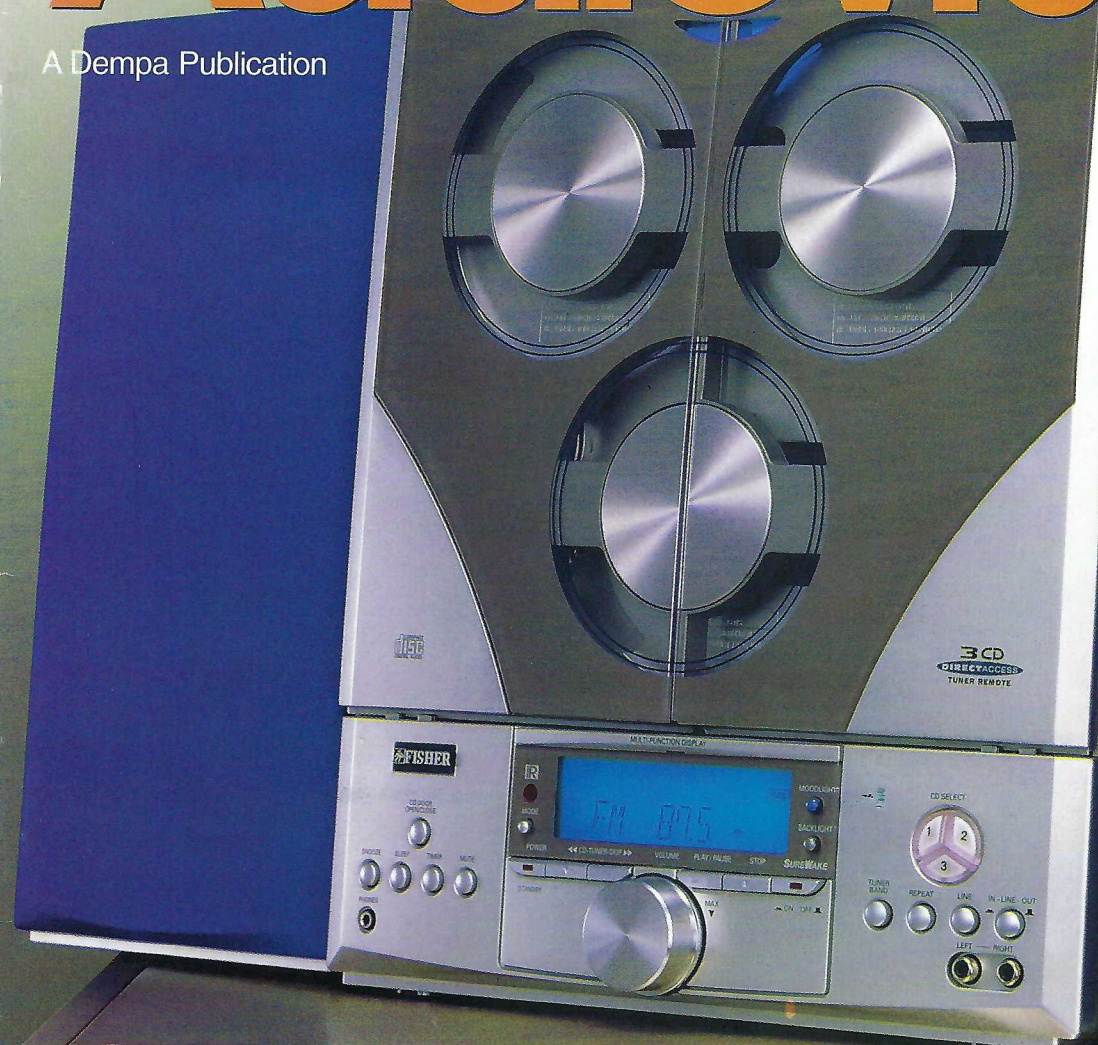


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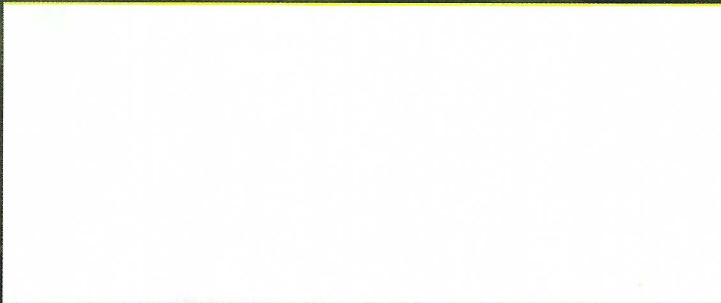
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## PLAYERS IN HOME THEATER



