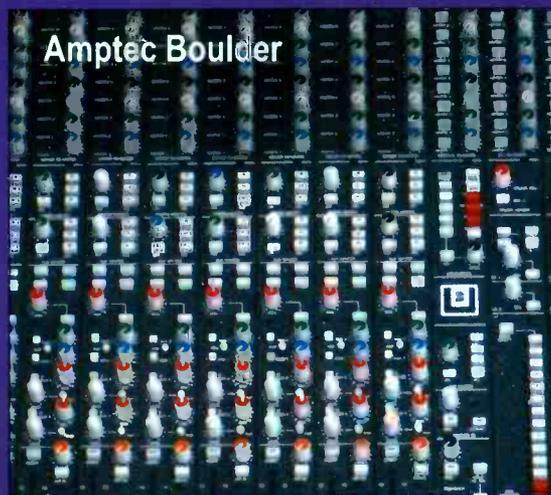


# What's new in Pro Audio

THE GUIDE TO THE LATEST PRODUCTS AND EQUIPMENT

ISSUE No4 July 1998



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# Double DAT

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program material (deck 1 can digitally record while deck 2 transfers separate programme material to an external device); also simultaneous record capability

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- Digital and analogue cascade outputs available in multiple unit operation, with external control I/O capability

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- Normal and high speed digital dubbing (including ABS time, subcode and PCM data), with Program and Append dubbing (from any position on the master tape) modes; duplication possible with multiple units
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- comprehensive FL display for both decks with error rate and total running time display, Copy ID selection and input signal Peak hold function
- Remote control, synchro cable and optional balanced analogue I/O converter kit accessories available

# Futurecasting

**Y**ou have to be very careful about whose opinion you choose to canvass when attempting to forecast the fate of this industry as there are threads of thought that I would consider to be misleading and ill-informed.

There are those who will tell you we are on the precipice of a major geological shift in which the equipment that exists now will be banished to the land that time forgot in favour of a new order. This new order, which incidentally has been threatening for some time, is the challenge of the all-powerful host computer with its all-encompassing digital environment and the proliferation of the plug-in substitutes for real-world hardware.

The same people will tell you that the plug-in writers and programmers are the small pro audio manufacturers of tomorrow; that the incessant drive downwards in price will make this approach irresistible to users causing a dramatic drop in demand for the real stuff which in turn will decimate the traditional pro audio manufacturing base.

No matter how much walnut you strip in to a VW Golf, how much sound proofing you include to isolate me from its engine or how much you make of the MPG, the performance and the overall value for money, I still want a Jaguar.

What these radical thinkers conveniently fail to admit — or choose not to as it clearly reveals the direction in which they intend to go, with the money and not with the need — is that the pro audio user community is not large. While it can certainly be influenced by mass technological changes, its requirements remain unique in enough aspects for it to require special attention.

The revolutionaries think that the availability of something at a cheaper price and in a different form is sufficient in itself to change the way everything is done. This is about as daft as correlating the increased sales of computer cricket games with an inevitable change in the fortunes of the English cricket team against its traditional adversaries.

The fate is still decided by a man walking out there with a piece of wood in his hand and commercial productions for music, post and broadcast still require someone near the top of their audio profession to

make it all happen.

It is dangerous for marketing types in this industry — who for the majority are not practitioners — to be seduced by the impact of the computer in the rest of the world and then apply this to professional audio environments. For starters, we've been using them for a long time and the mystery and potential has largely been revealed. More importantly audio's demands on computing, particularly with regard to networking and real-time, puts it at the very forefront of the technology. We are already up to are necks in computers and their promise lies in providing real high power solutions and not just replacements.

I for one remember when we were being spun the line that it was possible to record edit and mix on a DAW using only a mouse whereas now the rush for hardware controllers is unmistakable. I've also appreciated the operational downsides of plug-ins vis a vis proper outboard and can remember when turgid assignability was heralded as the only way forward to harness the enormous power of digital desks.

We mustn't misinterpret the computer-oriented results of the economic pressures that manufacturers are under as an indication of what the market wants.

Manufacturers may be solving their own problems and not necessarily yours.

People get real.

Zenon Schoepe,  
Executive  
Editor

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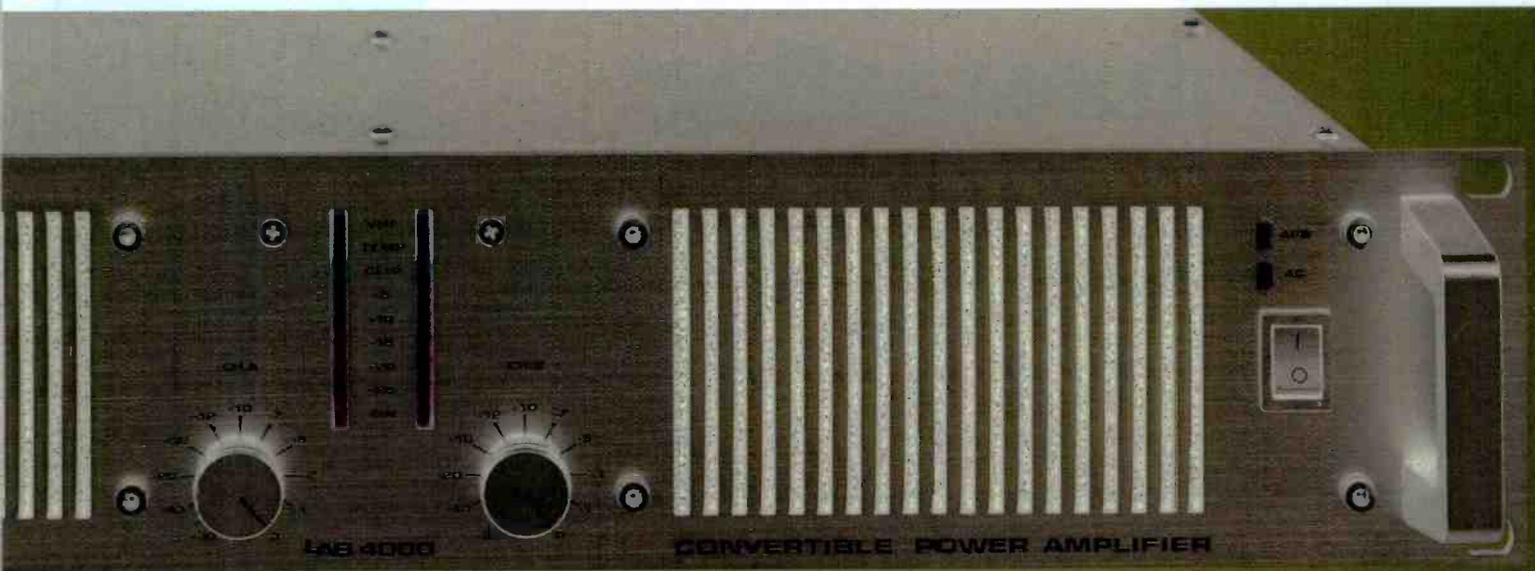
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Tel: +46 300 168 23. Fax: +46 300 142 46

Mode of Operation	Power/Impedance	
	Ch.A	Ch.B
Conventional mode	1300/8	1300/8
	2100/4	2100/4
	3200/2	3200/2
High voltage mode	102 Vrms	102 Vrms
	1300/8	1300/8
	650/16	650/16
Load matching	1300/8	1320/4
	2100/4	2200/2
	820/8	840/4
Power sharing	3200/2	1600/2
	3200/2	2100/4
	3200/2	1300/8
Limited power	1600/2	520/8
	2200/2	820/8
	1320/4	1320/4
	820/8	520/8
Bi-amp mode	3200/2	2200/4
	2100/4	1300/8
	1300/8	650/16
	2100/4	840/4

Reader Response No. 003



## Energy efficient amps

Three amps in Yamaha's Energy Efficient Engine range are the P1600, P3200 and P4500 offering 230W, 520W and 720W per channel into 4 Ohms respectively. The company claims the models require around half the input power of traditional designs to achieve the same output power. Three output modes embrace normal stereo, parallel and bridged mono. All models have power-on

muting, quiet variable-speed cooling fans, noise filtering, PC limiter for short circuit protection and an attenuator security cover to protect level settings.

Input attenuators are 31-position and dB calibrated while balanced XLR, standard jacks and a barrier strip handle inputs connection. Speaker connection is via 5-way binding posts.

**Yamaha 100**

## Outline

The main selling point of the T2.5 Twin Pulse power amplifiers is that they offer exceptionally high output from a compact design. The 1U device produces 450W per channel into 8 Ohm, rising to 1,400W per channel into 2 Ohm, according to the manufacturers specification. Other specifications include power bandwidth of 2Hz-80kHz, THD 0.5% from 0.1W to maximum power (typical 0.01%), S/N 97dBA

and a slew rate of 50V/sec. The manufacturer states that the design is totally digital.

Genius 5 is a DSP controller designed for Outline loudspeaker systems. A two input, five output system, it incorporates electronic crossover, parametric equaliser, delay and multiband limiter. It can also be configured for two-way stereo operation with an additional mono subwoofer.

**Outline 101**

## Six-channel amp

The CP660 6-channel power amp from Crown provides independent channels in 2U of rack space. With 75W output per channel it is suitable for surround applications as well as paging, zone and background music applications. Pairs of channels can be bridged for double the power.

Controls and connectors are mounted on the rear panel and a quiet variable speed fan provides cooling.

Crown IQ for Windows 3.0 features enhanced custom controls that allow the user to create control panels designed specifically for each application. The upgrade allows scheduling of dataframes and scenes and for those who want hands-on control it offers a Scenes sequencer to choreograph a series of complex events.

Crown has added an Administrator Password for global access. IQ for Windows 3.0 expands on Crown's IQ NET with the introduction of a Chat Utility which allows users to communicate with all others on their local IQNET.

**Crown 102**

## Adastra

Designed for a range of installations from retail outlets to clubs, the A75 PA Centre combines a 75W amplifier with AM/FM tuner, auto-reverse cassette deck and inputs for two microphones plus CD/auxiliary and telephone. Priority override is fitted to the mic 1 input and telephone input.

The unit will operate from mains power or 12V DC. To assist continuity of operation, Adastra offers a low cost replacement cassette transport module on 24 hour delivery time.

**Adastra 103**

## Adam Hall

The CD-6 voice alarm and background loudspeaker is designed to meet BS5839 Part 8 standards. The steel cabinet and internal components are fire resistant, giving the maximum operating time in an emergency. The cabinet may be mounted in a number of ways and combines tamper proof fittings with a mesh grille to protect the speaker cone from vandalism. The 100V system has a power rating of 6W and is said to have a maximum SPL of 100dBA.

**Adam Hall 104**

## Exicon

New 250V DC, 8A power Mosfets allow audio amplifiers 1,750W per channel into a 4R Ohm load, or more than 3kW in bridged mode. The devices are also said to feature fast slew rate, low distortion and no secondary breakdown or thermal runaway. Other advantages are said to include wide bandwidth, low drive requirements and ease of paralleling. Models are ECF10N25 for the N-channel version and ECF10P25 for the P-channel type.

**Profusion 105**

## Nagra

The PLP-P Class A vacuum tube preamplifier is aimed at the upper end of the hi-fi market. It incorporates a power supply which charges a Ni-Cad battery, so that the audio electronics are fed only with pure DC, not directly from the mains. The system also incorporates a custom designed phono stage, with transformers made for low noise and the widest possible dynamic range.

**Nagra 106**

## ARX Systems

AmbiDrive is a three channel power amplifier which also includes electronic crossover, loudspeaker processing and mono sub circuitry. Rated at 160WRMS from the two main channels and 200W from the sub woofer channel (4 Ohm), the unit has XLR inputs and Speakon outputs. It comes in a 2U rackmount.

**ARX 107**

## Cloud

The latest zoning product from Cloud Electronics is the Matrix 4 mixer and amplifier. It provides four microphone inputs with paging and two line inputs with source select. These are routed to four zones. The amplification module is optional and is available in a choice of low impedance or 100V output.

**Cloud 108**

## Rane

CP31 has two programme inputs and mic/line page inputs, with independently adjustable ducking for the two output zones. It also has an expand output, allowing it to feed page or programme audio to other Rane units.

**Rane 109**

## Electro-Voice

AP2200 and AP2400 are 2U power amplifiers producing 100W and 200W per channel respectively. They are available with a range of plug-in processor modules which can be linked to multiple amplifiers to reduce system costs. The units are compatible with the InterActive Technology SuperVisor network standard and will operate at 8 Ohms, 4 Ohms and 70.7V.

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### UK amps

The UK Power Series of power amps from Matrix Audio Developments are targeted at fixed installations and mobile use and are housed in shallow rackmounts.

Two-speed thermistor controlled fans, short circuit protection, DC sensing active clip limiter and output relays are standard.

The range is complemented by the M series amplifiers with outputs of up to 400W.

**Matrix 115**

### Chevin Research

Delivering 2,500W per channel into 2 Ohms, the new A5000 is a 4U amplifier weighing 25kg. The manufacturer has also shown a prototype of D1600, an amplifier delivering 600W per channel into 2 Ohms in a 2U package weighing 7kg.

**Chevin 116**

### QSC PLX

QSC's PLX series of amps use PowerWave switching power supplies and are said to combine the performance of the company's PowerLight series with the value of the MX series. Four initial models are being shipped delivering 500W, 800W, 1000W and 1500W into 2 Ohms. Proportional response clip limiters optimise limiting based on programme material to preserve dynamics and user selectable low-frequency filters increase useable power and protect speakers. Features include Speakon and touch-proof binding post outputs and LED indicators for major functions.

**QSC 117**

the linear phase said to give a current stereo signature series of cans have the dia of cabinets made sh alone a materi- quation. The use not a gimmick

**gear from Santa Fe**

11/8 apply to a 5 The 16 user memo- with settings

**Rapid response works!**

application, each enclo- sure apparently takes a number of days to man- ufacture and the finished systems are computer checked.

Scripture One has a quoted frequency response of 80Hz-20kHz, while Scripture Two has a fre-

20kHz. Both are two way systems with bass drivers of 142/190mm and a 60- 80 dB dome tweeter.

The latest addition to the Digital Genesis range includes the D1600 and D1602/D1604. The D1600 is a 2U rack mount digital amp. The D1602 and D1604 are 4U rack mount digital amps.

**Digital Genesis**



### ATC pro amp

The SPA2-200 Pro is ATC's first standalone professional amp and delivers 200W a side. Claimed attributes include ultra low distortion, momentary gain reduction circuitry and huge current reserves.

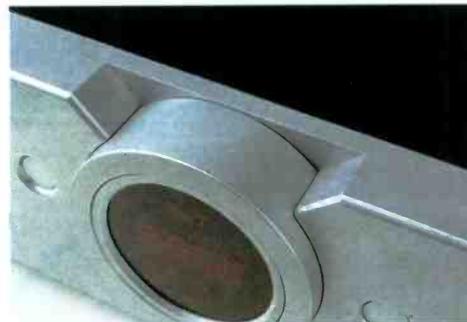
The output stage, built around three pairs of high current complementary Mosfet devices, is

configured as a transconductance, or current, output amplifier capable of more than 30 amps into the loudspeaker.

No ICs are in the signal path but microprocessors provide protection and indication of overdrive, over temperature, offset and RF.

**ATC 111**

### TACT Millennium digital amp



TACT has what it claims is the world's first true digital audio power amplifier. The TACT Millennium is not a conventional combination of D-A convertor and analogue amplification, but employs a PWM amplification stage. Among the benefits claimed

are efficiency approaching 90% and constant dynamic range regardless of volume control setting.

The Millennium is the result of a joint research project between Danish Toccata Technology and NAD Electronics, UK. The amplifier circuit is based on proprietary PCM-to-PWM EQUIBITTM technology. EQUIBITTM simplifies the signal path from the digital signal source to the speakers. A processor circuit controls the power output devices directly using digital pulses.

**Tact 112**

## Acoustic Sound Systems

Acoustic Sound Systems now has two controllers for its Reflekt sound reinforcement range. FX2010 is designed for the MX900 speaker system. It is configured for two-way, stereo operation, with an additional mono sub-bass equipped with an adjustable delay which will compensate for the equivalent of 4m distance. FX2020 is designed for use with the MX600 mid/hi enclosures and MX1200 bass cabinet. The unit is configured for four-way mono operation, with separate control of the sub-bass. Designed by ASS' Spanish distributor Audio Stage Design, the controllers are also fitted with multi-band limiters to increase power handling and protect drivers.

**Acoustic Sound 113**

## Australian Monitor

Specifically designed for driving induction loop systems, K-Series amplifiers are available in two versions. KLa1 is for driving small to medium sized systems of up to six amps peak, while the KLa2 is for driving loops up to 12 amps peak. The manufacturer points out that the constant current output of an amplifier driving an induction loop is a different requirement to the constant voltage type amplifier normally used to drive a loudspeaker. Australian Monitor claims that its amplifiers are designed to maintain a constant current and thereby overcome the often substantial phase shift associated with rising impedance in the loop as audio frequency rises.

**Australian Monitor 114**

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Model	Watts per channel *		
PLX	2Ω*	4Ω	8Ω
1202	600	325	200
1602	800	500	300
2402	1200	700	425
3002	1500	900	550

\*PowerLight™, \*PowerWave™, and \*Hear the Power of Technology™ are trademarks of QSC Audio Products, Inc. \*QSC and the QSC logo are registered with the U.S. Patent and Trademark Office. PowerLight Patents Pending. © QSC Audio Products, Inc., 1675 MacArthur Blvd., Costa Mesa, CA 92626 USA \* 20Hz-20kHz, 110V, 11.700



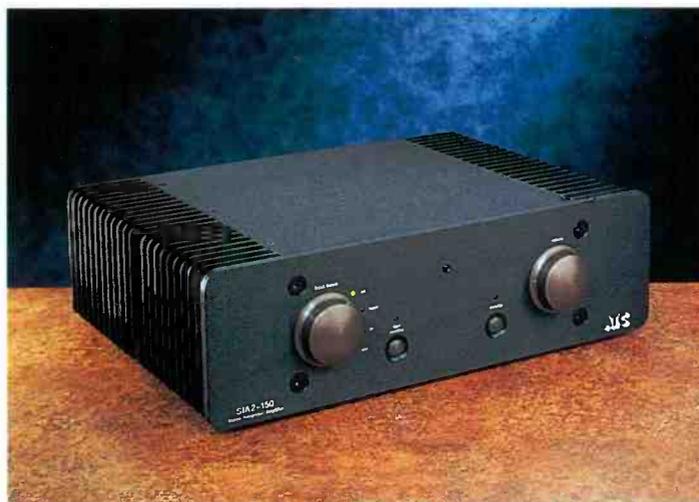
**Crown's cheapest**

Crown's CE series amps are described as its most affordable yet. The CE1000 and CE2000 produce 560W and 975W into 2 Ohms respectively and are said to guarantee 0.5% or less THD at rated power. Both models have fan-assisted cooling, front panel controls, signal present LEDs, a rear panel fault jack that permits remote monitoring of the fault light circuit, and a 3-year warranty.



Crown

118

**ATC amp**

ATC has a stereo amp in the SIA2-150 which combines a simplified preamp with essentially the same power amp as the SPA2-150. Output of well over 150W per channel with a current delivery of over 25A per channel and with operation well into Class A means the amp is robust. Massive heatsinks, a huge power transformer and a tough power supply combine with no spurious outputs greater than 90dB down. There is full microprocessor monitoring of all aspects of the output stage, overdrive, over temperature, offset and RF.

ATC

119

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Reader Response No. 007

**Amate amps and cabs**

Amate Electroacustica's DPU Series amps include the DPU-2K4 for a minimum output power of 1200W per channel and the DPU-3K6 which delivers 1800W per channel into 40ohms and 1000W per side into 80ohms. The amps weigh 17kg and 19kg respectively and are both 3U rack-mounts.

The manufacturer has included a mains filter and a circuit which protects the units from mains overload. Another feature is their switching double rail voltage power supplies which boast increased reliability and a 30% decrease in temperature.

A processing card for the company's MD systems includes EQ, phase adjustment and thermal power control.

Speaker systems from Amate include the latest generation of the PS and SW systems including the PS10, PS12, PS15, PSM15 and PSW18 - the last two being subwoofers.

Apart from new internal passive filters and optimised tuning, PS systems have trapezoidal edge shaped cabinets for floor monitor or flown applications. New horns integrated to the same enclosures claim a better frequency response on high band and a clearer response on the mid band.

On the Speaker Systems' range Amate has launched a full range system named MD-183 using a 1-inch driver in passive configuration with a 12-inch speaker for medium high frequencies, and an 18-inch subwoofer.

Amate

121

## Crystal

There are now chips available which support digital audio transmission and reception at 96kHz. Targeted at professional and the emergent DVD markets, the chips are believed to be a first. They also support SPDIF and AES-EBU standards and are pin-compatible with the existing 48kHz Crystal chips, enabling OEM upgrades without hardware redesign.

**Crystal 122**

## Verity Systems

Designed to degauss metal tapes including DATs, DVC-PRO and Umatics, V880 has a conveyor belt which passes the tapes over two degaussing coils for complete erasure. Metal tapes are more difficult to erase due to their greater density, or coercivity. Verity claims its system completely erases all information on the tapes, including control data. An optional belt cover is available.

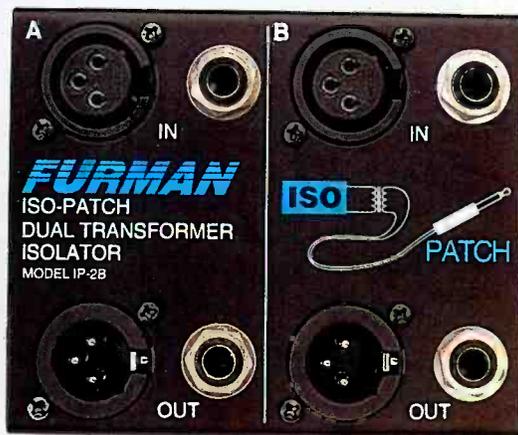
**Verity Systems 123**



## New EL34

The EL34WXT valve has what is described as a unique grid block construction that allows it to operate at higher trans-conductance and power ratings than other EL34s and claims 6% higher output at the same nonlinear distortion level.

**New Sensor Corp 124**



## Furman expands range

New additions from Furman include the HR6 headphone personal 6-channel headphone mixer which clamps to a mic stand and allows musicians to customise their own mix; the HDS6 headphone distribution system for driving a chain of HR6s; and the IP2B Iso-Patch dual transformer isolator.

The PLH15 power and light centre combines a power conditioner with lights while the

MiniPort20 power relay is an upgrade to the original MiniPort and adds support for momentary-action switches, multi unit linking and knockout holes for permanent installation.

Furman's first product the PQ3 parametric Eq and instrument preamp has been rereleased with its familiar green panel and red knobs but with the addition of a front panel input socket.

**Furman 125**

## Deltron

New from the manufacturer are patchbay systems, a stagebox and speaker connectors. The Patchbay Recall System was developed by Air Studios in conjunction with Deltron. Running under Windows, the system stores patch connections, which can then be recalled as a sequence of illuminated LEDs at the patchbay, taking the user back through the original connection routine. Deltron has also launched a low cost MI patch system using IDC insulated contacts and has taken on the Media Products line of video, audio, data and mains distribution sys-

tems. The lightweight Mini Stagebox is a pre-punched mild steel unit designed to accommodate as many as 40 universal XLR connectors. It can be supplied as a box or prewired. Finished in matt black, the box is said to be rugged and suitable for wall mounting or portable use.

Deltron has also developed a hifi plug in conjunction with A&R Cambridge. An EN60065 compliant replacement for normal 4mm speaker plugs, the Camcon system prevents amplifier short circuit during equipment demonstration. Unlike the conventional alternative, it cannot be inserted into European mains sockets.

**Deltron 126**

## VCA chips

That Corporation has introduced the 202 which it claims has the lowest noise, lowest distortion and widest dynamic range of any 202-series VCA ever made. Of particular interest to owners of SSL, Neve, Sony, MCI and Harrison desks the chips are available as pin-for-pin upgrades for all modular 202 VCAs.

**That Corporation 127**

## Alphaton splitter

The MPV-43 is a new 4-way audio splitter from German Alphaton. Housed in a 1U-high rack and offering three outputs per channel, the MPV-43 will be available early this year at a cost of DM1,290 (exc. VAT). The 12 channel MPV-123, meanwhile, has received 'MklI' status and a price cut (DM3,350 exc. VAT), and comes with options on output configurations.

**Scheck Audio 128**

## Merlin Equipment

The Voltec DC-DC step down convertor takes the 24V DC supply of OB trucks and other sources, producing clean 12V DC for lighting and sound equipment. The unit is said to deliver 18 Amps continuously, with the ability to deliver 20 Amps for five minutes.

**Merlin Equipment 129**

## Klotz cable

Polywire is a new multipair studio cable available in 4-pair to 40-pair formats and promising 'outstanding flexibility'. The cable offers individually coloured and numbered pair jackets, and has additional outer foil shielding. Lengths available range from 1m up to 1,500m.

**Klotz 130**

## Devlin

A new soft-push switch is said to feature a smooth action, regardless of the angle from which it is pushed. Recommended for broadcast and general electronics, the switch is said not to suffer from stickiness.

**Devlin 131**

## Live transmission in studio quality

RoadRunner is the smallest and most portable CCS audio codec. By simply connecting microphones and ISDN the whole world is your destination for reporting current affairs, sporting events, politics, etc.

### RoadRunner

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# How Many Codecs Do You Need To Make All Your ISDN Calls?



