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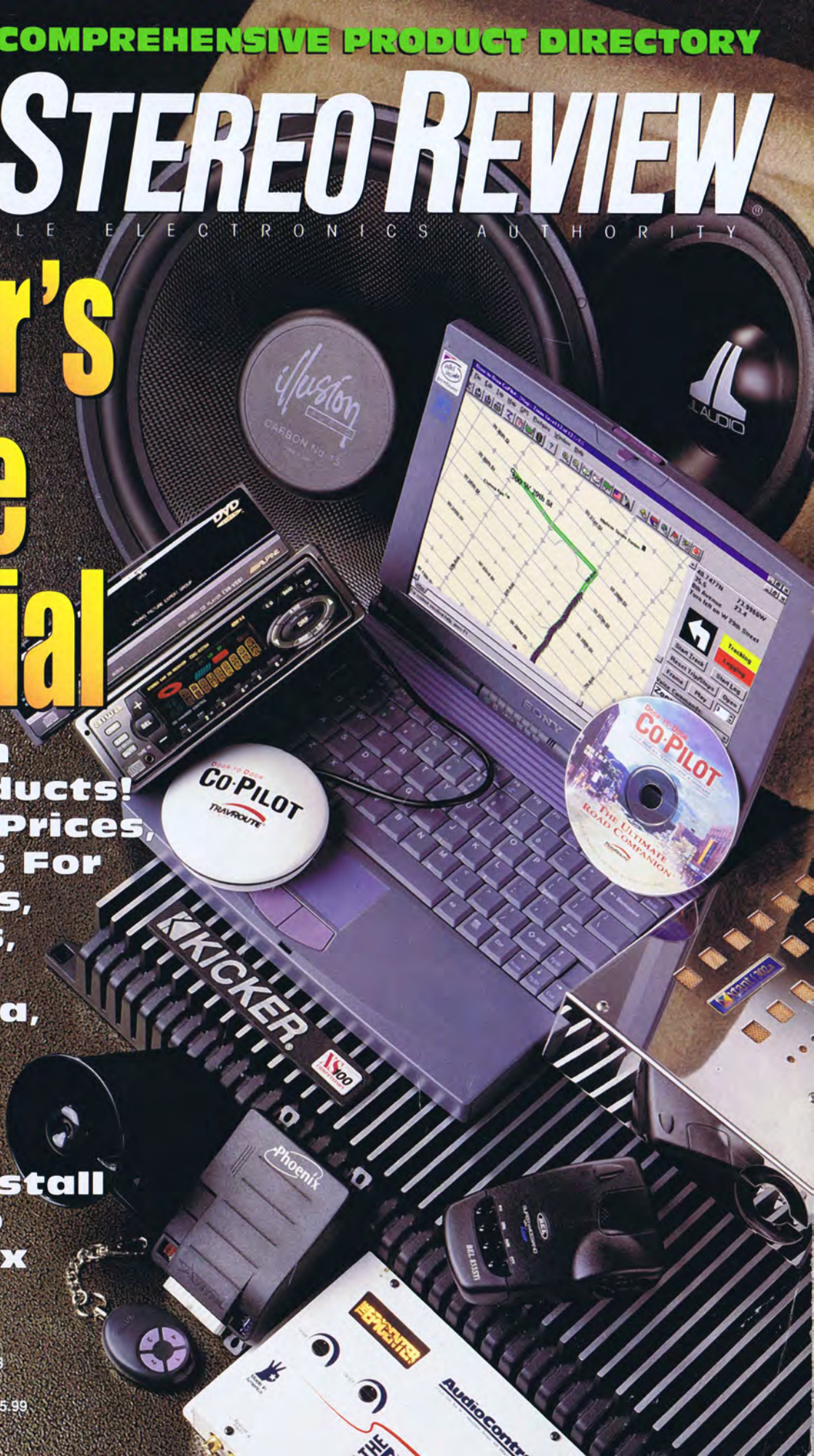
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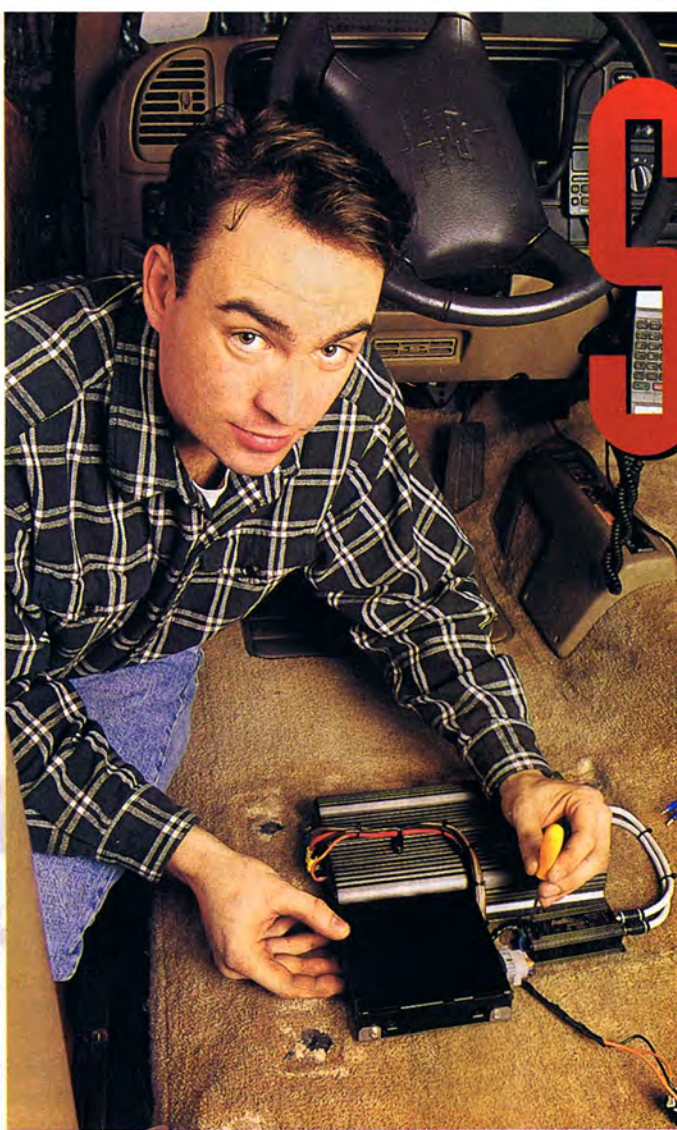
DIY DIARY

