

# The Good, the Great, and the Ugly

## Six Reviews on Carver Power Amplifiers

### What's the Purpose of This Compilation? A Note From Bob Carver

When I asked **HP** if it would be OK if I ran these reviews, he said that my advertising pages were mine for my message and that, within certain ethical limits, I could use them in any way I wished. And that the "territory" of these pages was very much like an embassy, a safe haven in a foreign country. This is in marked contrast to *Stereophile*, whose editor has almost always intervened in the subjective content of Carver ads, and on two occasions has not allowed my letters to be published.

Thus I was overjoyed with the prospect of being able to reach a large number of audiophiles through *The Absolute Sound*. Readers unavailable to me any other way.

Much has been happening recently at Carver in the field of amplifier design. We have produced what we consider the "next generation" of Magnetic Field Power Amplifiers. Designs with extremely high simultaneous current and voltage output into a wide range of impedances.

Naturally the Silver Seven Reference Vacuum Tube Amplifier is at the heart of this story. It is the benchmark for transfer function modification of current solid state designs...the creative "role model", so to speak. And as a viable, serious product with a suggested retail of \$17,500.00 a pair, the Silver Seven truly is living up to the review it received recently in the pages of this magazine.

Rather than using our own words in the following pages, I felt that we should let others speak for us. In the following twelve pages you will find six reviews on current Carver power amplifiers.

One of them is, quite frankly, about as

negative as a review could possibly be. Why include it? Because we don't hide from bad reviews and we'd rather you read it now and make your own decision than have you run across it later and think we were trying to sweep "bad press" under the table. Note: In the interests of space, we *did* edit it as well as two other reviews. However, you can obtain the full text of all the reviews printed here (plus three others) simply by calling the Carver toll-free literature line. Dial 1-800-443-CAVR and request the *Amplifier Review Compilation*.

Sincerely,



Bob Carver

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# M-4.0t

NOW TFM-42 & TFM-45

# Sensible Sound

Considering that this solid-state power amplifier from Carver is rated at 375 watts per channel and weighs in at a trim 23 pounds, it should arouse the interest of audiophiles based on just those specifications alone. With the added mystique of Carver's claim that the amplifier is designed to duplicate the transfer function, and thus the sound of the 8-ohm tap of Carver's no-holds-barred Silver Seven tube amplifier, the M-4.0t becomes even more intriguing. Face it - if you can buy 375 watts per channel in a package that runs cool and weighs only 23 pounds for only \$799, and if it sounds decent, not driving you out of the room or blowing up your speakers, you are going to be pretty happy. The idea that this amp could be the sonic clone of perhaps the world's most exotic tube amplifier is intellectually interesting, makes for great marketing copy - but has very little to do with the real value of the amplifier itself, so let us take a look at the design of the M-4.0t.

The main reason that the Carver is able to offer so much power in a compact, relatively inexpensive amplifier is the magnetic field power supply. A look under the cover of the M-4.0t reveals that the "magnetic field coil" in this amplifier is actually a pretty healthy hunk of iron, but still relatively modest in mass when compared to the transformers one finds in even much less powerful power amplifiers. Carver ads imply that the amplifier does not store any energy, but there do seem to be some power supply capacitors in the unit - a couple of fairly large ones, in fact, take up a noticeable part of the interior space. In any event, the power supply seems to work quite well, as the amplifier packs plenty of wallop and is capable of controlling the bottom end of large loudspeakers.

The owner's manual warns that the amplifier should not be turned on unless all input and output connections have been made, and advises against disconnecting anything until a minute after the amplifier has been switched off. This seems reasonable - if a bit ominous. The amplifier runs relatively

cool, despite the small internally-mounted heat sinks, and except for a bit of buzzing when first turned on, it runs quiet.

The speaker outputs will accept bananas, but not spade lugs: they are somewhere between five-way binding posts and some of the Japanese output connectors, and except for those audiophiles who insist on using speaker cables resembling garden hose, these output connectors should serve quite well.

The front panel has an on-off switch and an LED power display. The power display cannot be defeated, but only starts dancing when the music gets really loud. When I first put the M-4.0t in my system, driving the JSE2s, I thought the LED display must not be working. Only the bottom two LED's, which are pilot lights for the two channels, ever illuminated, even though I kept cranking the music up to levels louder than I really wanted to hear. It was not until I got really carried away that one of the power indicator LED's began to flicker occasionally, and I began to realize that the problem was the efficiency of the speakers, not the LED display itself.

