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# AVguide Monthly

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## This Flagship AVR Sounds Smooth & Clear

# Sherwood Newcastle R-965 Receiver



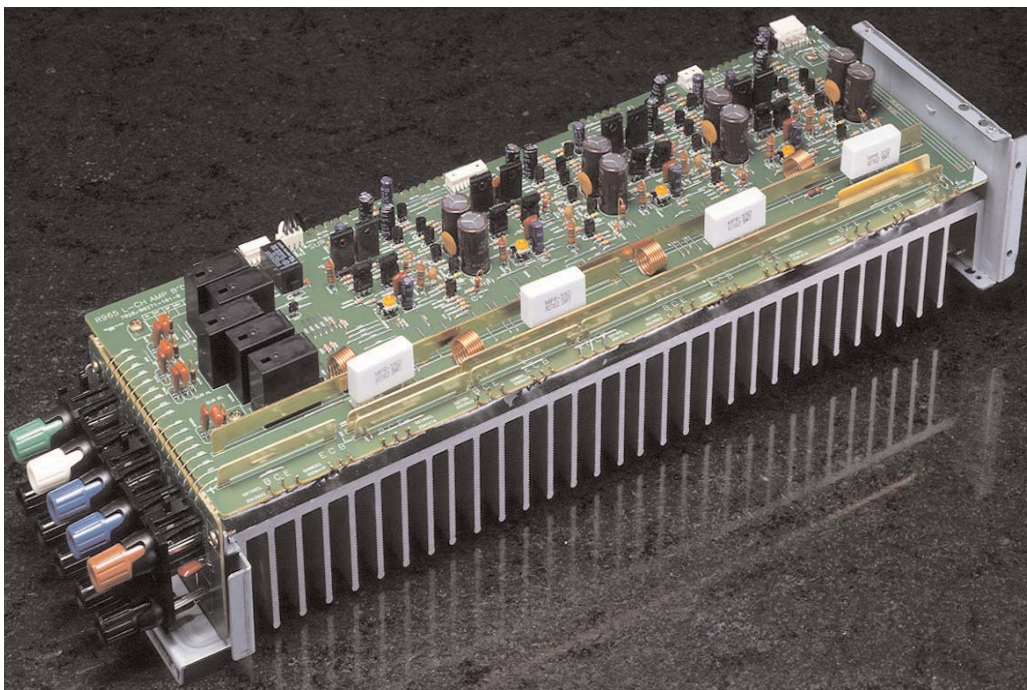
I have fond memories of Sherwood equipment from the distant past. Starting in the 1950s (well before my time!), Sherwood built a reputation for high-quality audio gear, particularly state-of-the-art FM tuners. It was also well known for having the audacity, along with Marantz, to try to make truly excellent receivers. Like so many of the pioneering American hi-fi brands, Sherwood eventually went by the wayside. Unlike some of those brands—where the name has been sold and bastardized on \$59 junk—Sherwood's resurrection as Sherwood Newcastle actually involves building equipment with a

philosophy connected to the past. Like other electronics firms trying to keep prices reasonable, Sherwood Newcastle has also moved off shore (in this case, Korea) for manufacturing. All well and good, I thought, but does this plan work, especially, when compared with the practiced work of the big boys from Japan?

The unit under examination here, the R-965 receiver, certainly has promise. First of all, Sherwood Newcastle describes its circuitry as essentially a repackaging of its chunky P-965 processor and the A-965 multichannel amp, with lesser power supplies and output circuits. This gets you Cirrus Crystal DSP,

Analog Devices DACs, a full range of Dolby and DTS decoding, video upconversion of composite and S-Video to component, and multiroom control, among other goodies. Not bad for under \$2000. But to be worth buying, an AVR needs more than features. It needs accurate audio and a good user interface.

In the audio department, the first test of an AVR is how it handles music. To assess this, I first tested the Sherwood on 2-channel music. As I've pointed out before, stereo reproduction often reveals the quality level of the basic circuitry in complex home-theater gear. Music provides a known reference: the sound of live music, and with 2-channel



Amp Module

this particularly on female vocals, for example, Nora Jones' *Feels Like Home* (EMI). At the same time, the high frequencies on the R-965 were never harsh or bright.

