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It may not display this or other websites correctly. You should upgrade or use an alternative browser. I am new to this game and I was considering the Mcintosh 7270. Do you think the 7270 is enough 270wpc.And, the more the better. While I like your choice of the McIntosh, I still wonder if its enough. Id suggest the biggest Crown pro amp that you can afford, and decide from there, if more power is needed Good luck.But, the power sentiment is spot on.With the CTS2000 the Carver's were absolutely Amazing!Just popped on the used and theres a pair of Manley Neoclassic 300B monos. Might have to save up a bit more but theyd be a good match Im betting. Good luck Click to expand. But, i am sure they are on par with their other offerings and quite superb. However, the ALS simply need more power, MUCH MORE power.Carver Silver Sevens 14 KT88 outputs per channel at 375 watts. While an MC7270 is a great power amp, you really need something much larger.Click to expand. Click to expand. Twenty 6550 tubes! These amps were designed to drive any load 1 ohm and higher. First of all, theres no box. Yet without an enclosure or electronic trickery, this speaker boasts excellent dynamic headroom and true flat bass extension almost to 20Hz. Just think of the woodworking costs inherent in trying to coax such lowend performance from a conventional box speaker. The savings in carpentry have been put toward one heavyduty ribbon design. The Amazing begins to sound like an incredible bargain at its modest by highend standards asking price. Whats the catch Fundamentally, the answer lies in superior engineering. And, as Bob Carver will readily admit, good engineering isnt inherently any more costly than bad engineering. What eventually arrived was the Amazings new Platinum Edition.http://www.planet-for-events.de/userfiles/boss-psm-5-user-manual.xml

- **1.0.**

These new Amazings have not been reviewed elsewhere, and differ from the old Amazing in several ways the ribbon is now pleated for better lowfrequency extension and power handling; the new ribbon has more excursion and, to minimize acoustical interference, is one long, continuous design instead of the two shorter segments of the older design. However, to characterize the Amazing as a ripoff of the latter would be grossly unfair to Carver. For example, it so happens that the asymmetry of the front baffle is important for smoothing out the bass response of any dipole radiator. A rectangular baffle would have worked, but not as well as an irregular one. So to accuse Carver of mindless imitation in this case makes about as much sense as accusing Ford of copying GM because all of Fords cars also have four wheels. The 1980s saw the resurgence in several subwoofer designs of the finite baffle, once the low man on the totem pole of baffles. Some of you may recall the Enigma subwoofer, now out of production, and of course more recently the Celestion 6000 subwoofer. In both, electronic equalization is used to compensate for the baffles LF rolloff down to the woofers freeair resonant frequency. At frequencies where the average baffle dimension is smaller than half a wavelength, the fronttoback cancellation characteristic of a dipole radiator takes place. Even so, the bugaboo for such designs remains achieving sufficient dynamic headroom in the deep bass. Push the woofer or woofers extra hard and you run out of voicecoil excursion sooner than you would with that same driver in a box. The smallsignal response looks terrific with a halfpower bass frequency of about 25Hz. But below 40Hz, youd be lucky to hit 100dB at a realistic listening position even in a small room. Folks, in the deep bass 100dB spls are quite polite. Carvers correspondence on this subject is quite eloquent, and the following description is based largely on his writing.http://cetra.uniza.sk/cms/fckeditor/editor/filemanager/connectors/php/uploads/boss-psm-5-m