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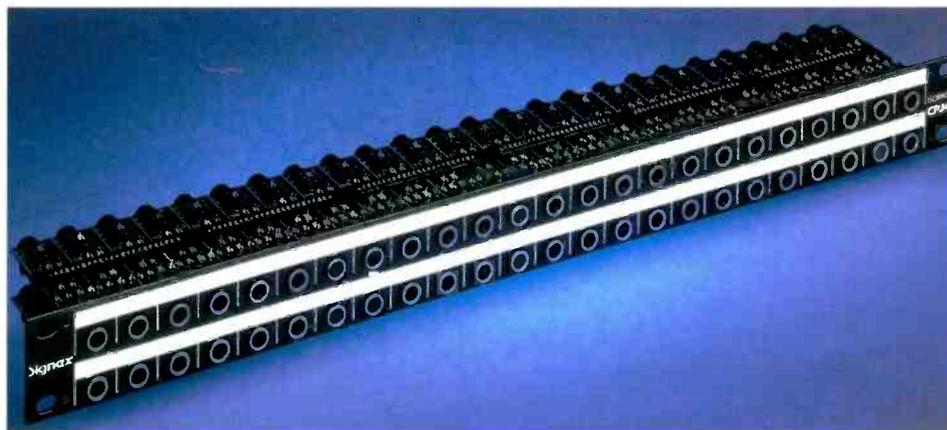
DIRECTORY			
1	BBC BH-1	01713845529	48 M X 128 L2 P
2	TILD	01442295912	48 M X 128 L3 M
3	BFBG	08835046612	16 M X 64 G7
4	D4 DEM	080497141225938	44 S X 128 L2 M
5	BBC BH-2	01713879479	44 S A 128 L3 Z
6			

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Reader Response No. 009



## New Isopatch from Signex

Signex has replaced its Isopatch with a fully redesigned model. Retaining many of the features of the original model, the 1U-high rackmount now has 48 sockets which are of a fully-enclosed design that helps keep out contaminants. All sockets are mounted on two horizontal PCBs which eliminate internal wiring and add rigidity. Supplied with all sockets iso-

lated, half or full normalising can be achieved by soldering across pads on the top PCB. The use of flexible jumper cables to carry normalising signals between top and bottom sockets allows full access for servicing.

The new Isopatch is available with jack, phono or direct solder terminations at the rear.

**Isotrack 132**



## Accessorise

Rolls continues to expand its range of small fix-it accessories. Latest in the line that already includes a direct inject box, high-low impedance matcher, personal monitor system, headphone tap, phantom power adapter, cable tester, headphone mixer, 4:1 mixer, 2:1 mixer, tiny 2-way crossover, mini mic preamp and test oscillator is a mic splitter and a phono preamp. The splitter is transformer coupled with a ground lift while the phono preamp offers RIAA EQ on phono inputs and outputs plus a stereo jack output.

**Rolls Corp 133**

## Patchbay

Switchcraft's TTP96 audio patch panel is available as a patch panel, patch kit, with EDAC connectors and new front access version. Offered in full normal, half normal and open circuit configurations, fanned solder terminals make soldering easier while common bus ground connections are aided by offset ground terminals.

**Switchcraft 136**

## Rean

A new line of LF (Long Frame) 1/4 inch jack fields accommodate 48 or 52 jacks. They are available in a choice of four colours and employ a colour coding scheme for ease of identification. The manufacturer has also introduced a line of BA patch cords. Available in a number of spindle fits, Reans three colour moulded knobs are available in hard or soft plastic and allow for a wide range of colour combinations without custom ordering.

**Rean 137**

## Crystal

CS4926 is a single-chip DSP decoder for Dolby Digital AC3 and Digital Theatre Systems Digital Surround. The 44-pin chip is intended to make it easier and less expensive for manufacturers to incorporate the standards into consumer products. It is pin compatible with the previous CS4923, making the transition to dual-standard decoding easy for existing OEM users of the device. Although AC-3 is now a mandatory audio format for PAL standard DVDs, DTS has been used on more than 200 feature films and is supported by 12 major film studios.

**Crystal 134**

## Nvision

The New 4000 series of modular processing equipment developed for the DTV environment is based on horizontally mounted modules. Twelve of these occupy a 2U space but each module can contain dual processes. For instance, there is a 24-bit AES-EBU A-D module with two discrete stereo channels. Other modules include an AES fan-out distribution amplifier, jitter removing distribution amplifier and a dual D-A convertor. A variety of racks is also available.

**NVision 135**

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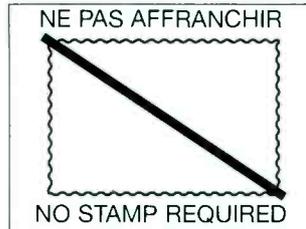
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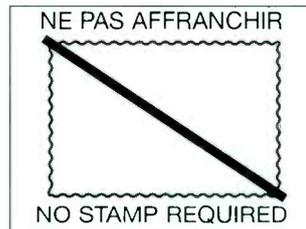
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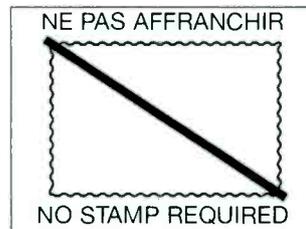
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## Medianix

**D**escribed as the first single-chip Dolby Pro Logic decoder that includes Spatializer N-2-2 virtual surround technology in on-chip memory, the MED25009 digital 3D audio processor is available from Medianix Semiconductor Inc. N-2-2 is a Dolby certified post-processing

algorithm which is said to accurately simulate the three dimensional Pro Logic soundfield with only two speakers. The IC is intended to bring Dolby Pro Logic to a broader market by delivering the benefits of surround sound to televisions and computers without requiring five or six separate speakers.

**Medianix 138**

## PCB mounting Link connectors

**L**ink connectors are now available in PCB mounting versions. The connectors, which are made in pin configurations supporting 4-48 channels, are also available with a female line version which features a rubber locking ring.

Solder and crimping types are

offered in addition to the PCB units.

Also available from Link is the Eurocable multipair I.KSSA series with aluminium foil shield. Each pair has two conductors and a 24AWG drain wire, all sheathed in individual, numbered PVC jackets.

**Link 139**



## SCR's fancy caps for audio

**F**rench company SCR has developed a range of capacitors for audio filtering comprising aluminium metalised polypropylene capacitors, coated or encapsulated in plastic or aluminium cases.

The range includes components with tin foil electrodes and the capacitors are cylindrical or rectangular in shape with tinned copper leads and a polyurethane resin seal.

**SCR 140**

## Versadyne/Telemetrics

**T**he manufacturer has released two amplifier and bias generator units specifically for owners of older cassette duplication systems who want to upgrade to a digital bin. The AB-100 is designed for passive slave systems of up to 12 units including the Versadyne 1000 series, Electro-Sound 4000/6000 series and most Ampex units in service. AB-150 is similar but has extra features specifically for the Versadyne 1500 series of slaves. Also available are three digital bins.

**Versadyne 141**

## Digital adaptors

**N**eutrik's NADITDBNC-F and M AES-EBU digital audio adaptors with digital audio impedance transformers allow for longer cable runs via unbalanced coaxial lines rather than twisted pairs. The adaptors provide impedance matching between 100 Ohms and 74 Ohms, transition of balanced and unbalanced circuits, electrical isolation, attenuation for use of analogue video distribution equipment and the reduction of hum and noise.

**Neutrik 142**

# LK connectors

## The audio connectors



- ✓ Male and female connectors in cable and panel version.
- ✓ Audible "snap-in" lock for full and safe coupling.
- ✓ From 13 to 150 pins (4-48 channels).
- ✓ Up to 54 pins skintop available.
- ✓ Over 2000 coupling.
- ✓ Waterproof.



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**Reader Response No. 010**

**MTR**

The DC8-DPR power supply has eight 9V DC outlets. Fully regulated, the system is designed for use with guitar pedals, radio mic transmitters and outboard units which use external power. The polarity for each output is indicated by coloured LEDs. The unit has a total capacity of 4.1A.

**MTR 145****ITC Cannon**

The TMN series of bayonet-lock waterproof connectors are designed to withstand hostile environments involving water, oil or dust and also provide EMC screening. Available in four different shell sizes with contact configurations from 4 to 19 pin, the connectors are compatible with existing Trident types, and are rated for 13A signals.

**Electrospeed 146****Sovtek**

Modelled on the vintage RCA 6L6GC blackplate valve, the new 6L6WXT vacuum tube is said to have a larger plate and improved grid structure for increased power, as well as mica spacers to eliminate tube rattle and microphonics. A 20% higher output than the Sovtek 5881WXT is claimed, with superior performance to 6L6 or KT66 units.

**Sovtek 147****New EDACs**

EDAC's 521 series of connectors are available with 28 hermaphroditic Edacon contacts along with six 75 Ohms or 500 Ohm contacts or six power contacts each capable of 40 Amps.

The design permits the mixing of different types of connector requirements which could include eight audio channels and a six component video channels with 75 Ohm coax contacts. It would also allow for two pairs of Edacon contacts to be used for sync, control signal or parallel filtered power up to 16 Amps.

**EDAC 120****John Hornby Skewes**

New from JHS are a number of pre-made cable products with terminations including Speakon connectors, XLR, jack and phono.

A range of 30m multicores is available in 12, 20 or 24 channels. The prewired stage box is fitted with XLR inputs and returns, while the console end has an XLR fan.

**JHS 148****Sound bit**

PCM now offers with all models of Columbus Lodestar hoist, a package which includes automatic phase alignment of hoists, weather-proofing and a free first service, plus load test.

**Sound bit 149****Titan and AluLite from CP Cases**

CP Cases has introduced Titan and AluLite ranges. The former represents an affordable and lightweight range of cases and containers that are moulded from polyethylene with 15% thicker corners for protection. They can be interlocked and fork lifted and have moulded tongue and groove with rubber gaskets to ensure watertight and vapour-proof sealing.

AluLite cases are designed specifically for the audio-visual, film and video industries. The new design has radius edges and corners on all sides for easier handling as there are no sharp corners. The benefits include enhanced strength without weight gain despite the use of much harder and durable aircraft-grade aluminium.

**CP Cases 150****APC**

MultiMount MM-022 is a new mounting system designed to allow a single installer to position speakers weighing up to 60lbs on walls or ceilings. Intended to cut installation time compared to ball and socket mounts, the new system is based on a steel support arm, which also acts as a convenient carrying handle when carrying and positioning the enclosure. Once this has been attached to the mounting plate, the weight is

taken off the installer, who is then free to complete the wiring. The manufacturer states that the assembly does not suffer from drift and has a plate which fits standard hole patterns. APC also offers the APC U-Bracket line, a series of more than 20 off-the shelf heavy gauge steel mounts for wall, ceiling, balcony, truss and tripod locations. Models are available to fit popular enclosures from Community, EAW, EV, JBL, Klipsch, Peavey, TOA and others.

**APC 151****Analog Devices' fastest SHARC**

Analog Devices' newest SHARC 32-bit DSP, the ADSP-21065L, is priced at \$10 per unit and is claimed to be twice as fast as any 32-bit DSP available and more than three times faster than any DSP in its price range.

The ADSP-21065L processes 180 million floating-point operations per second and 180 million fixed-point operations per second, and

features I-O throughput up to 240 megabits per second. The chip supports eight data channels for consumer audio/video applications.

Analog Devices is developing a static superscalar SHARC DSP capable of 5 billion operations per second on a single chip for high-performance signal processing applications.

**Analog Devices 152****Cable reels**

Hannay offers a range of cable reels for recording studios, film, TV and radio and live applications.

AV, AVX and AVC series reels are lightweight and have carrying handles. All models have a non-

reflective matt black finish and are stackable. Removable side panels offer customisation of XLR and BNC connector patterns.

AVX models have trays for storing stage box units and some have adjustable friction brakes to prevent cable over-run.

**Metool Products 153****Valentino library**

Valentino Production Music Library has released 12 individual and different Production Libraries each based on subject matter and style and called the Evergreen Collection. Distinct from the 90 CD Valentino production music library, the new libraries are ten-CD sets with styles and subject headings. Subjects include drama, comedy, cartoon, historic, dance, foreign, Americana, documentary, electronic, instrumental solo, industrial, and mystery.

Both libraries are now downloadable via bit stream technology over the internet from the company's web site.

**Valentino 154****Co-connector**

A joint development by Deltron Components, Linn Products and Mission Centralforce, the TS connector System is designed to meet the EN60065 European safety standard for connecting hifi loudspeakers to amplifiers. The plug and socket are insulated against accidental shock and the socket is available in PCB mount versions. Gold plated contacts are used. The old 4mm plugs are now banned.

**Deltron 155****Rendar**

The Minibloc power distribution adaptor is designed to provide quick and simple organisation of connections. The manufacturer states that it is ideal for the broadcast industry because it enables the working environment to remain uncluttered. Adaptors can be free-standing or mounted and each one accommodates four IEC connectors, to a maximum of 10A.

**Rendar 156****Radial Engineering**

Roadster TX is a stagebox system which supports several connector types and can be upgraded in line with user's needs. The low-profile box is flared at one end in order to accommodate a choice of multi-pin connectors. A choice of front panel will accommodate as many as 50 plugs and sockets. Radial Torsion or Mogami cable can be specified.

**Radial 157**

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## Cadac adds to J-Type

Cadac has introduced two programmable modules for its J-Type live production console designed to offer enhanced automation.

Following the introduction of a Programmable Dual Input Channel module for the J-Type last year, the latest additions are a Programmable/Recallable Matrix Module and a Programmable/Recallable Stereo Input Module. Users can programme and recall switch and routing settings to match the facilities of Cadac's flagship Concert board.

Designed for use alongside existing J-Type modules, the new modules use nulling LEDs for manual reset and all pot settings, together with their associated EQ and selected switch settings, can be stored and recalled cue by cue.

In addition, the new modules incorporate Cadac's 4-band EQ and filters, as introduced for the F-Type.

**Cadac 158**

## Mixed Rolls

Rolls Corporation has a portable 4-channel stereo mic mixer called the MX442 field mixer. Four balanced XLR inputs have phantom power, trim controls, 20dB pad and low-cut switch. Each input has trim and volume controls and a pan. Large level meters may be switched to monitor the left and right channel outputs mono and stereo, monitor signal or battery condition.

The field mixer has two oscillators and an internally switchable limiter with adjustable threshold. Powered by two 9V alkaline batteries the mixer is housed in a tough but lightweight aluminium chassis.

**Rolls 159**



## Yamaha live desks

Yamaha's GA32/12 and GA24/12 sound reinforcement consoles sport 12-buses for up to ten monitor mixes while a Group/Aux Diversity feature permits four buses to be configured as auxes or groups depending on the application.

Both models have four stereo returns, stereo tape input and record output and a talkback circuit. Two matrix outputs can create independent mixes consisting of mix buses 1 through 4 and the stereo bus.

Addressing small PA installa-

tions the EMX2000 powered console combines a mixer with digital reverb and echo, a 7-band graphic and 2-channels of 200W amplification.

There are 8 mono inputs with mic/line switching, phantom, channel insert, 3-band EQ, two monitor sends and an effects send. Outputs take in stereo 1 and 2, mono, effect, and monitor 1 and 2 and you get 16 reverb and effects programs to choose from and the graphic equaliser sits across the main stereo outputs.

**Yamaha 160**

## Libra Live enhancements

Improvements to the AMS Neve Libra Live digital desk include an enhanced IFB matrix which makes an output available for every fader with talkback and AFL facilities plus a split console mode which allows global changes to be applied independently to the left and right sides of the console.

The desk's snapshot automation now incorporates a 'scope' tool for giving the user control over which console functions are reset while on-air logic has been

extended to safeguard the desk against any action that will take the desk off-air. Hardware options now include standalone I-O units and fast reboot from Flash RAM.

The 55 Series analogue board now includes VCA faders that permit the creation of eight VCA sub-groups via a compact master controller section, an input pre-selector system and new bargraph meters with programmable VU or PPM ballistics, variable reference level and a range of scale types.

**AMS Neve 161**

## Line mixer upgrade

Speck Electronics has upgraded its Xtramix 40:8:2 4U rackmount line mixer. New features include true stereo effects sends and eight stereo effects returns that are fully assignable to the 8 buses, lower noise electronically balanced inputs and a talkback section with an internal mic and level control. All inputs and outputs sections have undergone significant circuit improvements, a new grounding architecture and lower noise pots and switches.

**Speck 162**

## Alesis

The Studio 24 mixer is aimed at single-ADAT users. An in-line design, it combines eight mono input channels with four stereo input channels and two stereo submix groups. Equalisation is three band with a sweep mid. There are two pre and two post fader aux mixes.

**Alesis 163**



## CS3 facelift

EVI has announced revisions to the DDA CS3 mixer to bring it into line with the CS8 and the Midas range of desks. The revisions consist of cosmetic and component changes such as a new colour scheme and higher profile pots as used on the CS8.

**EVI 164**

## Soundcraft adds

Soundcraft has announced a 48-channel version of its K2 live sound console and a 56-channel version of its Series 5 FOH desk. Both moves are said to be as a result of requests from the live sound industry.

**Soundcraft 165**



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Fax: ++31 294 416987  
E-mail: Info@d-r.nl  
Website: http://www.d-r.nl

**D&R**

### Oxford adds surround

The functionality of Sony's Oxford console has been expanded with Version 1.2 system software which adds multiformat surround sound mixing. The desk is also available in a compact 24 variant with 24 channel faders and a master control section but still offering the same 120 input channel capability.

**Sony** 166

### Studiomaster Trilogy

Targeting budget multitrack and live applications, Studiomaster's Trilogy 326 is a 24-channel, 4-bus desk offering 20 mono mic-line and 4 mono-mic/stereo-line channels. Channel features include 3-band EQ, 6 aux sends, peak and signal present leds and the PSU is external.

**Studiomaster** 167

### Roland

Designed for DJ use, the DJ-2000 is a four channel mixer with three band EQ on each channel. An automatic BPM counter, MIDI capabilities and DSP effects are included. In addition to the line inputs, there are two microphone inputs and an effects loop. There is also a sampler output, as well as the master output. A three-band isolator circuit can be used to cut specific frequency ranges from the mix, while a grab switch triggers isolator EQ settings.

**Roland** 168

## A&H desk with valves



**A**llen & Heath is to launch the 8-bus GS3000, an in-line analogue desk aimed at commercial

and project recording studios, with twin-fader, dual path inputs and two patchable valve preamps. The console is available in 24 and 32-input frame sizes, each with an extra two dual stereo inputs, for a total of 52 and 68 inputs to mix respectively. A number of stereo options are available, giving up to 16 dual stereo inputs.

All mic-line inputs have a 100mm A path fader and a 60mm

B path fader above, with the former always used for monitoring. The 4-band 'British' EQ section has overlapping swept mid bands and Q pots, plus EQ in-out switching and routing via the A or B path. Each of the console's 6 auxes can be accessed from both paths.

MIDI mute automation with scenes and groups is included together with MMC. Other features include, solo-in-place, PFL, two studio playback feeds, control room and alternative speaker feeds, and an optional bar-graph meter-pod.

**Allen & Heath** 169

## Studer 950S VSP surround

**T**he surround capability of Studer's D950S offers own-brand Virtual Surround Panning (VSP). The perception of the distance in a room is largely determined by the time and spatial distribution and the location mechanisms for left/right and front/back are different. To imitate this, in addition to conventional means, delay and filtering is used and the coefficients of these filters vary depending on the selected pan pot angle.

The delay line represents the time difference between the

sound arriving at the left and right ear while the principal function of the variable FIR filter is to imitate interaural intensity differences.

Allpass filters can perform a uniform phase rotation of 180° above a certain cut-off frequency to permit sources to be placed outside the speaker base.

Studer says that VSP can be used for surround recordings where main microphones are supported by spot mics and for the creation of synthetic stages during remixing.

**Studer** 170

## Spirit Folio FX8

**A**n eight channel mixer in the mould of the Folio FX16, the new Folio FX8 has the same built-in Lexicon effects section. This offers 16 programs including chorus and reverb, chorus and delay and reverb and delay. With four stereo inputs and a tape return to mix facility, the mixer provides 18 inputs in total. It also has eight direct outputs. The Ultramic pre-amps handle mic or line input. EQ is three band, sweep-mid and there are two aux sends, including the dedicated Lexicon send.

**Spirit** 171

# STONE-D 001

digital mixing console

The desk that changes the industry without changing the feel

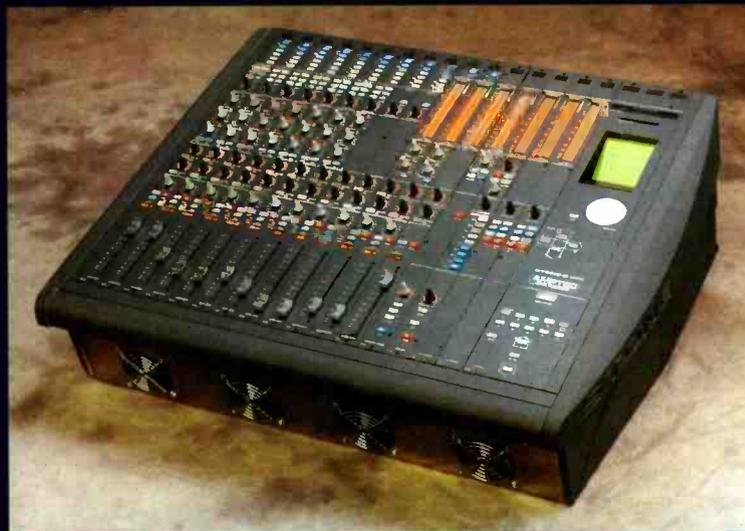
**AMPTEC**  
DIGITAL TECHNOLOGY

### Features

- conventional user interface
- modular just like analog consoles
- superb sonic performance, 24bit AD/DA 32bit DSP
- infinite internal digital headroom
- revolutionary Dynamic Range Control system prevents digital peak or overload
- easy installation, standard analog and AES/EBU digital inputs with sample rate converters
- future upgradeability by means of internal modular design
- snapshot, on air and dynamic automation
- optional serial and parallel interfaces

### Applications

- TV & Radio on air
- classical music and drama recording
- live theater console
- video post production
- audio editing
- CD mastering
- data transmission



Helstraat 25 - 3500 Hasselt (Belgium) - tel +3211281458 - fax +3211281459

# Focused on Film ...

Perfect for Post

Avant is the only digital console with a control surface designed specifically for multi-channel film mixing and video post production. SSL's Real Time Resource Processing means that all the controls on every channel are always available, whether the console has 24 channels with a single operator or 96 channels and three film mixing positions.

Avant combines the look and feel of a traditional analogue console with all the digital benefits of dynamic automation plus global or selective snapshot instant reset. With 32 main mix buses, 24 pre-dub buses and a 64 x 8 digital monitor matrix, Avant becomes the logical choice for multi-channel surround sound mixing.



"It's the overall flexibility and expansion capabilities of Avant that convinced us."

Alan Snelling, Anvil Post Production, UK.

"Mrs Brown" Image courtesy Ecosse Films.

## Solid State Logic

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Reader Response No. 013

**Citronic**

CDM5:2 is a five input DJ mixer with a recommended UK price of 79 inc VAT. The four line inputs are routed to the main faders via a paddle switch and Citronic suggests that the combination of dipless crossfader and 'punch-button' muting makes it ideal for scratch mixing. Two additions to the Install Series of zoning systems are the Z-5DM line distribution mixer and Z-2A5 dual channel 50W amplifier. The mixer has two stereo inputs and five output zones. It can be used for distribution or as a means of extending an existing zoned system. The new amplifier has DC Crowbar protection and provides 50W @ 4-Ohms or 100/70V line.

**Citronic****172****Spirit**

A four bus mixer aimed at live and recording applications the Spirit Folio FX16 is a 4-bus design which includes a 16 program Lexicon effects section. This is capable of dual effects and has the capability to edit and store programs. The mixer has a total of 26 inputs including 16 mic/line channels. To enhance the dual role of the desk, it is fitted with pre/post direct outs and solo in place, as well as PFL. The 16 channels are fitted with Spirit UltraMic preamps designed to handle virtually any mic or line device. The mixer can also be rack mounted in a 10U space.

**Spirit****173****TV80 desk**

The TV80 broadcast console draws on the TV1000 desk but is presented in a more economical package but with all electronic switching. Available in a range of frame sizes it includes computer recall of preselected audio sources, alphanumeric source displays, a house router interface, an eight mix-minus system and master confidence IFB panel. Talkback is available to submasters, auxes, and mix-minus while standard configuration includes eight mono submaster and two stereo master outputs, eight user-configurable aux sends, four mute groups and direct outputs from every input.

**Wheatstone****174****Tascam cheap digi desk**

Tascam has unveiled an entry level digital console called the TMD1000. The 16-channel mixer has four mix inputs with phantom, 8 channels of TDIF and two AES-EBU and SPDIF outputs. It can be expanded through two optional cards which are expected to ask in the region of \$150 US. The IFTD1000 adds 8 channels of TDIF and 4 channels of AES-EBU or SPDIF while the FX1000 effects board doubles the on-board processing of four channels of dynamics and a stereo pair of effects. The desk boasts 128 snapshots and MMC but no moving faders.

**Tascam****175****Yamaha 01V streamlines mixing desk**

The 01V is not a development of the original 01 Programmable Mixer so much as a further stripping off of the 02R. It looks like an 01 but internally it is

perhaps closest to an 03D. The major omission is that of on-board automation with this reduced to snapshots with supplementary control afforded by MIDI automation.

The desk surface is further streamlined with even less channel hard control and more screen, cursor, dial dependence. It has 24 inputs including 8 digital inputs, 15 60mm motor faders, and 14 outputs, four configurable analogue outputs plus a coaxial digital I-O as standard and an optional I-O board for connecting digitally to TDIF,

ADAT and AES-EBU.

Inputs have balanced XLRs and phantom power and pads on the first 12 channels and balanced jacks on inputs 1 to 16. You can strap two desks together via digital stereo I-Os and enjoy, three fader and mute groups, 99 snapshots, stereo pairing, 4-band EQ from the 02R with 40 preset and 40 user presets, and two multi-effects built in and 42 preset and 57 user patches. Dynamics are again from the 02R and you get 40 preset and 40 user programs all governed by a 320 x 80 dot display.

**Yamaha****176****Scoring and multiformat options for Capricorn**

AMS Neve's Capricorn has a new multiformat monitoring and music scoring options. These include a dedicated 8-way scoring panel which provides full format flexibility plus PEC/Direct switching.

