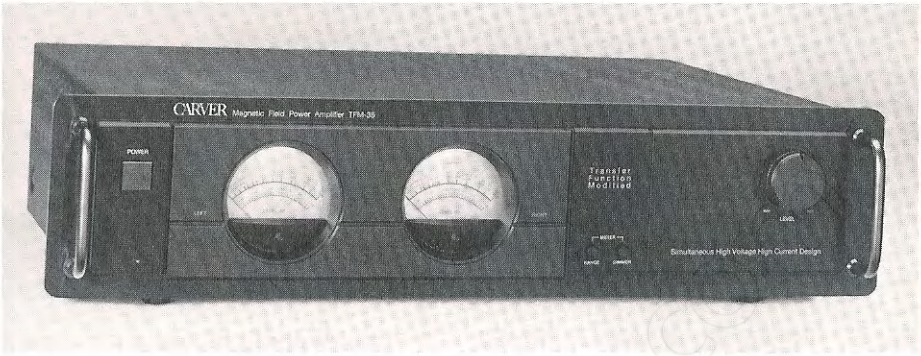

Carver TFM-35

Manufacturer: Carver Corporation, P.O. Box 1237, Lynnwood, WA 98046
Price: $749.95
Source: Manufacturer Loan

A few issues back I reviewed the Carver TFM-25, a medium-power (for Carver) amp in the "transfer function modification" line, but my conclusions were clouded by an inability to match levels precisely between the Carver and the reference amp. Carver has since replaced the TFM-25 with the TFM-35 under test, and in addition to raising the already high 225 wpc rating to 250 watts they have thoughtfully included level pots that permitted me to match the sensitivity of the Carver to that of the reference, which remains the AVA Omega 150 (first series).

This new ability to match levels eliminated the previous problems for A-B listening, but it also raised my anxiety level: if I hear a difference that I can't measure, I'll have to get off the fence in the great "all amps sound the same" battle. And that's exactly where this review seemed to be headed. After setting equal levels on the *Stereophile* Test CD[1] pink noise track, I proceeded to measure the series of warble tones from 1 kHz down to 20 Hz—and both amps tracked exactly. Score one for the "same" crowd.

Here are two very different design philosophies producing exactly equal measurements. The AVA uses a conventional power supply, based on a hefty transformer and caps but not the type of megabloc overdesign that Carver convincingly explains would be necessary to match the efficient output of the patented "regulated" power supply. Both amps sport transformers of about the same size, but Carver claims a whopping 250 wpc to the AVA's modest 75 watts (both at 8 ohms). Both amps also use only two output devices per side, but the AVA is a conventional design that runs fairly hot to produce its power, while the Carver has another of the complex designs that produces a higher power rating with less heat.

The design differences are also clear the minute you look under the hood. The AVA has a small number of parts, many connected by point-to-point wiring, in a clean and spacious layout. AVA pays a lot of atten-

tion to basic quality issues, like a full-ground plane and high quality volume and balance pots. The Carver by contrast is chock full of *parts*. The layout is neat, but the sheer number of parts shows a totally different approach from the AVA. I can't really judge the relative quality of parts in the two amps, but the Carver volume pot has a cheap feel in contrast to the silky smoothness of the AVA.

It may not be too surprising if these amps sound the same, though, since both are claimed to have a tube-like sound. Carver has an entire white paper to explain the "transfer function modification," which has also been the subject of several audiophile magazine challenges (and controversies). The gist of this, which seems to be scientifically sound, is that with continual iterations of null testing an engineer can modify the transfer function (i.e. the output of the amp at the speaker terminals) of one amp to mimic that of any chosen reference. Well, not *any* reference: the modified amp must match or exceed the reference in several basic quality areas to be capable of achieving a sufficiently close match. These areas are: noise floor, input and output impedances, distortion, and both voltage and current output (the two components of the power rating). The top models in Carver's TFM line are claimed to model the highly-praised sound of Carver's mega-design Silver Seven tube monoblocs. But because the TFM-35 falls a little short of the Silver Seven's power rating, the claim for this amp is merely that instead of the normal bipolar-transistor sound it has a "sonic signature with tube-like rich, rolling bass, and soft yet detailed treble." But OK, I'll take that. The AVA, meanwhile, uses MOSFET output transistors, which are reputed to produce a tube-like sound on their own, especially when biased to run hot.

