp mentioned above with switch-mode power supplies feeding DC-DC converters coupled to low-noise linear regulators. It also implements the same separation of power supplies from audio signal boards and added shielding as used in the 312/326. There is no volume-level control on the 350

phono stage. However, the output stage of the 350 also delivers 200mA max output current that ensures its ability to provide a robust signal to the connected preamplifier.

The 350 front-panel display, three-button control, and rotary knob are visually identical to that of the 326 preamp. The rear of the 350 phono stage has the L/R RCA input connectors on the upper left side with the arm/table ground terminal centered between. Directly below those inputs are the balanced XLR and unbalanced RCA outputs. The IEC input connector and link-com and firmware update ports are on the left rear of the 350.

Setup

Setup of each individual 3 Series component was straightforward and uneventful thanks to the comprehensive user manuals, which outline how to use the program modes, features, front-panel controls, and supplied remote control for each device. Once setup was completed, menu navigation and day-to-day use were a pleasant experience.

The 350 phono stage was fed music transcribed by the Lyra Atlas Lambda SL and the



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newly introduced, overachieving Hana SL MK II. Both cartridges were installed on a Graham Phantom 3 tonearm mounted to a TW Acoustic Raven Two turntable taking power from a Raven AC power supply. The 326 preamp's four analog inputs were fully loaded up with one digital source and three analog sources (two vinyl including the 350 and Soudution's flagship 757 deemphasis unit along with one additional 15/30ips reel-to-reel tape deck). The 312 amplifier was fed from the 326 or my reference preamp.

The 3 Series products were evaluated individually to help better

gauge each of their characters and in combination. The final 3 Series configuration consisted of the full trio connected and feeding my reference main speakers or the DALI Epikore 11 that I reviewed in the previous issue.

The Sound of the 350 Phonostage

The 350 phonostage's sound is enticing. The unit projects noticeable soundstage and soundscape width while maintaining realistic instrumental and vocal separation. Imaging is flawless, with re-

Specs & Pricing

350 Phonostage

Type: MC phonostage

Analog inputs: One unbalanced moving coil

Analog outputs: One balanced (XLR); one unbalanced (RCA)

Input impedance: 20–1260 ohms

Gain: 60dB

Output impedance: 10 ohms

balanced; 5 ohms unbalanced

Frequency response: DC–2MHz

Dimensions: 430mm x 142mm x 350mm

Weight: Approx. 10kg/22 lbs.

Price: \$22,975

326 Preamp

Type: Preamp

Analog inputs: 2x XLR, 2x RCA, one phono mc (optional), one DAC (optional)

Digital inputs (DAC option): USB-B, SPDIF, AES/EBU, Network/LAN

Phono (optional): Impedance, 20–1260 ohms; gain, 60dB

Analog outputs: One balanced XLR, one unbalanced RCA

Output impedance: 10 ohms

balanced; 5 ohms unbalanced

Frequency response: DC–2MHz

Dimensions: 430mm x 142mm x 350mm

Weight: approx. 10kg/22 lbs.

Price: \$21,975 (optional mc phono module \$4475, optional DAC module \$7475)

312 Stereo Amplifier

Type: Power amplifier

Output power: 120Wpc into 8 ohms,

240Wpc into 4 ohms, 480Wpc into 2 ohms (5 seconds)

Analog inputs: One balanced XLR

Outputs: One set of loudspeaker binding posts per channel

Frequency response: DC–800kHz

Damping Factor: >5000

Dimensions: 430mm x 142mm x 490mm

Weight: Approx. 17kg/37.5 lbs.

Price: \$28,975

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Reference System

Analog tape: Otari MTR-10 Studio Mastering (1/4" 2-track) tape deck with custom Flux Magnetic Mastering Series repro head and secondary custom tube output stage, Studer A820 Studio Mastering (1/4" 2-track) tape deck (x2), Studer A80VU MKII Studio Mastering (1/4" 2-track) tape deck, ReVox A700 (1/4" 2-track and 1/4" 4-track heads) tape deck (x2), Stellavox SP7 (1/4" 2-track) tape deck with ABR large reel adapter, Nagra IV-S tape deck with custom large reel adapter, ReVox G-36 (1/4" 4-track) tape deck, 1950 Ampex 400A tape repro electronics, Soudution 757 Deemphasis unit

Analog vinyl: Basis Audio Debut Vacuum with Synchro-Wave Power Supply, Basis Audio 2800 Vacuum,

TW Acoustic Raven 2 tables; Basis Audio SuperArm 9, Basis Audio Vector IV (x2), Graham Phantom III, Graham 2.2 tonearms; Lyra Atlas Lambda, Lyra Atlas Lambda SL, Lyra Etna Lambda SL, Lyra Titan-i, van den Hul Colibri XGP, Hana SL, Hana SL Mk II, Hana Umami Red, Hana Umami Blue

Analog phonostage: The Raptor (Custom), Ayre P-5xe, Musical Surroundings Phenomena II+ w/ Linear Power Supply, Soudution 350
Digital source: Intel i7 10th generation processor-based music server hosting JRiver Media Center, Roon, and Qobuz

Preampification: Dual Placette Audio Active linestage, Soudution 326

Amplification: Custom/Modified solid-state monoblocks, Soudution 312

Loudspeakers: Vandersteen Model 3a Signature with dual 2Wq subwoofers and dual SUB THREE subwoofers using M5-HPB high-pass filter, DALI Epikore 11