**CAR AUDIO SYSTEMS  
&  
EQUIPMENT  
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# FACE BE GONE!

**THE FADING-FACE FACTOR IN 12-VOLT DESIGN  
HAS STARTED TO BEND THE HEAD-UNIT PROFITABILITY CURVE  
BACK TOWARD THE PLUS COLUMN**

**BY MICAH SHEVELOFF**

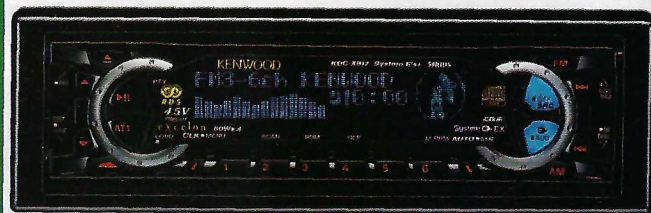
**C**ertain car stereo manufacturers have gone to great lengths in an attempt to entice consumers away from buying entry-level head units. Selling “entry level” cuts into profits, and is bad for the bottom line. In an effort to seduce shoppers upstream, the car radio has become fertile territory for value-oriented, innovative features, such as personalized displays that flash “Bob’s Cool Car” every time the engine is started, or equalization presets that all but eliminate the voice ranges so that motorists can Karaoke on the interstate. Some manufacturers have actually brought real-world value to consumers by focusing on the car radio’s control panel, often referred to as the face. Designers have made the face easier to operate, more exciting to own, and even harder to steal using such tricks as blackout displays and motorization. Kenwood gets credit for starting the whole thing off, by building the first removable car radio (with an optional handle) in 1984. Although the concept was revolutionary, many found the inconvenience of lugging their stereo to work, the supermarket, and movie theaters unbearable. Engineers at Pioneer lightened the load considerably in 1989, with the introduction of the

KEX-M800, the first car stereo with a removable face panel. The detachable face is still a popular feature offered by most aftermarket radio manufacturers; however, the disappearing face is considered the current state of the art.

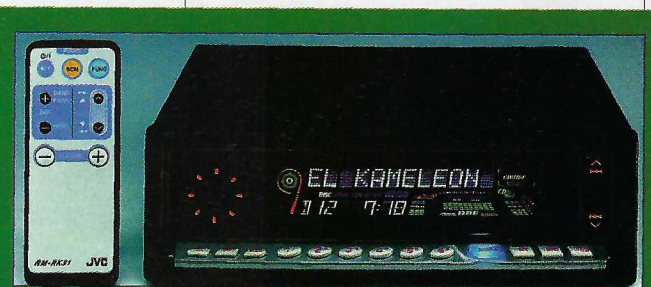
Kenwood introduced the first motorized retractable face in 1995, called Stealth. Today, the company has two lines of retractable face units: DMASK and DMASK+. The DMASK units feature manually retractable faceplates, in contrast to models with the DMASK+ that use motorization to retract the front panel. All DMASK and DMASK+ faceplates are also detachable. “The marketing strategy behind the DMASK concept is to provide consumers with a theft deterrent, convenience, and a [high-tech] cool-factor,” reported Kenwood national training manager Rick Noetzli. “Thieves tend not to steal what they cannot

see,” Noetzli added, “and consumers who have lost or damaged radio faces in the past really prefer an alternative to carrying it everywhere they go.” The DMASK and DMASK+ units range in price from \$280 to \$500 suggested retail.