Hardware additions to the con-

sole provide rapid busing and monitor configuration for work in all audio formats and a pair of assignable joysticks are also available.

Capricorn software Version 2.8 provides optional automated 8-way panning, which can be fully controlled locally via the central

AFU or globally from the assignable channel knobs. It also provides timecode in feet/frames, and a new Scoping feature which enables all controls to be automated from the console on a channel by channel and parameter by parameter basis.

**AMS Neve****177****Martinsound**

The ACX (Automated Console Expander) is designed as a cost effective way to expand the capabilities of an existing console with Flying Faders automation.

Available in 16, 24 or 32 input channel frames, the system integrates with Flying Faders, as well as any console multitrack, auxiliary, stereo and solo buses. ACX input channels have two line inputs with individual trims, four band equaliser with two variable filters, four aux sends and access to eight buses. By integrating with Flying Faders, the ACX can be part of global solo and group assignments. The mix data for the console and expander are saved on the same disk.

**Martinsound****181****Stereo mixer**

Latest in the LA Audio Millennium series of processors is the SPX2 stereo source selector and preamp. It has six selectable inputs and two independently controlled outputs in addition to headphone monitor and record outputs. The input one trim is on a control knob with the other inputs accessible via screwdriver trimmers. Connectors are on XLR, TRS jack and phono with input one featuring a paralleled set of TRS jacks on the front panel. Source selection is via momentary pushbuttons. Outputs have overall balance, dim and mono buttons.

**LA Audio****182****Panasonic unveils Ramsa DA7**

The LA NAMM gathering saw the first public showing of the Ramsa DA7 following a clandestine appearance at the New York AES.

Features include moving faders, touch-sensitive pots in the super strip area, 24-bit A-D and D-A, surround sound capability, built-in snapshots and optional dynamic automation via external computer.

The board comes standard with 32 inputs, six aux returns, and is 8-



bus; although digital interface cards are optional.

**Panasonic****178****Audio Development's PICO mixer**

UK broadcast specialist Audio Developments has introduced its new PICO mixer, the AD245. This keeps the facilities and useability found on its predecessor, the AD145, but features the low noise microphone amplifier originally designed for the AD140 series of mixers.

A hybrid of this component has been produced for the new PICO, which offers powering for 48V and 12V Tonader microphones. While this new feature has been added,

the main selling point of the original mixer, its simple but effective EQ section, has been retained.

Other features include protection against radio frequency interference on the inputs, a balanced transformer, a high-pass filter to guard the transformer against low frequency saturation, limiters on the main output, switchable PPM or VU meters and a choice of frame sizes (six, eight or ten inputs).

**Audio Developments179****Amek launches broadcast console**

Amek has introduced a new product for the broadcast market. The BB100 is aimed at on-air broadcast for television and radio, and features clean feeds, aux sends and fader starts as standard, with five modules available for mono and stereo inputs,

group, monitor and auxiliary.

Based on the same architecture as the BCII desk, the console is based on a welded steel chassis, has rigid PCB motherboards and is available in a variety of frame sizes and configurations.

**Amek****180**

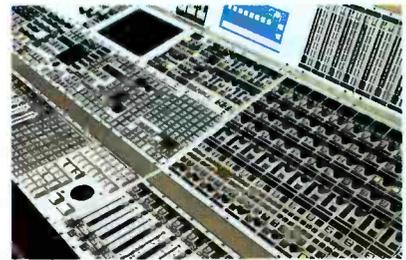
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# The ultimate broadcast network: DSN

## Distributed Studio Network DSN

- data transfer rate 25 Gbit/s
- parallel routing of up to 4000 linear audio channels
- Interfaces:  
ATM (all standards available),  
audio, data, video, IT, stageboxes

## mc<sup>2</sup> series mixing console



## diamond on-air console

(with integrated DSP)



## diamond on-air console

- integration in radio automation systems
- flexible operational surface, control and signal processing
- integrated DSP
- stageboxes: AES3, ANALOG, TDIF

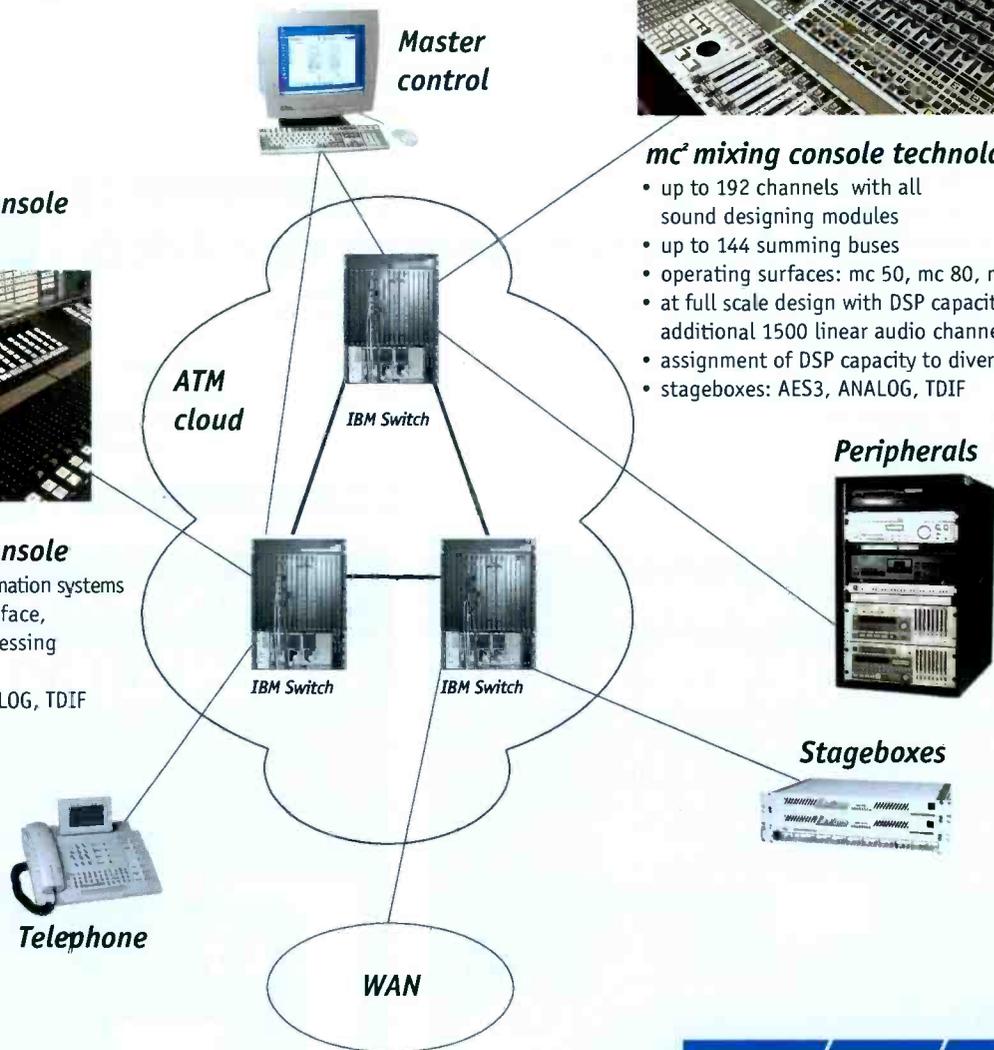
## mc<sup>2</sup> mixing console technology

- up to 192 channels with all sound designing modules
- up to 144 summing buses
- operating surfaces: mc 50, mc 80, mc 82
- at full scale design with DSP capacity routing of additional 1500 linear audio channels possible
- assignment of DSP capacity to diverse consoles
- stageboxes: AES3, ANALOG, TDIF

## Peripherals



## Stageboxes



the  
sound  
choice



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## Gemini

Designed for use with CD players, CDM-1000 is a mixer with four stereo channels and three mic inputs. Channels have three band equalisation. Master outputs are balanced. The Executioner series of DJ mixers has separate kill switches and rotary kill for each channel. There are two models available.

Executioner Ten has two stereo channels, one mic and two line inputs.

Executioner Nineteen has three stereo channels, four line inputs, one aux and two mic inputs.

The manufacturer also recently released the XRS series of loudspeaker enclosures and a new range of road cases.

**Gemini 186**

## Harrison Surround

Harrison has demonstrated the SMS Surround Monitoring System for multi-channel film, video and DVD mixing. This computer-automated system may be retrofitted to any mixing console with at least 8 bus outputs. Its operation is controlled via an Interactive Touchscreen Interface, and permits mixing in LCRS, 5.1 or 7.1 surround formats.

Film-style or music recording-style monitoring interfaces are included and an unlimited number of monitoring setups may be saved and recalled.

**Harrison 187**

## Graham-Patten's DTV console



Graham-Patten used NAB to air its plans for a DTV-capable digital audio mixer. Hardware platform for the scaleable processing is a 333MHz Pentium II using CompactPCI architecture to provide dual plug-in power supplies and hot-swappable modules. The DSP core is modular and can be configured with up to 144 SHARC processors with a full blown desk able to cope with 512 channels.

I-O for the system is modular

and available as a combination of analogue and digital and connects to the engine using IEEE-1394 networking technology. Mixing engine control in large systems can be through dual 100-base T network connections while smaller systems will use RS422 serial control ports.

GPS has introduced Comparisons sound matching software which can be used to catalogue and search sound effects libraries to find the occurrence of specific sounds in soundtracks. The software contains proprietary algorithms which reduce complex sounds to compact data signatures and databases can be searched rapidly to find a sound using a 'prototype' of the desired sound.

**GPS 183**

## Innova Son's cheaper digital desk

French manufacturer Innova Son has unveiled a cheaper and non-modular version of its Sensory digital console. Called the Sentury and targeted at live production, the fixed configuration board costs 35% less than the original and still current product meaning that a 48-channel,

20 aux Sentury will cost around £30,000.

Each channel features 10 parameter dynamics, 5-band parametric EQ and routing.

The desk is compact and light at just 48kg for the surface and is based on proven technology.

**Innova Son 184**

## Soundcraft SM20

Soundcraft has revealed the SM20 monitor console which is available in 40, 48 and 56 input sizes with 20 outputs globally switchable to mono or stereo. Features include built-in mic splitting, sweepable high-pass filters and MIDI control of BSS Varicurve equalisers.

Also new is the Series Five Monitor with a feature set similar to the FOH variant but with more elaborate routing and output control. Types include 24-bus and 32-bus versions with the former including a 23 x 12 output matrix.

The established K2 8-bus desk is now available in a 48 mono channel version with an additional four stereo inputs.



**Soundcraft 185**

## CD8-AE/SRC PLUG IN FOR 02R & 03D

enables to connect any digital source at any sample rate to the yamaha 02R/03D digital desk



**AMPTEC**  
DIGITAL TECHNOLOGY

### Features

- 8 channel AES/EBU I/O on a 25 pin female sub-D connector
- standard single slot module which can work in any of the 4 available positions of an 02R desk
- integrated high quality 20 bit Sample Rate Converter on each input
- accepts both balanced AES/EBU and unbalanced SPDIF signals (in most cases)
- card can be mixed with any combination of standard Yamaha interface cards

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## FOSTEX 630I BX-D PERSONAL DIGITAL MONITOR

self powered personal monitor with AES/EBU & SPDIF digital input



**AMPTEC**  
DIGITAL TECHNOLOGY

### Features

- digital AES/EBU and SPDIF input
- accepts any sample rate from 32 to 48kHz
- 16 bit delta sigma D/A converter
- input source selector analog, digital L, digital R, digital L + R
- digital lock indication led
- output 10wrms - frequency range 80Hz-13kHz

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**NEW**

GS<sup>3000</sup>

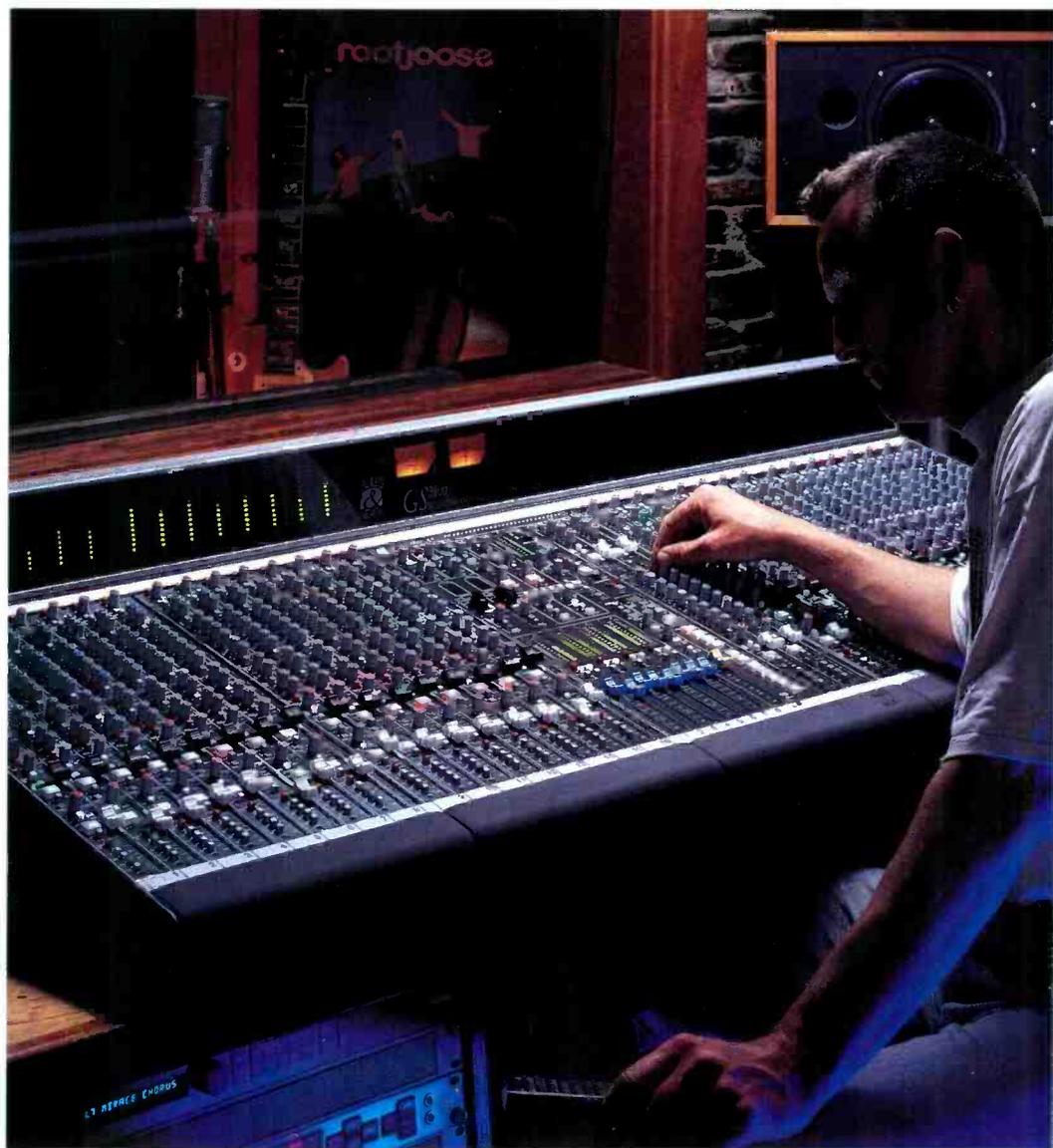
# OK... or Outstanding?

- 8 buss routing architecture
- 24 and 32 channel frames
- 52 and 68 inputs to the mix
- 2 SVT (symmetrical valve technology) valve preamps
- Wide ranging mic preamp
- In-line twin fader input format
- 4 band EQ with fully parametric mids
- 2 dual stereo inputs with automation as standard
- 6 aux sends with 2 automated master mutes
- MIDI mute automation
- 4 mute groups
- MIDI machine control
- Tape send and return on every channel
- Group/direct switching
- Oscillator for signal setup
- Talkback facility
- 2 studio feeds
- Solo in place and PFL on both fader paths
- Channel status indicator LED
- Optional 21 segment input bargraph meterbridge
- Interface for three 2-track recorders

## SVT VALVE PREAMPS



GS3000's 2 valve preamps can be patched to individual channel inserts, groups or LR. The valve preamps incorporate Symmetrical Valve Technology, allowing them to be used in balanced mode for regular inputs or in single-ended 'guitar' mode, which drives the valve to give the type of pleasing harmonic distortion much sought after by guitarists. Other valve preamp features include valve drive control, pre-valve swept frequency EQ, hi-cut filter and output level trim.



Most modern recordings sound OK - but few sound really outstanding. The new GS3000 gives you truly great sounding mixes, with all the analogue warmth, sparkle and power that set the best apart from the rest. The new GS3000 - sounds glorious.



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Reader Response No. 016

### Audio Toys

ATI offers the Paragon Monitor 64-input automated mixing console. It is capable of providing 20 stereo monitor mixes and is suggested for in-ear as well as wedge monitoring. Inputs are fitted with ATI high voltage preamps, 4-band parametric EQ, ATI compressor and parametric noise gate. Each channel has a variable direct out which can be stereo or dual mono. The standard frame has 48 input spaces which can hold either mono or stereo inputs and includes stereo line returns with EQ as standard. Fader and mute automation is by Uptown Automation.

**Audio Toys 188**

### Gemini Sound

There are two new DJ mixers from Gemini. The PS646 is a four channel stereo mixer with balanced outputs. There are five line and two mic inputs, plus two phono inputs and one phono/line convertible input. Bass, mid and high on each channel is equipped with -26dB cuts for removing complete sections of the mix. CDM-1000 is similarly equipped but has three mic inputs and is designed primarily for use with the Gemini CDJ-1200 top-loading CD player. A heavy duty road case houses two CDJ-1200 CD players and a CDM-1000 mixer.

**Gemini Sound 189**

### TC 02R card

TC Electronics has released details of a plug-in effects card for the Yamaha 02R mixer called the Unity. Offering M2000 performance, the card plugs into one of the four 02R I/O expansion slots and can be ordered with or without an 8-channel AES-EBU I/O connector. The card is loaded with M2000 effects and two effects can be run at the same time with all settings remembered and automated in the 02R's automation.

**TC Electronic 190**

### Allen & Heath

A 12 input, eight output digital audio mix processor, the DR128 is designed for installation where full matrix mixing, processing and zoning are required. Although it is a stand-alone system housed in a 3U rackmount, the DR128 can be set up using a PC. The supplied software provides graphical representations of all parameters and controls. Controllable resources include gain, ducking gates and compressors, plus EQ in graphic and parametric form.

**A&H 191**

### Logitek's radio digital mix

Logitek now has a 5-fader version of the ROC10 digital radio mixer called the ROC5 which runs with the company's Audio Engine processor. ROC5 prices for a 16-channel configuration start at \$8000 US and the system can be scaled up to 64 inputs. Target markets are newsrooms, newsbooths, dubbing studios and automated stations.

**Logitek 192**

## Spirit digital desk

**S**pirit has entered the low end digital desk arena with the announcement of the 328.

It's a 32-input, 8 bus digital desk configured as an 'in-line' with 16 mic/line inputs, 16 tape returns on digital (two lots of TDIF and ADAT optical I-O are included as standard), plus an 8:2 submix and another stereo input for a maximum of 42 inputs at mixdown.

The desk has been designed to allow cascading of two 328 units, with a single connection for audio bus and logic information. In this configuration, one desk serves as master, the other as slave, allowing 32 track recording.

However, the two Lexicon effects processors which are built into the board can be separated out for independent operation.

Additionally there are two stereo assignable dynamics processors units that can be strapped across any input or out-



put with the compressor, limiter, gate and ducker algorithms said to be based, albeit loosely, on DBX technology.

All parameter adjustment centres around a horizontally aligned E (for encoder) strip which offers 16 encoders surrounded by LED circles for positional information and some buttons. Dedicated buttons assign functions to the strip.

The 16 main faders are motorised Alps units which work in conjunction with rotary controls to yield a surprising amount of hard control.

**Spirit 194**

## Yamaha DSP Factory

**Y**amaha has created what amounts to an 02R on a card. Called the DSP Factory, the company is making 32-bit DSP-based mixing and processing for the PC with Mac support to follow. The DS2416 digital mixing card offers 02R level 24-input, 16-bus operation with two multi-effects units derived from the ProR3 and Rev500. Through its PCI bus the DS2416 gives 8 tracks of simultaneous recording and 16 tracks of playback and also has a pair of 20-

bit analogue inputs and outputs, 24-bit capable coaxial stereo I-O, and Yamaha claims it will add analogue and digital audio expansion through peripheral products.

An additional 4 ins and outs can be added with the AX44 board and two of these can be strapped to the DS2416 and fit in the drive bays of PC towers. Control of the mixer is via third party software with a number of companies announcing support for the card.

**Yamaha 193**

## Here's the Flinstone

**A**mptec has launched a digital mixing console called the Flinstone 200D based on the earlier Stone D001 console. Using the same traditional user interface, it is configurable by means of different I-O modules, features sample rate converters on every digital input, and under the bonnet uses 24 bit A-D/D-A converters, and 32-bit floating point DSP. The Flinstone aims to be the perfect digital substitute for an analogue broadcast console, and without some of the more high-end features of the Stone is priced attractively.

Maintaining the geological theme, the Boulder OB1 is an analogue production console designed for OB vans and TV or

radio production studios. The Boulder features stereo and mono inputs with four band EQ, HP filter, direct and cleanfeed outputs on every input module, 10 aux sends, eight mono sub groups, eight VCA groups and eight mono matrix outputs, two stereo and one mono program output, two monitor and one communication module. Other special broadcast features include: compressor/gate on every I-O module, fader start, I-O transformers, and programmable channel on/tally output.

The console is prepared for moving fader and snapshot automation, based on the Stone snapshot system, specially adapted for broadcast use.

**Amptec 195**

## SSL MT for music

**S**SL has launched the Axiom-MT digital mixing console for music production presented as a familiar in-line with monitor and channel faders.

The MT can run to 96 in-line channels (192 automated mix inputs) plus 12 stereo effects returns to the centre section. It has 48 multitrack, 12 aux, and 12 main mix buses and each strip has access to 4-band fully parametric EQ with high and low filters and a separate compressor-limiter and expander-gate section. Automation is fully dynamic and snapshot with 5.1 capability.

The 12U processor rack comes with four Highway ports each of which can split out to a range of I-O, such as 72 mic inputs, an analogue RIO with 48 16 or 20-bit I-O, a digital RIO with 96 I-Os, and an SDIF2 to Highway convertor. Or you can opt for the Hub router and access 24 Highway ports. This arrangement within the MT negates the need for a patchbay as you can control your routing from the desk once everything is connected up and labelled within the system.

**SSL 196**

## Lawo's ATM solution

**G**erman broadcast console manufacturer Lawo claims it has achieved linear audio in real-time via ATM through its mc2 series mixing consoles and its Distributed Studio Network (DSN). Lawo is employing Analog Devices' SHARC processors as the core to its system and has co-operated with IBM in the development of its mc2 system and the use of Nways ATM Switch 8265-17. The IBM switch permits the routing of 4000 mono channels at a transfer rate of 25Gbit.

Lawo has developed interface boards for broadcast specific formats including MAD1 and the system will be available together with mc2 80 and 82 consoles or without for replacement with other existing digital desks. In the case of the former all resources of DSP capacity, stage-boxes, playback sources and other consoles with separate DSP (such as the company's Diamond range) can be accessed by any user. The system is expected to start shipping at the beginning of next year.

**Lawo 197**

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# The Sign of Sound



**NEW**



**W**e proudly present to you our new series of purely analogue audio processors. Taking account of many of your suggestions in terms of expansion and functionality, the BEHRINGER PRO SERIES features advanced versions of our Standard Audio Devices which have proven their reliability in applications throughout the world.

The tube stage in our discrete ULTRAGAIN PRO microphone pre-amp, the side-chain filter and the balanced ins and outs of the AUTOCOM PRO, the expanded level meters, the COMPOSER PRO's expander/gate with adjustable threshold and ratio as well as many other details are living proof of both your and our good ideas. These improvements have only been made possible through the use of state-of-the-art SMD technology and the resulting higher packing densities. Moreover, optimized circuit design and extremely short signal paths allow for improved S/N ratios and greater reliability. The BEHRINGER PRO SERIES – the first choice for creative and efficient sound design.

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**Digi radio desk**

Klotz Digital has targeted the radio market with the Paradigm digital console which has sample rate converters on every input channel, all mic inputs with voice processing, an AES reference clock for master synchronisation and an integrated timer, cue speaker and clock. It boasts 24 stereo input sources, 8 input channel faders, and 4 output buses in a compact and attractive package. The announcer's mic feeds the talkback bus, there are 16 GPI and GPOs, an intercom port with automated input sensor, console set ups, LCD channel labelling and a mix-minus system for phone lines.

**Klotz Digital 198****The Digital T Series from Calrec**

The Digital T Series console combines the assignable control surface of the established T Series mixing system with an all-digital signal path. Aimed at on-air

and production applications, the system is designed to provide the same level of reliability as the existing T Series. In the event of failure, control panels and DSP cards are designed to be hot-pluggable, so that they can be swapped while the rest of the console is still in operation.

In addition, if a board were to fail, the rest of the console will automatically reconfigure to take over the necessary functions within four seconds. When a card is replaced, it is

recognised and the parameters automatically reset.

Calrec claims that because all its controls are interpolated, it is impossible to generate a click by moving a control or actuating a switch. Converters are 24-bit and the internal word length is 40-bit floating point.

According to Calrec, unique algorithms have been developed to mimic the natural sound of the Calrec analogue system.

Delivery is planned to start in January 1999.

**Calrec 203****CONTROL****DK-Audio**

The MkII version of the MSD600C audio meter has a new colour display with brighter image and improved contrast. A VGA output enables the unit to drive external video monitors. The unit is a combined phase meter, audio vector oscilloscope and level meter which can visually represent stereo and multi-channel programme.

