

manufacturer:	Rotel
model:	RMB-1077 Seven Channel Amplifier
category:	Multi-Channel Amps
review date:	March 2006
reviewed by:	Matthew Evert

Introduction

Rotel's illustrious history was started in Japan over 40 years ago by a family whose obsession with



music inspired them to manufacture truly high fidelity stereo components of their own unique design. Today, Rotel engineers are known for their tendency to select only the finest capacitors, resistors and other parts from all around the globe. The goal of these searches for the best audio components is to create audio equipment that is musical and reliable, yet affordable. If a component has not met the engineer's desired standards, Rotel is not afraid to make the actual part itself. This was the case for Rotel's decision to make its own toroidal transformers. One of Rotel's latest contributions to the home theater market is the RMB-1077 a seven-channel amplifier that retails for \$2,500.

Now, you ask, what is so great about this amplifier? Amplifiers have been around for years and much of the technology has not changed significantly. One thing in particular has changed with the introduction of the RMB-1077 amplifier is that it no longer uses the massive toroidal transformers that Rotel once prided itself in manufacturing. This amplifier doesn't employ the traditional large heat sinks that are needed to dissipate the heat generated by a traditional amplifier's transistors. Instead, more efficient "Class D" amplifiers with lighter switch-mode power supplies replace the large capacitors and coils of wire. There are two types of Class D amplifiers. One type is a digitally controlled and the other is analog controlled. The Rotel RMB 1077 is an analog controlled Class D amplifier. It has an analog input signal with a digital switching power supply.

Amazingly, the above changes allow the RMB-1077 to reduce its footprint to just two-and-seven-eighths inches high and its weight down to a little over 17 pounds. My Parasound HCA-1000A amp is twice that weight and height and is only a two-channel 100-watt amp.

The black steel chassis of the RMB-1077 is 17-and-one-eighth inches wide and 16-and-three-eighths inches deep. The chassis has tabs on the front for easy rack mounting capabilities. The front faceplate has a platinum finish to it and features the Rotel name imprinted on the top. Rubber spacers on the bottom of the amplifier allow it to be stacked if rack-mounting is not desired. A protection LED will signal to the user that the amp is overheating due to improper ventilation or if there is a shorted speaker wire. The amp will also turn itself off if the condition continues uncorrected by the user for an extended period of time. When the power switch is in the on position and the 12-volt trigger switch is enabled on the back of the unit, the amp can be remotely powered on by a preamp or other control device.

The back panel of the RMB-1077 provides a RCA connection for each of the seven input speaker channels from your preamp. Seven pairs of color-coded four-way terminal posts are provided for connection to your speakers. Lastly, a detachable IEC-standard power cord provides easy removal of the amp from a rack system and offers the possibility of using an upgraded power cable or longer power cord at a future date.

This new amplifier design, one that Rotel and ICE engineers worked cooperatively to achieve, features seven channels (100 watts each) of amplification that is a fraction of the size and weight of other traditional amplifiers. By using ICR's patented ICEpower® technology, the RMB-1077 can deliver full bandwidth sound with ample power output while generating very little heat and distortion. Rotel uses two other ICE technologies to aid in the intelligent power processing of this digital amplifier: Controlled Oscillation Modulation (COM) and Multivariable Enhanced Cascade Control (MECC).

COM technology obtains higher efficiency, better stability and more effectiveness from a switching-type digital power supply that will support all seven ICE power amplifier modules. The MECC system is a circuit topology that creates an intelligent amplifier. This intelligent amplifier is one in which the power supply and the amplifying circuits work together. These technologies allow for high power output with over 90 percent efficiency, thus minimizing heat and therefore the need for bulky heat sinks. High efficiency at high power levels also means lower distortion, less interference and better control over its frequency response from earlier class D digital amplifier designs. As a result, the RMB-1077 behaves more like a conventional class A/B amplifier in power capabilities and frequency response, but retains the benefits of a smaller size and weight class D amplifier. The RMB-1077, like all Rotel amplifiers, doubles its power as the impedance drops but unlike conventional designs this one can run

into 1 ohm loads safely while still pushing out 400 watts. It makes it ideal for low impedance speaker loads.