Having accurate analog circuitry is more critical than ever for music lovers because most SACD and DVD-A players provide only analog outputs—they've done the digital-to-analog conversion already. So, you need a good multichannel bypass mode, in which the output of the DVD player is sent through to the amplifier with as little circuitry as possible in the way. The R-965's multichannel bypass mode had the same characteristics as its 2-channel bypass mode—excellent clarity, a slightly light midrange character, and smooth high frequencies. On REM's multichannel DVD-A of *Automatic for the People* [Warner Brothers], instrumental separation and delineation were excellent without being exaggerated. String tone on the DVD-A of William Walton's *Belshazzar's Feast* [Previn, LSO, EMI] was good, and reminiscent of the sound of this recording on vinyl. The SACD of *Dark Side of the Moon* [EMI] showed the characteristic vocal stridency of this recording, but without the laser shot to your eardrums that I've heard on some competitive receivers.

Switching to the Sherwood's own D/A converters, using CD, yielded a similar sound, with the slight thinness in the midrange a bit more pronounced, and a slightly dryer or coarser high-frequency sound, yet still avoiding unrealistic brightness. This lack of excess brightness is important in its own right, and from my testing of other receivers, it is one of the major reasons to move from the \$1k class of receivers up to this price level.

If you plan to fund a more expensive receiver by saving money with a basic DVD transport (like the promising \$79 Panasonic

music, it is relatively easy to compare different circuits. So, before diving into the R-965's specifics, let's pause and think about what to expect, based on a 2-channel frame of mind. At around \$2k, the R-965 delivers 7 channels of 120-watt power amplification, an 8-channel audio preamp, a multichannel decoder/processor, and a tuner. One way to think about this is that you are getting something like three-and-a-half \$350 stereo power amps, a \$400 preamp, a \$150 tuner, and a \$250 processor. Of course you'd be hard pressed to really buy such things, not to mention that by putting them all in one box, you'd expect some efficiencies. Nonetheless, in one sense, a receiver at this price level is doing well if its circuits can exceed the performance of basic, though high-quality, stereo gear.

For my 2-channel testing, I listened to the Sherwood in Pure Analog (a.k.a. bypass) mode, where no D/A conversion takes place, with analog input going to the R-965's A/D converters. Then I listened to

the same tracks via the Sherwood's built-in Analog Devices D/A converters. I also made comparisons with my reference systems.

As you might expect, the Pure Analog Mode sounded best (given a good CD player), which is a testimony to the care Sherwood's engineers have taken with the details.

**"The main L/R channels of the R-965 are rated at 360 watts per channel into 2 ohms, which is a positive indication that the designers have thought about difficult loads."**

Compared with my reference systems, the Sherwood's analog bypass "preamp" struck a nice middle-of-the-road balance. For example, the Sherwood preamp made the midrange sound slightly lighter than what I hear via my McCormack MAP-1 (a \$2.5k preamp). I noticed

DVD S27S), I think you'll find that the Sherwood's D/A converters are more than adequate. I would say they are competitive with the D/A sections of most under-\$500 DVD players. The setup screen for the R-965 makes it easy to try your DVD player either way (this can be important, as there is very little correlation between price and sonic accuracy with inexpensive players—you might have a winner, you might not).

Whatever you do, *don't* run the analog inputs of your DVD or CD player into this or any other receiver's analog inputs, and then do another A/D and D/A conversion. I used my "A/D Torture Test Suite" on the R-965, and as with other receivers, I found a raspy, obvious distortion on the trailing edges of vocals. While doing this sounds just plain illogical (D/A then A/D then D/A again has just *got* to be wrong), many receivers make it hard to figure out what is going on inside. The Sherwood makes it relatively easy. If you want to use the D/A section of your player, you hook it up to an analog input (say CD) and press a nicely marked button on the front pass marked "Pure Analog." If you want to use the Sherwood's D/A converters, you connect to a digital input.