**DK-Audio 199****Sabine**

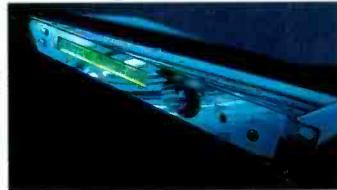
Designed for speaker alignment in venues, the SDA-102 digital delay has one input and two outputs on balanced connectors. Internal processing is 20-bit and delay time for each channel is incremented from the front panel, with the ability to lock-out the controls for security purposes. Each unit is housed in a 1/6 rack width, with an optional tray for six units available.

**Sabine 200****Aardvark**

A manufacturer of low-jitter digital audio products for the professional sector, Aardvark has announced AES-EBU and SPDIF format adaptors. Two models are available, allowing the transition to be made to either standard, when interfacing DAT machines, digital desks, CD players and other digital products. The converters have a suggested price of \$65 in the US.

**Aardvark 201****Global ISDN connectivity**

Grand Central Pro file transfer software supports Windows and Mac file formats and sends and receives data on up to four B channels for high speed communication at 256kb/s. The software supports all common protocols including Teledisquette, Twist, Z-Modem, FTP, Leonardo Pro, 4-Sight Rapido, ID-Trans and A Copy and EuroFile Transfer ETS 300 075.

**Hermstedt 202****Philips Protecta suppression**

When used together with dedicated Acoustic Feedback Suppression software, the Philips Protecta audio processing platform can eliminate audio feedback in a variety of venues. Under certain acoustic conditions up to 20dB of gain above the level of howling can be attained, claims the company.

The Protecta is a modular digital signal processing system that can be inserted into any sound

reinforcement installation between the preamp and the power amp stages.

It runs a variety of application-specific software that can enhance sound quality, remove unwanted acoustic effects or to improve the performance of the equipment. It has its own processor, internal non-volatile memory and a menu-driven interface with front panel keys and backlit display. The software is downloaded from a PC to enable Protecta to carry out the desired processing functions.

Hardware options include A-D and D-A converters, a digital interface and RS485 or RS232 interface.

**Philips Comms 204****Pro-Bel**

The Gemini range of compact routers provides a 16x2 switcher in a 1U casing. Multiple frames can be linked for larger systems. Formats available include: SDI and stereo analogue audio; analogue video and stereo analogue audio,

or SDI and AES-EBU digital audio. Pro-Bel has also launched the TX-320 digital master control switcher, which can provide a standard routing switcher, control system, video and audio mixer in 6U. An upgrade path to digital HDTV will be possible later in the year.

**Pro-Bel 205****Orban's DAB processor**

Orban's Optimod-DAB 6200 is designed to meet the demands of digital audio radio, 2-channel TV broadcasting and webcasting. Features include Protection Processing for peak control to within 0.1dB, 2-band processing for controlling dynamic range while maintaining the frequency balance, and 5-band processing with equalisation.

Other features include digital I-O at 48, 44.1 and 32kHz, a dedicated external digital sync input for house reference signal, analogue balanced inputs, and analogue

monitor output while the 2-channel TV option includes the CBS Loudness Controller to prevent loud commercials.

Version 3.0 software for the Optimod-FM 8200 includes 21 new format-specific presets including rap, rock, pop, classical, instrumental, jazz, news and sports. It retains the original version's phase rotation on/off, adjustable output balance on the 5-band compressors, adjustable bass clipper threshold and control of the AES-EBU status bit to accommodate digital STLs.

**Orban 206****Audio codec**

The Barco RE8960 audio codec encodes according to ITU-R rec724 and ITU-T J.41/J.42 and MPEG Layer II and is claimed to be a solution for studio to studio links, FM transmitter feeds, remote pick ups, OB and remote coverage. Bidirectional 1.5 and 2Mbit/s encoding and decoding send audio and data signals on the network and it supports digital and analogue audio formats with bandwidths from 7kHz to 20kHz. It can interface with six types of audio and data format including dual channel analogue, AES-EBU and RS232/422.

The device is also surprisingly compact at only 1U high with all settings, controls and monitoring software controllable via the ROSA graphical interface.

**Barco 207****DK-Audio**

There are several new versions of the Master Stereo Displays available. The four channel unit in the MSD600 series is now joined by two, six and eight channel display systems. The eight channel MSD200-Series display has been followed by a four channel version.

In addition, the manufacturer has reduced the price of the spectrum analyser option and now provides the Surround Sound option as standard. In total, there are now 13 models.

**DK-Audio 208****FOR FURTHER PRODUCT INFORMATION USE OUR FREE ENQUIRY SERVICE**

# are you ready for this?



POST PRODUCTION



MUSIC RECORDING



FILM SOUNDTRACK

New delivery channels, including DVD, satellite, cable, digital TV and the internet, are providing an explosive increase in the number of routes available to deliver material to an ever-more enlightened audience, demanding complex levels of audio format.

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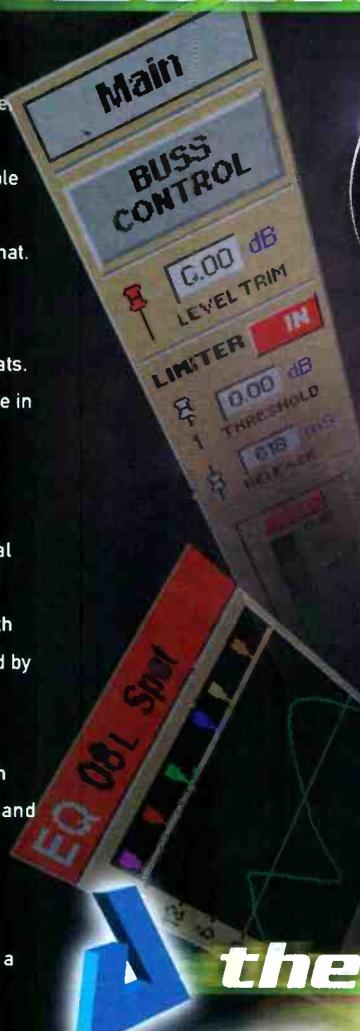
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## digital production console

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## CEL Instruments

An addition to the line of real-time sound level analysers, the CEL-553C can be used where octave or tonal components have to be identified, typically in noise reduction assessment. Parameters include Leq, maximum and instantaneous levels. As many as 12 simultaneous noise parameters can be measured in broadband mode. Models have a back-lit display, 10dB measurement range steps, optional multilingual firmware and access to Windows software.

**CEL Instruments 209**

## Rane

SRM 66 is intended to provide an in-one solution for contractors and installers needing zone distribution, remote level control and simple room combining. It provides splitting, routing and mixing for six balanced inputs and outputs. A programmable system, it offers separate input mixes for each output with independent output limiters and 12 contact closure memory recall port, as well as remote interface port for up to six remote level controls.

**Rane 210**

## Delec

Available from Scheck Audio, the Delec intercom system is now available with a display-subscriber unit, which is supplied with an AGK C-580 microphone. The subscriber unit has 10 freely configurable display function keys and four rotary controls. Talk, talk-lock, listen-lock, groups and other functions can be assigned as required and the display keys are self-labelling. A 5W amplifier is built in and the operator can also use a mic-headset if required.

**Scheck Audio 211**

## Audiomate for Power PC

New software for the Audiomate desk automation system allows the system to be run on Power PC. The manufacturer has also launched the System 64 automation package which uses a new lower priced motor fader from sister company Sellmark Electronics which can realise a 64-channel system with 32 channels costing £10,000.

**Audiomation 212**



## Omnia FM

Revised control software for the Omnia FM digital processor permits remote control using Windows and a modem or networked connection. Security features, day part processing capabilities and tiered access to processing adjustments have also been added.

**Cutting Edge 213**

## Multichannel monitoring



A-dgil Design's Director is a programmable microprocessor-controlled system for monitoring in multichannel environments. It can handle one main monitoring system with eight output channels and two stereo auxiliary systems.

Functions include mute, dim, mono and solo, individual cut on

speakers, preset monitoring levels, and variable levels.

The chassis is built around a motherboard that provides interconnection between various plug in cards with DB25 Tascam pin-out terminations.

Plug in modules include an input module, a bus amp/insert send module, insert return/mono module, output module, comms module and matrix input card. The Director consists of the rackmount chassis and a remote control.

**Sascom 214**

## CCS extends audio codec range

CCS Europe has introducing its first audio codec with 2Mb/s interfaces, the CDQPRIMA 2MUX-M. The modular 2MUX-M is a bidirectional 'intelligent' audio codec which includes a 2Mb/s multiplexer and supports MPEG I and 2 Layer II and III, G.722, J.41 and J.57 audio coding standards.

Network access via a 2Mb/s E1 interface is extended by an additional 2Mb/s drop/insert interface to allow for various network designs. With the addition of an ISDN interface card as used with the CDQPRIMA audio codec the 2MUX-M supports various ISDN protocols such as 1TR6, EDSS1 and N11.

The MPEG, J.41 and J.57 audio coding standards also include the capability to transport low data rate programme-related signals with the audio, and this capability is supported in the CDQPRIMA 2MUX-M with various interfaces. The configuration of the system is controlled via RS232/RS485 interfaces and external PCs or controllers.

The CDQPRIMA 2MUX-M supports point-to-point and multi-point connections for distribution, satellite backup, DAB and other complex systems. The 4U unit can transmit up to five stereo or 10 mono programs complete with additional data signals.

**CCS 215**

## MultiMax Neotek

Designed to give any 8-bus console the ability to handle multichannel post, MultiMax offers control of three loudspeaker systems with individual muting.

The main surround can be set up for stereo, 4-channel Dolby matrixed, 5.1 or 7.1. In Dolby 4-2-4 mode, MultiMax provides one-switch insertion of a matrix encode-decode system. It permits direct/playback (PEC)/direct, bus/(tape) switching of all eight monitor inputs or the addition of switches to a console panel for individual PEC/Direct and mute/solo on each of the eight inputs.

**Neotek 216**

## Martinsound

The Recorder Monitor System is designed to assist audio coping and transfers. It combines a monitor panel, changeover switching and track combining function. A serial control is included, so that a roving panel can be used for oscillator and monitor control by a technician in the machine room.

Martinsound's RMS is a multi-input monitor matrix which pro-

## XTA controller

XTA's flagship DP200 digital system controller for PA provides crossovers between drivers plus out-of-band and overload protection. The DP range also includes the DP226 speaker management system with two inputs and six outputs, with an 8-band parametric equaliser for each input. Outputs all feature crossover filters, a 5-band parametric equaliser selectable to high and low shelving filters, a limiter and delay.

Full metering is provided for inputs and outputs, with mute and access buttons allowing quick set up and gain adjustment.

**XTA 217**

vides programmable headphone, loudspeaker and VU monitoring of recorder inputs, sync outputs and repro outputs of multiple eight channel audio sources. The monitoring paths provide LCR placement for each track, separate volume, dim and mute controls for headphone and speaker, plus a single track solo. A tone injection option provides a programmable sine wave oscillator and pink noise source.

**Martinsound 218**

## Broadcast Electronics

Designed to provide an inexpensive stereo digital input path for STL applications, the Lynx is intended for broadcasters who wish to retain their existing analogue exciter. Able to accept left and right analogue audio AES-EBU digital audio on either XLR or Toslink fibre connector the input automatically synchronises and de-jitters sampling rates from 32kHz-48kHz. An analogue composite loop can be used to automatically switch to a backup STL path in the event of failure. A look-ahead digital limiter is included to handle overshoots.

**BE 219**

## SCSI decoder

Vela Research's 4-channel MPEG 2 SCSI decoder is designed for the cable and broadcast industry and features a SCSI 2 fast-wide (optional ultraSCSI) interface with NTSC or PAL video inputs. Each video channel is independently configured with separate genlock inputs to allow for the locking of video outputs to external video sources. Each video channel operates independently to allow playback of different stream types, video resolutions, compression types and start-stop times.

The device decodes MPEG 1 and MPEG 2 system, program, transport and video only streams at resolutions of MPEG 1 SIF, MPEG 2 Half D-1, MPEG 2 D-2 (FOE) and MPEG 2 D-1 (AFF). It also has stereo audio outputs with the option of left audio or right audio only on both outputs plus options for 4-channel audio.

**Vela 220**

## Drawmer

DA-6 is a balanced distribution amplifier designed to provide multi-zone operation and headphone monitoring from a single rack-mounted source. It offers six stereo or 12 mono channels on balanced XLR input and outputs. Transformer balancing is an option. Stereo inputs have individual left/right level controls with bargraph metering. Each of the six outputs also has left/right level controls, plus a mono/stereo switch. There are auxiliary link TRS jack sockets for linking multiple units.

Applications envisaged include broadcast, sound reinforcement and tape duplication.

**Drawmer 221**

## Harris

Designed to provide visual monitoring of six Dolby 5.1 channels, the new products from Harris fit into a 2U space in a machine room or edit suite. Three models are available ATSC-1, ATSC-2 and ATSC-3 accepting six channel analogue, three channel AES-EBU or encoded ATSC datstream input.

Standard features include high resolution bargraphs, L/R and F/S phase LEDs and adjustable-duration display of peak PPM value. Any single input or pair of inputs can be routed to speaker channels for verification.

Also new from Harris is an audio test signal generator ABS-1, which generates AES3 or analogue stereo tones. It supports three sample rates and can be synchronised to an external reference.

**Harris 222**

## Cost effective BMS from Sony

Available from April, BMS is a PC based radio production and automation system. With a price of around 12,000 DM for an entry level system, BMS is designed to give broadcasters cost effective manipulation of high quality digital audio via an intuitive graphical interface.

Applications include programme production and live cue playback, as well as unmanned station operation and statistically-

## Nicral enhances radio control

Nicral has debuted the Nica X Digital Audio Codec and the ARC Akcess PC user-interface for the company's ARC Multi-Master ISDN control system for radio broadcasters.

The Nica X is a multifunction codec system configurable by the user and provides X21 and S Bus interfaces. The codec is also

designed for ISDN-only applications, and is available with apt-X100 or G.722/MPEG Layer II coding.

ARC Akcess is suited to system configuration and setup tasks as well as on-air operation, and is available in single- and multi-user versions to run on new or existing PC networks.

**Nicral 223**

## QSC AudioRAVE

AudioRAVE stands for Routing Audio Via Ethernet. The technology is said to dramatically reduce cabling costs, simplify installation, increase routing flexibility and improve audio performance. Up to 64 channels of digital audio can be sent over a 100Mbit Ethernet network. Individual RAVE units will handle up to 16 channels of audio input or output.

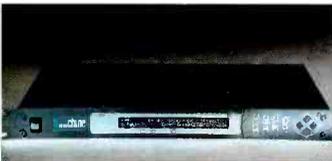
A variety of units provide analogue interfacing in a choice of channel capacities. QSC also offers the NSC8 multi-channel signal controller for remote control of any amplifier, regardless of brand. Via RS-232, the system provides discrete contact closure. Using an optional Ethernet card, the system supports eight independent channels of level control, limiting, metering and muting.

**QSC 224**

and audio databases. The system is scaleable from standalone operation to large networks and will run on any suitable Windows NT platform fitted with a PC sound card. Audio is stored and manipulated in the new EBU WAV format, supporting word lengths of up to 24-bit, plus additional channel header information. The system is also modular: separate software modules manage the media player, playlist, library and editor functions.

**Sony 225**

## TimeMachine synchroniser



C-Lab's TimeMachine universal clock converter can synchronise digital sources and sequencers to tape machines, and film and video recorders. The box

can read, generate and regenerate LTC, VITC and MTC and burn time code into video picture. It works as a standalone unit with operation via a 4-key pad and text display. Two option slots permit ADAT machine control and video sync pulse generator boards to be fitted.

The box uses a special algorithm to render MTC acceptable as a sync source.

**C-Lab 226**

## Hamlet's Monitor Scope 601

The Monitor Scope 601 can analyse NTSC and PAL serial digital 601, AES-EBU and all analogue signals with data displays, waveforms, vectors, coloured bar graphs and peak level indicators displayed on a built-in colour LCD. The digitised in-picture video outputs may also be transmitted and seen on any monitor.

It comes with an RS232 port for downloading analysed data and traces directly to a computer or printer via a modem and incorporates a new proprietary

10-bit design.

Other features include 512 x 512 display resolution; full SDI-EDH analyser; active picture EDH; pixel amplitude; SAV and EAV timings plus embedded filed group study; error time-date stamp; full field line select; vertical-horizontal measurement cursors with precise amplitude and period read-outs; overlay; mix traces with picture-black; 999 function mode memory; and internal colour bar test signals.

**Hamlet 227**



## Leader L5100 test set

A new, lower cost version of the Leader L5100 component/HD waveform monitor is now available.

Designed for TV and video measurements, the new instrument can measure the level and phase of an analogue component video signal or the level of a composite video signal.

It can be used for analogue component signals (525/60 and 625/50) and HDTV signals (1125/60).

**TTI 223**

## C180 2-way crossover

Claimed to be the most cost effective 2-way stereo crossover available, the C180 from Studiomaster is an 18dB/octave design with only rear-mounted output-level controls. Factory-fitted with a crossover point of 150Hz, the unit is supplied with four other plug in frequencies (80, 100, 200 and 250Hz) on SIMM type cards. Intended for biamped systems, a mono switch sums the two low outputs for adding sub bass feeds to an existing multiway system. The unit has signal present leds, balanced jack and XLR connectors, and separate ground lift switches on inputs and outputs.

**Studiomaster 228**

## Neutrik's audio analyser

Neutrik has introduced the RT-2X Audio Analyser which features analogue and ISDN inputs and outputs. The remote-controlled instrument was designed for the simultaneous acquisition of level, distortion, noise, phase and cross-talk plots vs frequency. Three versions of new BNC connectors - non-locking budget, bayonet with easily accessible locking, and push-pull - all feature a new cable clamping system and an absolute constant wave propagation resistance (60 or 75 Ohm) is guaranteed. They are compatible with existing BNCs.

**Neutrik 229**

## AudioVault upgrade

V6.5 of the AudioVault digital audio system includes Voice Tracker as an extension to AVSchedule that simplifies the scheduling, production and maintenance of recorded voice tracks. AV-Edit is a cut and splice editor that greatly simplifies the most common editing tasks around a station. AirBoss is a text management system that integrates text jock, music and artist notes and live copy reads into your on-air studio.

**BE 230**

## Datatester

The Datatester 64K portable data communications test set has a set of error-rate facilities together with a datascopes function. It includes a full V.24 breakout and patch area together with optional X.21, RS422 or V.35 interface adaptors.

**Datalines 231**

## Audio Precision

The ATS-1 audio test system has features designed to simplify benchtop testing, with an easy to comprehend front panel which produces readings from a single push of a function button. Three parameters are simultaneously displayed, including amplitude and noise level, THD+N, SINAD, IMD and frequency, as well as phase, crosstalk, level ratio, S/N, wow and flutter. Accuracy across the audio spectrum is said to be 0.2dB, with the frequency response 20Hz-20kHz 0.05dB.

**AP 232**

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**Fostex**

The DMT-8 VL eight-track hard disk recording system is now supplied with a 1.6Gb hard disk, 8339 SCSI interface and version 2 software. The larger capacity give the system approximately 37 minutes of eight track recording without compression. The new software enables mix bounce, nine virtual reels and an improved function for editing, which loops one second of audio around the edit point. A V2 EPROM upgrade is available to existing users for 29 inc VAT from SCV London.

**SCV 234****Paris update**

Ensoniq says that it is now shipping its Paris DAW for Wintel PCs or PowerMacs. Core of the system is an Ensoniq EDS1000 PCI card, a cross-platform CD-ROM with MacOS and Windows 95 compatible software and a 16-channel Control Surface. It is available in three bundled versions with different I-O options determining the particular bundle.

**Ensoniq 235****Publison**

Three significant improvements have been made to the Totalstation DAW. The pitch change/varispeed function can now be adjusted in real time during playback with immediate confirmation of the result. OMF files are now supported for project import or export, via network or removable media. The networking capabilities have also been improved, with transfer rates of 1.5 minutes for one hour of audio claimed. The network is said to operate in the background and to permit instant auditioning of sound clips on remote systems. Duplex capability enables simultaneous, bi-directional sound file transfer between two Totalstations.

**Publison 236****Foundry plug-ins**

NAMM saw the introduction of Soft Encode, a plug-in for Dolby Digital AC3 encoding. This is a stand-alone, running under Win95 and NT comes in both 5.1-channel (\$1995) and 2-channel (\$695) versions. XFX 2 is a suite of plug-in processors for Sound Forge 4.0 including a gate, graphic EQ, parametric EQ, paragraphic EQ, graphic dynamics, multiband dynamics.

**Sonic Foundry 237****MOTU launches budget 24 track**

Mark of the Unicorn has launched a 24-track expandable hard disk recording system for PC or Mac, with a UK suggested price of £850 plus VAT. Model 2408 offers 24 simultaneous inputs and outputs, with the ability to expand to 72 channels and include real-time effects.

The system's PCI card connects via Firewire to an external 1U I-O module containing six Alesis ADAT fibre optic connectors and three Tascam TDIF connectors, either of which will provide 24 tracks of digital interfacing. There is also a bank of eight unbalanced phono outputs, as well as one stereo SPDIF input, two stereo SPDIF outputs, and two balanced outputs on TRS jacks. As many as three 2408 I-O units can be connected to a single PCI card, giving the full 72 tracks.

Macintosh versions will be

shipping with audio workstation software supporting 16-bit and 24-bit recording. The Windows version will have a driver compatible with audio applications that support multichannel Wave drivers.

The Mac software will apparently include multichannel waveform editing, automated virtual mixing, graphical editing, real-time effects plug-ins and support for third party plug-ins in MOTU Audio System and Adobe Premiere formats.

Although the PCI card handles I-O processing and also acts as a digital router audio processing is handled by the host computer. MOTU says that a 200MHz+ Power Mac will provide 16-24 tracks of audio, with the very fastest machines allowing 32 tracks or more.

**MOTU 238****Akai samplers get flash ROM**

The Akai S5000 and S6000 samplers have a completely new flash ROM multitasking operating system and the demands of polyphony, outputs, memory and disk limits have been met with a new processor. There is some modularity possible with the hardware and the software is open ended for easier addition of future features.

One of the most significant developments is the implementation of .WAV files as the native sample format which means that sound design can be performed on the samplers and when the drive is hooked up to a PC work can be continued.

It also opens up avenues of convenient downloading of sounds into the machines. The S5000 and S6000 deal in true stereo and will read S3000 and

S1000 sound libraries.

Specifications include 128-voice polyphony, which is standard on the S6000 and upgradable from 64 voices on the S5000, the ability to install 256Mb of RAM, 32-channel multitimbral operation, two pairs of MIDI in-out-thru ports, digital I-O, 16 individual outputs configurable as stereo pairs, wordclock connection and two SCSI ports. Additionally both machines can replace their on-board floppy drives with a Zip and the S6000 will also be able to house a Jaz drive. An ADAT digital interface is planned.

A 4-channel 20-bit multi-effects processor is being developed and this will be standard on the S6000 and optional for the S5000.

**Akai 239****AudioFile 98 and networking**

AudioFile 98 is based on AMS Neve's 24-bit platform with networking capability and Version 3.0 software.

Features include 24-bit recording with 16 and 24-bit editable together, waveform display and threshold recording. Strip silence can be used to tidy up an EDL while multilevels of Undo and Redo are now available. The machine supports 4.3G and 9.1G drives, OMF2.0 import and a MADI I-O option.

StarNet networking provides multiple AudioFiles with access to multiple drives connected via fibre optic cables. The network is a star configuration running 400Mb/s optical connections. When an AudioFile is connected to StarNet the direct connection between the worksurface and its storage devices is replaced by connection to any storage device on the network with all disks housed in removable chassis.

A system wide directory of network disks can be viewed at any time and the transfer of individual sound files is available to all StarNet users while the off-line back-up and restoration of projects is also facilitated by the Media Toolbox which manages this and the import and export of files from other systems, such as OMF2.0 and .WAV files.

Media Toolbox is available as a standalone device for use with a single machine or as a networked device.

**AMS Neve 240****Nagra C-PP**

The Nagra C-PP digital network audio transceiver-recorder-editor incorporates many performance features of the ARES-C portable but in a lower priced studio unit.

It is designed around PC and Flash memory technology with a single 64Mb PC card providing more than two hours continuous mono recording.

The system has no internal moving parts, and is said to be virtually maintenance free. Nondestructive editing is built in, and the unit's ISDN codec provides digital transmission while a standard 2-way analogue telephone connection is also provided.

The C-PP can be programmed to receive and record files on the PC card or playback a preselected file every time a call is received.

**Nagra 241**

Introducing the latest in  
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together and the new dedicated controller provides track arming, solo and optional metering of 48 tracks. RADAR II locks to all standard SMPTE rates, video composite and word clock formats. Sampling rates are variable between 32 and 48 kHz. Varispeed, MIDI I/O, and RS-422 are standard, making interfacing with all existing studio equipment simple. Contact Otari today for RADAR II information and listen to the future of digital recording.

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**Reader Response No. 019**



### Tascam dubber

The MMP16 derivative of the MMR8 dubber offers 16-channel of playback, 20-bit D-A and 24-bit digital output capability and can load and play Pro Tools session files, Waveframe projects and OMF compositions directly. Version 1.25 software for the MMR8 and MMP16 includes OMF export, 9-pin, PC-AT keyboard connection with the MMRC remote and Pro Tools 3.2 and higher session files compatibility.

**Tascam 242**



### Opcode Vinyl

A new DSP plug-in from Californian software experts, Opcode, is intended to bring the character of vinyl recordings to your recordings. Terming the property 'grit', Opcode presents it in 78, 45, and 33 1/3 rpm varieties and offers control over record surface and condition in its Fusion: Vinyl program.

**Opcode Systems 243**

### Sonic Acid

Sonic Foundry has unveiled the Acid digital audio loop sequencer for Windows 95 and NT which specialises in loop arranging and permits real-time pitch and tempo adjustments on multiple loops simultaneously. Loops can be previewed in real time before being opened and the program automatically matches the tempo and pitch of a loop. Tempo changes are made on a bpm slider while multiple time stretching algorithms allow users to choose the setting best suited to the material.

