STUDIO SOUND

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What's new in Pro Audio

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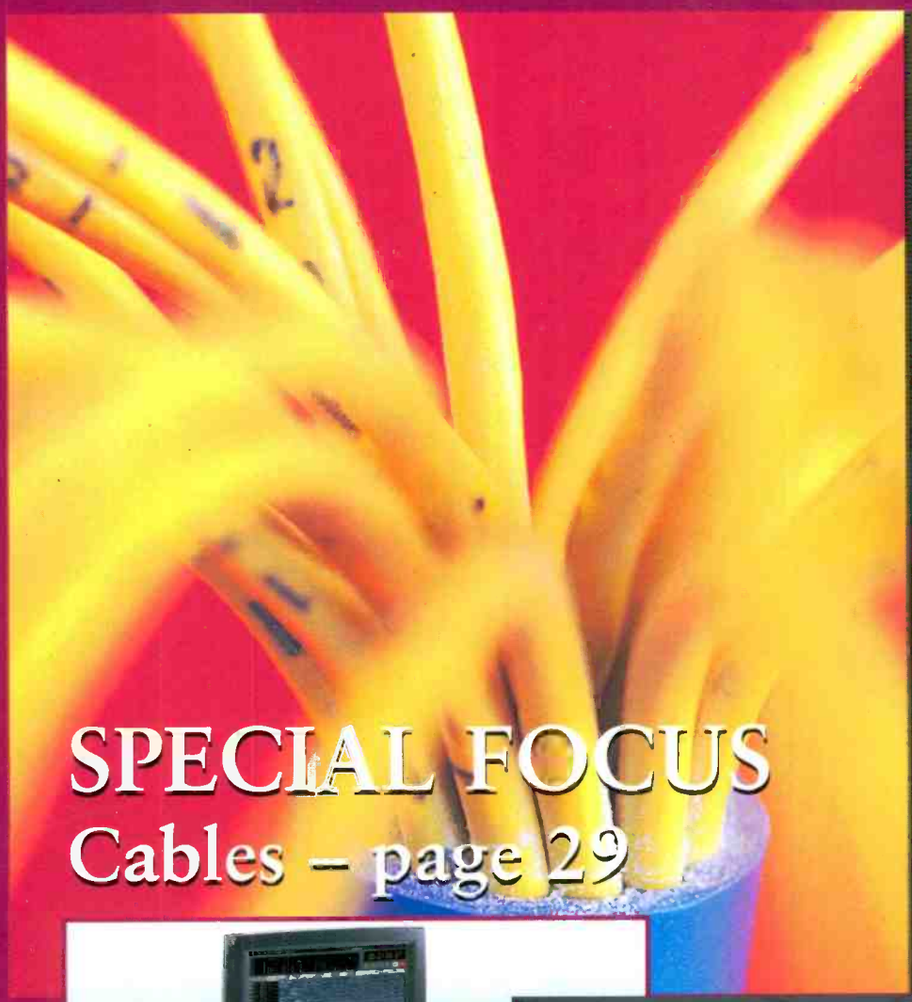
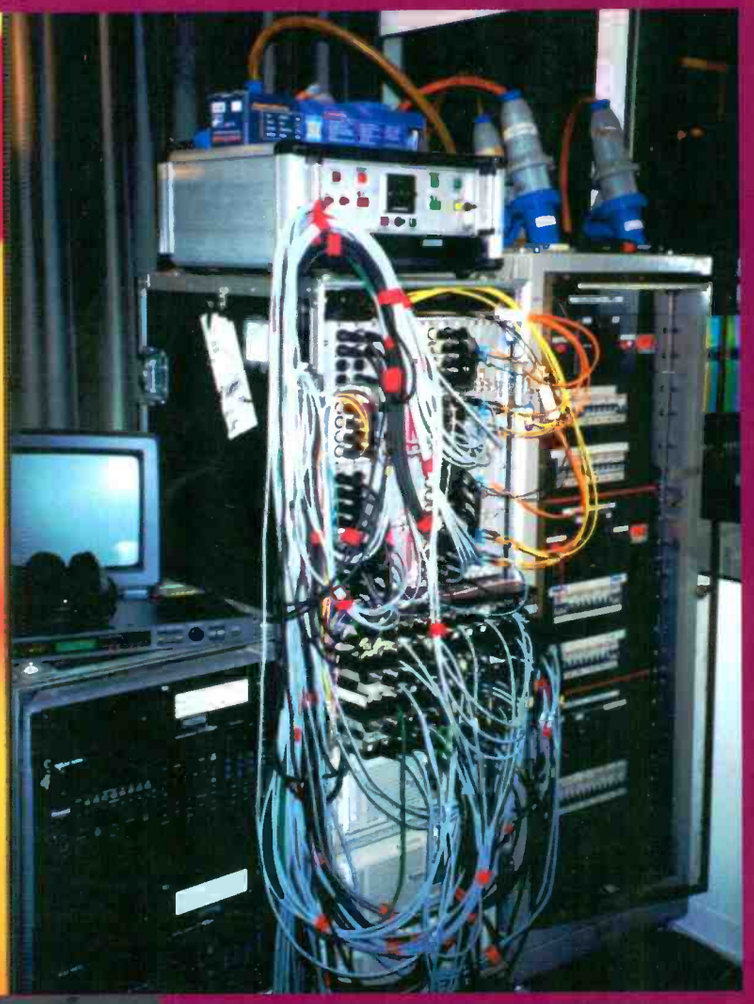


SPECIAL FOCUS

Cables – page 29



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DigaSystem.

The Radio Operating System

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READER RESPONSE No. 001

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Point and click

It's been a rewarding spell of product releases, punctuated by decidedly upbeat and forward looking gatherings at Frankfurt, NAB and AES Europe where all the major news was made.

It's easy to believe that the majority of the action seems to centre around DAWs, their affairs and reinventions, and the third party support that follows them, but the microphone and outboard manufacturers have also been extremely busy. We're seeing the further democratisation of radio mics and convertor options and a swathe of fix-it boxes that solve the problems that the digital environment throws up whenever it needs to interface with the rest of the world. Expect to see further progress in this last area which will result in more freedom of choice for users and lead to less time wasted on thinking about the implications of that pivotal purchase.

You'll have noticed a new look to *What's New in Pro Audio*. We've redesigned it to be in keeping with *Studio Sound*, increased the paper stock, added a new category, and broadened the remit for each category. We've also included a Special Focus feature, which in each edition will look at an essential, and perhaps frequently overlooked, subject with a view to explaining, educating and demystifying.

Other changes are perhaps not that apparent to you at this point in time but have enormous benefits for you because they concern the reader response mechanism.

Traditionally, if you've wanted additional information on specific products you've entered the numbers in the Reader Response Form in the magazine and posted it back to us and we've forwarded your request to the relevant manufacturers. It's a good and dependable system, and it's still available, but it's not especially fast.

The entire contents of this issue of What's New in Pro Audio is now available at www.WNIPA.com and this allows you to enter your Rapid Response Numbers on-line, with your registered request going directly to the manufacturer. The on-line version is enhanced by including many more product stories than we could fit in to this printed edition, so it's certainly worth visiting. Plus we'll be updating the site regularly and adding back issues as well.

STUDIO SOUND

What's new in Pro Audio

Test set

Point your work colleagues at www.WNIPA.com. It is the definitive resource of pro audio product news.

Zenon Schoepe, executive editor

Summer 2001 **Issue 9**

What's new in Pro Audio

www.WNIPA.com

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BGW amps

Coinciding with its 30th Anniversary, BGW has released the Pro400, Pro600 and Pro800 amps aimed at the recording and broadcast sectors. Using Class H design, the amps have conventional power supplies and LED indicators for power, signal, and clip, touchproof barrier strip speaker outputs, jack and XLR inputs, ground lift, mono/stereo/dual stereo switches, high pass filters, 1dB detented attenuators and a claimed sensitivity of 0.775 VRMS at full output.

BGW 103

Gemini

Bearing the model number XPM-3000, the mosfet powered amplifier includes a third channel for a subwoofer and is equipped with a switchable low-frequency boost. Stable performance into loads as low as 2Ohms is offered. The design includes a 2-way Linkwitz-Riley crossover and postcrossover connectors to chain further speakers into the system. Actively balanced inputs and outputs on Speakon connectors, as well as five-way binding posts, are standard.

Gemini 102

GeneralMusic

The new LEM Procon Series power amplifiers have been designed to provide great efficiency, dynamics and reliability with a competitive pricing structure. The amps are equipped with a LED display system and the connection system includes XLR and TRS jacks for audio input and Neutrik Speakon and binding post for power outputs.

GeneralMusic 111

DAS cooled

E-20 is an addition to the manufacturer's range of amplifiers. The stereo unit delivers 950W EIA per channel into 4Ohms in a 3U device. Design points include back-to-front twin fan cooling, XLR and jack inputs, toroidal power-supply transformers, plus clip and idle LED indicators. An active limiter system is provided for driver protection. Short-circuit, overload and overheating protection circuits are provided for each channel independently.

An Input control module allows for the switching of: limiter protection; bridged, parallel or stereo operating modes; and subsonic filtering.

DAS 100

Crown launches Power-Tech.1

Aimed at musicians and mobile DJs, the Power-Tech.1 Series is said to represent a combination of performance, reliability and value.

All three 2u models - the Power-Tech 1.1, 2.1 and 3.1 - have front panels with recessed level controls along with signal presence and IOC (Input/Output Comparator) indicators.

ODEP (Output Device Emulation Protection) circuitry protects the amplifier under the most severe conditions, while DC and fault protection safeguard the product should potentially damaging conditions occur.

Rear-panel input connectors include dual balanced 1/4-inch TRS and XLR jacks, with output connections made via a pair of 5-way, touch-proof binding posts. A three-way input sensitivity switch (0.775V/1.4V/26dB) allows each Power-Tech.1 to handle any application, while a forced air fan maintains a temperate operating environment.

Like all of Crown's amplifiers, Power-Tech.1 products are backed by a three-year, transferable, no-fault, full warranty.

Crown 117

Denon upgrades range

Two new amplifiers offer enhancements to the established PMA-250SE and PMA350SE designs. PMA-255UK shares the chassis and fascia of the 250SE but the UK-designed electronics are said to be completely new.

Although the unit is rated at 35W per channel, typical power is said to be in the 45W region. Improved bass response and enhanced load handling are also claimed.

The unit offers four line inputs and a tape circuit. The tone controls can be completely bypassed. A short signal path with high current, low distortion output transistors has apparently been used. Other key design features are said to include ELNA audiophile-grade power supply reservoir capacitors and a selected JRC audio control amplifier, running from a discrete, regulated power supply.

The PMA-355UK amplifier is a minimalist design but gives improved value by including as standard the phono stage and infra red remote, both of which were options for the earlier 350SE.

The PMA-355UK is rated at 50W per channel but is said to deliver almost 65W or more per channel into 8Ohms.

Denon 108

Bryston monster amp

Operating completely without fan-cooling yet putting out more than 800W continuous per channel,says the manufacturer, Brystons' 14BST 2 channel power amplifier claims audiophile quality amplification and studio abuse-withstanding capability.

Of fully dual mono construction, the 39kg amp features very high damping factor and ultra fast transistor design to retain control of loudspeakers to high levels. Massive twin toroidal power supplies combine with multistage soft-start switch-on which can easily be remoted.

PMC 106

Stage Accompany extended

The EFN (Extended Function Network) circuitry found in SA's Efficiency Series amplifiers has been expended with the introduction of the EFN-DP processing modules. Placed in the amplifiers' EFN slots, the modules offer three separate functions for loudspeakers: clip/excursion protection, filtering and power optimisation.

The clip excursion parameters are dedicated to specific driver specifications, with the excursion protection said to be accurate to the mm. The underlying design is a frequency-dependent, zero-attack limiter and the clip protection is said to be inaudible.

Filtering can be a combination of Bessel and Butterworth filters, or can have phase correction. Typical applications include use with a top/sub speaker combination.

SA points out that in a conventional amplifier and speaker set-up, either the maximum output of the speaker is never 100% exploited or the speaker is frequently exposed to over-powering, leading to over-excursion or the voice coil burning out. The power optimisation function of the EFN-DP module is opto-coupler regulated for reduced noise and matches the power output of the amplifier with the RMS/peak power handling of the speaker.

Stage Accompany 114

Gemini's twin stereo amps

The two models in the X series of stereo amplifiers are designed to perform reliably into impedances as low as 2Ohms. They are fitted with over-sized toroidal transformers for improved low end performance.

Thermal stability has also been considered, with the units fitted with dual aluminium extrusion heatsinks and dual-speed fan controls. The amplifiers are said to have comprehensive protection circuitry and LED indication of operation in stereo, parallel mono and bridged mono operation. In addition, actively balanced input are input connectors allow amplifiers to be chained.

In stereo mode, the XPB-750 is rated at 360W into 2Ohms, while the XPB-1600 is rated at 800W into 2Ohms.

Gemini 105

New accessories from BGW

New from BGW are two accessories for its amplifiers. Designed for BGW Performance Series 3 amplifiers, the AC-3 attenuator cover plate screws to the front panel, preventing tampering with the controls.

The amplifier is used in cinema applications and the plate enables it to meet THX-certification. The CX-2 adapter is designed for BGW's Millennium TMC amplifier. In provides for one channel of EuroStyle bare-wire connection, often the preferred option in fixed installations.

The four-position termination replaces the male XLR. There is a CX-1 adapter, which provides for bare-wire connection on two channels of the amplifier.

BGW 110

Crest 'elevated efficiency'

The LT Series amplifier is the first in a family of 'elevated efficiency' amplification from Crest Audio that use a combination of a linear power supply and a Class D output.

Features include dramatically-reduced net weight, very low current draw, the latest generation of high-speed, wide-bandwidth output devices and cooling by a variable speed fan with back-to-front airflow.

Inputs are balanced XLR, 1/4-inch TRS and three-pin phoenix while outputs are Speakon and five-way binding posts.

A mode selector switch and rear panel circuit breaker are included along with recessed, stepped attenuators with removable knobs, a 16-gauge steel chassis with 14-gauge steel front panel.

Crest 119

BGW Series

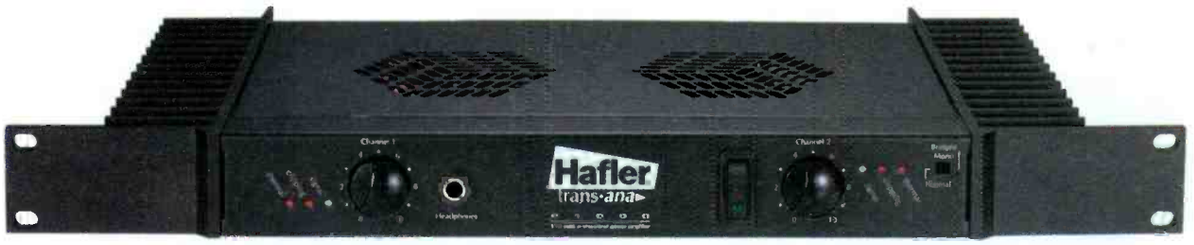
The Performance Series 3fL power amplifier uses BGW's faastLink technology to enable it to communicate with industry-standard control systems and signal processing. Based on the established Series 3 power amplifier, the unit delivers 700W per channel into a 2Ohm load from a 2U package. A modular construction is used for the amplifier and the faastLink connector is a standard 15-pin VGA D connector. Suggested applications include contractor installations, cinemas and touring sound.

BGW 109

ARX ZA series

New from the Australian manufacturer is the ZA series of multi-channel amplifiers providing built-in zoning features, along with features suitable for paging, foreground and background music. An AutoLink function automatically links channel inputs as required, eliminating the need for an external zoner. Level controls can be specified for front panel or rear panel, tamper-proof, positioning. The three models in the series are: ZA400 4-channel unit, 250W per channel into 4Ohms; ZA600 6-channel unit, 125W per channel into 4Ohms and the ZA800 offering eight channels at 100W per channel into 4Ohms.

ARX 101



Hafler introduces P1000

The P1000 compact single rack height amplifier is designed for broadcast studio monitoring, recording or critical listening, headphone system amplification, surround sound applications, paging systems, balanced or unbalanced use, and 115V/230V requirements.

The circuitry is based on TRANSconductance Active Nodal Amplifier topology, which operates the output stage with its full voltage gain, allowing the input stage to operate from a low voltage regulated supply. The signal is then shifted up in level to the high voltage section by the driver stage, which forms an active node at ultrasonic frequencies. This results in very stable, highly linear operation.

Hafler 118

Alesis RA

Alesis has extended its RA range of studio amplifiers with a new series of affordable amps in three distinct power ratings: RA150; RA300; and RA500.

Incorporating a convection cooling system, the amps feature DC coupled, fully complementary discrete amp topology, dual differential input stages, wide bandwidth, detented front panel level controls, overload/protect indicators, bridged mono operation, balanced 1/4-inch and RCA connectors, heavy duty, dual binding post output connectors, and a relay-controlled turn on/off system all in heavy-duty steel chassis. The RA300 and RA500 also offer XLR input connectors and bargraph metering.

Alesis 107

MAD extends its range

Matrix Audio Developments has launched the MZA1 modular zoning amplifier and two UK Power amplifiers, extending the UKP range to five models in total.

Greatly simplified design, installation and use of zoned background/midground and paging systems are said to be the distinguishing characteristics of the MZA1.

Contained in a 4U frame, the system features slots for up to eight amplifier zone modules, each rated at 50W RMS per channel at 4Ohms.

There is music source and microphone selection on each zone module, with two microphone and four stereo music inputs.

Features include twin fans, a switchable active clip limiter, a soft start, short circuit, overheat and speaker protection as well as a mains powercom and XLR/jack inputs.

MAD 115

QSC's 2-channel processor

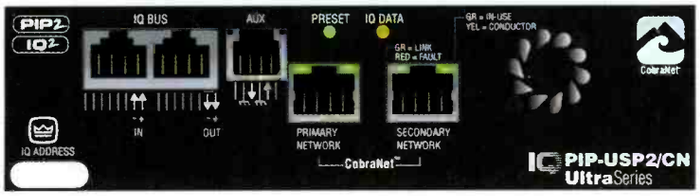
QSC has a new 2-channel digital signal processor in the DSP-3 which offers two channels of independent digital signal processing - including crossover filters, shelf filters, signal delay, compression, peak limiting, parametric filters - in a compact module that attaches to the back of most DataPort-equipped amplifiers.

Configuration is made by drag-and-drop software and users can access a DSP toolbox with icons and simple drawing tools to configure processing functions and signal flow. Configurations can be saved and recalled for future use and the host interfaces via RS-232.

QSC 113

Reader Response No. 002

Crown goes CobraNet with its amps



Crown Audio has launched the IQ-PIP-USP2/CN module which when installed in any of Crown's PIP2-compatible amplifiers creates CobraNet compatible amplification.

The IQ-PIP-USP2/CN integrates the latest CobraNet audio-networking technology and a full complement of audio signal processing in a package that requires absolutely no rack space. In addition, the module connects the amplifier to the IQ Bus of an IQ System, allowing the amplifier to be controlled and monitored via Crown IQ.

Like Crown's IQ-PIP-USP2, the CN version offers output signal delay of up to 600ms for acoustic alignment, input and output compressor/limiters, auto standby for reduced energy costs, plus eight independent, fully adjustable filters per channel.

Crown 116

READER RESPONSE No. 003

Digital amps

Chameleon Audio has launched a range of digital amplifiers.

The integrated system, which allows full PC digital control of Chameleon's high-end pro audio amplifiers with outputs of up to 1800W per channel, is compatible with Microsoft Windows applications and other music industry operating systems.

It is said to open the way to full digital control from Front of House using Chameleon crossover and equaliser units.

Other products include the D777 1u ultra-compact amplifier, which delivers 777W per channel in a package weighing 10kg.

Products from the established catalogue include source control, active crossovers, power amplifiers, preamplifiers, studio monitors, multiway configuration and complete integrated pro audio systems from 300W to 60,000W.

Chameleon 121

Stage Accompany ES40

Now shipping, the ES40 amplifier will produce 1,810W per channel at 2Ohms continuous. The peak rating is 2,850W per channel.

According to the manufacturer, the individual power supplies for each channel have huge capacitor banks, each with a rating of 210 Joules in order to ensure dynamic power reserve.

For accurate mid and bass response, the amplifier is fitted with SA's Dynamic Damping Control, a system used to compensate for long cable runs. In addition, the amplifier has total control of the speaker through the EFN (Extended Function Network). Multiple protection circuits include an active clip eliminator, as well as temperature, DC and short circuit detection.

Stage Accompany 104

QSC BusCard

Now shipping, the BSC-7 BusCard is a signal processing accessory for the four-channel CX contractor and DCA cinema amplifiers.

The BusCard accommodates cards for four channels of analogue signal processing without requiring additional rack space, cabling or AC power.

A pair of slots accept two-channel QSC signal processing accessories. These currently include crossover; bandpass, ultrasonic or subsonic filters; constant-directivity horn boost; power limiters; dual-channel bass/treble shelving equalisation and dual-channel five-band graphic equalisation. A QSC XF-1 input transformer accessory can also be added to each channel to improve noise rejection.

The manufacturer suggests the BSC-7 approach as ideal for amplifiers in rental or turnkey systems, as the internally mounted processors are also virtually tamper-proof.

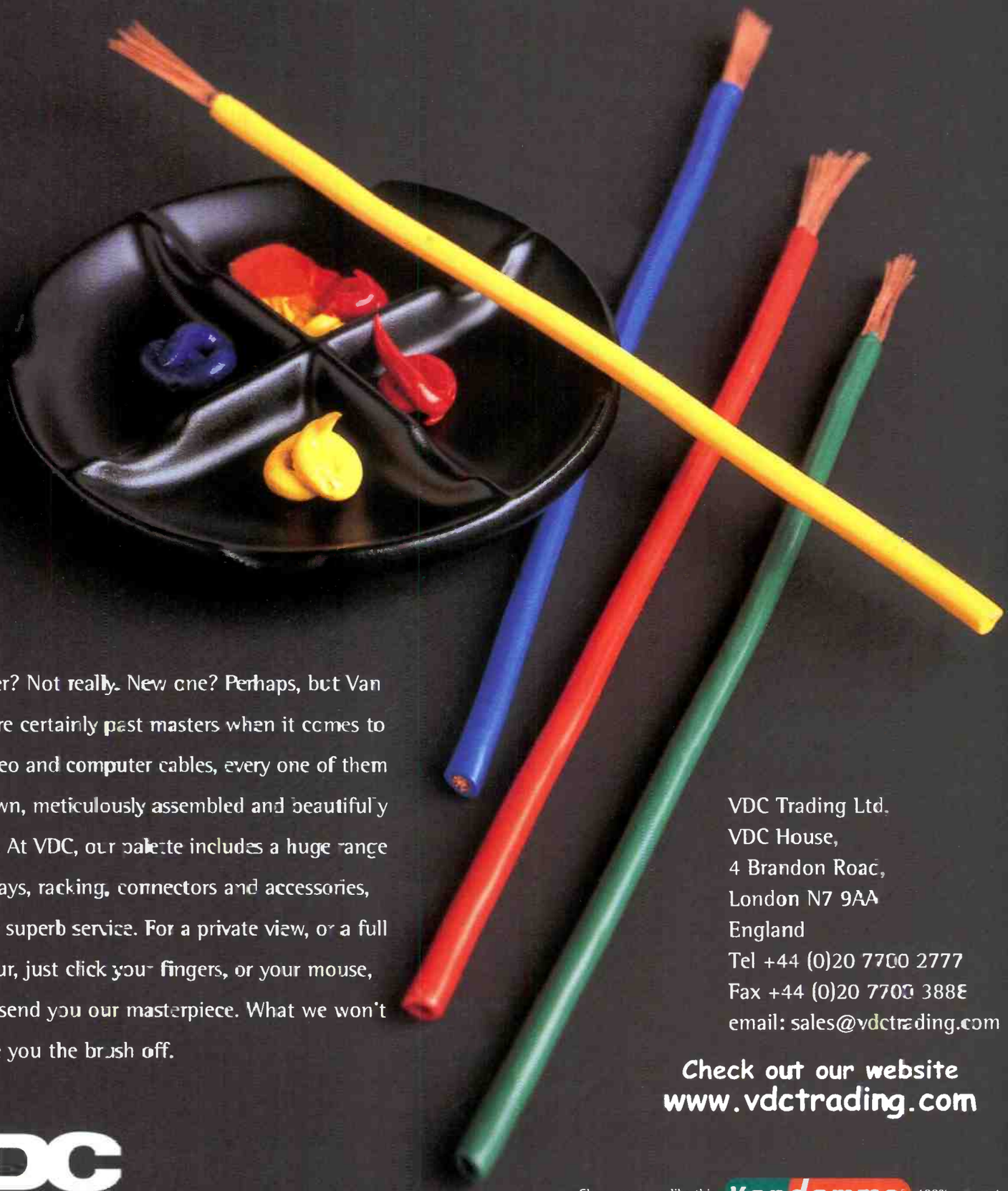
QSC 112

Affordable Crest

The CPX is an affordable line of amplifiers geared towards MI and DJ markets. Features include the GCL Gain Comparator Limiting system, rear panel defeat switch, built-in crossover, 150Hz 24dB per octave Linkwitz-Riley filter, tuned for subs, individual in/out switches for Channels A and B, 1/4-inch daisy chain outputs, input connectors on barrier strip, female XLR and 1/4-inch TRS and outputs on Speakons for Ch A and B and bridged mono with binding posts for Bridge mode. The amp has a Mode selector switch for stereo and bridged-mono operation and a two-speed DC fan.

Crest 120

Art of Noise



Old Master? Not really. New one? Perhaps, but Van Damme are certainly past masters when it comes to audio, video and computer cables, every one of them finely drawn, meticulously assembled and beautifully presented. At VDC, our palette includes a huge range of patchbays, racking, connectors and accessories, backed by superb service. For a private view, or a full gallery tour, just click your fingers, or your mouse, and we'll send you our masterpiece. What we won't do, is give you the brush off.

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Reader Response No. 004

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Reader Response No. 005

Middle Atlantic Products

New from the US manufacturer is a range of studio furniture, including an isolation rack, plus design software with data on all Middle Atlantic products.

The new Middle Atlantic Edit Center range is focused on a desk which ships with two styles of overbridge. These offer either rackbays or open space.

Rotating monitor platforms are included as standard. Grommeted desktop cable pass-throughs and a cable management system are included.

Also standard are side-bay racks with gasketed plexiglass front doors for noise control. The rear doors include an ultra-quiet fan and filter. The side bays can be rotated to any angle.

Other parts of the range include the EC-SPK36 speaker stands. These are 36 inches high and are made from high-mass materials to damp resonance. Rubber feet and carpet spikes are provided.

Similar in features to the desk side-bays is the new S24DG, a 24 space rack with doors. This is designed to isolate computers, drives and other noisy equipment from the working environment. There is also a DT8G, an eight space desktop rack, now available.

RackTools is a database-driven software package offered free to systems and studio designers. Based on the Visio design platform, it enables designers to import AutoCad room drawings and automatically create scale drawings incorporating furniture and enclosures from Middle Atlantic Products.

Middle Atlantic 151

Chicago Case Company

Designed to meet the stricter size limitations imposed on aircraft hand-baggage, CCC's carry-on cases are extremely durable and have internal arrangements for specific requirements.

One model offers a custom foam insert that has 21 2-inch diameter holes to protect at least that many microphones, dependent on mic length. An additional 2-inch slot across the front holds extras such as direct boxes, oversized mics, cables and other accessories.

Chicago Case Co 175

Amphenol rugged connectors

AC series BNC 75Ohms receptacle connectors are designed to offer a rugged, flush-mounted product. Offering impedance-matched performance, the connector is completely isolated from the ground.

A standard XLR housing is used to give the same panel cutouts across both connectors. Standard bayonet lock or push/pull coupling is available, with a standard finish of nickel and an option of black.

Adam Hall 171

Ultrasone 3D in the can

The HFI-2000 from Ultrasone is the successor to the HFI-200 headphone model. Based on the company's patented FPS Sound System, the HFI-2000 offers natural frontal sound perception without additional technical audio equipment. This is achieved by a decentralised driver positioning which converts the headphones' conventional 'in-head localisation' into an 'out of the head in-front locationalisation'. An additional result of this technical development is that the same volume perception comes from a lower dB output, reducing the risk of hearing damage.

The HFI-2000 offers several improvements over its predecessor: a more brilliant sound in the upper frequency range, a lighter weight, and a further reduction in electromagnetic emissions. The new headphones are available in a LE (Low Emission) model offering a reduction of at least 60%, compared to the average of conventional headphones, and a ULE (Ultra Low Emission) model promising a reduction of at least 95%.

The HFI-2000 has been developed for professional users who are working all day long and therefore need a lightweight, comfortable headphone with excellent sound qualities and health protection features.

Ultrasone 160

Smallest yet from Neutrik

New from Neutrik is a 5-pole XLR chassis connector and a further 75Ohms BNC bulkhead.

The smallest 5-pole XLR chassis connector yet, Neutrik's latest XLR is described as 'state of the art' by the manufacturer. The PCB version is available in horizontal and vertical mounting configurations. It is easily fixed with self-tapping screws.

Nine coloured marking rings are also available for additional identification. Nickel or black chrome finishes are available for the connector.

Neutrik's BNC bulkheads follow on from the 'push-pull' and 'rear-twist' BNC connectors the manufacturer pioneered. For the new bulkheads, Neutrik claims: outstanding electrical performance to 3GHz; true 75Ohms impedance; extremely robust machined parts of stainless steel and Optalloy plated, with gold plated contacts.

The bulkheads are available in nickel or black chromed D-shape housing.

Neutrik 163

Cliff controls

The latest range of control knobs and buttons from Cliff Electronic Components is manufactured from knurled aluminium with a plastic inner. Designed to complement a wide range of audio devices, the new designs come in black as standard with other colours offered subject to minimum order levels. A variety of designs and sizes are also offered.

According to the manufacturer, one of the custom options it can provide is the creation of new designs from existing moulds, in order to cut costs.

Cliff 162

Cirrus Logic

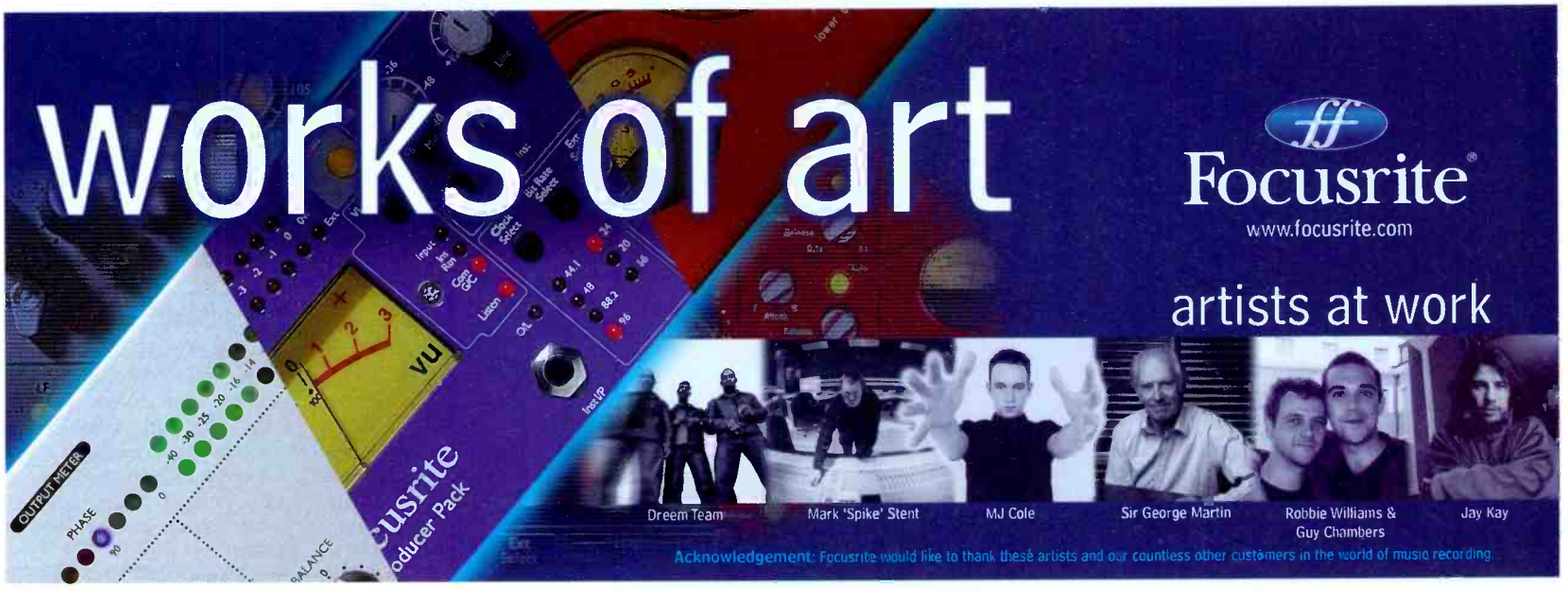
Designed to provide on-board audio for motherboard manufacturers and boards that follow Intel's CNR specifications, Crystal CS4201 is an audio codec. It incorporates microphone preamp, PLL, headphone amplifier, SPDIF transmitter and all the features of a standard AC97 codec on one chip.