Now that I am more familiar with the amp, I occasionally light two or three power LED's when listening to the JSE's, and three or four with the Carver Amazings - but in general, the LED's are not a distraction because they are usually nothing more than pilot lights. Unfortunately, Carver has chosen a lettering scheme for this amp that is something along the lines of silver on pewter - it is almost impossible to read the power levels unless your eyeballs are three inches away from the faceplate at the proper angle on a sunny afternoon when you have your drapes open (Note: this has been rectified with the TFM-4.0 — Bob Carver). No, I don't want to see Carver change the lettering to the old G.A.S. style, but a bit more contrast would be appreciated, at least by these tired old eyeballs.

OK, OK - how does the darned thing sound?? Glad somebody finally asked me

that obvious question...In discussing the sonic performance of the M-4.0t, I would rather ignore the controversy surrounding Carver's past record of trying to make his amplifiers sound like more powerful clones of other designs. This time, at least, Carver is copying himself. If making a \$17,500 pair of ultra-exotic mono tube amps is what Carver wants to do in order to establish a sonic target for his \$799 solid-state stereo consumer-oriented amplifier, then more power to him. I am not really all that interested in how the Silver

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## "This sweetness and clarity in the midrange and treble regions is the sonic attribute of the M-4.0t that reminds me of tubes".

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Sevens sound, I would not want a pair of the things in my home (if my insurance agent got wind of it, my homeowner's insurance would probably skyrocket, given that the amplifiers would nearly double the value of my house!), but I was certainly curious about the sound of the M-4.0t.

To be quite honest, I had no idea what to expect when I hooked this amplifier in to my reference system and connected it to my trusty old JSE 2s. How could an amp that cost so few dollars for so many watts actually sound any good? Didn't some corners have to be cut?

Well, maybe some corners were cut - but the amplifier surely didn't sound like it. It sounded good - really good, in fact. My first reaction, skeptic that I am, was that the amplifier must be colored, and that I was reacting favorably to something that would prove tiring over the long haul. Four months

later, however, the M-4.0t still sounds really good; moreover not only is it on an overall basis the best-sounding amplifier I have ever auditioned in my own system, it is more powerful and less expensive than its chief sonic challengers.

The main thing that really seems to impress those who have auditioned the amplifier here is that the M-4.0t seems to serve the music so well in terms of dynamics, transparency, and imaging. The system just seems to come alive when the M-4.0t is inserted into it. The ease with which the Carver reproduces complex orchestral passages, even on inefficient speakers (yes, the JSE 2s are rather efficient - but not so the Apogee Calipers or Carver Amazings), is truly impressive. But this dynamic ability does not come at the expense of delicacy and subtle shading. The Carver sounds clean and detailed without sounding etched or electronic, and the music somehow just comes across as more real with the Carver amplifier in the system. For lovers of big orchestral music - Bruckner, Mahler, Wagner, Berlioz, Shostakovich, John Adams, etc. - the muscular yet delicate sound of the M-4.0t offers a way to get power without hardness or glare, even with inefficient speakers.

Describing the sonic spectrum from bottom to top, I would opine that the M-4.0t has a powerful bottom end, perhaps a shade on the warm side, but always in control. It did a fine job of driving the bottom end of both the JSE 2s and the Amazing Silver Editions, two speaker systems with impressive but different-sounding bass capability. (I promised to avoid Silver Seven comparisons, but I cannot restrain myself from pointing out that this is not the kind of bass I would associate with tube amplifiers, but looking at pictures of the output transformers on the Silver Seven leads me to believe that the Silver Seven probably does not offer "tube bass" either).

In the midrange, the Carver is remarkably detailed and open, but without the feeling that midrange detail is actually being provided courtesy of an overly-sharp presentation of treble information. If anything, the top end of this amplifier is on the soft and forgiving side, but it does not sound rolled off or veiled. In fact, the midrange and treble produced by the M-4.0t is remarkably transparent and detailed.

**"...the best-sounding amplifier I have ever auditioned in my own system...(it) seems to serve the music so well in terms of dynamics, transparency and imaging".**

In comparison to the AVA Transcendence 280, for example, the Carver sounds slightly soft on the top end -or does the Transcendence sound slightly etched and electronic? Choosing between the two may be at bottom a question of taste, but the more I listen to the two amplifiers - both very fine products - the more satisfied I am with the sound of the Carver, although I sometimes have the sneaking suspicion that the AVA may be a touch more accurate in terms of objective measurements.