How To Install
A JL Audio
Stealthbox



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Stealth Care

Installing JL Audio's Stealthbox Subwoofer Box in a '95 Suburban

EXCLUDING SHOW CARS WITH FISHTANKS, NEON LIGHTS, AND fiberglass replicas of Egyptian pyramids, one of the greatest challenges facing car-stereo-system designers today is how to integrate large audio components, such as subwoofer systems, into an automotive interior with already-limited space. In fact, it's become one of the most common job requests installers get every day.

To further complicate this scenario, car owners expect that, after their upgraded stereo system has been installed, there'll still be plenty of room left over for luggage and other personal effects like golf clubs and strollers. Hey, no problem... in theory, at least.

This, then, is a classic installer's conundrum: how to do a quality upgrade without cluttering

up a vehicle's interior. Some manufacturers have met this challenge head-on by designing equipment that, in addition to sounding terrific, is also space-efficient and cosmetically consistent. One company at the forefront of this movement is JL

Audio, the Miramar, Florida-based speaker manufacturer. They've seen fit to create the Stealthbox Series, an extensive line of subwoofer enclosures tailored for nonintrusive fits into specific vehicles ranging from '93-'97 Jeep Grand Cherokees

to '90-'96 Nissan 300ZX two-seaters to '92-'96 Ford F-150 trucks. [A complete listing of JL's Stealthbox line (as well as the vehicles they're designed for) can be found in the "Speakers" section of this issue's Buyer's Guide, which starts on page 115—Ed.]