Cirrus Logic 165

KE

The RV98B digital stereo effects board from KE is a self contained unit with a DSP core which will provide a choice of 16 predefined delay times. The 38mm x 77mm SIL format PCB offers minimal board size. Audio specifications include THD of 0.025% and a dynamic range of 86dB.

Profusion 168



Reader Response No. 06

AT for DJs

Using a military-style camouflage finish to emphasise their heavy-duty credentials, the new ATHPRO6GR headphones from Audio Technica are aimed at DJs. The sealed-back units can swivel through 180 degrees. Quoted specifications include a frequency response of 10Hz-28kHz and a sensitivity of 102dB. The integral cable is terminated with a standard jack plus a stereo mini-plug adapter.

Audio Technica 155

Raxxess isolation rack

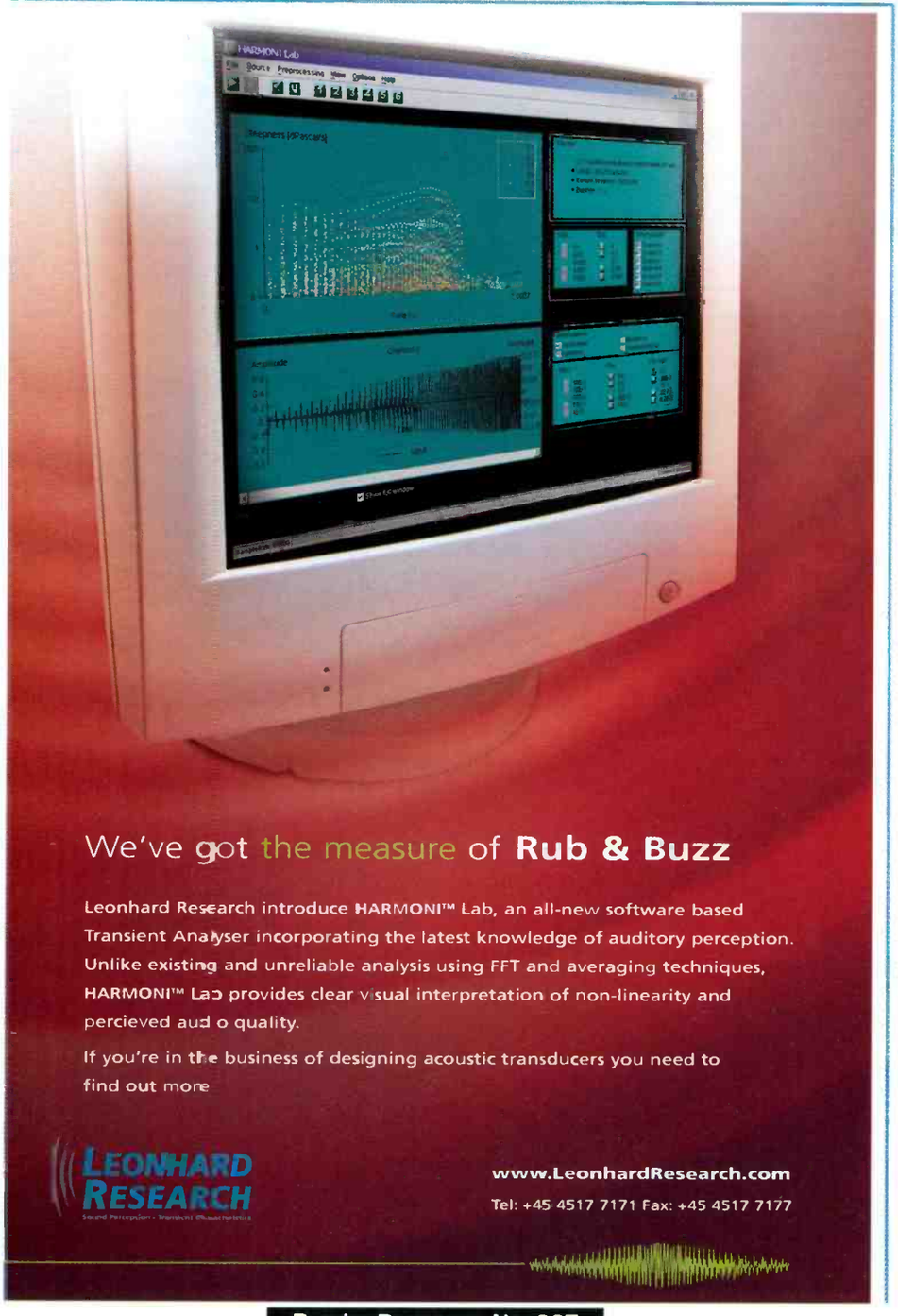
Designed to reduce mechanical noise created by computers and other equipment, IsoRaxx is an acoustic isolation rack said to give as much as 19dB of attenuation.

The IsoRaxx gasketed Lexan front door has a compression latch to ensure a tight seal. The rear door includes a keyed lock and breakaway hinges for security and ease of equipment installation. A parabolic diffuser/blower box with two variable-speed fans brings air in from the bottom of the rack for cool operation, while an electrostatic input filter captures dust.

Acoustical foam is used throughout the box to increase noise reduction, the 14U rails are shockmounted to further reduce vibration and three knockouts are provided for cable passage.

Available finishes are ebony fleck or maple. The construction material for the cabinet is 3/4-inch melamine. Castors are included.

Raxxess 166



Reader Response No. 007

'Touch proof' Cliff

Connectors and a mounting plate are among the latest offerings from Cliff. A new range of 'touch-proof' connectors has been developed specifically to meet the needs of the audio and lighting industries. The Cliffcon 8P family is polarised and designed to provide reliable and fool-proof locking and unlocking on speaker systems, amplifier outputs, lighting, instrument and system interconnections.

Integral high-reliability wiping contacts are tin plated as standard, with gold plate available as an option. The chassis connector is said to be tough, durable and panel airtight while an integral flip proof cover ensures contacts remain touch proof, as well as providing protection against dirt or moisture.

Designed for audio equipment manufacturers, the SRP2A mounting plate will accommodate a wide variety of different sized audio input/output connectors.

The plate features a pair of mounting holes on 19.05mm centres. These allow for the fitting of a pair of terminal posts. PC mounting terminals can plug straight into a PCB mounted on the rear.

If more than one pair of terminals is required for fitting, a second pair can be mounted in the moulding locations of the plate. Jack sockets, XLR, Cliffcon or phono connectors can also be fitted alongside - or in place of - terminals if required.

For large quantities, Cliff's custom manufacturing capability enables mould tool inserts to provide moulded-in holes to suit a variety of connector sizes, with text moulded into the mounting surface if required. Alternatively, the plate surface can be overprinted.

Cliff 167

dbx IEM for in-ear monitoring

The dbx IEM processor is designed to complement any in-ear monitoring system. The 24-bit device offers traditional dbx processing including: 4-band stereo compression; peakstop limiting and 5-band parametric EQ. It also includes custom reverb algorithms using Lexicon technology.

The twin aims of the IEM are to enhance the sonic quality of in-ear monitors applications, while providing the essential audio level protection for the artist.

The user interface includes a large custom display showing all operational information. It is also possible to control all aspects of operation using a PC via the on-board RS-232 port. The system will have software updates made available from the dbx website.

dbx 177

Sennheiser

Four new wireless headphones - RS30, RS40, RS60 and RS80 - are designed to allow uninterrupted audio transmission through walls and ceilings and unlimited users on a single transmitter.

RS60 has switchable surround sound, using SRS Labs' headphone enhancement technology to deliver a 'realistic and spacious listening experience through stereo headphones'. The psychoacoustic principles used in the technology is designed to move recorded sound from 'between the ears' and place it in a broader, more dimensional sound field.

Models RS40, RS60 and RS80 have on-hook charging, with the base transmitter recharging the headset's environmentally-friendly battery.

Sennheiser 174

New Rolls

New from Rolls is the ADi6 active direct interface with two 1/4-inch inputs that may be mixed or tied together and sent to an electronically balanced XLR output. The unit may be phantom or battery powered and has variable attenuation and ground lift.

An addition to the company's series of personal monitor devices, the PM55 line monitor amplifier has a 1/4-inch TRS stereo monitor input which may be mixed with a 1/4-inch unbalanced instrument or line level input. The mixed result is sent to a standard or mini jack headphones output.

Rolls 158

New trio from Canford

Canford has launched several new products including Triax connectors, an XLR in-line RF filter and an Hotshoe Adapter.

The Triax connectors are suitable for use with all 8.5mm and 11.2 mm triax cables and are watertight to IP66. Canford have priced their connectors to come in at approximately 25% below alternative brands. The standard plug version has a female centre contact and the sockets a male centre contact conforming with BBC usage. Canford is offering a custom service on products.

The XLR in-line RF filter has been designed to sort problems associated with AM radio signals interfering with and demodulating audio equipment. Plugged into the circuit at the mixer end of the cable it claims a high level of RF rejection while having no effect on a balanced audio signal even in applications where it is necessary to maintain wide frequency response.

Described as 'typically Canford', the Hotshoe Adapter enables any device with a 3/8-inch thread to be fitted on an ISO-standard camera accessory shoe. This means most European microphone clips and accessories can be quickly and easily slotted into place. It provides a secure and simple to use platform using two knurled lock nuts to hold itself and the accessory in place.

Canford 154

Cirrus Logic DVD processor

The new CS98000 DVD processor provides the audio and video core processing required for a DVD player. These include MP3 decoding Dolby Digital and DTS output support, virtual 3D and multiregion on-screen display with vertical flicker filter. With a customer-programmable RISC core and 32-bit programmable audio DSP, the processor can support all CD formats, DVD navigation, disc control, video decoding and output of up to eight channels.

The product is said to be particularly attractive to digital set-top box designers who will be able to include an integral DVD player as part of the offering. When combined with Crystal's mixed signal data convertors, DSPs and factory firmware, the new chip will enable manufacturers to rapidly design and bring to the market consumer products such as DVD AV mini-systems, home media controllers and in-car/SUV entertainment units.

Cirrus Logic 172

Penny & Giles

New from Penny & Giles Controls is the X3000 high performance crossfader.

Incorporating the same conductive plastic track technology as Penny & Giles' aerospace components, the X3000 features multi-finger precious metal contacts and hard-wearing bearings, contributing to its reliability and smooth operation under extreme conditions.

The X3000's plastic track can even be washed to maximise its useful life, and all components are available separately should replacements be required. An integral dust shield helps protect the fader track from contamination and liquid spills, while a 4mm-diameter stainless steel guide rod provides strength and rigidity.

Penny & Giles 173

Klotz ais

MY250 DD is a flexible cable with 0.50mm diameter conductor, designed for extra-long cable runs in studios or concert venues. An extremely low capacitance is combined with a double counter-rotating spiral shield for maximum RF screening.

Klotz describes the MY250 CH as a heavy-duty low-loss microphone cable. This also has a 0.50mm conductor diameter and is designed primarily for fixed installations. The flame-retardant and halogen-free cable provides increased security in case of fire, while an intermediate PE jacket gives the cable a high degree of resistance to physical strain.

Klotz ais 170

Profusion WM8816

WM8816 is an 'ultra-low distortion, low noise stereo volume controller' for audio applications. THD and noise are rated at 0.001% (100dB).

Combining digitally controlled volume adjustment with peak level detection, WM8816 is suggested for a range of applications within audio amplifiers, preamplifiers, mixing desks and recorders. Maximum input signal level is 18V and positive gain is up to 15.5dB. The gain of each channel can be individually adjusted over a range of -111.5dB to +15.5dB in 0.5dB steps, giving the subjective impression of continuous adjustment.

Control is via a 3-wire interface, with the ability to daisy-chain for multichannel systems. For enhanced performance, WM8816 can be configured in double differential mode for reduction of hum and other audible noise.

Profusion 178

Axxent

Designed as multichannel solutions where step-up transformers are required to prevent power loss over long cable runs, Axxent's latest designs are toroidal. The advantages include high packing density with excellent specifications, especially low distortion and flat frequency response. Packs are available handling four channels of 250W or 400W and the transformers are also available individually.

Pro Audio Mktg 169

Reader Response No. 08

New 96kHz digital from

Audio precision

System Two Cascade

The Audio Precision System Two has become the acknowledged Industry Standard in audio analysers across the world.

Now the System Two Cascade provides higher speed and enhanced facilities to keep pace with state-of-the-art audio systems. It has all of the features of the System Two plus:

- ***Continuous digital I/0 compatibilty from 8kHz to >100kHz***
- ***Single and dual connector operation at 96kHz***
- ***Digital switcher function at 48kHz***
- ***Greatly increased DSP power to give higher speed to all standard System Two functions even at 96kHz***
- ***Dual "Function Reading" meters for two channel distortion and band-pass measurement in one sweep***
- ***Increased signal memory giving greater FFT capacity***
- ***Improved INTERVU with 80MHz sampling and the lower frequency limit extended to 50Hz.***

The System Two Cascade is available in 3 versions: Analogue+DSP, Dual Domain, and Digital-only.

Typical new-technology application areas include:

- PC Audio, DVD Audio
- AC-3, DTS, MPEG, etc
- Downloadable Sounds (DLS)
- Reduced Bit Rate Systems
- Audio Quality Standards
- 3-D Audio
- Automotive ICE
- Digital Cell Phones
- DAB Radio
- Internet Comms

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THURLBY THANDAR INSTRUMENTS

Reader Response No. 009

Affordable Nady PEM-500

The new PEM-500 Personal Ear Monitor is said to combine frequency-agile PLL synthesised UHF technology and high-end performance with 'unprecedented affordability'. It has 16 user-selectable channels, plus stereo or mono transmission. The transmitter uses a metal half-rack casing. Its front panel features: input level control; headphone monitor jack and volume control; channel select button; LED channel display, and left/ right 10-segment audio input level displays. On the back panel there is a BNC jack for the detachable antenna, a 1/4-inch TRS balanced microphone input and an XLR combo jack for left and right line inputs.

The bodypack receiver offers a switchable built-in volume limiter; output level control and combination bi-colour power, signal and low battery LED. It operates up to six hours on a 9V alkaline battery. Each receiver is supplied with a pair of miniature, lightweight ear-bud speakers that can be fitted with the included soft moulded in-ear inserts.

Nady 150

PCM low-cost motor controllers

A division of Pfaff Silberblau, PCM now offers a range of low-cost motor controllers, such as might typically be used with chain-hoists when flying speaker clusters or lighting rigs in a live venue.

The cost reduction has been enabled by the use of standardised steel plates, which eliminate the need for flight cases. Controllers are available in 4-, 6-, 8- or 12-channel units, with 24 and 26 channels also available for larger venues.

On locally controlled units, front panels contain the outlets to each hoist, while the rear panel contains the toggle switches for each hoist, a manual phase reversal system and an overload device. These are all protected by a hinged cover. A carrying handle is provided on the top of the unit, along with a Go button and an Emergency Stop button with a key switch.

Remotely controlled configurations have a socket for a remote handset built into the rear panels. The remote has 15m of cable and is fitted with toggle switches for each hoist, Go and Emergency Stop buttons.

PCM 152

New Wheatstone furniture line

US manufacturer Wheatstone has introduced a line of studio furniture to meet a broad spectrum of styles and budgets. The top-of-the-line Preference series offers rounded edge wood-trimmed cabinet panels and countertops with hand-crafted corners and rounded wood trim, available in standard or customised colours.

The Eclipse series is a mid-range option suitable for studios that need to optimise space, while the Techline series has all the interior features and details of the other furniture in the series but comes with cost-effective countertops edged in rugged vinyl bullnose.

Wheatstone 179

Penny & Giles

A low-profile version of the PGF M3000 motorised linear fader has been released. The new device has a panel depth of slightly less than 31mm, enabling it to be incorporated into slimmer consoles. A conductive plastic track is combined with a fine-line drive cord, said to be specially produced from a low-stretch material for a smooth feel.

Customer options include a range of stroke lengths, a choice of motors, single and dual track designs, plus various track laws and switching capabilities.

Penny & Giles 153

FutureSonics

According to the in-ear monitor system developer, the new MG4 driver for its custom earpieces delivers 'increased output performance, improved dynamics and outstanding quality of sound'. The new driver is available as part of new custom-moulded Ear Monitors, or as an upgrade to existing sets.

Futuresonics also says that its Ear Monitors can be used with any IEM system using a 1/8-inch jack. Customers range from U2 to Stevie Wonder and Madonna to Luciano Pavarotti.

FutureSonics 176

V1.4 for Calrec Alpha 100

Calrec and Nine Tiles Networks have developed a wide area audio networking and distribution system for the Alpha 100 digital desk. The system uses Nine Tiles' Audiolink AES3/ATM encoding system which enables AES3 audio to be distributed via ATM switches and networks. The first application will be the development of remote mic preamps for the Alpha 100.

Calrec Audio has updated software for its all-digital Alpha 100. Version 1.4 software builds on enhanced software unveiled earlier and the focus is on production and on-air applications in providing 48 multitrack/matrix outputs, 20 auxiliary buses, eight audio groups and four main outputs. The Alpha combines user-friendly ergonomic controls with a high degree of reliability for on-air use. All desk functions are memorised to snapshots and full system reset is achieved in less than 60ms without audio interruption.

Calrec 212

Soundtracs premieres D4

Soundtracs' D4 flagship digital console simultaneously provides 320 full audio channels and 124 output buses. Available in frame sizes from 16 to 96 faders with optional rack expanders, desks can also be cascaded.

The console can be remotely linked via Net-Tracs for interconsole file exchange and Maditracs audio networking.

Other features include 106-segment tricoloured LED digital metering with selectable ballistics, 48kHz and 96kHz operation, simultaneous stereo, LCRS, 5.1 and 7.1 with divergence, and an ergonomically enhanced touch sensitive worksurface.

Soundtracs 235

Euphonix for broadcast

New enhancements for the System 5-B High Performance Broadcast Console offer features developed specifically for on-air broadcasting and postproduction. The V2.5 Software Suite includes the Model 403 Modular Postproduction Panel equipped with PEC/Direct monitor controls, dual motorised joysticks plus space for user customisation, the GPIO interface, a new graphical user interface (GUI) that allows 32 switch closures to be created from objects on the control surface, as well as allowing 32 external inputs to implement console functions.

Frame options include a 48-fader desk that can be outfitted with two Producer's Desks plus loudspeaker shelves and a script tray. The Producer's Desk can be supplied with a large 16:9 format TFT screen for monitoring external video.

System 5-B incorporates Multiformat Channels that enable an operator to control up to eight channels at a time from a single channel strip. Stereo channels can implement MS mic techniques, plus L-to-Mono, R-to-Mono and Balance. A Stereo Backstop PFL routes prefader signal to speakers.

Euphonix 225

Tannoy TMA 120 mixer/amp

The TMA120 mixer/amplifier has been designed for use in a range of audio installations. A combined six-input mixer and 120W power amplifier, the 2U device is suggested for background and foreground music and speech systems in venues such as retail outlets, houses of worship, factories and offices.

The six balanced inputs are mic/line level, with one of them also interfacing with a telephone switchboards. Each channel can be set to automatically or manually mute, for assigning priority to a security microphone. Overall volume levels can be set remotely using a simple potentiometer.

Other features include equalisation, built-in compressor and output patching capabilities. The power amplifier is suitable for low impedance or line voltage systems.

Tannoy 204

Lawo

Lawo's I/C DALLIS can directly convert analogue line, AES3, RS422 and GPIO studio signals into ATM. Due to the backplane designed in star-wiring topology the redundant power supply units and the possibility of hotplugging of all card types, the I/O DALLIS system is especially designed for applications where high availability is needed, such as in control rooms. The system is part of the DSN (Digital Studio Network) and the mc2 series. One ATM connection can connect up to 80 mono sources and 40 mono targets to the matrix.

Lawo 223

Fusion

Fusion is specially designed for On Air broadcasting applications and offers cost-effective digital mixing, routing and control with DSP on all input and outputs. The console has a low profile mounting depth of 72mm, can handle 96 digital or analogue inputs per unit and can be scaled up to a total of 264 x 264 I-Os per DSP frame.

Fairlight On Air 200

TeleCast

Norwegian manufacturer TeleCast has adapted the Seem Seeport portable mixer for use in satellite OB vans. Following filter modification, the unit can now be used near a satellite transmitter without RF interference, bringing the mixer in line with German Pflichenheft requirements.

Seeport can be configured for a wide range of applications and is available with 8, 12 or 16 input channels and with 2 or 4 outputs.

Telecast 210

ARX

Mix8 Is an 8:2 line mixer with level and pan controls for each channel. The output stage has left and right level controls, plus a headphone socket with individual gain control. Input sockets are -10dB phono, plus balanced +4dB XLR and jack. Outputs are fitted with XLR and jack connectors.

ARX 206

Fairlight

Fairlight's Fusion console for on air broadcasting applications, offers digital mixing, routing and control with DSP functions on all Input and outputs. The console has a depth of just 72mm and can handle 96 digital or analogue inputs per unit and scaled to 264 x 264 input and outputs per DSP frame. The console is available with Windows configuration and routing software and integrated support is also provided for Fairlight On Air's CoSTAR Radio Automation Control System.

Fairlight 220

Audionics launches desk

The ADX digitally controlled assignable console is based on a central audio router and up to 64 sources are available on each channel and a clean feed mixer provides interlocked reverse cue feeds back to the source. User programmable presets enable rapid reconfiguration while desk set-up facilities are available through PC software.

Also newly launched is the eMonitor remote system monitor. This 1U enables monitoring of a broadcast installation from a web browser for fault finding and restoration of programme feeds. Eight alarm inputs and eight analogue audio inputs are continually monitored with the status shown in an embedded web server. The system can be programmed to send an email when a fault occurs and switch one of the eight stereo analogue feeds to an alternative source. Users can also switch output status from a web browser as a means of remote transmission switching.

The eXtender system consists of a pair of modules to interface RS232 serial communications to a LAN/WAN or the Internet. This removes the need for a PC to be dedicated to the equipment being controlled. One of the modules is connected to the RS232 port of a PC and a standard web browser is then used to tell the module the IP address of the remote eXtender module. All serial communications from the serial port are transmitted via the network to the remote module where they are presented again as a standard RS232 serial output.

The eXtender system is said to be applicable to installations where several pieces of equipment require occasional control and this can now be performed from the desk top.

Audionics 221

Two mixers from Yamaha

New from Yamaha are two rack mounting mixers. MV800 is a 2U analogue mixer aimed at a variety of situations from small studios and broadcast installations to public address. The unit has eight mono mic/line inputs and one stereo channel. Mono channels are equipped with XLR inputs paralleled with a Euro-block connector on the back, 48V phantom power, balanced insert on TRS jack, individual noise gates, two band equalisation and zone assignment switching. There is a programme ducking function for paging.

MV12/6 is aimed at similar markets to the MV800 but is a 7U design with more comprehensive features. The 12 inputs are divided up as eight mono mic/line channels and two stereo channels. Channels are equipped with fader, 3-band equalisation, two aux mixes, plus routing to four group outputs and the main stereo outputs. There are 16 built-in digital effects, including reverb.

Yamaha 217

New Tascam digital mixer

Tascam's DM-24 digital mixer is a small format desk with flexible routing, built-in automation, and built-in effects, dynamics processing and parametric EQ. It is 24/96 capable and has full transport control, LED ring encoders, hierarchical grouping and 100mm touch sensitive motor faders which work in conjunction with on board automation that requires no external computer or software. Up to eight mixes can be stored and automation data can be offloaded via MIDI.

In addition to 16 analogue inputs with XLR mic, 1/4-inch line inputs, and analogue inserts on each input channel, the console includes 24 channels of TDIF and eight channels of ADAT optical, one stereo AES-EBU and two SPDIFs.

Two option slots are provided for additional 8-channel analogue, digital and cascade interface modules. Tascam has teamed with TC Electronic and Antares to offer reverb, mic modelling and speaker modelling for the desk.

The DM-24 also provides eight auxiliary channels for effects returns and each channel has a delay with a design that compensates for fixed latencies within a digital studio.

Tascam 213

Innova Son Actor and modules

Innova Son has announced a new range of digital Sensory consoles, the Actor Series, for theatre, opera, and musicals. The news coincides with a new configuration of the Sensory Live Series and two new audio modules.

Actor series consoles retain the features of the Live Series but add new Smart automation features, time code functions and a cross-fade system.

The addition to the Live Series is the Touring Kit which features two Essential Lives plus one digital Stage Box for applications where FOH and monitoring consoles are needed.

The X0-8A module has eight full processed digital outputs (AES-EBU) combined with audio HyperDriver processing while the MXO-8D is a XO-8D board (8 processed outputs) with mixing capabilities.

Innova Son 240

Valve mixer

TL Audio have unveiled the M-3 TubeTracker 8:2 valve mixer. Each of the M-3's channels feature discrete valve mic preamps, 4-band EQ with swept mids (based on that of the VTC), a pair of aux sends and a post-fader direct out. A simple master section is based around a stereo valve mix bus with a pair of auxiliary returns, comprehensive monitoring and metering options and an optional stereo digital output.

Multiple M-3s can be linked by a link facility that connects each mixer's mix, PFL and auxiliary buses.

TL Audio 239

Reader Response No. 011

6 channels into 1U does go

SONY

Sony's newly revised Freedom range of radio mics offer even more incredible RF and audio performance in unique low profile packages. Imagine up to 22 channels of ultra reliable UHF radios in just 3U of rackspace.

The systems are easy to use - add channels by simply slotting in tuner modules. No more RF spaghetti ! Use the AUTOSETUP feature to automatically assign interference and intermodulation free frequencies. Be up and running before the others have even unloaded their flightcase.

MB-806 RECEIVER RACK

- Up to 6 UHF channels in 1U
- Full diversity reception
- Built in Antenna Distribution & PSU
- Automatic Set-up function
- Individual channel and mixed outputs
- Power for active antennae

WRU-806B UHF RECEIVER MODULE

- LEDs for battery warning, AF & RF
- Quick set-up buttons
- 24 MHz reception bandwidth

WRT-807B DYNAMIC HANDHELD

- Robust metal body
- Up to 7 hours from 1 AA battery
- LCD shows battery, RF and channel status
- lockable ON switch

WRT-805BHR BELTPACK TRANSMITTER

- Small, lightweight beltpack
- 7 hours from 1 AA battery
- LCD shows battery, RF and channel status
- Reliable 4 pin HR connector
- Only 120g

Reader Response No. 012

in the UK contact:

Total Audio Solutions Ltd

01527 880051

www.totalaudio.co.uk

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Tascam

Tascam's four channel X-9 mixer includes analogue, digital and MIDI I-O, alongside built-in effects, sampler and versatile equalisation. It can be used with vinyl decks and dual CDs.

On-board effects include reverb, delay, flanging, auto-panning, lo-fi filter, pitch control, transformer effect and low-pass filter. The equalisation is parametric and as many as 30 effect and EQ settings can be stored in memory.

The X-91s sampler allows source material to be selected from any of the inputs from 1-4, the master output, the microphone input or both sides of the crossfader. There is also a customisable fader-start function which can be assigned to several controllers on the mixer.

Tascam 234

Lawo

Lawo has launched the diamond AV console in a standardised format for TV production (equating to a high-performance console at a competitive price and with short delivery time, according to the company) and the mc2 Broadcast. The latter combines ATM audio technology with the ergonomic, modular new control panel and is designed for on-air and production use in radio and TV with snapshot and dynamic automation, talkback system, and mix-minus conference system.

Lawo 214

Now there are two ways to get further information
1. www.WNIPA.com
2. response cards (inside back)

Studer D950 M2

The Studer D950 M2 represents the evolution of the Studer D950 and has an all-new look that exemplifies the enhancements to the software-based feature set.

It combines enhancements to the software-based feature set with a newly designed control surface. It comes standard with a new Central Assign Section, colour 8-channel surround meter, as well as a larger 15-inch TFT colour display monitor.

The knob sections contain new rotary encoders with an integral 21-LED ring for display of knob values and each knob is flanked by an alphanumeric readout. Almost all the channel circuitry has been redesigned and enhancements have been made to touch sensors, power distribution, and the moving fader servo amplifiers.

Studer 24-bit convertors are used, all digital I-Os are 24-bit, and internal processing takes place at 40-bit floating point precision on a 32-bit bus. The M2 digital core is fully configurable and console capabilities can be expanded by installing additional DSP cards.

The M2 features Studer's proprietary Virtual Surround Panning (VSP) and the architecture has been extended to provide smoother and more natural early reflections, as well as the addition of late reflections (reverberation).

Studer 208

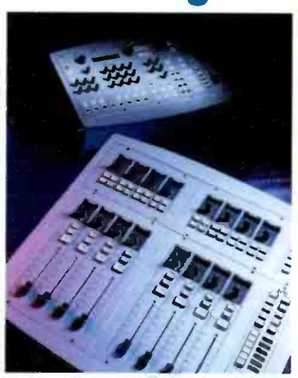
D&R is Sirius and Scorpius for On-Air digital

D&R has presented it's first all-digital console. The Sirius is a modular broadcast on-air/production console that uses DSP technology from Texas Instruments. The system can be built up to customer requirements and has a control surface, screen, rackmount I-O units, digital router and an optional 'direct access' super module.

The control surface can hold a maximum of 2 fader-panels containing 4 faders each and a system can be built up with a maximum of 16 faders. The control surface has a clear layout and is equipped with on-off, cue and select buttons. By selecting a module the operator has access to its EQ, routing and dynamics on the system's screen. For those who prefer the 'analogue feel' of real potentiometers and switches, the optional super module has a complete channel-strip with EQ, auxiliary, dynamics and routing sections. All pots in the super module are motorised and settings of all pots and switches can be stored in presets.

The Sirius contains 32 digital audio processing channels with 4-band parametric EQ and compressor/limiter and gate. The desk has 2 stereo programme buses, 8 group output buses, 8 clean feed buses and 3 stereo aux buses. The system's internal routing matrix can connect up to 64 I-Os.

For communication with the digital and analogue outside world the Sirius' audio interfacing is also modular allowing the system to be



adapted to the studio environment. All digital inputs have their own sample-rate convertors.

The Scorpius is a smaller version of the Sirius but with the same amount of power in its processing.

D&R 227

SSL Axiom-MT

The Axiom-MT digital multitrack console has been the subject of a number of enhancements.