This sweetness and clarity in the midrange and treble regions is the sonic attribute of the M-4.0t that reminds me of tubes. My experience with tube power amplifiers is limited, but my experience with tube preamps tells me that this kind treble performance is on the tubish side. Realize, however, that the effects that I am trying to describe are subtle. Indeed,

what is so impressive about the M-4.0t is that there is really nothing about its tonal balance or overall sonic character that calls attention to itself, not even the treble performance.

What does call attention to itself, as I mentioned above, is the music, which is presented with a feeling of authority and rightness that makes you quickly forget about the power amp and get caught up in the melody instead. This is one of those audio products where the musical whole is greater than the sum of the sonic parts.

I have listened to some very good power amplifiers over the last year or so, and have recommended many of them in these pages. All of these amps offer good sound and good value, but when push comes to shove, I prefer the sound of the Carver to any of them, at least on an overall basis. When I consider that the Carver offers more power than any of these amps, and is cheaper than most of them, I have to conclude that the Carver is potentially one of the better values in audio.

One member of my listening panel, a person who listens to just about everything that I do, recently spent some time with his Acoustat TNT-200, the VA Transcendence 280, and the M-4.0t. He found the AVA amp to be preferable to the Acoustat, but the price of the AVA kept his enthusiasm in check. After a weekend with the Carver, he visited a local dealer to trade in his TNT-200 on a new M-4.0t to drive his Apogeos. More than a month later, he still thinks he got a superb deal.

Do I hear someone objecting that he or she does not need 375 watts per channel (switchable to 1000 watts in mono, by the way), and is therefore not interested? Don't worry about the 375 watts -remember, this amp weighs 23 pounds and runs cool. A 100-watt amp that sounded this good for \$799 would be considered quite a bargain, so you can look at the extra 275 watts per side as a little extra bonus. —KWN ♦

# SILVERT

SEVEN

# anfare

To judge from the evidence, upon which I gaze contentedly, Bob Carver likes to keep busy. I bring the reader news of a second solid state mimic of the \$17,500 Silver Seven, a tubed, four-chassis assault on liquidity standing in relation to home electronics about where Faberge' stood among Easter eggs. The initial mimic goes by the relatively prosaic handle of M-4.0t. Carver calls this one the Silver Seven-t, "t" for transfer function-in other words, the cloning technique. The Silver Seven-t operates in mono pairs, and strikes me as one of the best-looking audio components on the scene: a one-&-three-quarter-inch-slab, 14" deep by 11" wide, supports across its rear a 4 1/2"-tall oblong box, and in front of that, a smaller enclosure whose sloping face frames a (happily unlighted) VU meter. The electrical assemblage beneath the sculpture is tidily put together and cleverly arranged. Each lustrous, slate-grey SS-t sits on its faux- slate pallet. The SS-t costs \$2000 the pair, and is available singly.

Anyone living within a mile of a fellow being is unlikely ever to call upon the monoblock's full-tilt potential: 575 watts RMS into eight ohms, 1000 into two, conservatively rated, with headroom yet! I've driven neighbors into the streets (and one, once, into convulsions) without having come anywhere near the 4.0's lesser limits. What the SS-t does provide that the 4.0 cannot is current sufficient to drive one-ohm loads at high levels. Carver obviously wants the SS-t to compete with the fabled gear audiophiles buy, or dream of doing, to deal with difficult tasks. As a high-end rule of thumb, high-current amps share two features-a big price and avoidupois. A pair of \$16,000 Krells, for instance, weighs 250 pounds. By virtue of Carver's proprietary power supply, a pair of SS-t's weighs together thirty-two pounds-something, I shouldn't wonder, of a prima facie bummer for a clientele accustomed to seeing its amplification delivered by forklift. Should the high-end fantasy mills charge the

Silver Seven-t with hubris and throw away the key, as I've little doubt they will (God only knows what they'll think they're hearing), Carver would do well to initiate listening tests wherein his critics are encouraged to specify the hardware against which they'd like to hear the monoblocks compared, along with whatever else they fancy. So long as the procedure's carried out in an objective fashion, I'll make book now on the outcome. (At the time of this writing, one fantasy mill has already conferred upon the Silver Seven classic status, placing it among the Small Handful of Greats).