Cables: Assortment of AudioQuest, Shunyata, Tara Labs, Acoustic Research, Cardas, and custom cables
Support: Minus-K BM-1, Neuance shelf, maplewood shelf, Symposium Ultra

Acoustics: Walker Audio

Accessories: Aurios Pro, Pneuance Audio, Walker Audio, Klaudio KD-CLN-LP200, VPI 16.5, Clearaudio Double Matrix Professional Sonic. Room: 18' (W), 8' (H), 43' (L)

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alistic size and shape on instruments and voices. The bass and midrange are both nicely proportioned, providing first-rate bass and midband musical timbre. The 350 also maintains smooth upper-midrange and treble delivery without any hint of a tipped-up sound signature. The overall presentation was enjoyably resolute with a hint of fleshiness that brings out tone color and ensures the 350 is not a thin sounding phonostage.

The 350 showed its enticing attributes with all the system configurations used in this evaluation. On J.S. Bach's Partita No. 2 for solo violin, BWV 1004, performed by Nathan Milstein on the DG label, the violin had an almost-visible musical unity of instrument and venue, assisted by the reflected energy bouncing off the venue walls. On something less high-fidelity-like, Maze featuring Frankie Beverly's "Happy Feelin's" from the group's debut album, the 350 had no hint of the harshness or congestion often associated with mid-to-late 70s pop/soul/rock vinyl LPs. Both the Hana SL MK II and the Lyra Atlas Lambda SL met their excellent performance expectations when connected to the 350 phonostage under all conditions.

The Sound of the 326 Preamp

The 326 preamp was admirably transparent to the connected upstream components, whether it was receiving a digitally converted analog signal from a DAC/disc player or an analog-sourced signal from vinyl/tape. The preamp preserved a high percentage of the character (be it warm, neutral, or bright) of the source component in conjunction with the elements of the music as they were recorded. In short, the 326 was not a tone control, overlaying a sonic signature on the music. It was more of a clear conduit for musical and source-component character.

In my system, in any configuration, I was instantly aware of the level of transparency the 326 revealed. On digital, vinyl, and/or tape-sourced compilations of the same music, the 326 gave me an instant view of the differences between the source components and the music mastering. An example of this transparency was observable on the LP of Jerome Sabbagh's *Heart* album, recorded directly to 2-track tape and mastered by Bernie Grundman, vis-à-vis the same album on R2R tape. The 326 clearly showed that the music was well recorded and mixed in real time. Both the vinyl and tape versions effortlessly revealed the musicianship of Sabbagh on sax, Joe Martin on bass, and the legendary Al Foster on drums, particularly his exceptional cymbal work. Where the 326 allowed the differences between LP and tape to be observed were in continuousness and micro- and macro-dynamics. The 326 showed that the tape breathed a bit more life into the music, even though the LP was very convincing sounding itself.

The Sound of the 312 Amplifier

The 312 amplifier is somewhat like an extension of the 326 preamp in terms of transparency and resolution. It gives the listener a stable soundscape with ample detail (if on the recording) and maintains the timing of music without ever sounding rhythmically sluggish or mushy. The amp sounded quick on its feet with the requisite speed of transient precision, clearly identifiable sustain, and enough (not embellished) decay.

Within its operating envelope, which is more than sufficient for most applications, the 312 provides excellent control over the speakers to which it sends musical signals. The words that come to mind are speed and grip. With both my reference main speakers and the DALI Epikore 11, the 312's control over the loudspeakers was quickly realized. Everything was lively sounding, with a soundstage that moved elements previously heard as being deeper in the soundstage closer to the listener. The results gave a new clarity to those elements of the music, in addition to a clearer portrayal of closer-to-the-microphone or mix elements of the performance. For example: On the Sabbagh album, Joe Martin's bass gives the perception of moving a few steps forward in the mix and gains a little more clarity as a result; on the Maze track, the background instruments stepped up to fill the soundstage more fully with the same level of clarity; on the Bach Partita, the space of the venue sounded closer, which was akin to moving from row ten to row two in the hall.

Using the Solution trio together combined all the previously mentioned traits of each device to provide a complete 3 Series experience. The 350's slight hint of fleshiness that veers away from any phonostage brightness, along with its stage width, imaging, instrumental/vocal timbre, balanced bass/midrange, and smooth mid/treble delivery mated well with the 326's unmistakable transparency to sources (material and component). The 312 amplifier transferred that combo's delivery to the speakers in a con-

vincing manner that brought background information closer to the forefront, giving the impression of sitting closer to the event and hearing background detail more clearly.

A large-scale classical work such as Liszt's *Hungarian Rhapsody No. 2* showed the grand scale of a vinyl LP with a wide soundstage and rear instruments so clearly audible it was as if you were seated in the first few rows of the hall. Control of the loudspeakers was evident during the massive dynamic swings, in the midrange and bass as well as throughout the delicate wind, string, and brass passages. The trio of 350, 326, and 312 combined to give an uplifting and energetic Rhapsody the conduit it needs to thrill, impress, and, in the end, satisfy.

Conclusion

There is little doubt Solution's DNA is embedded in these 3 Series components. All one needs is to hear the devices installed in a capable system setup. If a listener wants the taste of the sound Solution provides in its 7 Series flagship products or its mid-level 5 Series in a more affordable form or wants this level of sound quality in a smaller package because of space constraints, the 3 Series 350, 326, and 312 unquestionably fit the bill. **tas**