A new Super-Pre mic amp is said to bring 'outstanding audio quality' though an innovative circuit from the designer of the SL 9000 J series input stage. Discrete analogue circuitry is used for low noise and high bandwidth, while noise management techniques are used to ensure that the system is quietest in its most useful gain range.

To provide artist's cue feeds of equal quality, SSL has used NITECH (Nearly Instantaneous Technology) convertors on the mic inputs and the foldback outputs. These are designed to allow a very fast transition between the analogue and digital domains, with 'negligible latency' in the record and monitoring paths.

New software features include E and G series equalisation emulation modes, as well as a radical four-band 20Hz-20kHz equaliser. These are selectable on a per-channel basis. New faders, dubbed INFO (Intelligent Null Feedback Operation), are digital linear motor units designed for increased accuracy and tactile feedback at null points and level matches for greater control.

They are individually hot-swappable and feature a 4-character LED display. New stereo channel meters have additional display modes, including the simultaneous dual-mono display of all banked channel or monitor inputs, which is of particular benefit to mobile operations.

SSL 216

Reader Response No. 013

mc²80/82

For Studios and Media Centres

mc² Broadcast

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NEW RELEASE

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The digital mixing consoles mc²80 BROADCAST and mc²82 BROADCAST combine the future-oriented ATM-audio-technology with an ergonomic, modular control panel. Designed for every-day use in ON-AIR programmes and productions, these mixing consoles leave nothing to be desired.

The powerful signal processing offers sound design in an uncompromising quality in every channel.

Further features are **static and sequential automation, progressive mix-minus control with two conference buses, integrated TB and redlight functions, and flexible surround monitoring systems.** Of course, a multitude of **special functions** can be included by way of signal-matrix-programming.

Remote control panels in newsrooms, video control rooms, studios or duty editor workplaces allow to create **distributed monitoring and control systems** in an elegant way.

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Reader Response No. 014

ATI production desk

ATI's Paragon II Production Console is designed to complement the company's Paragon II Monitor Console and is suited to FOH mixing, broadcast production, or live theatre.

A stock Paragon Production unit contains 64 mic inputs with full routing, eight stereo line inputs with routing to groups or the mix busses, and four stereo line inputs with routing to the stereo masters or the matrix.

Outputs include eight mono and four stereo aux busses, eight stereo audio groups with inserts, eight stereo matrix outs with inserts, two main mono mix outs, and two main stereo mix outs. All input channels also have a stereo direct out and an insert send, each with its own level control. Fully expanded, the desk can incorporate more than 100 high-gain microphone inputs.

Audio control capabilities include eight VCA groups and two VCA grand masters. Each channel features 4-band parametric EQ, on-channel gate and compressor, true LCR panning with LCR audio subgroup capability, and the company's Distributed Intelligence technology which allows the console to route and remember group, VCA, and muting assignment without the need for a central computer.

ATI 232

Midas broadcast console

Building on the considerable success that its consoles enjoy in broadcast environments and the inclusion of broadcast comms panels on its boards for some years, Midas has unveiled a dedicated broadcast console called the Broadcast 2000.

Designed for TV studios and mobile video production but also film and music post, the desk is 7.1 capable with AES-EBU I-O convertors available as an option together with AV router interfaces and snapshot automation.

The desk is available in 24 to 72 channel frames and can be loaded with any combination of mono and stereo modules. Other features include Midas EQ, six auxes, 8 mix minus buses plus eight stereo subgroups, two stereo masters and four VCA sub/mute groups and five monitor modules. Inputs have a separate mix minus bus and limiter per input with automated gain adjustment, mic line selection plus and eight-input preselector.

Midas 218

Mackie VLZ

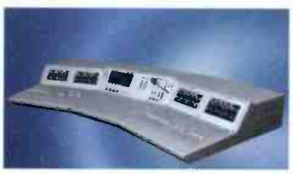
The latest 16-input desk from Mackie is the 1642-VLZ PRO, said to benefit from new XDR (Extended Dynamic Range) preamps, with 60dB gain, ultra-low noise and extended headroom. A +22dBu line signal handling capability and 130dB dynamic range are claimed. Inputs are configured as eight mic/line, two mic/stereo line and two stereo line.

Mono channels are equipped with three-band equalisation with sweep mid, while the stereo channels have four band equalisation. There are four aux sends and four stereo aux returns, as well as eight direct outs. Faders are 60mm.

With the exception of the eight TRS channel inserts, inputs and outputs are balanced and unbalanced. The chassis can be rack-mounted or free-standing.

Mackie 207

Studer On-Air 2000 M2



The Studer On-Air 2000 M2 is derived from the On-Air 2000, and uses the same core technology as its predecessor together with Studer's patented Touch'n'Action operation and the new look introduced by the D950 M2 and On-Air 1000.

The On-Air 2000 M2 incorporates a complete input routing system allowing for more input cards than fader channels and input cards can be placed in an external rack or directly inside a custom mixer frame. The M2 can be equipped with 6, 12, 18 or 24 channel faders and can have up to 64 inputs.

Existing On-Air 2000 customers can get an upgrade kit to benefit from the functionality and the internal routing system of the new M2.

Studer has also introduced a version of its On-Air 1000 console with redundant power supply.

Studer 231

SSL AudioBridge interface

SSL's AudioBridge interface extends the company's HiWay and Freeway multichannel networking technologies by providing full bandwidth digital audio distribution from room to room and city to city.

Using standard (Cat 5) computer wiring and wide-area network data protocols to route full bandwidth digital audio over hardwired and virtual circuits, AudioBridge data is compatible with standard ATM switches and telecoms interfaces.

Each AudioBridge 1U rack-mounted unit provides an 8-channel, two-way audio connection within a standard 25Mb/s data interface. Where more than 8 channels of audio are needed, multiple AudioBridge units may be aggregated via an ATM switch to increase capacity.

Using standard data cabling, AudioBridge provides a convenient and cost-efficient means of constructing temporary circuits within an installation for cable runs of up to 100m. Alternatively, optical fibre may be used between switches to provide connections of up to 2km or more.

SSL 223

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WIRELESS SERIES

The **WIRELESS SERIES** by LEM is a new line of **top-quality wireless microphone systems**, that combine **professional performance** and an **extremely convenient price**.
Particularly suitable for live concerts, congress halls, theatres and houses of worship, the LEM WIRELESS SYSTEMS eliminate the cable and let you perform with total freedom.
Technologically advanced, silent, sturdy and stable even if used in hard conditions, the LEM WIRELESS SYSTEMS are available in **VHF** and **UHF** band, with the possibility to choose up to **8 different frequencies** for the simultaneous use of multiple systems.
All the models allow the choice of several microphone types, in order to satisfy the broadest demands and to guarantee maximum flexibility.

L2000SD SWITCHING DIVERSITY VHF WIRELESS SYSTEM

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HANDHELD microphone (HT)

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LEM®

Reader Response No. 015

RTW version 4 software

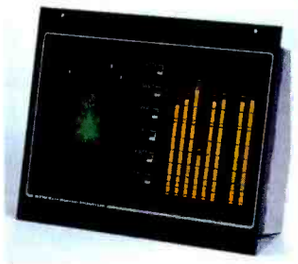
RTW has introduced software version 4.0 for the SurroundMonitor 10800 which allows the 10800 to be used as an analysing tool for surround sound audio programmes.

According to the company, the new software takes into account that there are different applications, such as DVD mastering or surround sound music recording, that have different demands with regard to metering and programme analysing.

Several new display modes have been added which clearly show the balance of front/surround channels as well as the distribution of the sound energy in the surround sound listening field using a SPL-calibrated grid.

Different vectorscope modes allow the comparison of all channel pairs. The phase relations between all channels can be seen on the new multiphase meter display. The unit may be calibrated using a reference monitoring level and can also display the correlation between LSRS channels for low frequencies which gives an idea of the enveloping of the surround sound. An indicator that helps to estimate whether a pseudo 3/2 type surround sound has been derived using delays from a 3/1 has been added as well.

The new protocol mode for average and overall loudness uses



an external timecode or internal time reference for mastering applications.

RTW 271

Leonard mimics human ear

Leonard Research's Harmoni Lab transient analyser software recreates characteristics of human hearing to perform evaluations that would otherwise require listening tests. These include 'rub and buzz' noise in loudspeakers and clicks in transmission lines.

Not surprisingly, such an ambitious achievement has a heavily theoretical basis. The Harmoni transient analyser uses the latest research on how acoustic energy transients are detected in the human ear and brain. This combines the well known filtering nature of cochlea presented by Dr Zwicker with the new acoustic energy transient detection theories developed by PhD Frank Leonhard, founder of the company.

The result is a system said to 'give a perfect correlation between the perceived quality of sound and the reading of graphs'. According to the company, the Harmoni Lab transient analyser calculates the transient steepness and amplitude in six parallel fixed-frequency channels. Each channel apparently includes a band-pass filter and detection, consisting of a rectifier, a low-pass filter and a transient detector. The transient analyser viewer uses a new way of displaying the results. Each filter in the bank is represented by an individual colour and the calculated steepness or amplitude of the detected transient is marked with a coloured dot at the moment it appears during the sweep or test signal. High readings on the graphs mean high or steep transients, which will be perceived as being annoying to the human ear.

The Harmoni Lab is impervious to background noise, an important factor when the system is to be used on an assembly line. A PC running Windows NT or 2000 and a standard sound card are all that is required as a host platform. Harmoni stands for Human Auditory Related Monitoring.

Leonard Research 273

DK-Audio adds spectrum analyser

A 1/3-octave spectrum analyser has become a standard feature of the MSD600M/SA Master Stereo Display from DK-Audio alongside the FFT-analyser.

Whereas the FFT-analyser is widely used as an accurate measuring tool, the new 1/3-octave analyser shows the energy distribution of the signal. The analyser has 30 bars and a range from 20Hz to 16000Hz. Presentation is in colour on the TFT LCD, and may even be shown on an external VGA monitor. Maximum level of the signal is continuously indicated in a contrast colour 'behind' the actual presentation.

Also new is the MSD200F/SA which is a version of the popular MSD200. The new unit is a larger cabinet with built-in universal 90-260V power supply and XLR I-Os and is a direct replacement for the well known stereo oscilloscope from the German company Filbig KG, which is no longer available.

DK-Audio 255

Signal processing from ADC

ADC's NV500 Series signal processing equipment comprises ten modules, including a variety of AES, analogue, video, SDI, plus HD-SDI distribution and processing modules.

The DA processing platform provides support for the requirements of today and tomorrow via a series of AES3, SDI and HD-SDI-DAs, plus others to be added in the future.

The NV500 2U tray accommodates front-loading, slide-in card slots for up to 10 distribution amp and/or processing modules, many of which offer dual-channel modes. Three rear-module connector types are offered: BNC for digital video SDI and HD-SDI, BNC for AES digital audio, and Phoenix for AES digital audio. ADC's NV500 Series signal processing equipment comprises ten modules, including a variety of AES, analogue, video, SDI, plus HD-SDI distribution and processing modules.

ADC 298

Quested

An analogue system manager has been added to the Quested range. The SM326 system manager was designed by Stan Gould, one of the founders of BSS and designer of the FDS360 crossover. The system includes mid filter limiters, independent high- and low-pass filters with a variety of characteristics, plus level limiter/output meters for each band. Calibration trims include fine level control, polarity reverse and phase adjustment. A remote allows the system to be muted from the studio console and an optional equalisation module is available. The design has three levels of access security.

Quested 283

Dialog4

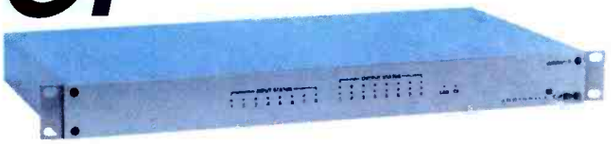
Dialog4 has debuted a network version of its Musictaxi codec. The Musictaxi V Pro is a duplex audio codec with Ethernet 10Base-T connector, designed to distribute material through intranets, ATM and other networks. It supports TCP, UDP and IP protocols. An X.21 interface is included. The 2U device will also accommodate two optional ISDN interfaces. MPEG-2 and MPEG-3 are supported, along with G.711 and G.722. The unit is rounded off with an easy to use keypad and display.

Dialog4 272

Now there are two ways to get further information

1. www.WNIPA.com
2.response cards (inside back)

eMonitor



- Remote system monitoring via a web browser
- Automatic email alerts
- Built in Audio Line fail detectors
- Comprehensive logging

The *eMonitor* allows monitoring of remote systems via standard web browsers, enabling you to check on the status of your system and make routing changes from any PC connected to the Internet (or internal LAN/WAN).

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Comrex Matrix codec

The new Matrix codec from Comrex has been designed to work on a variety of telecoms circuits to handle any broadcast outside of the studio. In its base form, the unit is a PSTN codec for 15kHz, full duplex audio over one analogue telephone line.

However, optional slide-in modules enable the Matrix to work on ISDN or GSM services. As an ISDN codec, the Matrix has three algorithms for maximum industry compatibility: ISO/MPEG Layer III, G.722 or Turbo G.722. With its GSM module, the Matrix sends improved audio over a wireless circuit. For direct connection to microphones and headphones or a mixer, the unit has two mic inputs (one mic/line switchable), one headphone output, and one line-level output.

An additional -10dBu input allows connection to a MiniDisc or DAT player. Comrex's new codec also has 'store and forward' capability to store nearly 10 minutes of audio for non-real-time delivery on any available circuit. With an optional battery kit, the unit can run for up to seven hours on battery power, which can function as either a primary or a back-up power source.

Comrex 274

Sonifex Convertors

The RB-ADDA A-D and D-A convertor is 24/96 capable and produces an AES-EBU or SPDIF output from balanced XLR or unbalanced phono stereo input. The RB-SD1 Silence Detection Unit monitors an audio signal and, in the event of the input dropping below a preset level for a predetermined length of time, will automatically switch through to an alternative stereo audio signal.

Sonifex 256

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Otari's new net products

Otari has introduced a new family of products to link into modern audio networking. Pilot products are the ND-20 multichannel, fibre-optic transmission system and the FS-96 digital 24-track multiformat convertor.

ND-20 units perform as stand-alones between stage and control room or operate in complete networks and standard features include 24 bit throughout with up to 96kHz sampling, high performance audio circuits and internal sample rate conversion.

Each ND-20 controls up to 32-channels and 16 units can be linked in a network. Each of the rack mount systems has 4 slots for plug-in modules including 8-channel mic inputs, analogue line I-O and AES-EBU interfaces. Future options include MADI and TDIF interfacing and transmission of video signals will be possible as well as using the LWL multicamera cable existing in television studios.

The FS-96 24-channel multi-format bit and sample rate convertor permits transfers between AES3 (AES-EBU), TDIF1, ADAT (optical) and SDIF2 (DASH), and FS-96 also supports MADI and IEEE1394 optionally. The system simultaneously converts 24 channels in 24-bit with up to 96kHz sampling and a special feature is the bi-directional conversion of AES3 and TDIF.

Otari 276

Star routing from Stagetec

Stagetec's star connect routing element, the Nexus Star, has been in operation at SWR in Stuttgart since September. It can be fitted with up to 16 I-O cards, each with 256 inputs and 256 outputs, for routing of 4,096 inputs to 4,096 outputs. If more capacity is needed, the system can be cascaded.

Nexus Star is a switching node that serves as a star hub for an entire Nexus decentralised audio routing system. Traditional Nexus base devices, each fitted with various I-O cards, are connected by fibre optic.

Two different connection cards are supported: the Fibre Optic Connection card used to link Nexus Star to base devices and the RMF card that provides four MADI interfaces for connecting directly to Nexus Star and from other I-Os in the system.

Stagetec 258

Dolby Laboratories CP650

Dolby Labs has launched the CP650 cinema processor. Said to be the most technically advanced in the current range, the CP650 offers a comprehensive feature set, which includes external software control of all processor calibration settings from a laptop and quicker, more accurate theatre equalisation through a new EQ Assist feature.

The CP650 also features built-in Dolby Digital Surround EX decoding and is the first Dolby cinema processor to perform noise-reduction processing completely in the digital domain.

Dolby 253

Rosendahl referencing

The Rosendahl range of digital referencing, synchronisation and timecode interface products is manufactured in Germany. There are currently five products available.

The Nanosyncs universal audio clock and video reference generator is a 1U device with six separate word clock outputs. It also has one AES-EBU and one SPDIF output, plus integrated black and burst video generator, with four video outputs. The word clock outputs can be configured to deliver a combination of 44.1kHz, 48kHz, 88.2kHz, 96kHz and Digidesign Superclock standards.

Outputs can be resolved to either the internal 1ppm crystal or locked to an external PAL or NTSC reference. The unit also supports 0.1% and 4% pull up/down referencing for audio, video and film transfers.

The WIF2 word clock interface is designed primarily to generate word clock or Digidesign superclock (FSx256) from a video reference or LTC. This is suggested as particularly useful when synchronising audio workstations to traditional analogue transports. The device will also generate MTC from LTC or VITC, and supports 44.1kHz and 48kHz sampling rates, including 0.1% and 4% pull up/down rates.

MIF3 is a MIDI timecode interface. It is designed to deliver a complete MTC solution, generating LTC and MTC from LTC or MTC, with a digital MTC jitter filter allowing the use of unstable MTC sources. Also included is an electronic gearbox for timecode standards conversion.

The LIF LANC interface will translate Sony P2 9-pin and MMC transport controls into the LANC control protocol found on many prosumer digital video camcorders, allowing their integration into non-linear or tape-based video editing systems. LIF will also generate LTC and MTC from LANC embedded timecode and the unit supports PAL and NTSC in drop/non-drop standards.

Rosendahl's BIF biphase interface will generate LTC or MTC from biphase signals. Polarity, pulses per frame, format and user-bits are all programmable. An electronic gearbox is also included.

Rosendahl 278

Thurlby Thandar

The SR760 FFT spectrum analyser is said to have a dynamic range of 90dB and a real-time bandwidth of 100kHz.

Applications include acoustic and vibration measurement. The device uses a pair of high-speed 24-bit DSPs. A menu-orientated interface groups related instrument functions for ease of use.

According to TTi, the true dynamic range of 90dB means that for a full-scale input signal, the instrument has no spurious responses larger than -90dBc (one part in 30,000). Even signals as small as -114dB - equalling one part in 500,000 - can be observed by using averaging.

Thurlby Thandar 296

EVI Audio delay

New products aimed at the sound reinforcement market include the DDL240 delay line. DDL240 is a four-output system designed to provide speaker groups with a delay of up to 5,400ms, equivalent to a distance of 1,853m. Convertors are linear 24-bit, with internal processing at 48-bit resolution.

A dynamic range of 115dB is specified. The two inputs are each equipped with equaliser, plus lo-cut and hi-cut filters. Each output has additional parametric equalisation and a digital limiter. MIDI and RS-232 interfaces are standard. RS-485 is optional.

EVI Audio 252

Audio Service

Following customer demands, Audio-Service has designed DAIS PLUS, a double frame 8HE router enabling 80 x 80 stereo (160 audio channel) synchronous digital audio routing, covering the most popular digital audio formats including AES-EBU, ADAT, SDIF-2,TDIF, Yamaha Y2 and analogue. Three DAIS PLUS routers are already installed in Germany, with two further units being sold through Audio-Service's UK distributor Aspen Media.

Finally DAIS DSP is an integrated, compact matrix and DSP system. The basic system is equipped with the DAIS Router, a complete PC and one DSP Card, currently the Yamaha DSP Factory and Studio-Audio 2496. Other brands of DSP cards can be implemented. DAIS DSP offers a hardware solution for a variety of hard disk, mixing and signal processing software from leading manufacturers. The DAIS DSP is a compact, 19-inch rack unit.

Audio Service 269

The Jelly-Fish™ Surround Sound Monitor

MSD600M *Ideal for* **5.1** *Surround Sound* **+ Multichannel**

[...see what you hear]

2 to 8-channel In- & Output capability • Phasemeter, Audio Oscilloscope and Multichannel PPM • Built-in 18x16 Audio Matrix • Analogue and digital operation • VGA output • Spectrum analyser

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Reader Response No. 018

DM100 handheld bitstream analyser

Dolby's DM100 Handheld Bitstream Analyser is used for monitoring Dolby Digital, Dolby E, and PCM bitstreams and allows system integrators and service engineers to quickly test the integrity and composition of these bitstreams.

The DM100 identifies the format of the input bitstream and decodes it appropriately. Through headphones, users can monitor individual channel pairs or a two-channel downmix of any multi-channel programme, while the sum of the two channels can be monitored through a small built-in speaker.

Test bitstreams are stored in internal non-volatile RAM, and can be changed in the field via software update.

A pass-through mode on the device allows modification of the input signal's AES channel status bits before then passing it to the output connectors.

A two-line by 16-character

LCD displays Dolby Digital and Dolby E metadata information.

Dolby 262

EVEN AFTER YOU'VE BOUGHT THEM, THEY'RE STILL ROGER'S.

Roger Quested's rather possessive about his systems.

So while he's quite happy for you to use and enjoy them, he still thinks of them as his own.

That's why the Quested team is always happy to advise on installation, room design, layout and anything else that might affect performance.

It's also one of the reasons why we have developed the new SM326 System Manager. It's the complete speaker management system in a 1U case that even improves non-Quested systems.

So next time you experience that unique Quested sound, don't just thank your lucky stars. Thank Roger too.

Shown is the compact new Quested SM326 complete speaker management system providing 2 inputs and 6 outputs, custom filters and limiters, full phase adjustment, 3 levels of security for access and optional dynamic and band EQ.

QUESTED

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e-mail: qmssales@compuserve.com www.quested.com

Reader Response No. 019

Rohde & Schwarz

Designed for DAB applications, Multiplexer DM001 and IP Encapsulator DABIP are compatible with DAB standard ETS 300 401. The manufacturer claims a first with the DM001 in offering STI functionality; allowing sub-channel data, status information and reconfigurations to be exchanged between the service provider and ensemble provider. This gives service providers more flexible use of the capacity assigned to them.

The IP encapsulator allows IP data such as Internet contents to be inserted into the DAB data stream for reception on a PC. This is accessed in the usual way from the PC using a web browser, with the DAB receiver card replacing the network card. Possibilities include mobile use and the IP component can be increased to occupy the total DAB bandwidth if required.

Also launched is the multichannel Digital Video Quality Analyser (DVOM) which allows simultaneous and independent quality monitoring of up to 12 digital TV channels. It can be integrated into a 19-inch plug-in system and has a separate MPEG2 decoder for each channel.

Rohde & Schwarz 287

AEQ is E@sy

The E@sy range of products from AEQ can be configured with optional software to incorporate multi-user applications which give additional features for the equipment. This allows the creation of a talk show system for ISDN lines, a distributing and summing multiplexer console, an analogue and digital switching matrix, and intercom matrix and a broadcast automation system.

Impact is a digital matrix capable of summing inputs and distributing outputs and has 12 AES-EBU I-Os which through cascading can create a 60 x 60 matrix. Analogue connections are catered for by the Caddy A-D/D-A which converts 24 analogue to 12 AES-EBU outputs and the reverse.

Eagle is a 1U dual channel ISDN codec able to connect to European and US networks with connectivity available in G.711, G.722 and MPEG L2. It also has the AEQ LD algorithm for 15kHz joint stereo with low delay using two ISDN B channels.

AEQ 267

Musicam goes for 'gateway'

Musicam USA has unveiled the SuperLink audio and data gateway which it describes as 'a new product in a new category - it's a link between the broadcast/audio world, the communications world and the information technology world'. With a user configurable hardware interface it serves as a low cost codec, a linear STL, and a network audio server with multiformat streaming audio.

The rackmount device has a menu window for programming, a phone keypad, programmable function keys, VU meters and headphone connector. Four hot-swappable hardware modules plug in to the rear panel and are recognised automatically.

Musicam has also unveiled its Voyager digital audio codec targeted at users who need to send and receive broadcast quality audio in real-time from remote sites. It boasts low delay and 15kHz quality and the modem allows users to re-equalise the line within 1.5s.

Musicam 275

Stonewood Audio intercom

Stonewood has launched several new products to complement its existing Professional Intercom Range.

The Stonewood Audio SA-WBP1 is a multichannel full duplex wireless belt pack including such features as PC-programmable frequencies, 16 selectable channels, and channel spacing selectable between 12.5kHz or 25kHz. It is fully EMC and ETS 300-422 approved and requires 4x AA batteries to give better than eight hours use.

The SA-CMS4 is a 4-channel master station designed to interface with standard 2-wire ring intercom systems. Total processor control enables simple set up of routing, send levels, and channel selection and all settings can be stored in non-volatile memory.

Stonewood Audio 284

Alesis introduces HDR

Alesis has announced the ADAT HD24 24-track hard disk recorder which uses a proprietary method of writing to hard disk, said to dramatically reduces fragmentation of data, to provide 24 tracks of 24-bit audio on low-cost IDE hard drives, and offers drop-in compatibility with over 150,000 ADAT systems world wide.

ADAT HD24 drives are hot-swappable through two front-panel bays and the machine offers the digital audio and synchronisation connections of the existing ADAT. The rear panel includes 24 channels of 24-bit analogue I-O, 24 channels of ADAT optical I-O and ADAT synchronisation I-O for sample-accurate sync with other ADATs, a BRC remote controller, and products from other manufacturers. When connected to a BRC, it 'looks-like' three ADATs and multiple units can be synchronised.

The HD24 provides 24 tracks of high-resolution 24-bit recording at standard sample rates of 44.1kHz, 48kHz, or at 88.2kHz and 96kHz with a forthcoming 96kHz I-O option. External word clock input is provided and the machine can cut, copy, paste, insert and move tracks and segments of audio with undo from the front panel or optional remote control.

Rear panel Ethernet connection makes HD24 files accessible to computers in AIFF format while the HD24's 24-bit ADAT optical I-O allow simultaneous transfer of 24-track material in real time. Control of transport, track arming and editing functions will be possible via an optional full-function remote control which will ship this summer.

Alesis 317

Soundscape's new R.Eds

Soundscape has unveiled two new versions of R.Ed. R.Ed/16 and R.Ed/24 use the same SSAIRA award winning architecture as used in R.Ed/32 but are tailored for different applications and budgets. Both models have fully compatible editing software, interchangeable files and hard drives, and support for additional Soundscape software packages, like the CDWriter Mastering Package and EDL Processor which handles OMF Import Export and support for all the popular EDL formats for auto conform. The full range of available real-time DSP effects and TDM plug-ins can be used with any R.Ed model.

R.Ed/24, which supports Emagic Logic Audio 4.5 as it's front-end software providing integrated audio and MIDI sequencing, is aimed at music recording and editing. The hardware itself is capable of 24 tracks, 24-bit at 48kHz (or 12 tracks at 24-bit, 96kHz), with 24 digital I-O via three TDIF ports and has one removable hard drive bay plus one position for an internal hard drive providing 274Gb of storage.

Soundscape 304

Core for Apple

Lexicon's Core 2 desktop audio system is now available for the Mac. The system provides a Mac interface with 24-bit A-D and D-A convertors, four analogue inputs (eight analogue outputs), plus eight channels of ADAT I-O and an SPDIF.

The system is compatible with Cubase 4.1 and Logic 4.0. Mac support for the optional MP100 daughter board with 240 presets of classic Lexicon reverb as found on the MPX100 dual channel processor will be available shortly.

Lexicon 326

Cube-Tec DVD-A authoring

Cube-Tec has announced the CubeDVD-A DVD-Audio authoring module for the Cube-Tec AudioCube 5 DAW.

Developed in co-operation with Nippon Columbia, CubeDVD-A supports Version 1.2 of the DVD-Audio Standard with 24-bit/192kHz in 2-channel and 24-bit/96kHz in multichannel formats.

CubeDVD-A is capable of reading 'Audio Assets' that have been mastered with NuendoCube, without file format conversion, with immediate production of encoded DVD-Audio according to the CPPM Process. In addition, production of DVD-Audio with 8.5Gb dual layer DVD-9 is supported as is MLP, and SMART.

CubeDVD-A files can be written to DLT and/or Disc Images. With an optional DVD-R Burner, media can be produced for immediate playback on DVD-A players for quality control and evaluation purposes.

Cube-Tec 349

AMS Neve's AudioFile plug-ins

AMS Neve has announced software Version SC2.10 for the AudioFile SC which features DSP plug-ins and compatibility with Pro Tools. The software has the ability to import Pro Tools session files into the AudioFile SC and allows the user to browse to a folder. Pro Tools can be rendered during import or converted to AudioFile real time fades and after the import the user is presented with an AudioFile events list.

DSP plug-ins include time based Plug-ins including SuperTimeflex, pitch change, delay, delay with modulation, room echo and Doppler effects. Frequency based plug-ins offer single and 4-band EQ with a choice of different algorithms.

Creative plug-ins are a suite of creative sound effects which are useful for sound design and include ring modulation, resonance, multiband resonance, multiband frequency selective delay, distortion, harmoniser and feedback. Effects can be combined together and saved as presets.

AMS Neve 336

Merging Pyramix for SACD

Merging Technologies and Philips Electronics have jointly developed a Pyramix DSD editor for SACD production. Pyramix covers the basic sequence of steps for production of a multichannel SACD recording, including recording, editing, signal processing and playback. Pyramix is based on current PC technology and provides the user with many advanced signal processing options, that also includes the capability of DSD processing.

All features which distinguish the DSD signal used in Super Audio CD from other formats are maintained during processing. Future extensions will include Direct Stream Transfer encoding and authoring capability, creating a single workstation solution for the whole SACD production chain.

This co-operation on developing the Pyramix editor is claimed to prove that it is possible to easily extend PCM equipment to support DSD/SACD.

Merging 613

New Soloist from SeaSound

A rack-mounted unit, Soloist is a 24/96 audio interface for a PC or Apple Mac. It combines a phantom powered mic preamp and instrument level input with MIDI I-O and headphone amplifier.

Also available from SeaSound is the Solo expander, which brings the system up to eight I-Os by adding a further six channels. Channels are front-panel switchable in pairs between +4dB and -10dB.

SeaSound 343

HD cases

Recorded Media Supply (RMS), a distributor of recording media and removable hard drives to the film and professional audio video markets, has launched a line of removable hard drive shipper cases. The cases have a durable double-skinned anti-static moulded foam insert to hold one, three, or six removable hard drives. Cases include a professional label set and are airtight, waterproof and lockable.

The variety of sizes also include a shipper for JAZ drives with space for PSU and SCSI cables.

RMS 337

Sea Sound

A PCI card and breakout box which can be used with Apple Mac or Windows-based systems, Solo EX offers two mic/line level inputs with 24-bit 96kHz A-D and D-A convertors.

SPDIF, plus MIDI in, out and thru are supported with 'zero latency' input monitoring. There are also two channel inserts, two stereo headphone amps and a built-in mixing facility.

Driver support includes ASIO 2.0, Sound Manager, OMS and MME.

SeaSound 338

SEK'D

Supplied with drivers for Windows 95/98, NT and DirectSound, Siena is a PCI audio card with eight channels of analogue I-O and two separate MIDI ports. Resolution is 24-bit 96kHz.

The product is suggested as an efficient way of configuring multitrack audio and MIDI systems. It also allows multiple cards to be interconnected via SyncBus.

SEK'D 339

Euphonix

V2.0 software for the R-1 multitrack offers fail-safe and self-diagnostics, multiformat channels, expansion of the integrated PatchNet, plus a number of features developed specifically for the postproduction and broadcast industries.

Euphonix 301

Now there's two ways to get further information

1. www.WNIPA.com
2.response cards (inside back)

Mac ASIO

Symbolic Sound Corporation is beta-testing a Macintosh ASIO driver that can route eight 24-bit audio streams in and out of the Kyma.5 sound design environment. This means that any software that supports Steinberg's ASIO protocol can now use Symbolic Sound's Capybara320 as a sound card. Besides gaining access to the Capybara's four (expandable to 8) channels of 24-bit/100kHz A-D and D-A convertors, ASIO users can now route signals through Kyma for live effects processing or mixing. A Windows 98/ME ASIO driver is planned for release later this year.