As to one's own fantasies: removing the M-4.0t for the Silver Seven-t's, and playing these with the Carver CT-Seven Sonic Hologram tuner-preamp, Yamaha 1110U CD player, Signet PCOCC cables and speaker wires, and two pairs of back-to-back Allison IC 20s, I heard a palpably tighter low end, and what seemed an expanded dynamic and better-focused, better-etched image-fulfillment, in short. However, with speakers that require little in the way of acrobatics of the amps that drive them, both the 4.0 and SS-t ought to have sounded alike: the (in)famous "t." I conveyed my incomprehension to the perp, who explained patiently, in the manner of one long accustomed to dealing with creative listeners, that apart from a ten percent difference in output impedance, which would exert the slightest of audible effects (if any) on low-end response, the circuits of the M-4.0t and SS-t are essentially the same, and that little scientific justification exists for those differences I thought I heard. He also urged me to enjoy myself.

And so I shall. I could easily reinstall the 4.0 and compare it directly to the SS-t's, but I'm not going to. For deep down in my bones, clinging there to the tip of the coccyx, I've a need to play the subjectivist. I want to have some goddamn fun! Additionally, I've the quite unscientific urge to let sleeping dogs lie.

The system has never sounded better. ♦

# SILVERT

## SEVEN



### THE INNER EAR REPORT

Back in 1987 we reviewed the Carver 1.0t amplifier and we stated then that Carver is a talented man. Who said he can't design a good amp? Who said that his stuff is second rate? Not us to be sure! Yes, a lot of controversial criticism has been coming down the audio grapevine. The battle isn't over yet - nor should it be until the issue of high (or low) fidelity is resolved and understood. This, of course, is not easy since we all have trouble with objectivity in an area where subjective evaluations prevail. The two-year-old controversy must be a source of frustration for Bob Carver who since proved that he could build a high end amplifier, the Silver Seven.

Not withstanding all of the altercations, Carver cloned his own design and created a new monster, the Silver Seven-t, under review here. We should have liked to hear the original because as it appears, the SS-t is more than just a superb amplifier; it's astonishing. Let us explain: The Silver Seven-t offers so much dynamic scope that the definition has to be quoted — which is to say that there is a force and energy in motion to overwhelm listeners. We have heard this in the past, of course, but at a price - and we do not imply monetary value alone. The most common price of dynamics is not just how much money has to be paid. The penalty could well be a deficiency of musical refinement, definition and/or fidelity. This simply isn't true with the SS-t.

Does the SS-t carry out all of its assignments perfectly? Yes and no.

It reveals musically intricate particulars - or inner detail - most proficiently. The tonal balance is correctly portraying vocal and instrumental program material and does not eradicate or supplement tonal characteristics. On a well-produced CD by Quartet Records, Inc. featuring the Ted Giola Trio, the recording engineer captured a creaky piano paddle, noticeable on with the best of equipment, we may add. This slight and endearing imperfection came across perfectly reproduced and clearly audible while we

auditioned the SS-t, establishing the amplifier's ability to be faithful. We bombarded the SS-t with a great variety of musical program material to determine if the amplifier handles trios, quartets, sextets, large orchestrations, etc. as well as soloists equally well. Usually — not always of course — amplifiers manage some of these musical obstacles very well but fail to handle it all. Not the SS-t. It passed all our program material tests with flying colors. This can only mean that the tonal equilibrium of the Carver is uncontaminated and legitimate. The conspicuous absence of a sonic signature makes it rather difficult to describe a device such as the SS-t. Under controlled circumstances and with our back-up components, the SS-t literally transcended its existence — just the way it should be. The most amazing part of all our observations is the value (perceived or otherwise), which the SS-t offers. The quality/price ratio is ridiculous. Consumers get a whopping 575 watts per channel at a price that most ordinary people can afford and, to add to the bargain, the get high end sound.

There is, however, a trivial limitation to the focal precision. It's there to be sure, but we fell — and we mean feel — that it is not as sophisticated as possible. This is difficult-to-substantiate theoretical impression. It is an opinion usually reserved for the very high end of the audio business where the utmost nit-picking and ultimate criticism may be valid.

In view of the Carver (SS-t)'s price, the above statement does not portray an accurate representation of these fine products. We believe, however, that we had better disclose our thoughts on the subject for the sake of sincerity, if for no other reason. In order for us to put this review in the proper perspective, we should really have a chance to listen to the Silver Seven to determine if what we thought we heard can be ascertained. Be this as it may, we do not really expect to get the exact same listening test results; after all, there is a tremendous price difference.