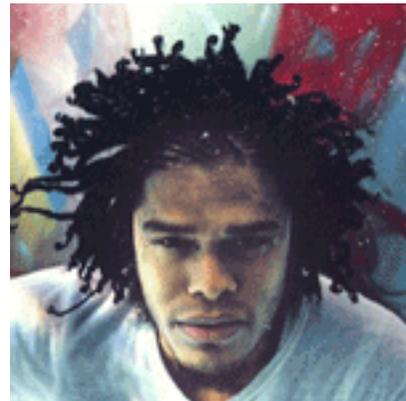
Set-up

Indeed, this amplifier is light and easy to move around. You will still need about a four-inch clearance for heat venting on the top, back and sides of the amp. I was amazed how cool this amp ran and, even after several hours of going at 75 percent power, the amp felt room temperature. My Anthem A5 could hatch a baby chick after two hours of running at the same volume. That said, better to be safe than sorry, so I would stick to the recommended guidelines for venting. The 12-volt trigger is a nice feature for integration to preamps like my Anthem AVM30. This trigger will automatically power on the RMB-1077 when the AVM30 is powered on. The output trigger of the RMB is useful if you need to power-on yet another amplifier downstream from the RMB.

The RMB-1077 delivers wall-rattling sound with little hardness or strain to speak of. Rotel's amp was able to drive my large Paradigm S-8 and C-5 center channel loudspeakers over 35 feet of AudioQuest speaker cable. The rest of my test system included my Anthem AVM30 preamp/processor, a Marantz DV9500 Universal DVD player and a Monster HTPS7000 power conditioner.

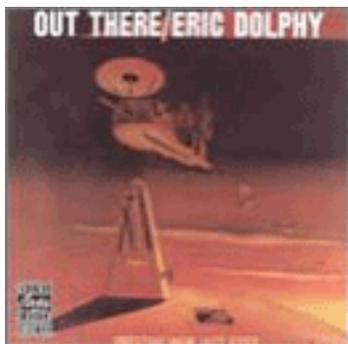
Television and Movies

After being patient with the amp, allowing it a chance to properly break in over a few days, I popped in Maxwell's *Embrya* (Columbia). In "Everwanting To Want You To Want," I quickly discovered that there was a vast collection of instruments to be identified in the recording that past listening sessions had not informed me about. Despite all the unique instrument sounds quickly entering and leaving the song, the imaging remained solid. The soundstage had a great feeling of openness. The bongos could be found in a precise location just five feet above the left speaker without difficulty. The high end was detailed, with subtle bell sounds from the foreground and cleverly dispersed cricket sounds surrounding the listener. The smooth alto voice of Maxwell, supported by a mix of male and female background singers, dazzled in the midrange. As with any Maxwell track, it is rich in bass, pumping at your chest and feet, and the Rotel RMB 1077 didn't disappoint. It provided solid impactful bass that had me dancing around my room like a fool.



"I'm You: You Are Me And We Are You" sounds complicated in title, but wait

until you hear all the distinct instruments blended together. The liquid-sounding waterfall chimes, the long decay of a wood block being struck and those crazy crickets again dance amongst the treble sounds. There are trumpets, organs, violins, and no party would be complete without a Spanish guitar. I felt the highs were a little rolled-off compared to the performance of the Anthem A5, but still felt the RMB-1077 was very musical and imaged well. The Rotel RMB-1077 did an exemplary job in detail, impact and instrument separation.



Since the RMB-1077 is a multi-channel amp, I opted to try out the Out There SACD (New Jazz) by Eric Dolphy. The multifaceted talents of Dolphy on both the clarinet and the flute are demonstrated throughout this recording. In “Serene,” Dolphy’s playing mesmerized me with his ability to make sounds I never thought possible from a clarinet. The machine gun-like shuttering effects and the rapid progressions from the low to high end of the frequency range were all beautifully captured by the RMB-1077. Forever gone are my memories of the instrument that sounded like a broken clown nose, that only the dorkiest kids in elementary school would play. The clarinet sounds were forward in presentation, but never to the point of being harsh to the listener. The recording, with all its weaknesses, sounded remarkably tight and had great detail. The bass, which typically sounds a bit muffled in this example, had a tight and punchy sound.

