What's new in Pro Audio

THE GUIDE TO THE LATEST PRODUCTS AND EQUIPMENT

ISSUE No5 Winter 1998/99

IN THIS ISSUE

AMPLIFIERS 6
ANCILLARIES 8
CONSOLES 12
CONTROL 17
HARD DISK 19
MICROPHONES 28
OUTBOARD 36
RECORDERS, PLAYERS & MASTERING 45
SPEAKERS 51

Quested UD1
Speakers p51

D&R Cinema: Film Panel
Consoles p12

SPL/Brauner 5.1
Microphones p28

Drawmer digital DC range

Outboard p37

CCS Flashman p45

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Reader Response No. 002

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Pictured on top, the full-range V-152. In the middle, the 5-way V-255. And below, the SL-36 portable. Earthquake. Sound Bigger. Cerwin-Vega!
Get involved

Wasn't email great when it was just a simple way of sending and receiving electronic letters? Yet its evolution serves to remind what can happen when a technology is exploited beyond what it was originally intended for. Such exploitation is never a bad thing - unless you push a boundary you never find out if it is fixed but you still need boundaries to encapsulate an idea at its kernel, to outline what it is that you're starting off with because without it confusion and ignorance can reign.

I now waste a lot of email time attempting to crack open peculiar format text-based files and downloading pictures, frequently as enormous files that I can't then open, sent by people who don't really understand what is required or how best to package it.

Email still works best in its purest and most simple form because if things are kept plain then you can pretty much guarantee a result. The hang ups and pains occur when one closed group of users, who have adopted a specific internal means of working, interface with the rest of the world. The idea of the lowest common denominator has been overlooked, the ante has been raised and conflict is almost guaranteed.

I see a similar potential with multichannel sound. The lowest common denominator in this instance is the consumer who remains largely ignorant and confused by what is being offered. You may understand all the different permutations of multichannel sound and how they apply to the different formats on parade but the average consumer remains unable to make an informed judgement on the real benefits for his picture, his sound or even for his computer.

Multichannel sound is grand but it is only one aspect of a much wider current assault on the pocket and senses of the consumer. Multichannel sound is the sound of the future, we must become comfortable with it, experienced in it, and never miss an opportunity to explain its role within the context of all the other bells and whistles that it is being tagged on to to anyone who asks.

If it is going to be a shot in the arm to the audio production industry then we have to learn about it and be proficient in it.

The scale of the education task here is positively enormous and, whether we like it or not, the responsibility for spreading the good audio word to everyone from picture-related practitioners to consumers lies ultimately with the audio industry.

Yet I am amazed at the number of professional audio folk who have still not heard multichannel music or high bit and high bandwidth audio. There is little time remaining and much catching up to be done but this is an instance in which audio cannot afford to be marginalised. Get involved and take control.

Zenon Schoepe, executive editor
Phonic range grows to nearfield

Aimed among other things at nearfield monitoring applications, the MARI Reference Amplifier is the fourth model in the MARI Series of power amplifiers from Phonic. It delivers 100W per channel into 8 Ohms, with comprehensive protection and enough heat sinking to avoid the need for a fan. Calibrated gain controls, from panel LED indicators, power-on muting, Neutrik Combo input connectors and a ground fault switch complete the picture of a near pro amplifier designed carefully for its intended job.

Carver launches lower cost amps

Providing lower cost amplification than other Carver designs, the PX series comprises three units. All units in the series are fitted with facilities including DC protection, high pass filters, clip elimination, thermal overload protection and continuously variable fan cooling. Inputs are paralleled 1/4 inch jacks and XLRs, which also permit easy daisy chaining of multiple units. All three units have switchable .775/1.5V input sensitivity and will also operate down to 2 Ohms. Power ratings at 8 Ohms per channel are: PXn250 75W, PXn450 150W and PXn900 300W. The largest amplifier is 3U, the smaller two are 2U.

Matrix has STR

The STR series of amplifiers from Matrix Audio Developments are aimed at the installed and live sound markets. Available in power ratings up to 3kW, the units are designed to operate reliably in environments where smoke machines are in operation. All the amplifiers are mounted in a 2U rack casing.

Metro Audio offers DSP matrix

The Metro Audio PM288 programmable DSP matrix mixing zoner is designed for simple configuration in bars, theatres, retail and leisure applications and anywhere else with a requirement for selecting multiple music sources and paging to multiple zones. The system is also said to be applicable to conferencing and multifunction venues needing to route multiple mics to multiple outputs. It provides 16 memory locations and offers 8 inputs to 8 outputs expandable to 16 x 16 with each pair selectable for stereo inputs and outputs. Parametric and graphic EQ, AGC, noise sensing, output limiting and output delays are accessed by a jog/dial and large LCD with password protection.

The device uses 32-bit processing, high quality A-D and D-A converters with software stored on Flash memory which can be updated via RS232. The external AC power has 24V DC backup.

Metro Audio 587

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Distributors required in some countries

Reader Response No. 005
QSControl is fast becoming the amplifier control system of choice for tours and venues around the world. And that should come as no surprise: it's the most powerful, reliable, and flexible system available.

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Make the right choice and rest assured you’ll get top performance time and time again. For more information call: (800)854-4079 or visit www.qscaudio.com.

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**QSControl Amplifier Control.**

QSControl is the perfect solution for Hotels, Convention Centers, Houses of Worship, and Touring Sound Systems.

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- **QSControl Computer Controller** is a Pentium-II based, rack-mounted computer running the Microsoft Windows NT operating system. It comes pre-configured with all drivers, development software and interface cards.
- **Control Application Software** called System Manager is a standard application supplied with every system, or design an application tailored to your specific needs with easy-to-use Visual Basic.
- **CM16 MultiSignal Processors** perform control and monitoring functions for up to eight dual-channel QSC data port equipped amplifiers. Located in the amplifier racks, CM16s communicate directly with the System Controllers via a standard Ethernet network.

**QSControl Support** is here for you 24hrs/7 days a week. We'll help you set up your system, train your operators and even work with you or a company of your choice to design custom control software.
Deltron
Part of the Deltron Audio Master range, the SwiftPatch system comprises a 19-inch rackmounted panel with interlocking, sealed jack modules. Available in packs of six, they allow 24 channels in 1U. Each module has four back-to-back three-pile ¼-inch sockets for stereo, balanced or mono signal patching. Each module can be set to half-normalled or straight through operation by squeezing the release clips, removing and rotating the module. Colour coding of the mode is visible from the front panel.

More power, less noise from Furman

Furman’s specialist range of power conditioning and distribution equipment has acquired two new additions to its series of balanced AC power isolation transformers. The existing 20-amp IT-1220 is joined by 10A and 30A versions, not surprisingly designated the IT-1210 and IT-1230 respectively. These specially wound and shielded rack mounted toroidal transformers provide balanced AC power, bringing similar benefits to system noise as those provided by balanced line audio operation. Hum and buzz from ground currents and from radiation into adjacent audio equipment are claimed to be drastically reduced. The US-standard boxes carry multiple Edison outlets and deliver 60V at opposite polarity on the two main conductors referenced to the common safety ground. Mount attached to the centre tap of the transformer.

The Audio Toolbox™

“The Audio Toolbox is a DSP-powered, wunderbox packing dozens of functions... At $899, every audio pro needs one.”
- George Petersen, Mix Magazine

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- MIDI

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Electrospeed’s military precision

Electrospeed’s new TMN range offers low-cost waterproof connectors providing an all-metal equivalent to ITT Cannon’s Trident Neptune range. The die-cast zinc-alloy bodies have the additional advantage of full shielding, providing military spec performance at much lower cost. When fitted with a shielding end bell they provide full EMC screening over 360° as well as a waterproof rating to IP67 when mated. Existing standard Trident contacts are used, removing the need for new tooling, and they are fully pin-for-pin compatible with Trident Ringloc connectors.

Sovtek valves

The Sovtek 6L4G uses a single triode with a directly heated cathode instead of the usual dual triode arrangement, said to increased reliability and widen frequency response. Modelled on the RCA 6L6GC blackplate tube, the new 6L6WXT+ has a larger plate and a grid structure modified for power handling. Sovtek’s KT88 uses a tri-plate structure to minimise warm up time and increase power output, while allowing for more accurate tube matching.

New 6550s are available in WD and WE versions, with a number of improvements which the company claims makes them the premier 6550s available.

Aphel filters

The Metal series of filtered power distribution units protect against mains-born transients, switching surges, RFI and lighting disturbances. Models include a 2U horizontal configuration with or six BS1363 sockets with or without an illuminated switch. There are also vertical models with 10 BS1363 or IEC 320 sockets.

Reader Response No. 007

FREE ENQUIRY SERVICE
Equi-Tech balances power

Responding to customer comments about weight, size and price, Equi-Tech has produced newly redesigned versions of its rackmount balanced power products.

This means the 15-Amp ET1L5R and the 20A ET2R are now 2U chassis in line with the 10A ET1R, and weigh 15 pounds less than their predecessors.

Any thoughts that ruggedness might be compromised are countered by Equi-Tech's warranty, now extended to three years on parts and labour for all rack systems with a lifetime replacement warranty on the power transformer.

Sescom products.

phones and chassis of produced and Equi-Tech releases an

Ground Isolator is an idea from Shure Applications Engineering, to designed to solve the problems of RFI and EMI noise.

Sescom mic transformers

In response to an idea from Shure Applications Engineering, Sescom has released an in-line audio transformer for microphone signals. The IL-29 Ground isolator is designed for use with phantom powered microphones and is intended to solve the problems of RFI and EMI noise.

ATR's VSO for analogue

ATR Service Company has introduced the VSO20 high resolution variable speed oscillator which is compatible with any analogue recorder using the 9.6kHz servo reference frequency. The device allows speed variations of 0.01% accuracy with repeatable results within 25ppm. Speed variation is shown on a large 5-digit LED display.

Other products from the company include transformerless I-O modules and HDV2 valve reproduce amps for Ampex ATR102 recorders, complete ATR100 restorations and the MM1290 11+2 wide track multitrack head-stack.

The company has also boosted the performance of the ATR102 by doubling track width through a 1-inch 2-track modification. This, it claims, lowers the noise floor by 6dB per channel and removes the need for the use of noise reduction at 1ips.

Devlin graphic switches

New switches from Devlin aim to clarify panel layouts by incorporating LCD graphic panels in the buttons. Multicoloured LCD combinations are available in two sizes, with matrix layouts of 16x32 and 24x36 pixels. Each switch's graphics are controlled by a newly developed ASIC, and the controller and driver are built into the switch. Control is via a single serial pin and the panel can be used to display alphanumerical data, moving pictograms and simple graphics.

Alps faders: small loss

Said to offer a minimum attenuation level of 110dB with an insertion loss of 0.1dB, the Alps RSAON11S and RS60N11S slim-line faders are only 8mm high. They are supplied with a choice of levers and snap-in PCB mounting terminals and the 60mm or 100mm travel units are available in log or linear audio tapers.

Send It!

The worlds first “software-only" audio codec!

- Real-time and file transfer with MPEG Layer 2 and 3, GSM, ADPCM, Musifile, BWF
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- System requirements: Windows 95 or NT, Pentium-PC

Get MAYAH™ - and get your audio everywhere

Reader Response No. 008
Switchcraft
The F Series of receptacles provides three pin XLR-style format in a rugged metal shell with a ferntle disk for additional EMI/RMI shielding. The housing also offers through-the-shell ground connection for more effective shielding. Available in male and female versions, the connector can be ordered with straight or right angle PC termination.

Tascam
Computer monitor converter
B
caro's Uno processor reproduces digital video signals on a standard computer display (32kHz) or on an analogue RGB monitor (15kHz). In contrast to simple SDI-VGA converters the device maintains broadcast picture resolution, provides full colour matching capabilities and adds broadcast functionality to a standard computer display.

More plugs for Neutrik
H
aving brought new connectors to the industry Neutrik continues to improve and refine them. The useful Combo connector, the coaxial combination of an XLR and a TRS jack, is now available in a new model, with lower price, improved appearance, a new V-shaped contact design and hard gold plating. It is available in vertical and horizontal PCB versions as well as hardwired, and comes with or without a latch.

Tascam ADAT converter
Tascam describes the IF-TAD at $349 (US) as the first truly affordable converter for translating data from DTRS and ADAT and back again. The interface features LEDs for TDFI activity, ADAT optical I-O, LEDs for ADAT activity and word sync out.

Stramp boxes get into sync
Peter Struven has launched a number of sync boxes including the Stramp SR-X (a count down box for film and video post) and the Stramp CP-3 (a SSI, parallel to Sony serial converter with track select for SSI 4K, 5K and 6K series). The Stramp DA801 is a Sony S pin RS422 serial to Tascam 15 pin serial protocol converter which is suitable to use with the Stramp

Philex phones
Three new headphones from Philex include models with onboard equalisation and a cordless system.
The SLW-250 has a built in bass amplifier with separate level control for low frequencies. The SLW-240 also has a bass control and was apparently designed in consultation with a number of DJs. Model SLR-863 is an RF headphone system designed to operate over distances of up to 100m. It uses two rechargeable AAA batteries.

Cloud zones
A new zone mixer which replaces the CX132, the CX133 has enhancements including an extra mono output channel, in addition to the two main stereo zones. The VCA's, formerly optional, are now permanently installed on the motherboard. There is no increase in price.

Philenic launches digital mixers
Italian company LEM has previewed two affordable digital mixers which are expected to start shipping later this year.
The entry level model is the Falcon which has 6 mono mic/line channels, 20-bit A-DCs plus two stereo line channels and one AES-EBU/SPdif input. Eight outputs are cross-erred by two auxes, a digital output and main mix analogue buses. Each channel has 3-band fully parametric EQ with 4-band graphic EQ for the stereo channels and the desk can be equipped with an optional ADAT extension interface. Two internal effects processors handle reverb and multi-effects on internal aux sends while eight other types of effect are available including dynamics, additional EQ, and enhanced.
The larger Eagle digital mixer provides 12 mono mic/line channels, four aux outputs, two reverb processors connected to two aux sends and an additional 30 different processors. This version also has motorised faders for inputs and outputs.

Phonic Powerpod
Powerpod 7 is a stereo mixer/amplifier with digital reverb and graphic equalisation on the outputs. The two internal 200W amplifiers can be patched FOH or split between main and monitor duties, each with overall equalisation. Additional amplifiers can be patched into the system if required. Each of the seven input channels is fitted with three-band equalisation and the system will accommodate either seven mics or four mono line and three stereo line inputs.