Sound quality and cosmetic integration are the key criteria for determining where within a vehicle a Stealthbox will be fitted. Stealthboxes are made of 100% fiberglass and are covered in vinyl, leather, or carpet to match the automaker's original color

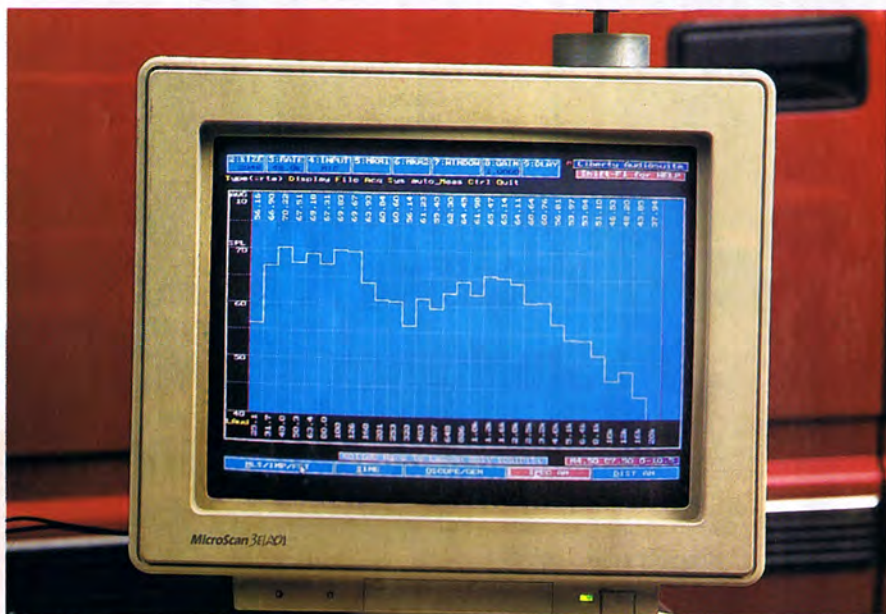
scheme. The end result is a tuned enclosure that's nearly invisible in most cars and hardly reduces the precious cargo space originally intended for practical use—music to many an installer's, DIYer's, and customer's ears. (Other companies who



Top: Technician James Argo positions two components integral to the JL Audio Stealthbox upgrade's optimal performance—an amplifier and a line-level converter. **Above:** The SUV in question, a '95 Chevy Suburban

JIM RAYCROFT

BY MICAH SHEVELOFF



design subwoofer boxes for specific vehicles include Bostwick, dB Speakerworks, Max Motion, MTX, Q-Logic, and Sub Zero.) CSR decided that I should discover firsthand just how Stealthboxes do their job, so I needed to find someone to provide me with a real-world guinea pi... er, test vehicle.

PREPARATION & INSTALLATION

As luck would have it, I bumped into one of my better customers, a driver of a big red 1995 Chevy Suburban, while getting coffee one Saturday morning. Aha! I've always thought that this particular gentleman had a really good reason for driving one of America's largest and most-popular suvs. As most of the other Suburbans I've seen running around town are often hauling little more than the driver while drinking up lots of gasoline, my preferred customer usually carries some very precious cargo indeed, seeing as he's got triplets! So, naturally, I popped the question: "Sir, may I displace your family for a day and borrow the Suburban to test a product?"

"No problem," he replied casually, as if I had asked for something as benign as a bite of his walnut pastry. "Just let me know when you need it."

Me: "Is today too soon?"

With my test vehicle in order, I got JL to send me the appropriate Stealthbox kit for a '95 Chevy Suburban, which replaces the original center-console assembly. (This same \$649 kit will work with any '92-'97 Suburban, Tahoe, or full-size pickup that comes with a center console.) The standard Suburban console is used for storage, and it's located between the SUV's two leather front seats. It houses a front compartment for CDs; a larger rear bin covered by an organizer tray resides at the top, and a slide-out rear-seat cupholder takes up residence at the back. JL's set-up retains use of the top half of the Chevy console, which easily unbolts from its bottom half to become the upper section of JL's Stealthbox console, a sealed, tuned enclosure built around the company's Model 10W4 10-inch woofer. (The 10W4 has a single 4-ohm voice coil and

Top: RTA measurement taken before the Stealthbox install. Note the severe roll-off of low frequencies; this system clearly needs a bass boost. **Middle:** RTA measurement taken after the install. Note the near-flat low-frequency response on the left side of the graph—the desired result when integrating a subwoofer into a system. **Bottom:** Argo attaches top of original console to JL woofer console



Left: After marking the Suburban's carpet with the soft wax that's provided with the woofer kit, Argo drills two mounting holes through the floor for the finished Stealthbox console. **Right:** When drilling through the floor pan, keep the drill bit perpendicular to the floor

is rated to handle 200 watts of juice.) Although the CD holder and organizer tray remain intact, the deep storage bin and rear-seat cupholder, unfortunately, get lost in the transition.