The SS-t's image is a flawless portrayal of a musical event. All dimensions are faithfully represented. In fact, live recordings will promptly disclose acoustic boundaries. One such example is a new Dorian CD which has been recorded in Paris' St. Eustache Cathedral. When we played this CD through the SS-t, this church's great organ took on authority and dimension. The reproduced material pinpointed the cathedral's ceiling, its walls and its floor to our listening panel. This is a major sonic accomplishment, which cannot be easily duplicated — after all, it's

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## **"...the SS-t is more than just a superb amplifier; it's astonishing".**

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only an amplifier, not a miracle apparatus.

Now, without guiding everyone into confusion, let us try and explain how it's done.

Firstly, we must understand the principle of Carver's t-modification, which stands for transfer function. It represents the mathematical relationship between a power amplifier's input divided by the amplifier's output. Therefore, a faultless amp would have a transfer function of one. This is theoretically possible but is, as yet, evasive. Bob Carver came up with a "Null Transfer Function" test which takes into account frequency response, current voltage and countless measurements of "local" components within an amp. The most important test of them all — the listening test — is where Carver's attention has found its focus. We aren't going to get into the nitty-gritty details to explain all the important parameters (we shall wait for a more expert contribution from the originator of the procedure). Bob Carver found a way to extract the essence and the "flavour" of an amplifier design. He has mastered the transfer of a given sonic signature to his own Magnetic Field Technology; and that's all in a nutshell of course.

We sincerely hope that this brief explanation is comprehensible and clarifies at least some of the reasons why cloning works well for Carver and is cost-efficient — at least (or should we say, at last?)

The SS-t is a handsome design. A metallic grey case houses the Magnetic Field Amp assembly. There is a VU meter, an on/off switch and an indicator light on the front panel. The rear of the amplifier accommodates good quality binding posts, a fuse and the RCA input terminal. Small rubber feet support the SS-t's chassis. For our auditioning sessions, we tiptoed the amplifiers so as to decouple them from the floor. While this procedure had very little effect on the performance, we extracted just a little more focal stability by placing a weight on top of the units' housing (please don't laugh, we know it's hard to believe). A Robertson 2020 preamplifier and a Motif MC9 were used and yielded virtually the same — above documented — results. These preamplifiers were connected with a pair of 20-foot Aural Symphonics interconnects. We connected the Carvers to a pair of Soundlab M2 X speakers as well as a pair of Vandersteen 2Ci's and ADS's... (a 4-ohm load). Monster Cable Sigma 2 speaker cables (an 8-foot pair) rendered the best results and Aural Symphonics's Symphonic Conductors came in a close second.

An Alphason Sonata/Alphason Arm combination and a Garrott Brother's P87 cartridge made up the analog source. A Revox B226 CD player supplied the digital information. A marked sonic improvement was achieved with the use of a Tice Power Block and a Tice Micro Block. As one can see, we didn't shy away from a conscientious and time-consuming setup so that we could be accurate with our report. In other words, the setup maneuver for the relatively inexpensive Carvers should be as sophisticated as it would be with far more expensive equipment.

As we expressed earlier, Bob Carver deserves our admiration. If not for his achievements, how about for his technique with which to make high end sound affordable? Our rating above reflects the opinions of all our listening panelists. An excellent job, Mr. Carver! ♦

# SILVERT

SEVEN

# The Audio Critic

There are two ways to look at this new departure in Carver electronics. One is to say that it is basically nothing more than a double M-4.0t (now the TFM-45 or TFM-42). It uses the same circuit boards, slightly modified to fit; it has the same power supply, only double-strength; it has the same output configuration, but with twice the number of output transistors per side. It could be argued that a mono-bridged M-4.0t (TFM-42/TFM-45) is the same amplifier, except for the upward shift in the impedance-matching characteristics of the bridged configuration. All that is perfectly true — and a good thing to remember should some exquisitely subjective know-nothing assert in print that the two amplifiers sound totally different. But the other way to look at the Silver Seven-t is to recognize that it is Carver's first all-out bid for the high-end religionist's dollar and as such far more threatening to certain vested interests.

The difference is in the packaging. The M-4.0t looks like any other Carver amplifier. The Silver Seven-t echoes the sexy tube look of the big Silver Seven, with an old-fashioned round analog meter dominating the distinctive slanty-blocky mono chassis. The meter measures output level in dB (0dB = 75 watts) and has four different scales for those who like to play Mr. Spock. The metalwork of the chassis is very nice; the \$2000 seduction of the high-end customer is very convincingly orchestrated.