 Other facilities include on-board limiter, patching for an external effects unit, 48V phantom power and a tape/mic mix out.

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MediaFORM Introduces a New CD-R Duplicator
Designed for the “Audio Professional”

**DAT’S EASY**

**CD2CD/PRO CD-R Duplicator**

MediaFORM’s CD2CD/POWER PRO is already the industry leader in CD-R copiers with one button burning of 8 CD’s simultaneously, expandable to 64 drives, and autoloader ready. The CD2CD/POWER PRO offers an option bay which allows for the following: Jaz Drive, Zip Drive, Plextor CD-Rom Drive or virtually any SCSI device. So how do we top that? DAT’s easy! MediaFORM’s new Easy-DAT option allows audio users to interface their existing DAT player with the CD2CD/POWER PRO by way of SPDIF, Optical and AES/EBU ports. Audio professionals can also take advantage of the CD2CD/POWER PRO’s unique track extraction feature. Finally, a CD-R copier that’s flexible enough to meet all of your audio needs.

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**Directional mixer**
Shure's Directional IntelliMix direction sensitive mic activation is used in the AMS8100 automatic mixer which activates mics only for sounds originating within a 120-degree acceptance angle. Additionally the system can gate only one mic per sound source or multiple mics when multiple sound sources are in use. Designed for the broadcast market, the SM63LB is a black version of the company's SM63L omni dynamic mic while the VP64AL is identical to the existing VP64A except for a longer handle.

**Citronic's zone expansion**
Citronic now offers a 5-zone distribution mixer, the Z-5DM, and the Z-2A5 50W power amp. The former can be used independently or as a zone extender for an existing system and is a stereo line mixer with five stereo outputs to which either of the inputs can be mixed. Mono or mixed distribution can be selected and while I-Os are balanced, inputs have enough gain to handle unbalanced connection. The Z-2A5 is available in low voltage and 100/70 Volt line versions and has a protect mode indicator which shows when the amp is shut down on switch on, thermal overload, DC on the output or a short circuit.

**Adastra**
The range of Adastra mixer amplifiers has been revamped, with improved input facilities and new styling. The A5S now has an input for CD, while the larger units in the range benefit from the addition of mic/line switching. Prices have actually been reduced in some instances.

**D&R Airmate**
Described as the Airmate's little brother, D&R's Airmate radio desk is designed for the self-op DJ. The 19-inch frame is built up of eight triple input channels with one mic and two stereo line inputs per channel. Each channel is additionally equipped with a phantom power. A master section provides a clean feed output for interfacing with telephone hybrids with talkback.

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**Lawo demos real-time ATM audio transfer**
Lawo demonstrated the transfer of audio data in real-time via ATM network as a WAN link at the Tonmeistertagung in Karlsruhe. The presentation of Lawo's mc2 technology was realised by Lawo (with two booths), Deutsche Telekom and Südwestrundfunk (SWR) with live transmissions from the radio house in Baden-Baden via WAN to the Congress Centre in Karlsruhe. Co-operating IBM-Switches 8205 in Baden-Baden and Karlsruhe together with the sources, integrated, mixing consoles, video cameras and peripherals and formed a DSN (Distributed Studio Network).

Control of the sources at the SWR in Baden-Baden and mixing of the transferred audio signals in real-time were carried out on a Lawo mc2 BZ production console at one Lawo booth with the signals transferred to the other Lawo booth via DSN. A video camera filmed a monitor at SWR and video and audio signals were sent simultaneously via this network.

Apart from transferring audio and video signals all other services like file transfer, telephone, LAN and WAN can also be integrated in the DSN.

Lawo also showed its Diamond digital on-air console, which has been extended in functionality and now uses mc mechanicals. Signal processing and control surfaces are modular and complete set-ups with all audio parameters, assignments of console modules (sources to faders) and special functions may be stored and loaded from memory cards. The system can also be integrated with radio automation systems.

**Allen & Heath launches five desks, including digital**
Allen & Heath has launched five new consoles including the digital ICON series DL1000 and DP1000 and the analogue MixWizard series WZ12:2DX, WZ16:2DX and WZ14:4:2+. The ICON series is a range of compact digital mixers for live sound applications. The first two models in the series are the 10 input, 4 output DL1000 and a powered version, the DP1000, which comes complete with 600W into 4Ohms stereo power amplifiers.

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December 1998
"We were so impressed with our first DPC-II installed in SuperDupe, we have just ordered our 8th."
- Neil Karsh, New York Media Group

"The DPC-II is no compromise but the best for both location recording and post."
- Steve Williams, Sound Moves

"With all new leading edge technology you look for 'how fast?' and 'how much?' Nothing comes close to our DPC-II's on either price or speed."
- Scott Jackson, Magmasters

"I wish we had a DPC-II in all our dubbing theatres."
- Peter Brown, SD Post

"The DPC-II's sonic performance, stability and comprehensive, yet user friendly automation has proven to us that we made the right choice."
- Rob Power, Salter Street

DPC-II, rapidly becoming the de-facto standard for digital production consoles.
**Biamp Systems**

Aimed at corporate and conferencing applications, manufacturer Biamp has a number of new products in its Advantage range for auto-mixing and signal processing.

The Advantage Auto One is an automatic mixer with eight balanced mic/line inputs, plus balanced main and aux outputs. Adaptive threshold sensing and speech frequency filtering are used to minimise false gate triggering and 6dB of hysteresis has been selected to minimise gate flutter. Also fitted are manual priority override, channel-off attenuation and selectable last mic hold. Multiple Auto One units can be cascaded to create systems of greater input capacity.

VRAM is a 10/2 programmable automatic mixer, which is set up with a PC and has no external controls. Audio facilities are similar to the Audio One but there are 15 non-volatile memory presets and it is also possible to control contact closures remotely.

Other available is VRAMeq, which has three-band EQ with variable mid, in addition to the functions above, and DDL-12, a dedicated delay line with eight presets that are adjusted via a PC. Biamp also offers the MSP-11 and MSP-12 multifunction system processors which combine gain management, equalisation and delay in a 1U package.

The single channel MSP-11 includes six bands of variable notch filtering and the dual channel DSP-22 includes a mix matrix, as well as a mono two-way crossover mode.

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**D&'s Cinemix adds film panel**

D&R has added a film-style master section option to its Cinemix console which can handle mono, stereo, LCBS and 5.1 channel formats.

The new section offers discrete assignment of input signals to all individual buses and joysticks; bus formats are selectable between the aforementioned formats, access to group output buses for surround pan pots and input modules; access to group output buses for both joysticks; and an extensive selective muting system of individual channels. The film master allows engineers to work on a maximum of four premixes/stems of six buses each simultaneously and a stem return module is available as an option.

The monitoring matrix module is 24 x 2 x 6 allowing stem/premix return to be fed into the console's control room monitoring section. Using this module, no inputs (traditionally the upper faders) need to be sacrificed for monitoring purposes.

The monitoring matrix module caters for four groups of six inputs each and all four groups are fitted with bypassable level adjustment trimpots. All inputs are provided with Direct/Playback, mute and solo switches.

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**CONSOLES**

D/ESAM plays it all from memory

The 870 4-channel RAM recorder is a plug-in option for the Graham-Patten Systems D/ESAM 820 digital edit suite audio mixer, providing up to 10 minutes of audio storage under full edit system control. It eliminates the need for a dedicated rolling audio source by fitting a module within the mixer itself, and four versions are available with varying amounts of memory from 32Mb up to the maximum 256Mb for 640 seconds of two-channel or 320 seconds of four-channel audio. Recording is 48kHz, 24-bit, and full Sony control is provided including shuttle and jog.

Graham-Patten 436

**GL2200 live desk**

Allen & Heath has added to its sound reinforcement console range with the introduction of the GL2200 - a 4-bus mixer available in 12, 16, 24 and 32-channel configurations.

Based on the established GL2000, the new model adds channel direct outputs, mutes on groups, stereo returns and main outputs, a 12V lamp connector and an improved power supply. Other additions include an oscillator, pink noise generator and talkback routing.

A&H 427

**Gemini's LED beat**

BPM-250 and BPM-1000 from Gemini Sound Products are stereo preamp mixers with LED beat monitors. The BPM and beat offset indicators are designed to make it easy to see when the two tracks are in sync.

Both units are rack mounting and the BPM-1000 has four stereo channels, with nine programme inputs plus three mic inputs, compared to the three channels and seven inputs of the smaller mixer.

Common to both are -26dB Extreme Cut for selective removal of the low mid or high frequencies of each channel. The crossover is recessed for more comfortable operation. Other features include 12V BNC light jack, XLR combo socket for the mic input, removable crossover, rotary low, mid and high gain controls for each channel, talkover switch, L/R booth output and cue section.

Gemini 439

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**Soundcraft Series 15 on-air desk**

Designed for on-air use, Soundcraft's Series 15 console comes from the same family as the Series 10 radio desk but adds facilities for general production. Available in 16, 24 or 32 frame sizes, the desk is modular and has as standard 4 stereo groups, insert points and comprehensive monitoring. Mono and stereo inputs are provided in broadcast and production versions and a choice of telco input modules is available from an option list that numbers 35 different module types.

Soundcraft 437

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**NuStar digital radio desk**

The Auditionics NuStar 3001 affordable digital radio console has been redesigned following the acquisition of the company by Broadcast Electronics.

The desk offers 4 stereo output buses, 4 telephone caller input modules with incremental mix minus for each, and frame sizes ranging from 24 to 30 positions.

The in-air or production 2500 console now sports an AES-EBU input module and comes with 6 to 24 inputs in a table-top or drop-in design. Other features include solid state switching of signal paths and DC control of all level functions.

Broadcast Electronics 429
the Digital Advantage

The ADVANTA Series

Large-Format Digital Production System is more than a mixing console. Four years in development, ADVANTA delivers on the promise of digital — with outstanding Sonic Quality, frame-accurate Dynamic Recall/Reset of every parameter, comprehensive Assignability to reconfigure the entire system to meet your precise requirements, Scalability, and full Connectivity with other components that complete the all-digital studio.

ADVANTA is targeted at a wide spectrum of applications — from music recording, through broadcast production, to film and TV post.

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Otari Corporation, USA Tel: 800/877-0577 +1/818/594-5908 Email: sales@otari.com • Otari, Inc., Japan Tel: +81/424-81-8626 Email: salesinfo@otari.co.jp
Otari Europe GmbH Tel: +49/2159-50861 Email: euro@otari.de • Otari Singapore Pte. Ltd., Tel: +65/284-7211 Email: otarisp@singnet.com.sg

Reader Response No. 012
Pioneer's DJ
Specifically targeted at the entry level marketplace, Pioneer's Performance series consists of three new products with DJs and CDJs in mind. CDJ-100S is a slot-in CD Turntable with a range of functions to allow sound manipulation without a mixer. A jog dial allows track cueing and manipulation is a vinyl style, while the Digital Jog Break has three buttons creating Jet, Zip and Wah effects when used in conjunction with the jog dial. The tray-free front loading disc mechanism allows much faster disc change and there is a quick start mechanism, said to go into play mode in 0.01 seconds or less. A 100mm fader gives control over tempo in either 0.1% or 0.2% steps, in conjunction with a step-accurate tempo readout. DJM-500S is a two channel mixer, designed for use with the CDJ-100S and the EFX-500, a digital effects unit designed for real-time manipulation. Effects include delay, echo, autopan, flanger, pitch-shifter and reverb, all linked to the BPM of the source.

Tascam digital desk bridges gap in range

Tascam has bridged the gap between its TM-D1000 and TM-D8000 digital desks with the TM-D4000 model, the first to sport motorised faders and 100mm ones at that. Priced at US$4,299 it is expected to hit the street in the first quarter of next year. Essentially a stripped-down TM-D8000, the desk has 32 mono and 2 stereo inputs, 8 buses and a channel strip that has 6 auxes, 4-band EQ and dynamics on each channel. Automation is restricted to snapshot onboard with full dynamic automation realised via a PC-based package.

Three expansion slots are available for interface cards to TDIF, AES-EBU, additional analogue and, for the first time, ADAT. These appear at channels 9 to 32 on the layered fader surface.

Standard features include machine control with jog-shuttle and record arming plus the ability to multichannel pan through the first six buses. Convertors are 24-bit and operation centres around an LCD, but with only four associ-

Harrison debuts Digital Engine

Harrison has shown its long awaited Digital Engine replacement rack for the analogue in its existing digitally controlled analogue systems. User interfaces remain unchanged and the technology applies to its Series 12 and MPC boards. Processing is courtesy of SHARCs and the system will enable digital and analogue, mix and match, hybrid arrangements to be created including retrofits.

The Engine will support 576 full channels, 1,344 inputs and 1,344 outputs, 136 console-wide summing buses and full monitoring capabilities.

Harrison stresses that processing is dedicated and not shared or allocated. Every channel has dynamics, 4-band parametric EQ, high and low-pass filters, 32 auxes and panning for all surround formats via 72 main recording buses and 24 reassign buses.

Control is via proprietary PCI-based I-O and comms systems. Harrison claims 'sub-millisecond' processing speed from any input to any output including conversions.

Harrison claims the desk is 40-bit, 96kHz capable and expects to start shipping at the beginning of 1999.

Reader Response No. 013
Dolby Digital encoding price slash

Dolby has slashed the price of Dolby Digital encoding with the release of the S5000 (US) DP560 at the San Francisco AES and paved the way for entry-level multichannel working, in light of the promised explosion in DVD and DTV.

The new encoder costs some 74% less than its PC-based predecessor, but has even more features.

Lucasfilm THX monitor crossover

Lucasfilm THX has introduced the D1138 monitor-digital crossover which has an 8-channel input stage in analogue and digital and a software configurable output stage for compatibility with all formats. Output stages also offer adjustable delays and digital EQ for surround and subwoofer channels.

XTA offers distribution system

XTA is to launch the DS800 8-input, 32-output audio distribution system. In standard format each input is split into two transformer isolated outputs and two actively balanced outputs. The unit can be internally reconfigured to give more than the standard four outputs from each input up to a total of 32.

New DK-Audio

SD600M is a modular master stereo display which allows users to expand their system as needs arise. It is possible to start with a two-channel system and increase it to eight analogue inputs and four AES-EBU digital inputs. A utility module provides RS232 communications. VGA output and a sync input which can also be used as an additional AES-EBU input.

MS1960C is particularly recommended for surround sound applications, where its "jelly fish" displays assist in visualising 5.1 and 7.1 formats. The DK-SC model program allows users to design their own scales, while the dual dynamic bargraph feature allows simultaneous presentation of vu and PPM. DK-SCale software can be downloaded via the Internet from www.dk-audio.dk.