The other critical element of D/A conversion and processing is the handling of Dolby Digital and DTS film soundtracks. There are, of course, data limitations to these soundtracks themselves, especially at high frequencies, that no digital processor can repair (if the data isn't there in the first place, you're toast). That said, I was pleased to find that the Sherwood fared very well in comparison with my references. Last month I noted that the Pioneer VSX-59TXi (at \$4.5k) has a superb ability to separate complex soundtracks into their individual parts. The Sherwood comes close

to the Pioneer, and again does this without artificially brightening the upper midrange or adding edginess



Learning Remote Control

to the sound. Nor does the R-965 sound dark and muffled, the other common sin among "features and buttons are everything" receivers. This balanced quality is important for dialog intelligibility, while improving your awareness of small cues in the action without distracting from the story.

At the same time, the R-965 has a slightly light midrange character—

emphasizing upper midrange a bit more than lower midrange—on soundtracks, as well as on CD and high-resolution analog. While this is a deviation from accuracy, two things need to be noted about it. First, this is far from the most problematic deviation possible. I think this unit would marry well, for example, with some popular speakers that have recessed upper midrange. Second, I have to congratulate Sherwood's engineers for creating a consistent sound across all inputs. This consistency is rare in receivers, and makes it much easier to tune your system for accurate sound (as our esteemed Editor has noted, system matching is the easiest and best way to get high-dollar sound without high-dollar expenditures).

Beyond good low-level analog and digital circuits, a usable receiver needs a good power amp. The power amp in the Sherwood is good as AVRs go, and that's good enough to make many folks very happy. Still, even Sherwood admits that this is one area where one-box receivers have their limitations. Typically you notice these limitations in the bass and at high-power levels. The R-965's bass was solid and quite well defined, but lacked the dynamic punch that can come from separate power amps. If you use minimonitors with a separate powered sub, this may not matter to you (the sub's power amp and driver will be the limitation to bass quality). But if you use any L/R speaker that you set up as "large" (i.e., a speaker with flat output down to 60Hz or less), you may notice this characteristic. Unfortunately, fixing it, in my experience, costs plenty of money.

More important than this subtle bass-quality issue is the need for the receiver's power amp to drive low-impedance loads at high levels. The Sherwood provides seven

amplifier channels, with 120 watts of power each. The main L/R channels of the R-965 are rated at 360 watts per channel into 2 ohms, which is a positive indication that the designers have thought about

max (you probably have other devices plugged into this circuit). If the amp is, say, 33% efficient (the rest being heat), you can maximally get 600 watts of output power. So, while it would seem that part of the

less pile of surround-sound modes that you'll find in almost every AVR. Right now, though, acoustic compensation is mostly available at higher prices, and in keeping with this, Sherwood keeps the price down by providing little in the way of automated acoustic setup or adjustment (there are standard tone controls and a test tone). It does, however, show off its DSP prowess by providing 32 sound modes. In my view, that's about 7 useful modes and 25 ways to make the sound worse. A competitive necessity, I guess.

While I'm ranting, I'll note that AVRs should have thoughtfully designed, simple user interfaces. After all, one of the reasons to buy a receiver is to have a control center that simplifies the operation of your home theater. As today's receivers go, the Sherwood is pretty good. It comes with a universal remote that has a nice balance of LCD "soft buttons" and a healthy dose of good old-fashioned dedicated buttons (not just volume and channel, but numeric keypad and



Cirrus Logic DSP Chip

difficult loads. I've had experience with several AVRs that simply shut down due to thermal overload at moderate to high volume with somewhat demanding speakers. I had no such problems with the R-965, though my speakers are not the most difficult (nor the easiest) available.

Making all this power effective is actually a bigger task than you might think, given the need to cram seven channels of high-power amplification, power supplies and heat sinks into a relatively small box. In addition, the laws of physics are still operative. If you plug a receiver into a standard 15-amp, 120-volt wall outlet, you have 1800 watts of power coming into the amp,

reason to buy a more expensive AVR, rather than one in the \$1k-range, is higher power, any amplifier is going to have its limits on ultimate power, unless you have one or more dedicated 20-amp AC circuits. More than likely, then, the difference between high-end and low-end receivers will show up in sound quality and the handling of low-impedance loads.

