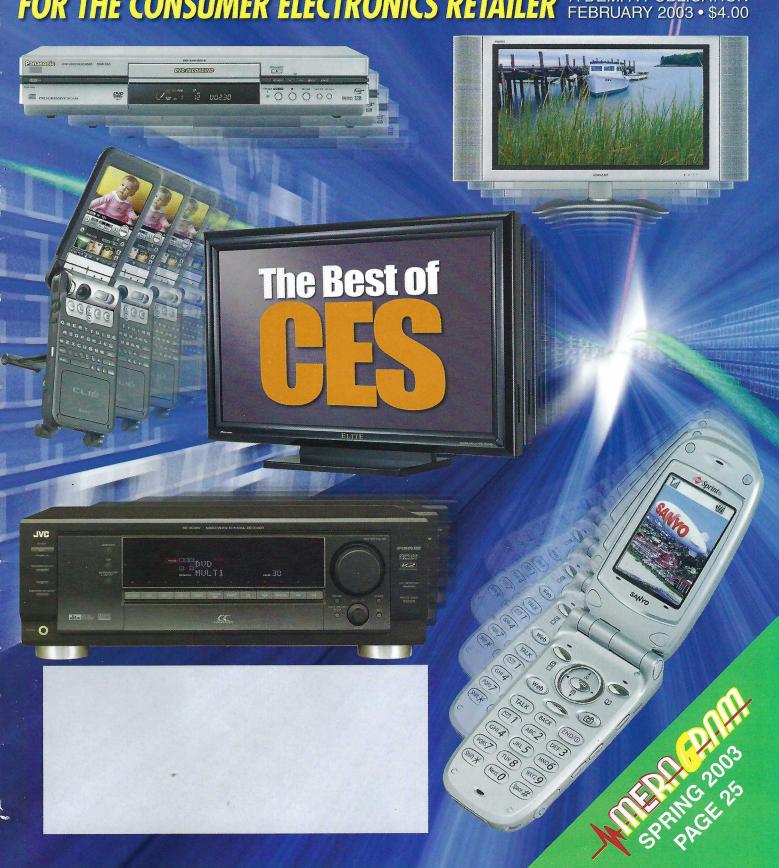
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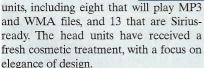


12-VOLT: WHAT'S NEW FOR SPRING

A SURVEY OF MAJOR MOBILE ELECTRONICS COMPANIES' LATEST OFFERINGS BY MICAH SHEVELOFF

Panasonic displayed a fully networked 2003 H2 Hummer demo vehicle at this year's CES. "The Hummer sets the stage

for the future of the mobile electronics industry, featuring Panasonic's Toughbook R1 laptop computer connected wirelessly to the Web using a Panasonic cell phone," reported Rob Lopez. Panasonic also showed 15 new CD head



Eclipse by Fujitsu Ten has hired Rich Coe as senior engineer and R&D manager. Coe is a veteran of the 12-volt industry with experience at such manufacturers as Alpine and others. The 2003 line of products from Eclipse includes a new cosmetic emphasis for the head units that feature two functional rotary knobs. VP of sales and marketing Ray Windsor explained that although it is important to offer a broad range of prices to consumers, Eclipse will continue to provide step-up products that increase profitability for retailers. Eclipse will offer a \$199 head unit for the first time in its history. Additionally, the company has introduced

a 4,000-song jukebox with 20 GB of memory. Eclipse has also continued to win awards for its distribution policies and continued support of independent retailers.

Alpine has unveiled its new HMI (human machine interface) platform for all 2003 indash products. Called QuickSearch Functionality, the new interface blends the

needs of the new digital media user to navigate through massive amounts of content, such as MP3, WMA files and XM Radio channels. The HMI platform is based on three buttons and Alpine's rotary encoder knob, and is used to access folders, files, music categories or specific radio stations, all with a simple push-andturn concept.

JVC Mobile Entertainment will continue in 2003 with its lifestyle marketing campaign that focuses on Generation-Y music and sports celebrities and their devotion to their cars. The campaign, entitled Cars as Cribs, will feature i p - h o p artist/producer/record label

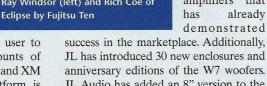
owner Warren G, Third Eye Blind lead singer Stephen Jenkins, world champion snowboarder and mountain biker Shaun

Palmer, and Tantric lead singer Hugo Ferreira. The 2003 product lineup will contain two new Digifine 2.3 receivers, both of which feature a new cosmetic design, high resolution 3D graphics display, and motorized slideout aluminum face. Both new models incorporate an advanced digital signal processor (DSP), digital seven-band equalizer, and a high powered four-channel amplifier. They also will play MP3

and WMA files, as well as CD, CD-R, and CD/RW discs. JVC has also announced eight new models in its Arsenal series, a selection of mobile audio products designed specifically for the independent

specialist retailer.