anual.xml

The cabinet, being of high Q, pushes the overall response Q to about 1 in a properly designed system. Bobs insight was to regard the finite baffle as the lowQ or overdamped element in the system and let the high Q of the woofer bring about an overall system Q of 1. Simply put, the idea is to introduce an underdamped or peaky woofer into the baffle and let the peak in the woofer response compensate for the fronttoback bass cancellation of the baffle. Speaker designers are a breed apart, junkies whose highs are derived from doing battle with the laws of physics. And to judge from my recent encounter of the third kind with Bob, the fire still burns bright. His enthusiasm for the Amazing and his untiring drive to improve them clearly go beyond the call of duty. As the magnet size is reduced, the electrical Q of the driver increases, and with it its total Q. The problem is that the efficiency of the woofer is reduced at the same time. The absurd conclusion of this scenario is zero magnet, zero efficiency, and of course zero cone motion. To improve the efficiency of a woofer with a miniature magnet it is therefore necessary to drastically reduce its moving mass. The idea is to try to keep constant the ratio of force to mass, hence a constant woofer acceleration factor. Because most of the moving mass is represented by the cone, thats where you have to cut.It took a personal visit by Bob to convince them that that was truly what he wanted. Reducing the moving mass, however, is in itself inadequate to confer a decent efficiency; ultimately, one has to resort to a different strategy to achieve a reasonable system sensitivity. A term so often confused with efficiency that, in many audiophiles minds, the two concepts are synonymous. Efficiency is a fundamental driver property, determined essentially by driver parameters, that relates for example how efficiently a woofer converts electrical input power to acoustical output power.

Sensitivity, on the other hand, is a system parameter. For example, a system with ten inefficient woofers may put out more total power than a system with a single more efficient woofer.Well, let me save you the postage. Its only a myth; appearances can sometimes be deceiving. And even Richard Small himself will tell you that driver efficiency is determined almost entirely by driver parameters, not box volume. It cant be any other way; if efficiency did increase with box volume, youd have infinite efficiency in an infinite baffle. Nonsense. Big, efficient woofers do require big boxes for proper bass alignment, and for that reason big box designs are more efficient. But its not because of the box; rather, the woofer. This is not a practical approach for a box speaker. The two woofers in the same box will produce a peaky, nonflat response with reduced bandwidth. The reason is that the acoustic compliance of the woofer pair is doubled, which in turn requires a box volume twice as large. So to keep adding woofers to a box design requires an everincreasing penalty in terms of box volume. This is not a problem, however, for finite baffle designs. Dont expect tight, welldefined bass from such a design.The strips are joined top and bottom to form a continuous loop. The aluminum is glued to a Kapton backing stretched over a particleboard frame and clamped on all sides with a foam suspension. The foil is sandwiched between two layers of magnets located front and back. Theres a total of 36 of ceramic magnets per side that provide the magnetic pushpull force for the ribbon. The glue used is said to provide damping for the internal resonances of the aluminum. For most folks, Apogee included, this sort of design qualifies as a ribbon, so Ill let it go for now. Theres a secondorder crossover network at around 100Hz. However, I have hedged about the details here because the design changed before my eyes as the review progressed more about that later.

While there are no crossovers in the critical midband, there is at least one pot hedging again in the signal path. Sample 1 of the Amazing featured an uppermidrange control, while sample 2 had no less than two pots, the additional pot being a highfrequency control. Something unique to Sample 1 were two small foam rectangles mounted top and bottom on the back side of the ribbon.In Santa Fe, after an extensive breakin period of over 100 hours, we measured a bass resonance centered at 150Hz. At Santa Fes 7000 altitude, granted, I would expect the resonant frequency to climb because of the reduced air load; for the ribbon, I would even be willing to concede the possibility of a 25% increase.

But a 100% increase cannot be explained by blaming Mother Nature, as Bob is inclined to do. I would rather point an accusing finger at Carvers qualitycontrol procedures. The extreme phase shifts that accompany a resonance make it a bitch to design a network with flat amplitude response in the crossover region. As a rule of thumb, one should choose a crossover point at least an octave away from a major driver resonance. A driver can be modeled as a bandpass filter. In its pass band, removed from the bass resonance and HF rolloff, a driver is known to be minimumphase and thus much more amenable to conventional filter design. Did Carver succeed Well, in my own measurements and his, there is a notch in the response between 100 and 150Hz, apparently due to the crossover. Of course, theres the possibility that this is caused by a room mode, but I rather doubt it. Bob figured that since the Quad has no bass crossover, its response would be seamless and would highlight any problems with the Amazings crossover. With both speakers and the mike in the same physical location, the response curves superimpose very nicely at 75Hz, but theres a 3dB notch in the response of the Amazing relative to that of the Quad, centered at 110Hz.