Symbolic Sound 610

AMS Neve

AMS Neve has launched the Logic 3SC 5.1 audio post system as a fully networkable workstation offering high speed editing and mixing. ESP menu-free mixing gives users the channels, outputs and automation needed to deliver complex mixes quickly and efficiently and DSP ToolBox enhances editing with a range of advanced DSP plug-ins.

Features include a 64/128 input menu-free mixing console, simultaneous multiversion mixes, and Hollywood-style surround monitoring.

AMS Neve 348

Now there are two ways to get further information

1. www.WNIPA.com
2. response cards (inside back)

Digidesign most powerful MIX

Digidesign has introduced Pro Tools 24 MIX³ (pronounced MIX Cubed). Comprised of MIX Core and two MIX Farm cards, this latest addition to the company's Pro Tools 24|MIX range offers increased audio processing power and support for 48 channels of I-O. Digidesign describes the new system as 'easily the most powerful core digital audio workstation ever available.'

Pro Tools|24 MIX³ is now shipping with Pro Tools 5.1.1 software for Macintosh and Windows 2000, described by Digidesign as a feature-rich upgrade to the Pro Tools software which introduces integrated surround mixing, enhanced MIDI functionality, and major enhancements to editing, navigation, session interchange and system integration. The MultiShell II technology of Pro Tools 5.1.1 allows DSP sharing of various plug-ins and maximises use of Pro Tools|24 MIX³'s extra DSP capacity. The 5.1.1 software also adds surround/multichannel functionality to Control|24, the new 24-channel mixing control surface developed by Digidesign and Focusrite which offers hands-on control of nearly every recording, routing, mixing, and editing function in Pro Tools.

Also new from Digidesign is the Control|24 Cable Kit, which consists of seven 25-foot, eight-channel cable snakes for connecting Control|24 to Pro Tools interfaces or external audio gear.

Digidesign 328

Soundscape's multi-DSP

The Soundscape Mixpander PCI card provides a massive amount of additional DSP processing power for Soundscape R.Ed and SSHDR1-Plus systems. It connects to the 512-channel expansion bus port on the rear panel of Soundscape DAWs and integrates with the Soundscape Mixer taking advantage of all the real-time DSP effects plug-ins. The V3.0 Dynamic Mix Automation feature in the SSEditor software extends automatically to Mixpander and external control of mixing and effects is provided through Soundscape's Console Manager.

Mixpander is designed to add serious amounts of additional DSP processing to cope with any size of mixing task and has the power and bussing structure that can be compared to that of top flight digital consoles, plus a rack of outboard effects processor units. Operation is 24-bit, 96kHz and it can run DSP based real-time plug-ins like the TC Reverb and TC Dynamizer.

Soundscape 313

Control|24

Digidesign and Focusrite have co-operated on the development of the Control|24 mixing control surface with built-in analogue preamplification for Pro Tools. Said to offer a cost effective solution to Pro Tools MIX/MIXplus owners the control surface offers 24 touch-sensitive moving faders, dedicated EQ and dynamics switches on every channel, and illuminated switching for mute, solo, record arm, channel selects and automation modes.

High-resolution LEDs display transport location, each channel strip offers dual channel metering, and 26 scribble strips provide system feedback for channel names and plug-in parameters. Designed to control Pro Tools' recording, editing and mixing automation, Control|24 connects to Pro Tools via 10BaseT ethernet and is said to offer hands-on control of nearly every recording, routing, mixing, and editing function in Pro Tools.

The worksurface includes 16 Focusrite Class A mic/line preamps and two DI inputs on the first two channels for directly plugging in instrument-level devices.

Digidesign 316

Prism Pro Tools convertors

Prism Sound's latest addition to its ADA-8 product range is the 8C-DIO-PT direct Pro Tools interface module which claims to offer a high-end, flexible alternative to the Digidesign 888/24 I-O. The ADA-8 can also work with Pro Tools systems through the AES3 interface, in which case an 888/24 is required.

The release of the new Pro Tools compatible interface module follows agreement between Prism Sound and Digidesign relating to the implementation and sale of a compatible interface by Prism Sound.

Prism 334

Dolby Surround SFX

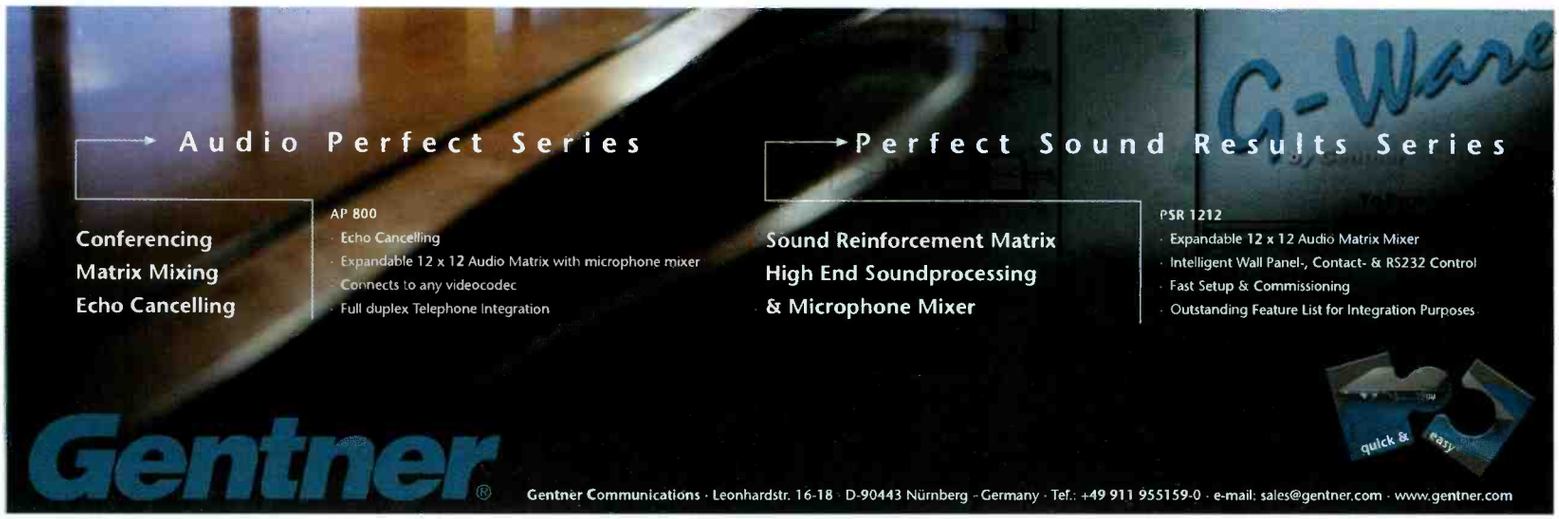
Produced by Renaissance Sound Technologies, Renaissance SFX is the first sound-effects library completely encoded and produced in Dolby Surround.

It starts with a first package of 7 CDs with a further four to follow as part of a process of constant updating.

The library offers a huge quantity of immersive Dolby surround sound-effects and complete sets of musical tools to produce music soundtracks in surround. All have been recorded on location and have been created by using proprietary miking techniques and software tools internally developed by the Renaissance sound engineers to create a natural surround-channel.

A Dolby Digital version of the library will be available on demand.

Renaissance Sound 302



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Kyma.5

Symbolic Sound Corporation is shipping Kyma.5 which is has dubbed 'recombinant sound'. The new release includes a searchable Sound Library containing over one thousand new sounds and effects. These are the built-in factory algorithms or plug-ins of Kyma. In the new Sound Browser, you can search the library, audition the sounds, and even combine sounds with each other in various ways. Kyma.5 provides a new, high-level Graphic User Interface between the Capybara sound computation engine and the sound designer.

Symbolic Sound 611

Fostex

Fostex has a DVD option for the D2424. The 9046 DVD-RAM drive has been developed to archive data from the D24241s primary drive without the need for an outboard backup device. One disc will hold 9.2Gb, as 4.7Gb per side. It is possible to store material as WAV files, making for easy transfer to a PC-based system.

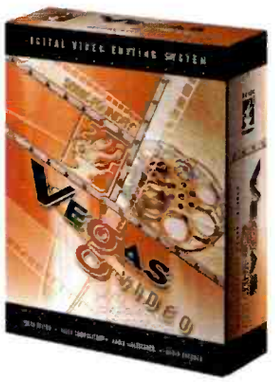
Fostex 300

Sonic Foundry Vegas Video

Sonic Foundry has released Vegas Video, a non-linear video and audio editing system designed for video editors working with Digital Video and video destined for Internet, Intranet, and multi-media applications.

Vegas Video offers unlimited tracks of video and audio, with each track featuring its own A/B tracks, advanced compositing tools, automatic crossfading, keyframeable filters, transitions, and other effects. Multiple media formats can be added on the same track at the same time without conversion or rendering. To complete the multi-media solution, Vegas Video also hosts the full line of audio processing capabilities from Sonic Foundry's Vegas Pro audio editing software.

In addition, Vegas Video delivers correct aspect ratios that depend on the pixel shape for each medium including D1, D2, and DVCam, de-interlacing, and the ability to render out to broadcast video resolutions. DV capture and print-to-tape tools are included and work directly with the Windows OS and supported 1394/OHCI cards. Vegas Video allows direct



save applications to RealSystem 7, Windows Media, QuickTime, MP3, and other formats.

Sonic Foundry 308

NETIA editing tools

NETIA's Snippets program in the Radio-Assist range was designed in collaboration with radio technicians and journalists and gives access to all digital audio editing techniques in a single screen. Sequences can be selected at random while playing. They can also be played in a loop with instant integration of any modifications. Several sounds can be edited on a single track, each one identifiable by a different colour. The interface gives direct access to the spectrum and modifications in each cut are immediately visible.

There are two ways to make a cut: if it is outside the selection, the selection is retained, whereas an ordinary cut deletes the selection. When items are cut, they are dropped in a bin where they can be played, named, pasted or saved in a database. After a cut, the reading head is automatically positioned two seconds before the cut point so the user can listen to the sequence lead-in. Fade points can be set directly while editing, either to restore the sound level of two different sounds, or to create a fade between two sound items. The actual time function displays the start of an item at the time when its recording began.

Nine markers are directly accessible via the keyboard and a number of command modes can be accessed at the same time (left and right mouse clicks, special keyboard, shortcuts, drag & drop).

NETIA 324

RADiA, Edit Slate and MLP for Sadie

Sadie's release of its RADiA DAW coincides with the arrival of the Edit Slate work surface display which the manufacturer says will give its users with an easier method of editing and the ability to produce smoother fades.

Edit Slate combines a high-quality LCD display and a touch-sensitive graphics surface, allowing the user to work directly on the LCD screen with a pen controller.

Sadie has also announced an agreement with Meridian Audio Limited that enables it to sell the Meridian MLP professional encoder and integrate it into its workstation products enabling SADiE users to create audio content for DVD-Audio.

Sadie 307

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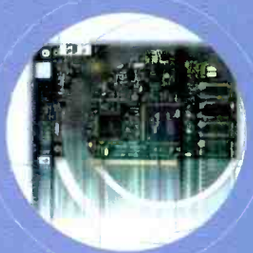

www.merging.com

FOSTEX

The performer is ready. Is your recorder?

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Recording to caddy-held standard E-IDE hard drives. (30GB supplied) and offering a removable 'remote' front-panel, additional 'ghost tracks' for multiple takes of one or more tracks.

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ART

Designed to allow performers to monitor themselves while using computer-based recording systems, ART's HPFX uses its own amplification and effects to circumvent any latency problems.

The unit provides four independently-adjustable headphone outputs, with high-quality monitor microphone preamps. The built-in stereo and dual digital effects employ 24-bit DSP with 20-bit convertors. Monitor level, mix and effects adjustment controls are also provided.

ART 303

Dalet

Dalet has integrated the RealAudio encoder into the Dalet5.1 Digital Audio System. This optional feature will provide webcasters the ability to produce a RealAudio stream directly from a Dalet Broadcast workstation.

Dalet5.1 is a production, scheduling, and broadcast system for broadcasters and webcasters who can now webcast their programming with no changes to their operations and at little cost.

Dalet 314

Tascam production station

Tascam has introduced the SX-1 Integrated Audio Production Station which combines automated digital mixing, hard disk recording, MIDI sequencing, editing, DSP plug-in technology and multiformat mastering capabilities.

SX-1 has a 40 x 8 digital mixing console with 100mm, touch sensitive faders, built-in dynamic automation, and 16 high-quality phantom-powered mic preamps. A 48kHz, 24-bit, 16-track hard disk recorder uses an internal IDE drive and additional IDE and SCSI drives may be connected via front-panel slot or a rear panel SCSI interface. Waveform, MIDI, and automation data editing via an internal recording/editing engine uses the BeIA operating system and a powerful graphics engine.

Surround mixing capabilities include the ability to record a 5.1 mix to the internal HD in addition to the original 16 audio tracks while each of the 128-track MIDI sequencer's 64 MIDI outputs can be mapped to channel strips on the console, and channel strip faders and knobs can then be assigned to output MIDI channel or custom, user-defined MIDI messages.

A built-in CD-RW drive is included for printing surround or stereo mixes, data backup and archiving, and importing sounds from audio or data CDs and the DSP plug-in technology offers built-in effects by Tascam, TC Works and Antares as standard features as well as the ability to add new effects as required.

Analogue, digital, MIDI and computer interfacing includes 16 balanced XLR inputs, 16 1/4-inch TRS line inputs, TRS inserts on each analogue input, an onboard speaker switcher, eight channels of ADAT Optical, two stereo SPDIF inputs (with SRC) and outputs, wordclock, two MIDI inputs, four MIDI outputs, a SCSI port, two USB ports, a 100Mbits Ethernet jack for FTP capabilities, and separate studio and control room monitoring.

Tascam 332

Latest Roland workstation

The Roland VS2480 24-track workstation offers 24-bit recording with on-board effects processing and CD recording, a 64-channel digital mixer, 17 motor faders, VGA monitor output and mouse and keyboard inputs.

The system achieves 16-track simultaneous recording with 24-track playback plus 384 V-Tracks. Editing is drag and drop with the mouse the desk is fully automated. Two stereo effects processors are expandable to eight and include COSM mic, speaker and guitar amp modelling plus a mastering tool kit.

There are 24-voice phrase pads for triggering and arranging phrases directly from disk plus WAV file import and export. Dual R-Bus ports allow expandable I-O in analogue and digital formats and the package includes SMPTE and Word Clock.

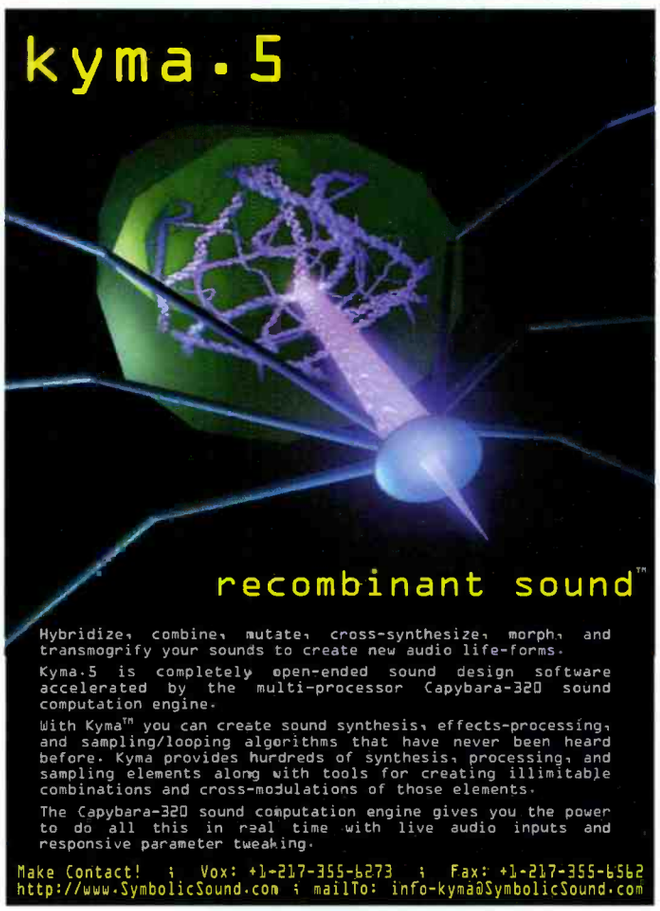
Roland 320

Akai previews workstation

Akai's DPS24 workstation offers 24 tracks of up to 24/96 recording, a 44-channel fully automated mixer with 100mm motor faders, rotary encoders and a large LCD. Detailed editing includes waveform display and 256 levels of undo in copy, cut, paste, insert and move while DSP functions will include stereo timestretch, pitch shift, and BPM match.

Other features include a 2-channel talkback system and four configurable mono or stereo aux sends that can be routed to an internal 4-channel effects processor.

AMIC 321



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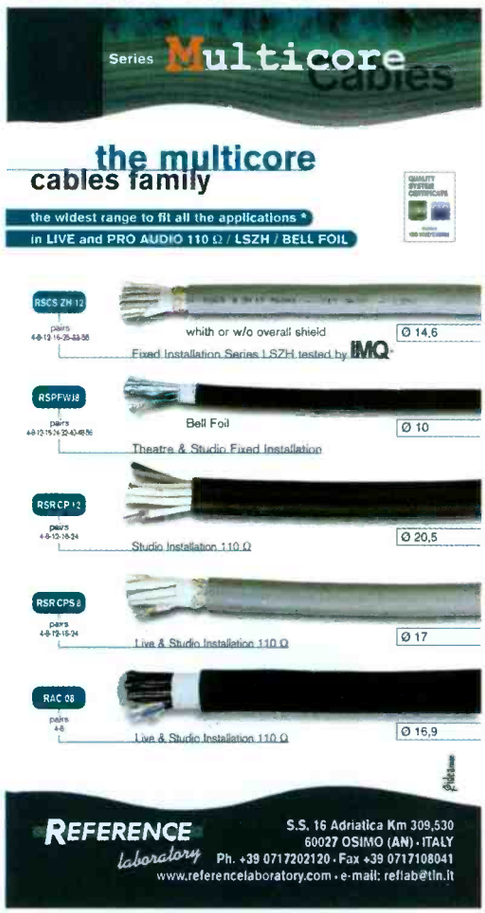


Reader Response No. 025

Cables

Keith Spencer-Allen looks at the ins and outs of mic, installation and speaker cable.

Out of all the product areas in pro audio, for many, cables come close to being the least exciting component in the signal chain, probably just in front of power supplies. However, the key word here is 'chain' and following the 'weakest link in the chain' adage they cannot be ignored.

The choice of cables and cable types is vast. The large manufacturers have catalogues that are more like telephone directories listing hundreds of cable products. Thankfully only a fraction of these have direct audio applications. The pro audio business is most familiar with the specialist audio/video cable suppliers but it is worth noting that these are far from the only source of audio cables.

Creating an inclusive study of all suppliers of cable suitable for professional audio is almost impossible and we apologise in advance for any omissions. However, this is a first step. We have chosen to limit ourselves to three analogue cable types - microphone cable, installation cable, and speaker cable. The majority of manufacturers listed are active in all these three areas but not all. Those manufacturers omitted are welcome to contact us with information that can be used in a future issue.

WHAT'S NEW?

An interesting question. In cable market terms, a new product is 'new' much longer than in virtually any other related field because outside of the regular cable installers, most of us only consider cables when a major installation is imminent.

The ability to innovate within such a mature technology as analogue cables is limited - the laws of physics are immutable no matter how hard some manufacturers may suggest otherwise. We know that perhaps fibre-optics, with their interference-free advantage, and even RF links may remove the need for wire cables, but at this moment in time copper is king in professional audio.

Most change in cable design lies in the physical construction and the ways that it may be varied to achieve one end without compromising another, as well as increasing suitability for specific applications.

Because of this, many of the new cable types to be covered are just small variations in what went before but this may make them considerably better at the physical side of their role, or improve their ease of installation, all of which can have performance, reliability and financial implications.

MICROPHONE CABLES

The design of microphone cables is by far the most complex of the audio cable disciplines. While carrying low level signals, they are vulnerable to physical damage as well as EMI and RF interference plus, as they are may be handled, mechanical vibration passing through the cable, or noise generated within the cable as a result of cable movement.

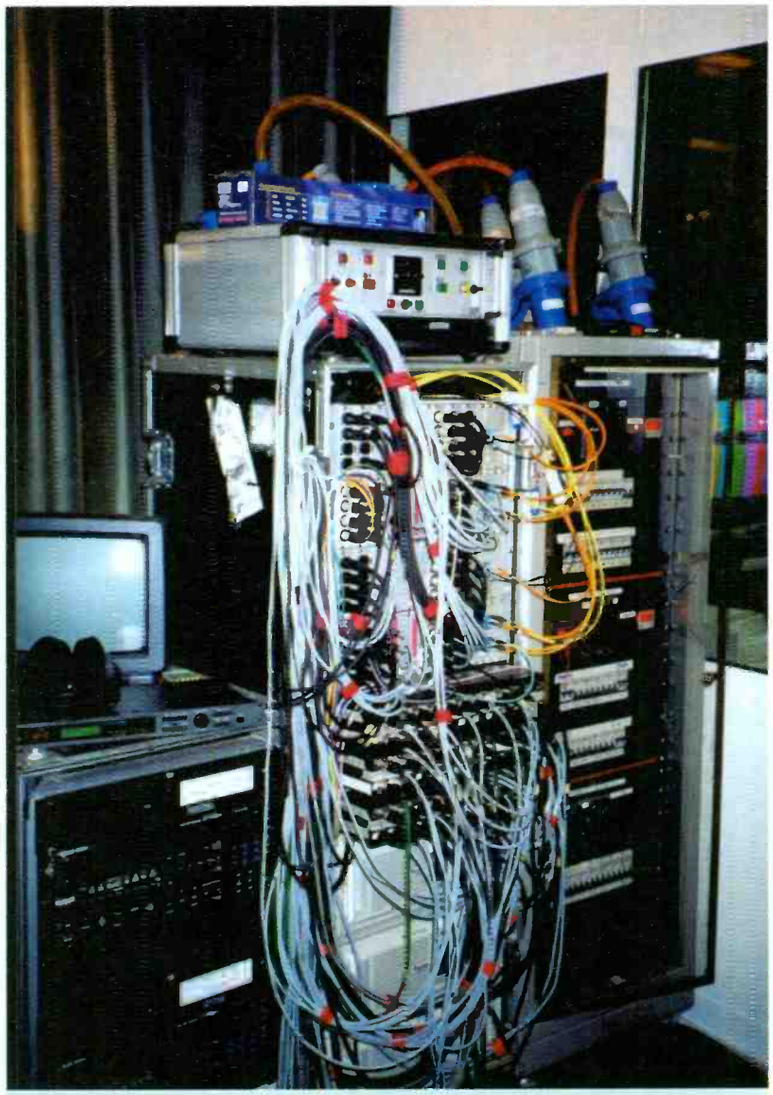
As with most things, cheaper cables exhibit more of these faults than more costly products because the materials and techniques to correct these faults tend to be costly. A large part of the success of a mic cable design lies in the screen type used. In general there are four screen types - foil, braid, spiral wound and conductive plastic. All have relative strengths and weaknesses.

Foil – aluminium foil wrapped around a twisted pair with a drain wire to aid termination. Allows cable flexibility but repeated flexing of the cable can cause damage to foil although less likely if foil is wound spirally. Generally lower cost, lighter weight, small diameter but less suited to demanding applications.

Conductive plastic – the conductive plastic jacket around twisted pair and drain wire. Flexing of cable presents no problems as screening abilities remain constant. Termination is very easy. Unfortunately RF rejection capabilities are less than other screening types and as such care needs to be taken in demanding applications.

Braided – consists of fine strands of copper wound around conductors as a plaited braid. Very good at RF rejection and most common types of stage interference. Braid construction adds to cost but slightly reduces cable flexibility. More time consuming to terminate and higher cost due to extra copper but good for demanding applications.

Wound screens - multiple strands of fine copper wound spirally around conductors which may be single or contra wound double layer. Screening capabilities are good provided wiring is dense enough. It is mechanically strong while remaining flexi-



Cost vs wiring

As with most aspects of installation, wiring costs have to be carefully watched with reference to budget. However, the unknown factor on an installation project is time. Whether time is important because the wiring crew is on an hourly rate, or because an installation needs to be completed quickly to hit deadlines, time can always be referenced directly back to money.

When selecting a cable, a plug, a socket, or a patchbay - in fact almost anything that is connected with the wiring - there is a need to consider whether the combination of components can be wired together easily. For example, some constructions of multicore cable need each pair to be heat-shrink sleeved on termination to prevent the shield and shield insulation unwrapping when broken out from the external sheath. On a 32 or 48 pair cable this presents a significant time/cost burden. This cable type may have been selected for budgetary reasons but it will not be so cost effective after the time factor has been added. It is also important to remember that a piece of cable has two ends and the multicore type chosen because of the termination type at one end may be less well suited to the termination at the other end.

In many installations, labour costs are greater than material costs so care does have to be taken over cable selection within the budget. It may be wise to consult the wiring team who frequently have a totally different perspective on what cable types work in a specific installation situation.

Less experienced installers may consider some of the features that cable manufacturers are now including as being worthwhile - the numerical colour coding of multicore pairs, the length markers and numbering of cable sleeves. While they may add to the cost of the product they make the installation simpler and reduce the opportunities to make a wiring error that has to be sorted out later with more time/cost.

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Reader Response No. 026

ble. Easier to terminate than braid but extra copper content can make this a higher cost option.

It is fairly true to say that most high quality mic cables have either braid or wound screens, but interestingly some of the very high performance cables will use a combination of different screening types to achieve optimum performance. Cordial's CMTOP222 mic cable has the same dense spiral wound screen used on its other cables but with the addition of a conductive plastic layer. It says that this virtually removes any handling noise that might have been present. Gotham cables use double wound screens – a technique it refers to as double Reusen - but it also has a GAC-2 V1 cable that incorporates a conductive plastic layer. Similar mixing of screening techniques will also be found in multicore cables.

Belden has just introduced a variation on the screening types that it calls French Braid. This is a double spiral of copper wires held together by just a single weave. The aim is to gain the benefits of both braid and wound screens - wound screens can have a tendency to loosen over time that can reduce effectiveness and add cable noise while braided cable is more prone to handling noise and reduced flexibility. Belden claims that their technique removes those problems while optimising performance. Expect to see it incorporated across their product line before too long.

If there are trends in cable design to note, it is the way that materials and techniques that initially were viewed as extreme gradually filter into the cable mainstream. One such example is the use of Oxygen-Free Copper (OFC). When this was first suggested over a decade ago there was much scepticism but now a very high proportion of makers identify their use of this, and comparing prices in any of the major suppliers catalogues, you find that it attracts only a fraction of the price premium incurred years ago. However, this discussion always begs

the question of precisely what 'oxygen-free' actually means and this is open to some interpretation.

The other major change is that a high number of makers now have star-quad mic cables as part of their standard range. What was once just the province of makers such as Canare, Mogami, Gotham and Klotz ais is now more widely found.

The use of four conductors twisted to cancel out external interference remains a more expensive option but

the results have proven popular. And manufacturer such as Schulz Kabel, Sommer Cable and S2CEB are recent supporters with their own different variations.

The external jacket material is also important to mic cables because of the feel and flexibility that it gives. Several manufacturers have given considerable attention to the use of materials that remains flexible across the range of temperatures likely to be encountered in normal use. Others such as BICC General, with their Carol brand of cables, have opted for the use of rubber jackets that offer high impact and abrasion resistance with the option of using a material they call Carolprene to add protection against ozone, oil and UV radiation when used outside.

Microphone cables tend to expose any of the short comings in a cable. There is plenty of choice at all price levels but there needs to be awareness to the fact that cheap and expensive cables may both conduct electrons from mic to console but they don't all do it with the same quality or signal to noise. Choosing cables from a catalogue is a good start but experimenting with lengths of the selected types, in the situation they will be used, will sort the contenders from the pretenders. It's a process that is essential before ordering several kilometres of a manufacturer's finest.

INSTALLATION CABLE

Installation cable is the one area that is always studied very carefully by those about to buy. When cable requirements are expressed in terms of miles or kilometres, those involved with budgets tend to watch carefully. However, once the purchases are installed, everyone hopes they never have to see them again.

The critical design parameters for installation cable are very similar to those for microphone cable but with certain key differences. The cables should remain in conduits or trunking and therefore cable noise through movement is not such an issue. Flexibility is important only in the sense that there must be enough to follow the designated trunking route without damaging the cable. As it doesn't have to face rough handling or the elements, construction may be lighter, and more compact.

Screening is still important, particularly at tight turns in the trunking route where the shield may not offer such complete coverage but it may be possible to assist this by the use of external screening techniques. The ease of wiring to the chosen termination is critical as it can easily double the necessary time taken to complete a project.

Particular requirements that may be expected of installation cable are linear strength and the ability to resist stretching. Both of these are needed if long lengths of cable are to be pulled through conduit without damaging screen or conductors. It may be necessary to reflect on the type of screening used in a selected cable if this needs to be done. So while a foil screen cable may be ideal in many ways - more compact, lightweight, lower cost, and fairly easy to terminate using its drain wire - foil screens are far less strong than braided or lapped designs unless additional measures are taken in the cable design.

It is interesting to see the emphasis being placed upon installation by some of the more practically-minded

cable manufacturers. The Italian Reference Laboratory company colour and number codes its LSZH multicore cable pairs. Clark Wire & Cable do something very similar with their 700 Series multicores – colour coded pairs that are also numbered every inch. Unlike so many other manufacturers who follow various official and unofficial colour standards, they (and Mogami) have chosen to follow the standard resistor colour code which is widely familiar.

Shopping for multicore cable is one of the most difficult of tasks because there are so many vendors and variations available. The big US cable names such as - Belden, Gepco, BICC/General Cable, Alpha Wire, and their European equivalents have hundreds of variations to choose from. If there is a key distinction between these types, it is the difference between those that use individually foil wrapped conductors, and those referred to as 'portable' or mobile cables, meaning multicores that use wound or braided shields rather than foil, and generally have finer stranded conductors for added flexibility. These can even be quite large in capacity - S2CEB's MPA cable is available with up to 40 conductor pairs.

One multicore worth noting is Canare's L-4E3-P, also a portable multicore up to 24 pairs but with each pair being a full star quad arrangement with a braided screen and fine strand conductor. There is a permanent installation equivalent, L-4E4-AT with foil shields and is internally reinforced with a Kevlar core to prevent stretching when pulling through conduits. For more difficult situations there is also a 2H variation that adds a stainless steel wire for further cable strength.

One of the largest ranges of multicore products comes from Alpha Wire - the variety of variable parameters means that there are over 4700 variations possible – not all suitable for quality audio use but they do include multicores where the pairs are foil or braid screened, with then a second shield under the outer jacket. Their Xtra-Guard range also offers 'hazard-matched' cable designs to 'withstand the environmental abuses of heat or cold, intermittent or continuous motion, abrasion, immersion in oils or EMI/RFI interference.'

