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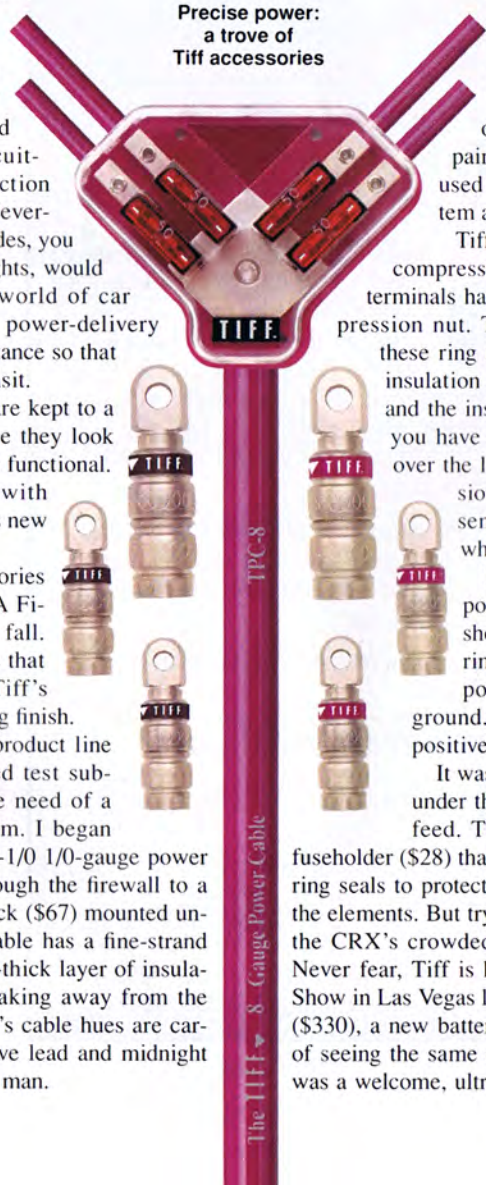
Power Records

Tested: Tiff power-distribution accessories, Avital security system

BY MICHAEL MICHNAY & MICAH SHEVELOFF

Tiff
Power-Distribution Accessories

WHAT'S THE MOST OVERLOOKED COMPONENT IN WAY TOO many car-stereo installs? Electrical power. Simply put, current from a vehicle's battery or alternator is the lifeblood of any car-stereo system. The cables, terminals, fuseholders, distribution blocks, etc. are the veins and arteries that carry life to each component in the form of a charge. But, much like clogged arteries that limit energy levels and cause health problems in humans, a restrictive or over-taxed electrical system is unhealthy for your sound system and can impede it from operating at peak efficiency. The perfect power supply would be one in which the battery and alternator were a single device mounted directly onto a component's main circuit-board with a seamless electrical connection between the 3 devices. But this isn't Never-Never Land, and I'm not Peter Pan. (Besides, you wouldn't want to see me installing in tights, would you?) In the reality that is the wide world of car stereo, the best we can do is design a power-delivery system with a minimum amount of resistance so that a minimal amount of charge is lost in transit.



Precise power: a trove of Tiff accessories

In my installs, electrical connections are kept to a minimum. I won't use parts just because they look cool; first and foremost, they have to be functional. This philosophy of combining form with function is the driving force behind Tiff's new line of mobile-electronics components.

I became intrigued by the Tiff accessories that I saw on display at The 1997 IASCA Finals in Greenville, South Carolina last fall. Instead of the staid gold-plated products that seem to glut the accessories market, Tiff's product line had a refreshing satin sterling finish.

I was interested in evaluating Tiff's product line up close and personal, and my intended test subject—a 1991 Honda CRX—was in dire need of a high-performance power-delivery system. I began the CRX's upgrade by running Tiff TPC-1/0 1/0-gauge power cable ($6 per foot) from the battery through the firewall to a TBM-14 fused, 4-output distribution block ($67) mounted under the head-unit console. Tiff power cable has a fine-strand copper core that's covered with an extra-thick layer of insulation rated for 105 degrees Celsius. Breaking away from the typical red-and-black color scheme, Tiff's cable hues are carnelian (a shade of purple) for the positive lead and midnight gray for the negative. It's the cat's meow, man.

The TBM-14 distribution block is machined to accept a 1/0-gauge power lead. Its input has a recessed lip, so just enough of the input cable's insulation can slip into the housing and give any install that clean, finished look. (Nice touch!) The distribution block's four 8-gauge outputs are protected by Maxi fuses (they look like blade-type fuses on steroids). The outputs are also machined with the same recessed lip. Both the input and outputs use Allen-type set screws to clamp wire in place.

I fused 2 of the TBM-14's outputs at 60 amperes and ran two 7-foot lengths of TPC-8 8-gauge carnelian-colored cable ($1 per foot) along the driver's side of the transmission hump to the hatch-mounted amplifier rack. These cables were terminated with a pair of TIR-8 8-gauge ring terminals ($22 per pair). The TBM-14's other 2 outputs will be used at a later date to power the security system and an add-on power window unit.