**Sonic Foundry 244**

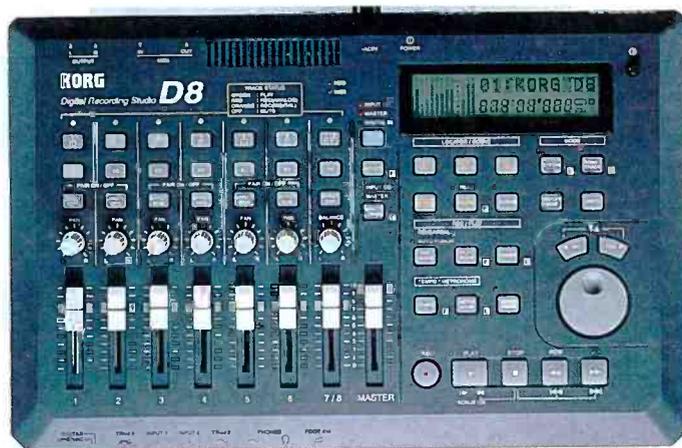
### DD8 exchange

Software revision v1.50 for Akai's DD8 dubber allows direct playback of Sound Designer II takes from Mac-formatted Pro Tools disks. The process requires an OMF Composition to be created containing only the edit information from the Pro Tools session and the DD8 relates this directly to the audio takes in the Pro Tools native file format allowing the OMF Composition to be played back instantly.

Direct file exchange with other manufacturers is planned and DD1500 users will receive the same capability with their system's next software release.

**Akai 245**

## Korg digital 8-track has rhythm



The D8 8-track hard-disk recorder has a 12-channel 4-bus digital mixer incorporated together with a 1.4Gb drive.

It records 16-bit uncompressed at 44.1kHz using 24-bit internal processing with simultaneous recording of two tracks and simultaneous playback of eight.

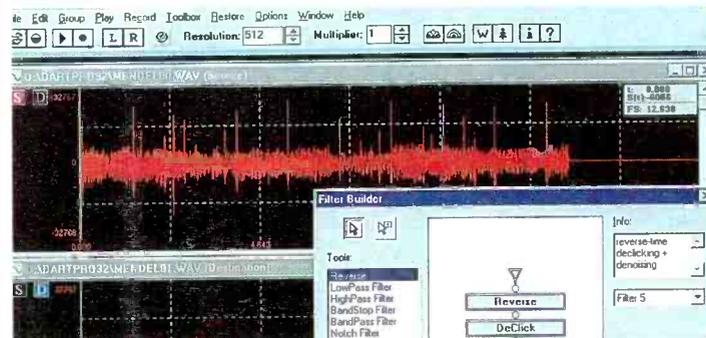
The mixer's two analogue inputs have balanced inputs with mic preamps. EQ on all channels is 2-band with an internal effects processor providing 65 preset effects of 48 effect types which can be edited and stored to 65 user memories.

Settings for faders, EQ, pan effect send and aux send can be stored to 20 scenes per song.

Editing operations, such as record, copy and paste, are nondestructive and songs and phrases that are recorded or edited are saved automatically and punch in-outs can be performed manually or automatically. Additionally, the device has 131 rhythm patterns.

Tracks can be scrubbed, there are three locates per song, and 100-mark point memories per song. Songs can be played back in a specified order for sequential playback. Synchronisation is via MIDI clock, MTC or MMC, and connectors are provided for SCSI port, SPDIF and phonos for analogue connection.

**Korg 246**



## DART PC-based restoration

DART Pro 32 is a PC-based 32-bit noise reduction software package with CD burning capability. The system includes noise algorithm layering for combining processes, pitch shifting, 3D spectrum analysis and a function that allows the recording of a 78rpm record at 33 1/3 rpm and then translate it in the computer to the original speed.

DART is complemented by Diamond Cut audio restoration tools V2.0 real-time noise reduction application again for PC. Algorithms are provided to remove clicks, pops, hiss, surface noise, hums, buzzes and static. The package includes a variable

speed controller for correcting varispeed problems within a soundfile and a forensic-type application for pulling voices out of extremely noisy material for instances where the noise outweighs the good signal.

An intelligent harmonic reject filter used for hum and buzz can remove 500 harmonics in one pass. CD quantisation allows a complete album to be recorded on to the hard disk, markers to be dropped at the end of each song and then the appliance of a 'chop file into pieces' function which breaks the recording into track-sized chunks.

**Tracer Tech 247**

## Cream Scope

Creamware has announced the Scope (Scalable Object Processing Environment) modular DSP platform for Mac and PC, which combines the technologies of sampling, synthesis, effects and mixing.

Based on a multi-DSP PCI board that can use 12 SHARC processors, it includes a large library of components from DSP modules to complete devices with their graphical user surface and presets. Scope will be able to operate several devices at the same time to emulate a complex studio set up.

The system will be open to third party developers and integrates into the TripleDAT family of workstations. Many of the Pentium native DSP effect modules of TripleDAT will be able to be used within Scope and all Creamware's present hardware can be integrated into the system to increase the number of physical I-Os.

**Creamware 248**

## Canadian digi 8

The Bertsch DPR-8 is an 8-in, 8-out hard-disk recorder with built-in dynamics processing. Its 8 compressors, 8 gates, and 8 duckers use look-ahead RMS envelope detection while two assignable side-chain inputs permit de-essing.

A digital mixer and headphones amp are included and DPR-8s can be synced together to create larger systems. A-D and D-A converters are 18-bit, the standard removable drive is an EIDE 1.5Gb and options include an SMPTE interface, TDIF interface and 3.1Gb internal drive. The machine has a selection of editing processes and is compatible with all Vestax HDR Series machines.

**Bertsch 249**

## Arboretum effects

New Hyperprism Windows processing software from Arboretum represents a first in PC-based systems and offers 25 processes including pitch shifting, ring modulation, filtering and delay effects as well as a selection of conventional delay, pan and reverb processes and custom effects such as Quasi Stereo and Sonic Decimation. The program is compatible with Microsoft DirectX and Active Movie applications such as Sound Forge and Cakewalk pro.

**Unity Audio 250**

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# mixtreme™

Digital Mixing, Real-Time Effects, 16 inputs & outputs, any questions?

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Windows 95



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£449.00



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**.

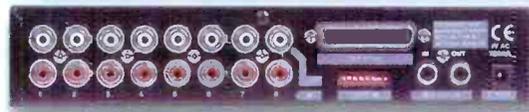
The **mixtreme** PCI card has a completely different concept, as not only does it provide 16 channels of 24 bit digital I/O via two industry standard 3 channel TDIF (Tascam Digital Interface) ports, but it also has 24-bit custom digital mixing and real-time DSP effects plug-ins from some of the worlds' 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 or 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.



## SS8IO-3 Interface

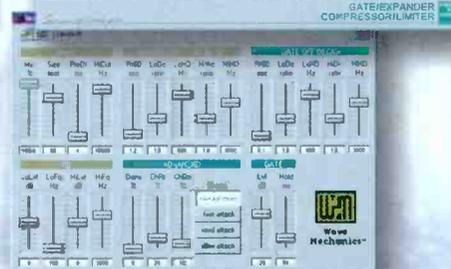
- 8 channel TDIF to unbalanced analogue I/O (cinch/RCA connectors)
- 20 bit AD/DA Converters
- Wordclock/Super-clock in/out

SS8IO-3  
£449.00

## SS8IO-2 Interface

- 8 channel TDIF to ADAT 'lightpipe' conversion in both directions (simultaneously)
- Wordclock/Super-clock in/out

SS8IO-2  
£449.00



Reader Response No. 020

TDIF

Soundscape Version 2.0

emagic Logic

Soundscape™  
Digital Technology

adat

AUDIO TOOLBOX

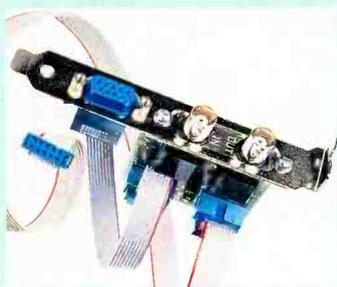
WaveMechanics

CAKEWALK  
MUSIC SOFTWARE

APHEX

TC|WORKS

Tel: +44 1222 450120 Fax: +44 1222 450130  
email: sales@soundscape-digital.com  
http://www.soundscape-digital.com



### Sonorus enhancements

The Studio/i 16-channel digital interface for PC and Mac DAWs is soon to be made available in a version designed to complement Steinberg's Cubase VST 3.5. Studio/i users are currently able to use Cubase VST via the standard Windows WaveAudio drivers, Asio drivers will noticeably improve the overall performance. Drivers will also be released for Windows NT 4.0. Other news includes the Sync Backplate for Studio/i which provides word clock in and out, ADAT timecode input and MTC input.

**Sonorus 251**

### Roland 16-track

Roland's VS-1680 24-bit 16-track system combines recording, mixing, editing and effects processing based on the same technology that produced the VS-880. The device offers 16-track playback, 8-track simultaneous recording, a 26-channel fully-automated digital mixer, 256 virtual tracks, nondestructive editing, optional CD recording capability, and two optional multi-effects boards offering four independent stereo effects processors. Operation is helped by a 320 x 240 dot LCD, 20-bit D-A and A-D converters and a 2.1Gb internal hard drive.

Roland has also introduced the VS-840 workstation that combines 8 tracks of digital audio recording, digital mixing, editing, 64 virtual tracks, built-in effects and removable Zip disks.

**Roland 252**

### DVD-ROM developer

Available for Mac OS and Windows NT, Sonic DVD Vobulator is an authoring tool that enables multimedia producers to create content for DVD-ROM and digital broadcast use.

Designed to convert video, audio and still images into the data formats required by DVD, the package includes software-based MPEG2 variable bit rate video compression, Dolby Digital surround audio compression and Video Object multiplexing and demultiplexing. QuickTime, AVI or OMF video files can be converted into MPEG2 variable bit rate or constant bit rate video.

Compression parameters and group of pictures structures can be varied and DVD Vobulator also converts uncompressed digital audio files in AIFF format into Dolby Digital digital audio.

**Sonic Solutions 253**

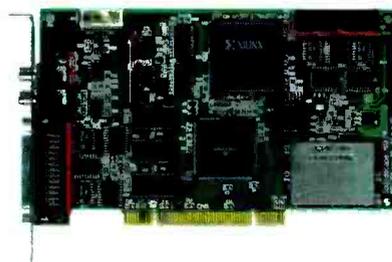
## Soundscape adds PCI card

A PCI digital audio interface card and two less expensive audio I-O interfaces, the SS8IO-2 and SS8IO-3, will be released by Soundscape.

The card will run 16 tracks of digital audio simultaneously, in and out of the computer, using 2 standard TDIF ports and will be supplied with the company's V2 Mixer Software from the SSHDR-1 plus DAW.

This will allow the use of high quality third party plug-ins developed for the SSHDR-1 Plus, such as TC Reverb, Wave Mechanics Reverb and the Soundscape Audio Toolbox

Soundscape does not intend to provide any editing/recording software for this product - as it is intended for use with PC software, such as Sound Forge, Cakewalk, Emagic Logic Audio, Cubase Audio & VST, SAW, Samplitude, and Cool Edit. Additionally there are packages for the video post industry that could also use the



card, including Adobe Premiere, In-Sync Speed Razor, Ulead Media Studio, Softimage DS, Montage, and DVision.

The PCI card has a projected retail price of US\$700. As well as the twin TDIF ports, it has MIDI connections and optional SPDIF I-O and wordclock. The Mixer will support 32 channels of audio from the PC's PCI bus mixed to the 16 outputs.

The two new pieces of hardware are a TDIF-ADAT unit (currently known as SS8IO-2) and a TDIF to 8 channel unbalanced unit (currently SS8IO-3) with 20 bit converters. The target price for each is US\$600.

**Soundscape 254**

## Steinberg VST 3.5.5 for PC

Steinberg has released Cubase VST 3.5.5 for Windows which now features channel inserts meaning that every channel of the VST mixer is able to run four additional effects and realises 32 x 4 additional effects for the entire system.

Other features include an updated implementation of DirectX Plugins, support for Recycle Export Files, and the VST Audio Engine can now be disabled while VST is running.

Cubase VST for Windows has also been integrated with the Lexicon Studio System. The Steinberg ASIO system provides complete support for LexiPowerCore technology for 32 tracks of 24-bit audio. Cubase



VST directly supports the PC90 complete PCM90 effects daughter board for the Lexicon Core 32 card.

**Steinberg 255**

## Otari releases RADAR II with 24-bit I-O

Otari has released RADAR II as an enhanced version of its random access digital multitrack. Features added include 24-bit resolution, built-in backup and storage, a single 9Gb drive, new digital and analogue I-O and a new remote with 48-track arming.

**Otari 256**



## Akai upgrades to 24-bit

Akai has announced the Kit-DD8, an upgrade path for its DD8 Digital Dubber which allows 20- and 24-bit recording at sample rates of up to 96kHz. An upgraded DD8 will be able to mix 16-bit, 20-bit and 24-bit media in a single Project, and will also be able to play back disks from all earlier DD and DR systems. Significantly the DD1500 will be able to playback and edit 24-bit media, courtesy of a 'split bit' 24-bit recording mode on the DD8.

Akai is enhancing the file compatibility of its DD8 and DD1500 with other digital audio workstations. New software allows the use of a Mac formatted disk as the native hard drive and to record in AIFF or SDII formats. The same software also allows the machines to receive and work with some file types recorded on Mac disks without the use of OMF.

**Akai 257**

## Fostex launches budget HD

Just £339.50 ex VAT (UK price) now buys you a digital four track hard disk recorder, albeit without the hard disk.

The FD-4 is not supplied with an internal drive but has a SCSI-2 port, allowing the user to hook up a range of drives, including devices they may already own. In addition to editing and MIDI facilities, the unit has a four channel mixer with two XLR mic inputs.

Another new product, COP-2 accepts an optical input and outputs a balanced XLR signal, as well as transmitting SPDIF and ADAT Lightpipe signals for distances of 100m and 20m respectively. The manufacturer also offers the COP-1 SPDIF optical to coax converter.

**Fostex 258**



# THE FUTURE OF MIXING HAS ARRIVED

It's not another million dollar mixing console. And it's not the impossible dream. ProControl™ is, quite simply, the most powerful tactile control surface for the world's leading digital audio production environment — Pro Tools.

Anything you can do with your Pro Tools TDM system, you can do from ProControl. Record, mix, edit, and automate everything — including mutes, sends, volume, panning, and all Plug-In parameters — with instant and total recall. Access all the tracks in your session from the ProControl Main unit, or add Fader Expansion Packs (in eight-channel increments) for up to 32 faders. ProControl even has a



comprehensive monitoring section, so it's the only mix controller you'll need in your studio.

We could go on and on about ProControl's patented DigiFader™ touch-sensitive moving faders, the unique Channel Matrix, and other powerful features, but here's the bottom line: a Pro Tools/ProControl system runs circles around consoles and recorders costing 5 or 10 times more. So what are you waiting for? Put the future of mixing in your hands today.

Call Digidesign at **01753 653 322 ext. 496** for a full-color brochure or to schedule a personal demo with an authorised ProControl Dealer.

**DAT** 0181 450 5665  
**Music Lab** 0171 388 5392

**Syc** 0171 625 6070  
**Tyrell** 0171 343 5500

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Reader Response No. 021

## Merging cards

Keops is Merging Technologies' new 16-track PCI-based V2.1 compliant audio card for the Pyramix Virtual Studio. It uses a 32-bit floating point DSP engine. Sphinx is a modular A-D/D-A convertor, the 8 ins and outs of which can be configured as 24-bit converters up to 48kHz or 96kHz as an option. It connects optically to Pyramix. DUA has an on-board MTM interface that allows it to be interfaced to the Kefern and Keops audio cards. It occupies a single ISA Type Bus PC slot and contains all A-D/D-A electronics and AES-EBU I/O circuitry while a breakout box provides analogue connections and headphones monitoring. DUA has 4 analogue inputs, 6 analogue outputs, 2 AES-EBU 24-bit inputs and outputs, internal crystal lock, external AES-EBU sync and external wordclock sync.

**Merging 259**



## Cubase Native in V4.0

The latest version of Cubase Native Audio Processing and MIDI sequencing technology for Power Macintosh has been released. Developed in close connection with Apple, Cubase VST/24 4.0 offers 64 tracks of digital audio in 24-bit, 96kHz quality with each channel using up to four brands of EQ. Recordings can be shaped with up to four Plug In inserts per channel, with eight aux sends addressing up to eight effects Plug Ins in the aux effects rack. The new group mixers offer four insert slots for effects and Plug Ins. The mastering section offers busing to individual outputs of a range of supported digital audio cards including the Korg 1212, Sonorus StudI/O, Lexicon Studio and Yamaha's DSP Factory. Internal resolution has been increased to 15360 ppqn, and there are a host of new MIDI and audio editing functions including a controller editor for detailed editing of any recording parameter, a MIDI-Track mixer and Drag & Drop.

**Steinberg 260**

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stereo  
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have the dis-  
bits made  
a materi-  
ginnick

**gear from Santa Fe**



**Rapid Response works!**

application. Each enlo-  
ure apparently takes a  
number of days to man-  
ufacture and the finished  
systems are computer  
matched.  
Sculpture One has a  
quoted frequency response  
of 60Hz-20kHz, while  
Sculpture Two has a be-

**Focusrite Pink?**

The new Focusrite  
machine boards and  
internal digital patchbay  
which will route any digi-  
tal or analogue input to  
any track and any track to  
any digital or analogue

25kHz. Both are two way  
systems with bass drivers  
of 142.1dB and a 4000  
soft dome tweeter.  
The latest addition to  
the Pink series range of  
mixers will do 20 16/2  
and 20 16/2 and 20 16/2

**Digital Goals**

## Steinberg launches Nuendo post editor for SGI

Steinberg's Nuendo is audio postproduction software for the Silicon Graphics computing platform and combines native audio processing with EQ, real-time effects, VST-compatible plug-in architecture and up to 256 tracks of digital audio plus MIDI recording and editing.

Audio can be recorded, processed and played back at 44.1, 48, 88.2 and 96kHz sample rates and 16-, 20- and 24-bit resolution.

SGI's Octane and Onyx2 workstations come with eight channels of 24-bit ADAT optical I/O as standard, expandable with additional cards. Audio processing can be run off-line or in real-time using VST plug-in architecture.

Several Nuendo front-ends can be run on various machines



hooked into a central server, allowing separate dialogue editing, sound fx and music alignments sessions to run simultaneously. Nuendo supports Studio Central, an open

framework for media asset management which allows creating, searching, editing and archiving of media data to be comprehensively implemented.

**Steinberg 261**

## Fairlight demonstrates MediaLink file server

Fairlight has demonstrated its MediaLink PC-based file server supporting multiple audio networks with multiple simultaneous transfers between connected systems. Storage options include single or multiple high speed RAID arrays with data redundancy and MediaLink takes advantage of the PCI architecture of the MFX3Plus for an affordable 100Mbit network on ethernet cabling. Communicating on TCP/IP protocol, MediaLink will allow edit lists, OMF files and audio in standard file formats to be exchanged between systems in a multiplatform environment.

Version 2.0 software for FAME allows support for 5.1 surround, dynamics on all mixing buses (including auto-gain and enhanced metering) and dynamics and EQ are now available on all inputs patched directly to tracks. V2.0 allows storage of automated files on the hard drive and combined back up and there is now full cue list automation including VFX, notepad and console preset events. Using locate points as cues permits frame-accurate static punch ins from preview to write mode. New automation modes include auto takeover and outboard automation plus expanded

macro capability.

MFX3Plus' revision 14.3 supports audio in 18, 20 and 24-bits in any combination in a project and a new overwrite recording mode. Fade across clips, solo follows edit and an enhanced wave menu have been added to the editing functions. New features for the DaD 24-track dubber include the ability to be configured as a 2 x 12, 3 x 8, 4 x 6 or 24 x 1 track dubber. It now also features Multi-Project Load for the simultaneous loading and playback of 24 projects in any combination and in any supported format from six disks.

**Fairlight 262**

## Digigram adds stereo PCXnp PCI bus cards

Digigram has added two stereo record/playback cards to its multichannel PCX800np range. The PCX820np and PCX821np are designed to complement the PCX800np and 801np, which were launched last year.

The PCX820np is an analogue record/playback PC sound card for PCI busses, with four balanced analogue stereo or eight mono outputs and one stereo input that can be configured as a balanced analogue or AES-EBU connection.

The PCX821np is a digital record/playback PC sound card with four stereo AES-EBU outputs and one stereo AES-EBU input. All PCX800np series cards use a 32-bit driver.

The PCXnp driver features better multitasking and multiple application management. Multiple audio streams, in linear PCM or MPEG compressed formats, can be mixed into each



hardware output.

Digigram has also introduced the LCM range of professional PCI sound cards. The first in the series are the LCM440, giving duplex operation with any combination of up to four active mono inputs and outputs, and

the LCM220, a full-duplex card that can mix three stereo files to its stereo output. This last product is available in two versions: one with unbalanced I-Os (LCM220A), the other with balanced I-Os (LCM220B).

**Digigram 263**

I N T R O D U C I N G ...

# CUBASE

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## VST

### 4.0

Cubase always had a life of its own. It was always ready to take a twist and a turn as it became the blueprint for today's sequencing model. Now the new version 4.0 for the Power Macintosh takes one giant leap as it prepares itself for the coming millennium. Be part of it.

**Steinberg**  
[www.steinberg.net](http://www.steinberg.net)

### Massenburg partners with Sonic Solutions

Sonic Solutions has announced that George Massenburg Labs has signed on as the first member of Sonic's High Density Signal Processing Partners group. The HDSP is intended as an exclusive partnership between Sonic Solutions and leading developers of audio processing technology to deliver a full range of 24-bit, 88.2/96kHz High-Density Audio and surround sound processing applications for the Sonic Solutions SonicStudio DAW. The new Sonic HDSP Plug-in Processor uses an advanced multiprocessing DSP-based architecture to deliver a fast and flexible hardware platform. With four, parallel-patched 80MHz 24-bit 56301 DSP processors, the plug-in processor can provide up to quad-precision accuracy for stereo 192kHz audio. GML is currently developing a double-precision mastering equaliser and other 96kHz/24-bit mastering tools for the HDSP Plug-in Processor.

**Sonic Solutions 264**

### Pro Tools/ADAT bridge

Digidesign's ADAT Bridge I-O is a redesigned ADAT interface for Pro Tools, which features 16 discrete channels of ADAT optical I-O and allows users to transfer 16 tracks of digital audio into Pro Tools in a single pass. The Bridge can be used as the sole interface or used in addition to Digidesign's 888/24, 888 or 882 I-O with Pro Tools/24, Pro Tools III-PCI or Pro Tools Project PCI systems. Users with multiple ADATs, or ADAT optical-equipped devices such as Yamaha's 02R and 03D digital mixers, can combine multiple ADAT Bridges for up to 72 channels of I-O. The ADAT Bridge I-O is compatible with any digital audio sequencer that is Pro Tools 4.1.1 compatible, as well as with third-party ADAT sync devices such as the Alesis BRC and MOTU's Digital Timepiece. It also includes a 20-bit D-A pair for high-quality monitoring, and 24-bit capable SPDIF and AES-EBU ports.

**Digidesign 265**

### Merging networks

Merging Technologies has introduced AudioShare networking which uses Fibre Channel Arbitrated Loop technology to link two, three, or more DAWs to the same storage devices as if they were connected locally. This enables multiple users to access the same files simultaneously, doing away with multiple file copies or a server to keep them on. In this way Merging Technologies claims it has eliminated the need for post production, CD mastering and broadcast facilities to invest in expensive intermediate file servers. Information is sent between the workstations at 100Mb per second, connected by either copper for up to 30m between nodes or fibre optic cable for distances of up to 10km.

**Merging Tech 266**

## Pro Tools gets dedicated control surface

Digidesign's ProControl control surface for Pro Tools is modular with expansion to 32 channels of tactile control of virtually every function in Pro Tools. It employs touch-sensitive moving faders and a dedicated switch group for dynamic and snapshot automation for parameters capable of automation in Pro Tools TDM.

ProControl provides direct access to recording, mixing, editing and routing functions of Pro Tools, and includes 25 eight-character LCD scribble strips.

**Digidesign 267**



### Well Aard guy

The Aark 20/20 from US developer Aardvark is a 20-bit PCI audio card with eight multi-track analogue I-O and stereo digital I-O on SPDIF. During replay, all 10 outputs can be used.

Included with the system are full level mixing, stereo level meters, monitoring, word clock sync, video sync, and a control panel designed to allow the elimination of sync and sample rate errors.

The Aark 20/20 can be used with a wide range of third party audio applications and comes bundled with Samplitude Basic multitrack recording and effects software. Also available is a bundle with Sound Forge 4.0 from Sonic Foundry.

Price is US \$995.

**Aardvark 268**

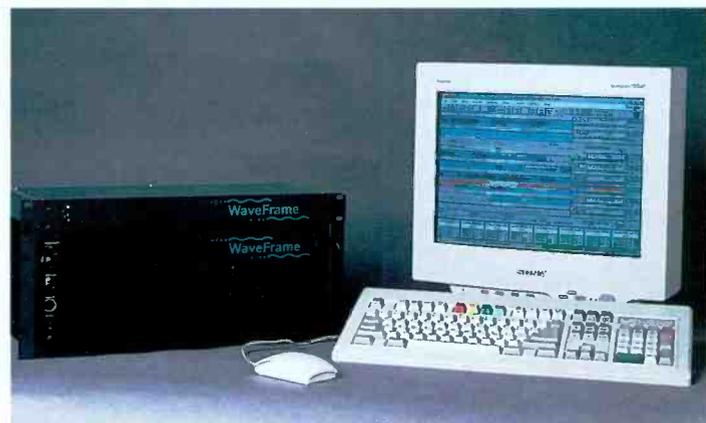
## Soundscape adds plug ins

Aphex Systems has announced an agreement to develop Aural Exciter Type III and Big Bottom Pro DSP plug ins for the Soundscape SSHDR1-Plus DAW and the new Soundscape Mixtreme 16-channel PCI card.