Whirlwind, better known for pre-made cables assemblies, has a Power Series range of multicore cables that have 9 or 16 microphone level pairs and two loudspeaker level pairs, all foil-shielded and within the same cable. This approach to hybrid cables is not new but we are beginning to see greater variety. Several companies have offered audio and video in the same cable - in reality these are normally just fully discrete cables within a common outer jacket. Sommer cable has taker this approach a step further with Multicom 113 which carries

Supplier's own

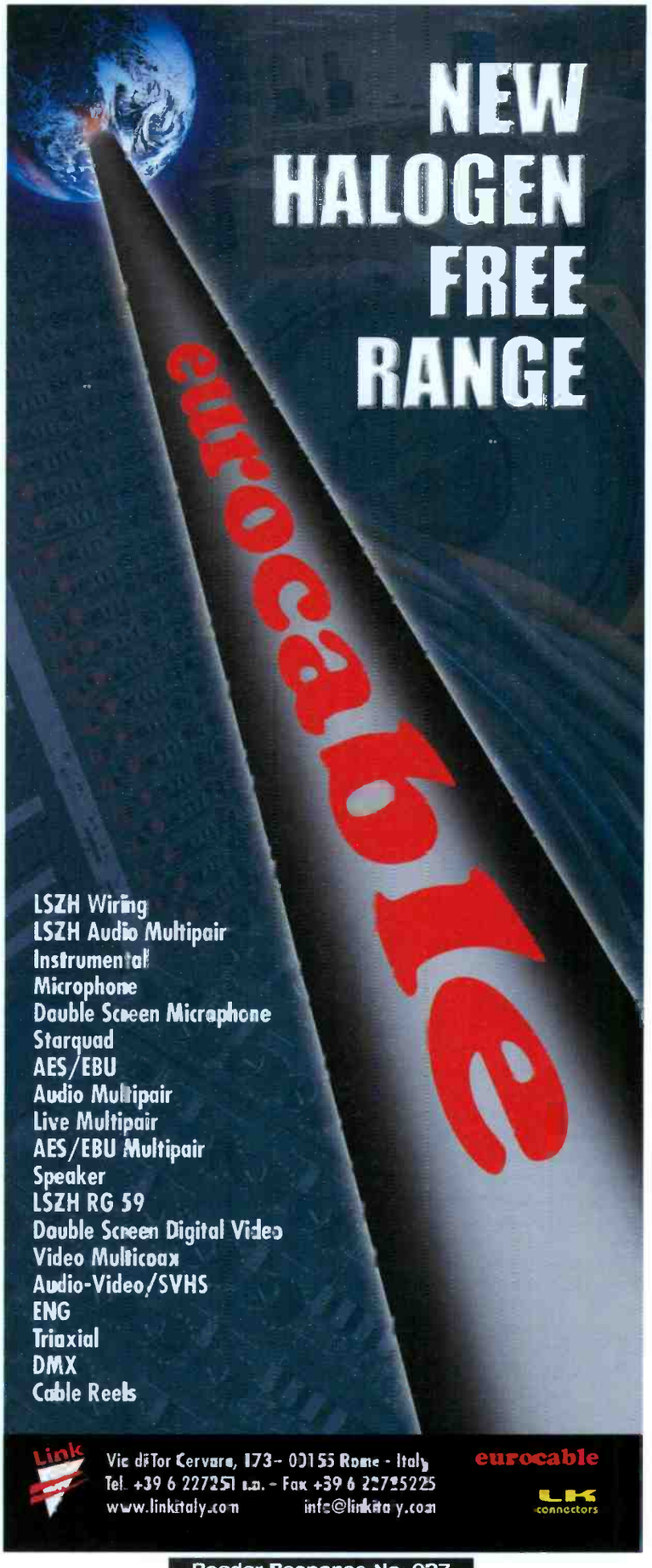
While the emphasis here has been on cable products from major manufacturers that are generally internationally available, there are other sources also worth checking out.

The catalogues of the larger pro-audio suppliers frequently have their own brand cables among all the major name products and, and some of these can provide usefully unique features. The majority of customers purchase their cables through dealers who quickly become aware of the specific needs of their clientele, particularly those in more specialised areas who sometimes find standard products lacking. Armed with this knowledge they are able to approach cable manufacturers for a custom product that, due to its niche nature, may not be viable for the manufacturer to make and market as part of their standard lines.

Generally these cables are customised solely in their construction, using a different combination of materials and techniques to improving parameters such as increased flexibility, Improved screening, construction optimised for a specific type of termination, or even external sleeve colour to identify a specific cable in a multicable situation.

Examples of these supplier-specific cables are numerous. I used a specific own-brand installation cable for years because it was well screened, easy to strip and terminate, remained flexible yet lay flat in trunking, as many other types did, but it's external dimension and sleeve was the perfect balance for compact patchfield or multiway connector termination as well as still being held firmly within my preferred brand of XLR-type connector. Unfortunately it is not available any more – which brings us to what I see as the principle drawback of own-brand cables – the longevity of supply is probably not as assured as with manufacturer's own.

There are some interesting examples available. UK pro-audio supplier Studiospares has an interesting variation on a balanced multicore cable that uses double foil wrapping of each pair (with their own drain) to produce a comparatively more compact multicore than other construction. Most multicores of this type use a cellophane wrap around each pair's foil screen and can turn wiring such cables into a lengthy business. This cable, made for Studiospares by NEK, has an insulating coating on the outside of the foil itself making it easier to use.



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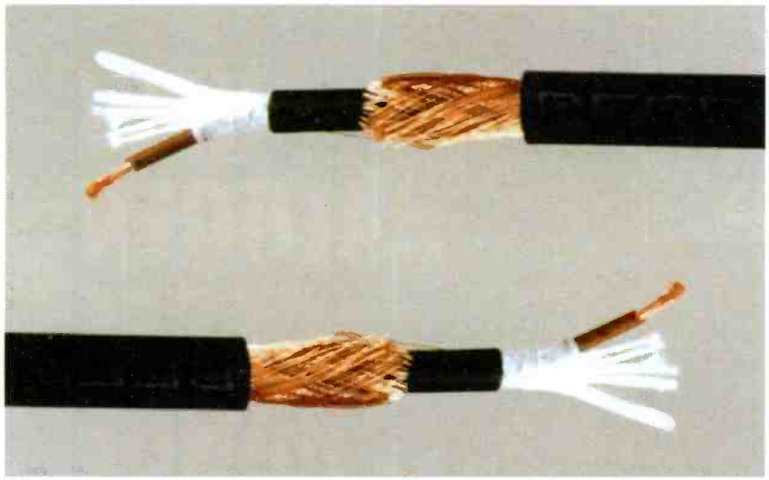


a coaxial 75Ohm video cable, a wire screened balanced audio cable, and a 3-core mains power! Obviously convenient but you'll need to take some care with the termination.

A new addition to the installation cable market is Wireworks InstaLUX, a conductive plastic screened small diameter cable that is easy to terminate and available in a range of colours. It is also available bundled as 4 or 8 cables within an external jacket, when it is then known as StudiLUX and available in 500ft lengths.

With increasing numbers of safety regulations affecting the materials available to be used in cable installations, most manufacturers now produce Halogen-free cable options. Flame retardant qualities are also required in public buildings. One of the first cable manufactures to create new ranges of cables for this was Gotham with their GAC-2 cables. They have also rebuilt the well known old EMT 2111 cable that was renowned for its mechanical strength. This now has a modern material jacket and a Gotham cable number of GAC-2111.

SPEAKER CABLES

Speaker wire is the most diverse of all audio cable products because there are so many different ways that users want to transfer electrical energy from amplifier to speaker. At one end there are high power/long run applications for live sound reinforcement and theatrical installation, while at the other there are short run/high quality monitoring requirements. And because we all like experimenting there are many variations on themes.

In selecting cables suitable for a specific application there is need to consider a number of factors. If the runs are long, then there is the need to check on the power loss characteristics of a cable with reference to the gauge of the conductor. The construction of the cable should be capable of handling the way in which it will be used, ranging from laying untouched in a conduit, to a touring SR rig where they will be subjected to being run over by trucks, soaked in water, and regularly coiled up in a wide range of temperatures. Cables must also reliably fit into the desired connector which limits the acceptable cable diameter. It is now common for manufacturers to refer to suitable connector types in the cable specification.

Studio speaker cable runs are normally short and audio quality is an issue with oxygen-free copper and fine stranding of the conductors being of specific interest. Connector termination is less of an issue but flexibility and reliability may be if attached to a pair of portable nearfield monitor speakers.

Most of the larger cable manufacturers carry a wide range of suitable types to cover these requirements but it is frequently their small competitors who produce the more specialist designs.

While not a new problem, in some sensitive installations, shielding of speaker cables is becoming more of an issue. Swedish manufacturer Supra suggests that speaker cable radiation can easily exceed that of a mains power cable which can be problematic when in close proximity to low level lives. It produces a standard range of OFC screened cables suitable for different power levels under the names Rondo and Linc. Coaxially screened single core cables of specific interest include Magellan from Sommer Cable with its double wrap screen; 3082 from Mogami which is designed to maximise conductor diameter yet still fit an XLR connector; Cordial's CLS140-1036 Highflex with its double contra spiral screen that is suitable for winding onto cable drums; and Kabeltronik's KL-R which has similar applications but uses a dense wrap of fine conductors as the screen.

Considerations

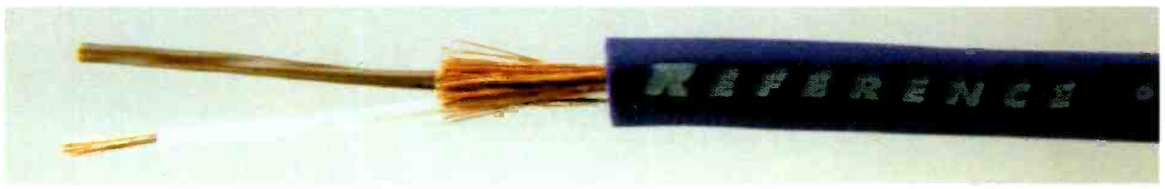
- When selecting cables for microphone use, consider a range that offers a wide choice of colours. A rainbow selection of cable colours does help when trying to trace a specific cable through a pile of leads.
- While multicore cables are ideal for when there are large numbers of signals to be carried, they may not be the best option for every installation situation. If every pair in the multicore is to be terminated into a plug, in wiring terms it may be simpler to use discrete cables as they are generally quicker to wire into XLRs and jacks. Also the thinner diameter of multicore pairs, means that sleeving will probably need to be added to each so that the cable clamp of the plug will be able to grip it.
- Another disadvantage to installed multicores is that, in the event of loosing a few pairs through mechanical damage or rodent teeth, replacing a section is very difficult. It is wise to have a few redundant pairs available for such emergencies. Discrete cables have the advantage that damaged lines can be replaced one at a time, or in more difficult situations, sections can be cut out and joined.
- Cable is heavy. The only time that this is really obvious is when it is delivered on drums. There is actually quite a variation in weight between different cable types and this should be considered if cable runs are to be suspended at any point.
- It is increasingly common to find regulations that affect where cables can be installed in public venues. As with most other materials used in public buildings, there may be further restrictions about cable construction and the toxicity of fumes should they suffer in a fire. Cable manufacturers should be able to advise about the performance of their cable but it is unlikely that they will necessarily know the regulations in every territory.

Canare tackles the same issue in a different way. Its 4S Series Star Quad Speaker Cable uses the technique familiar from microphone cables, where four twisted conductors are gently twisted through the cable. Opposing magnetic fields then cancel out which reduces the magnetic radiation over a standard 2-core cable. Canare also suggests that this technique improves the damping factor at the speaker. Canford Audio has had screened speaker/power cables to a BBC specification in their catalogue for years but it is an issue affecting more installations.

Multiconductor speaker cable, the high power equivalent of multicore, is also in abundance, with up to 8 cores being common. While specialist types such as Mogami's High Definition Multi Series were originally developed for tri-amped monitoring systems they have found wider applications. The same cables are available in a range of conductor sizes for different power handling. Clark Wire & Cable, which has 4, 6 and 8 conductor cables, suggests other ways of using such cables. The 8-way is ideal for stereo bi-wiring while the 6-way can have two of the pairs linked for increased LF power handling on 2-way monitor systems.

Remaining in the area of specialist speaker cables, two companies have been merging the area between the hifi and professional markets. US company, Monster Cable, has been active in esoteric areas of wire for many years. Less well known is the Dutch company van den Hul. It has a range of speaker cables suitable for studio application, which features a layer of Linear Structured Carbon over the copper conductor. The argument is that this carbon layer is structured to conduct signals in parallel to the copper, particularly when flexing of the cable has caused ageing changes in the structure of the copper affecting its conductivity, hence prolonging top performance. Its Magnum Hybrid cable uses AWG8 conductors.

While installation of speaker cables is relatively simple, the task of measuring running lengths before installation is time consuming. It is therefore interesting to note that Cordial is ink-jet printing some of its speaker cable sleeves with metre markers so that provided you can count reliably, cutting the length required should be far quicker.



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AT's wireless

Audio-Technica has introduced the ATW-7373 multichannel UHF wireless handheld condenser system which combines the condenser element from the AT4033 studio mic with the RF performance of the 7000 Series frequency-agile UHF Wireless System.

The system includes the ATW-T73 handheld condenser microphone/transmitter and the ATW-R73 true diversity receiver.

The receiver is half-rack size with balanced and unbalanced audio output jacks, a ground-lift switch, adjustable volume and squelch controls and RF/AF/A-B front panel indicators.

Audio Technica 369

Milab digital mic is 24-bit

Milab's DM-1001 digital microphone system is based on the classic Milab rectangular dual cardioid condenser capsule followed by a 24-bit, 48kHz Sigma-Delta A-DC and a 24-bit DSP. The signal leaves the system in AES-EBU digital format. Standard settings can be selected from phantom power unit but the microphone is also controllable by PC software which offers free choice of polar pattern, analogue/digital gain, and frequency response tailoring using digital filters.

Milab 389

Nady UHF

New UHF units from Nady include the UHF-10 and URR-10. Both single-channel systems feature DigiTRU Diversity circuits for dropout protection.

The UHF-10 receiver is a tabletop model with dual antennae, plus A/B diversity, AF peak and power LEDs. Balanced XLR 1/4-inch jack outputs are provided. The 1U high URR-10 offers five-segment audio level and RF level displays.

The UHF-16 is a UHF PLL synthesised 16-channel selectable system. The half-rack DigiTRU Diversity receiver has similar appointments to the units above, plus transmitter battery status. All three systems are available with a hand-held mic or a bodypack transmitter.

Nady 361

Schoeps' new cardioid mics

The MK 4 V microphone capsule and CCM 4 V compact microphone from Schoeps, were created in answer to requests for a cardioid microphone whose main axis is along the side of the capsule. In addition to its usefulness in the concert hall, this microphone type is of particular value in speech recording, since its slight emphasis around 10kHz helps to improve intelligibility.

Due to the acoustically transparent housing, the directional response is said to be especially well maintained even at higher frequencies. The high-frequency emphasis of off-axis sound typical of most cardioids occurs less with the MK 4 V/CCM 4, but because of its inherent frequency response, it still sounds somewhat brighter overall than the MK 4 or CCM 4. Frequency range is 40Hz-20kHz, CCIR is 24dB, A-weighted SNR is 80dB-A, and the maximum SPL is 132dB (with 0.5% THD).

For speech applications, Schoeps offers the PR 120 SV pop filter.

Schoeps 385

Evolution condenser

The latest addition to its evolution line of microphones, the e865 is the first electret condenser in the Series. The wired mic claims a 40Hz - 20kHz response, a maximum SPL of 150dB and good pop suppression.

The mic is rugged with a metal housing and ships with a pouch and mic clip.

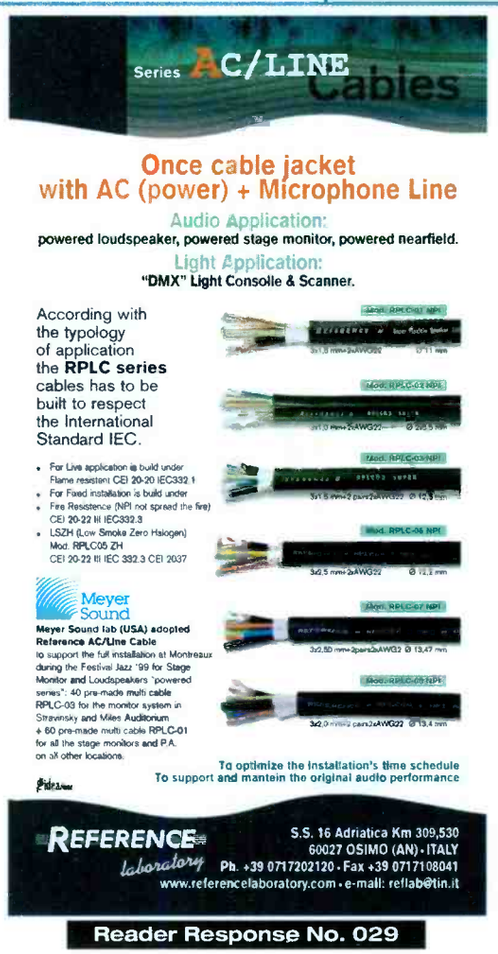
Sennheiser 368

Schoeps

New from Schoeps is an electronically passive tube for CCM-L compact condenser microphones, the RL700. The microphone can be easily exchanged by unlocking the miniature connector on top of the tube. At the lower end of the tube the LEMO/XLR connector of the adapter cable is screwed on. Also new from the company is an electronically passive table stand for CCM-L compact condenser microphones, the TR200L, using the same principle as with the new tube.

Schoeps 386

Reader Response No. 028



Reader Response No. 029

AKG

AKG now offers the water- and perspiration-proof capsule (CK 77) in a headworn version, the C 477 WR. It uses a telescopic behind-the-neck band of thin steel tubing that can be bent to conform to any shape of head, allowing engineers to create a custom mic for every user.

The C 477 WR is available with stripped-and-tinned leads or a Switchcraft connector, with the microphone arm fixed on the left or right, in black or white colour.

AKG 392

Tiny mic

The Tiny Mike from Germany's Ambient Recording has been designed for use with consumer cameras when used in a professional shooting situation. Said to fill the gap in the market for a small mic with a highly directional characteristic for use on cameras, the Tiny Mike is a miniature shotgun mic complete with soft mic support, windshield and a shoe to fit on the camera. It can also be powered by standard plug-in power available on consumer cameras. It is possible to use different cables and adapt the mic for 48V phantom power.

Ambient 394

Joemeek

The latest Meekrophone is a dual-capsule condenser with a high-gain valve preamplifier. Model TB-47 has a special power supply which provides stepped variations between omni, cardioid and figure-8 polar patterns. This enables remote setting as well as polar patterns not available on most microphones.

The TB-47 is said to be based on a capsule, which is hand assembled to include a one-inch gold-coated diaphragm of six microns thickness. The preamplifier is a class A design and uses a large, custom-made transformer for balancing.

Joemeek 350

Taky Electronics

Described as the result of 20 years of experience, a range of microphones from Taiwanese manufacturer Taky Electronics are now available in Europe. All the models in the JTS range are designed for professional use. Hardened steel grilles and metallic enamel finishes are used throughout.

The top of the range JTS NX-8 and NX-8.8 electret condenser microphones are designed to deliver studio-quality vocals. Both feature a cardioid polar pattern that is said to be rotationally symmetrical and are internally shock mounted for reduced handling noise. JTS NX-8 has a frequency response which extends to 16.5kHz, while the NX-8.8 is measured up to 18kHz.

NX-9 is a general-purpose electret condenser mic, aimed primarily at overheads, hi-hats and acoustic guitars but said also to be suitable for vocals. Again, the upper frequency response is 18kHz. For bass instruments, including bass drum, Taky offers the NX-2, a dynamic unit with a frequency response quoted as 30Hz-12kHz. It claims to have a very accurate polar pattern and is supplied with a locking mount which gives 180 degree manoeuvrability.

Other instruments are catered for by the NX-6 dynamic microphone, which has a supercardiod polar pattern and a frequency response between 60Hz-16kHz. Suitable for drums, it has a similar locking mount to the NX-2. Also offered for a range of applications is the NX-7 dynamic cardioid unit with flat-top grille.

Proel 363

Smallest from Audio Ltd

Audio Ltd has launched what it claims is the world's smallest multi-frequency, UHF, Infra red-controlled diversity receiver - the Envoy CxiR. The true diversity receiver is made to interface with the Sony SX, Philips LDK120 and Ikegami HLV 77 cameras using their existing slots.

A six-pin Lemo adapter turns the Envoy CxiR into a stand-alone receiver, adding to the versatility of the unit.

Measuring 98mm x 60mm x 18mm, features include 32 switchable UHF frequencies, LED indicators for No signal, diversity switching and low TX battery condition. With a claimed signal-to-noise ratio of over 104dB it is completely compatible with existing RMS2020 and RMS 2000 transmitters.

For ease of use and reliability, all mechanical switching has been removed and is now handled by the tiny SWITCHiR infra red controller. Small enough to fit on a key ring, features include the ability to change frequencies and levels, switch filters in and out, and remotely interrogate battery condition.

The launch of the HxiR handheld radio mic uses interchangeable capsules from Schoeps and an innovative suspension system developed in collaboration with Rycote. All mechanical switching has been removed and the unit is controlled by the SWITCHIr. The HxiR can be powered by a standard AA cell giving up to three hours of continuous use, or a lithium cell providing up to seven hours of use.

Made from high quality aluminium, the HxiR is not only light but extremely rugged with the antenna built into the casing making the mic even more durable.

Audio Ltd 371

Three new from Earthworks

New from Earthworks are a hypercardioid microphone, a redesigned cardioid microphone and a strategic alliance with dbx. The SR68 hypercardioid unit is said to combine 'huge off-axis rejection' with 'uncoloured clarity'. A patented system of controlling directionality is said to be responsible for exceptional immunity to feedback.

Suggested for recording, broadcast and production voice applications, the re-introduced Z30X is a cardioid design. The inner tip has been redesigned to make it more sturdy. David Blackmer, founder of dbx and now an Earthworks director, has announced a joint project between the two companies. The result is the 480-M custom-designed RTA measurement microphone which is used with the dbx Drive Rack loudspeaker management system. The microphone can be plugged directly into the back of the units.

Earthworks 357

Sanken launches omni mic

Sanken Microphones has described the new CO-Z as 'the first perfect omni microphone in the world'. The omnidirectional microphone is claimed to have a perfect circle polar pattern from 20 to 20kHz.

Other products from the company include the P33 powering module and CO 330 omnidirectional condenser microphone head for the CU-300 series; the ultra high-sensitivity MO-64 microphone, dubbed the 'insect mic' as it has been specially designed to pick up noises such as ants' footstep and the creeping sound of snakes; the CUB-01 miniature boundary microphone with cardioid polar pattern; and the CMS-10 which has been designed for use with HD-cam digital video camera and is switchable between sharp shot-gun direction and stereo.

Sanken 383

Neumann improves a classic

Neumann claims its M 150 Tube mic exploits the heritage of a revered classic design, while exhibiting a performance capability that is said to be at the very limits of modern engineering.

The headgrill recalls the famous M 50 from which the M 150 derives its distinctive acoustic characteristics and operating principle. First introduced some 50 years ago, the M 50 earned a place in recording history as an orchestral microphone of choice.

The omnidirectional, pressure gradient transducer provides exceptional transient response and low frequency reproduction. By mounting the surface of the diaphragm flush to a small (40mm) sphere, the capsule acts as a pure omnipressure transducer at the lowest frequencies, delivering a perfectly circular polar pattern.

This pattern narrows increasingly through the mid and upper frequency ranges, forming a directional characteristic that is well suited to natural stereo recording, or 5.1 and 7.1 multichannel techniques.

Neumann 382

Beyer's new Opus models

Beyerdynamic is to introduce five new Opus models including the Opus 53, Opus 67 and Opus 87, which are optimised for percussion, the Opus 82 for high output level wind instruments and the Opus 54 a high specification neckworn vocal microphone.

A 'light' version of the MCS conference system has been launched which is configured for smaller conference situations with a maximum capacity of 30 delegates.

Based on the popular DT 231 Headphone, the DT 234 Headset will complete the range of this product series designed for use with computer systems and situations where comfort over long periods of use is important.

Beyerdynamic 378

Nady studio mic range

Nady Systems recently introduced several new studio mics, the SCM Series, which it claims represents a price/performance breakthrough for large diaphragm studio and broadcast microphones.

The SCM Series includes 5 models: the 900, 910, 920, 980, and 1000, with the SCM-1000 being the top of the line.

All models feature true condenser design with large pressure-gradient, gold-sputtered, ultra thin diaphragms and FET preamplifiers. They also feature internal shock-mount construction and the five models have different combinations of controls, with the SCM-1000 offering all options with selectable low-cut filter, 10dB attenuation pad, and omni/cardioid/figure 8 patterns.

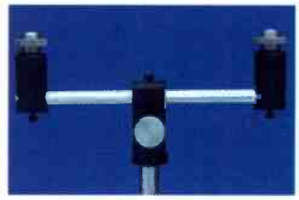
Nady 366

Sabra offers noise protection

Brazilian manufacturer Sabra Microphone Tools has a universal mic mounting system, described as a 'noise protection system for microphones'.

It is a combination of products that form a versatile universal erector set to deal with mic placement, shock mounting and pop filtering issues in studios and live performances on stage. The system includes ST2 universal T-bar double support with 3/8 and 5/8-inch thread, an SSM-1 mechanical noise suppressor support and the SPF pop filter. All elements can be adjusted to create customised set-ups, and a second mic can be added for M-S or conventional stereo set-up. The unit is effective in isolating mics from noise, rumble and vibrations.

By mounting a second SSM-1 (optional) to the ST2 T-bar, the system can accommodate the longest shotgun mic. Additionally, the T-bar can be used alone as a stereo mic mount with a maximum 8-inch spread, suitable for X/Y arrays. All components attach to (non-rotating) hex rods for a solid lock. The SPF (Sabra Pop Filter) is



a dual-layer screen design that effectively removes breath pops and plosives.

The SPF mounts on an articulated arm that swivels and locks into position, unlike pop filters that use gooseneck-type mounts.

Sabra 384

Fishing with Sennheiser

A wireless fishpole kit is now available from Sennheiser for boom operators. Offered in a number of variants the wireless fishpole kit can be used to convert any condenser microphone to RF operation.

Dispensing with the need to lash transmitter and power supply to a boom, the Sennheiser kit consists of an Evolution 500p UHF miniature plug-on transmitter for the microphone and an RF receiver system for monitor. The kit is completed with a K&M long or short microphone boom, a Rycote universal suspension system and a universal clamp.

The kit is available with either a miniature bodypack or rack-mount UHF receiver. Options include Sennheiser in-ear monitoring and the kit can also be supplied for use with other fishpoles, for users who want to upgrade an existing set-up.

In use, the UHF transmitter dispenses with the need for a separate power supply for the microphone. For short-reach operations, such as news gathering, the transmitter can be positioned immediately behind the microphone.

For longer reach applications, such as drama or documentary filming, a cable can be used to allow the transmitter to be clamped further along the pole for improved balance.

Sennheiser 353

Electro-Voice

PolarChoice podium microphones offer the option of four different pickup patterns, allowing the selection of the best pattern for the application. The ability to select conveniently from omnidirectional, cardioid, supercardioid or hypercardioid helps to assure the maximum protection against system feedback and ambient background noise.

EVI Audio 354

Shure

Designed to provide a one-shot solution, the DMK57-52 drum microphone kit from Shure offers a combination of proven products in one package. The system comprises three Shure SM57 microphones, plus a Beta 52 for the bass drum and three A56D drum mounting units.

No additional mounting is required for the Beta 52, which has an integral stand and pneumatic shock mount. For maximum flexibility, the A56D universal drum mount can be used in horizontal or vertical positions on drum rims or cymbal stands.

Shure 355

Shure

Shure's KSM 44 studio mic offers omni, cardioid and fig8 patterns with Class A transformerless preamp circuitry. The dual one-inch gold layered mylar diaphragms are 2.5µm thick and are said to extend low frequency response and reduce self noise.

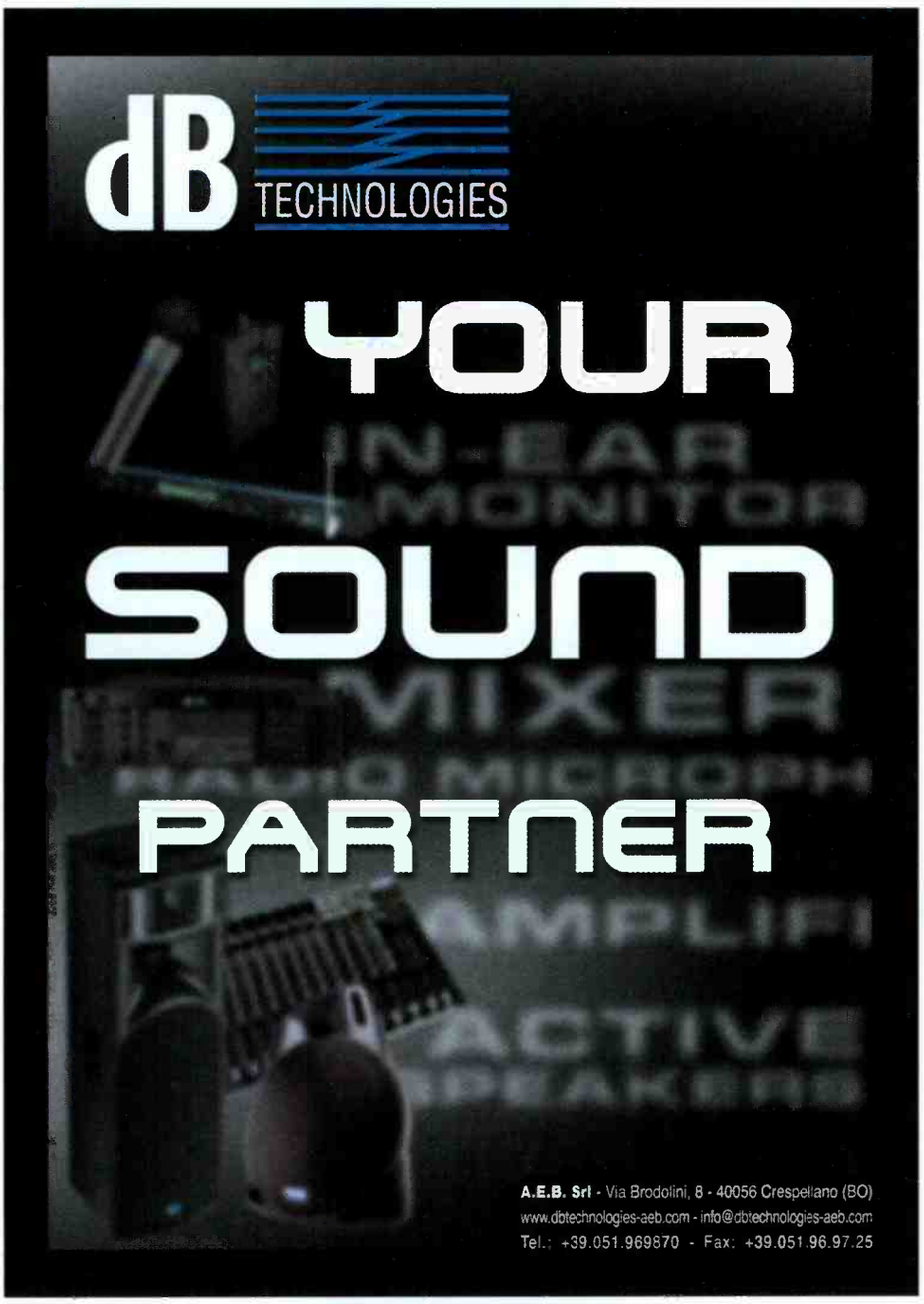
Other features include a three-position low frequency filter and an internal shockmount. Included accessories are a locking aluminium case, colour-matched elastic suspension, swivel mount and a protective pouch.

Shure 370

Gemini

The Gemini UX-1600 wireless microphone system operates on 16 UHF channels. The half-rack design includes squelch control and automute plus a frequency-tuned 1/4 wavelength antenna. Hand-held, lavalier and head-set models are available. UX-1620 is a dual channel version of the UX-1600 and UX-1610 offers diversity operation.