The Silver Seven-t is the most powerful amplifier we have ever reviewed. It delivers more clean power into the load than the early Silver Seven, although Bob Carver claims that the present version of the latter, which we have not measured, puts out a few more volts than the t-mod but not more current. The Silver Seven-t is capable of other 50 amperes peak current into low-impedance reactive loads. To mess with such voltage and current loads for more than a few seconds without a specially equipped lab bench is a bit hairy, so we must be somewhat general in reporting

**"The Silver Seven-t is the most powerful amplifier we have ever reviewed...capable of more than 50 peak amperes into low-impedance reactive loads".**

measurement figures. Clipping level into 8 ohms is in the vicinity of 600 watts at most frequencies (well over that at 1 kHz); into 4 ohms we are talking about the 900-watt neighborhood (over 1000 watts at 1 kHz); into 2 ohms there is still an increase in power, with readings in excess of 1100 watts at all but the highest frequencies; into 1 ohm the clipping level drops back to the paltry 600's. With a clean signal just short of clipping, a load of 0.61 ohm will not trip the current limited switch but 0.57 ohm will. Whew! THD at levels approaching clipping into either 8 or 4 ohms is in the 0.1% to 0.15% bracket at 1kHz, rising to 0.5% or so at the frequency extremes, a very typical tube-amp profile (mostly 2nd harmonic, of course). Gain is 29.0 dB; signal-to-noise is comparable to that of the M-4.0t (TFM-42/45), as is the small-signal bandwidth of 0.8 Hz to 80 kHz (-3 dB points). The output impedance is a tubey 1.1 ohms.

The surprising thing is that none of the muscle of the Silver Seven-t is wasted when playing orchestral or organ CD's through big speakers of ordinary efficiency. We were quite disarmed by the happy musicality that goes with such immense reserves of clean power, tube-like character or no. What a nice sound — not even a small premonition of strain ever! — despite the not quite tightly damped bass and somewhat polite highs. Go ahead, Bob, be a tube freak. ♦



# SILVERT

SEVEN

# stereophile

In 1988, Bob Carver set out to design the best amplifier he possibly could, without regard for cost. It was more of an ego exercise than an attempt to build a product with wide commercial appeal. The result was the four-chassis, \$17,500 Silver Seven.

Interestingly, Bob Carver chose vacuum tubes to realize his dream of building the ultimate power amplifier. The Silver Seven uses fourteen KT88 output tubes per channel, and puts out 375W into 8 ohms. Bob built three pairs of Silver Sevens, not expecting to sell many at the \$17,500 asking price. When those sold quickly, another 10 pairs were manufactured. Now, demand is so great that Silver Sevens are built in groups of 30 pairs.

The sound: Can the Silver Seven-t sound identical to its namesake, the \$17,500 Silver Seven? Can the affordable transistor version sound even remotely like its cost-no-object inspiration? I was eager to find out. There is little doubt that Bob Carver, using the transfer-function principle, can hand-tweak an individual amplifier to sound like another of dissimilar design. Whether this extraordinary skill can be incorporated into production amplifiers is another question.

The first music I played with "Harpo's Blues" from Phoebe Snow's first album (ABC SRL-52017). Her vocal, normally round and silky, became hard and metallic with an unpleasant edge in the upper midrange. The vocal also assumed a more up-front position in the soundstage, without a sense of air or depth. When Zoot Sims's sax entered, it confirmed the impression of a forward midrange presentation and two-dimensional soundstage. Zoot's sax, with a very soft treble, took on an unnatural presence edge. I moved on to CD playback from one of my standard references, Return to Forever's *Light as a Feather* (Polydor). Again, the presentation was bright, thin, hard, edgy, and without depth. I like this music so much that it is rare that I don't enjoy it. It was totally uninvolved through the Silver Seven-t's. Joe Farrell's flute was so edgy and strident

it made me cringe. In addition, the entire sound was sterile and dry, with little sense of space or front-to-rear separation between instruments.

The soundstage was better laterally, with more precise instrumental outlines. Although Flora Purim's vocal had a clearly defined center image, it was homogenized with the rest of the mix at the front of the soundstage. Bass extension was decent, but the Silver Seven-t's were lean in the midbass, depriving some music of its rhythmic drive. Although

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**"...the Carver Silver Seven-t's were the worst-sounding amplifiers I have heard in a long time..."**

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the Sequel IIs are themselves deficient in this regard, in relation to other amplifiers the Carvers exacerbated the problem. Bass presentation in general was extremely poor. There was no sense of dynamics, control, or pitch. Low frequency notes were like amorphous blobs, without definition.