JL Audio has introduced "e" series amplifiers in various sizes. The new line is value-priced, and complements the existing line of amplifiers that already has



Code Systems has announced a series of

vehicle security products called Panther, designed for the retail 12-volt distributor market. The Panther line consists of the P5 digital immobilizer, the P10 and P12 security systems, the P20 keyless-entry system, and the P50 and P60 remote start units. "The Panther series will give Code Systems the additional products the company needs to increase its retail market share and help its independent representative network add new business to their territories," said Joe Dentamaro, VP/sales for Code Systems. Additionally, Code Systems has introduced an accessory line consisting of over 50 new products, designed to complement their vehicle

> security, comfort and convenience systems. Code offers over 30 transponder interface and data bus kits for today's vehicles.

AAMP of America has joined forces with performance parts supplier APC in an exclusive deal that will bring the vast selection of APC parts and accessories to AAMP's dealer network.

"AAMP's objective is not to just sell performance parts but to identify for our dealers the hottest SKU's and have them in stock," commented AAMP of America president Micah Ansley. "AAMP has designed packages to help our customers ease into the business gently, or full blown, if they feel ready. AAMP is creating its own APC catalogue, including many introductory and categorized packages. APC will maintain a toll-free technical number just for AAMP's customers," added Ansley.

Memphis Car Audio has added a new line of products called M-Class, unveiled at the 2003 CES. Comprised of amplifiers, subwoofers, component speakers and coaxial speakers, all are manufactured to meet high-fidelity specifications. The amplifiers have full MOSFET circuitry, fully variable high- and low-pass crossovers, and a distinctive black pearl finish. Available in 1-,2-, 4-, and 5-channel



An AAMP-APC kiosk



Seattle-based Car Toys' Dan

Brettler & Rob Lopez, at

Panasonic's CES booth

JL has introduced 30 new enclosures and anniversary editions of the W7 woofers. JL Audio has added an 8" version to the W7 series.

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versions, there is a total of 11 new amps in the line. The M-Class subwoofers come in 10", 12" and 15" sizes, and feature the double-roll surround developed by Memphis. The coaxials are available in the common drop-in sizes, and feature woven Kevlar and glass-fiber cones. The component speakers come in 5.25" and 6.5" sizes; both include a 1" soft-dome tweeter. The M-Class line is expected in stores this month.

Audiovox announced that 2002 was its best year ever in mobile video. Bigger screens lead the way in new 2003 installed system offerings, including the VOH1502 (MSRP: \$1500), a 15" drop-down LCD/TV video monitor with TV tuner, dual IR transmitter, closed-caption capability, and satellite radio input. 10.4" and 8" systems are also available, although both models will be sold exclusively through vehicle expediters. Audiovox has also announced three-video-in-a-bag models, including a DVD/VCP combo unit, an on-seat console for DVD and video games, and a home mobile/video unit highlight the 2003 lineup. In the GPS navigation category, Audiovox has brought out a new DVD-based system, although the current CD-based technology will remain to serve the-entry level market position. The company will depart from selling complete navigation packages and instead offer a variety of "screen solutions" on an à-la-carte basis. Buyers will have the option of choosing screen sizes of 5", 5.8" and 7", a motorized indash unit, as well as a rear-view mirror with a 4" color screen built in.

Kicker has announced the release of the solo x 18" square woofer. The biggest subwoofer yet from Kicker, the s18x is rated to handle 5,000 watts RMS and has demonstrated its versatility by succeeding

in championship vehicles for both SPL and sound-quality competitions. The Kicker KX series of amplifiers has been expanded with the introduction of two models, the KX75.2 and the KX150.4. Both feature variable crossovers and bass-boost circuitry. Removable amp shrouds allow easy access

to end panels and reduced dimensions for tight installations. Kicker has also introduced the DX series of loudspeakers in many of the most common drop-in sizes. All have curvilinear injection-molded polygraphite cones and 1/2" neodymium tweeters with Kaladex domes. Additionally, Kicker has a new fleet of marine speakers, including a 10" sub and a 6.5" co-axial speaker system.