Gemini 360



READER RESPONSE No. 31

Neumann digital mic

Described as being comparable in performance to its best analogue microphones, Neumann's Solution-D digital mic employs a new A-D conversion process that acts directly after the capsule without an amplifier in between.

The result is an internal 28-bit signal with a claimed dynamic range in excess of 140dB with a shorted input and more than 130dB A-weighted. The mic also sports a specially developed synchronisation method and remote control of typical mic parameters and mixing console functions.

The product consists of the D-01 digital mic, the DMI-2 digital mic interface and remote control software.

Signal and data transmission of the mic conform to AES 42-2001. Solution-D mics can connect directly to any equipment that supports AES 42-2001 while in all other situations the DMI-2 interface is required which converts the signal to AES-EBU with the interface controlled by remote control software.

Neumann 388

Shure's new headwear

New from Shure is a head-worn microphone and an expander unit for mixing desks. The AuxPander is essentially an 8x8 matrix, designed to accept eight inputs and distribute them to eight auxiliary mixes. Further AuxPanders can be user to create greater input capacity or a larger number of aux mixes.

Designed for theatrical and presentation use, the Beta 53 is a sub-miniature condenser microphone, with a detachable boom mount and a modular headband assembly. The omnidirectional microphone has a frequency response quoted at 20Hz-20kHz and is only 5.8mm in diameter. The system comes with a pair of interchangeable response caps for mild and high boost. There are two termination options: a Tini Q-G that mates with any Shure transmitter, or tinned leads.

Shure 358

Nady makes an Encore

New from Nady are a range of VHF wireless microphones. The new Encore series includes the Encore I, Encore II, and Encore Duet. All three models are available on selected frequencies in the VHF high band (171-216MHz). Encore I is non-diversity, while Encore II uses Nady's DigiTRU Diversity design. They are both half-rack models with retractable front panel antenna.

RF and AF 5-LED displays plus balanced XLR and unbalanced 1/4inch jack outputs are also common to both units, as is a locking system to dock two receivers side by side. As the name implies, the Encore Duet utilises two discrete VHF channels that can be operated simultaneously but in the same casing as the other two models.

Nady 359

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The Dream ADA-8:

- Integrated, modular audio A/D and D/A system
- Sampling rates from 32k to 96k including 44.1k and 48k standards
- Built-in 4-curve Prism Sound SNS noise-shaping (as used at Abbey Road on the recent multi-platinum Beatles compilation "1")
- Two digital I/O slots for AES I/O PLUS direct Workstation Interface or other digital format
- 8-channel peak metering switchable between record/play
- Separate stereo monitor output on digital and analogue ports
- Mix to the monitor output from selected channels on record or replay paths
- Simultaneous 2-path operation (e.g. A/D and D/A)
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Reader Response No. 032

AKG/Roland co-op

As a result of co-operation between Roland and AKG Acoustics, AKG's C 3000 B microphone has been defined as the standard input source for Roland's COSM Microphone Modelling Software, a feature integrated in several of its hard disk recorders and digital mixers.

COSM is a technology developed by Roland that can simulate the acoustical performance of other microphones. A reference mic is needed as the primary input source. Based on this input the COSM software will perform the modelling for other microphones.

AKG 374

Behringer

Behringer has introduced the B-2 dual-diaphragm condenser mic. The one-inch dual-diaphragm capsule with gold-sputtered membranes is accompanied by gold-plated internal head pins and FET circuitry with switchable omni or cardioid patterns. A switchable high-pass filter and 10dB pad are included and the mic comes with a protective carrying case, a shock mount, and windshield.

Behringer 365

Now there are two ways to get further information

1. www.WNIPA.com
2. response cards (inside back)

Pearl stereo condenser

Swedish microphone manufacturer Pearl Labs has released the MSH 20 stereo condenser mic which has been designed specially for use in recording TV, video and film production in MS stereo. It is a short, shotgun, figure eight capsule system. However, the MSH 20 departs from the use of the MS format in the fact that the middle and side signals are combined by an internal matrix to produce a left and right output allowing the microphone to be used without external MS processing.

According to the company, compared to a traditional A&B microphone patent the MS system is better at keeping noise as low as possible. The MSH 20 requires phantom power and is designed to withstand adverse environmental conditions such as moisture, dust, and extreme temperature fluctuations. A Rycote suspension/windshield is available and recommended for outdoor recording. The MSH 20 weighs 180g.

Pearl has also introduced a the BA 48uP 48V phantom power supply unit powered by a 9V battery or by mains adapter 8-24VDC. No fixed polarity is required. A green LED blinks slowly when the battery has sufficient charge, and rapidly when it is time to replace it.

Pearl 381

UCR310 UHF receiver

The UCR310 is claimed to define a new class of wireless microphone receiver that the manufacturer refers to as 'universal'. The assembly is compact enough for use on cameras or sound carts and in portable audio bag systems and claims RF and audio performance suited for high-end film and studio applications. The receiver can be powered by four AA batteries via a detachable battery cartridge, or from external DC power.

256 frequencies are user selectable via two rotary switches. As the frequency is changed, the receiver automatically retunes the front-end filters to keep them centred over the operating frequency. This design provides the high selectivity and IM rejection characteristics of a high performance, fixed frequency receiver while still offering the frequency agility needed for mobile applications.

The selectivity of the front-end filters allows maximum sensitivity, to increase operating range and minimise noise even in difficult RF environments. A very high RF overload capability prevents interference problems commonly caused by strong external RF signals.

Lectrosonics 364

Audix clips and minis

Audix has introduced the ADX-20i miniature professional condenser microphone with integral gooseneck clip. The high tension, spring clamp fitted allows the mic to be used for saxophone, trombone, trumpet and other brass instruments. It comes in a wired format operating on phantom power with the provided preamp module (APS-910), this microphone can also be used in battery mode with an optional power supply (APS-911).

With a low profile and a 'unique' mounting system, the D-Vice drum microphone clip will attach to the rim of most drums and rimmed percussion. The low profile mount can be attached using only one hand and can accommodate any 5/8-inch microphone clip.

The first in the Mini-D series of professional instrument microphones, the MD-10 has an extremely low profile mounting system using a flexible gooseneck. Frequency response is claimed to be 70Hz-15kHz on a hypercardioid pattern while an XLR at the end of the gooseneck allows for easy connection and placement of the microphone cable.

Audix 373

AT condenser

Audio-Technica's AT3035 cardioid condenser microphone is said to represent the next generation of its 30 Series line.

Featuring an all-new design, the large-diaphragm AT3035 has a fixed cardioid polar pattern and claims 20Hz to 20kHz response, high SPL handling (148dB) and an element yielding extremely low self-noise (12dB SPL). It comes standard with a newly-engineered professional shock mount and requires 11-52V phantom power and has a switchable low-frequency roll-off (80Hz, 12dB/octave).

Audio Technica 379

Audix 'classic' condenser

Audix's SCX25 is a brass condenser microphone with a 25mm gold sputtered diaphragm and features a new suspension mounting system that effectively isolates the capsule from the housing and the electronics thereby minimising reflective surfaces and maximising phase coherence. This also means that the microphone does not require a shock mount clip. Claimed to have an extremely low noise preamp design, the SCX25 provides a wide cardioid pattern with an 'open-air' sound quality.

The SCX-25 operates on 48-52V phantom power.

Audix 391

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Reader Response No. 033

New mics from Sony

The WL800 series of wireless microphone systems includes a new transmitter and receiver, designed to take into account the re-allocation of frequency bands caused by the introduction of Digital TV broadcasting in the UK. The new units are described as suited to ENG/EFP applications.

WRT-847B is a handheld UHF transmitter, which can accommodate five different capsule types, including cardioid and supercardioid patterns in dynamic and condenser transducers, as well as an omnidirectional dynamic head. The 10mW PLL synthesised transmitter operates on carrier frequencies between 838MHz and 862.125MHz (channel 67-69) and offers 192 pre-programmed channels.

The WRR-862B is a dual-channel, broadcast specification portable receiver that is designed to provide a solution to the problem of two-channel reception in ENG and EFP applications. The diecast magnesium alloy body houses two discrete UHF diversity receiver modules, again operating on UK TV channels 67-69. Its lightweight, compact design makes the WRR-862B suitable for use with Sony professional camcorders, using the supplied attachment kit and case. Powered either from four AA-sized alkaline batteries (giving more than five hours operation) or an external 12V DC source, the WRR-862B provides dual programme outputs plus a mixed monitoring feed with level control.

Sony 356

AKG C 4500B-BC microphone

AKG's mic solution to the problem of electromagnetic RF fields radiated by computers and their associated monitors is the C 4500B-BC, a large-diaphragm condenser microphone.

With transformerless output, tailored to the needs of on-air radio announcers, the C 4500 B is inherently immune to external electromagnetic fields.

Features include a front-end firing capsule position for close-to-the-mouth placement and less visual disturbance for the radio announcer, reduced proximity effect by an inherent minimum working distance to the capsule of about 2 to 3-inches, and extremely effective internal pop-screening through a patent-applied-for multilayer pop filter between the front grille and the capsule. There's also a 120Hz roll-off filter and -20dB pad.

AKG 393

Sennheiser transmitter

Designed to convert any cable microphone to UHF wireless operation, the SKP 30 Hidyn plus miniature transmitter includes 48V phantom power.

Compatible with the Sennheiser 3000 and 5000 series professional wireless systems, it is designed for world-wide use. It is available for frequencies between 518Hz-870MHz and features a switching bandwidth of 32MHz.

The roadworthy metal housing has recessed controls and the unit delivers a typical RF output of 30mW from a standard 9V battery.

Aimed at a broad range of sound reinforcement and recording applications, the SKP 30 can also be combined with Sennheiser's EK 3041 miniature mic receiver for ENG use.

Sennheiser 362

John Hornby Skewes

The Scanner SU8 Pro system is offered for wireless applications where budget is particularly important.

The non-diversity UHF system offers PLL synthesised technology and inbuilt limiter circuitry. The supplied microphone is handheld, while the receiver offers balanced or unbalanced options at mic or line level.

Pilot tone control circuitry is used to detect signal level, allowing the system to mute before the signal becomes too weak to use. There is also a warning light for impending battery failure.

JHS 351

DPA's A-B stereo kit

The DPA Type 3532 is a complete A-B Stereo Kit consisting of two carefully factory-matched omnidirectional large diaphragm microphones Type 4041 with 130V preamplifiers in a discrete class A design. The specially selected and hand paired microphones are matched within 1dB on frequency response, sensitivity and self-noise. The maximum phase response difference from 50Hz to 20kHz is 10 degrees. With low self-noise and high SPL capability, the microphone is designed as a modular system, allowing the capsule to be unscrewed from the preamplifier. Two versions of preamplifiers are available. The 3532-S is a solid state preamplifier version, while the 3532-T is a pentode vacuum tube preamplifier version driven as a cathode follower in a unity gain class A design, which adds slight 2nd harmonic distortion.

Included in the kit is the 2-channel high-voltage microphone amplifier Type HMA4000 and a Stereo Boom, packed with 6-pin audio cables in a Samsonite briefcase with a foam insert.

DPA 380

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Reader Response No. 034

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Reader Response No. 035

Yellowtec voice processor

The second generation VIP/digital from Yellowtec in Germany, is a broadcast tool with extended features and increased digital performance. Announcers can carry their own personal sound set-ups by using the Yellowtec SmartCard, while Windows configuration software offers a wide choice of sound improvements. DSP algorithms are designed to allow mic processing to work in harmony with the station's general sound processing. Configuration software covers functions such as subsonic phase rotation; automatic gain control; four independent full band parametric equalisers; expander; compressor and de-esser; and a reverb plug in with a separate delay for postproduction applications.

Yellowtec 493

610 preamp

Universal Audio's valve 2-610 is a vintage-style, two channel mic preamplifier based on the original amplifiers used in the 610 audio console of the 1960s which was used to record the The Beach Boys, The Doors and Frank Sinatra. Each amplifier is hand built with custom transformers incorporating double-sized alloy cores. Features include boost/cut settings, phantom power, direct inputs and variable impedance controls. It also has inputs for mic, high impedance input and direct input.

Universal Audio 494

TL audio FAT 2 front end

Following on from the Fatman FAT 1 stereo valve compressor, TL Audio's FAT 2 Valve Front End couples a mono version of the FAT 1 valve compressor with a high quality onboard discrete valve mic preamp. Like the FAT 1, 15 preset compression settings are available, including five vocal programs and a wide range of instrument settings including electric and acoustic guitars, bass, keyboards and drums. Manual setting brings in threshold, ratio, attack, release and hard/soft knee controls. The mic input has phantom power and a 90Hz low cut filter and instrument and line inputs are also provided in a distinctive 3U half rack format.

TL Audio 495

New software for TC's 6000

Release 1.30 for TC's System 6000 includes multiple Icons controlling one or more M6000s. The Icons will update each other constantly but different engines can be controlled individually from each Icon. SMPTE time-code automation is enabled and by having the automation generated from the Icon, one common cue-list can be shared across several mainframes.

A new algorithm, BackDrop, incorporates an ear model, taking human perception into account to combat artefacts. There is also a new algorithm improvement for the VSS-5.1 Reverb. The multidirectional rendering model has controls to discriminate between angles of arrival as well as balance between early and higher order reflections.

TC 496

Yamaha surround reverb

Yamaha's SREV1 sampling reverberator is described as a high-end, multichannel, sampling effects system, which includes the SREV (24-bit/48kHz 3U high rackmount mainframe), RC-SREV1 remote controller and DB-SREV1 DSP Expansion Board.

A selection of editable reverb programs simulates environments ranging from room ambiences to stadiums, with each offering control of pre-EQ, post-EQ and Reverb parameters. The unit operates in 2-channel (up to 5.46s/channel), 4-channel (up to 2.73s/channel) or 2-channel x 2 (up to 2.73s/channel for each processor) modes. With DSP expansion board, reverb time in each mode is doubled.

SREV1 uses impulse response samples of actual acoustic environments and by using a Time Stretch Pulse to measure impulse response via bundled PC software, one, two or four channels may be measured to capture and create custom reverb.

The box has two mini YGDAI card slots, two AES-EBU I-Os, two to host serial ports, and external word clock input. Options include a CD-ROM drive for data and upgrades plus a PCMCIA card slot.

Yamaha 466

Steinberg convertor

Steinberg's Nuendo DD8 reference-quality 8-channel format convertor is a 1U rackmount featuring conversion between digital signals in ADAT, TDIF, SPDIF and AES-EBU formats. Switchable 24-bit sample rate convertors allow for both highest-quality conversion and clock unlinking of all AES-EBU inputs.

All of the DD8's digital I-Os support 24-bit/96khz resolution. As ADAT optical and TDIF are usually restricted to 48kHz, the DD8's DS (Double Speed) mode allows two channels to be used for the transmission of one channel's data. Steinberg comments that the DD8 is an ideal addition to Nuendo systems.

Among the many features offered by the DD8 Intelligent Clock Control are SyncCheck, SyncAlign, Bitclock PLL, digital patchbay functions, and active jitter reduction through SD-PLL and 24/96 sample rate conversion. Steinberg has also announced the Nuendo Dolby Digital Encoder software plug-in.

Steinberg 489

ART 31-Band

ART Is now shipping the 1U Model 353 single channel 31-band EQ. The unit has constant Q circuitry, 20mm centre detent sliders (with boost or cut range of 12dB), balanced XLR and 1/4-inch and unbalanced phono I-Os. Other features include a recording output, selectable low cut filter, LED level metering, variable Input level controls, internal power supply and selectable line voltage switch.

ART 481

TC joystick

The SP-1 Surround Sound Panner Joystick for System 6000 is now shipping. It is designed to compliment TC's future generations of interactive multichannel algorithms and parameters as an option to the existing virtual joystick on System 6000's Icon touch screen remote control surface. The SP-1 features Learn and Grab program modes and is also a general purpose device capable of controlling features and parameters within several System 6000 algorithms.

TC 497

Fostex

AC249 is a stand-alone A-D convertor, which can be used as a front end to a computer system or to provide supplementary Inputs for a digital mixing desk. In particular, the convertor can be used to add additional inputs to the Fostex D1624 and D2424 systems. DIgital interfacing is ADAT and SPDIF selectable. The 1U device is said to use high quality convertors, supports balanced and unbalanced operation and is itself expandable to 16 channels.

Fostex 459

Reader Response No. 036

Universal

New from the manufacturers of the 1176LN Limiting Amplifier is the 1176SA, a device that calibrates two mono 1176s for stereo operation. The device was first offered for the original 1176, but has become increasingly difficult to find for use with vintage or new 1176s. The manufacturer says that it was due to customer interest in stereo operation that it decided to recreate the original adapter. The 1176SA is a small device which rests behind the 1176s. It sports metal enclosure for shielding and gold-plated connectors. A two-year battery is included.

Universal Audio 460

Focusrite Penta

Designed as an affordable, high specification stereo analogue preset compressor, the Focusrite Platinum Penta features an entirely editable preset compressor offering a range of professionally compiled compression settings depending on the sound required or instrument involved. TubeTran technology can emulate VCA, optical and valve compressor sounds.The unit also features the same discrete transistor mic preamp as the VoiceMaster.

Focusrite 484

ART Tube pre

ART's Tube MP studio microphone preamp includes a VU meter for output level together with a limiter. It also functions as a direct box, with impedance matching and preamplification for line-level sources.

ART 474

Weiss releases D-A convertor

Weiss Engineering has released a 2-channel, 96kHz reference D-A convertor. The DAC1 has been designed with care for the digital input and the analogue output stage. The digital input (four input sources are selectable) is handled in DSP-based multistage, dejittering circuitry for high jitter reduction The correlation technique, using two convertors per channel as on the ADC1 A-D convertor, is said to give the DAC1 an edge over other convertors with equal wordlength and sampling rate specifications, resulting in improved SNR and THD.

The discrete Class A outputs have a virtually zero Ohm output impedance, but can drive large loads without stability problems. The outputs are symmetrical but do not have sound degrading servo mechanisms and by hooking up an analogue potentiometer or fader to the remote connector, the output level can be remote controlled.

Weiss 499

Avalon Class A preamp

AD2022 is a dual-channel Class A mic preamp, said to include the 'sonic capabilities and transparency' of the M2, M22 and M5 units but with added features. These include selectable source loading for optimised cable/mic matching; improved high-voltage power supplies; two instrument inputs; variable passive high-pass filter; Teflon/silver wiring and double-plated circuit boards for superior low-level signal transfer. The manufacturer also highlights low noise at -126dB EIN and a high headroom +36dB before clip

Split low ratio primary windings on the microphone transformer are said to be carefully combined within a custom core to give the AD2022 extended, smooth frequency response and very low distortion.

Avalon 461

XTA dynamics

XTA's SiDD (System Integrated Digital Dynamics) dual-channel 1U dynamics processor provides a suite of dynamics tools including compression, gating, dynamic EQ and delay, complete with instant recall of all user settings from the front panel, MIDI or PC software.

It is based on the same hardware as the DP226 loudspeaker processor and features 24-bit I-O and 40-bit internal processing.

Each channel has 6-band parametric input EQ, switchable to high/low shelving, high and low pass filters, dynamic EQ, fully adjustable compressor with sidechain processing, a 'look ahead' limiter, gate/expander with sidechain processing, delay line with separate ADT, and a harmonics generator with separate control over second and third harmonic distortion content.

XTA 465

Drawmer opens power gate

Positioned further upmarket than the established DS201 dual gate, the DS501 power gate features a dual-mode Peak Punch processing section. In tuneable mode, a fully-variable frequency selector with a range of 75Hz-16kHz allows the user to shape the transients of the gated signal and tune in to the particular area of the audio spectrum where the Peak Punch is to be active.

A variable 'more' control then allows the user to tailor the amount of processing. A secondary full band Peak Punch mode is also available.

The DS501 is aimed primarily at drum and percussion applications where it is said to be capable of adding transient punch to frequencies lacking in individual drum sounds, adding greater definition and presence to the gated signal.

In addition to the usual Drawmer traffic light gate-status display, the DS501 features new approaching threshold metering on each channel, making it possible to see signal activity below the threshold.

Drawmer 462

Empirical Labs

The manufacturer calls the technology in its EL-7 processor FATSO: Full Analogue Tape Simulator and Optimiser. It also has 'classic knee compression'. A modern, digitally-controlled analogue device, the EL-7 is said to offer many of the 'musical non-linearities' exhibited by the older tube, class A discrete, and magnetic tape media.

The 2-channel audio processor is said to increase the apparent volume without actual increase in peak levels. Two channels of Empirical Labs compression are provided in addition to this. There are several compressor types with fixed attacks and releases.

Empirical Labs 463

MixMaster digital card

The digital card for the Focusrite MixMaster stereo dynamics, EQ, and image processing unit is now shipping. The optional Digital Board allows A-D conversion of stereo signals before audio leaves the box.

The board can be retrofitted by the customer without any soldering and offers 24-bit/96kHz 128 times over-sampled operation.

Focusrite 475

Manley ELOP II

Manley has announced ELOP II, 'The Limiter' which keeps the original opto circuit included in its previous designs but adds a switchable high pass filter into the side chain so that it is useable for mixes and other tracks. A fast FET-based brick wall limiter ranges from clean limiting to grunge while a FET release control adds colour. Mic preamps have been added to both channels with switchable phantom power and phase reverse and a rear panel slot accepts A-D and D-A convertors.

Manley 478

CN-220 ..... Natural Compression

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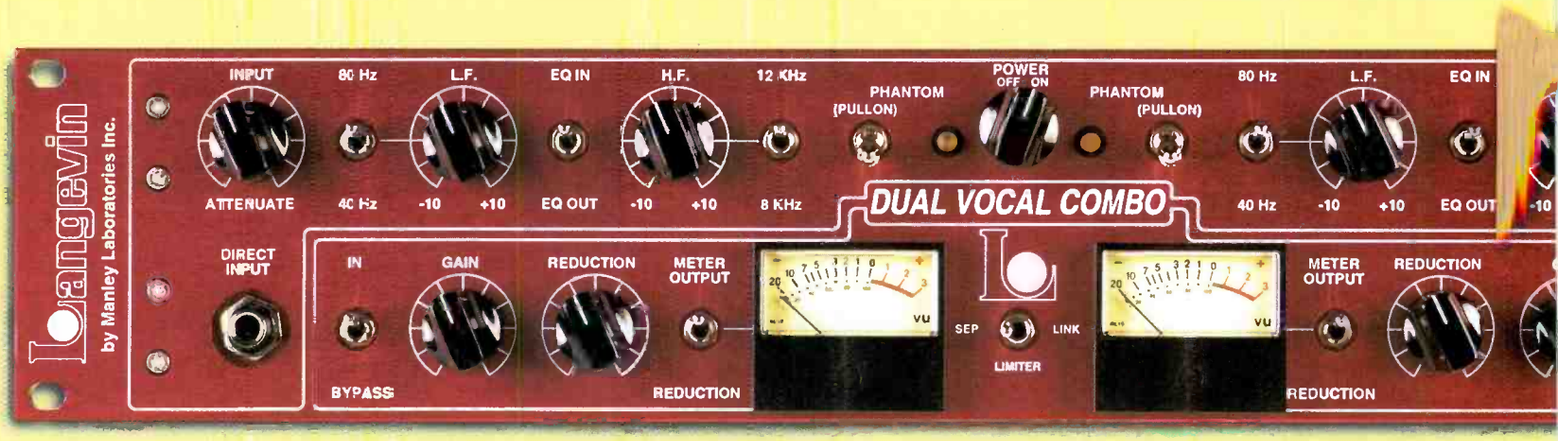
Reader Response No. 037



Langevin

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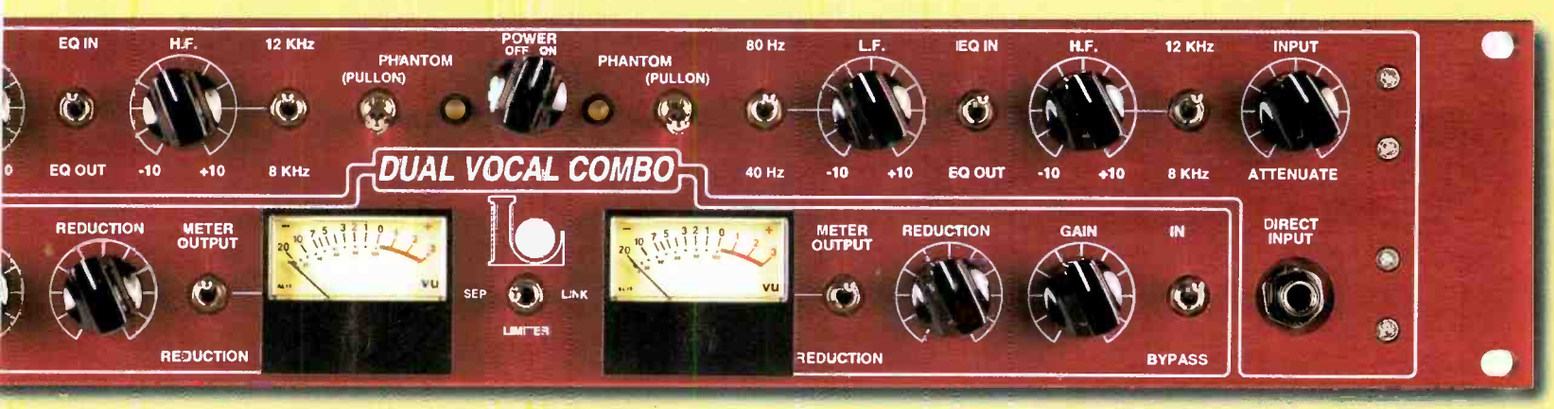

Reader Response No. 038

Rolls

The CL151 GLC is a single channel compressor-limiter with a noise gate and mic preamp that is driven by balanced XLR or unbalanced jack inputs with a TRS jack side chain and 1/4-inch jack output. Soft knee compression circuitry has variable threshold and ratio controls followed by gate threshold and release time variables. LEDs meter gain reduction. CL151 GLCs can be mounted side by side on a rack tray and are the first units in a new series

Rolls 479

Fearn EQ

US manufacturer DW Fearn has introduced the VT-4 Vacuum Tube LC Equaliser. This single-channel, 3U uses passive LC (inductor/ capacitor) equalisation circuitry, surrounded by all-valve Class-A triode amplification. The VT-4 has 5 bands which may be used in any combination; stepped controls for precise re setability; top-quality Jensen input and output transformers; and adjustable Input gain.

DW Fearn 498

RTW provides conversion

A range of new convertor systems for broadcast, recording and mastering have been shown by RTW. The line up of the 1200-3U series includes different combinations of A-DCs, D-ACs and SRCs. All modules support 24-bit and 44.1, 48 as well as 96kHz. The configuration can be changed and RTW's gas plasma peak meter or audio vectroscope can be included. Connectors are XLR, D-Sub or VG 64 pin.

Aside from the convertors RTW also offers digital source selectors and monitor selectors for up to 24 AES-EBU channels, the 1250-3U.

RTW 451

Z-Systems

Z-Systems z-link96 and z-link96+ miniature sample rate convertors are the follow ups to the z-link and z-link+ processors. Both support 24-bit at sample rates up to 96kHz and have internal clock references which allow the units to generate 44.1, 48, 88.2 and 96kHz output sample rates internally. The z-link96+ can be synchronised to an external AES11 reference.

Z-Systems 485

Crane Song's latest HEDD

HEDD 192, is a 24-bit stereo A-D, D-A convertor with DSP emulation of tube and tape sounds from Crane Song with adjustable triode, pentode and tape sounds. In addition to tape emulation, an analogue dither source has been added to the device. In the A-D mode the dithering options are 20 or 16 bits while in the digital I-O mode redithering to 16 or 20 bits can be accomplished by selecting the appropriate function.

HEDD 192 will be upgradable to 192kHz when the components become available. Interface options include AES, SPDIF, Toslink and ADAT optical. HEDD 192 can be used as a word clock source or can sync to an external word clock. Release scheduled for early 2001.

Crane Song 468

Antares

Following on from the ATR-1 auto-tune intonation processor, the new ATR-1a adds two significant features. In the bass mode, the lowest detectable frequency is approximately an octave lower at 25Hz. The low E on a bass guitar is around 41Hz, so the ATR-1a will cover a variety of bass instruments. Where a melocy line is ambiguous or has too many accidentals to fit easily into a conventional scale, the make scale from MIDI mode can be used to enter the desired notes from a MIDI instrument or sequencer.

Antares 454

TL Audio

TL Audio's latest addition to its 'Valve Classics' range, the VP-1, combines the best elements of the PA-1 pentode preamp, C-1 compressor and EQ-2 parametric equaliser to create a flexible valve front end. Additional features include an expander/gate, de-esser, peak limiter and optional digital output.

The VP-1 features seven valve stages, run from a 250v DC supply. The first stage is an EF86 pentode in the front end of the preamp, followed by six ECC83/12AX7A stages - one in the secondary stage of the preamp, one in the compressor and four in the EQ section.

TL Audio 482

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Signex PRO AUDIO PRODUCTS

Reader Response No.039

SPL Kultube comp/limiter

SPL has launched a new stereo compressor/limiter optimised for processing complete mixes and single tracks in stereo and multi-channel/surround applications. The Kultube features a tube harmonics stage with an infinitely variable tube harmonics control enabling the user to apply precise amounts of natural-sounding tube enhancement.

The use of discrete gain cells (instead of VCAs) and high quality tube circuitry delivers control and high specifications combined with the best sonic aspects of classic tube equipment.

The Kultube incorporates master/slave linking facilities for stereo and multichannel applications or for processing various subgroups under the control of one master unit. There is also a new Advanced Time control for the manual adjustment of the attack and release parameters, which interacts with the auto time constant circuitry to combine the best aspects of manual and automatic control at the same time.

The Kultube can control time constants in less than 20microseconds (claimed to be about ten times faster than plug-ins) and also features a side-chain with prelistening plus a de-compression function that can be used to help compensate for material that has already been subjected to excessive compression. As an option, the unit can be fitted with Lundahl I-O transformers and a 24/96 A-D/D-A convertor.

SPL 488

New Eventide remotes

Eventide's DSP7000 is described as its most powerful stereo effects processor to date. Described as having four times the processing power of a DSP4000, the new box has 500 factory presets with 24-bit/96kHz conversion Operation is similar to the DSP4000 but Eventide's PC-based Vsigfile graphic editor can be used along with Internet downloaded software upgrades. The box can also be used with the Eve/Net network remote control which permits the control of multiple stereo DSP7000s and multichannel Orvilles from multiple remote locations.

The news coincides with the announcement of the faceplate control-less Orville/R and the DSP7500 which has hundreds of additional presets over the DSP7000 that are applicable to post and broadcast plus a stereo 87 second sampler.

HHB 471

Voice modelling processor

TC-Helicon has released the VoicePrism Plus Human Voice ModellingIFormant Processor. Voice Modelling is described as real-time resynthesis and reshaping of the human voice and offers a variety of ways in which to process the vocal input, including the ability to add breath, growl, rasp, head and chest resonance, inflection or vibrato. Features include a range of effects, harmony and backing channel vocal processing under preset control.

VoicePrism Plus can go directly from a phantom powered mic into a 48V preamp and access any of the onboard processes including compression, gate, dual fully parametric EQ, 4-voice harmony, lead voice Human Voice Modelling, two separate post-effects blocks (including chorus/flanger, delay and reverb with predelay), and effects and harmony libraries.

I–Os include 1/4-inch analogue, 24-bit AES-EBU and SPDIF digital.TC-Helicon also has the VoiceCraft Voice Modelling Card, an upgrade for the company's debut vocal processor, the VoicePrism. VoiceCraft adds the DSP power, algorithms, Voice Modelling technology and hardware compliment to the processor as a path for VoicePrism owners to upgrade to the equivalent of a VoicePrism Plus.