The evolution of the car radio face has led to a flat-panel look, because manufacturers now have the option to place controls in such non-traditional locations as the reverse side of the face, behind the front panel, or on a remote control. The new flexibility in design usually results in a



**KENWOOD'S KDC-X917**



**JVC'S KD-LX300**





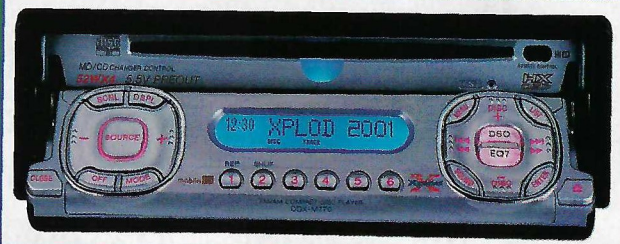
larger display area, making the features of the unit easier to visualize on the go. JVC introduced a series of highly successful CD receivers with its trademarked ELKAMELEON faceplate. Introduced originally as the KD-LX1 and the KD-LX3, ELKAMELEON provides a bright, clear, display when activated, yet appears as a non-translucent panel when powered off. Control buttons are located around the perimeter of the magical display, which also disappears as part of the ELKAMELEON effect. The entire display panel is designed to slide downward, exposing the necessary slot for CD loading. JVC's national product and marketing manager Chad Vogelsong explained that the current line includes the KD-LX300 and the top-of-the-line ELKAMELEON receiver, the KD-LX50, which can learn up to 25 voice commands to further simplify in-traffic operation. It can play CD-R and CD-RW, and has built-in controls for operating the JVC mobile VCR. The KD-LX50 has an MSRP of \$429. JVC provides an exceptional demonstration of the ELKAMELEON effect on its Web site at

www.jvc.com (click on mobile, then on KD-LX50, then on demo).

Alpine has developed its own interpretation of the disappearing face concept, called FantomFace. "In today's market, mechatronics (the combination of electronics and sophisticated moving mechanisms) development is necessary to add a strong appeal point for the youth market. These consumers want motorized movement and brilliant displays," reported Alpine vice president Steve Witt. Witt also explained that Alpine dedicated more than a year to developing the FantomFace technology, a balance between the need for theft protection, increased convenience, and "wow"-factor for the younger target consumer. The FantomFace system achieves such goals by using motorization to retract the face inside the unit, leaving a vacant space that looks exactly like an Alpine detachable-face radio with the face removed. Any potential thief would have no way of knowing that the face was actually hiding inside the radio. "The CDA-



ALPINE'S CDA-7969



SONY'S MODEL CDX-M7700

7969 has an analog-type volume control on the face, for which there is a notch in the body of the radio allowing the face to hide away inside," explained Rich Infrerra, owner of Rich's Car Tunes in Watertown, MA. "The movement of the face is very quick, both going in and coming out. The CDA-7969 is the most convenient high-end head unit available today, and features an adjustable time-correction circuit that really helps dial in front staging characteristics," Infrerra added. MSRP of the CDA-7969 is \$999.

Sony had a focused marketing strategy when it developed its Active Black Panel and L-CUBE face designs. "Our intent was to deliver the largest display and the most dramatic feel to the consumer," explained vice president Steve Haber. "Our face layouts have very few buttons if any that are visible. Consumers love unique designs, and Sony is committed to providing them with the most exciting head units for their hard-earned dollar. L-CUBE stands for wireless, touchless, and keyless. The L-CUBE head unit is controlled from an intuitive joystick remote that can be mounted almost anywhere in the car. "Consumers can control the unit without looking at the remote or the radio," added Haber.

## The Disappearing Face Feature at Retail

	1999	2000
Unit Share	4.0%	6.1%
Dollar Share	6.3%	10.2%
Average Price With Disappearing Face	\$316	\$308
Average Price Total In-Dash CD	\$197	\$182

SOURCE: INTELECT





Sony offers three models for 2001 with the Active Black Panel face design. When powered off, the unit looks completely black and there are no visible buttons. Once activated, the display glows through the black surface of the face, and an illuminated red button appears. The red 'open' button triggers sophisticated motorization that allows the entire face to

flip over on a pivot, exposing the entire inverse surface of the face with all of the operating controls built smartly into a silver panel, along with a traditional LCD display. In addition to the buttons on the face, a wireless remote control is provided to make operation simplistic on the open road. Behind the motorized face is the CD loading slot for the built-in single-disc player. The 2001 versions of the receivers incorporating the Active Black Panel displays are also detachable-face units, assuring that thieves are deterred from attempting to steal them. The flagship model, called the CDX-M770, features a 5.5-volt output and a wire-

less joystick remote control. Its suggested retail price is \$549.