Boston Acoustics' SL line of co-axial loudspeakers is new for 2003. Comprised of three models, SL 90, SLC 85, and SL 60, the SL line represents the top tier of Boston Acoustics' co-axial offerings, and the company maintains that they have achieved component-level performance from the new SL speakers. The SLC 85 uses a "plate" assembly that facilitates drop-in installations into 5"x 7" factory locations, a welcome feature to many

Ford and Mazda owners. The 6"x 9" SL 90 incorporates a dual-tweeter design that delivers higher sensitivity and power handling. The new Z series of component speakers has also been released, and have been engineered to install easily into almost any factory speaker location. The

component sets are available in 6.5" (Z6) and 5.25" (Z5) versions, both with a price tag of \$1,000 per pair. Both sets incorporate the VR tweeter used in Boston's flagship reference speakers; however, the driver has been optimized for the automotive environment. The woofers in the Z series packages are built on an all-aluminum basket/chassis. Long-strand carbon fiber was chosen as the cone material



Boston Acoustics' Z Series

ON THE DIGITAL RADIO SCENE.....

■ Sirius Satellite Radio emphasized that it is having success reaching people with "a music mindset," especially those who are disillusioned by the prices of concert tickets and CDs. "There will be nine new music streams (channels) featuring such genres as international rap, jam bands, folk, and dance club music," reported programming VP Larry Rebich. There will also be a channel dedicated to the gay community. Sirius also reported that more OEM automotive participation will be visible in 2003 from Mercedes, Ford, BMW, Nissan and Infinity, in addition to Sirius' recently announced agreement with Hertz to bring car renters the option to access the satellite service. Advertising efforts will be directed towards TV and print formats. Technically, there has been a new, smaller receiver module introduced, simplifying installation procedures. Kenwood and Delphi have introduced one-box solutions that have the entire receiver circuitry located within the head unit. Sirius also stated that home receivers would soon be available from Kenwood and Audiovox, and that there would also be a combiner for TV satellite antennas, greatly simplifying home installations. CEO Joe Clayton concluded the session by talking about the \$1.2 billion recapitalization (including \$200 million in new funds) that will provide operating cash into 2004. Clayton anticipates operating at break-even with two million subscribers, which he hopes to achieve by 2005.

■ Sirius rival company XM Satellite Radio announced that it has grown to 360,000 subscribers, and fully expects to pass the 1-million

mark in 2003. A new promotional campaign entitled "Come Along for the Ride" is slated for 2003, and a lot of attention will be focused on the home and portable markets. XM claims to have "brightened up a somewhat flat Christmas selling season" with consumer interest driving customers into stores. Technically, XM and manufacturing partners have been working to shrink antenna size, and create an in-car antenna that would not detract from the cosmetic design of the automobile. Consumer feedback has indicated that listeners find companionship with the DJs that accompany the programming. "We are very proud of our DJs," stated XM's Hugh Panero.

HD Radio announced the launch of its non-subscription digital

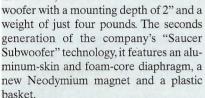
■ HD Radio announced the launch of its non-subscription digital radio service, receiving broad support from broadcasters, CE retailers and manufacturers as well as automotive manufacturers. The first quarter of 2003 will see HD Radio launch in 40 markets, 130 stations in 26 states across the US. These will encompass 20 formats of music from 35 broadcast groups. Delphi, Visteon, Kenwood, Alpine, Jensen and Sanyo have all committed to providing hardware for automobiles beginning in the second quarter of 2003, with Harman Kardon and Yamaha being the first makers to announce home products. Representatives from HD Radio explained that the traditional analog signal will remain intact and continue to be used by the receivers to insure a high level of service for consumers. Data-streaming capabilities, also called secondary audio streams, will be limited to artist, title and genre information through 2003; however, other applications such as traffic and sports updates are expected as soon as 2004. As an example, consumers listening to music could press a traffic button and receive critical updates that have been stored digitally by the receiver. — M.S.

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for its high strength-to-weight ratio. The system-specific crossover is housed in a metal case and the double-sided PC board is populated by the highest-quality gold-plated components. Boston also showed its first-ever line of car audio amps, featuring seven models ranging in price from \$299.95 to \$999.95.