As signal frequency increases, however, the polar response narrows significantly. All conventional tweeters beam sooner or later, and may be said to possess increasing directivity as a function of frequency. Looked at as a whole, the directivity of a gardenvariety loudspeaker resembles the shape of a pyramid lowdirectivity or broad radiation in the bass while taking on an increasingly narrow radiation profile at higher frequencies. In contrast, a dipole radiator has a much narrower radiation pattern, at least through the lower octaves. The pattern resembles a figure eight, with radiation lobes to the front and back and very little sidedirected energy. One advantage of the latter pattern is that it significantly reduces early lateral roomboundary reflections and their resultant colorations. There is simply less energy splashed onto the side walls, floor, and ceiling. Early reflections are anathema to accurate reproduction of the soundfield captured by the mikes at the concert hall. These reflections, even if spectrally similar to the direct sound, interfere with it to produce a combfilter effect that colors perceived timbres. Room treatment is therefore essential to suppress the rooms sonic signature. After all, do you want to hear your rooms reverberation or the original soundfield. Im therefore mystified by Carvers references to the beneficial effects of 6ms reflections when the Amazings are placed 3 from the front wall of the listening room. These reflections are claimed to increase the spaciousness of the soundstage. Well, I would have thought that rearwall reflections or possibly a delayed rear channel would have done that. But in my opinion, Carvers suggestion is a recipe for destroying the accurate transduction of the original soundfield on the recording. Im making a tacit assumption here that the soundfield captured during the recording session is worth preserving.

This may be a poor assumption in the case of multimiked pop recordings, in which case the additional adulteration of the room may actually be desirable. Thats the sort of information Id like to preserve in my listening room. Unfortunately, this is much more difficult to do than Ive so far indicated. Room treatments are most effective at higher frequencies, say above 5kHz. At much lower frequencies its very difficult to dissipate sound energy very quickly. As a result, unless youre glued to the loudspeakers, a significant portion of the sound energy at your listening position is due to room reflections. A critical distance may be defined at which the reverb energy just equals the direct sound energy. The basic problem is that this critical distance changes with frequency. It would be highly desirable to keep the ratio of reverb to direct energy constant at the listening seat. But because directivity or beaming typically increases with frequency, this goal is impossible to achieve. Recall that the average speaker is omnidirectional in the bass. It pumps lots of bass energy offaxis; together with the fact that room absorption is ineffective in dissipating bass energy, this assures that reflected energy is bassrich and trebleshy. As directivity increases, more energy is concentrated onaxis and the direct component of the total sound increases. Finally, above about 5kHz, the absorption of highs by room surfaces, together with the onaxis treble beaming, combine to make the treble sound almost completely direct. The answer, of course, is different directivity patterns which

change the character of the room reverb. Linesource tweeters like those in the Amazing are by their nature more beamy than a typical dome tweeter. Thus, if youve optimized your system for a domebased loudspeaker, substitution of a line ribbon at the same position will result in a noticeably brighter balance.