TC 491

Altair gates

Altair recently previewed two compressor/noise gates. The CN-220 is a compact dual-compressor/limiter with a fully-featured noise gate front end. Dedicated filters in the gate section trigger the gate only by the desired instrument.

Test monitoring of the signal is available to set up the gate effect. A low output noise guarantee (max of 24dBu) has enhanced the suitability of the CN-220 to a wide range of applications, while the band compressor mode with adjustable frequency selection allows a host of effects for the user. These include de-essing, vocal stopping and drum levelling by compressing only the desired band.

The NG-440 incorporates four identical full-featured noise gates within a single compact unit. Stereo switches between sections 1-2 and 3-4 adapts into the unit to quad, dual/stereo or a mixed programme material by tracking gate timing and gain reduction parameters from both channels at a time, with channel 1 acting as the master.

Altair 455

dbx Tube

The 376 Tube channel strip has a digital output and is designed for track-laying. It has a valve-based preamp section with a 200V plate voltage. A three-band equaliser is combined with compressor and de-esser sections. There are four sample rates for the output, ranging from 44.1kHz to 96kHz. The AES-EBU and SPDIF outputs also benefit from selectable dither and noise shaping. The mic/line inputs have 48V phantom power, along with phase inversion and lo-cut filtering.

dbx 453

That's right: the surprising lightness and compact dimensions of the PFX Series power amplifiers are their real strength...not to mention their massive power.
In fact, the Switching technology offers, together with an **increased efficiency** and a **better control of heat dissipation** than conventional power supply systems, a **drastic reduction of dimensions and weight**, for easier transportation and installation. That's why the **PFX 2.0 and PFX 1.3** are able to deliver **2000 and 1300 WATTS in 2 rack units weighting only a little more than 10 kilos!**
The high-quality components and the carefully designed circuits ensure **excellent audio performance** and an extremely linear frequency response, giving crystal-clear sound in the high range and an up-front, full-bodied bottom end. Moreover, the advanced **protection system of the PFX** amplifiers guarantees total reliability and a trouble-free use even in the most demanding conditions.

Model	Watts per channel			Bridge
	2Ω	4Ω	8Ω	8Ω
PFX1.3	650	650	450	1300
PFX2.0	1000	1000	650	2100

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Reader Response No. 040

AirTools 6100

AirTools 6100 broadcast audio delay replaces the 610.It is a 24-bit digital delay unit for live broadcast that prevents unwanted profanity or comments from reaching the airwaves. As the programme begins, the 6100 gradually and unobtrusively 'stretches out' the programme until up to 20 seconds of 20kHz bandwidth stereo audio is stored in memory and can be dumped when needed. The 6100 also includes an automation interface for network broadcasts.

Symetrix 483

Euphonix format convertor

Euphonix' FC727 format convertor enables a variety of digital I-O formats, including Digidesign Pro Tools, to directly interface with System 5 consoles and R-1 multitracks using MADI connections.

In addition to bidirectional conversion between TDIF, AES-EBU, SDIF-2, ADAT, ProDigi and MADI formats, the FC727 also links directly to Digidesign Pro Tools, including automatic upsampling from 24-bit/48kHz tracks to 24-bit/96kHz tracks. A total of 56 Pro Tools channels can be carried via a single FC727 connection.

Euphonix 470

TUBETECH SMC 2B
ANALOG STEREO
MULTIBAND COMPRESSOR

The TUBE-TECH SMC 2B is an all tube based stereo multiband opto compressor. It features variable x-over frequencies between the three bands. Each band features separate ratio, threshold, attack, release and gaincontrol. A master balance and output gain controls the overall level.

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LA Audio DSP add on

The DPF-RTA is an optional plug-in DSP card that can be fitted into the LA Audio DPF3103 digEQ Master unit or into the DPF3103R digEQ Remote Control, providing true Real Time Analysis. Because the DPF-RTA is a separate card, it does not use the resources of either channel, and can operate simultaneously with both channels of the digEQ to provide acoustical analysis of the stereo signal via an external microphone.

The DPF-RTA employs two 100MHz 56-bit DSPs to provide the calculation power required for analysis. It will perform analysis on the input or output of channel A or B or an external microphone. The range displayed on the screen, and the reference level can be altered, as can the averaging period of the filters. Each filter is displayed with a Peak bar above, and the decay time of the peak bar can be altered.

The BCL20 dual broadcast compressor/limiter is an upgraded model of the BCL2, with superior construction and modern component specification as well as the addition of a new peak/VU meter selection facility.

LA Audio 476

Jünger Orion

Jünger has unveiled an 8-channel dynamics processor. Orion hardware is based on the C8000 modular digital processing system and consists of a 3U system frame, C8800 sync and remote interface, C8000 input interface modules for up to 2x 8 input channels, and C8000 output interface modules with multiple parallel output possible.

It employs adaptive algorithms from the Accent series of dynamics processors with expander, Multi-Loop compressor, distortion free brickwall limiter, channel delay and digital band filter. Operation is at 96kHz with remote control, off line editing, configuration and set-up by PC software.

Crucial to the product is the incorporation of Dynalink technology for dynamically linking the gain control of correlated audio channels with user defined adjustment of links between channels and between linked channels with definable link direction and ratio of link.

Jünger 472

Genex 8-ch convertors

HHB has launched two affordable 8-channel convertors from Genex Research. Drawing on technology from the GX8500 multiformat recorder, the GXA8 and GXD8 are the first commercially available devices to support 8-channel, 24-bit/192kHz and DSD conversion.

The GXA8 A-D translates eight channels of balanced analogue into 24-bit digital with outputs available in AES3 fitted as standard, supporting four channels of 24-bit/192kHz in dual-wire mode or eight channels of 24-bit/96kHz in single-wire mode. An optional AES expansion card provides eight channels of 24-bit/192kHz in dual-wire mode, with cards also available to support eight channels of SDIF2, ADAT and TDIF output.

As an option, the GXA8 can operate in DSD mode. The GXD8 D-A operates in PCM formats up to 24-bit/192kHz and, with an optional card, in DSD mode. Digital audio can be input in a variety of formats with AES3 available as standard. Optional cards are available for AES expansion, SDIF2, ADAT, TDIF and, in the near future, IEEE1394. The high-stability crystal oscillator clock used for the conversion process is buffered and brought out to the rear panel allowing the digital source device to lock to the GXD8's D-ACs.

HHB 469

GT tube pre

GT Electronics' Vipre is an all-tube mic preamp with variable impedance and selectable rise-time.

Altering the impedance load pushing against a mic alters tone and character while the switch-selectable rise time alters the speed at which the sound is amplified. The combination of circuitry and variable rise-time is said to provide 'intricate' sonic capabilities.

Fully-floating differential inputs and outputs are switch-selectable and gain settings in 1dB steps from 15 to 75dB are complemented by audio metering.

Alesis 467

Reader Response No. 041

Nagra new digital recorder

Nagra's Nagra V 2-channel audio recorder is described as the successor to the Nagra IV-STC.

The Nagra V is a removable hard disk-based digital recorder intended to offer a flexible and convenient alternative to portable recorders based on the R-DAT format. Designed for film, television and video location recording applications, the recorder uses linear 24-bit recording technology at 44.1kHz or 48kHz sampling rates to deliver over two hours of stereo recording per 2Gb of hard disk space. Rather than use a proprietary storage format, the product stores audio in broadcast WAV format, thus simplifying the transfer of recorded material.

Based upon the rugged, proven chassis of the Nagra ARES-C solid-state recorder and weighing just 3kg, the compact Nagra V has been designed to offer comfortable on-the-shoulder operation.

Nagra 561

HHB addresses DVD-R

Anticipating the widespread adoption by audio and video professionals of the DVD-R format, particularly in view of Apple's decision to include a writer in the G4, HHB has introduced the DVD-R4.7Gb to its recording media range.

Developed for general V2.0 recording, the new disc uses a specially formulated recording dye to achieve exceptional levels of performance, compatibility and archival security, and joins a range of HHB recording media that already encompasses DAT, CD-R, ADAT, DTRS, MD, MO and DVD-RAM formats.

HHB 562

Denon

Designed for use in clubs, DJ set-ups, studios and other situations, CDR-1000 and CDR-W1500 are professional CD-R/RW machines. Both units have 19-inch rack kits available, are fitted with digital level control and have extensive infra-red remote controls.

CDR-W1500 is a twin-deck machine which supports recording from CD at double-speed. Alternatively, both decks can be attached to a mixer and used for simultaneous playout. A number of modes are provided to simplify the process of dubbing from one disc to another.

The unit supports single-track recording and has an onboard 32kHz, 44.1kHz and 48kHz sample rate convertor. The D-A convertors are 24-bit. Digital I-O is provided on coaxial and optical and analogue connections are also provided. CDR-W1500 supports text titling for each track.

CDR-1000 has the same D-A and sample rate convertors as the CDR-W1500. It also has a fade I-O record function and synchronised recording, which automatically records as soon as audio is detected.

Denon 573

HHB's BurnIT for Audio CD

HHB's CDR830 BurnIT is a low-cost professional audio CD recorder with 24-bit A-D and 24-bit, multilevel Delta Sigma D-A that uses pro CD and CDRW media.

Phono I-Os are complemented by coaxial and optical SPDIF I-Os, with an on-board sample rate convertor accepting frequencies from 32-48kHz. Auto track increment combines with four synchro-recording modes and a 2x finalise feature means that the discs are 'fixed' in two minutes. CD Text support is included along with digital record gain and balance control, input monitoring with track increment rehearsal, fade in/out adjustable from 1-12 seconds, five CDRW erase modes, track skip ID recording, track index search on playback and program, random and repeat playback modes.

HHB 554

MediaFORM CD-R production

Four new CD-R production products are available from MediaFORM. For single CD-R replication, MediaFORM offers the CD-3701. Available with the same relay mode operation and 'one button' menu options as the manufacturer's larger systems, the 3701 is said to upgrade readily to future CD-R/DVD technology.

For larger scale production, the CD-3703 enables users to copy simultaneously up to three CDs without intervention. Its spindle will hold 125 CDs. The relay mode allows users to duplicate continuously multiple masters.

The relay mode on the larger CD-3706 means that as many as six masters can be used for duplication at the same time. It can automatically access CD images stored on a local hard drive. The system is compatible with MiniDiscs and CD business cards. Easi-DAT and Easi-Audio options are available.

The AP1302i-t is a network-enabled print station which can be used with thermal and inkjet printers at resolutions of up to 1200dpi. A print run can be as many as 300 CDs before manual intervention is required. Based on a Windows NT computer, the solution is described as low-cost but gives a high-quality CD print in less than a minute.

MediaFORM 564

Dialog4 additions

Sountainer is the first portable MP3 recorder/player to be equipped with a microphone input, line I-O and USB interface. Designed for reporter field use, MP3 files can be transmitted over the Internet to the radio/TV station via the USB Interface.

Dialog4 550

Sony

Sony has introduced two 1U-high, rackmount, MD recorders. The MDS-E10 and MDS-E12 incorporate ATRAC type R algorithm and replace the 2U-high MDS-E58 and the MDS-E11. They have 10 Instant Start memories, SPDIF coaxial and optical digital I-O, phono I-O; long record/play using ATRAC3, and menu control of hot start, auto cue, auto pause, sound start pause, varispeed, next track reserve, and digital record level adjust. There's also RAM edit, A-B erase, and front panel PS/2 port.

Sony 556

HHB

The Portadisc Reporter's Kit partners HHB's professional portable MD recorder with the Sennheiser MD46 interviewer's mic, plus a full complement of accessories, including a USB cable for transferring audio to laptops for editing and delivery of finished news pieces, in an air and water tight Pelican case.

HHB 563

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Reader Response No. 042

Latest CD-R

The latest CD-R machine from Marantz, the CDR-770 offers CD Text, audio DSP buffer, AES-EBU input, dynamic laser calibration, SRC and optical and coaxial SPDIF. Track IDs can be created manually or automatically with frame accurate writing through the buffer. Smart Auto Stop and Auto Finalise.

Marantz 560

Denon

The new Denon DN-2100F is a mid-range twin CD player aimed at the club, leisure and entertainment markets. Positioned price-wise between the recently introduced DN-2600F and DN-1800F twin CD players, the new unit has features including digi-scratch, key adjust, seamless loop and hot start/stutter. The unit is also equipped with power-on-play, repeat play and pitch lock. Designed for intuitive, hands-on operation, the new unit has a shock-proof memory system to guard against mechanical interruption to the programme.

Denon 557

Sony high-end CD-R

Sony has revealed two CD-R machines.

The higher-end CDR-W66 features DSP functions, parametric EQ, limiter and SBM.

The CDR-W33 incorporates SRC, coaxial digital, optical digital, analogue unbalanced jacks while the CDR-W66 adds Word Clock interface, AES-EBU I-O, balanced analogue I-O, RS232C and parallel (GPI) control ports, a 2X speed duplication link for dubbing using two machines and DSP functions available on digital and analogue inputs.

Sony 555

Marantz CDR631

Following on from the CDR630 is the CDR631 CD recorder. Digital and analogue I-O, CD text, audio buffer RAM and DSP management for frame-accurate track IDs, instant start and sync start functions are all included. The new drive and cooling fan are said to give measurable improvements in life-span and audio performance. Other aspects of the mechanical design are said to result in improved tracking accuracy with very low jitter.

When incoming signals include track IDs, these are translated automatically into CD track increments but where there are no track IDs, the CDR631 generates them automatically. A 10-key control panel and brightly coloured transport section with jog wheel are provided for easy operation. The balanced analogue I-Os have trim level controls and the AES-EBU inputs are equipped with record level attenuation. Convertors are 20-bit A-D and 24-bit D-A.

Marantz 569

Fostex DVD-Ram recorder

The new DV40 DVD-RAM recorder from Fostex has a Verify/Write mode which examines all data recorded all of the time while in record mode. It uses UDF file format mode to establish compatibility between normal computer-based work stations. Users chose SDIII (Sound Designer II) or BWF as audio file format and either 24 or 16 bit resolution. Recording track modes can be mono, stereo or multi and various sampling frequencies can be selected: 44.1/48/88.2/96/176.4/192kHz and 0.1% pull up/down can be applied to any selected rates.

The recorder offers internal file conversion between 4-track or stereo files and multitrack mono files. The DVD-RAM disk can be formatted in normal (non destructive) or tape (destructive) recording modes.

The machine's on-board I-O connectors include analogue input XLR x 4 with 24-bit/192kHz A-Ds; analogue output XLR x 4 and 1/4-inch phone jacks x 4 with 24-bit/192kHz D-As; and digital AES/EBU XLR I-O x 4.

Synchronisation with word and video signals is included and a time code generator offers 24H run, Rec run, Free run and Ext run modes and is also equipped for the 23.97F HD camera mode. An optional ethernet card offers audio file transfer between the DV40 and a targeted computer via general purpose FTP applications.

Fostex 578

Capture system

Quadriga is an automated 'capturing' station for quality-controlled analogue to digital conversion of sound archives to digital interim data storage systems and/or digital mass storage systems. It provides automated monitoring and logging of analogue and digital audio streams for technical parameters of archival significance.

The captured audio data can be stored in the Broadcast Wavefile Format (BWF) together with all related metadata and error reports. This frees system operators from monotonous and time consuming procedures, while guaranteeing quality control and dramatically reducing archive transfer costs.

Cube-Tec 580

From 9th July United Business Media International will become CMP Information Ltd.

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Maycom reveals hand

Maycom has unveiled the solid-state HandHeld recorder which combines stereo recording with MPEG Layer 2 encoding with a high-tech design. The recorder comes standard with an internal microphone and records on removable Flash memory. An optional docking station operates as a battery charger, has stereo inputs and outputs, and is equipped with USB for high-speed audio transfer between recorder and computer.

Standard applications can be applied for viewer and browsing functionality and will allow a user-friendly interface between the recorder and the existing radio automation system.

Maycom products are fully compatible with the major systems used in the broadcast industry such as David, Netia, Dalet, Co-Star, CCS, Telos, and Capsat messenger.

Maycom 553

Mass-archive solutions

NOA provides complete solutions for archiving large amounts of audio material with the highest efficiency. The combination of an SQL Job Database with a network of simple high quality DAWs and advanced algorithmic recognition is designed to handle the challenge of digitising archives with the utmost accuracy.

For each archive, important parameters for the digitising process are defined by an administrator and set up in a scaleable database. Then the operator can concentrate on the digitisation process.

NOA Audio offers bit-proof control of the bitstream, from A-D convertor to the hard disk. The hardware creates a check-sum which is sent to the NOA software which then checks if this check-sum is different from the received sum and stops the recording process automatically if it is wrong.

Native programming with a multithread technique allows three parallel recording processes with a resolution of up to 96kHz/32-bit floating point in one host computer.

NOA 579

Verity TrueCopy CD-R/RW

Verity Systems' range of Automatic CopyDisc CD-R/RW duplicators and manual duplicators has been enhanced by the addition of the TrueCopy 12s CD-R/RW writer. Operating at up to 12x writing speeds, all Track, Session, and Disc at Once Formats are automatically recognised.

Additional features include data tagging, dynamic laser adjustment, and the prevention of illegal copying.

Verity Systems 559

Marantz portable PC card

The new PMD690 stereo portable PC card recorder from Marantz provides stereo inputs, 48V phantom power and switchable stereo or dual level mono recording modes.

The PMD series, designed for ENG and OB applications, record digital audio onto a removable PC card which can then be inserted into a laptop computer for easy editing, mailing, network distribution or processing.

No moving parts means the product is resistant to shock and climate change. The product has an MSDOS compatible file system to provide instant access to recorded files via PC or MAC, without the need for file conversion.

Marantz 577

Pickering cartridges return

Stanton Magnetics has revived the Pickering brand after an absence of more than a decade. The brand, which dates back to 1947, has been relaunched with a product range of five cartridges for DJs.

Pickering's flagship cartridge and stylus is the NP/AC. With an output of 10mV, it claims to be 'louder than any cartridge in the world'.

EP-DJ is a head-shell mounting version of a plug-in-style cartridge. The spherical stylus is suggested for tight tracking and scratching. The EP-HiFi has an elliptical stylus and was designed for light tracking, hi-fi use. The 150-DJ is another scratching cartridge. It is said to be one of the heaviest cartridges on the market.

The 625-DJ cartridge has an elliptical stylus with the widest frequency response of the entire range. Finally, there's the V15-DJ which the company is promoting as the best all-around cartridge.

Stanton 576

Tascam HR

The DA-98HR DTRS format digital 8-track tape recorder is now shipping. In addition to 8-track recording at up to 24-bit/48kHz resolution, the machine supports 4-track recording at 88.1kHz or 96kHz. Two-track recording allows 176.2kHz or 192kHz recording without loss of recording time.

A full complement of on-board sync and chase functions are provided. Audio interfacing is AES-EBU and TDIF, with an optional card for 24-bit D-A/A-D conversion.

Tascam 567

Reader Response No. 044

MP7

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DISCOVER

With the integration of **mixer, effect devices** and **power amplifier** into **one single case,** the **MP7** is perfectly suited for **fixed installations** as well as **mobile use.**

It can be used for **events, performances, conferences,** and **fashion shows** as well as in **schools, clubs, hotels, dancing schools, gyms** and **conference centres.** The MP7 is extremely reliable, easy to handle, flexible to use and has comprehensive protection circuitry, no cabling problems and universal hardware for wall or 19" rack mounting.

It offers many possibilities whilst operation remains simplicity itself. Numerous functions and easy handling, it is suitable for many different fields of operation and a has a high degree of reliability. With the MP7 we have put an end to complicated and space consuming equipment! Everything is integrated, reliable and fool-proof. And the high quality Dynacord is well known for is backed by a three years guarantee. The only thing we have cut back on is the price... and the weight. With an output of 2 x 300 Watts the MP7 weighs only 13 kg and measures 46x36cm. It's plug-and-play design means tangled up cables are a thing of the past. And what about the sound? LPN processing guarantees full sound and a noticeable bass punch.

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Reader Response No. 045

Radian adds MicroWedge

Available now, the MicroWedge RMW-1122 is a passive two-way monitor enclosure. Loaded with a coaxial 12-inch cone driver and 2-inch compression driver assembly, the MicroWedge is intended to be the first in a range of compact monitors for live sound applications.

According to the manufacturer, the use of a coaxial system allows for an enclosure that is as much as 50% smaller than comparable alternatives, freeing up space on stage and offering less interruption to the audience's line of sight.

RMW-1122 is rated at 500W, with a quoted frequency response of 60Hz-20kHz and a continuous output level of 123dB. As with other enclosures in the Radian Professional Series, the MicroWedge is made from 3/4 inch Baltic birch and is finished with an exclusive water- and scratch-resistant coating. Future models will include 8-inch and 15-inch units as well as biamped models and ones with the ability to switch between active and passive modes.

Radian has also launched the 950PB, a 2-inch exit throat neodymium compression driver. A Mylar diaphragm suspension is combined with a pure aluminium dome and this is said to greatly reduce second and third harmonic distortion.

Frequency response is quoted as 500Hz-20kHz and power handling as 100W RMS. The design employs a 4-inch voice coil and there is a choice of 8 or 16Ohm impedance rating. The whole assembly weighs 4.7kg.

Radian 505

Stage Accompany Entertainment

The latest addition to the Entertainment series is the E27, a compact, medium-power, full-range loudspeaker. Stage Accompany says that the enclosure is suitable for situations ranging from theatres and discotheques to theme parks, without the need for additional bass cabinets. The E27 has a quoted frequency response of 55Hz-30kHz and a continuous power handling of 400W.

Distortion-free sound is promised from low SPLs up to 127dB. The manufacturer says that the main reason for its high quality sound is its exclusive Ribbon Compact Driver, which provides 'natural music reproduction and intelligible speech at very high SPLs'. Handling the mid and upper frequencies, the driver benefits from an inherent directivity, eliminating the need for a horn.

As with other SA systems, the E27 is pre-wired with Dynamic Damping Control. This system uses a feedback signal for active compensation of the resistance of the loudspeaker cable, resulting in very tight mid and bass reproduction. The manufacturer claims a damping factor of 10,000.

Stage Accompany 512

JBL MPros Crown powered

New from JBL are two series of sound reinforcement enclosures under the MPro badge, which includes the first fruits of a co-operative arrangement with amplifier manufacturer Crown. There are also additions to JBL's range of installation products.

Built for live sound, clubs, DJs, houses of worship and other applications, the two series are the MPro 200 and MPro 400.

With the exception of sub-woofers, all MPro enclosures employ what JBL dubs a SMC Laminar Flow Baffle, a smoothly moulded single-piece that integrates horn, ports, baffle and woofer mounting. The rounded contours are designed to reduce turbulence and diffraction effects. SMC is sheet moulding compound technology used extensively in the automotive industry.

For the remainder of the enclosure, JBL has chosen 18mm ply with tongue-and-groove joints. Heavy-duty steel handles, steel perforated grilles and quality pole-mount receptacles are used. Subwoofers ship with the pole itself. High-frequency components are protected by JBL's SonicGuard system.

MPro 200 speakers have carpet-covered cabinets. The JBL low frequency transducers have edge-wound voice coils for high power handling and output. Titanium diaphragms and Ferro-fluid cooling are used in the in the 1-inch JBL compression drivers. The initial MPro 200 offerings are MP215, a 15-inch 2-way system and MP255S, a dual 15-inch subwoofer.

MPro 400 speakers are covered with JBL's patented Duraflex finish. The first MPro Series 400 models to be released are the MP410 10-inch 2-way system, which can be used alone or with one of the following sub-woofers: MP418 single 18-inch, or MP418SP powered single 18-inch. The latter unit has amplification and processing designed by Crown Audio.

JBL 525

Ohm CRED

Enhancements have been made to the TRS-218 subwoofer and CRED digital system controller. A proprietary speaker has increased the power handling of the subwoofer, meaning reduced power compression and higher SPL. CRED now has 24-bit D-A convertors and can be computer controlled via SIA SMART software. Software updates are available over the Internet.

Ohm 500

PAC

There are currently two enclosures in the Pure Audio Concepts range. Both are 2-way passive systems in trapezoidal enclosures. PAC12 is loaded with a 12-inch cone driver and an HF horn, while the PAC15 is loaded with a 15-inch speaker and a horn. Power ratings are 250W and 350W RMS respectively with frequency responses quoted at 50Hz-18kHz and 45Hz-18kHz. Four further models are planned, including two subwoofers.

SMP 501

ARX

The Ambience 5 compact loudspeaker is available in white (model AMB5-WH). The lightweight, high-impact resin cabinet is combined with a protective steel mesh over the speakers. Frequency response is rated at 50Hz-20kHz +/-5dB, with a 200W programme power rating. The cabinet is loaded with an 8-inch cone driver and 1-inch soft dome tweeter, plus crossover.

ARX 509

d&b Max12

Max12 is a wedge-shape two-way enclosure with passive crossover. Frequency response is quoted as 80Hz-18kHz and maximum SPL 132dB at 1m. The design employs a coaxially mounted 2-inch HF driver in combination with a 12-inch cone driver, which the manufacturer says gives a time alignment close to ideal point-source. Applications include stage monitoring but the Max12 can also be used in a variety of flown or stacked situations.

d&b 510

New features for LEM Avalon

The Avalon Series - LEM's loudspeaker system with plastic cabinets - have added new features. The 6 Avalon models retain the structure of the cabinet in HDPE (High Density Polyethylene) allowing lightness.

The amplified versions, AV12A and AV15A, are replaced with two new models - the AV12 HP and AV15 HP equipped with a new built-in biamplification system. Two amps (one for high and one for low section), an active crossover and an anti-clipping circuit are standard to both models, allowing high dynamics without distortion. An effective 3 band equaliser that allows the user to control the sound of the system is also standard.

The Avalon Flex Series, also modelled in HDPE, uses a new version of EWT horn (LEM patent) for high frequency reproduction and linear response. The two models - the AV12FLEX and AV15FLEX - are also available in amplified versions.

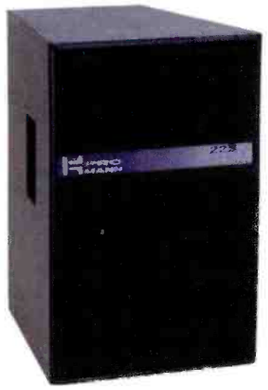
GeneralMusic 511

Master Europe is Promann

There are new Promann Contract speakers from the French manufacturer, which, the company claims, are compact, reliable and unobtrusive.

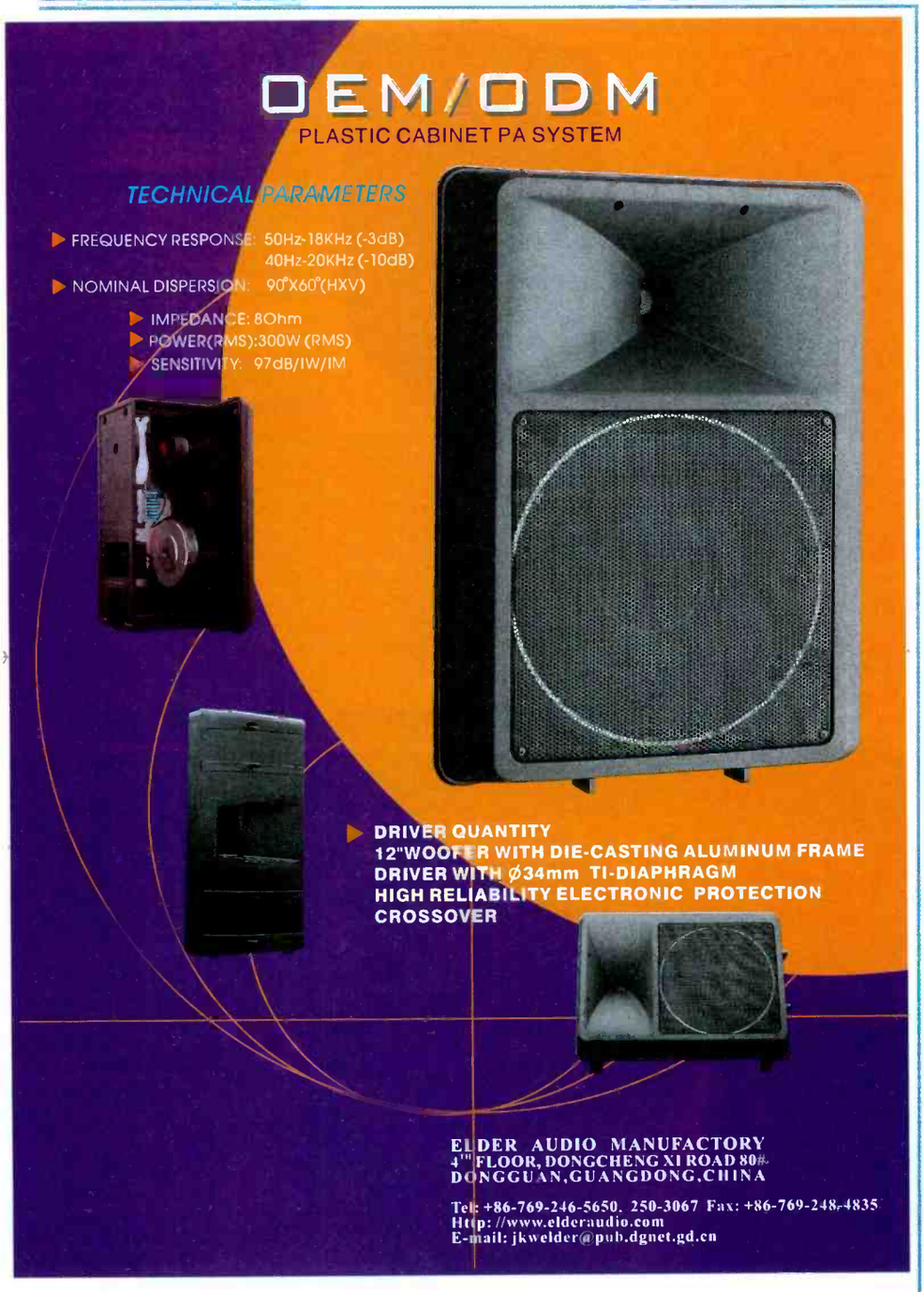
The Contract 15 has a 5-inch low frequency voice coil with a power output of 100W RMS; it is finished with 2-coat polyurethane paint, 10/10th grilles and foam.

A ball and socket system with three fixing points, for ease of installation, is supplied as standard, plus there's a bracket option too. The Contract 30 is a 6-inch voice coil version capable of 150W RMS.



Master Europe has also launched new 2-way active satellite speakers (400+200W) for indoor and outdoor use.

Master Europe 515



JBL's EON powered system...

Launched as a second generation of the EON powered speaker system, the new EON15 G2 is an active enclosure loaded with a 15-inch cone driver and a horn-loaded 1.75-inch titanium compression driver with ferro-fluid cooling.

The cone driver has a neodymium magnet and is powered by a 300W amplifier. A 100W amplifier supplies the high-frequency unit. In order to eliminate the need for cooling fans, JBL uses a single-piece, cast-aluminium baffle which integrates the woofer frame, horn and amplifier heat-sink, with air movement through the finned parts dissipating heat.

A built-in mixer combines one balanced mic/line input with two unbalanced line-level jacks and a two-band equaliser section. There is also a mix out, which will send the mixed output to an external system.

Suggested applications for the EON15 G2 include main PA, stage monitor and musical instrument amplification. Multiple units can be combined to create more powerful systems.

JBL 506

...gets itself a companion

There is now a companion subwoofer for Eon speaker systems. The Eonsub G2 has a frequency response of 40Hz-200Hz and an internal power amplifier of 250W. The 15-inch woofer has a Neodymium magnet. The cabinet is designed to allow an Eon10 G2 enclosure to be stacked on top.

JBL 517

DAS cabs it all

Two additions to the ST series of sound reinforcement enclosures are the ST-1800 three-way full range system and the ST-8A two-way cabinet.