Blaupunkt has created a line of ultrathin coaxial loudspeakers using proprietary technology to achieve a 1" reduction in mounting depth compared to conventional speakers with similar performance capabilities. Called the "Thin Line" series, it includes the ODx652, a 6.5" speaker weighing less than one pound, which will be the first model to reach dealers. The design is intended to enable installers to mount the speakers in shallow door panels, kick panels, and other areas with limited mounting depth. Their light weight

makes Thin Line speakers an ideal solution for the "tuner car" enthusiasts, where every ounce of added weight matters. Staying with "thin," Blaupunkt has also introduced the Odw1200T, a 12" sub-



Jensen's SRP2002 system

MB Quart introduced its re-engineered Discus speaker line at CES, including 10 completely new products. The new designs use MB Quart's Balanced Temperature Technology tweeter system that lowers the operating temperature of the tweeter by as much as 20% through the use of an innovative heat-sink design. Other notable improvements include the use of a low-resonance ABS composite speaker basket that is attached to the motor structure through a unique cooling plate that creates effective ventilation across the voice coil of the speaker. The Reference Series, first introduced to the U.S. market in 1987, has undergone drastic changes apparent in the 2003 lineup. MB Quart has combined both coaxial and component systems into one changeable design, reducing the number of SKUs a dealer must keep on hand. In addition to this inherent design flexibility, a new

20mm titanium dome tweeter complete with composite surrounds rounds out the package.

Jensen's new amp, the JXP1200M, is designed to accommodate those consumers who prefer a mono power amplifier with MOSFET power supply. The model is rated to deliver 1,200 watts peak/600 watts RMS into one channel, and offers a remote

bass control, an extruded aluminum heat sink, and top-mounted sensitivity adjustments. Additionally, Jensen announced that four receivers will be added to the existing lineup, expected to ship in the second quarter. Jensen has emphasized value with its receiver line, providing desirable features such as MP3 playback at affordable prices. Another category of focus for Jensen is its Sirius Satellite

Radio-enabled products. New for 2003 is the SRP2002, a portable, user-installed system that allows consumers to quickly and easily install the device in any vehicle, such as a car, truck, or RV. Boat-owners may use the SRP 2002 as well, as long as it remains shielded from the water.

Interface is accomplished using either an FM modulator, an AUX input adapter

or an included cassette adapter. A cigarette lighter plug and padded carrying case are part of the kit.

Clarion reintroduced ProAudio to the new product lines, giving authorized retailers the advantage of an extended warranty and future expandability. The VRX935VD garnered quite a bit of attention at the 2003 CES, featuring a

fully motorized 7" LCD display with touch panel, a single-play DVD mechanism that reads DVD-video, CD-audio, CD-video and MP3 files. VRX935VD is also Sirius-ready and compatible with an optional Dolby Digital/DTS 5.1 processor, DVD changer, and CD changer. New Subwoofers with SET (Spider Exhaust Technology) round out the offerings from Clarion.

Sony has introduced the P5, a fivesided subwoofer designed to combine optimal power and performance with fierce cosmetics. Sony claims that the five-

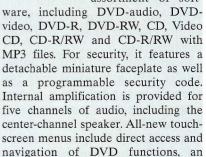


sided design adds structural strength and rigidity, helping the cone retain its shape and minimizing distortion and cancellation caused standing bv waves. The P5

has increased power handling over previous models, resulting in an ability to play louder and sound better. The P5 technology is available in 8", 10", 12" and 15" sizes. Sony, further, has introduced a line of class D mono amplifiers, also with a five-sided chassis, designed to complement the P5 woofers. Available in 1600watts-peak and 800-watts-peak models, both deliver high output. Expanded MP3 playback capability and exciting visual displays are the focal points for the 2003 head unit line from Sony. The new CDX-M3DI CD receiver features a 32,000 color TFT (thin film transistor) display that allows users to customize their dashboards' look with dozens of pre-installed images, animations and full-motion clips.

Kenwood is bringing out its first indash DVD-audio/DVD-video system to incorporate a fully motorized 7" LCD touchscreen. The Kenwood Sirius - and

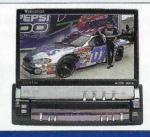
HD Radio-ready KVT-Excelon 915DVD (April) is its new flagship, and features built-in 5.1 audio processing for DVDaudio, Dolby Digital, DTS and Dolby Pro Logic II The new model also includes a TV tuner and is capable of reading a vast assortment of soft-



improvement over earlier models

where DVD menu navigation required

use of the remote control.



Kenwood's KVT915DVD