This predominance of direct sound will emphasize overtone structures in the upper octaves, imbuing timbres with a bright, steely character. The solution is to either move farther back from the speaker or experiment with treble rolloff footnote 1. It would be a definite mistake to equalize the Amazing to be flat onaxis in the near field. I learned this the hard way. I tried it, and had to duck the razor blades the Amazing hurled at the listening seat. Three meters away, the sound was excruciatingly bright. An even bigger blunder would be to equalize the Amazing to be flat at the listening seat. The superimposition of a reverb curve deficient in highs over a flat directsound curve naturally results in a listeningseat balance featuring highfrequency rolloff. Thats the correct tonal balance. An attempt to flatten this composite curve by jacking up the directsound contribution will significantly brighten timbres. Trust me, youll be reaching for the cotton balls. Generally, at 3m from the front baffle youll be sitting beyond the critical distance for frequencies up to about 5kHz. It was quite puzzling at the time. Jack Hjelm from Audio Research had just finished installing some gigantic tube amplifier in JGHs system to drive one of the Infinity IRS systems footnote 3. As a final touch he proceeded to equalize the speakers to flat at the listening position using an Ivie handheld realtime spectrum analyzer. The resultant sound was bright; but, according to Jack, it had to be right; after all, it was flat. As soon as the ARC sage left, JGH proceeded to kill the treble. Incidentally, the new Quad ESL63, as far as I know, has the most uniform directivity of any commercial loudspeaker. The Quads diaphragm is driven by concentric ring stators with suitable time delay such that the radiation pattern closely resembles that of a point source located some 300mm behind the diaphragm.

Most other dipoles start off correctly with a controlled directivity in the bass, but cannot maintain that level of polar response with increasing frequency. It may be inserted into the tapemonitor loop of an integrated amp or between power amp and preamp. Because the initial intent was to market the Electronic Controller as an integral part of the Platinum Series package, I received one with my first sample of the speaker. Q can be adjusted from 0.3 to 2.0. Why anyone would want to loosen the bass any further is beyond me, but going the other way, to a Q of about 0.5, proved a worthwhile enhancement. At this setting, the bass character of the Amazing underwent a muchneeded transformation in definition, from quivering Jello to reasonable firmness. Pitch definition and bass detail were now much more readily resolvable. It was no longer safe to eat beans while listening to music. The EC box not only squashes dynamics but contributes an earful of solidstate hardness and grain to the mids and treble. The cure in this case is worse than the disease. With the EC in the chain, tube amps sounded solidstate, tube liquidity being well masked. Removal of the EC from the signal path after an extended listen invariably brought forth a sigh of relief. The argument runs something like this When we listen to an instrument live, each ear receives a single input; call these left and right. Trying to reproduce the same solo instrument via a pair of loudspeakers results in each ear receiving two inputs. The left ear receives a left speaker input, and because of head diffraction there is delayed crosstalk from the right speaker. The situation is similar at the right ear. Sonic Holograpy tries to cancel out these crosstalk signals so that the left ear effectively hears only the left speaker, and vice versa.

Such a recording will only sound right through headphones, and there has been a lot of work done on devising circuits to make binaural recordings compatible with stereo loudspeaker reproduction. However, the logic of the argument breaks down for truestereophonic recording techniques such as Blumlein. Here, as with other coincident recording techniques that rely on intensity differences for localization, it is precisely this kind of crosstalk generated by twochannel stereo that is relied on to produce natural phase crosscorrelation between the earinput signals. The important point is that

head diffraction is operative at all times, generating two earinput signals even under live listening conditions. Although the action of the Sonic Hologram circuit seemed somewhat unpredictable, nevertheless a couple of generalizations are in order. First, the circuit acted to expand image outlines, providing a blownup or zoom version of the original spatial outlines. However, program material recorded with coincident or quasicoincident techniques, where there is high phase coherency between channels, was adversely affected by the Carver circuit. Here the imaging became unstable, outlines wandering away from their center of gravity within the soundstage. A case in point was my wife Lesleys voice throughout the Lesley Test. The weight of the image shifted from side to side as if an unseen hand was playing games with the channelbalance control. As this project evolved, it became clear to me that the Amazing was truly a moving target, a fluid design that certainly from my perspective, and inferentially from Bob Carvers, was not altogether final. Santa Fe became a proving ground for the Amazing; several versions of the speaker have been assessed to date. I have to confess, however, that some of the changes along the way were triggered by my thoughts and suggestions. At times I felt as if I were in the design loop for this product.