JL finished their console in tan carpet, an absolutely perfect match with the Suburban's carpet. The instruction manual, hardware, and brackets provided by JL for the assembly process were of the highest quality. Upon completing the task of transferring the top half of the Chevy console onto the subwoofer enclosure, my technician, James Argo (the gent pictured in action throughout this article), was able to turn his attention toward interfacing this new component with the Suburban's OEM stereo system.

This particular '95 Suburban came from the factory with the standard AM/FM cassette receiver and the optional single-disc CD player (located just below the cassette head in the dash). Chevy provided three pairs of speakers: Front speakers mounted in the front doors, rear speakers in the ceiling as far back as possible (which, in this roomy vehicle, is very far back indeed), and rear-door speakers that are powered by a small amplifier located beneath the driver's seat. This little Delco amp takes a high-level audio signal from

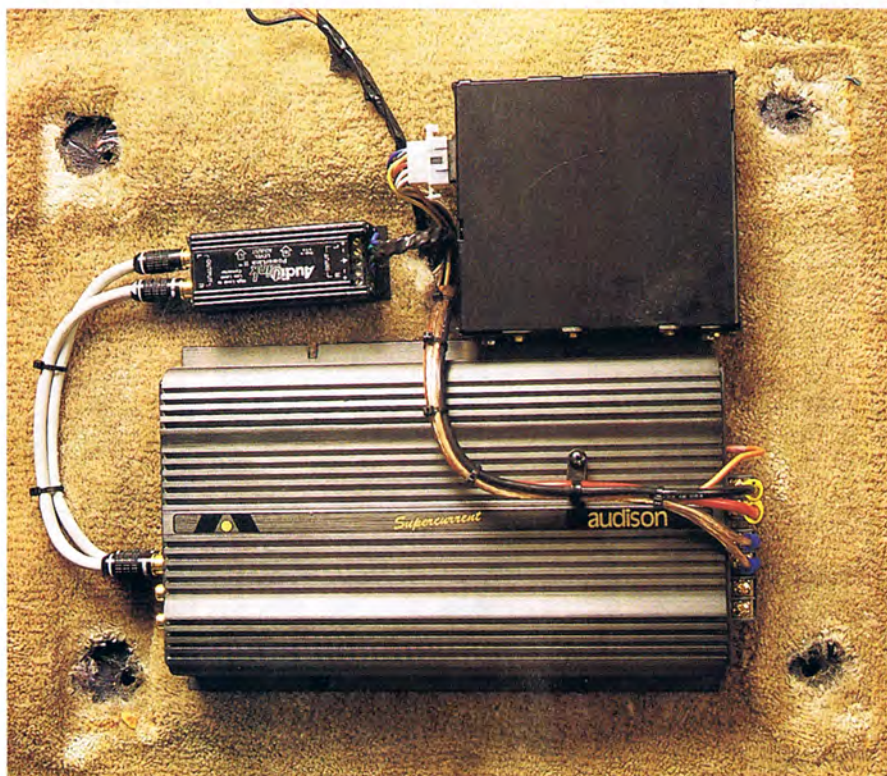
the stock head, and my plan was to interface a line-level converter under the driver's seat, which would allow me to provide a relatively clean signal of the proper voltage to my add-on subwoofer amplifier. I chose an AudioLink PL II Power-Link line-level converter (\$35) and an Audison LR-180XR amplifier (\$309) to fill out my upgrade plan because of their exceptional quality and compact size. The Audison amp is rated at 80 watts x 1 at 4 ohms and has an internal low-pass filter network and an adjustable 45-Hz bass-boost control.