Both are self-powered, use Wisa birch plywood covered in catalysed polyurethane paint and have a powder coated protective metal grille, which is said to be acoustically transparent. The Wisa plywood is said to have greater rigidity and control characteristics across the full frequency range, with superior sound quality to cost-comparable injection-moulded designs. Speakon connectors and Ancra flying points are also provided.

The ST-1800 combines the ST-112A mid-high cabinet with the ST-218A bass cabinet. The biamped ST-112A delivers 400W to the 12-inch LF driver and 200W RMS to the 2-inch CD horn. Two 18-inch drivers in the ST-2181s folded enclosure are powered by an integral amplifier delivering 1,250W RMS. Top hat fittings allow the ST-112A to be mounted above the bass enclosure on a pole. SPLs for the ST-112A and ST-218A are quoted at 139dB and 140dB at 1m.

ST-8A is a trapezoidal design, loaded with an 8-inch LF driver powered at 150W RMS and a 1-inch CD horn powered at 50W RMS. Quoted frequency response is 60Hz-18kHz.

DAS 514

Cinema and Opera

DB Technologies has revealed a new line of cinema sound systems specifically for small to medium sized picture houses.

For smaller venues a 2-way screen channel speaker incorporates a 15-inch low frequency reflex driver together with a 6-inch mid and 1-inch horn. Two 3-way systems are available for larger theatres. One incorporate 2 x 15-inch low frequency reflex drivers with 14-inch and 10-inch horns while a slightly larger version has an extra 10-inch mid frequency horn with a corresponding increase in power handling capacity.

Complimenting the existing Opera Series of loudspeakers, the Stage Opera series has been developed specifically for rental companies, venues and musicians. Featuring a 2-way (Opera 42.12), a 3-way (Opera 82.15) and a subwoofer (Opera 61.18), these three units share XLR connectors and high output ratings.

DB Technologies 534

Master Audio's two units

Master Audio's MD6 comes as two units with built in processed power amp and two dynamic power modules. The MD2KTop speaker has a 2-way passive filter system for mid-high configuration with Thermal Power Control and signal processing through DPM cards. It is claimed to reproduce SPLs up to 136dB with 1200W peak.

The MD2188P has a triple chamber configuration and incorporates 2 x 18-inch speakers for 6000W peak power handling at 139dB. It is further equipped with four side and four front flypoints and wheels.

The M15P is an active 2-way system for smaller venues and has a 15-inch woofer and 1-inch titanium diaphragm powered by 400W Class H and 60W Class AB amps respectively. Full signal processing with active clip limiters and 24dB/octave crossover allow low and high frequency alignment.

Master Audio 535

Stage Accompany and Friend

Aimed at the installation and smaller rental market, the new Friend Series of sound reinforcement enclosures comprises four models. As well as speech and music reinforcement, the manufacturer recommends the range for fill and under-balcony situations. The company claims the accessory range makes any mounting option possible and the finish can also be any colour, including multicolour schemes, supplied ex-works.

The models F1, F5, F7 and F9 are said to be 'ideal' in combination with SA's pro-ribbon-based sound systems.

Stage Accompany 531

Mipro portable

MA-707 is a multifunction stand-alone PA system designed for a variety of AV and entertainment applications.

Supplied complete with a handheld radio mic, the system also has line level inputs and an on-board cassette deck. The system includes integral carrying handle and trolley wheels. In addition to the MA-707, Mipro offers a number of smaller amplification and wireless microphone systems.

Liesegang UK 507

EVI PA system makes DIN

The Promatrix PA system complies with DIN VDE 0828 and IEC 60849 standards for emergency alert systems. DCS400 is a new 2U rack system which will hold up to 10 boards, bringing line switching, control, logic output and analogue I-O to the system.

Promatrix designer software is now in V1.2, with new features including loudspeaker line monitoring, and fault and event protocols. Remote monitoring via modem allows convenient servicing of entire installations, with reduced time and expense. The Promatrix communication interface now provides connectivity for the Creston system. A touch-panel gives convenient control of all Promatrix functions.

EVI Audio 504

Matrix audio

Two separate ranges of speaker enclosures - one active, the other passive - have been added to the Matrix portfolio of sound reinforcement enclosures.

The Active series combined 'turbo-vented' chassis drivers with mosfet amplifiers and electronic filters. There are two 3-way designs and a 500W bass unit. The Passive series consists of three models, which includes a double-horn scoop with a power handling of 1,400W.

MAD 502

Proel flying

TFLV is a new series of flying trapezoidal sound reinforcement enclosures. These are designed for mobile touring or permanent installation and are finished in anti-scratch black epoxy texture paint. There are five full-range enclosures and a choice of three sub-woofers in the range.

The asymmetrical cabinets also allow stage monitoring and are made of 18mm birch plywood, have a metal grille, stand adapter and ergonomic carrying handles. M10 thread/eyebolts are fitted for easy flying. The TFLV218SP sub-woofer is additionally equipped with castors.

According to the manufacturer, the systems' custom loudspeakers feature interleaved sandwich voice coils with double-ventilation design for improved heat dissipation to reduce power compression. A double-spider design is used on the cone drivers.

The HF compression drivers feature titanium diaphragms and flat aluminium wire voice coils. Low distortion with frequency response up to 18kHz are claimed.

PROEL 524

EAW updates

EAW has updated its AS series of enclosures, intended primarily for permanent installation.

The three way systems in the range can either be biamped, with a passive mid-to-high crossover, or fully tri-amped. The two-way systems can either be biamped or used with the internal passive crossover.

The SPL of the high frequency unit has been increased and EAW has added another six flying points, bringing the total to 18 in all.

EAW 523

Martin Audio Stadium

Martin Audio has revealed details of its Stadium Series of products.

The company has been working on the design of a family of large-format, horn loaded systems dedicated to the needs of sports stadia, arenas and large exhibition halls. The result is a range of three lightweight, high SPL mid/high horn systems – the AM404, AM604 and AM906 with coverage patterns in degrees of 40 x 40, 60 x 40 and 90 x 60 respectively.

Each system features a port-assisted 10-inch mid horn and 1.4-inch exit HF compression driver and all have large-format, square-mouth horns which provide constant directivity characteristics in the horizontal and vertical planes.

The AM404 can be used in a biamplified or optional 2-way passive configuration. For full-range music reproduction, it can also be used in conjunction with the AS118 low-frequency loudspeaker.

The mid horn section utilises a 10-inch cone driver loaded by a 'phase-ball' device which ensures consistent off-axis performance across the midband and avoids beaming at the upper end of the frequency range.

Extended performance down to a reported 120Hz is achieved by reflex porting the rear chamber of the driver. A low-distortion motor system ensures clarity of output and consistency of tonal balance even at extreme power levels, claims the company.

High frequencies are reproduced by a 1.4-inch (35mm) exit compression driver loaded by a 40 x 40 horn with a dispersion pattern that exactly matches the mid.

The AM404 is constructed from a weather resistant, lightweight composite material and is equipped with comprehensive mounting points to allow for flexible install and arraying requirements. The AM604 and AM906 are similarly designed.

Martin Audio 526

Community adds more XLTs

The XLT500 series of loudspeaker enclosures has grown by five new models. The new XL502 and XLT505 stage monitors are joined by the XLT509 compact dual-15 stage woofer, XLT530 three-way bass reflex enclosure and XLT525 three way enclosure. The two latter models are particularly aimed at portable PA applications.

Features common to all the new models include an improved version of Community's IntelliSense protection circuits, which operate in conjunction with the PowerMeter LED indicators to maximise peak performance levels without damaging system components.

The LEDs flash green to indicate signal presence, yellow to warn that the loudspeaker is entering its first stages of protection and red to show that full protection has been activated. In protection mode, IntelliSense automatically attenuates power levels to within a safe range until gain has been reduced.

All the new X500, except the subwoofer, also share the UC-1 one inch compression driver. This harnesses the thermal conductivity technology found on the Community Air Force large-scale touring arrays.

The driver is also fitted with a bullet-type phase plug, uses ferrofluid cooling and has a non-metallic diaphragm.

A newly-developed sandwich-core plywood is used in the construction of the cabinets, which are finished in black carpet, with corner protectors and recessed handles. A cast rear panels provides a locking connector and 1/4 inch jacks.

Community 522

MacPherson

Two accessories are available for the US-manufactured Axia series of compact, high-powered loudspeaker enclosures. The Axia Dollyboard is fitted with 360 degree castors for ease of movement and uses a combination of recesses and strap slot for secure attachment of the speaker cabinet.

The Axia loudspeaker cover is made from durable and water repellent nylon. Designed to provide a close fit over two enclosures, the padded cover has nylon webbing straps for secure attachment of cabinets to dollyboard and includes a labelling arrangement to allow correct packing alignment and grille protection.

MacPherson 518

HK Audio has new two-way

The VT 115 X sound reinforcement enclosure is a 2-way system designed to be compact enough for stage monitor as well as FOH duties. The system is loaded with a 15-inch cone driver and a 2-inch compression driver, which can be biamped. Power rating is 400W RMS into 8Ohms.

An array of pretapped holes are provided on the cabinet for optional flight and swivel frames, or eye bolts. Using factory-equipped Aeroquip flight rails, the VT 115 X cab can be suspended as a downfill under a R-Series RT 112 top when the RT cab is flown in a 50 degree horizontal, 25 degree vertical position.

Two Speakon and two EP 4 connectors are fitted to the enclosure, which weighs approximately 40kg. Dimensions are 600mm x 490mm x 415mm.

Also recently released, the HK Audio DL 115 Sub A is a direct-loaded, compact, 15-inch bass cabinet with two onboard 300W mono power amps. One is for the subwoofer itself, the other for additional cabinets.

HK Audio 508

LH and LQ from Crest Audio

New from Crest are a number of sound reinforcement enclosures and additions to the manufacturer's range of electronic products. The LH series of enclosures are aimed at clubs and fixed installations, as well as touring rigs and DJs. A total of seven models comprise four trapezoidal enclosures and three floor monitors.

LH1 is a two-way system with 15-inch woofer and 2-inch titanium compression driver. Frequency response is quoted as 48Hz-20kHz. LH2 is a 3-way system combining a 15-inch woofer with 15-inch woofer/mid-range and 2-inch titanium compression driver. Both woofers combine below 300Hz and the frequency response is given as 55Hz-20kHz. Another 3-way system, LH3 uses a 15-inch woofer with 8-inch mid-range driver and 2-inch titanium compression driver. Frequency response is quoted as 53Hz-20kHz. The LH4 subwoofer contains two 18-inch drivers with a frequency response of 45Hz-300Hz. The floor monitors are: LH5m with 12-inch woofer; LH6m with 15-inch woofer and LH7m with two 12-inch woofers. All three employ a 2-inch compression driver. LH series enclosures can be run passive or biamped.

The LQ series of lightweight enclosures are made from high-impact injection moulded polypropylene in a trapezoidal configuration. The perforated metal grilles are protected by a high-quality vinyl coating. There are three models in the series. LQ-15 is the largest in the series and combines a 15-inch woofer with 2-inch compression driver coupled to quadratic throat horn. Designed to deliver up to 125dB SPL from as much as 1,000W continuous programme, LQ-15 has a rated frequency response of 61Hz-18kHz. A similar arrangement is found in the LQ-12, which has a 12-inch woofer and the LQ-10, which uses a 10-inch woofer. The drivers are treated with a water-resistant coating.

Crest 516

Master Europe

Part of the Granite Line, MP 15 is a new two-way sound reinforcement enclosure. It is loaded with a combination of a 15-inch cone driver with fully-tropicalised 3-inch voice coil and a 3-inch compression driver mounted on a constant directivity horn. The compression driver has an aluminium voice coil.

The manufacturer says that particular attention has been paid to controlling the directivity of the overall enclosure.

The trapezoidal cabinet is made of Finnish birch plywood, finished with three coats of black polyurethane paint. The drivers are protected by a galvanised grille with foam on top. An aviation rail is fitted to the front and rear of the cabinet for easy mounting.

Master Europe 519

Cerwin-Vega's dual approach

There are two additions to the manufacturers Pro range of installation speaker enclosures. V-252 is a full-range enclosure loaded with dual 15-inch cone drivers and an HF driver mounted on proprietary spherical waveguide horn. No subwoofer is required with this system. A venting system is used in place of a single port and this is said to lead to an increase in bass response.

Due to the wide dispersion of the horn flare, the manufacturer suggests applications for this enclosure including nearfield monitoring. Sensitivity is rated at 105dB (1W/1m).

The plywood cabinet is covered in grey carpet and speakers are protected with a steel grille. Also fitted are recessed pocket handles, rubber feet and a combination of Neutrik Speakon and 1/4-inch jack sockets.

LR-36 is a subwoofer with a newly designed 18-inch driver. The high-excursion design has a die-cast aluminium frame and is reverse loaded. This is said to harness compression inherent between the cone and the frame, while keeping heat out of the chamber, thereby increasing long-term power handling.

The length and flare of the folded horn have apparently been optimised to produce a clean output at 35Hz. Four LR-36 units can be coupled to increase output by as much as 10dB. Sensitivity (1W/1m) is rated at 105dB with a maximum SPL in the region of 134dB.

Lamba 521

Reader Response No. 050

Aspen Media

Aspen Media has added to the Magtrax Select surround-monitoring controllers.
All five Magtrax Select models feature LCRS and Stereo downmix outputs; metering outputs; speaker solo and cut; preset monitoring levels; virtual or phantom speaker positions; bass management and virtually limitless input flexibility and expansion capacity using a new 8-channel AES-EBU digital input or 8-channel analogue input. Powerful insert facilities, when fitted, manage the full range of surround encoders and decoders.

Aspen 411

Now there are two ways to get further information

1. www.WNIPA.com
2. response cards (inside back)

Single speaker stereo

ESE (Embracing Sound Experience) has invented a single speaker stereo concept with the first incarnation of the technology coming from EMES with its Owl monitor.

The ESE system is based on three parts: a two-channel sound generator which works from one point, thereby doing away with time and phase errors; an ESE sound processor which calls up the information which our brains interpret as direction; and a 'nose' between the elements which slows air pressure equalisation.

Current Owl users include producer David Foster, Per Hallberg (supervising sound designer for films such as Gladiator), and Andreas Carlsson, songwriter for Britney Spears, N-Sync, Celine Dion and the Backstreet Boys.

ESE 413

Hafler's new M5 compact

Hafler has launched the M5 passive nearfield monitor. The magnetically-shielded M5 is a 5.3litre, 4th order Butterworth, vented, 2-way loudspeaker designed to work alone or in conjunction with its TRM10s active subwoofer.

The tweeter uses a proprietary 25mm silk dome and exponential horn waveguide combination and is the same found in the TRM6 active monitor.

The 5.25-inch mid-bass driver is specific to this new monitor and uses a 32mm diameter voice coil, allowing a 200-watt system power rating overall.

Hafler 400

FAR monitors

FAR is launching two new active monitors, the AV 8 and LBE 11A.

AV 8 is a high power 2-way medium-sized monitor. The 40-litre enclosure houses a 25cm woofer and a tweeter featuring FAR's waveguide. This approach ensures high frequency coverage in both vertical and horizontal planes. The amplifier delivers in excess of 300W, producing sound levels of more than 120dB.

The FAR LBE 11A, is a subwoofer specifically designed for medium-sized 5.1 surround systems. The 250W amplifier drives two 25cm long throw woofers, capable of generating sound pressure levels of up to 117dB, at frequencies down to 30Hz, for extended periods. The LBE 11A is suitable for extending the LF response of systems deploying FAR's AV2 and AV6 full range monitors.

FAR 41

Dynaudio/TC launch 5.1 monitoring with networking

Dynaudio Acoustics and TC Electronic have announced the AIR Series of 'intelligent' monitor systems, which use DSP, networking intelligence and digital amplifiers. Central remote control, preset storage and recall, alignment flexibility, and precision are the advantages claimed by the manufacturers.

Built-in DSP enables compensation for traditional speaker inefficiencies and offers tools to adjust speakers for different acoustic environments. All audio and control information is distributed in an internal network between monitors, which allows for bass management simulations on-the-fly, central control of levels, recall of different set-ups, and solo/mute of individual monitors.

Expecting to ship towards the end of the year, the first products will include the AIR6 and AIR15 bi-amplified two-way near-fields with 1.1-inch tweeters and 6.5-inch and 9-inch woofers respectively. Three different subwoofers will be offered.

Dynaudio 414

Xen and the art of monitors

The Leema Acoustics Xen is a 2-way micro-monitor that delivers, 'despite its diminutive dimensions, head-turning reference quality performance'. The Xens may be supported by the Xen-on Lite compact sub-woofer, or the powerful Xen-on Heavy professional sub-bass, both featuring 8-channel Bass Management, Direct (LFE) and filtered sub inputs. Close attention to timing in the monitor designs is claimed to allow the Xens and Xen-on subs integrate to a degree that most other split systems fail to achieve.

The dynamic Xens, married with either of the Xen-on sub-woofers are said to form one of the most compact professional 5.1 monitoring systems currently available.

Aspen 412

Alesis uses DSP approach

The ProLinear 820 DSP-enhanced studio monitor is a bi-amplified, 2-way monitoring system with a DSP module which is applied to each speaker on the production line, apparently to correct for small variations in drivers.

Four-band parametric EQ with front-panel controls allows the alteration of speaker response to taste and the user can recall standard EQ curves stored in factory presets, modify them and store them in user memory.

The rear panel of the ProLinear 820 includes a 9-pin serial interface, allowing the ProLinear 820 to be connected to other ProLinear monitors or to a computer for multichannel configuration and voicing.

The ProLinear 820 features a custom 8-inch polypropylene woofer and 1-inch silk dome tweeter driven by 100W and 50W amplifiers respectively. Nominal output is said to be 90dB @1m and maximum output 105dB @1m.

The M1 Active Mk2 maintains the competitive price of the original M1 Active monitor but features

newly-designed dua amplifiers, a redesigned 1-inch silk tweeter and an internally-mounted phasing plug. The crossover point has been moved to 2kHz.

Alesis 405

Multichannel

Gold Line's 5.1 Audio Toolkit DVD is designed to facilitate surround sound system set-up. It contains over 80 test signals and music tracks laid out in logical progression for quick calibration and debugging of 5.1 systems. Contents include midrange, wideband and LF pink noise, 1/2 point check signals, imaging tests, LF headroom tests, 1/3 octave burst headroom test, noise leakage tests, sinewave signals, swept sinewave signals, 5.1 channel music and low frequency response measurements.

Gold Line 401

Genelec THX approved

A wide range of Genelec monitoring systems have been given the THX pm3 seal of approval. Systems meeting THX pm3 standards for film, DVD, TV and music applications are the 1031AM, 1032AM, 1037B, 1038AM. No changes were needed to be made to any of these models to meet the requirements.

Genelec 404

BYTES

Genelec S30D and 2029B - the two Digital Monitoring Systems which match the sophistication and performance of the finest digital studio equipment, combined with an unparallelled ease of use. When you need a powerful full bandwidth nearfield monitor from 35 Hz to 50 kHz, then your choice is the S30D, and for precision closefield monitoring, the 2029B is the one. With both you have 96 kHz/24 Bit digital interface with AES/EBU connectors. And analog as well, of course. Activate yourself and visit our website: www.genelec.com to learn more about about your digital future.

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Monitor with FIR control

Klein + Hummel believes it has introduced a new concept in active main monitors. The 3-way O 500 C has a built-in digital controller based on FIR filter technology for the independent control of frequency curve and phase alignment. The bass, mid, and treble ranges can be completely equalised without misaligning the phase which the company believes will result in important advantages for the concept and design of an active monitor.

A further feature of the monitor's FIR controller technology is the possibility to 'improve' the studio acoustics at the listening position. The FIR filters can be adjusted regarding frequency and phase to equalise disadvantageous acoustic modes in a studio.

This can be performed with special measurement to create the 'best' acoustic conditions for the engineer, and the manufacturer claims this is approach is more economical than modifying studio architecture.

K+H 409

PMC launches TB2S

The TB2S 2-way nearfield monitor boasts a claimed frequency range of 40Hz-25kHz with a 170mm cast chassis bass driver and 25mm Ferrofluid cooled alloy HF unit.

Developments in transmission line technology, cabinet design and build have increased the performance beyond the original TB1S, which this model replaces. Steel fittings at the rear of the cabinet allow the addition of Bryston PowerPac mono-block power amp modules.

To keep pace with 5.1 surround mixes there is, as with all the PMC range, a shielded low-profile centre channel (TB2SM-C) and dedicated sub (XB1-A) for the .1 effects channel. Full range monitoring can also be achieved with the TB2S by the addition of an XB1-P which extends the usable frequency range down to 25Hz.

PMC 403

K+H redefines range

Klein & Hummel has renamed its monitoring loudspeakers to provide a clearer product range and added a number of improvements and cosmetic changes.

The MM201/TV, MM201D and 0104 are now known as the M50, M50D and 0100 respectively with no changes. The 0108/TV becomes the 0200 with standard painted or optional flocked cabinets while the 0198 becomes the 0300D and adds a digital input with improved amp power/performance, variable room equalisation and a separate input for external control.

The 0106/TV becomes the 0400 in a standard painted finish while the 0818 active sub becomes the 0800 with no changes.

The 0500C is an all new digital 3-way monitoring system with integrated FIR controller and will be available in the spring.

K+H 402

Genelec launches sub

Genelec has launched a compact sub-bass system which it claims goes lower in frequency than any other system of comparable size. The 1093A measures 530 x 320 x 573mm and is described as a true sub 20Hz system with the low end response going down to 18Hz. With its 18 to 80Hz (+/-2.5dB) frequency response and 112dB SPL it is said to complement Genelec's two-way monitoring systems and 5.1 and 6.1 systems.

The amplifier unit integrated into the cabinet contains active crossover filters, driver overload protection circuits and a power amplifier. The built-in bass management unit has six signal input and output channels (LCR Front and LCR Rear), a discrete LFE signal input and a summed signal output.

The sub has adjustable sensitivity and bass roll-off and phase matching controls while an 85Hz test tone generator is provided for accurate crossover phase alignment. Two or more 1093As can be coupled via a Sum Out connector if a higher SPL level is needed.

Genelec 407

NS10M replacement

Yamaha is discontinuing the NS10M after 14 years due, it says, to the special wood pulp used in the woofer cone no longer being available. The replacement is the MSP series powered monitors.

The MSP10 features an 8-inch woofer housed in a bass reflex design cabinet and a 1-inch pure titanium dome tweeter with wide dispersion waveguide hom. The internal amps provide 120W for low frequencies and 65W for high frequencies.

The MSP5's offers a 5-inch woofer housed in a compact bass reflex design cabinet as with MSP10's a 1-inch pure titanium dome tweeter. Internal amps provide 40W for low frequencies and 27W for high frequencies. The newly announced SW10 powered subwoofer, with its long stroke 10-inch 180-watt woofer is said to compliment the MSP10.

Yamaha 406

AVI monitor

AVI's Pro-Nine is a compact monitor with an asymmetrical front aspect and overdamped alignment. A new 6.5-inch driver has a voice coil considerably longer than its gap and a diaphragm made of a uniformly pressed wood pulp curvilinear cone with plasticised damping material on its outer surface. The 28mm tweeter is made of viscous damped fabric.

Sensitivity is stated as 89.5dB/W/m, response 90Hz to 27kHz +/-2dB with -6dB at 55Hz.

AVI 408

Martinsound

In the US, manufacturer Martinsound has announced a price cut of approximately 10% to the Multimax EX multiformat monitor controller. The suggested price is now $2,795.

Multimax EX will augment the monitor section of any stereo mixing console and digital audio workstation, adding control of up to eight speaker channels, configured as three or five front monitor channels with two, three or four rear surround channels.

Martinsound 415

What's new in Pro Audio

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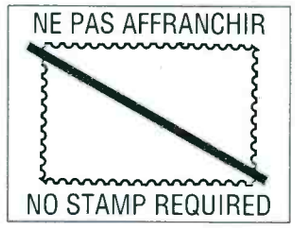

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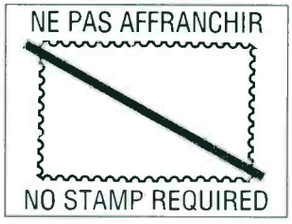

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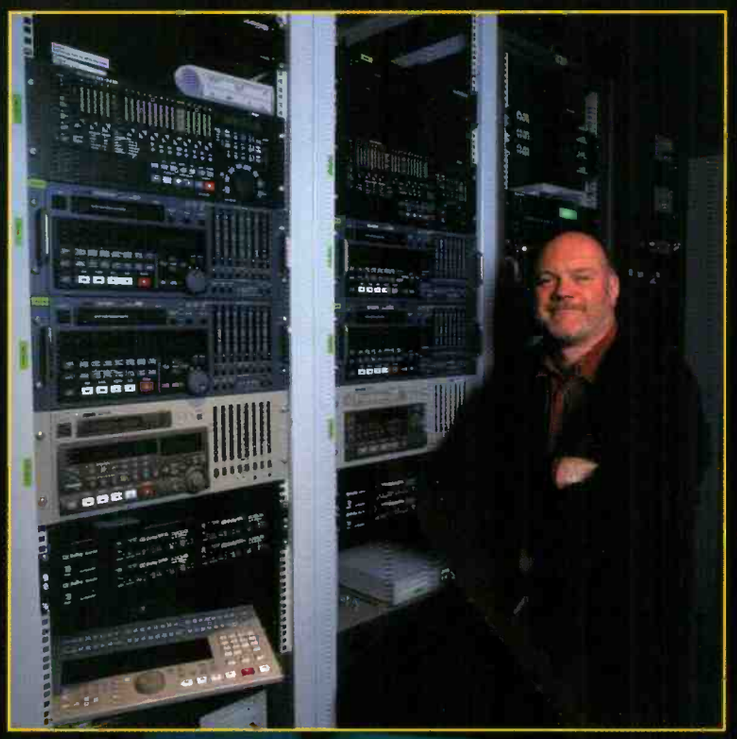
lip service for MX-2424

New central London post facility, Lip Sync Post, has equipped with four new Tascam DA-88HR high performance DTRS recorders and two MX-2424 24-track hard disk recorders – all fully 24-bit.

The new facility offers four comprehensively equipped studios, including two Dolby-approved film rooms with large-format digital film consoles the 24-track MX-2424 hard-disk recorders were chosen to provide stem layoff facilities for these.

Head of Sound, Steve Haynes: "I used digital tape machines for stem layoffs for some time and although they work well, they are slow to chase when jumping to various locate points. The MX-2424 offers us a more convenient way of laying off the stems.

"The great thing with the MX-2424 is that it still looks and feels very much like a tape machine but offers all the benefits of a non-linear system. The whole mixing process is now non-linear, right up until the final mixdown, which goes to the TASCAM DTRS machines."



TASCAM MX-2424 24-TRACK 24-BIT HARD DISK RECORDING

The new MX-View graphic user interface software, available soon for all MX-2424 owners. Includes powerful wavetorm editing and much more.

TASCAM

a whole world of recording

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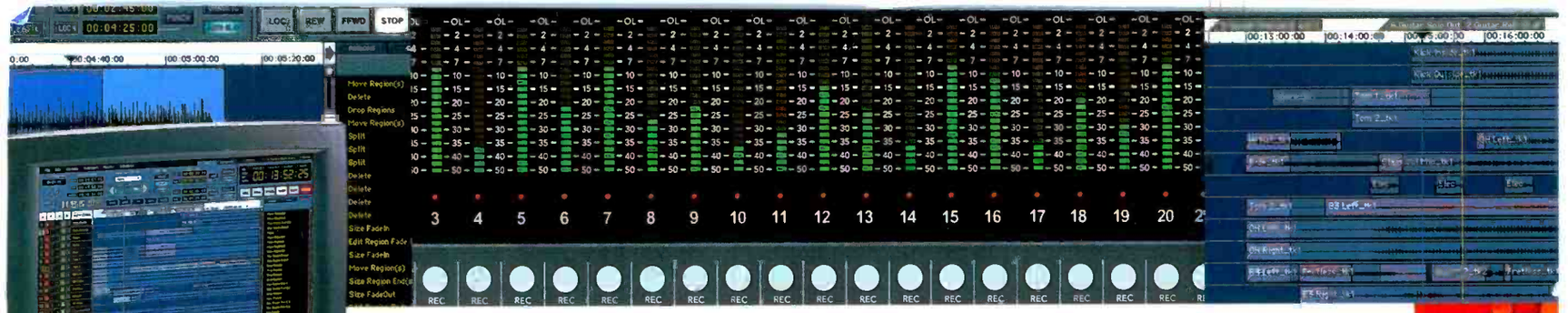

RECORD! EDIT! PLAY!

Save your computer for e-mail.

Plug in the HDR24/96 Recorder/ Editor and start recording. No external computer to boot up. No hardware and software configuration night- mares. No compromises like settling for 20-bit audio or just 12 tracks at a time.

Recording is easy with the HDR24/96.

Simultaneously record 24 tracks of 24-bit digital audio…without waiting for lock-up, tape shuttle or CPU lag. Drop up to 192 alternate takes into "virtual tracks." Record onto affordable, removable media that you can swap in and out for each project.

And do it all with your hands on a familiar, analog-style machine (or two sizes of wired remotes) instead of resorting to myriad mouse clicks. All basic functions are right on the HDR24/96 front panel including transport buttons and a Record Enable button for each track.

Professional remote for a very professional hard disk recorder. Our new Remote 48 lets you run two HDR24/96s – 48 tracks of total control including a weighted jog/ shuttle wheel and full display!

Editing is easy with the HDR24/96.

Plug in an SVGA monitor, keyboard and mouse, choose from 2x, 4x, 8x, 12x or 24-track views and then watch them scroll smoothly past a centerline.

Mark hundreds of cue points and four locate points for looping and auto-punch-in modes.

Use the mouse to "scrub" individual tracks, Cue, Punch and Loop points with continuously variable velocity.

You can mark a segment (or multiple non-adjacent segments) as a *region* and then cut, copy and paste it anywhere — onto a blank track or right in the middle of an existing track without erasing anything. The part of the track after the insert just "slides down".

You can audition regions or modify their start/end points instantly, capture them as "sound elements" for later use or quantize them to user-defined time grids.

Create fade-ins, fade-outs and crossfades just by dragging and dropping them …and then set their length by dragging the mouse.

Add volume envelopes for simple level automation of regions or whole tracks.

Then use Track Render to combine all or selected regions of a track just as you hear it complete with crossfades, volume envelopes, mutes, etc.

Play with the HDR24/96.

Play back 24 tracks of pristine digital audio —instantly without any pause or lag time. It will be synched rock-solidly to everything in your studio — from MIDI-based sequencers to VTRs (via SMPTE and video black burst). Then let your partners, clients and friends "play" with your tracks anywhere in the world, thanks to the HDR24/96's Ether-net port and built-in FTP server.

Need to back up a couple of songs? Plug a Mackie Media™ Project drive into the HDR24/96 external bay and transfer over 2GB to an ORB™ disk.

Get a demo at a Mackie dealer.

We honestly believe that we've created the best of two worlds: the best standalone non-linear digital recorder, and an extremely robust editing system with ultra-functional graphic user interface.

Call toll-free or visit our web site (using that computer you won't need to tie up) for more info.

"…the HDR24/96 is a stunning development with excellent sonic quality, (and) an extensive feature set…it's easy to use and priced right. This one rocks!"

George Petersen
Mix Magazine March 2001

Twenty-four track masters for under £10 each!! Divide the cost of a Mackie Media M90 into the 20+ pop tunes you can record on it and you'll appreciate why we call it an affordable medium. Non-linear hard drives store audio data only, not silence. Tape (and linear hard disk recorders) just roll merrily along… eating oxide and costing money.*

*based on average of length of current pop songs using 24 tracks @48kHz/24-bits and a liberal number of extra regions and virtual takes. Does not apply to extended trance remixes.

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