But I remain convinced that Bob was subsequently motivated by a passion to perfect the speaker to the detriment of good business practice. Theres no question in my mind of Bobs intense commitment to the speaker. The first sample which we received in July 1989, as youll discover shortly, was beset by serious sonic problems and was on its way to, most probably, a terminal review. Just about then, in early September, as though he had read my mind, Bob phoned me and the fun and games started. Normally, a manufacturer does not receive this much free consultation. From my perspective, it was a question of wanting to see a promising product succeed. The ground rules, as JA laid them out, were that if Bob were to visit Santa Fe to redesign the Amazing Loudspeaker, Stereophile would report on all of our experiences with the product; that Carver would take full responsibility for the design; and that a production version of the speaker would be subsequently submitted for testing. It was this final item, however, that proved difficult to pin down. After over 100 hours of breakin this coloration largely abated, but did not entirely disappear. There remained a metallic aftertaste, no doubt due to internal resonances in the presence region. It was difficult to fit spade lugs within the recess. However, it proved real easy to strip the plastic shaft of the binding posts provided; be careful not to overtighten these. Lord, why is it so difficult to find expensive loudspeakers with highquality binding posts! I also managed to work loose one of the bindingpost retaining nuts, in the process breaking a solder joint. After Robert Harley had repaired the connection, I proceeded to tweak the installation. I next trimmed the tonal balance using the Upper Midrange Control UMR. I spent hours trying to get the Amazing to sound right. Using the Lesley Test as program material, it was just impossible to obtain a natural balance.

Turning this pot up to where Lesleys upper registers had the right brilliance also elicited sibilance and a metallic transient etch sufficient to tattoo my ears. Shelving the upper mids and presence region down to the point of achieving a tame enough presentation brought about a significant alteration of tonal colors. Rather than preserving a sweet and smooth character through the upper registers of soprano voice or violin overtones, timbres took on a slightly dry and grainy quality. On the one hand, you have lots of scintillating treble detail that beckons you to get involved in the music. On the other hand, the lower octaves serve to isolate you from the music. Taken as a whole, the midbass, upper bass, and lower midrange were veiled and muddy. Bass lines were consistently illdefined and difficult to follow. Because much of a halls sonic signature resides in this range, it was not surprising that I could not penetrate deep into the soundstage. I just could not get an adequate sense of hall. I could not place myself in the space of the performance. I could make out the leading edge of hall reverb, but its trailing edge became indistinct. It was as though a thick curtain were dropped before my eyes at a crucial moment to obscure the true expansiveness of the hall. The loss of soundstage transparency and immediacy was so obtrusive and disturbing that I had to try something. The Sevent turned out to be a sonic disaster, combining the worst attributes of solidstate

and tubes. The mids were dryish and grainy. Compressed depth to the point of onedimensionality, and never really coalescing into a unified whole. And to think that Carver had wanted me to biwire the Amazing with no less than two pairs of the Sevents. The Krell KSA200 provided the Amazing with a muchneeded dose of bass control, but it also emphasized the ribbons mechanical resonances.

The Music Reference RM9 offered muchneeded midrange liquidity without exacerbating the presenceregion nasties, but wasnt nearly as accomplished as the Krell in the bass. I only wish money could buy such a beast. The optimum pattern turned out to be one where alternating slits were taped shut. The idea was to try and resistively dampen whatever ribbon resonances I could. The really amazing thing was just how effective this idea turned out to be. The upperbass heaviness largely disappeared. Bass lines became distinct.This dramatic change for the better is readily apparent from fig.A. The curves were generated during Bobs subsequent visit to Santa Fe. The top curve shows a peak of some 14dB centered at 150Hz for the undamped ribbon. With a swatch of silk applied to the back of the ribbon for airflow resistance, the bottom curve shows the end result. About this time Bob Carver phoned me with a major announcement. According to Bob, there are new grilles for the front and back that reduce diffraction effects, as well as a new crossover network. I wonder about Bobs amazing timing, but naturally I want a new sample as soon as possible to close the loop. Bob has a better idea. Since my pair of Amazings was already broken in, why not come out to Santa Fe and install the various upgrades himself The grilles are here, but what about the crossover. Bob waves this Rube Goldberg contraption about that looks like an octopus in heat. What Bob really wants to do is spend the day experimenting and hopefully end up with something Stereophile likes. We spend part of the morning listening; Bob really likes the concept of damping the ribbon. So we spend part of the afternoon scrounging for various dampingmaterial samples, including nylon stockings, silk cloth, and chiffon. The results of the silk damping experiment fig.A are so impressive and Bob so ecstatic that he resolves to incorporate some form of damping in all future production.