It is the mission of any manufacturer to decipher what are the needs and desires of the consumers who purchase their wares. The car audio industry is no different, and innovations leading to convenience, practicality and style will drive profitable sales. The entry-level car radio will be nearly invisible to those consumers who value advanced technology and intelligent design. Customers want to be excited about their purchases. The retractable, motorized, blacked-out, jazzed-up faceplates provide just such excitement on the car audio sales floor. 🚩

## THE LITTLE AMP THAT COULD

Tripath, a Santa Clara, CA-based company, has developed a highly efficient digital amplifier format unlike any of its Class D predecessors. Tripath's "Class T" design uses predictive and adaptive feedback circuitry to constantly adjust its digital switching characteristics. This technology allows the Tripath amplifiers to operate within a full-frequency bandwidth and rival the sonic performance of traditional Class A and A/B designs, while requiring considerably less physical space, according to the company. Class T amplifiers are also extremely efficient, reducing the cost of related power supply and heat-sink components typically associated with amplifier applications.

Tripath has announced that Sony, Apple, Dell Computer, Blaupunkt, Audio Ramp, Alpine, and Marantz have all released products (not necessarily in the U.S. market) featuring Tripath amplifier technology. Steve Witt, vice president for Alpine, reported that the performance, reliability, efficiency, and power delivery of the Tripath devices used within the Alpine MRD-F752 five-channel amplifier were excellent. Alpine engineers did encounter noise isolation issues in the normal course of new product development; however, he said, all issues were overcome successfully. "The MRD-F752 is the most powerful single-box solution in the automotive amplifier category. We are very pleased with the performance of the Tripath devices," added Witt. Tripath amplifiers are also used in the Sony DAV-S300 A/V receiver producing six channels of 30-watt output. "We are generally very happy with the performance of the DAV-S300," reported Steve Fisher, director of marketing home audio systems at Sony.

Blaupunkt has introduced a line of five automotive amplifiers housed in colorful plastic casings. All five models use Tripath Class "T" digital amps internally, and Blaupunkt will be offering four two-channel configurations (2x75 watts RMS to 2x200 watts RMS), and one four-channel (4x100 watts RMS). "The Tripath Class T is the biggest advancement in audio amplifiers over the past

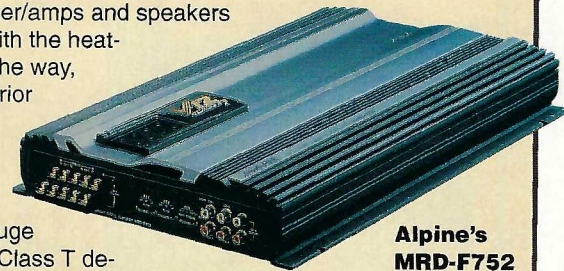
20 years," said Thomas Breithaupt, senior audio design engineer/amps and speakers for Blaupunkt. "With the heat-headache out of the way, the cosmetic exterior of the amplifier can be anything we want it to be,"

added Breithaupt. Another huge advantage of the Class T design is the minimal current draw of the Tripath system. "Power requirements of Blaupunkt Plastic Amplifiers are roughly half that of traditional class A/B models with the same wattage ratings," he said. "The average GM, Ford, or Chrysler electrical system will typically support a 500-watt audio system without modification. Class T amplifiers will nearly double that capacity. Lower current draw will make the installer's job easier as well, reducing the need for bulky wire runs directly to the car's battery."

Breithaupt also expressed his appreciation for Tripath's staff of applications engineers, who are available to hand-hold manufacturers as they learn to interface the Tripath technology into each unique product. "We had to learn to treat the Tripath amplifiers more like an RF design when planning circuit board layout, for noise isolation purposes," reported Breithaupt. "During the product

development stages, the tech-support was there for us." Breithaupt predicted that Blaupunkt and Tripath will maintain their working relationship well into the future.

There is enormous industrywide potential for a powerful amplifier that is highly efficient and cost-effective. Although at least two other companies are working on similar designs, Tripath has entered the marketplace successfully and gained valuable momentum, setting a standard for compact and efficient amplifier devices. — M.S.



**Alpine's MRD-F752**



**A model in the Blaupunkt PA amplifier series**