So all indications were that both amps should sound the same, especially through my musical but not ultra-revealing reference system consisting of the AVA SuperPas 3 Omega preamp fed by Sony 608 ESD CD, and Vandersteen 2C speakers.

But hold on there, the very first selection in my listening suite (Dvorak *Serenade* - Delos 3011) showed a clear difference. The Carver seemed louder. Violins showed more crispness, as if they had more rosin on the bow, and winds included more breath in the attacks. There was also an initial feeling of more presence—the sensation that a real orchestra was in my living room—although this diminished on repeated A-B checks. The Rosemary Clooney/Woody Herman CD (Concord 4226) sounded the same on both amps, but *Nojima Plays Liszt* (Reference Recordings 25) was dark-sounding on the AVA in comparison to the Carver: high notes and those irritating fingernail clicks had a more natural feel on the Carver, sounding somewhat muffled on the AVA. The ringing edge on Arleen Auger's voice on the Canteloube *Bailero* (Virgin 90714) was more noticeable on the Carver, as it probably should be.

The audiophile reputation of Previn's Holst *Planets* recording (EMI 47160) was confirmed as the Carver removed the feeling of congestion in the climaxes. The orchestra seemed to keep getting louder on the Carver after the AVA ran out of steam. At first I thought this showed that Carver's unusual power supply was proving its worth, although the output meters were well below 10% of rated power—but more careful listening revealed that it wasn't so much that the Carver was louder as that the later passages

have more high brass in the scoring, which the AVA was muffling. Thus the Carver was truer to the music both in lack of congestion and in top-end extension.

All the other selections in my standard listening suite confirmed these impressions. The two amps sounded alike in the bass and lower mids, but the Carver had more prominent highs that emphasized instruments like violins, snare drums, cymbals, and attack sounds—in a natural way that enhanced the music. On the Chesky test CD (JD37) LEDR test, the Carver showed more vertical extension in both the Up and Over patterns, but also a timbre change during the Over arc (which I attribute to its higher treble output revealing signal processing artifacts that were masked by the AVA).

At first I found these listening differences very puzzling, because the two amps had measured the same both on pink noise and on the full series of warble tones. But the *Stereophile* Test CD[1] only goes up to 1 kHz, and the differences I was hearing were upper-mid or treble sounds that would be higher than that. Luckily, I had recently obtained the *Stereophile* Test CD2, which has warble tone tracks from 20 Hz all the way up to 20 kHz.

The results were surprising. First, the two amps no longer showed equal levels on pink noise (1 dB difference). An immediate recheck of the Test CD[1] pink noise track confirmed the original equal measurement, but Test CD2 was still 1 dB off. Evidently not all "pink" noise is of the same color. Most of the warble tones from 20 Hz to 1 kHz measured equal with Test CD2, as they had on CD[1]. But the new tracks from 1.25 kHz to 4 kHz revealed that the Carver was putting out increasingly *less* energy, to a maximum difference of 3.5 dB at 3.15 kHz —- exactly opposite to what the listening impressions implied, although this might explain the pink noise results if Test CD2's pink noise has more energy in this range.

The measurements did conform to the listening impressions in the range from 5 kHz to 8 kHz, where the Carver jumped to a maximum 5 dB plateau, before falling below the AVA again from 10 kHz to 20 kHz. Because these measurements are unique to my listening room, I won't waste space showing the individual graphs. Positive readings show the AVA louder than the Carver, while the negative numbers show the one area where the Carver was louder.

Without a third amp to establish a reference, I can't say for sure who's flat and who's not. Does the AVA have a bumped-up upper midrange or is the Carver recessed here; does the Carver have a treble plateau, or does the AVA fall in a hole there? In my system, the Carver sounded more natural and the AVA was muffled at the high end—this could mean that the Carver is the flatter amp, or it could be a synergy between a Carver peak and a rolloff in my preamp or speakers. Testing of further power amps should resolve that issue and allow me to make a more definitive conclusion.

For now, I can certainly recommend the Carver TFM-35 for a listening evaluation by anyone seeking a power amp. Build quality is solid, the power supply is clearly the equal of other amps in this price range even without Carver's design claims—and if it's right you get a 250 wpc bargain at 150 wpc prices. I found the sound neutral and musical in my system, so I wouldn't worry about the unresolved measurement issues. If the Carver TFM-35 sounds as good in your system as it did in mine, grab the bargain and don't worry. After all, what should you believe, my ears or your own?

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