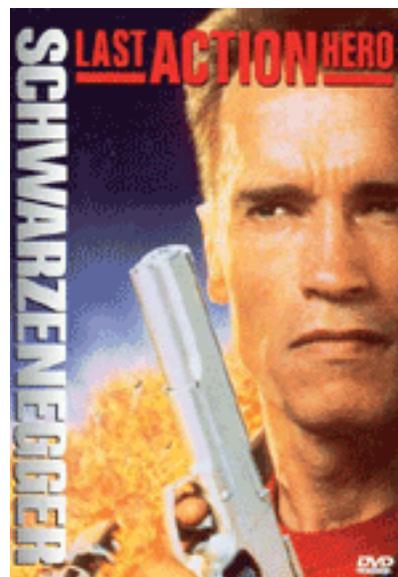
The song “17 West” switched focus to the flute as the centerpiece instrument. Details such as quick gasps for breath in between notes and the rattling of the snare wires under the drum could all be pinpointed with ease. As I listened to this track, I could not help but envision the scene in “Anchorman: The Legend of Ron Burgundy” as Will Ferrell’s character slurps up the vodka through the flute and shoots fireballs out of it while stepping on tables. Somehow, I think Dolphy had a slightly tamer performance when he played the flute at a small club.

After having a spiritual experience watching the summer Olympics two years back in high definition, I could not wait for the winter Olympics this year. Having 1080i video clarity and 5.1 surround sound is the only way to watch sports. I began by watching the women’s Alpine downhill. The beeps of the electronic starter gates and the chatter of the coaches giving last-minute tips as the skiers shot out of the gates filled me with a sense of the reality of the environment. Cowbells and air horns were dispersed in the surrounding corners of the room behind me. The commentators dominated the center channel, while the

screeching of the skis across the icy slopes glided from the left to right front speakers smoothly. Although television broadcast isn't the fidelity standard for which to exclusively evaluate electronics, I felt that this warranted a look, as it's what people really watch. The subtle details were captured nicely and had all the necessary impact to bring this event right into your home. The RMB-1077 did a great job providing a clear and impactful experience.

“Last Action Hero” (Columbia/TriStar Home Entertainment) has everything you could ever ask for in an action film. With guns, a high body count, lots of one-liners and Arnold Schwarzenegger, this film is full of surprises. With Arnold, one can safely assume that this film has an abundance of explosions and machine gun fire. Staying true to that statement, the opening scene features a psychotic killer who fires on panicked police and then Jack Slater

(Schwarzenegger) appears to save the day (the opposite of his performance as California governor). As Jack makes his entrance, he walks on the roofs of the squad cars up to where the police chief is



commanding the scene. The bending and warping of metal and the crushing of glass as he walks sounded real and was placed perfectly in my room. The liquid sounds of the effects as interpreted by the RMB-1077 had clearly brought me into the moment of the movie. The scene where the villain's truck plays chicken with Jack featured a monstrous series of explosions, then a quiet section of soft dialogue followed by more explosions. The transition from big pounding bass to silence, then back to pounding bass is a lot to ask from many amps, but the RMB-1077 appeared unaffected by the sudden changes in the power demands of the scene. Rotel had exactly these types of situations in mind when they designed this digital amp with the ability to supply lots of power whether in bursts or continuously.

The Downside

The small footprint of the RMB-1077 is truly amazing. With the small size of the amp comes a smaller back panel. That means less room for various input choices that most amps in this price range offer, such as balanced (XLR) inputs. The seven RCA inputs are placed directly above the seven sets of speaker cable binding posts, making the back panel area cramped. If you have six-year-old-boy-sized hands, maybe this will not be an issue for you, but my Shaquille O'Neal-sized hands were getting nowhere fast trying to screw in cables. I found that I

needed another two to three inches above and below the amp to practically connect my thick spaded Audioquest speaker cables without kinking them. The positive/negative pairing of the speaker terminals was difficult and unintuitive. Instead of going from left to right red/black, red/black in the speaker terminal pairs, they organized the layout to be red/black, black/red for each pair from left to right. The result was that, unless you memorized the pattern, you would reverse the polarity of half the speakers the first time if you went by normal amplifier speaker terminal layouts.

Conclusion

I must admit that I was skeptical of whether the RMB-1077 could keep up with traditional amps that weigh more than a boat anchor. Big size used to always mean big power to me before I met the RMB-1077. The radical new design of this amp offers up a lot of power and performance in a small package. With great imaging and excellent definition at all ranges of the audio spectrum, the RMB-1077 does not shy away from performance. At 7 x 100 watts per channel into eight ohms, it is a solid choice for all but the very largest home theater systems. For those of you with medium to large speakers, this amp will be able to make your system sing, and not sting you with a sore back or wallet. The RMB-1077 is a great little amp.

reference software:	Everwanting To Want You To Want (CD) • Out There (SACD) • Last Action Hero (DVD)
manufacturer:	Rotel of America
address:	54 Concord Street North Reading, MA 01864
phone:	978.664.3820
website:	http://www.rotel.com

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