Sample Rate Systems

M&K bass control

Designed for multichannel material, the Miller & Kreissel LFE4 studio bass management controller accepts full range inputs from the LCR, LS, and RS channels plus an input for the LFE channel and then provides an 80Hz high pass filter for the main channels and a filter that is lowered to 40Hz for the subwoofer feed. A 125Hz low pass filter for the LFE channel and ensures the proper relationship between the LFE and the other channels for the encoding format. The unit can also be used for stereo mixes and 7.1 formats can be supported.

Plasmon Net

Plasmon's NetReady storage server combines technology from its multiaccess Manager software family with Direct Network's Attach technology to provide network connectivity for D-Series CD jukeboxes. All the user has to do is assign an IP address to allow independent or concurrent access to jukeboxes via Windows NT, Novell Netware or Unix networks. Two jukeboxes can be supported on each network node and true multitasking multi-threaded operation is provided.

Gaching on the built-in hard drive returns recently-used files to improve search performance across connected jukeboxes and minimise robotic movements within the mechanisms.

Typical Applications:

- Restaurant bar • Conference suites/centers
- Retail outlets • Houses of worship • Theme parks
- Theatres • Law courts • Council chambers
- Leisure facilities • Hotels • AV Presentations

Options:

- Network access module
- 31 band graphic equaliser software
- Intelligent automatic microphone mixer software

Reader Response No. 114
Otari 128-channel fibre optic solutions

Otari's Lightwinder uses fibre optic cable to transmit 128 channels of up to 24-bit, 48kHz audio 3km between units and 16 units can be chained together for a maximum transmission length of 45km. LW50 includes control and offline editing software for PC, which enables remote control of routing, mic/line gain and setups. Interface options include video, A-D and D-A, AES-EBU, 4-channel intercom and control data I-Os.

Neutrik 450

Pocket sized generator

Minirator MRI is the first of a new generation of pocket-size audio tools from Neutrik and is an analogue audio generator.

The lightweight and battery-powered instrument provides sinusoidal signals over the 20Hz-20kHz band at levels from -76dBu to +6dB including sweep at various speeds. A dedicated polarity test signal is included and pink and white noise signals have low crest factors and high repetition rates.

Neutrik 450

Shure control

Shure's new multifunction processor, the computer-controlled DP11EQ, is designed to provide all the signal processing capabilities needed for control of loudspeaker arrays. The half-width 1U box contains, in the digital domain, dynamics, parametric EQ and delay under the control of Windows software via the proprietary ShureLink interface.

Dynamic functions include compressor, limiter, gate and expander as well as automatic gain control and a no-overshoot peak limiter. Up to nine bands of parametric EQ can be configured, together with shelving filters, and the package is completed by up to 1.3 seconds of delay.

The control software has several displays, including a transfer function display to show the transfer curve created by the combination of dynamics. The associated input and output meters can be clicked on to set thresholds and ratios. Complete settings can be stored on the PC, and the unit's own front panel controls can be locked out from the PC to prevent tampering. The ShureLink interface forms part of a system approach that can integrate up to 16 units including the DP11EQ, the DR11EQ feedback reducer and the UA888 UHF wireless networking interface.

Neutrik 450

In-picture meter

Chromatec has introduced the AM32 in picture multichannel audio meter which offers a variety of set-up and display options fully customisable by the user to their own needs.

From US company Wohler Technologies comes a range of powered audio monitors which combine metering and self-powered high quality drivers in rackmount units in 1U and 2U high sizes.

For example, the ATSC/DVB series of powered audio monitors are designed for monitoring six channels and handle analogue, AES-EBU and ATSC/MPEG inputs while the VAMP-SDI permits the monitoring of audio and video (via built-in LCD) in one 2U rackmount.

Neutrik 450

Lake DSP 452

APR adds network transceiver

APT has demonstrated its Broadcast Communications Frame and Broadcast Network Transceiver.

The former is an apt-based codec designed for direct dial ISDN and permanent link T1, E1, satellite and microwave and facilitates transmission bandwidths up to 15kHz stereo. It also features an integral X.21 DTE interface and is capable of operating four ISDN B channels with an integral terminal adapter and comes with analogue and AES-EBU 1-Os and sample rate converter.

The Broadcast Network transceiver NCX1384D is targeted at fixed digital links and carriers for 22kHz stereo. Features include integral back-up circuitry and an aux data capability.

Neutrik 450

Surrounded by Lake

Lake DSP has demonstrated its new Audio Display Tools software for production of three-dimensional audio performances for large audiences over multichannel loudspeaker systems.

Intended for applications from theme to theatre park rides, ADT allows sounds to be manipulated and moved in three dimensions with distance and perspective, and avoids the limitations of an audience sweet spot. Up to 32 independent sound sources can be handled simultaneously, and the system synchronises to external time code for integration with existing editing environments.

preset movement patterns are provided, and it has the capacity to draw 3D trajectories directly into the system using a motion capturing system such as the Polhemus Instradok, a magnetic-field-based system that acts like a 3D mouse.

Future plans include direct production of 5.1 channel surround, naturally sacrificing the height aspect.

Neutrik 450

WHAT'S NEW IN PRO AUDIO
**HD playback**

Denon has announced the DN-HD hard disk replay system for background music. It features a 4.3Gb removable hard drive with security key, a single disc CD-ROM drive for data transfer, and security checking and a 233 MMX processor running management software under Windows 95.

Recording uses MPEG1 Layer 2 coding for 82 hours of mono playback with a built-in modem for remote interrogation and programming. Comms ports allow interfacing with other systems. The output is on balanced XLR, status reports are shown on a two-line LCD while basic operation is via four front panel buttons.

**Darwin upgrade**

The Darwin system has new version 2.5 software and the long-anticipated SMPTE sync card. Besides allowing generation of sync to all forms of code plus word clock, the new software adds new features including Autopunch and support for 4Gb SCSI hard drives.

**V3.00 for ARES-C and CPP**

V.3.00 software for Nagra-Kudelski's ARES-C portable solid state portable recorder and CPP rackmount ISDN codec variant adds features aimed at radio. Simplification of on-screen menus can be assigned on a job-specific basis. The upgrade also enables the use of bi-directional MPEG encoded uplink-downlink over ISDN with the option of mixing playback files with mix or line input.

Compatibility has been improved with Studer Digitec Numysis, DAVID, Digigram Xtrack and Dalet workstation systems.

**170 plug-ins in one**

In a new approach to TDM plug-in creation, DUY is offering DSPider, 40 separate modules that can be used to build a vast palette of effects. The building blocks cover everything from reverbs and delays to emulsions of analogue synthesiser modules, and a library of over 170 patches is provided to show what it can do. These include tools like dynamic processors, noise reduction systems and de-essers as well as synthesisers, sound effects generators and 3D effects.

Two modes of operation are available, a simple Reader mode for calling up the library patches, and an Advanced mode for editing the patches and creating new ones. A Patch Manager facility allows the automatic switching of patches within a Pro Tools project, helping to optimise the DSP demands. A further twist is that DUY is encouraging third party development of patches and allowing their commercial exploitation. With this in mind there is a Locked-Patch option to allow the inner workings of a patch to remain hidden from the user so that developers can maintain the secrecy of their algorithms.

**www.prostudio.com**

The official website of Studio Sound, Pro Sound News Europe, What's New in Pro Audio, TVB Europe and the AES Daily.

For the whole lowdown, please visit [www.prostudio.com](http://www.prostudio.com).

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Mytek 24/96 master recorder and DAW

Mytek Digital has introduced the D-Master 9624 4-channel A-D and D-A mastering convertor integrated with a hard disk recorder. Powered by the Crystal Semiconductor CS 396 chip it is being billed as a $5,000 (US) replacement for 1/2-inch tape.

Directed at recording studio mixing rooms, high-end mastering facilities, and remote live recording, the device includes audiophile grade A-D and D-A convertors, several selectable sampling rates, noise shaping, headphone amplifiers, external synchronisation and transport controls and SCSI interface for direct to hard disk or DVD-RAM recording.

The news coincides with a tie up with Sonorus which employs Mytek's 8-channel 24-bit, 96kHz DX96 series convertors and Sonorus' Studio/DAW in a new Mytek/Sonorus DAW 9624. This multichannel hardware package is capable of running various third party 24-bit 96kHz software packages for Mac and PC. Depending on the software chosen, DAW 9624 can be configured as a general purpose multichannel DAW, or CD/DVD mastering, Foley, or film sound workstations.

Current 24/96-capable software choices include Cubase VST/24, Samplitude 2496, SAWPro, Wavelab, Cakewalk 8 and plug-ins such as Waves NPE. DAW 9624 will run all 48kHz and 44.1kHz software as well.

MetaLithic leads the Elite

The Elite Studio audio interface from MetaLithic is part of the upward drive in PC audio quality.

The interface offers eight analogue inputs and outputs as well as SPDIF, and is intended to form the hardware platform for a variety of software packages including Cubase VST, Cubase Pro Audio, Audio, Sound Forge and Wavelab. 24-bit convertors are employed, and are sites outside the PC in a rackmount breakout box for quiet operation.

The breakout box is connected to the host computer via a single standard LAN cable.

The first strategic alliances have been set up between MetaLithic and software companies Steinberg and Cakewalk, in order to get the most out of the Elite Studio interfaces potential.

The product already supports Steinberg's ASIO (Audio Stream Input/Output) drivers for efficient multichannel operation with Cubase VST and other ASIO-based products.

Sound FX now on the web

US feature film Sound Dogs has posted a large portion of its sound effects library and the Sound Ideas sound library on its web site (www.sounddogs.com) for purchase and use royalty-free by others.

The sound database has sounds categorised by category, sub-category, unique quality, and file name, and each sound is generally tagged with a one-paragraph description, where and at what time of year the sound was recorded, and its length.

The price of sounds is determined by a combination of sound quality, 24-bit/16-bit/8-bit depths and 48, 44.1, 22.05, and 11kHz sampling rates are available in AIFF, AU, WAV, and other formats.

Fairlight compatibility grows

Further harmonisation between digital formats comes with the announcement of an agreement between Fairlight and Digidesign to allow import and export between Fairlight and Pro Tools systems.

Fairlight's MX3, FAME and DaD dubber systems will all be able to work with Digi formats, and this follows news that the systems can support direct file exchange with WaveFrame, Akai and Lightworks formats as well as .WAV.

Other new software features are included, among them the ability to mix bit widths within a project, allowing new 20 or 24-bit material to be used with existing 16-bit library material, and even crossfading with it seamlessly.

Metalithic Systems 469
From bedroom demos to platinum-selling albums.

It's easy to see why Roland's VS-Series Digital Studio Workstations are the most popular hard disk audio recorders in the world. In one word, it's "integration." From all-digital recording, mixing and non-destructive editing to onboard Virtual Tracks and high-quality effects processing, the VS-Series workstations can quickly and easily take you from your initial idea to a finalized audio CD*. Whether you record song ideas in your bedroom or produce albums in professional studios, there's a Roland VS-Series workstation that's right for you.

* CD recording/CD-R archiving possible using VS-880EX or VS-1680 models with optional CD Recording System. See your authorized Roland dealer for details.

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For details of this and other new Roland products call the Roland Brochure Hotline: 01792 515020
Roland (UK) Ltd. Atlantic Close, Swansea SA7 9FJ. UK web site: http://www.roland.co.uk

Reader Response No. 017
Sonic Solutions ready for next generation

Sonic Solutions appears to be covering all the bases with its SonicStudio HD, a high resolution editing system designed to cope with both SA-CD and DVD-Audio in whatever form is required.

Its conventional PCM capabilities now extend to 192kHz stereo audio or up to six channels at 96kHz - in anticipation of high-resolution discrete surround - all with 24-bit resolution.

SA-CD preparation is catered for with new Direct Stream Digital editing capabilities. These have been developed over the last year in conjunction with Sony, making Sonic the first DAW able to deal with the new processing demands of DSD.

Sonic's new DVD-Audio authoring system has already been put to the test in a joint venture with Pioneer, resulting in a disc to test for compliance with the new standard with tones up to stereo 24-bit 192kHz scalable High-Density Audio, as well as surround versions.

Sonic technology has also been used to create the world's first multi-format DVD release from country star Travis Tritt, incorporating concert footage from selectable multiple camera angles, interactivity for PC DVD-ROM drives, and full uncompressed High-Density Audio.

In a separate move, Sonic Solutions has announced file format transfer capability between SonicStudio systems and Tascam/TimeLine Vista dubbers. This will enable the MMF-8 and MMP-16 dubbers to play Sonic audio files and EDLs directly, and provide file conversion between Sonic and OMF/WaveFrame, Akai DDA and other workstation formats.

Cycling '74 launches VST Plugin

Cycling '74 has announced Pluggo, a technology that enables Macintosh signal processing applications developed with MSP audio objects to work as a VST Plugin.

MSP is a set of DSP extensions to the MAX 3.5 graphical programming environment. MSP consists of over 75 objects that synthesize, process, analyse and delay audio signals in real-time on a Power PC Mac OS computer.

It is described as a shell that allows the signal processing patches created with MSP to work in other programs as VST Plugins, thus making MSP's individually customised approach to DSP sound design available to a broader audience of sequencer users.

Cycling 74 will introduce a web site where new effects patches will be made available to Pluggo and MSP users at regular intervals.

Short/Cut 99

Manufacturer 360 Systems has announced the release next year of a powerful software upgrade for its Short/Cut editor. Called Short/Cut 99, the 2-channel digital editor will support file interchange including WAV, BWF and AIFF while other features will include the generation of fade in and fade out, crossfade options and support for larger capacity hard disk storage.

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- 64 tracks — all with a single card
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- 2 TC reverbs
- 10 delay-based effects
- 5 sends (1 stereo, 4 mono) on all disk tracks
- 48x32x2 mixer
All running simultaneously and in real-time!

For more information, or to schedule a free demo, call Digidesign UK 01753.653.322 ext. 446 & 496. To learn more about Pro Tools software capabilities, ask for a free video. Already own Pro Tools? Call about our special Pro Tools | 24 MIX exchange offers!