Back to LPs and John McLaughlin's [Belo Horizonte] (WB BSK 3619). The entire sound had an etched, "white" characteristic, especially his acoustic guitar. The attack of the string was bright and unpleasant, making me turn down the volume. Wanting to hear more acoustic guitar to confirm or refute my impressions, I played Sheffield Labs' excellent Michael Newman LP (Lab 10). This is perhaps the

# "Reviewers should be required to produce a certain number of negative reviews – like police given quotas for handing out speeding tickets<sup>1</sup>".

most real-sounding classical guitar recording I have heard, especially when played back at a quiet level that matches the volume of the instrument. I once had a classical guitarist roommate, and was fortunate to hear this beautiful-sounding instrument frequently. Even at low levels, the Silver Seven-t's made their presence known. Finger noise was exaggerated, as was the edge of the attack. A certain metallic quality was imparted to the guitar that certainly does not exist on the recording.

Measurements: The Carver Silver Seven-t was the most powerful amplifier I have ever measured, exercising my dummy-load resistors to their limits. Maximum power output at clipping (1% THD) was a whopping 608.4W into 8 ohms (27.8dBW), and 878W into 4 ohms (26.4dBW).

Conclusion: The pair of Carver Silver Seven-t's were the worst-sounding amplifiers I have heard in a long time, and I am at a loss to explain why Larry Archibald was so impressed with them. (*"Speaking of both Carver and the IRS Beta, I'm happily listening to that combination as I write. I know not how the Carver Silver Seven-t compares to its tubed \$20,000 brother, but its performance with the Betas is impressive. The capture of ambient details, the delicacy of voices, the richness of ambient information – all sterling Beta strengths – are dramatic using the Silver Seven-t"*—Larry Archibald Dec. 1989 *Stereophile*). Perhaps they are better suited for sound-reinforcement applications where tonal neutrality, soundstaging, and delicacy take a backseat to high power in a lightweight package.—JA ♦

Bob Carver resonds –

Well, the good and the ugly. It's not clear to me who actually wrote this. When we received our advanced copy, it was signed by Bob Harley. If so, perhaps I *can* explain why everybody else liked this Silver Seven-t and he didn't. When I visited Santa Fe, I found that although his test equipment was adequate, to my horror, the laboratory lash-up was so poor and inadequate that by comparison, any high school's electric shop would seem advanced.

I would opine that accurate results of any kind would be impossible to obtain.

The listening room was even worse. At least the one that I visited. It had a low-ish ceiling, was cluttered with hard, reflective surfaces and only had one sound-absorbing surface, a single couch. Personally, I would never in a million years attempt to evaluate – by listening – a piece of equipment in such an environment. —BC

# SILVER • S E V E N •

stereoplay  
Das internationale HiFi-Magazin

TRANSLATED FROM GERMAN

The most beautiful audiophile components still warm the souls of their devoted congregations of listeners with the glowing power of suggestion conveyed by shining tubes. The decades-old victorious march of the semiconductor has made no change in that.

Bob Carver, from the State of Washington in the U.S. knows that too: The man does, after all, belong among the most influential personalities of the American High-End Scene since 1973. But when, a year ago, he attempted a major tube project for the first time, he had other things in mind than pastoral concerns: Simply the best final stage in the world was going to be created in his laboratory.

Just the same, it won't bother Mr. Carver particularly that the very appearance of his now completed opus by the name of Silver Seven takes the breath away - and not only that of disciples of the sublime study of acoustics: As in a movie backdrop to Fritz Lang's classic science-fiction epic "Metropolis", four colossi embodying the technical charm of the age of steam engines are spread out, solid black cyclops from another hi-fi world. Two of them carry, as if lined up for roll call in files of five, veritable columns of big-bellied glass flasks with silver heads on their upper deck. The two other blocks stare straight ahead through antique round dial instruments, as if they were port holes. The entire ensemble rests in stoic gravity upon a polished base of shining black granite.

The fact that this picturesque machinery is to serve no other calling than that of base amplification of electrical vibrations, irritates absorbed viewers usually more than the casually mentioned DM 60,000 price of the Carver Electronic Quartet. And yet, all details indicate this sober functional purpose. Through separate channels these port-hole equipped blocks deliver the supply voltages and currents via electric umbilical cords with nine arteries to their two monoblock partners, including the perilous 660 volt high plate

voltage for the power tubes. Massive transformer superstructures, squeezed between stable cast covers, handle that. The built-in ammeters monitor the complete energy transfer: They provide information about the condition of the output tubes and about the correct quiescent current when the music pauses.