The real-time plug ins for the Soundscape V2 mixer run on Motorola 56301 DSP with Windows 95/98/NT front ends. The plug ins are modelled on the top range Aphex Model 104 Aural Exciter Type III and Big Bottom patented circuitry.

Also announced is the TC Dynamizer plug in which delivers TC-quality mastering dynamic effects for the SSHDR1 and Mixtreme PCI card.

**Soundscape 269**



## Waveframe 408 Plus workstation

Waveframe's 408 Plus workstation plays back 8 tracks from a single SCSI bus which is identical to Tascam's MMR8 dubber. Version 6.2 software adds OMF2.01 file compatibility, support for optional multichannel digital I-O and import/export filters for WAV, AIF and SDII formats. Other features include 64-bit graphics, Sony P2 and ES

bus machine control, ISA and PCI expansion slots and integrated Ultra SCSI controller for OMF and multimedia applications.

The 408 Plus shares the same underlying architecture as its predecessors the 401, DCS and DAW80 with prices starting at \$10,995 US for an 8-track, 8 analogue I-O configuration.

**Advanced Systems 270**

## SAV demos 192kHz SADiE

Studio Audio & Video has introduced its latest digital audio workstation. The SADiE 24 96 offers 192kHz editing and mixing, surround sound and can give up to 32 inputs and outputs. It is available now and sells for £5995 including computer.

It has been designed for film and television, CD/DDP mastering, music editing, radio production, telecine transfer, speech editing, education and multimedia. As 24-bit, 96kHz and 192kHz operation is standard, the new DAW is said to be DVD ready. Surround sound mixing and editing can be handled by the eight

channels of the I-O card, with all internal audio processing working on 32-bit floating-point accuracy.

Each system includes a CAT card, which supplies a time-code reader/generator and 4-channels of RS422 interface.

Also included is the Breakout Box 800, with 8 channels of XLR digital I-O, XLR digital reference input, RS422 nine-pin I-O, XLR timecode and 8 channels of unbalanced analogue I-O. There is also the Breakout Box 800B, adding balanced XLR analogue inputs and outputs at all standard operating levels.

**SAV 271**

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# THE NEW WAVE IN SOUND

This is the RMS 2020 radio microphone system.

It's an advanced, 32 channel synthesised diversity system with ground-breakingly clear sound and superb reliability. Audio Media called it "quite remarkable".\*

Test it and you will too.

\* Audio Media, January 1998



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RADIO MICROPHONE SYSTEMS

*Sound Designed*

Reader Response No. 023

### Small lavalier

Latest mic from Countryman Associates is the B3 small, round, omni electret which is said to be resistant to moisture and makeup. The mic is available in black, white, light skin, cocoa and grey and boasts a claimed frequency response of 10Hz to 25kHz and an SPL handling of up to 150dB on 48V power. The model is accompanied by the Isonax headset mic which has a headband that fits around the back of the head. Available with hypercardioid or cardioid patterns with a frequency response designed to create a 'warm' sound at the side of mouth position, it features a telescopic adjustable mini-mic boom.

**Countryman 272**

### Rode on-air

The Broadcaster is a low cost, large diaphragm condenser microphone aimed at the on-air voiceover market.

The one-inch gold sputtered capsule is internally shock mounted. In addition to the sound quality associated with this type of microphone, the unit apparently sports an integral LED which serves as an on-air indicator. Two of the five pins on the XLR can be connected to a console or announcer-controlled mute button.

**HHB 273**

### Future sound of Microtech Gefell

Microtech Gefell's UM900 is based on the ageless M7 capsule (originally designed by Georg Neumann many years ago and immortalised in the likes of the U47 and M49 mics), but is combined with more up to date design work.

For instance, unlike most valve mics the UM900 operates off regular 48V phantom powering. Additionally, a variety of polar patterns are available as is a -10dB pad switch.

**Microtech Gefell 274**

### A string of Pearls

Pearl Microphone Laboratory has three new models: the CC 22, TL 44 and DS 60 mics.

The TL44 revamps the older TL4 model but still retains the original polar pattern switching flexibility of the original. The CC22 aims to offer a completely honest flat frequency response and very low noise. Meanwhile the DS 60 is a multipattern microphone with four cardioid outputs, 90 degrees apart from each other.

Pearl also has a microphone for fixed installation applications. The PA 58 has been developed to replace the old PA 54. The difference is a smaller microphone head at a 25cm gooseneck. Moreover, the frequency response is markedly flatter in the frequency band 3kHz-8kHz while the updated PA 58 has its electronics powered by 15V to 48V phantom power.

**Pearl 275**

**More features and more performance per pound than any other UHF Radio System on the market.**

The new Freedom range of wireless microphones gives you the choice of upto six full diversity UHF receivers in 1 U. Freedom is a fully synthesised, frequency agile UHF system with additional features such as auto set up, selectable user groups and battery status indication. The system has a built in DA, allowing you to run an active aerial system giving outstanding audio and R.F. integrity even in the most demanding environments. Freedom allows you to choose from a range of six transmitters giving you the flexibility to match a system to any application. Why use VHF systems when UHF technology is now so affordable?

**For further details & prices, and to arrange a demonstration, please contact Total Audio Solutions**

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Telephone: 07000 45 6000 Facsimile: 07000 45 5000

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**Reader Response No. 024**



### AKG updates C1000S

AKG has updated the 11-year-old C1000S. The new version still has a Polar Pattern convertor but adds a Presence Boost Adaptor. In cardioid mode this provides a 5dB peak between 5 and 9kHz.

Cosmetically the new model has a satin-silver finish and an improved battery compartment.

**AKG 276**

## Schoeps filters

**S**choeps has introduced a new line of active high pass filters for removing wind, infrasonic and handling noise.

The phantom powered LC60 and LC120 filters (60Hz and 120Hz frequencies respectively) have low output impedances for low long run cable losses and RF pickup and are inserted in any convenient point in the mic cable.

Although designed primarily as an accessory for the CCM series compact mics, the devices are applicable to other manufacturers' products.

**Schoeps**

**277**

## Neumann low price TLM103

**A**vailable at a lower price than previous Neumann designs, the TLM103 uses a K87-derived capsule, as found in the U67 and U87 condensers.

The transformerless circuitry is said to be the same as Neumann's best solid-state designs but with advances in self-noise and SPL performance. The dynamic range is said to be 131dB, with the ability to withstand peaks of 138dB without distortion. Included with the TLM103 are a wooden case and a swivel stand mount.

Also available are an elastic suspension and a wind shield. Echoing the styling of classic Neumann microphones, the new unit comes in either satin nickel or matt black and has a UK price tag of £595 ex VAT.

**Neumann**

**278**

## Shure network

**S**hure's UA888 networking interface system can be used remotely to control and monitor 32 Shure UHF receivers and consists of a rackmount interface module, Windows software and connecting cables. Monitoring features keep tabs on RF levels, diversity signal strength, audio levels and available battery power at the transmitters. Monitoring and control capabilities are offered for group-channel selection, frequency, user name, squelch and lock-unlock status.

A walk-around RF plotter function is included together with a frequency scanner to indicate local RF activity. The system will interface with any Shure DSP device and is password protected while the software permits scenes to be setup, stored and recalled.

**Shure**

**279**



## AKG headset

**C**200SR is a broadcast headset with microphone and headphone components. Aimed at studio and OB applications such as sports announcements, the unit has a condenser microphone and lightweight headphones, along with integrated equalisation for personalising the mic response. The headphones are semi-open in order to protect the user from environmental noise without complete isolation. A frequency response of 20Hz-25kHz is specified for the ear pieces.

**AKG**

**280**

## CAD valve mic is fitted with digital output

Claimed to offer a completely different approach to valve mic design, each side of the CAD VX2 capsule has its own independent valve head amp and output including separate high quality custom output transformers.

Polar pattern switching is performed at the output of the mic rather than at the capsule which has a diameter of 1.25-inches, is aged, gold sputtered and made of 3-micron thick polymer. An optional 24-bus digital output module is available with 32-96kHz sampling rates.

**CAD**

**281**

**ATM23HE**  
Hi-Energy dynamic mic.  
This ultimate snare mic also sounds great on toms.

**On the Snare**

**ATM87R**  
High SPL condenser mic.  
Big fat kick drum sound with plenty of snap.

**On the Kick**

**ATM89R**  
Condenser vocal mic.  
If you don't sound good on this mic, you don't sound good.

**In your Face**

Audio-Technica's most recent additions to the ATM series of performing musicians' mics are set to rock your world.

With the **ATM89R** vocal stage condenser, the **ATM23HE** snare drum mic and the revolutionary **ATM87R** PZM boundary layer for kick drum, the ATM Series now has a tailor made mic for every member of the band.

  
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The Complete Microphone Solution

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Tel: 0113 277 1441 Fax: 0113 270 4836 E-mail: sales@audio-technica.co.uk

Reader Response No. 025

### Audix adds to vocal mic line with new dynamic

OM-2 is an addition to an established line of vocal microphones. It combines a dynamic capsule with a hypercardioid polar pattern said to give superior off-axis rejection. The capsule is shock-mounted to minimise handling noise. The spring-steel grille protecting the capsule is said to have a tensile strength 10 times that of some comparable designs and the slight mid-range boost in the frequency response is said to result in a unit which needs little or no EQ.

Audix

282

### Audio Technica

The new cost-effective 30-series mics from Audio Technics debuts with the AT3535 medium-diameter diaphragm, and AT3527 and 28 small-diameter electret condenser models. All feature 30Hz-20kHz response, 20dB padding to accommodate 156dB, 158dB and 157dB SPLs, and 124dB (123dB for the 3528) dynamic ranges.

The top-line 40-series adds the 4054 and 4055 vocal true condenser models, giving essentially identical performance with the option of a rolled LF response on the 4054.

Audio Technica 283



### Shure unveils UHF system

Shure has unveiled a new UHF wireless UHF system which has been designed to be a flexible and affordable contracting tool offering frequency agility, interchangeable microphone capsules and extensive LED metering. The main elements are a diversity receiver and choice of body-pack or handheld transmitters.

Occupying only half a rack space, the system's receiver is equipped with adjustable squelch control, group and channel switches for frequency changes, a two-band adjustable EQ section and Shure's proprietary MARCAD (Maximum Ratio Combining Audio Diversity) circuitry.

Shure

284

### Telex UHF gear

USR-100 is a UHF microphone system aimed at broadcasters in ENG and other roving production situations. Features include microprocessor control, factory tuning and 100 channel operation. The system also uses a Dual Squelch design, whereby a tone-coded squelch on a tone frequency of 31.250kHz is combined with an RSSI amplitude squelch.

Telex

285

### Beyerdynamic

MCE 58 is an electret condenser microphone designed for reporters. It has an omnidirectional capsule and a long handle for interviews. The unbalanced output is said to produce a very high level for direct connection to portable DAT and MD machines. An elasticated suspension and active filter help to reduce handling and traffic noise.

Beyerdynamic

286

# THE PHANTOM

new  
Valve -  
condenser  
microphone

with  
phantom powering  
48 V



Large diameter capsule, switchable  
○ ○ ◐ ◑ ◒

Transformer output

Sensitivity, switchable  
roll - off : - 10 dB  
◐ roll - up : + 4 dB

Roll - off for low frequency

Finish: satin nickel  
dark bronze

UM 900

SEIT 1928 KONDENSATORMIKROFONE FÜR STUDIO - UND MESSTECHNIK

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Reader Response No. 026



Pictured top left to bottom: MCE 58, MCE 82, M 59 and M 58.

## Sound that Bytes...

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

Sound bite quality matters just as much as dialogue, that's why beyerdynamic has developed its range of ENG/ EFP microphones. Whether it's microphones for interview, sports commentary, foley or film dialogue — we have the products devoted to the task of capturing all your audio moments.

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Reader Response No. 027

The MS 836  
 and  
 MS 837  
 dedicated  
 Shotgun.



**beyerdynamic** |||||

### Beyerdynamic's double barrelled shotgun

MC836 and MC837 are new lightweight shotgun microphones designed for ENG, film and theatre applications. MC836 has a lobe/cardioid polar pattern, weighs 116g and is 248mm in length. The longer MC837 is even more directional and weighs in at 218g. Both units are fitted with a bass roll-off switch for rumble reduction and accept phantom power from 11V-52V. According to the manufacturer, the units have been tested by a major film and sound company in Hollywood and found to perform extremely well.

**Beyerdynamic 287**

### Mikrofonbau Haun condensers

Mikrofonbau Haun is a German microphone manufacturer which has in the past mainly concentrated on OEM business, supplying other makers. Now it has launched its own line of hand-made and individually certified condenser products.

Model MBC-621 is a boundary device. There is also a complete range of slim-line preamplifier bodies with interchangeable capsules with varying polar patterns, along with a number of extensions, pads and other accessories.

Unusually, this range also

includes large capsule heads, the cardioid KA-1000 and the omnidirectional KA-1100. These have the capsules sideways mounted in a separate cage, with only the base of the unit matching the diameter of the slim-line preamp.

Developed specially for measurement purposes, MBC-550 is an electret condenser with a very small capsule and a frequency response specified by the manufacturer to have a 1dB deviation from 20Hz-20kHz.

**MBHO 288**

### Wireless range

MIPRO's wireless mic systems are fitted with Japanese condenser capsules and Pilotone and NoiseLock squelch circuitry. The mics claim low handling noise and the ability to endure a 1m vertical drop without damage to the performance or casing.

Products in the range include the MA101 and MA707 portable wireless PA systems, MR112 single-channel true diversity, MR312 16-channel VHF PLL synthesised diversity and 30-channel MR812.

**MIPRO 289**

## World-Wide Distributors Wanted

# MIPRO

## WIRELESS MICROPHONE

**MR-812, 30-Channel UHF PLL System**  
**World's First Intelligent Built-In Dual-Slot Charger**  
**No More Buying Batteries!**

- ISO 9001, Modern 5,000 sq/meter manufacturing plant
- Ergonomically-Designed housing with gooc-teaching finished
- Equipped with studio-quality condenser microphone capsule
- Extremely low-handling noise
- PILOTONE™ squelch prevents interference
- 10 dB $\mu$  V at 96 dB S/N ratio
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 FAX : 886-5-238-0803  
 URL: <http://www.mipro.com.tw>  
 E-mail: [sale@mipro.com.tw](mailto:sale@mipro.com.tw)  
 Winter NAMM Booth # 142  
 Frankfurt Musikmesse Booth # Hall 5.1

Reader Response No. 028



### Telex mics

Telex has debuted its Cobalt SE60 electret condenser cardioid mic with a claimed 40Hz to 20kHz frequency response and maximum SPL of 140dB.

The news coincides with the release of the ProStar UH12AD UHF wireless handheld mix with Audix OM-3XB dynamic hypercardioid capsule. The system works in the 690 to 725 RF range with a frequency stability of 0.005%. The receiver comes in a half rack space unit.

**Telex 290**

## DPA miniature microphones

The latest additions to DPA's range of miniature mics, the 4065 is a lightweight headband unit that can be used live and in the studio. In theatrical applications the problem of humidity is always present so DPA has paid particular attention to this matter, building in a double vent protection system and a drop stopper on the tube, intending the mic to be less prone to failure. Further durability is offered though use of a new kevlar reinforced cable that has enhanced flexlife and tensile strength. The capsule features a prepolarised omnidirectional cartridge element with a 5.4mm vertical diaphragm that is acoustically identical to the unit used in the DPA 4061. The headband itself is pre-bent to give a tight fixed position on any shape of head and can be easily re-shaped. With a sensitivity of 6mV/P, matching the level of the human voice to the general input sensitivity of most wireless transmitters, the 4065 has a noise floor of 26dB(A) and can handle SPLs of up to 144dB before clipping.

**DPA** 291

## Beyer Sport

Beyerdynamic has released a mic in response to German broadcasting companies requests for a close talking interview mic for motor racing track-side reporting.

The M59 Sport dynamic has a stiffened diaphragm to increase intelligibility in noisy surroundings and a shock-mount capsule to eliminate handling noise.

**Beyerdynamic** 292

## Electro-Voice

Designed especially for voices in the higher registers, the N/D367 female vocal mic is said to have a frequency response comparable to a condenser, although it is actually a dynamic with a Neodymium magnet structure.

The EV N/D168 is tailored for snare drums and has a special mount which enables it to be attached to the drum rim, mic stand or other hardware. It is a miniature design finished in non reflective black steel.

EV has also added to the System 2000 speaker series. Sb121a is a powered sub woofer combining a 600W amplifier with a 12 inch speaker.

**EVI** 293

## Neumann M149 power

Bringing vintage-style power to a vintage-style mic is the function of Neumann's N149V power supply. Shipping immediately, the N 149V is available as an optional alternative to the N 149 power supply packaged with the mic.

**Neumann** 294

## Sanken shotgun

Sanken's CS3 short shotgun mic follows on from the CSS5 stereo shotgun and features a low-frequency roll-off switch in which case it can operate as traditional shotgun or with increased high-directivity in the low frequency ranges.

Measuring 27cm in length it maintains sharp directivity by a combination of a second gradient mic and a line mic. Performance is attributed to an array of three new directional condenser elements. The poly-phenylene sulfide diaphragms claim exceptional humidity/temperature stability.

**Sanken** 295



## Shure

The Shure PSM600 series in-ear monitoring system is now available in UK-legal Channel 69 UHF frequencies, according to distributor HW International. Included in the system are a half-rack transmitter, pocket sized receiver and moulded ear pieces. The system is capable of mono, stereo or mixed-mode operation. A high frequency boost and user-defeatable limiter circuit are also part of the package.

**Shure** 296

## Crown

Available in five variations the MB (Mini Boundary) series of microphones are around 30mm wide and recommended for applications ranging from conferencing to theatre.

There is also an MB Interface which can be mounted below a table top and provides switching functions via contractor-supplied switches.

**Crown** 297



**CC22**  
Cardioid  
Condenser Microphone  
For studio and live  
applications

*The CC22 uses the classic Pearl rectangular dual membrane capsule. To the ear, the mic sounds very natural and uncoloured which makes it an excellent choice for capturing the nuances and timbre of musical instruments and vocal performances.*

**...when the sound quality  
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Reader Response No. 029

**The Reference**  
Brauner VM-1 Tube Microphone



- handcrafted in Germany
- extremely low noise
- variable directivity
- ultimate sound
- five years warranty



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Fon: +49(2856)9270 • Fax: +49(2856)9271  
http://www.dirk-brauner.com

Reader Response No. 030

**Fane**

Three models have been added to the Colossus range of chassis speakers. The 12 inch 12Mb is a 450W (AES) power handling mid/bass driver designed to handle peaks in excess of 1,800W. The 15B600 and 18B-600 are 15-inch and 18-inch units respectively and are both said to be capable of handling peaks in excess of 2,400W.

**Fane 352****KRK V8**

New at NAMM was KRK Systems' V8 close-field monitor. A shielded, active design using a 1-inch silk tweeter and 8-inch kevlar woofer crossed over at 1.6kHz, the V8 has a response of 49Hz-22kHz and 130W power handling to give 108dB SPL for \$1,249 (US).

**KRK 353****New monitors**

The CES show saw the launch of an active version of ATC's SCM20T monitor, the SCM20SL TA. The speaker is intended for critical listening and costs £3,750 (UK).

**ATC 354****Peavey**

The MaxSys range of sound reinforcement enclosures comprises five units loaded with 4-inch titanium diaphragm compression drivers and Black Widow cone drivers, with field-replaceable baskets. There are two mid/high frequency enclosures and three bass cabinets.

**Peavey 355****Jamo**

The Indoor/Outdoor 3 is designed for environments such as patios and swimming pools, where water would otherwise be a problem. Available in black or white, the enclosure is fitted with a 5-inch cone driver and a 1-inch tweeter. A sensitivity is specified as 88dB and the 8 Ohm load is said to present an easy load to amplifiers. Wall brackets are supplied.

**Jamo 356****Roister monitors**

Roister's monitor line now includes five models and all models are active.

The HNF6 is a cost effective nearfield with 6.5-inch polycone woofer and a 1-inch dome tweeter. The HNF8 is a more powerful upgrade with two 6.5-inch polycone woofers and the same tweeter.

The SNF6 is a small high-end nearfield with a long throw 6.5-inch woofer while the tweeter is 1-inch fabric dome. The SNF8 is the near-to-mid field alternative to the SNF6, featuring two of the same 6.5-inch kevlar composite

woofers and a Revelator 1-inch fabric dome tweeter.

Top of the range is the SMF 3-way mid field monitor with two 6.5-inch kevlar composite long throw woofers, a 3-inch fabric mid range dome and a 1-inch fabric dome tweeter.

All models are available in digitally corrected versions with Roister's Acoustics Compensator 20 digital room correction processor which has preset correction filters for every active Roister monitor and may also be used for Room Acoustics Correction.

**Roister 357****Quested active sub bars**

The F11 is a compact, magnetically shielded, 2-way design with a 165mm bass driver and 28mm softdome HF unit. The electronics are housed in a pod at the rear of the cabinet and can deliver 110W RMS and 40W RMS respectively.

The moulded cabinet has built-in mountings for wall or ceiling fixing and is designed for installations, surround sound and as monitors.

Also new is the QSB118 18-inch active sub bass cabinet designed to complement the HQ210 active systems and comes powered by a Quested AP700 amplifier. The 18-inch bass driver is 'double cooled' using vented pole piece and the

external radial chassis which acts as a heat sink. This improves reliability and means that bass performance will not deteriorate when driven at high power levels. Rounding up the new product line-up is the UD1, a 3-way passive loudspeaker in the vertical format with built-in stands and drivers housed in individual chambers, eliminating any intermodulation distortion.

Also new are Quested's VS1112 compact self-powered sub-bass designed to complement the VS2205 and VS2108, the VH2108 and VS2108 full-range monitors suitable for near and midfield monitoring and the VS2205 active portable nearfield monitor.

**Quested 358****Hafler's monitors and amps**

Hafler's TRM8 monitor is magnetically shielded and can be mounted in two different positions by using Omnimount parts. It uses the company's Diamond Series Transnova amplifier technology and is a biamped, 2-way system offering a free field frequency response of 45Hz to 21kHz. Peak acoustic output per speaker is 123dB or greater.

Hafler's P4000 Transnova DIAMOND amp is designed for the

studio and fixed installation markets with 200W per channel. The amp has full LED display, gain controls, balanced inputs, and lateral MOSFET output devices.

The flagship 9505 Transnova DIAMOND is a three-stage convection cooled amplifier that uses a patented J-FET input/MOSFET output circuit in a balanced design and is a true differential power amplifier.

**Hafler 359****ARX amps and cabs**

ARX launched the AmbiDrive 3-channel power amp at Frankfurt with built-in electronic crossover, ISC speaker processing, XLR and jack inputs and Speakon outputs. Channels A and B deliver 160W into 40ohms while the mono subwoofer channel delivers 200W into 40ohms. AmbiSub is a compact subwoofer accompaniment to the Ambience 1 and 5 loudspeakers.

EC-4 is a 4-channel 2-way electronic crossover designed for monitor applications with 24dB Linkwitz Riley filters, low and high level controls on all outputs, balanced I-Os and user variable crossover points while the 122SK loudspeaker system is a mid/high loudspeaker designed for club installations with a 12-inch midrange driver complete with a phase plug and a 2-inch compression driver mounted in a rigid flying frame. Dispersion pattern is stated as 60 degrees horizontal and 40 degrees vertical.

**ARX 360****K&H nearfields**

Klein and Hummel's O198 is identically proportioned to the company's O 98 studio monitor and can be rackmounted or freestanding.

The 3-way system has been designed to achieve best results in voice reproduction. A new baffle material is used so all three drivers could be placed closer together deeper inside the cabinet. Waveguides have been integrated for high and mid range drivers.

The O198 has a tuned 8.5-inch cone woofer with a long voice coil, a 3-inch midrange and a 1-inch alloy dome tweeter.

**K&H 361****Dynaudio BABES**

Dynaudio Acoustics has introduced the BX30 subwoofer specifically targeted at 5.1 surround.

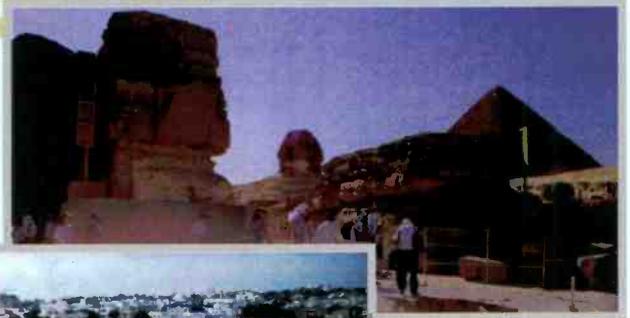
Known as BABES, the BX30 is a development of Dynaudio's ABES subwoofer but is more compact and less expensive than ABES. It incorporates crossover electronics and a 140W amplifier in a design that combines reflex tuning with electronic protection enabling the acoustic power output of the BX30 to be increased while lowering the frequency response down to 22Hz (-3dB).

**Dynaudio 362**

FOR FURTHER PRODUCT INFORMATION USE OUR FREE ENQUIRY SERVICE

# WE HANG IN SOME INTERESTING PLACES

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CoEntrant System



*Sound & Light Show, Giza, Cairo, Egypt*  
CoEntrant System



*The Qurum, Muscat, Sultanate of Oman*  
TRAP System



*Pepsi Pop, Holland*  
Ampco Pro Rent

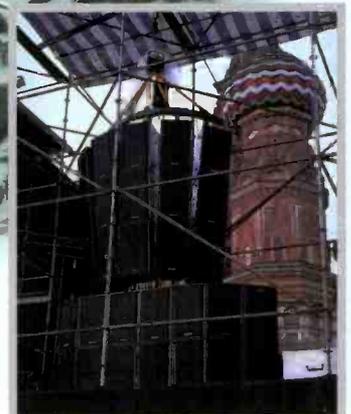
*Las Vegas Speedway, Las Vegas, Nevada*  
CoEntrant system



*München Messe, München, Germany*  
CoEntrant System



*World Arena, Colorado Springs*  
CoEntrant System



*Red Square, Moscow, Russia*  
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**Reader Response No. 031**

**Radian**

A 12-inch coaxial speaker with a 2-inch exit compression driver, the Radian Audio Engineering 5312 chassis unit has a power handling of 1,000W programme. The bass unit has a 4-inch edgewound voice coil and the system is said to have a useable frequency response of 60Hz-20kHz.