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Reader Response No. 019
Audio precision
Portable One Dual Domain

Today’s audio testing requires a comprehensive audio analyser. A hand-held jitter meter or audio monitor just won’t do. Whether you’re facing a new high performance a/d converter, multimedia audio or a transition to digital broadcasting you’re going to need the following:

Digital Audio
Generate & Measure:
- Level & Ratio
- THD + N
- Frequency
- Phase
- Noise & Amplitude
- Crosstalk
- IMD

Digital Interface
Measure key interface parameters including:
- Jitter in UI or ns
- Sample rate
- AES signal voltage
- Frame delay
- Delay relative to house sync

Flexible digital interface testing is vital for trouble-shooting and verifying performance of digital audio at system level. The built-in impairment signals allow simulation of real world transmission & interface problems.

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THURLEY THANDAR INSTRUMENTS
Reader Response No. 020

SADiE surrounded by Dolby

Studio Audio & Video has taken the surround capabilities of its new 24-96 workstation a stage further by showing its integration with Dolby’s DP569 Dolby Digital encoder for DVD preparation. 24-965 mixer now has full mouse-controlled automated surround panning, and the resulting buses can be fed out to the Dolby encoder and back to the disk within SADiE, all under the control of the SADiE PC.

These files can then be sent to a DVD authoring workstation via network or removable medium.

The DP569 encoder supports Dolby Digital bit rates from 56 to 640kb/s, and channel configurations from mono to 5.1.

Dialogue normalisation and dynamic range control can be set and monitored from the Windows control interface, and the results monitored via the DP562 reference decoder.

SADiE and Octavia software is now in version 3.6, which introduces Regional Editing, making it easier to work across multiple tracks simultaneously.

SAV

WaveMechanics uses blender

From the design team that created the Eventide H3000 and H4000 comes a pair of TDM plug-ins known jointly as SoundBlender.

Complementing WaveMechanics’ PurePitch, the package comprises PitchBlender and TimeBlender and offers a wide range of pitch shift and reverse pitch shift effects.

Together the pair can produce random micro pitch shift, two-voice intelligent harmonising, diphone arpeggiation, backwards pitch shift, triggered stutter effects, delayed kicks, BPM autopanning, triggered tremolo, stereo vibrato, chorus and trig-gered ambience effects.

In all there are 24 modulatable parameters driven from three modulation sources with 14 modulation types.

WaveMechanics

Manopix offers 8x MO drive

Now shipping, the TS-5200 is an 8x capacity MO drive that supports 5.2Gb media and is read/write compatible with all four generations of ISO standards.

It has a maximum 20Mbps data transfer rate and 20ms average seek time. Upgrades are available for existing customers and there is a two year warranty.

Manopix

Look out for What’s New in Pro Audio issue No.6, summer 1999!

Tripping data with Glyph Technologies

Storage and networking specialist Glyph Technologies has launched a customisable rack-mount data storage system known as Trip.

The 3U box can accommodate a wide variety of storage devices for applications across the board, and while there are three off-the-shelf configuration suggestions the actual selection is up to the user.

The three are instructive examples of the possibilities. The Quadrum Tripp contains four 4x write/8x read CD writers, an Adapter SCSI card and Prass CD Rep recording software for PC compatibles.

Alternatively, Trip for Pro Tools provides two hot-swappable Kingston drives or up to 46Gb hard drives, a tape backup unit and a CD Recorder configured for Pro Tools, while Trip for Paris is populated with appropriate drives for the Ensoniq Paris.

Glyph Technologies

Auto-Tune PC

Antares’ Auto-Tune pitch correction plug-in is now available for the PC. Auto-Tune DirectX incorporates all the features of the Macintosh version, offering real-time pitch correction of a monophonic line to a predetermined scale.

Comprehensive user adjustments allow the process to accommodate performance aspects like vibrato and glides, and its Graphical Mode shows a representation of the pitch contour with a selection of tools for modifying the pitch in a variety of ways.

Antares
There are many companies in the market place offering multi-channel audio PCI cards, but for most, this is where it ends. Most companies can at best just 'put chips on boards', but from Soundscape Digital Technology there is an unbeatable combination of software and hardware... mixtreme.

The mixtreme PCI card has a completely different concept, as not only does it provide 16 channels of 24 bit digital I/O via two industry standard 8 channel TDIF (Tascam Digital Interface) ports, but it also has 24 bit custom digital mixing and real-time DSP effects plug-ins from some of the world's leading audio companies. mixtreme performs like you expect, without the annoying in/out delays that make native mixing and effects impossible to use in real time.

You can connect two Soundscape SS8IO-3 8-Channel TDIF to Analogue interfaces to mixtreme, for a full 16 channels of 20 bit analogue input and output, or you can connect the TDIF directly to a digital console of Tascam DA-88.

For ADAT users, there is the SS8IO-2 TDIF to ADAT converter, and you can connect two of these, or combine one ADAT and one Analogue interface. Optional SPDIF completes the range of Digital Connections available.

With standard Multimedia drivers for Windows 95 and Windows NT, plus VST compatible ASIO drivers, mixtreme can be used with most PC based MIDI/Audio sequencers or PC based recording/editing software.
Yamaha launches 8-track MO standalone

Yamaha has announced the sub-US$3000 D24 24-bit, 96kHz digital recorder based around removable 3.5-inch magneto-optical disks. The machine offers 16-bit, 20-bit, 24-bit, 8-track simultaneous record and play capability at 44.1kHz and 48kHz, and 4-track record-play at 96kHz. Up to eight units can be synchronised together to create a larger system and delivery is expected to begin in the first quarter of next year.

The D24 is intended to serve as a multitrack recorder for music recording and overdubbing, post audio applications for television and film, and live playback for theatre and other live-sound applications. Editing options include copy, move, erase, delete and merge and tracks can be merged. Varispeed is ±5%. Each track also includes 8 virtual tracks for a total of 64 while 8-track recording time is 15 minutes at 16-bit, 44.1kHz and 9 minutes at 24-bit, 48kHz on a 640MB disk. Four-track recording time is 9 minutes at 24-bit, 96kHz and 512 songs can be recorded on each disk. The machine can be connected to external hard drives via a SCSI-II connector. The D24 syncs to MTC and SMPTE, video sync and word clock and is controlled via MMC, 9-pin or an optional remote.

Thoughtful features on a box of this nature are time compression-expansion (50%-200%) two tracks at a time and pitch can also be altered two tracks at a time without changing the tempo or duration of audio material.

The machine offers 01V-sized interface cards in ADAT, TDM, AES-EBU and analogue formats.

WaveFrame widens DAW compatibility

New products from the WaveFrame stable see enhanced compatibility with other equipment and steps forward in capabilities. The 408-Plus, provides 8-track playback from a single SCSI bus in the format used in Tascam’s MMR-8, allowing quick and easy transfer of media between systems. It comes as standard with the new RB-Plus board that brings increased SCSI capability, and this board is available as a retrofit to any existing WaveFrame DAW running new version 6.2 software.

6.2 improves the waveform display and network support and expands the file interchange capabilities to include import and export of WAV, SDII, AIF, AIFF and OMFI 2.0 files. Also available as an upgrade to all systems is the DIO-8 digital I/O board, with eight channels of AES-EBU input and output. Three of these can be accommodated in any system to provide 24 channels of digital I-O.

Soon to be released is WaveFrame 7.0, adding more tracks per SCSI bus, 24-bit operation with 96kHz to follow. Windows NT support, Fibre Channel networking support, and a sophisticated automated mixer. Plug-in support will be implemented using the architecture of Digital Audio Labs, with processes available from Waves, Wave Mechanics, Q-Sound, Antares, Aphex, Vocalign and others. WaveFrame will start at 16 tracks, and users purchasing a 408-Plus system prior to 7.0 shipment will be able to upgrade for the price of an 8 to 16 track upgrade.

Bias Peak climbs higher with major upgrade

In a major revision, Bias has introduced Peak version 2.0, the latest version of its Mac editing software. DAE support is added, along with the ability to use Adobe Premiere audio plug-ins and full SMPTE synchronisation. RealAudio 5.0 can be encoded directly for Internet authoring, and CDs can be burnt directly from the playlist to most popular burners.

The user interface has been improved to take advantage of Mac OS8, and a QuickTime movie window has been added, compatible with Peak’s scrubbing capabilities. New support for third party hardware includes the Yamaha A3000 and Ensoniq ASR-X samplers and file interchange with Ensoniq’s Paris file format. Several of these updates are also incorporated in version 2.0 of the entry level Peak LE.

December 1998

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Sound that Bytes...

Today's audio environment requires a range of specialist microphones to meet the demanding situations in which you have to operate.

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The AT4060 combines premium 40 Series engineering and vintage tube technology to deliver the exacting, versatile performance required in the most demanding studio applications. With a dynamic range that far exceeds that of other tube mics, the AT4060 provides the coveted sound of value design without compromising the specification standards necessary to excel in today's diverse recording situations.

---

**Catch the Tube**

**AT4060**

**Extended Frequency Response**

**High Max SPL**

**Low Self Noise**

**High Resistance Shock Mount**

**Rackmountable PSU**

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**CAD sends in the cleaners**

CAD has shown the first fruits of its new clean room capsule facility, headed up by the new VSM-1 tube condenser microphone.

It uses the new Optema Series 1.1-inch diaphragm capsule with a servo valve, combining elements of the VX2's valve technology and the servo technology from the Equitek Series.

This is claimed to deliver extraordinary bandwidth, frequency and transients with exceptional gain and low noise. Shared tooling with the VX2 allows aggressive pricing.

The same capsule appears in the new Equitek E-350, giving an extended LF response down to 10Hz and a high SPL capability.

The microphone shares the Equitek concept of battery power supply support using a Nickel Metal Hydride battery, and will also operate from internal batteries without phantom power.

**SPL and Brauner: 5.1 recording**

In a joint venture with mic manufacturer Brauner, SPL has launched the ATMOS 5.1 Surround recording mixer, which works in conjunction with Brauner's ASMS adjustable Surround microphone.

The ATMOS 5.1 Surround recording mixer features five high precision microphone preamps, providing up to 70 dB of gain. The circuit incorporates Lundahl input transformers as well as pads, phase reverse, phantom power, low cut filters and switchable insert/tape returns. All switching uses high quality switches, and relays with gold plated contacts used throughout.

Comprising a main unit and a separate power supply, the mixer section occupies 5U of rack space with the PSU being just 1U. Mixing and 5.1 panning is possible from each channel via a front-surround control, an LCR pan control and a divergence control.

In the Subwoofer matrix, the sub signal can be selected from the front, surround, and centre signals, while in the External Mix matrix, a stereo mix can be fed to the front, centre and surround channels. Furthermore, the stereo soundstage from the front and surround channels can be widened using all-pass stereo spreading. Two phase meters are used to display LR and SR-SL correlation and the monitor section allows each bus to be independently monitored.

Brauner's ASMS microphone system is based around five matched microphone heads, three of which are arranged as a Decca tree to handle the LCR recording. A further two heads handle the surround information. In addition to supporting the INA 5 standard, the ASMS allows continuous adjustment of the polar characteristic of each microphone from omnidirectional up to figure-of-eight. These adjustments are made directly from the ATMOS 5.1 Surround recording mixer.

Furthermore the positions of the SL-SR microphone heads are variable up to 90 degrees (+/-45 degrees). The ASMS includes 25m of 12-pair screened multicore cable to connect it to the SPL ATMOS 5.1 processor.

**Brauner**

**SPL**

---

**FREE ENQUIRY SERVICE**

**WHAT'S NEW IN PRO AUDIO**
AKG modular pencil

Similar in presentation to AKG's C747 pencil mic, the Discreet Acoustics Mk2 is a modular system with five capsules and six installation mics - five goose-necks and one hanging module - which can be used in any combination.

A phantom powered LED ring confirms correct connection or can indicate mic activity status.

Audio-Technica down the tube

Audio-Technica's new AT4060, takes the established 40 Series large-diaphragm condenser microphone concept and adds valve circuitry. The slightly larger body accommodates a hand-selected pre-aged valve to deliver a vintage valve sound combined with very low noise and flat response. The separate dedicated power supply is rack-mountable and the microphone is supplied with a suspension mount as standard.

Sennheiser camcorder receiver

Described as the smallest diversity receiver, the Sennheiser EK 3041-U is developed for the new generation of digital ENG camcorders. The receiver is weatherproof and the size of a cigarette packet. It slots into Sony SX, Philips LSDK120 and Ikegami HLV77 camcorders without additional cables or adaptors.

The unit has 32-channel switchable frequency operation within a 24MHz window and can be supplied for operation in the 450-960MHz UHF bandwidth. It can be partnered with any current Sennheiser UHF transmitters including the SKM5000 and SKM3072 handheld and SK50 belt-pack.

Series 4000 Microphones from DPA

Reader Response No. 024
**MICROPHONES**

**Shure**
The UT series of UHF wireless microphone systems are said to have many of the features found on the manufacturers professional UHF products but are priced to act as an extension to the T series of VHF products. Offered in versions with up to eight compatible frequencies between 600MHz and 862MHz, each system comes with a wireless microphone or body-pack transmitter and the new MARCAD UHF diversity receiver. There are hand-held, headset, musical instrument and lavaliere versions offered.

**Audix for Xwire digital radio mics**

Xwire’s digital UHF wireless microphone system, based round the XR905 digital receiver, has been enhanced with the availability of the XH905/OM6 handheld transmitter. The system, heralded as the first of its kind, uses 20-bit A-D conversion before transmission, avoiding the use of any kind of compression, and corresponding 20-bit converters in the receiver.

Xwire’s confidence in the resulting audio fidelity, claimed to give 120dB dynamic range and a frequency response from 10Hz to 20kHz, is shown by its suggestion of using the system for studio recording. The receiver four antennae, and immunity to interference is increased by a digital key embedded in the transmitted signal, allowing the receiver to ignore any incoming data that does not contain the key.

The latest enhancement is the addition of the capsule from the Audix OM6 dynamic microphone, regarded in many circles as a particularly impressive clean smooth capsule.

**Audix large capsule**

The Audix CX101 is a true large capsule cardioid condenser which uses a 1-inch gold vapour diaphragm and boasts a noise floor of 17dBA. The housing is brass finished in black satin with powering via phantom. The more expensive CX111 adds a -10dB pad and a bass roll-off switch but both mics come with a shockmount stand adaptor and an aluminium carrying case. A 2-channel power supply is optional.

Also new from Audix is the TH40, described as a test and recording mic, which employs a 1/4-inch diameter unipolarised condenser capsule with an omni pattern. Frequency response is claimed as 20Hz - 10kHz +/−1dB. Price in the US is $249 complete with carrying case and clip while stereo matched pairs are available for $539.