The decorative glass flasks atop the amplifier decks enter the game only at the next to the last stage. The electrical up-beat is supplied in each monoblock by an unpretentious little tube with the type designation of 12BY7. This first stage of electronics amplifies the still weak signals from the pre-amplifier in one stroke to quite respectable amounts of several volts. The input triode's filament supply is provided with DC voltage, especially to guarantee that this first amplification will occur without disturbing hum noises.

The 12BH7's supply the suitable and quite substantial currents for driving the power stage. In addition, the glass trio is responsible for a trick called phase reflection: Two oscillations with exactly opposite directions are generated at the output of the driver stage. When one of them reaches its peak voltage, for instance, the other will pass through its nadir.

Each of these signals of opposite phase controls a group of seven fat power pentodes of type 6550A - while the 15th of the type on the amplifier deck stabilizes the screen-grid voltage of its colleagues. The two factions of these shining tough guys work according to the push-pull principle, back-to-back: If one amplifies positive oscillations the other will do the exact opposite. Together they put the squeeze on the primary windings of the huge output transformer: When one group of seven pushes electron thrusts into the winding the opposite team pulls by the same amount from the other end and vice versa.

In the secondary winding of the transformer the output offered by the final stage tubes takes on forms that are suitable for a

loudspeaker-with taps for 8-ohm, 4-ohm or even 1-ohm transformers. In theory then, the tube monsters can easily handle even enormously current-hungry enclosures, for instance the heavy calibers from House Infinity. They cannot make it without some stabilizing measures, however: The voltages are branched off from the 8-ohm taps for an 18db strong feedback, which is quite heavy

**"...the Carver blocks differentiated between the innumerable tone quality shades of orchestral exploits... Can we expect more from one of the greatest final output stages on this planet?"**

for tube technology but rather modest by transistor standards.

Such preventive measures against tilting of oscillations and distortions are quite standard procedures. Among the extras of the Carver powerhouses are expensive ingredients, such as the Wondercap capacitors prized highly by insiders for their acoustic quality and pure silver wiring.

The powerblocks with standard tube equipment commanded respect in Stereoplay's test laboratories: For 8-ohm loads, each of them provided a smooth 480 W; 4-ohm loudspeakers can count on 400 W and for 2-ohm enclosures there are still 270 W - but only from the 4-ohm tap of the output transformer. The 1-ohm winding is of use only with those exotic loudspeakers whose impedance comes pretty close to a short circuit. But even such transducers don't bring the Silver Seven to its knees by any means and the monoblocks do not capitulate even in the face of complex loads.

The duo also exceeded specifications familiar from tube amplifiers with its short rise time of 3.5 microseconds and its top cutoff frequency of 110 kHz. Harmonic distortion values, however, proved that even a Carver is no magician. But it is true that the illegitimate harmonics identified in the laboratory are so well distributed over the spec-

trum that the testers did not expect any acoustic disadvantages of them as they brought the full force of the quadripartite output stage to bear in the auditorium.

There, the highly sensitive tape recording giants Apogee Diva were ready to show up each shortcoming of the black beauties were it ever so small. The testers now had to acknowledge with admiration that the American tube battleships sketched musical filigrees into the air with less gravity and even more delicate and precise. For instance, the tube monsters let the with virtuosity -calculated stroke noises of a violin bow float through the auditorium with a lightness as if they were trying to create an ironic contrast to their own rooted corpulence.

Our reference transistor amplifiers did win some ground, however, when luxuriant orchestral work demanded sovereign fullness of tone: then the cellos hummed with seemingly fuller bodies, trombones and horns made their coiled air columns vibrate stronger by a nuance and low-pitched woodwinds developed their warmth more convincingly.

Still, the Carver blocks differentiated between the innumerable tone quality shades of orchestral exploits better than their protagonists from the semiconductor guild and they even outdid them in disciplines that are properly in the domain of transistor amplifiers. Instead of wrapping the anguished noises of wearily touched piano strings, of bonehard beaten bass drums or thumb-whipped electrobass retinues, into the proverbial charm of tubes and releasing them as a plush version into the auditorium, no attack was too hard for the Carver blocks and no pulse too steep. They copied violent chords and impetuous bass orgies with the highest fidelity and precision that this author has ever heard from a tube output stage.

The Silver Sevens thus combined refined elegance, so characteristic of tubes and temperamental freshness with the stability and discipline of first class transistor amplifiers. Can we expect more from one of the greatest final output stages on this planet? ♦



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