**Radian 363****EAW**

Said to be the 'next generation' three-way cinema loudspeaker, the MC4973 is a tri-amplified, THX approved system designed to meet the needs of large theatres. The separate sub enclosure houses four 15-inch cone drivers in 'push-pull' configuration. The mid-range uses two 10-inch cones in a horn loaded enclosure, while the high frequency employs a compression driver coupled to a 90x40 horn.

**EAW 364****Westlake sub**

Westlake Audio has introduced the BB-10SWP Subwoofer designed as a partner to the BBSM-10 3-way monitor. The system's dual-tuned port enclosure is coupled with a 55lb crossover and can be powered by a single stereo amplifier or passive bi or triamped. It uses an 18-inch driver unit with an 8 Ohm impedance and claimed sensitivity of 96.5dB at 1m.

**Westlake 365****FAR AV10**

FAR's AV10, along with other active models in the company's range, include four steps of level control adjustable from the front panel and optional remote control of volume, balance, mono and mute activation. Additionally two types of 'curve' can be selected: academy to recreate the anomalies of optical film and TV to recreate television loudspeakers.

Other models in the range include the AV1 and AV10.

**FAR 366****Audio F's new monitors**

Audio F has released the active Reference Monitor System FO and the digital F3 monitor.

The FO includes a separate 19-inch amplifier/crossover unit, a 12-inch woofer, a 5-inch midrange and a 25mm dome tweeter. The balanced input stage has adjustable sensitivity from -10dB to +12dB, with an equaliser and high pass filter.

The F3 has AES-EBU and ana-



logue inputs in a vented design with two power amplifiers, a crossover network and a 20-bit D-A convertor. Components are a 5-inch magnetically shielded woofer with a mineral filled polycone for the bass, a 25mm soft dome tweeter and a crossover section

consisting of a fourth order Linkwitz Riley filter at 3100Hz.

**Audio F 367****ARX Systems**

The PowerMax 3 processor controlled monitor loudspeaker system has been upgraded. The 12 inch cone driver is said to have increased low frequency output and the compression driver is now a Ferrofluid cooled unit. The manufacturer says that the frequency management has been upgraded, with a phase-aligned 24dB per octave internal crossover fitted with high tolerance passive components.

The system is designed to be used with ARX PowerPro II loudspeaker processor or PowerDrive 3 power amplifier with in-built processor.

Also new is the 122SK mid/high frequency installer pack loudspeaker system. The skeletal design employs a moulded fibre-glass construction housing a horn-loaded 12 inch cone driver and two inch throat compression driver. An all-steel flying frame has integral flying and angling points.

**ARX 368****Stage Accompany Efficiency**

The latest releases from Stage Accompany are the Efficiency Series of class G amplifiers and the Master M57 studio monitor. There are two models in the new amplifier range, the ES10 and ES20. Both are said to give excellent sonic performance with particularly high damping factor and extremely rugged aluminium chassis for touring applications. There is also an Extended Function Network capability, which enables the use of plug-in modules for crossover, limiting and other additional functions. Output power goes up to 2.8kW 4 Ohm bridged for the ES20.

The M57 monitor is loaded with a Stage Accompany Ribbon Compact Driver for the high frequencies, for which the manufacturer claims superior transient response due to the very low moving mass. The device is designed to handle 60W RMS, 1,000W peak. The low frequencies are handled by two specially developed 12-inch drivers for which a peak power handling capability of 1,000W for 200ms is claimed. The monitor cabinet employs a box within a box design in order to achieve a high level of internal damping and freedom from resonance.

**Stage Accompany 369****Apogee arrays**

Apogee Sound has unveiled the ALA9 linear array loudspeaker which extends the concepts used in the ALA5 and ALA3 systems.

It comprises dual 15-inch cone drivers in a slot loaded configuration, dual 10-inch cone drivers loaded by two damped midrange horns and dual 2-inch compression drivers loaded by paired high frequency waveguides. The pairing of waveguides produces a vertical dispersion angle of 10 degrees while horizontal dispersion is 60 degrees and extends to

the lower frequencies by the doublet principle.

The company has also introduced a battery backup unit for use with its MA line of modular, class D switching type power amps. Called the BB1, the unit is housed in a 2U-high chassis and interconnects to the MA series amps via a standard Neutrik cable assembly. Battery life can be as long as several hours depending on loads and programme type.

The unit is said to be smaller and more efficient than other designs in not wasting power in stepping up the line voltage.

**Apogee Sound 370****Renkus Heinz total concept**

Renkus Heinz Total System Concept (TSC), as its name suggests provides a complete package of complementary loudspeakers, controllers and supplementary equipment for touring and larger installation applications.

The enclosures use proprietary CoEntrant Waveguide Technology, designed to provide a true broadband point source, time aligned, with a precisely controlled and predictable dispersion pattern. All the enclosures share identical compact dimensions, and boast excellent resolution, clarity and efficiency.

**Renkus Heinz 371****Genelec's centre channel**

Genelec has introduced a centre-channel monitor. The 1038AC is a 3-way, triamplified monitor designed to complement the company's 1038As in multi-channel operations.

It has been designed with minimal dimensions so it can be horizontally mounted where space is tight and is fully magnetically shielded.

The monitor uses the same DCW, mid and high frequency drivers as the 1038A but the bass frequencies feature dual 10-inch woofers. The monitor is powered by a separate amplifier unit with a total power output of 640W.

**Genelec 372****Pink and Violett monitors**

Emes has expanded its range of nearfield monitors with the Pink TV and Violett HR. Both are 2-way bass reflex in passive and active versions with moulded wave guiding elements for the tweeter.

Pink TV uses a 14cm polypropylene bass driver and a 25mm textile dome. All chassis are shielded. The active version uses a digital power supply design featuring Emes quick delivery circuitry. On the Pink, identical amplifiers (80W LF/80W HF) are used for the woofer and the tweeter while dipswitches control input sensitivity, bass and HF level.

The Violett HR features an 18cm carbon/paper woofer and a 28mm ultra light textile dome tweeter.

**Emes 373**

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It's because **Q**uested engineers have achieved Pure Sound. So that you can, at last, hear your work in uncoloured, full, honest sound. Sound with all its glory left in and without distortion.

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**QUESTED**

# pure sound

Reader Response No. 032

Quested Monitoring Systems Ltd., Unit 2A, West Ealing Business Centre,  
Alexandria Road, London, W13 0NJ, United Kingdom. Tel: +44(0) 181 566 2488 Fax: +44(0) 181 566 2484

**EV X-array**

EV claims that until the development of its X-Array system, no manufacturer had succeeded in producing a speaker system with full Ring-Mode Decoupling.

RMD addresses mechanical resonances with mechanical solutions and acoustical resonances with acoustical solutions and is applied at every level throughout the design from the component level up to the interaction between multiple enclosures.

**EVI 374**

**RCF**

PA 281 is a thin-line sound reinforcement enclosure which is now in production following exhibition in beta version.

Fitted with flying points for RCF brackets, PA 281 can be mounted horizontally for use under balconies but the horn can be rotated 90 for other applications.

The enclosure is loaded with an eight inch carbon fibre cone driver and a Mylar compression driver fitted to a constant directivity horn. The birch plywood cabinet is finished in flat black. Frequency response is quoted as 65Hz-20kHz, with power handling 300W RMS, long term.

**RCF 375**



**Nucleus monitors**

British manufacturer TDL's Nucleus 2 nearfield is a reflex loaded design with a tapered reflex port at the back. It uses a 130mm doped paper cone and a 19mm soft dome ferrofluid cooled tweeter with crossover at 3kHz. Sensitivity is claimed as 89dB at 1m for 1W and frequency response 50Hz-20kHz.

The Nucleus 3 floor standing loudspeaker is based on the Nucleus 2 in a larger enclosure to extend bass performance. The separate lower chamber can be loaded with sand to achieve solid ground support. The frequency range is extended to 40Hz. Both models retail for under £200 in the UK.

**TDL 376**

**Cerwin Vega**

The V-Series of enclosures features four models. The largest of these is the V-253, a three-way system loaded with two 15-inch cone drivers, a one inch exit compression driver and what is described as a bi-morph drive - a system said to produce less distortion

above 12kHz than any other compression driver. The V-253 is said to produce an output of 134dB and bass down to 30Hz.

Also available are the V-152 dual 15 inch system aimed at entry level PA and disco use, along with the V-153 and V-122 systems for PA and keyboard use.

**Lamda 377**

**Tannoy**

New enclosures have been launched in Tannoy's sound reinforcement and studio monitoring ranges. In at the top of the Dual Concentric live sound range comes T300/TX3. It is loaded with a new 12-inch Dual Concentric driver, using a cambric double roll suspension and a halogen high frequency protection system.

The wedge shaped cabinet allows a number of uses including ceiling mounting, portrait configuration or use as a foldback monitor. Pole mount and flying points are fitted.

It is intended for use with the TX3 system controller, which includes EQ and 100Hz sub-bass crossover. Designed to provide Tannoy quality monitoring at a budget price, the Reveal nearfield monitor is aimed at users including project studios and broadcasters.

The design features a curved baffle to minimise diffraction and is loaded with a 25mm soft dome tweeter, combined with a 165mm long throw bass driver and internal crossover. The drivers are magnetically shielded.

**Tannoy 378**



<http://users.skynet.be/far>



The first evolutionary active monitors



phone : + 32 4 259 74 12

fax : + 32 4 259 74 10

Reader Response No. 033

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Reader Response No. 034

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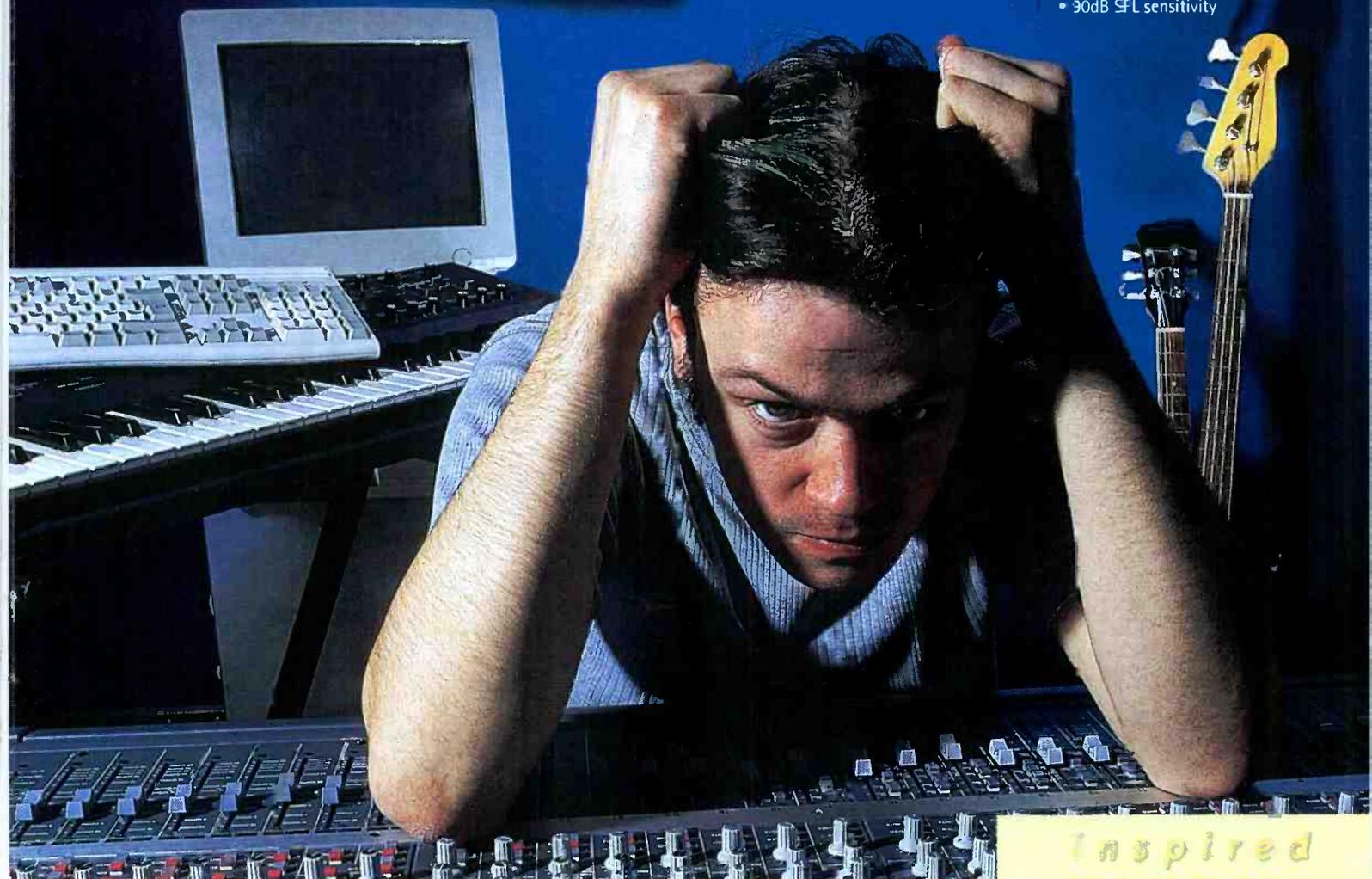
**What's at the end of your signal chain?**

#### APPLICATIONS

- home recording
- music studio
- broadcast
- post production
- mobile recording

#### FEATURES

- long throw shielded 3.5 inch bass driver
- 1 inch soft dome HF unit
- wide, flat 65Hz - 20kHz
- 90dB SPL sensitivity



Reader Response No. 035

Inspired  
**TASCAM**

TASCAM 5 Marlin House, The Croxley Centre, Watford, Herts, WD1 8YA. Brochure Hotline 01923 819630

**Tannoy announcement**

Two new-at-NAMM loudspeaker models from Tannoy are the System 600A active and the Reveal close-field designs. The System 600A is a 61/2-inch dual-concentric featuring a pair of 75W bi-amps, a 44Hz-20kHz response and capable of delivering 117dB spl. Reveal is a shielded low-cost 2-way (1-inch, 61/2-inch) passive close-field monitor giving 65Hz-20kHz into 8Ohms and 90dB at 1m.

**Tannoy 379****ServoDrive**

An updated Contra Bass Subwoofer has been launched. The system replaces the normal speaker system with a unique servomotor design, reproducing frequencies as low as 16Hz. First released around eight years ago, the enclosure now has a re-engineered transfer coupling to increase cone excursion and optimise acoustic alignment.

**ServoDrive 380****AVI mini monitor**

AVI's NuNeutrons compact monitors measure only 265mm high x 140mm wide x 205mm deep and are intended for wall or stand mounting. Available in cherry, black ash and ebony the company claims it has virtually eliminated phase anomalies in the crossover.

The monitors comprise a 5-litre rear ported enclosure with a 5-

inch doped paper, curvilinear diaphragmed bass driver with a 25mm voice coil. The 28mm tweeter has a viscous damped fabric diaphragm while the second order Linkwitz Riley crossover uses large ferrite inductors and polystyrene capacitors on a 2 ounce copper PCB.

Prices start at £499 UK.

**AVI 381****Apogee**

The ALA-5 loudspeaker system is part of the Acoustical Linear Array family which also includes the smaller ALA-3 and ALA-4. The most recent addition is a bi-amped system loaded with two 15-inch LF drivers and a paired assembly of conical high frequency guides coupled to compression drivers.

The manufacturer states that the high frequency system produces a unique wavefront with an extremely narrow 10 degree vertical angle and a very useful 60 degree horizontal angle. Multiple enclosures are said to combine seamlessly in terms of acoustic summation and vertical pattern control is designed to extend to lower frequencies as the array grows in size. A 10-cabinet configuration is said to provide control down to 60Hz. The multi-angle enclosures and patent-applied-for rigging system combines to allow different vertical patterns to suit particular venues.

The manufacturer suggests that a nine-speaker array could include the top four enclosures in a straight line and the lower five splayed for wider dispersion, for example.

**Apogee Sound 382**

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Reader Response No. 037

**ARX**

The Concert Series of enclosures now includes the processor controlled 925 sub bass enclosure, which is designed to compliment the 922 full range enclosure. Two 15-inch cone drivers are loaded in a vented bandpass enclosure made from plywood. Input impedance is 4 Ohms and the manufacturer states that it is conservatively rated at 1,000W. Also new from ARX is the DI-4 quad direct box and stereo line mixer. It allows unbalanced to balanced interfacing with gain or padding, ground lift and stereo mixing. It also has aux sends more effects and return, plus a stereo return.

**ARX 383**

**Beyma**

There are now improved versions of several Beyma drivers. The CP650/TI is a 2-inch throat compression driver with a titanium diaphragm attached to a three inch ribbon voice coil. It has a copper ring over the pole piece to reduce harmonic distortion and ensure an even impedance over the frequency range. A new version of Beyma's 8-inch coaxial speaker, 8BX has a concentrically mounted compression unit and a polypropylene bass cone with rubber surround. Also updated are the 12-inch and 15-inch coaxial designs, now designated 12KX and 15KX.

**Beyma 384**

**Stage Accompany**

The first in a new Entertainer series, the E24 enclosure is a compact but high powered full-range enclosure, recommended for a variety of sound reinforcement applications. With a quoted frequency range of 60Hz-30kHz and a continuous power rating of 400W, the enclosure is said to produce SPLs of up to 126dB. The system is loaded with SAs exclusive Ribbon Compact Driver, a ribbon tweeter suitable for high powered applications. The manufacturer states that the E24 is available in any colour.

**Stage Accompany 385**

**Apogee Sound**

The FS-2 stage monitor is loaded with a 2-inch throat driver coupled to a 40x60 horn. A 12-inch bass driver is loaded in a vented enclosure. Frequency response is quoted as 50Hz - 19kHz 3dB and SPL is said to be 126dB continuous, 132dB peak @ 1m on-axis. The manufacturer cites low distortion, the ability to 'cut through' ambient sound, and a compact profile as advantages of the design.

**Apogee Sound 386**

**Electro-Voice**

EVI-28 is a compact system loaded with two eight inch cone drivers and a Vari Intense horn in a vented enclosure. It is apparently capable of 123dB peak SPL and 200W continuous power handling.

**EVI 387**

**JBL monitors**

**A**dditions to the LSR line of monitors are the LSR32 mid-field system, a bi-amplified LSR28P and the LSR12P powered sub-woofer. The LSR32 mid-field is loaded with a 13-inch bass unit, 5-inch mid range with Kevlar cone and a one inch composite diaphragm high frequency unit, coupled to a wave-guide giving 60x100 dispersion.

The bass driver handles frequencies below 250Hz, which the manufacturer says allows optimised dispersion pattern and reduced intermodulation distortion. The LSR28P is a bi-amplified nearfield with an 8-inch cone driver and a tweeter. The companion LSR12P

powered sub woofer has a 250W amplifier and a 12-inch driver.

All LSR (Linear Spatial Reference) incorporate a number of technologies which JBL says it has pioneered. This includes the measurement of the systems performance across a sphere which includes all the energy radiated into the listening environment, rather than simply measuring the on-axis frequency response.

Drivers use a Differential Drive system, whereby there are two voice coils with their magnetic gaps 180° out of phase. A third coil acts as a dynamic brake at maximum excursion. JBL says the effect doubles handling power, with virtually distortion free performance.

**JBL 388**

**SA cinema**

**S**tage Accompany's SL series bass cabinets expand its Screen series cinema sound systems. The cabinets are 23cm deep, with a single or double SA 15-inch woofer configuration (SL15/SL30). The reflex ports are located on the side panels of the cabinet to prevent screen resonances and dust spots and the cabinets can be floor mounted or flown.

A complete Stage Accompany Super Space Saving system can be flown behind a projection screen in a space of only 28cm.

**Stage Accompany**



**Fidek HP series**

**T**he HP series of sound reinforcement enclosures is based on two-way designs and a number of bass driver sizes. All enclosures in the range use a 38mm exit compression driver with a 100mm titanium diaphragm, coupled to a horn designed for an even 45 coverage.

All bass drivers feature high-flux magnets, combined with a new glass-fibre/paper composite cone which has been developed to provide a higher stiffness to weight ratio. Cabinets are 25mm MDF, with ABS cornering, aluminium edging and perforated steel grille.

**Fidek 389**

**Philips low-cost**

**T**he LBC3950 and 3951 compact, low-cost ceiling speakers are designed to simplify installation in areas such as hotels, shops, offices and lifts. Rated at 9W maximum power, the speakers have integral clamps that are designed to eliminate the need

for special tools and are said to hold the units securely in place. The manufacturer also states that the wide dispersion area of 170 means fewer speakers are required to cover a given area.

Both speakers come with a matching transformer with taps for full, half, quarter and eighth power.

**Philips 390**

**Wharfedale**

**T**here are five models in the new EVP series of enclosures, designed for sound reinforcement applications. Three of the semi-trapezoidal enclosures are full range units and the other two are subwoofers. One contains an 18 inch driver rated at 400W, the other has dual 15 inch units and a power rating of 600W. The three full range

cabinets are loaded with either 10, 12 or 15 inch cone drivers and a PZ-T horn loaded HF unit.

Wharfedale has also launched the LiX range of cost effective enclosures for touring and disco applications. These are constructed from premium grade ply and have flying hardware. There are three full range enclosures, three subwoofers and low profile stage monitor.

**Wharfedale 391**

**Electro-Voice**

**T**251 is a two-way trapezoidal sound reinforcement enclosure combining a 15-inch woofer with a 60x40 horn. T251+ is a touring version and T251li has pre-installed suspension hardware and a paintable exterior. The manufacturer claims the incorporation of a number of proprietary solutions to increase intelligibility, reduce coil heat and lessen the risk of overload.

System 2000 is offered as a complete PA system comprising powered mixer and enclosures. The Powermate 1000 mixer combines a 500W EV amplifier with 14 input channels and two separate Dynacord digital effects, each with 100 programs. The available enclosures include full range models based on 12 and 15-inch cone drivers, plus a sub-woofer.

**EVI 392**

**Peavey cabs**

**T**he Impulse 500 PA enclosure is the big brother to the existing Impulse 200 and is loaded with a 22XT titanium compression driver coupled with a moulded-in 90° x 45° horn and a 15-inch weather-resistant 1568 Black Widow woofer with field-replacement basket. Rated at 8 Ohms, the enclosure also features the Sound Guard high-frequency driver protection circuitry. This is joined by the compact Impulse 200 Sub which is a weather-resistant 12-inch 1254 Black Widow woofer loaded enclosure with field-replaceable basket and features the Peavey's 'Hypervent' porting technology in a 4 Ohm package. The existing Impulse 200 speaker is being offered in white in addition to the standard black.

**Peavey 393**

**RCF extended**

**R**CF's ART series of loudspeakers has been extended with five new models including the 500 15-inch 2-way passive and the active 500A version which incorporates a 400W amp for the LF. The 15-inch 2-way 400A active is biamped with 300W for the LF and 50W to the HF.

Subwoofers are covered with the 800AS which is 15-inch active and is compatible with the 200A, 200AM, 300A and 500A systems and this is joined by the 800S 15-inch passive subwoofer which is designed to work in conjunction with the ART 300 and 500 speaker systems.

**RCF 394**

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Reader Response No. 038

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### Grundig offers 'universal' CD jukebox

Described as a 'universal Jukebox' system, Grundig's GMS3280 CD jukebox can accommodate 280 slots via eight exchangeable caddyless magazines and a maximum of six drives for library and archive applications. Mastering and CD reproduction is possible with the company's GRS1000 software and a maximum of 280 disks can be produced using four CD recorders in parallel mode and a printer module for automatic CD labelling is also available as an option. Other options include a mail slot for media exchange in on-line mode, fast SCSI2 interface and applications for Windows, Novell, Apple Mac and Unix platforms.

**Grundig 303**

### Maxoptix

CD-Max is a CD-R/CD-RW drive which produces discs that can be played on any CD-ROM or DVD drive conforming to ISO9660 standard or the new Universal Data Format. The drive uses the SCSI-2 interface and is available bundled with a number of software packages including Toast for Mac and Nero Burning ROM for PC. Prices start at \$659 for the PC internal version.

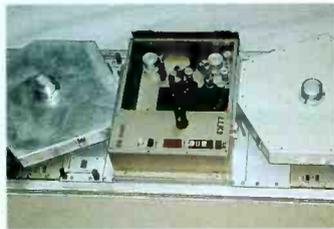
**Maxoptix 304**

## Albrecht optical uses laser

Albrecht's LLK3 Optical Sound Laser Camera claims substantial improvements in quality in optical sound recording through the application of laser technology.

Albrecht lists the main advantages of the LLK3 as high reliability, long-term stability, easy setting of operating parameters, substantially improved frequency response, low wow and flutter, insensitivity to overdriving, and an almost inaudible ground noise reduction system.

Film exposure is carried out by means of a scanned He-Ne laser beam which is deflected via acousto-optical modulators and the camera uses a Motorola



DSP56002 for audio processing and laser beam control.

During recording, the audio signal derived from the laser beam via a photo-diode enables acoustic audio monitoring through headphones or a monitor loudspeaker, while the signal is also displayed on a VU meter.

**Albrecht 305**

## 8-track MD

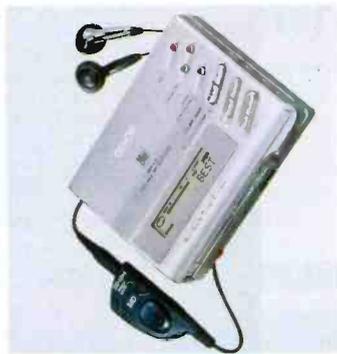
Yamaha has gleaned 8-tracks from MiniDisc on the MD8 personal multitracker by doubling the MD data drive speed. Features include 8-track simultaneous recording and playback, plus 4-track, 2-track, monoaural MD Data record and playback and 2-track and monoaural standard MD record and play modes.