**Shure UC UK legal**

The UC series of radio microphone equipment is now available with frequencies legal in the UK. A UHF system, based on Shure’s MARCAD diversity circuitry, the UC provides more than 100 selectable frequencies and enables 16 channels to be used simultaneously. For the handheld transmitters, there are four capsules available: SM58, Beta58, SM87A or Beta57A. In addition, a choice of four lavaliers and three headsets are provided. The UC1 bodypack and UC2 handheld transmitters have a combined on/off and mute switch, with the capability of external audio or RF muting.

Also provided are a three-segment battery fuel gauge and adjustable audio gain. The UC1 also has a 0dB/20dB input attenuator. Battery life in both instances is quoted as eight hours.

Fitted with two five-segment RF LED strings, the EU4 receiver also has seven-segment audio LED indicators. Indicators for group and channels setting, plus low battery warning. Two-hand equalisation and TTL logic terminal for external control are also provided.
A family that offers award winning excellence, revolutionary sound and technical specs formerly unseen in tube microphones. What are your highest expectations? We want you to meet them...

Reader Response No. 026

Dirk Brauner Röhrenrundemanufaktur, Kreuzstrasse 2, D-46499 Rees/Germany,
Phone +49 (0)2851 986088, Fax +49 (0)2851 986089, eMail dbrauner@t-online.de, www.dirk-brauner.com
AT on the FreeWay
One of two new UHF radio microphone systems from A-T is the FreeWay, supplied as a complete system in lavalier, guitar, handheld or headworn configuration with dynamic or condenser option in the headworn version. True diversity reception and InvisibleLink circuitry from the ATW900 series are included. The whole kit is packed in a rigid case.

Brauner launches two
Brauner have introduced two new mics – VM1u and the Valvet. The former offers the same performance as the VM1, but is restricted to omni and cardioid patterns and has no -10dB switch; although the mic can be upgraded to full VM1 spec as a retrofit. The Valvet uses a Lundahl transformer and is a cardioid and omni valve mic and is cheaper than the upgradable VM1u.

Alesis/GT mics
Alesis has introduced four large diaphragm studio condenser mics as part of its new GT Electronics division. The AM51 and AM52 are Class A FETs and claim extremely low distortion and self-noise and use 3-micron, gold evaporated mylar diaphragms. Both have switchable -10dB pads and a switchable roll-off at 80Hz. The AM51 is a fixed cardioid while the AM52 offers cardioid, omni and fig-8 patterns.

The AM61 and AM62 are valve condensers and use similar diaphragms which are precisely tensioned and together with the internal polarisation voltage regulator boast a matched response that is said to be typically within 1dB between mics. Both have custom-designed dual triode valves with the AM61 offering cardioid and the AM62 providing cardioid, hypercardioid, omni and fig-8 patterns. They come with a hard shell case, external PSU, shock mount, hard mount and 6-pin cable.

Big Shure condenser
The Shure KSM32 is a side-fire cardioid condenser using a Class A transformerless preamp and a 2.5-micron, gold-layer, low mass mylar diaphragm. It comes with a 15dB pad, two-frequency switchable bass roll-off, an integrated three-stage pop protection grille and an internal shock mount.
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Pearl 4-channel mic
Pearl's DS60 condenser offers stereo recording in different modes. It has two rectangular dual membrane capsules mounted one above the other and 90° apart. The mic is positioned differently for X-Y and MS recording and the mic pattern is chosen at the console. The preamp has four output channels, one for each cardioid membrane, connected via a 9-pin Lemo plug and four-way splitter terminating in XLRs. Each capsule provides 180-degree coincident stereo and the operator decides how to use the signals - cardioid, fig-8, omni, X-Y, MS or Blumlein.

Earthworks makes live condenser
Earthworks SR71 is a cardioid condenser designed for live sound use. It is said to combine rugged construction with natural on-axis sound and uncoloured off-axis rejection.

The unit has a quoted frequency response of 50Hz to beyond 20kHz ±2dB and the manufacturer says that 90° off-axis SR71 is flatter than many microphones on-axis.

In addition to a more natural sound, Earthworks says that this gives its design exceptional gain before feedback, as there are no peaks to encourage ringing.

There is a wide range of suggested applications for the SR71, including strings, brass, vocals and drums.

Schoeps goes into matrixed surround
Schoeps has introduced the KFM360 surround microphone which consists of a sphere into which two omni mics are flush mounted with a bidirectional mic also attached on each side. As with MS dematrixing, on each side of the sphere a pair of virtual mics is obtained by the addition and subtraction of the signals and these virtual mics are symmetrical to the front and rear with polar pattern adjustable from omni to fig-8. Centre channel information is obtained from a Michael Gerzon matrix.

The company has also previewed its VanMike variable mic stereo system which has a patent pending. It consists of two DTM2 double transducer mics and a 24-bit DSP4 polar processor. In three variable frequency bands, this permits the polar patterns to be adjusted independently from each other in 12 steps from omni to fig-8.

Aside from frequency response, a polar pattern's frequency dependence is a major contributor to a mic's sound. The VanMike is said to be able to simulate a variety of mics very closely but it can also be adjusted to match the characteristics of a room.

The DSP4 box has analogue and digital I/Os and permits postproduction adjustment of the four recorded mic signals.

MBHO microphones resist a rumble
Notable inclusions in the MBHO mic range include the MBC608 switch selectable polar pattern large double diaphragm condenser. Patterns are cardioid, omni and fig-8. The suspension is said to be extremely resistant to external rumble.

Much more diminutive in size is the MBC440 series of small condensers, seen here. These units use a transformer based design.

Another feature is automatic current switching which renders the mic independent of operating voltage. A high pass filter and 10dB pad are available as options.

Large diameter capsule, switchable
Transformer output
Sensitivity, switchable
roll - off : + 10 dB
roll - up : + 4 dB
Roll - off for low frequency
Finish: satin nickel
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Reader Response No. 029
HOW TO RACK UP A GREAT SOUND RECORDING

There's only one way to improve on the renowned flexibility of Audio's RMS 2000 and RMS 2020 diversity receivers.

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**DACS**

FwS is a new range of three analogue effects based on ring modulation and aimed at DJs or studios who want to break new ground sonically. MD0u8 outputs the sum and difference of two inputs. Harmonically related frequencies produce smooth, lush sounds, while unrelated signals produce spikier, more complex sounds. According to the manufacturer, small changes to the input signals can produce delicate shimmering colours or wildly diverging effects with fine-tune control over the results. ColiOSCII includes a five-band oscillator, which ranges upwards from a subsonic 2Hz, while the FREQe is said to add a fixed frequency to all spectral components.

**DACS 497**

**Sabine digital Graphi-Q**

Sabine's Graphi-Q combines 31-band digital graphic EQ with 6dB and 12dB ranges and high and low cut filters; FBX feedback externalization with 12 filters and automatic Turbo setup mode; a fully featured compressor-limiter; and 1 second digital delay adjustable in 20ms increments. Operation is via traditional analogue faders and pots although all operation is digital. Running the device from a PC allows viewing and editing of frequency response curves and filters, the swapping of FBX filters to parametric, fine adjustment to EQ filter widths and attack, release and knee of the compressor; and unlimited storage of presets. PC control also allows eight Graphi-Qs to be run simultaneously.

**Sabine 498**

**Drawmer digital DC Line**

Drawmer has introduced digital products for 24/96 processing and analogue-digital conversion. Three products will offer 'refined analogue' sound quality to TDIIE, ADAT, SPDIF and AES-EBU interfaces plus a host features.

The DC2476 Digital Mastering Processor has 24/96 inputs and outputs and the inclusion of S-RAM card slot allows settings and parameter to be memorised and recalled on any Drawmer DC2476 or Drawmer DC2486 units.

DC2476 TwinScreen Processor is a digital mastering 2U-high processor with the additional features of twin mic preamps, frequency conscious noise gating and more extensive metering than the DC2476. Individual screens and operating controls for each channel allows simultaneous access and display of parameters. An S-RAM card slot is included.

The DC2496 is a super high resolution A-D convertor with an additional 20/16-bit 'Intelligent Backup' output for creating a simultaneous back up copy at 48/44.1KHz, a full in-out TDIIE/ADAT/SPDIF/AES-EBU bay for transferring between two different formats: Multiple Converter Technology: for 130dB dynamic range; four different programmable limits; and the ability to convert a 96/88.2kHz, DVD recording down to 24/44.1KHz.

**Drawmer 495**

**Alesis effects**

Heralded as Alesis' flagship processor, the Q20 20-bit master effects stereo unit combines ADAT and SPDIF digital interfaces, XLR and jack analogue I-Os and an integral PSU. Signal flow can be designed by the user using an LCD with 'virtual' patch cables connecting from more than 50 effects types for each of the eight available blocks. There are 320 programs in the Q20, 100 of which are factory presets while the rest are available for user storage.

**Alesis 496**

**More Meeks**

JoeMeeks SC4 is an M&S compressor, with a width control and claims absolute image accuracy. The unit has 24-bit 'any rate' converters that can run independently. The upgraded VC1 transformer mic preamps, mono photo electric compressor and enhancer channel is the third generation of the processor and has many extra features, for the same price - larger meter, phase reverse, smoother sounding enhancer - and now has the same compressor slope settings as its big brother, the SC2, plus a more 'chunky' looking front panel.

**JoeMeeks 592**

**BSS launches Opal graphic**

BSS has added a graphic equaliser to its Opal series. The FCS866 is based on constant Q technology which maintains filter width regardless of fader gain setting. Separate HF and LF contour filters are provided along with a sweepable 18dB/octave high pass filter. Output level is monitored by LED meter and a clip warning LED. 1-Os are electronically balanced with transformers an option.

**BSS 493**

**Audio Design hits brick wall**

First developed for Carlton TV in the UK, DBL-1 is a digital broadcast transmission limiter, described as the ultimate brick wall level controller. Algorithms from Audio Design is the DMM1 Faddamental, a four-channel digital fade and mix box. It provides the postproduction engineer with sample rate conversion, audio delay relative to picture, gain, phase inversion 1-O channel reassignment and MS encoding/decoding. It can also generate broadcast standard line up tones, noise shape the output and also distribute AES-EBU or SPDIF via the main mix output and four channel auxes.

A new EuroRack system has full power supply redundancy and accommodates up to four plug in modules, providing eight channels of A-D, D-A or sample rate conversion.

**Audio Design 494**

**Q. How does our NEW COMPRESSOR work?**

The stereo audio signal input is encoded as a 'sum' channel (left plus right) and a 'difference' channel (left minus right). Both channels are compressed. After compression, the difference channel goes through a variable gain amplifier, controlled by the 'width' control. The sum and difference channels are then decoded back into stereo left and right. The effect of 'width' is that the stereo signal is variable from mono to enhanced stereo. Compression in the sum and difference domain guarantees perfect image integrity under all conditions of compression, while retaining the original JOEMEKE sound. The resulting compression is an image perfect version of the awesome and unique JOEMEKE sound - Lost in the 1960s and recreated in the 90s.

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Reader Response No. 031
Red Range by Focusrite has become an industry reference. Six products delivering the classic Focusrite microphone preamplifier, equaliser and dynamic processing in a range of combinations for a variety of applications*.

All enclosed in the unique, machined, red anodised aluminium case.

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Red 6 Mic Pre & Parametric Equaliser; the classic signal path for outstanding recordings.

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Red 8 Stereo Mic Pre Two perfectly matched channels of the ultimate mic pre-amp.
Building on the phenomenal success of the DP200, the DP226 continues the reputation for sound quality in a product aimed squarely at the most demanding applications of the sound reinforcement, installation and studio market.

The DP226 features 2 inputs and 6 outputs. Both inputs have an 8 band parametric equaliser, base delay and gain control. All outputs feature crossover filters, 5 band parametric equaliser, high and low shelving filters, limiter and delay. Full metering is provided for inputs and outputs, with mute and access buttons allowing quick set up and gain adjustment. The DP226 can also be controlled via PC with our popular AudioCore Windows™ control software.

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6 high performance look ahead limiters are provided, featuring automatic or manual adjustment of Attack and Release times.

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Variable High and Low pass filters for each output can be set for 12, 18 or 24dB/octave slopes and a choice of Bessel, Butterworth or Linkwitz-Riley responses. Independent control over High & Lowpass functions allows asymmetric crossover functions to be realised.

Delay of up to 650 ms can be set for each output with superfine 2.6 μs steps (<1mm)

AES/EBU digital input and output are available as an option to allow for “totally digital” systems in the future.
Sonifex has released a range of budget Redbox interconnection units.

The range includes the RBDA6 6-way stereo, 2 x 6-way mono or 1 x 12-way distribution amp; the RBMA2 dual mic preamp; RBMS2 dual stereo to mono convertor; RBML2 balanced to unbalanced bidirectional convertor; and the RBLS2 twin mono or stereo limiter.

All units are housed in aluminium boxes which can be screw mounted to any surface and can be powered by 115V, 60Hz or 230V, 50Hz.

ART offers three new outboard devices

There are three new outboard units from ART: a Tube Channel: Dual Tube EQ and the DM-PRO multi-verb unit.

The Tube Channel is a combined mic preamp, optical compressor and four channel, valve-based parametric equaliser. XLR and 1/4-inch jack I-O are fitted, along with loop points between each section to allow them to be used separately or for other devices to be inserted into the chain.

Compressor and EQ sections are fitted with detented p pots and bypass switches. Metering includes preamp drive and gain reduction LED arrays, as well as a backlit output level VU.

The Dual Tube EQ can be used in dual four-band or single channel eight-band mode. According to ART the frequencies and Q parameters of the device were selected by a number of top recording engineers using a range of musical instruments for reference. The high and low shelving filters are each switchable between two frequencies and the two mid range controls can both be switched between two frequency sweep ranges.

DM-PRO contains two 24-bit digital engines, with independent I-O for each one. As a result, the devices can be used independently or in tandem. Each engine is capable of producing 72 effects in total and they can produce up to three effects simultaneously, chained in any order.

Symetrix 300s are half-rack

Symetrix has the 300 Series range of half rack-width boxes for the contractor and broadcast industries. These include the 301 mono compressor-limiter; the 302 dual mic preamp update on the SX202, and the 303 stereo level matching bidirectional interface amp. Other units are the 304 2-in, 4-out headphones amp, 305 1-in, 4-out distribution amp with individual trim pots and the 307 dual isolation transformer.

Traditional 1U rack-mounts from the company include the 581E distribution amp and the 565E dual compressor-limiter-expander. The former is a 4-in, 16 out device which accepts stereo audio feeds and other configurations via simple rewiring. The 565E offers two channels of simultaneous in-line processing with proprietary Dynamics Squared circuitry, claimed to reduce distortion when automatic gain reduction is at a maximum.