Tiff's ring terminals are a common 2-piece compression type. In style with the TBM-14, the terminals have a recessed lip machined into the compression nut. To terminate wire properly when using these ring terminals, you need to strip back enough insulation so, when the wire is slipped into the nut and the insulation slips snugly into the nut's recess, you have enough bare copper-wire strands to fold over the lip of the unthreaded part of the compression nut. After lining up the threads, the assembly is tightened by turning the outer body while holding the nut and wire in place.

Each TIR-8 was connected to the positive post of a TC-10 1-farad capacitor ($218). A shorter length of TPC-8 was fashioned with ring terminals and connected to the negative post of the capacitor and then to a clean ground. Before locking everything down, I ran positive/negative leads to feed the amps.

It was now time to install a fuse and fuseholder under the CRX's hood to protect the main power feed. The original plan was to use a THU-1/0 fuseholder ($28) that features a clear plastic enclosure with O-ring seals to protect the ANL-type fuse and connections from the elements. But trying to find a empty piece of real estate in the CRX's crowded engine bay proved to be a major feat. Never fear, Tiff is here! At the 1998 Consumer Electronics Show in Las Vegas last January, Tiff introduced the TFB-1050 ($330), a new battery-fuseholder/bus-bar system. After years of seeing the same ol' cookie-cutter gear, this battery design was a welcome, ultra-cool alternative. Using a sealed gel-cell

battery as a foundation, Tiff machined a bus-bar system that bolts directly to the TFB-1050's outputs. Laid out on top of the battery are 2 pairs of threaded connection posts for power-cable ring terminals and 2 pairs of set screw-type connections for 8-gauge cable. If that isn't enough, there's a 300-ampere ANL fuse positioned between the battery's positive terminal and the outputs. I thought to myself, "This is the most electrically direct battery-power-distribution system I've ever seen, and it'd simplify the CRX install immensely." I slipped the 1050 right into the CRX's stock battery tray and attached the positive 1/0-gauge power cable and upgraded the stock ground cable with TPC-1/0 power cable. Simple as that.

It was time to take voltage measurements. Generally speaking, a healthy electrical system will produce around 13.5 volts. A drop of 0.5 volt from supply to audio component is considered acceptable. Using the same voltmeter for all measurements, I fired up the CRX's engine and took a voltage reading at the battery, before the fuse. It measured a healthy 13.48 volts. Next, I measured the voltage at the amp. It measured 13.45 volts; good deal. But how would the system measure up under a hefty load?

Because the power-supply demands of reproducing music are constantly changing, I decided to connect an adjustable load resistor to the end of the amp's power lead and then loaded down the system with a 50-ampere current draw. Not surprisingly, I had to rev the CRX's engine up to about 2,000 RPMs for the meager stock alternator to keep the battery charged to a steady 13.46 volts. At the amp end of the power train, the voltmeter registered a steady 13.05 volts. This is a loss of 0.41 volt, which is impressive, considering the steady amount of load placed upon the system.

After all was said and done, the Tiff power-distribution system provided a solid, sharp-looking foundation for the CRX's sound system. If you're looking for accessories with both form and function, the Tiff family delivers.

—Michael Michnay

Tiff, Dept. CSR, 44 Pearl Pentecost Rd., Winder, GA 30680; 800-806-6111. Website: www.eau.com. ***Circle 145 on reader-service card***

Avital
Phoenix Security System

AFTER PERUSING THIS YEAR'S MOBILE-security offerings at the 1998 Consumer Electronics Show in Las Vegas this past January, I can honestly say that we're in for an interesting year in the vehicle-security sector. One of the more intriguing products that caught my eye at CES was Avital's Phoenix security system. The Phoenix ($299, uninstalled) is a full-featured automotive security device that

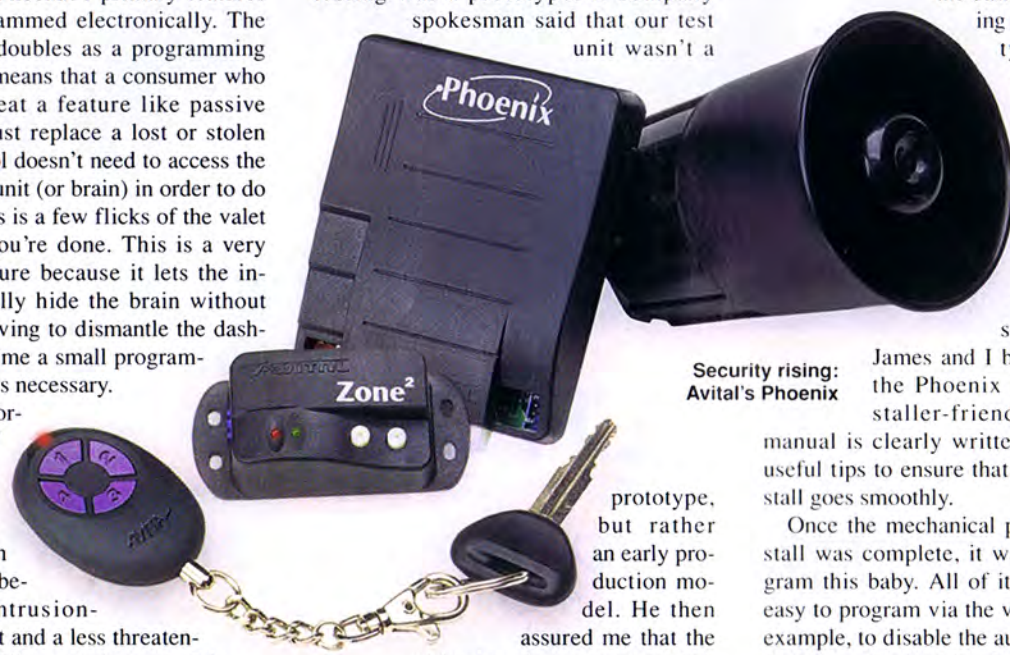
comes loaded with cool goodies, such as a pair of AviGlo remote controls designed to facilitate nighttime usage. Expose the luminescent, 4-button, 9-channel AviGlo to any source of light, and its purple-colored pushbuttons will glow in the dark. The remote also allows the system to be armed with or without audible chirps, and by depressing 2 buttons simultaneously, the operator can access the valet mode and conveniently disable the entire security system without having to hunt for a hidden switch.