A new crossover is installed late that evening, and, after some additional listening late into the night, its clear that the tonal balance still isnt quite right. As Bob leaves, I make it clear to him I expect a new production sample incorporating all of the final changes. It differed from the first sample in several ways. First, damping was provided on the back side of the ribbon assembly. Second, the crossover network was revised to better blend ribbon and woofer. The crossover frequency was pushed slightly higher to compensate for the 2dB loss in ribbon efficiency incurred by the damping material. A 7kHz notch filter was included in the network to kill a major ribbon resonance. A VeryHigh Frequency VHF control was added to give the user some control over frequencies above 10kHz. Third, new woofer grilles were installed with larger cutouts on the back side. Finally, this particular pair of Amazings was supposedly already brokenin by Bob prior to shipment. If the latter possibility is the correct one, it highlights QA problems in getting these ribbons to sound alike. Bass definition was decent, although still lacking much impact. There wasnt much sense of punch; bass attack was more like a limp noodle than a whiplike crisp. The amazing thing about the Amazing was that, despite measuring flat into the low 20s, its deep bass simply failed to sound that way. There was always lots of bass, but on organ recordings the Amazing could not generate a convincing bass foundation below about 40Hz. According to Carver, this is supposed to lower the woofer Q and thus tighten the bass. I would agree that a series resistor would reduce the quantity of bass, but I dont see how the Q of the response is lowered in this fashion. Substitution of the 1 ohm resistors per Carvers instructions is not straightforward it forces you to biwire the speakers, but since that in itself is not a bad thing, it should not prove a deterrent. The resistors clearly reduced bass output.

But, just as clearly, bass quality was not improved. In fact, the midbass got more muddled, taking on more of a onenote bass character. This resistor kit is a miscalculation; my kind recommendation would be to give it a hasty burial. Soundstage width and depth were both more than adequate, and

the level of transparency through the lower mids and upper bass was quite astonishing when compared with the first sample. Hall reverb was now easy to resolve, and resolution of massed voices was very good. With both pots at their nominal 12 oclock positions, the upper octaves were now quite listenable. Much of that presenceregion scream was absent. The problematic upper mids remained very much so. Timbres through this region just didnt sound right. No combination of UMR and VHF pot settings managed to restore timbral accuracy. The best compromise turned out to be a 12 oclock pot setting, but I was left with the impression that the Amazing was still hopelessly colored in this region. It was as though the sky opened up and a hand descended to bless the Amazing. I was diddling with the toein angle again, but that wasnt really it. All of a sudden the Amazing got smoother and sweeter at the top, and I found myself suddenly drawn into the music. For the first time, I found myself enjoying these speakers. Things werent altogether right, but there was enough right here to combine for an enjoyable experience. The upper range of Lesleys voice was still adulterated. But the focus of her vocal outlines was tight, and midrange textures were smooth. An occasional squawk crept in around 1kHz in one of the ribbons. And you also need to know that the ribbon buzzes like a kazoo below 1kHz. The buzzing is normally not audible, being masked by the music. But with pure sinewave test signal its easy to pick out the accompanying buzz. Record after record was thrown on the Aura turntable an excellent table from Down Under; review forthcoming, with very musical results.