Symetrix 501

Mastering bass limiter

The DBL 10 dynamic bass limiter is a 2-channel bass filter that limits excessive signals in the 0-800Hz region to protect cutter heads and converters from overloading. It is designed predominantly for disc cutting and mastering. At normal bass levels the filter is said to be completely transparent and bass limitation only occurs if peaks exceed the preset level. The rackmountable unit has indicators and selects for sensitivity, attack and release on each channel.

Etec 505

A Dual Classic TUBE-TECH CL 2A

The TUBE-TECH CL 2A is a dual opto compressor with the same features as two of the well renowned TUBE-TECH CL 1B, but only taking up two units of rackspace.

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Reader Response No. 034
LA Audio makes Millennium additions

New addition to the LA Audio Millennium series of processors is the DAX2 stereo 24-bit A-D-C. Each channel has a level trim and Hi-segment LED bargraphs monitor the input signal with peak or vu ballistics. The digital output section has front panel selection of AES-EBU or S/PDIF and 44.1 or 48kHz sample rate. A dither switch is provided and the device can be locked to external word clock with LED status indication.

Valves have been introduced to the range with the TCX2 dual compressor which can be stereo linked. It features active valve stages for the input and output gain make-up, the former having a 40dB range with two LEDs indicating the amount of valve effect being added.

The compressor has variable threshold and ratio and variable rate auto-sensing attack and release. Matters are concluded with LED metering, 20dB output valve gain amp and bypass.

...and Millennia Media makes Twin Topology

Millennia Media has launched two "Twin Topology" products as a merging of Class A valve and Class A solid state circuits in the NSEQ2 stereo EQ and TCO2 stereo compressor-limiter.

In both cases a front panel switch selects either of the two circuits. These topologies are entirely transformerless, high voltage and described as minimalist. The NSEQ2 has only one active stage in the signal path compared to other designs that can combine from three to seven amp stages. The compressor also employs only one active stage. The solid state aspects of both units consists of discrete JFET amps and the company will also be providing these JFET amps as the next generation of 990 Jensen and 2520 API plug-in compatible modules.

Zoom in & out of your sound...

Reshape your sound with the ingenious Transient Designer. You will never have heard anything like this before. A 4 channel dynamic-effect processor which shapes the attack & sustain envelope to give level independent sound processing. This amazing concept product may change the way you record forever...
Summit and Rupert Neve collaborate

The result of much speculation in the last year, Summit Audio finally showed the fruits of its collaboration with Rupert Neve, the designer at the San Francisco AES. The MPE200 dual channel mic preamp and 4-band EQ is the first in the new Element 78 product line and is digitally controlled with the implementation of storage and reset from 25 memory locations with MIDI control.

Each channel consists of a mic preamp with high and low pass filters sections and fully parametric 4-band EQ but not valves.

The MPE200 has Class A discrete transistor analogue amps with coarse and fine gain controls for each section, phase invert, instrumentation-type input amps, large dynamic range, floating and balanced output transformers, and traditional analogue style controls with numeric readouts. Virtually no high order harmonics are claimed.

### DigiTech effects powerhouse

DigiTech, an early enthusiast for multi-effects processors, has added the Quad 4 to its Studio range. Effectively four processors in one, it has four inputs, four outputs and flexible internal patching arrangements to suit a variety of applications. One hundred factory presets show off the S-DISC II processing, with a library including compression, rotary speaker simulation, spring reverb, delay up to 5.5 seconds, vocoder, sampling, ring warp, envelope filter and many more.

### TL Classics now

TL Audio, always at the forefront of the valve revival, has launched its Valve Classics series with the first model, the C-1 stereo valve compressor.

The successful original is here upgraded with military spec GE valves, gold plated ceramic valve bases, backlit circular vu meters and new cosmetics based around a deep blue 6mm aluminium front panel.

### TC M3000

TC Electronics has released the M3000 studio effects processor with several new algorithms including "advanced" reverbs. It is said to sit directly beneath the flagship M5000 processor. The dual engine true stereo unit features 24-bit converters and covers reverbs, delay, chorus, flange, tremolo, dynamic EQ, pitch, phasing, soft compression, gating, expansion and limiting. Presets can be stored in internal RAM or external PCMCIA cards. Connectors cover AES-EBU, SPDIF, TDI, ADAT, MIDI and analogue I-O plus a pedal input. Also new are the Finalizer Express cost-effective version of the Finalizer Plus mastering processor and the MegaVerb TDM plug-in which is based on M5000 core technology.

### Flamingo pre

Cranesong's Flamingo is a 2-channel discrete Class A preamp with switch selectable 'vintage' and 'iron' sounds. Gain is adjustable in 6dB increments up to 66dB with the help of a fine trim pot. A 22 LED vu meter monitors input.

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8-channel dynamics
PreSonus' ACP88 offers eight channels of dynamic processing each comprising a compressor and a gate.

The processors have the full set of controls, complete with a soft knee switch and an Auto setting for the compressor, and flexible linking arrangements allow any number of the channels to operate together. Side chain access is provided on both compressor and gate for frequency-dependent processing.

The ACP22 looks very much like two channels lifted from the 88 in a 1U box, but adds a switchable fixed-frequency low pass filter to the gate, helping with drum gating without tying up external EQs.

PreSonus 513

CEDAR upgrades
Two recently-introduced CEDAR restoration products are already the subjects of upgrades. The DHX is the Series X dehisser, launched last year, and the new version 1.02 improves the algorithm's ability to deal with certain types of dance and rock music, and has been found to achieve better results with most types of material. The software Debuzz processor for the CEDAR for Windows system is even more recent, but has also been upgraded to version 2, which not only improves the efficiency of the process but also simplifies its operation by reducing the number of controls. Existing owners of Debuzz are eligible for a free upgrade, as are DHX owners, although upgrading the hardware box requires return to CEDAR or the local dealer.

CEDAR Audio 514

Weiss EQ1-DS Mk2
Version 4.0 software for the Weiss EQ1-DS double sampling equaliser runs on a new SHARC DSP board which can replace the original DSP32C board. Mark 2 features include much higher parameter resolution: the centre frequency, boost/cut and Q now have 128-step resolution.

The centre frequency parameter is stepped in half-tone steps and includes 50/60Hz frequencies with their harmonics for hum suppression. The boost/cut ranges from +18dB down to -39dB with 0.1dB resolution around 0, and the Q factor can be varied from 0.2 to a needle-sharp 650 notch.

Weiss 502

Lucid offers 24/96 converters
The AD9624 A-DC and DA9624 D-AC from Lucid Technology are 2-channel 24-bit, 96kHz convertors at $899 and $749 US respectively.

The A-DC accepts analogue inputs and digital outputs flow simultaneously through AES-3, SPDIF and TOS-LINK with 16-bit noise shaping on the first two. The D-AC handles the reciprocal process, with inputs in all three digital formats.

Lucid Technology 516

Frontier Design's been Tangoed
Frontier Design has broadened its range of PC audio ancillaries with the Tango, a new A-D front end and analogue output for any ADAT lightspipe compatible equipment and particularly PC audio cards such as Frontier's own WaveCenter, Korg's 1212, the Sonorus Studio 0 or the Alesis PCR.

The 1U rackmount box expands on Frontier's Zulu box by having eight pro level balanced outputs and handling up to eight inputs. The input side is modular, so that a 0-input Tango for output only can be user-upgraded to the full eight if required.

Converters in and out are 20-bit and the only connection to the computer is an optical cable which can be up to 10m long.

Tango is self-powered, ensuring complete isolation from the PC. Eight front-panel 3-LED meters can show input or output levels, and additional connections include an ADAT thru port and word clock in/out.

Frontier Designs 517

Tube Tech shows dual 'CL1B'
Tube Tech has combined two mono CL1B compressors into a single unit to give the dual-channel CL/2a opto compressor. Enhancements over the original unit include 5kOhms input impedance and the two channels can be linked for stereo operation and multiple units can be side-chain linked.

Features include variable or fixed attack and release times, a valve push-pull, clickless relays for switching the compressors in and out of circuit, and balanced floating inputs and outputs.

Lydkraft 518

PreSonus eight
Joining the throng of 8-channel hardware to team up with DAWs and MDMs are new units from PreSonus.

The M80 contains eight fully-featured microphone preamps with the added bonus of an onboard stereo mixer, fed into a pan pot on each channel. Among the expected phantom, pad, phase and HPF switches is a feature called IDSS, adding variable harmonic distortion from the unit's commendably low 0.001% to a maximum of 0.5%.

Although it uses FETs, this proprietary circuit is intended to emulate tube colouration and analogue tape saturation. Multiple M80s can be busied together, and a balanced insert point is provided on each channel.

PreSonus 519

Z's mastering processor
The Z-Systems Z-Q6 6-channel digital mastering processor provides 6-channels of 6-band parametric EQ, level control, dither and digital source selection. The EQ algorithms are the same as those found in the 2-channel Z-Q1 stereo digital parametric.

Additionally the unit has three AES-EBU and three SPDIF 1-0s. For complicated processing the device can be put into a 'super' 2-channel mode for 18-band stereo operation.

The device has 24-bit resolution and 88.2/96kHz operation as an option.

Z-Systems 520

Small hooters
Designed by Ted Fletcher of JoeMeek processor fame, the Hooter Sound B1 is a single channel mic preamp with phantom power, a volume compressor, peak limiter and variable noise gate for £137 (+ VAT) UK.

Compression can be bypassed and ratio is variable up to 8:1 and includes automatic gain compensation, while the gate has variable threshold. LEDs indicate compression, limiting and gate status and line level output is tracked on a 1FD peak meter.

Hooter Sound 500

FOR FURTHER PRODUCT INFORMATION USE OUR FREE ENQUIRY SERVICE

December 1998
TL Audio products have been part of some of the most important records of recent years, and none more so than the C-1 stereo valve compressor. So when Portishead - who are without doubt one of the most influential and groundbreaking acts of the 90's - came to choose some high end valve outboard to use on their latest PNYC album, the decision was easy:

"There seems to be a real buzz about TL Audio equipment at the moment, and I've encountered so many engineers and producers using TL Audio products that it just seemed to be the obvious choice. The C-1 and EO-2 were used to process the string and horn sections that feature heavily on the album - and they sounded great. The units just seem to add something special to the sound, even before you start to make any adjustments!"

Adrian Utley - Portishead
(Guitarist, Writer, Co-Producer)

So if you've always wanted to own a Classic, speak to your nearest TL Audio dealer today!
More H Series
Incorporating valve amplification, the Demeter H Series parametric EQ incorporates a solid state parametric circuit that controls the gain of the tube at selected frequencies. It features 3-band stereo operation linkable to 6 band mono, continuously variable frequency, Q, and up to 15dB of boost or cut, input bypass and gain control with overload indica-
tor. TRS and XLR connectors are provided for I-Os. As with all H series units the power supply is fully regulated. Suggested retail price is $1295 US. The H series Tube Direct Box/Line Driver can be used as both line level direct instrument input or as a line driver to add warmth to line level digital interfaces. Features include 27MOhm input impedance, two independent channels with separate 1/2 inch inputs, ground lift, phase invert, unity gain (+6dB with balanced out) and a tube driven boost mode with 20dB of boost controlled by a continu-
ously variable volume control and a unity gain low impedance tube driven output to drive external instrument amplifiers or effects. Suggested retail price is $899 US.

Demeter 521

Sony gets real with reverb
Sony's DRES777 24-bit sam-
pling reverberator is claimed to
generate reverb based on actual acoustic environments. The box is said to be able to sam-
ple and recreate reverb from plates, for example, which can
then be optimised for low noise. It offers surround or 96kHz
expansion capability although out
of the box it supports mono in,
mono stereo at 48kHz. The
DARKST703 expansion DSP board
permits the selection of 2-in, 2-out
stereo at up to 96kHz or 4-channel
surround.

Expected to start shipping in
the spring of next year prices will
start at $5,000 US.

Sony 522

Apogee Solution Series debuts
Apogee has previewed the pro-
ject studio targeted Solution Series, with the Rosetta AD as the first product in the line.
Rosetta AD has analogue inputs, along with AES-EBU, ADAT, TDIF and SPDIF interfaces with bar graphs and large 'over' LEDs. Soft Limit is included, together with UV22HR, a high res-
olution version of UV22, which is used to reduce word lengths.

Shipping is expected before the
end of the year.

Apogee Electronics 523

Three DigiTech fx with valve preamp option
A dual-engine multi-effects processor, the S200 has a new graphics display and icon-based navigation intended to make pro-
gram creation simple. A similar range of patches to the company's
Quad 4 is on offer but the US price is $340 retail.

Aimed primarily at musicians
are the Vocalist Access five-part harmony processor and the BP preemp/processor for bass gui-
tarists. Vocalist Access has 50 pre-
set harmony and doubling
programs.

It is designed to be used in con-
junction with a MIDI keyboard or
sequence and includes a Studio
Ware control panel for CakeWalk
6.0 Pro Audio. I/P6 includes an
anologue compressor, 4-band EQ
with sweep mids and an
adjustable notch filter.

Effects provided include auto-
waah, chorus, detune, flanger,
noise gate, phaser, pitch shifting,
reverb and tremelo. A choice of
valve 12AX7 or solid state preamps
is offered.

DigiTech Studio 524

First Among EQualisers
The LA Audio digEQ combines the fidelity of 24bit audio with a level of ergonomic access and control, superior to any programmable processors currently available; providing a simple to use, total
testing solution for stand-alone or networked sound re-inforcement applications.

Simultaneous dual channel graphic and parametric equalisation; compression/ limiting and gating

Instant: Access Interface; single key operation and on-the-fly adjustment of all principal parameters.

24 bit DSP, high-quality proprietary algorithms, optional digital I/O, digital delay in RTA plug-in cards

Optional wireless remote control with on-board identical control system. Slave units allow
powerful multi-channel configurations from single mixer unit.

Reader Response No. 037
Euphonix multitrack recorder

Euphonix unveiled the R1 multitrack digital recorder at the last AES convention. The recorder is expected to start shipping in the first quarter of next year for around $25,000 US for a 24-track system with MADI interface and remote control. The system claims 24-bit conversion and storage combined with 40-point floating point SHARC-DSP optimised for 9Gb hard disks. Features include cut and paste editing, nondestructive recording, a modular, scaleable and open architecture and FireWire and MADI interfaces.