If you have read some of my other reviews, you will know that I believe a great AVR should have setup and measurement systems that allow acoustic compensation for room and speaker variables. This is a relatively new use of DSP technology, and one that is far more valuable, in my view, than the end-

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cursor). All of the LCD controls themselves are actually mechanical buttons next to the LCD screen. Nice. On the front panel of the receiver itself, the main buttons are extremely high quality, easy to push, and with good feedback.

I've noted that every AVR I have evaluated in the last year falls prey to the same user interface problem: Each has a control setup that is fundamentally mode-dependent. What

this means is that some buttons do one thing in one "mode" and another thing (or nothing) in another. For example, on the Sherwood there is a large knob labeled "Multi Control." What does it do? Well, that depends. Also, modern modal receivers, like computers, bury things in multiple menus. So, for example, on the R-965, the adjustment sliders for the relative volume level of each channel are part of the on-screen display. The tone signal that you need to set the levels is part of a menu two layers down on the remote. Seeing what mode you are in isn't always easy, either. If you're going to adopt a PC-style interface, you need to provide better status info. All of that said, Sherwood's interface made me feel less suicidal than most others, like the interface on recent Sonys and Denons (I still don't get the logic of the need to be in "amp mode" to change inputs—an everyday event). I think this is because the R-965 has quite a few buttons that do one important thing, and these buttons are easy to find.

In the end, I think this is an excellent A/V receiver in the most important ways. My criticisms are true of almost all receivers. What the Sherwood has—and most other receivers *don't* have—is clear, well defined, and smooth sound that is consistent across all inputs. When you bring value into the equation, the Sherwood shines. It positively trounces the sound of AVRs that cost half as much. By the same token, it doesn't cost so much that you really should consider a separate processor and preamp. Your speakers and your display are likely to be the limiting factors in your system with this AVR. The original Sherwood engineers would be proud.

**Specifications**

**Sherwood Newcastle R-965 A/V Receiver**

**Price:** \$1999

**Power Output:** 120 Watts x 7 @ 8 ohms, 250 Watts x 2 @ 4 ohms, 360 Watts x 2 @ 2 ohms, 2 channels assignable to Room 2

**Surround Decoding Formats:**

Dolby Pro Logic IIx, Dolby Digital, Dolby Digital EX, Dolby Headphone, Dolby Virtual Speaker, DTS, DTS-ES, DTS Neo:6, MPEG multichannel, 13 proprietary DSP synthesized modes

**Video Inputs/Outputs:** (7) composite, (7) S-Video, and (3) component video inputs; (3) composite, (3) S-Video, and (1) component video outputs (relay-based switching for HDTV compatible component video frequency response); Composite and S-Video upconversion to component output

**Audio Inputs/Audio Outputs:** (4) stereo analog inputs (including MM phono), tape monitor loop, (5) optical and (2) coaxial digital inputs, 8-channel analog input; built-in FM/AM tuner; (4) stereo analog outputs (including headphones), 8-channel preamp output, (1) digital output, coaxial digital output for zone 2

**Other Inputs/Outputs:** (2) 12V trigger, (2) IR inputs, (1) IR output, USB input, RS-232 input

**Other Features:** On-Screen Display for composite, S-video, and component video outputs; removable/upgradeable power cord

**Dimensions:** 17 3/8" x 7 3/4" x 17 3/4" (w x h x d)

**Weight:** 51.8 lb.

**Manufacturer Information**

**Sherwood America, Inc.**

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(562) 741-0960  
www.sherwoodusa.com

**Associated Equipment**

McCormack MAP-1 multichannel preamp, Meridian 861 Digital Processor, Sunfire Signature power amp, Pioneer VSX-59TXi receiver, Naim Nait 5i integrated amplifier, Yamaha S2300 universal disc player, Toshiba SD-6200 DVD player, Pioneer DV-563A DVD player, Revel Salon, Voice and Embrace speakers, ProAc Super Tablette loudspeakers, Velodyne DD-10 subwoofer, Nordost Blue Heaven interconnects, Audioquest Jaguar interconnects, Audioquest Type 4 speaker cable, ASC Tube Traps, Monster Power Conditioner

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