The install required removing the driver's seat to access the little stock Delco amp and to properly fit the new amp and converter next to it. The audio signal and 12-volt turn-on were ready and waiting at the Delco amp, so the only major wiring involved in this upgrade was to run a heavy-gauge power wire under the hood for the Audison amp. This main line was terminated and fused at the Suburban's stock battery. Once the Audison 180XR amp was in place and all wired up, there was little preparation necessary for planting the JL console woofer. Two holes must be drilled through the floor pan under the console in order to bolt the heavier assembly securely to the vehicle. JL

provides a foolproof system for locating the mounting holes by including some soft wax with the woofer kit. The mounting bolts are first threaded into the console, and the wax is placed on the carpet in the general vicinity of where the holes must be drilled. The console is placed inside the Suburban, bolts protruding from its belly to make a clear impression in the wax. The console is then removed, and the wax, which conveniently sticks to the carpet, clearly marks the two spots to be drilled. Simple, clean, and perfect—just the way I like it! Once the holes were drilled and the console was again set in its final resting place, the ever-resourceful Mr. Argo slithered beneath the SUV with a shop light and some undercoating and bolted the subwoofer firmly in place. Total install time: about 3 hours.

(I should note here that any skittish leased-vehicle owners reading this can relax—the whole thing can be removed and returned to stock.)

After the installation of the console woofer was completed, we paused to admire the finished product. The best part of the interface was that after the job was done, it looked like we hadn't done a blessed thing. With the exception of losing the deep storage bin and the rear-seat



Done deal: Close-up on completed install of Audison amplifier and AudioLink line-level converter sitting comfortably next to stock Delco amplifier (above); notice the four driver's-seat mounting holes. Below: Introducing the finished JL Stealthbox console, bolted through the Suburban's floor before the driver's seat was put back in place

had growl—two vital elements sorely lacking before the subwoofer was added. Depeche Mode's "The Love Thieves" (from *ULTRA*; Mute/Reprise), for example, uses very deep synth bass, something that was sure and steady with the subwoofer in place, and practically non-existent without it. And the bass-guitar line on Tracy Chapman's "Fast Car" (from *Tracy Chapman*; Elektra) was barely audible without the subwoofer, but smooth and much more authoritative with the Stealthbox.

As I scanned through these and other reference tracks, I could only imagine how truly great the JL Audio woofer would be coupled with better front speakers. The first thing I'd do would be to look at the factory front-speaker locations, which accept 6.5-inch separates. Then I'd go to work on sound-proofing the front doors themselves.

NO DOUBT ABOUT IT: JL AUDIO'S SUBURBAN Stealthbox provides an excellent foundation for either building a substantial stereo system or simply upgrading lackluster factory-stereo output. Material quality and overall product design are quite exceptional. The Stealthbox clearly earmarks the maturing of an exciting product category, making great low bass accessible at a fairly reasonable price. If you've got a hankering for a performance boost without giving up a lot of your precious cargo or cabin space, JL's Stealthbox is a smart way to go. ■

JL Audio, Dept. CSR, Box 839004, Miramar, FL 33083-9004; 954-981-9497. Web site: www.jlaudio.com. Circle 150 on reader-service card

cupholder, no space was compromised, and nothing was visible to attract any pesky thieves. Marvelous! They're not named Stealthboxes for nothing.

LISTENING SESSIONS

To get an idea of what I was up against, before we even did anything to the Suburban, I took some RTA measurements (which are detailed in the pictures back on page 36). I also conducted a critical-listening session with the stock Suburban sound system. Besides the screeching midrange and complete lack of low frequencies, the OEM system had little to say for itself. It sounded unnatural and strained on every disc I played, and the front stage was poorly focused and at knee level. Oy vey. Stealthbox to the rescue.

With the Stealthbox in place, I began the tuning and tweaking process by choosing a crossover point and adjusting the 45-Hz boost control. I settled on 60 Hz as my low-pass point (with the slope set at 12 dB per octave), even though the door speakers couldn't provide much in the way of midbass above that point. That's because the transient response and detail from the JL woofer system suffered if its cut-off frequency came up any higher. The 45-Hz boost control

worked beautifully when set just above being inaudible, and it provided a little stability at the lower end of the enclosure's range. The Audison amp drove the JL woofer with authority at all but the highest volumes, and, finally, the sound system in the Suburban, although unsophisticated, was at least fun to listen to. Kick drums had impact and bass guitars