Tascam cassette deck and CD-R

Tascam has announced the 130 cassette deck offering 3-heads, 10% pitch control, Dolby B/C and HK Pro in a 3U-high rackmount. Connectors are unbalanced and the machine features automatic tape selection, auto monitoring and timer record and playback. Tascam is to introduce the CD-RW5000 Compact Disc Recorder with the ability to read and write to CD-R, CD-RW, CD-R-DA and CD-RW-DA. Other features include XLR and phone connectors, an AES-EBU digital input, SPDIF coaxial and optical digital I/O, a Sync Start function, auto or manual track increment capability, a sample-rate converter, an erase function and parallel control I/O capability.

Quantegy GP9

Quantegy has introduced GP9 Grand Master Platinum analogue mastering in response to requests for tape that is "fatter, hotter and clearer" according to the company. GP9 boasts extended high and low frequency response, higher pigment to binder ratio, improved calendaring and optical flexibility. The metal reel that houses the tape has thicker flanges, a solid back flange and is coloured red. The tape is available in TapeCare box or standard Tyvek. The company has also released recordable MiniDisc media and claims its CD-R media is the most archivably stable available due it commitment to using gold.

Reporter's portable

Flashman is a simple-to-use portable digital MPEG and linear audio recorder for reporters. The solid-state-recorder uses CompactFlash Cards. A 48Mb card gives more than 1.5 hours of mono audio in MP3 format. 96Mb cards have been announced for the beginning of 1999 and a continuous increase of this media is expected. Cards can be removed and inserted in a notebook or PC for instant editing and transmission. The recording formats cover MPEG L2 and L3 as well as linear. Flashman provides recording and playback in stereo and mono, allows marks to be set during recording and playback and has an additional serial interface for transfer to PC. Battery life is more than five hours.

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DN-C630 CompactDisc Player

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Features GPI + fader start, cue to audio, instant start, balanced XLRs, digital output.
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Reader Response No. 038
Otari offers short-run copying for CD

Otari's CDP50 CD duplicator is aimed at short runs and requires no external PC and can continuously copy 50 CDs using pre-installed screen operated application software.

In auto mode, master CDs and blanks can be mixed in the copy stack and the machine automatically detects prerecorded material and will continue to copy blanks until it detects a new master allowing multiple small runs to be copied in one pass. Features include write verification, error disc detection and a separate reject disc magazine.

The machine supports CD-DA, CD-I, CD-Video, CD-ROM, CD-ROM XA, CD Plus, enhanced CD and Photo CD.

Expanding on the standalone Lightwinder LW10 system for PA use, the LW50 fibre optic wiring system is intended for uses where setups have to be changed rapidly and stored. It also supports video camera signals.

Fostex DAT upgrades

Fostex has announced that its D15 DAT machine and Version 1.12 software is now compatible with Avid systems to give an inexpensive way to put an EDL call sheet of cues and cuts through the machine and batch digitise the data without the use of a 4-head postproduction timecode machine.

The company has also upgraded the software of the PD4 portable DAT machine to Version 2.30 at no cost to the owner. Off-tape confidence monitoring at the mixer is now possible and users have more user bit functions to work with plus additional jam sync capabilities.

TDK gears up for recordable DVD

TDK is ready for the introduction of recordable DVD with three recordable discs. DVD-R is a WORM disc with a potential capacity of 4.7GB, functioning much like a conventional CD-R but with a much finer tracking groove and more accurate laser mechanism requirements. The minimum pit size is reduced to 0.44μm with a track width of 0.8μm, both 50 to 60% smaller than on a standard CD.

DVD-RAM is the rewriteable equivalent for high capacity data storage, with two versions offering single-sided 2.6Gb and double-sided 5.2Gb capacities. These use the ‘land-and-groove’ method of recording, where data is recorded on both the troughs and the ridges of the tracking groove.

At this stage DVD-RAM discs will be housed in a cartridge similar to that of a conventional MO disc as a protective measure, although both types are eventually expected to operate bare like current CD-Rs.

Dupe CD and cassette

Tascam is catering for duplication with a new low-priced CD duplicator, the CD-D4000 and the three-bay T-3000 4x speed cassette duplicator, a cascadable 4-track copier.

MediaFORM dupes all

MediaFORM has covered both ends of the small-run CD duplication market by simultaneously reducing the price of its CD-2701, a spindle-based 50-capacity automated device, and launching a new 3-CD duplicator, the CD2CD.

In its basic form this is a standalone copier capable of producing 3 CDs simultaneously without the need for a PC, and a four-bay cabinet can be added to increase the slave capacity to seven. PC connectivity also allows control from mastering software, and the Easi-DAT and Easi-Audio options allow external audio to be imported. A unique feature is Track Extraction, which allows tracks from various discs to be mixed and recorded.

Studer V-Twenty4

Studer has packaged together three of its V-Eight ADAT Type II machines into a 24-track system run by the Cockpit remote control and branded it as the V-Twenty4.

New C4AD plug-ins for the D19m modular audio converter system allow it to operate at 24-bit A-D with the C4DA returning the same bit length signal back to analogue. The new remote preamp for the D19m rack allows 1DB gain adjustment with phantom power, filter, mute and limiter under serial control.

Meanwhile, Version 1.1 software for the D150 desk adds VCA-style control grouping of all functions, dithering capability on any selected output, full copying of module parameters to other modules and the saving and loading of multiple channel strips.
The Studer V-Eight is an 8 channel 20 bit digital recorder based on the ADAT™ type II format, using S-VHS cassettes. The V-Eight is 100% compatible to all current ADAT formats with over 100'000 units sold. The professional design and reliability will give you a cost effective, faithful workhorse for all professional audio recording applications. The V-Eight features a professional S-VHS Tape Drive for extremely fast and gentle tape handling which leads to substantial time savings. The V-Eight also has the convenience of an integrated TC generator and chase synchroniser. Unique features are: 24 bit Studer converters based on the legendary D-827 DASH recorder technology, to improve the sound of your recordings and an On-board 9 channel monitor mixer to make live recordings without a mixing console.
Preformatted ADAT
Emtec has introduced a preformatted BASF ADAT Master tape which eliminates the real-time formatting process previously required prior to sessions. According to the company this accounts for some one million hours of studio time. The tape is available in 40 and 60-minute versions for Type I ADAT machines with a Type II 20-bit preformatted tape expected in early 1999.

Emtec 536

Neato Christmas time
Neato’s established CD-labeling system goes glossy for Christmas with new photo quality labels to complement the existing kit. The new pressure sensitive die-cut gloss labels are suitable for printing on virtually any laser or colour inkjet printer and can be designed with Neato’s Media Face design software.

Neato 536

MediaForm CD printers
The MediaForm CDP CP2 inkjet printer offers 1440 x 720 dpi printing and is compatible with Windows and Mac systems complete with templates for the most popular desktop publishing packages. The Perfect Image CDP-TTI printer uses low cost thermal transfer technology and will print a CD in 15 seconds. A ribbon saver feature extends ribbon life if printing does not occupy the full CD. Thermal transfer allows printing directly onto a standard CD-ROM surface without special printable surface CDs or adhesive labels.

Magellan Group 537

Reference cassette from BASF
The BASF Reference II Master audio cassette is described as a state of the art product in the chrome class with outstanding output in the high frequency range. Output levels at low and high frequencies are around 3.5dB above those of the IEC reference tape while overall dynamics are 7.5dB higher. Other features include a high-precision shell with a separate sound head and an Anti Stick Slip Pad.

Emtec 538

Improved TDK CD
TDK has improved its professional CD recording media with the introduction of the CD-R Studio Reflex disc.

Suitable for high speed duplication the discs are optimised for improved performance at real-time recording speeds. Extremely low error rates are claimed along with virtual elimination of the digital noise caused by the ‘pit jitter’ of poorly recorded discs. The discs incorporate a tough ultra-pure resin coating that seals and protects them from excess heat and moisture resulting in a claimed life expectancy of more than 100 years.

Smaller batch test sizes are now used and the labelling and information card have been redesigned.

TDK 539

The new STELLADAT II
• 2 and 4 tracks on tape
• 44,1/48/96kHz sampling rate
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Reader Response No. 042
Spoilt for choice with Tascam's digital range

Tascam's MD-801R mkll MiniDisc machine is targeted at broadcast, DJs and sound contractors, and features a new rapid access drive, 20-bit convertors both ends, sample rate conversion on the digital input and separate monitor and main outputs for ease of cueing.

The CD-450 CD player has functions designed to integrate it into broadcast systems with a wealth of remote control options. Familiar ideas like Auto Cue and Auto Ready are joined by fader and event start, incremental play for programmed sequences, and an EOM (End of Message) function allowing the 450 to cue another machine when its current track finishes. The digital rubber line expands with the addition of the MMU-16 meter bridge, offering 16 channels of metering for either the MMR-8 recorder or the MMP-16 player. 

CD copying

Three new CD replication systems have been introduced by Microboards Technology. The biggest is an eight-bay replicator, the DSR 8800, with a 12x CD-ROM drive and seven CD-R drives. Up to seven drive slave units can be added, and there is a built-in upgrade for DVD duplication. The DSR 1000 family ranges from a 1-1 copier to a 1-3 configuration and supports CD-ROM, CD-DA, CD-I, Mixed Mode, Multisession and Video CD.

Smallest of the new series is the CopyWriter A2D, a one-drive 8x read/4x write machine with an internal 2.1GB hard drive. Unusually, this has built-in A-D conversion to allow audio in various formats to be imported to the system and re-converted with an external Cue Sheet utility.

MARANTZ MD portable records and edits

PM650 is a professional portable MiniDisc recorder with editing facilities. This includes a backup of the TOC written at the beginning of every recording, so that data can still be retrieved in the event of power failure.

An audio cache memory of up to two seconds can be used to overcome errors in manual recording but can also be used in conjunction with the level sync recording function. This automatically activates record when the level passes a pre-determined level. Automatic noise cancellation is a filter for minimising background noise when using a microphone. Dual recording modes allow 74 minutes stereo or 148 minutes mono recording.

The lightweight casing of the PM650 is strengthened ABS with all audio connectors on metal brackets to prevent contact problems with the PCBs. 1-Os include balanced XLR mic with 48V phantom power, plus digital I-O with sample rate convertor.

Editing functions include divide, combine, move, erase and title. A backup button jumps back five seconds while the machine is in play mode.

MASTER'S TOOLS

EQ1: Digital Parametric Equalizer (96kHz optional)

Highly parametric with 12 touch sensitive knobs: low gain, shelving, switchable to peaking, hi/low shelf, hi/low cut, each spanning a 16Hz to 20kHz frequency range, frequency response display, fully MIDI controllable, 128 snapshots, extremely low noise filter architecture, 40 bit floating point processing, 24 bit AES/EBU Input/Output with switchable dithering, peak meter, excellent price/performance ratio: "Outperforming the best analogue equalizers"

DS1: Digital De-Esser / Compressor / Limiter

Highly ergonomic with 12 touch sensitive knobs: lowpass/bandpass/highpass switchable linear phase crossover filter with crossover frequencies between 300Hz and 20kHz, fully MIDI controllable, 128 snapshots, 40 bit floating point processing, 24 bit AES/EBU Input/Output with switchable dithering, compressor input/output metering, gain reduction metering, static transfer function display, variable soft knee, programme dependent release, oversampling sidechain, automatic gain multiplier, peak meter, monitor feature for "compressed band only", excellent price/performance ratio: "The best De-Esser / Compressor"
**HHB speakers**

HB has launched its own Circle 5 studio monitors. The active 2-ways employ an 8-inch bass driver, the cone thickness of which is varied across its diameter, which is mated to an aluminium voice coil. The tweeter is a fluid-cooled soft dome. The monitor is powered by an amp pack that delivers 129W to the woofer and 60V to the tweeter.

---

**Quested debuts passive 3-way**

Quested has launched the UD1 3-way passive monitor with dual proprietary 200mm bass driver, a 75mm mid-range and 28mm soft dome tweeter.

The speakers have their own integral stands with all drivers housed in individual chambers. The crossovers use polypropylene capacitors and air-cooled inductors and triple gold-plated binding posts permit multi-amping.

The QSB118 18-inch sub-bass cabinet is designed to complement the HQ210 active system and is powered by an AP700 amp. The driver is double-cooled using a vented pole piece and an external radial chassis.

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**Genelec lower-price 3-way active**

Genelec has launched the 1034B, a lower-priced three-way Active Monitoring System. It is designed for large control rooms and is loaded with a combination of two 12-inch low-frequency drivers, a 5-inch mid, and a 1-inch high-frequency tweeter assembly.

Claimed SPLs are in excess of 125dB at 1m while the vented configuration of the low-frequency drivers extends frequency response down to 28 Hz. DCW technology is incorporated.

The system is completely self-powered and complete with internal crossover, room response equalisers and tri-amplifier assemblies. Bass, midrange and treble amplifiers each produce 2 x 400W, 350W and 120W of short-term power respectively.

---

**Monitors and sub from M-Tech**

M-Tech has introduced four new products. The 2-way PM30 is designed for medium to large rooms while the 2-way PM15 for small to medium rooms. The PM570 subwoofer is designed to integrate with the aforementioned and extends response to below 20Hz and employs an 8-inch x 12-inch elliptical long-throw driver. Input to the internal 100W amp and adjustable crossover is by phono or XLR.

Additionally a 2U rack-mount monitor is available in active or passive versions with an equalised frequency response and magnetic shielding.

**Alesis M1 Active**

The M1 Active is a bi-amplified nearfield monitor. The carbon fibre coned 6.5 inch woofer is powered with a 75W amplifier and the one-inch tweeter has a 25W amplifier. Alesis says the woofer material is lighter than polypropylene, allowing for better transient response and greater detail in critical mid range areas. A pure silk dome is used for the tweeter, which Alesis claims offers a natural response.

Supplied as a mirrored pair for vertical or horizontal mounting, the M1 Actives have a stated frequency response of 38Hz - 23.5kHz (-10dB point).

---

**FAR imitates TV**

FAR now offers 'television speaker limitation' on its AV1 and AV5 active speakers following the analysis of the audio performance of more than 20 domestic TVs in an anechoic chamber. The results showed that certain frequencies are missing while others are boosted and the new switchable 'curve' on the monitors imitates this allowing engineers to mix while listening to what the end user will hear.

**Yamaha puts power into post and home**

Yamaha's new biamped powered monitor, the MSP5, is designed for a wide range of applications from home studios to postproduction. A custom 5-inch woofer and a 1-inch titanium tweeter are powered from separate amplifiers delivering a total of 67W, and full magnetic shielding allows use near video monitors.