All of the Phoenix's primary features can be programmed electronically. The valet switch doubles as a programming switch. This means that a consumer who wants to defeat a feature like passive arming or must replace a lost or stolen remote control doesn't need to access the main control unit (or brain) in order to do so. All it takes is a few flicks of the valet switch and you're done. This is a very valuable feature because it lets the installer carefully hide the brain without the fear of having to dismantle the dashboard every time a small programming change is necessary.

Another worthy feature of the Phoenix is the Zone² 2-zone shock sensor. It can differentiate between an intrusion-related impact and a less threatening vibration (like a passing car). Other features include multi-car control, electronic scan prevention to thwart code grabbing, and remote door lock/unlock.

After a closely contested coin toss (I say one must call the coin in the air, not when it hits the ground; some misguided creatures believe otherwise), my chief installer James Argo won the task of installing the Phoenix in a '92 Honda Civic. We spread the contents of the Phoenix's box out on the workbench and began to carefully examine them. In addition to the aforementioned pieces, the box contained 2 main wire harnesses, a high-power siren, a status LED, a packet of mounting hardware that includes almost everything needed for installation (such as screws, pin connectors, etc.), and installation and owner's manuals.

We immediately directed our attention to the very wimpy, light-gauge wiring attached to the valet switch, status LED, and shock sensor. Hmm. Avital is generally very generous in terms of providing quality wire harnesses, so what was the deal here? Somewhat alarmed, I gave Avital a call to see if the device we were testing was a prototype. A company spokesman said that our test unit wasn't a prototype, but rather an early production model. He then assured me that the wiring has since been upgraded.



Security rising: Avital's Phoenix

Outside of those 3 plug-in accessories, the main wire looms were fashioned in typical Avital style with excellent-gauge and -quality wire. And each wire was long enough for almost any installation scenario.

The installation manual suggests that 12-volt power and chassis ground be obtained at or near the vehicle's battery. This will eliminate the chances of supplying juice to the system with an unstable power source, which could cause microprocessor "confusion" (i.e., the computer chips inside the brain will lock-up and cease to function properly). Avital graciously provides fuses and fuseholders for this termination.

The brain is well-built. It houses relays for just about every function except starter kill. (That relay is attached to one of the 2 main wire harnesses.) Avital maintains that a high-current relay, like the one they use to interrupt a starter motor, could upset the delicate electronic environment if installed within the brain. Upon further examination of the starter-kill relay, we found an uninsulated diode. Luckily, James was able to correct this rather dangerous oversight.

The only other flaw I could locate was within the Phoenix's brain. The small antenna, which simply dangles from the unit after it's installed, is soldered to a tiny circuitboard that has no visible means of support. Anyone working under the dash or even tinkering with the security system may accidentally tug on the antenna and rip it and the fragile little circuitboard out of place.

After perusing the install manual, James and I both agreed that the Phoenix is a pretty installer-friendly device. Its manual is clearly written and includes useful tips to ensure that any type of install goes smoothly.

Once the mechanical phase of the install was complete, it was time to program this baby. All of its features were easy to program via the valet switch. For example, to disable the automatic arming function, the ignition key is turned on and the valet switch is flipped 4 times consecutively. Four chirps are heard, followed by an audible confirmation, and *voilà*—auto arming is disabled.

The Avital Phoenix is an extremely versatile system designed with security as its top priority. It also offers a wide array of convenience features that'll satisfy almost any gadget junkie. —*Micah Sheveloff*

Avital, Dept. CSR, 1535 Barclay Blvd., Buffalo Grove, IL 60089; 847-215-2233. Web site: www.avital.com. ***Circle 146 on reader-service card*** ■

WE NEED YOUR Qs

In August, Parts & Security will be dedicated to answering your P&S questions. Address them to "Parts & Security Q&A," CAR STEREO REVIEW, 1633 Broadway, 45th floor, New York, NY 10019.

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