---

**HD-1 goes THX**

Meyer Sound's HD-1 High Definition studio monitor, has been THX approved for use in the new THX Certification Program, THX PM3, which includes multi-channel mixing and monitoring rooms. The monitors were released in 1989.

**Low-pro PMC**

PMC has designed the new low-profile version of the IIS1 for 5.1 channel work with mirrored pairs of speakers and centre channel singles. Options give 1.5dB and 3dB cuts on the HF and a matching sub bass is available.
Genelec adds SPDIF
The company's first Digital Stereo Monitoring System, the Genelec 2029A 'master and slave' nearfield monitoring system is based on the 1029A two-way active monitor and supports the same modes of operation including incorporation into monitoring systems with a subwoofer. The system is designed to accept SPDIF or analogue audio inputs and the digital interface is built into one of the system's enclosures.

Stage Accompany
Stage Accompany's studio monitor series is expanded with a new ribbon-based design, the M 57.
Intended as a main monitor for recording and editing rooms, the M 57 uses the SA 8535M Ribbon Compact Driver for mid and highs, coupled with two 12-inch LF drivers specially treated to maintain performance with age. The use of the ribbon provides a linear response up to 20kHz, and is claimed to give precise stereo imaging without colouration to avoid listening fatigue. Single or bi-amping is accommodated and the system has a maximum input capacity of 1000W.

Westlake monitors
The 3-way bookshelf LC3W10 monitor from Westlake (top) has extensive dampening, an integrated passive crossover and a claimed high output. The speaker contains a 10-inch polypropylene woofer, 5-inch midrange and 0.75-inch tweeter with an 80W power handling capacity and sensitivity of 88dB@1m for 2.83V input. Frequency response is claimed as 42Hz-20kHz.
Westlake has also announced the LC265.1 centre channel speaker (above) driver by dual 6.5-inch woofers, 5-inch coaxial mid and 1-inch tweeter.

ATC launches sub for surround
The 5.1 surround mixing environment can now benefit from ATC technology in the often-neglected area of the ELI sub-bass channel. The new SCM0.1/1S high power sub bass enclosure uses ATC's established Saper Linear driver technology to produce SPLs up to 124dB with a response down to 18Hz within 6dB.
It uses a robust 15-inch driver and a built in amplifier with a peak programme capability of 1000W, housed in a 2-foot cube. The SL technology uses non-conducting materials around the voice coil to eliminate eddy currents, and is said to improve third harmonic distortion by as much as 15dB. This is of particular relevance in this application as it avoids the addition of higher harmonics that would identify the sub bass radiation within the surround field.

Munro Associates with THX
The M3F dubbing monitor system has received THX approval. The system uses digitally controlled, active three-way enclosures, which are 400mm deep to allow mounting behind projection screens. The manufacturer states that it is also possible to configure a five-speaker front wall within three metres width and one and a half metres height.
According to Munro, the THD figure of less than 1% is achieved through a combination of dual bass and mid drivers, plus a 'soft horn' driver for the upper frequencies. The supplied digital controller includes presets for all standard reference curves and a screen compensation filter as part of 'an almost infinite' number of possible settings. Systems can be supplied in any configuration from mono to 7.1.
A 5.1 system is supplied with 11 channels of amplification, producing a combined sound level of more than 130dB at 100Hz in a room of up to 500 cubic metres. Each system is installed and equalised using the MLSSA acoustic measurement system and THX R2 theatre spectrum analyser.

JBL offers whack for bottom
The need for a low-frequency monitor for surround work has a new contender in the form of the JBL LSR12P.
The powered subwoofer uses JBL's Differential Drive technology, which has two voice coils in each driver wired 180 degrees out of phase to double the power handling. This is combined with a direct radiator approach rather than the band-pass approach used by other systems, and lightweight Neodymium transducer technology with JBL's Linear Dynamic Aperture design. The result is said to be exceptionally well-defined bass and unusually high power levels with very low distortion.
A special feature is the multi-input capability, allowing sub-channel frequencies to be derived from either the LCR channels or a completely discrete source. This is to help accommodate the changing needs between matrixed and discrete surround mixing, and there is an auto patching mode allowing remote switching of the input source.

Hafler makes smaller monitors
Based on the larger and established TRM8 monitor, Hafler's new TRM62-way, braced active speaker is being offered at $1399 a pair.
The monitor is magnetically shielded and based on Hafler Diamond series amp technology with a claimed free-field response of 55Hz-21kHz +/−2dB.
The speaker incorporates a 1-inch soft dome tweeter and 5.5-inch polypropylene woofer. The front panel has power, clip and thermal LED indicators while the rear houses XLR and phone inputs with DIP switching of balanced operation, input sensitivity, tweeter/woofer muting, and bass and treble shelving.
The model is complemented by the TRM105 powered subwoofer using a 10-inch driver.

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The awesome HM415 is the top of the range 4-way active system weighing 268kg (590lbs). The cabinet houses four 380mm (15") bass drivers, a unique 170mm (7") rigid PVC foam domed low mid and custom soft dome high mid and tweeter. The power is provided by 5 Quested AP700 amplifiers which are capable of producing over 5,000 watts rms. The result is a system that produces an SPL of well over 130dB, capable of stunning transients, is flat down to 25Hz and is suitable for the largest control rooms.

But, in our wisdom we offer Quested pure sound right across the range, all the way down to the F11. Whilst the F11 may seem meagre alongside the HM415, compare it with other similar sized powered speakers then you will see its 11kgs (24lbs) starts to look impressive as does its 150 watts rms, then go further, listen, and really be impressed.

So clear your mind, meditate no longer. Call us now on +44 (0) 181 566 2488 and you will be fulfilled.

Reader Response No. 045
EAW's active 3-way
A new active three-way system, the KF400A enclosure houses 15-inch, eight-inch and 1.4-inch exit drivers, as well as Class H Mosfet amplification for each driver. According to the manufacturer, the mathematically correct midrange horn flare and superior phase plug make for an open and clean sound more like a direct radiator but with tight pattern control. Housed in a Baltic birch cabinet, the system weighs 163lbs, has a nominal coverage pattern of 65x45° and a quoted frequency response of 62Hz-20kHz. Long term maximum output is said to be 122dB, with peaks of 126dB. The cabinet is fitted with three 3-position flytracks, with flying hardware and caster pallet available as options.

SoundTech adds six
Six models have been added to the Titan series of sound reinforcement enclosures, of which all but the R28 dual 18-inch sub woofer are in trapezoidal enclosures. There are three two-way systems loaded with 10-inch, 15-inch or dual 15-inch bass units, plus two subwoofers loaded with 18-inch and dual 18-inch drivers. The new models carry a plus designation, indicating the use of four-inch voice coils on the cone drivers. The T5+ and T25+ are loaded with large format horns and a two-inch compression driver, as well as the uprated 15-inch units. SoundTech also recently introduced a self-contained, tri-amplified sound reinforcement system and a portable PA setup aimed at smaller users.

ARX updates the PowerMax3
ARX systems has released an updated version of its PowerMax3 full range processor-controlled monitor loudspeaker system. The cabinet remains the same, allowing long throw, nearfield and sidewall applications, but the drivers are both new. Low frequencies are handled by an upgraded 12-inch driver with increased low frequency output and power handling, while HF has a new Ferrofluid-cooled 1-inch throat aluminium diaphragm compression driver loaded on to a 90x75°-degree constant directivity horn. The crossover is a phased aligned 24dB design using high tolerance passive components.

Sound Music
The AC Pro series of enclosures from Sound Music Products comprises two trapezoidal cabinets with bow fronts, steel grilles and carpet covering. Integral hardware includes stand adapters. ACPI110 has a quoted frequency response of 50Hz-20kHz, a power handling of 250V RMS, and sensitivity 102dB at 1W/1m. The AC112 bass unit has a quoted frequency response of 40Hz-300Hz, a power handling of 300W RMS, and a sensitivity of 98dB at 1W/1m. A high pass crossover is included.

SA Performer
The basic system configuration consists of four P29 top cabinets loaded with SA's air cooled 8535 ribbon compact driver and double SA 15-inch midrange. Four SB45 sub cabinets each contain triple long-exursion SA 15s. The two PR2 amp racks house two PPA1200 power amplifier system controllers each. These are digitally processed amplifiers operating under dedicated software with Dynamic Damping Control, Auto Energy Control and SA-Net. SA claims its DDC design makes for very high damping and therefore a tight and accurate speaker response. Cables, wheel dollies and fly-ware are also included.

SA Performer

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Reader Response No. 048
Accurate monitoring used to be expensive. Not any more. Available in both active and passive versions, the new HHB Circle 5 incorporates a number of unique breakthroughs in loudspeaker technology to create a compact, high performance studio monitor that’s ideal for use in a wide range of professional applications. An investment of £150,000 in research and development has produced a loudspeaker of exceptional clarity, with a sound that doesn’t fatigue the listener, even after a long session.

So if you’re looking for a great sounding studio monitor, listen to the Circle 5 at your nearest HHB dealer and prepare to be impressed. Then ask the price and prepare to be amazed.

- Varied cone thickness minimises low frequency distortion
- Low Q filters deliver an untiring sound during long listening sessions
- Detailed and accurate on and off axis sound
- 120W LF / 70W HF integral amplifier pack (active version)
- Delivers 'large monitor' performance from a compact loudspeaker
- Individually tested and matched ferro-fluid cooled soft dome tweeters
- Magnetically shielded for use near computer and video monitors
- Solid State Polyswitch® tweeter overload protection
Peavey Electronics
An addition to the Impulse range of enclosures, the 200 Sub has a special venting system which the manufacturer claims allows for more low end than would be expected from a compact unit loaded with a 12-inch driver. Both the polypropylene enclosure and speaker unit are said to be weather resistant, and the driver basket assembly is field-replaceable. Mounting points are fitted to the top and bottom of the cabinet, which is also fitted with Jack and Speakon connectors.

Electro-Voice
EVI-25 is an enclosure which combines a small format Vari Intense horn with two 8-inch cone drivers. The system is said to deliver a stronger signal to the back of the room and thereby eliminate the need for a combination of long and short throw horns. Available in black or white, the enclosures have a frequency response quoted as 62Hz-25kHz, with 200W continuous power handling and a peak output of 123dB.

Outdoor Community gets WET
Community has introduced its WET series of loudspeakers, designed to withstand extreme long term environmental conditions while delivering the kind of sound quality expected from indoor enclosures. The vital element is a heavy-duty one-piece hand-laminated all-fibreglass enclosure that is said to be completely impervious to weather and the effects of UV radiation. Community says these far outstrip laminated wood, rotomoulded and injection moulded enclosures for strength, rigidity and long-term durability.

Three-layer Weather-Stop grilles prevent water intrusion and a one-piece fibreglass baffle secured with stainless steel fittings and a rubber gasket completes the picture.

Drivers have diaphragms made of advanced carbon fibre, mylar and polyimide materials, and Ferrofluid is used not just for the usual purposes but also to prevent corrosion in the voice coil gap. The first model is the WET226, with two 8-inch carbon fibre cone LF drivers and a new 1-inch compression driver coaxially mounted with the upper LF driver and fitted with a rotatable horn.

Electro-Voice
New from EV are installation speakers and upgraded horns. New versions of the Sx300 and Sx500 enclosures for installation use are suffixed 'PI'. Rated at 300W and 500W respectively, the systems have integral 100V line transformers and weather-resistant stainless steel grilles. According to the UK importer, the new grilles also make the units visually less obtrusive and therefore more suited to the installation market. An upgrade kit is available to owners who do not need weatherproofed enclosures but would like to adopt the more subtle look.

Upgraded versions of the EV MH4020 form an MH Stadium Horns series, with four new models. The new designs employ EV's Ring Mode Decoupling system, said to eliminate unwanted resonances for greater clarity over long distances. MH4020A is a straightforward RMD enhanced version of the original horn, MH4020N provides an extra 3dB above 5kHz, while the MH4020AC and MH4020NC add a coaxially mounted 4x40 1HF horn, with 150W power capacity in the HF range for the 'NC' version.
Welcome to an oasis of real satisfaction, where your thirst for the Whole Truth and Nothing But the Truth will finally be quenched.

For Nearly 20 years we've been known for our active monitoring systems, particularly our compact, nearfield bi-amplified ones. But outside the nearfield, where the heat really gets turned up, Genelec’s S30C, 1037B and 1038A integrated tri-amp* active monitors are designed for bigger spaces - mucho grande.

*Amplifier modules may be rack-mounted in any soffitt installation.
Master Europe offers 3-way

The Promann PC312 is a three-way sound reinforcement enclosure which can be used individually or flown in clusters for broader dispersion and increased SPL. The manufacturer states that, with a frequency response of 50Hz-20kHz, the PC312 is suitable for use as a standalone. In addition, it can be used in active or passive mode with a choice of amplifier arrangements.

The PC312 is loaded with Eminence drivers comprising 12.2-inch bass unit, 6.7-inch mid and a 3T-inch compression driver.

Master Europe 582

Cerwin-Vega

The SL-36 18-inch bass horn has greater power handling and lower frequency response. The 18-inch driver is a new, high excursion design with longer voice coil and improved mechanical suspension. An aluminium chamber is fitted with a stainless steel bar handle.

Cerwin-Vega 583

Radian coxials

The RCX-122PV and RCX 108PV from Radian are arrayable enclosures based on a two-way 12-inch and eight-inch coaxial driver respectively. The larger system is rated at 600W continuous power while the smaller is said to provide 400W panel for the woofer acts as a heat sink and is said to help prevent power compression.

A proprietary throat exit design is said to allow for more uniform loading of the woofer. The standard jack connectors are now supplemented with Neutrik Speakon connectors and the enclosure is provided with a stainless steel bar handle.

Radian 584

Roland wedge

The compact SSM-151 floor monitor is loaded with a 12-inch cone driver and a horn tweeter. Average power handling is said to be 150W for the enclosure, which is aimed at small to medium sized venues and can be mounted at 35 or 55 degrees. Standard inclusions are Speakon connectors and heat sink protection.

Roland 585

HK Audio fill

L P 115M is a new stage monitor, which forms part of the Linear Pro PA range. It is apparently equipped with a custom designed 15 inch bass speaker and a revolutionary BMS DC-1 one-inch driver with a 60x40 square horn. This is said to minimise distortion and allow for a substantially lower crossover frequency. The enclosure has a power rating of 400W and is fitted with two Speakon connectors. The cabinet can be set to two different angles on stage and an integral stand adapter allows for use as a sidefill or FOH reinforcement. A flying version is also available.

HK Audio 586
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Reader Response No. 052
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