You can ping-pong digitally from 8 tracks to one or more, auto



punch in and out with 99 takes, song edit, and cue with a shuttle dial. The recorder is has an 8-channel analogue mixer with 3-band EQ, 2 auxes, pans and faders.

**Yamaha 306**



## Denon MiniDisc gives 7 hours

Denon's MP-R70 portable MiniDisc recorder is designed to provide seven hours of record time or nine hours of continuous playback using a lithium ion cell. Alternatively an optional clip on 6xAA battery pack will provide 24 hours of operation when fitted with Duracells.

The package includes MD to MD transfer, sample rate converter and optical input capabilities, plus remote, headphones and PSU/charger. A Pro reporter kit is available from Audio Systems Components. UK price is £255.31 ex VAT.

**Denon 307**

## MediaFORM Introduces a New CD-R Duplicator Designed for the "Audio Professional"

# DAT'S EASY



### CD2CD/POWER 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 Easi-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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**CD-5900**

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## Tascam's 24-bit DAT first

Tascam has introduced the world's first commercially-available 24-bit DAT recorder. The DA-45HR is the first DAT recorder able to record true 24-bit audio data on a standard DAT tape and sets a new standard in mastering technology.

Features include XLR balanced and RCA unbalanced analogue audio I-O, AES-EBU and SPDIF digital I-O, Word Sync I-O and a parallel control interface.

**Tascam 308**

## Marantz CD-R

Marantz has what it describes as an entry level priced CD-R machine in the CDR630 which can play CD, CD-R and CD-RW discs and record CD-R and CD-RW.

Features include balanced analogue inputs, coax and optical digital inputs, automatic indexing, sampling rate convertor bypass, CD sync for auto start recording from digital sources, rackmounting casing, and remote control. Shipping is expected in June for around £750 (UK).

**Marantz 309**

## Onyx MiniDisc on the table

Onyx has a range of professional location MiniDisc recorders.

The MobiDisc is built around an unmodified Sony MZ-R30 MD fitted into a metal chassis.

Featuring a mono XLR balanced mic/line input with phantom power, it also offers a mono balanced line output, a built-in monitor loudspeaker and a 1/4-inch jack headphone socket.

A recording level control with LED PPM and a monitor volume control are located on the front panel. The unit is powered by internal Ni-MH rechargeable batteries.



The Carrier is a simpler and cheaper version of the MobiDisc and is similarly built around a MZ-R30 machine. It features a mono (or stereo) XLR mic input, a stereo cinch line output and a 1/4-inch stereo jack headphone output.

**Onyx 310**

## MediaForm

MediaForm's CD2CD/Pro CD5900 standalone duplicator can copy eight CD-Rs simultaneously. A slave tower for an additional eight drives can be added. An option bay permits the fitting of Jaz, Zip, Plextor CD-ROM drive or any SCSI device.

The device is accompanied by the CD2701 standalone spindle-

based CD-R copier which boasts one-button operation and unattended duplication of 50 CD-Rs. Unusually the machine is firmware upgradeable by CD or through the Internet and automatically identifies complex formats.

A batch copy mode allows several masters to be loaded in the hopper for processing multiple jobs.

**MediaForm 311**



## 5-disc CD

The CD305 is a 5-disc CD multiplayer in a 3U rackmount designed for installation and extended playback applications. Outputs are balanced XLR, phono and SPDIF coaxial.

A programmable playback sequence mode enables custom playlists of 32 tracks from all discs to be created while a shuffle mode plays out tracks in a random order. Repeat play repeats playback of all tracks on all loaded discs, various tracks on several discs, all tracks on one disc or just one track. The unit comes with an infrared remote.

**Tascam 312**

## Philex

With a projected retail price of £5.99, the Philex CD-R disc is said to have a capacity of 680Mb, giving it 30Mb more storage than competitive products. There is also a rewritable CD-RW disc available. This has a 650Mb capacity and is said to withstand more than 1,000 erasures with a life expectancy of 30 years.

**Philex 313**

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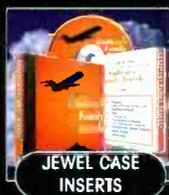
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Reader Response No. 043

**DVD-R dupe**

Hoei Sangyo and Microboards Technology's DSR-8000 is being heralded as the first DVD-R duplicator capable of copying DVD-R authored discs. The eight DVD-R drive external configuration can burn eight DVD-R discs simultaneously within 54 minutes. The master-slave configuration, direct SCSI and dual functionality are said to make the machine an economical hybrid solution for CD-R and DVD-R duplication. The DSR8000 has three Versatile Media Interface channels and when configured as a DVD duplicator each VMI slot card supports two external DVD recorders.

**Microboards 314****DTRS remote**

For DTRS machines, the RC898 remote control incorporates all the functions of its predecessor but adds individual input monitor switches for each of the six machines, confidence mode access on the DA98, dedicated function keys for 20 macros, a large LCD, illuminated transport keys and the ability to access track copy functions on the DA98 and DA38. Tascam has also introduced the 4-machine RC828 remote.

**Tascam 315****PreSonus M80 pre**

The PreSonus M80 8-channel mic/instrument preamp with mix bus houses Jensen transformers, FET, Class A discrete input buffers, twin servo gain stages, and an XLR balanced output on each channel. Each channel has switchable phantom power, phase reverse, 20dB pad, high pass filter, pan, insert, routing to the stereo bus and a gain control. Additionally an IDSS pot adjusts harmonic distortion from 0.001% to 0.5%. The box is described as a suitable front end for existing DAW A-D converters.

**PreSonus 316****Rupert Summit**

In a collaborative agreement with Rupert Neve the designer, Summit expects to unveil a new product line under the Rupert Neve signature. The new line will include 'innovative technology', according to the company, and will combine the traditions of Summit and the sound quality of the designer.

**Summit 317****Avalon optical comp**

Advance news from the American Avalon Design outboard comp includes two compressors. The AD2074 optical mastering compressor will offer a partner for the AD2077 EQ in mastering suites while the VT747 dual-channel vacuum tube compressor will add its weight to the company's mid-priced VT range.

**ASAP 318****Fidelipac digital cart**

Fidelipac's Dynamax DCR 10 digital cart machine replaces the DCR 1000 and is equipped with a 2Mb drive operating at 32kHz, while Zip or MO drives can be used for high-capacity requirements. Units with these drives can be configured for linear uncompressed operation. The DCR 10 can be upgraded to AES-EBU I-O at 44/48kHz.

With the Zip or MO drive option, the DCR 10 allows 99 cuts to be recorded and cuts can be cued up using a front panel search knob or an optional PC keyboard.

The optional Q50 Instant Access keyboard allows push-button access to 50 cuts on any Zip or MO disk. The small custom keyboard also permits chains, rotations or loops of any of the cuts on the disk.

**Fidelipac 319****Otari CD-R and MD recorder**

The CDR18 includes a sample-rate converter and a turntable-type disc-drive mechanism. It employs 1-bit A-D converters, XLR and phono inputs and phono outputs in addition to AES-EBU, coaxial and optical digital connectors and coaxial and optical digital outputs.

Features include a digital synchro record mode, automatic track numbering, a digital fader, copy bit selection, parallel remote-control interface, wireless remote and a rackmounting chassis.

The MR30 MD recorder has an automatic recording start function, automatic track numbering, cue point writing and editing (five per track) and basic editing functions to divide and combine tracks, as well as insert or delete through the dedicated front-panel keys.

Two previous editing opera-

tions can be undone, a rotary dial can be used to select tracks, pitch control achieves +/-9.9% in 0.1 steps, and up to 20 tracks per disc can be selected for instant playback per disc. The programmable playback of 25 tracks remains in memory even if power is interrupted, while an end of track notification alerts the user and is adjustable between 5s and 35s. SCMS is selectable and an optional sample-rate converter can be installed. The unit has AES-EBU and SPDIF inputs together with XLR and phono connectors while output options include AES-EBU, SPDIF and coaxial. It is remote controllable via RS232C, RS422A and 9-pin or 25-pin.

A standard PC keyboard can be plugged into the front panel to control playback, recording, editing and instant playback, and to enter track names while recording.

**Otari 320****OUTBOARD****AnTares offers perfect pitch**

AnTares Systems has released a hardware rack version of its Auto-Tune TDM plug-in. According to the company, the Auto-Tune Rack permits any solo vocal or instrument track to be instantly and automatically corrected to the proper pitch without losing the nuances of the original performance.

The Rack comes with preset scales including major, minor and chromatics in any key and can

save 100 different custom scales. Any scale can be detuned to a different pitch centre and the box can be set up to ignore vibrato, bends, slides, and other performance frills. A retune speed parameter controls the time allowed for the pitch to remain out of tune while vibrato can be added with programmable delay, depth, rate and waveform. Extensive MIDI control is supported.

**Cameo Int 321****Focusrite Platinum Class A**

Focusrite has introduced the cost-effective Platinum range of processing units including the Voicemaster (Platinum 1) and Tonefactory (Platinum 2).

The Voicemaster vocal recording path incorporates a Class A discrete transistor preamp, high pass filter, expander, vocal saturator (creates tape/valve style saturation and adds compressed harmonic related second order artefacts to produce a valve mic sound), opto-compressor, enhancer (adds natural voice related harmonics), voice-optimised EQ, and opto De-esser.

Tonefactory is intended for recording guitar, voice or synth and features a Class A discrete transistor preamp, and offers three mode filter operation.

Gate and compressor are included along with four tone controls laid out like a guitar preamp with bass, middle and two treble modes. The EQ design is based around a classic wire-wound inductor circuit found in vintage 1960's equipment. Also included is an overdrive circuit and a further 2-band parametric equaliser.

**Focusrite 322****Eventide offers DSP4500**

Eventide's DSP4500 includes all the presets from the DSP4000 standard, guitar and broadcast versions plus the Alchemy 101 package of 225 third party presets. It has an 87-second sampler included and at more than 1000 presets is claimed to offer the greatest number of presets on any effects processor.

A total of 147 distinct effects modules can be built in to programs and custom programs can be saved to removable PC cards which can also be used for importing third party programs.

**Eventide 323****TC Gold Channel**

TC Electronic's Gold Channel 2-channel digitally enhanced microphone preamp, features 24-bit, 96kHz A-D conversion with equalisation and dynamics processing.

Features include an expander/gate, Softlimiter compressor/limiter, equaliser and additional processing tools, all accessible through a channel strip interface with high resolution metering. AES/EBU, Tos Link SPDIF, and ADAT I-Os are provided in addition to standard mic and line inputs and wordclock in. It has 200 user presets.

**TC Electronic 324****FOR FURTHER PRODUCT INFORMATION USE OUR FREE ENQUIRY SERVICE**

# Last year, over a billion people listened to remarkable audio just passing through our domain.

**Look** down the avenues where the world's most listened-to audio travels. The view would look something like the one you're seeing now. In theaters, concert halls and arenas where chance is not an option, the XTA DP226 Speaker Management System is the only choice.

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The DP226's precision removes the guess-work from speaker management and system optimization. And as with all XTA products, the audio quality is simply unparalleled. That's why XTA is specified by the most demanding engineers and sound designers.

In addition to its multi-function DSP capabilities, the DP226 provides full metering, mutes, and on-board RS232, RS485 and MIDI control. A PC card interface provides data storage of settings, programs and allows for easy software updates. The DP226 can be controlled from a PC with our popular AudioCore™ software for Windows™.

We didn't achieve this functionality and precision trying to build the most economical system. The new DP226 reflects XTA's

reputation for no-compromise performance. Because when it comes down to your sound no detail is too small, safe is better than sorry—and it all matters.



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- *Jane Eyre* (Royal Alexandra Theater, Canada)
- Providence Performing Arts Center
  - *Ice Capades*
  - Howard Schwartz Recording
  - 1996 Summer Olympic Games
  - Royal Opera House
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GQ-600 Dual-Channel Graphic Equalizer



DP202 Digital Equalizer



RT1 Real-Time Spectrum Analyzer

AudioCore is a trademark of XTA Electronics Ltd. Windows is a registered trademark of Microsoft Corporation.

Reader Response No. 044

### BSS adds to Opal series

New to the Opal series is the DPR-944 2+2 parametric compressor. In a 1U package it provides two channels of noise gating and two channels of compression. The compressors feature a parametric filter on the sidechain for frequency sensitive contouring used in de-essing or enhancement. Gates are also equipped with tuneable key filters. The compression sections are fitted with threshold, ratio and gain controls, with auto/fast envelope control. Gate release time is fully adjustable and gate shut attenuation can be set to 85dB or 20dB. The key filter has two selectable widths.

**BSS 325**

### Lucid convertor

Lucid Technology has a series of multi-channel A-D and D-A computer audio interfaces planned with the first, the ADA8824-Sonic, interfacing directly to Macs equipped with Sonic Solution's 16.24 digital I-O card. The device has 8 channels of 24-bit A-D and D-A conversion as well as 8 channels of AES-3 I-O and 2 channels of SPDIF I-O. It has digitally controlled analogue input and output attenuation while 15 LEDs cover metering. Internally controlled sample rates are 44.1 or 48kHz while external sample rates can be controlled by AES-3 sync or wordclock.

**Lucid Technology 326**

## Weiss de-esser-compressor

More information is now available on the Weiss DS1 de-esser-compressor. The unit features a low-pass, band-pass, high pass switchable, linear phase, crossover filter with crossover frequencies between 300Hz and 20kHz.

The device is fully MIDI controllable with 128 snapshots, uses 40-bit floating point processing, 24-bit AES-EBU I-O with switchable dithering, compressor input-output metering, and gain



reduction metering. It offers variable soft knee, programme dependent release, oversampling side chain and gain multiplier, an auto gain makeup feature.

**Weiss 327**

## Frontier offers PC convertors

Tango, from the Frontier Design Group, is described as a 20-bit professional digital audio conversion system in a 1U rack. Designed for use with PCs, the system provides A-D, D-A and ADAT optical I-O. As standard, the system has eight outputs and a choice of no inputs, four or eight inputs. Connectors are balanced TRS jacks. Upgrade kits are available to add the extra inputs.

To create a complete hard disk recording system, users need to combine Tango with an ADAT compatible card such as the Frontier WaveCenter, Sonorus

Studi/O, Korg 1212 or Alesis PCR. The ADAT optical interface helps to ensure that the PC does not corrupt the audio signals and also enables interfacing with similarly equipped recorders and mixers.

Word clock ports are provided, so that multiple units can be locked together or synchronised to an external source. Tango's front panel includes eight level meters and there is also an ADAT Thru port for archiving. The product is available directly from the manufacturer for \$698 (0-in/8-out), \$798 (4-in/8-out) or \$898 (8-in/8-out)

**Frontier 328**



## Drawmer MX50

Latest in Drawmer's affordable MX series of processors is the MX50 dual de-esser with a variable frequency control ranging from 800Hz to 8kHz.

Full or split band de-essing is possible, the former reducing the total signal level in response to signals in the selected frequency band, the latter only reducing the selected frequencies leaving the lower end intact.

An Air switch allows frequencies above the sibilant band to be retained during de-essing.

**Drawmer 329**

## Sony effects

Sony's DPSV55 effects processor is based on the DPSV77 with which it shares the DSP rate, processing chip and converters, but is geared more towards surround applications.

A total of 45 effects types can run on the unit's four processor channels which operate in 4-channel surround, dual true stereo or quad mono modes.

**Sony 330**



The TL Audio C-1 compressor is the industry standard compressor. Why? Because nothing matches the rich audio quality and superb flexibility.



*Chris Fogel (Engineer - Alanis Morissette) "I was amazed at what the C-1 did for the track. The bottom end was warm and solid and the high end was clear and open."*

### C-1 Dual Valve Compressor

- 2 channels of soft knee, variable ratio compression
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- Continuously variable Input Gain, Threshold, Attack / Release times, Compression Ratio and Gain Make Up
- Unbalanced jack I/O connections
- Program dependent compression characteristic-attack and release times automatically adjust in response to program material
- "Stereo Link" mode - gangs Threshold, Attack, Release and Ratio controls for processing stereo signal sources
- 90Hz high pass filter switch (12dB / octave). Applies to all inputs
- Illuminated VU meters allow monitoring of either output level or gain reduction
- Very high quality build

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EQ-2 Dual Parametric Valve Equaliser



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EQ-1 Dual Valve Equaliser



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# The compressor that forgives, but never forgets.



50 factory presets, 50 user programmable presets

Dual mono or true stereo linked operation

OverEasy® with VariKnee™ or hard knee thresholds

All the classic dbx trademark sounds in gating, compression, limiting, de-essing, and sidechain EQ.

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Digital input and output meters measure internal digital processing levels

Hybrid display technology. Combines the best of graphics, character and icon based displays

Hi-res graph shows composite output vs. input plot of audio signal

Gate controls: threshold, ratio, attack, hold, release

Ultra-smooth continuous Auto mode.

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Ultra wide dynamic range 24-bit A/D and D/A converters with TSE™ Tape Saturation Emulation on board

Digital meters show both peak and average levels

High resolution gain reduction metering

Precision control over every parameter

De-ess from 800Hz to 8kHz, vary the amount.

Utils: sample rate, A/D input and output, Midi functions, Sysex functions.

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Sidechain functions for advanced filtering applications. Sidechain monitor included

EQ offers 20Hz to 20kHz, Q, ±12dB, and SCMonitor.

Gate	Compressor	Limiter	De-esser	and More
Set parameters for threshold, ratio, attack, hold, release, and output gain. See the effect of your settings on the graphical display, as well as on the gain reduction and audio level meters, they all interact in real time with your manipulation of the parameters. Start with a threshold setting of about -60dB to clean off the noise in between the vocal takes. You can save your final gate settings as a "gate preset" building block and recall it into any other setup you do.	The effects of the gate settings are visible on the graphic display to help you determine where to set your compressor threshold. Move through all the regular parameters (displayed in real time), like threshold, ratio, attack, release, and output gain. For vocals use a threshold of about -25dB, a ratio of about 3:1 or 4:1, and a slow attack and fast release for the most natural sounding effect. Your compressor settings can also be saved as a building block to be called up into any other preset.	Changes you make to the limiter settings are also seen on the graphical display. You can adjust the level and also the speed at which the limiter lets go of the signal as it goes below the threshold. This is truly smooth limiting, with patented dbx PeakPlus™ algorithms, so rest assured that wherever you set your threshold level, your tape will not distort. And like the other parts of the processor, your limiter settings can be named and saved for later recall.	De-essing works the same way; see the effects of your settings displayed on the graph. Parameters here are the common ones: threshold (800Hz to 8kHz), and amount (%). Other processing includes EQ - both in-path and sidechain - for special-effect types of processing. When you are editing any of the building blocks, its icon is visible on the display, and the parameters are shown on the graph, so it's always easy to know where you are.	You can also work in stereo, or set up a completely different and independent processing chain for the other channel. Optional digital output with the TYPE IV™ Conversion System with TSE™ (Tape Saturation Emulation) provides up to 24-bit output in either AES/EBU or S/PDIF formats with the trademark digital processing of TYPE IV™. The DDP also has full MIDI/Automation capability, with separate midi in and thru jacks.

## It Forgives

- New dbx technology, the TYPE IV™ Conversion System with TSE™ (Tape Saturation Emulation) gives you the pleasant overload characteristics of analog tape without the harsh distortion of most digital input systems. No more dancing around with the input levels to protect the integrity of your audio.
- Ultra-wide dynamic range 24 bit A to D converters with TYPE IV™ make your signal sound better than you ever thought possible.
- With the extensive metering of the DDP, you can see EXACTLY what is going on with ALL parts of your signal.

## It Never Forgets

- And speaking of stereo, you can work in stereo with dbx's True RMS Power Summing™ for phase-coherent tracking, or in dual mono mode, without the two channels interacting at all.
- The DDP works right out of the box. It comes with 50 factory setups that are guaranteed to knock your socks off. There are presets for every application you can think of, and then some.
- Want to duplicate that perfect compressor setup? Each processor in the chain has all the parameters you would expect. After you set the parameters the way you want them, save it as a processor preset, available to be recalled any time.

- When you make changes to any parameter, you can see where your adjustments are affecting the signal, simply by looking at the Hi-Res graphical display, which shows the processing curve in real time as you make your adjustments.

Check out the DDP at your local pro audio dealer, and experience DIGITAL performance you'll never forget.





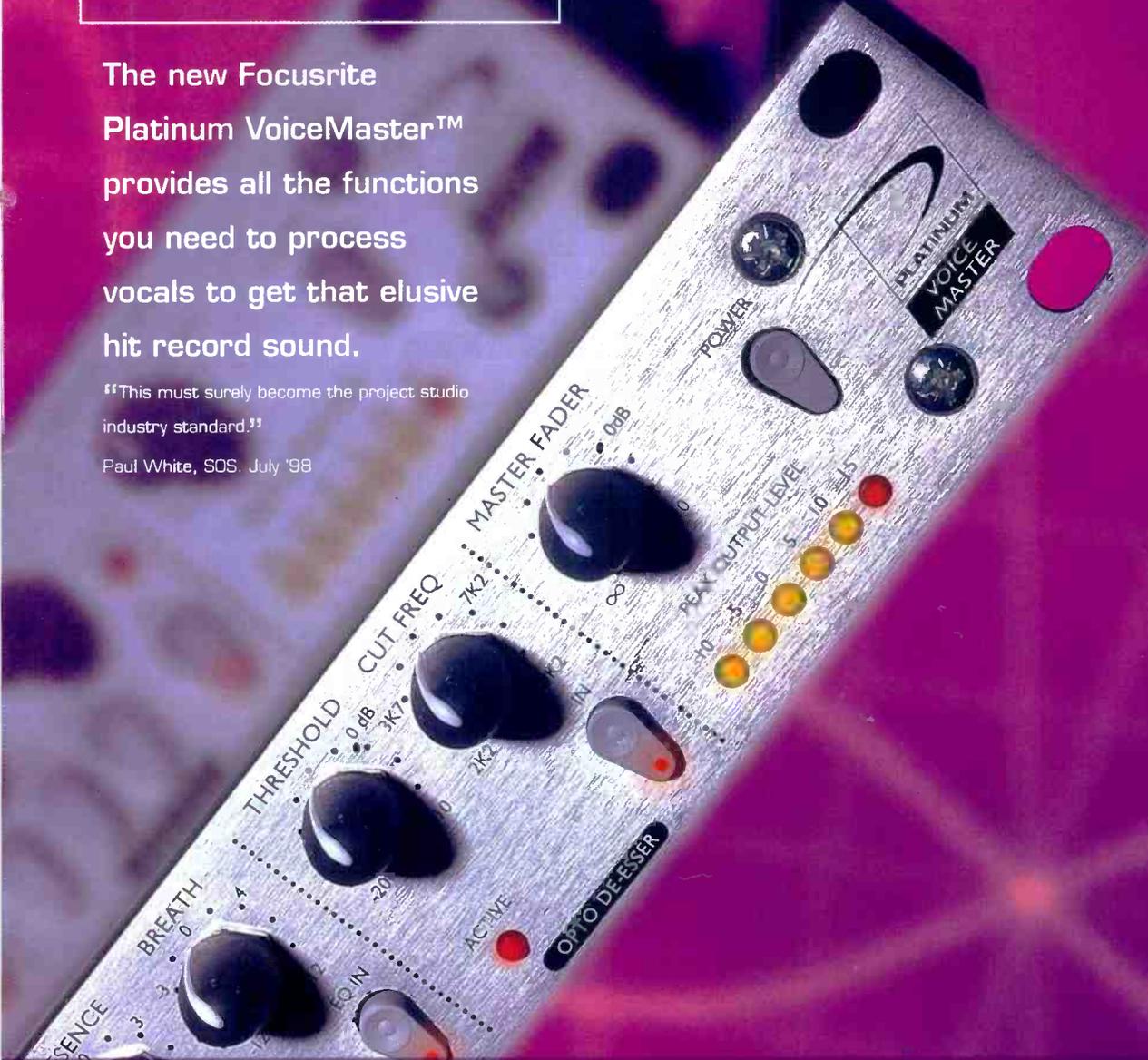
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Paul White, SOS, July '98

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Reader Response No. 047

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### TL Audio turns digital with P&G technology

Valve outboard specialist TL Audio has launched a digital division with the acquisition from Penny & Giles of the rights to design, develop, market and sell its Audio Multiprocessor System.

Following the re-alignment of P&G earlier this year, the company felt the Audio Multiprocessor range would be better served by a company specialising exclusively in the development of audio products.

TL Audio is already shipping the new digital units.

**TL Audio**

**340**

### dB Technologies

The dB 44-96 multichannel conversion system is available in multiples of two channels to a maximum configuration of eight in one unit. Sampling frequencies of 44.1kHz and 48kHz are supported, along with 88.2kHz and 96kHz. The Crystal-Lock feature is said to eliminate jitter. Incoming signals are suspended in RAM, locked for absolute accuracy and then sent out as jitter-free, high resolution signals, the manufacturer claims.

Modules available for the system are D-A, A-D and 2-1 single/double wire AES translator.

**AID**

**341**

### Dual dynamics

The compressor and expander sections of Symetrix's 565E dual compressor/limiter/expander use 'Dynamic Squared' circuitry which is said to control gain without adding distortion. A separate limiter section is included with its own threshold control. Other controls are provided for expander threshold and release, compression threshold, release and ratio and gain makeup.

Connectors are balanced and unbalanced and a side chain is provided on each independent but stereo linkable channel.

**Symetrix**

**342**

### Behringer

New from Behringer are the Virtualizer DSP1000 multi-effects unit, Feedback Destroyer DSP1100 and the Ultramatch SRC2000 digital format converter. DSP 1000 is designed to provide high class reverb simulation, as well as pitch-shift and modulation based effects. The MIDI controllable device can also function as two independent mono channels. The reverb settings have adjustable reverb times, diffusion and wall settings. DSP1100 has two separate channels containing 12 user defined parametric filters. The system automatically hunts feedback-prone frequencies and uses the filters to suppress them. The DSP 1100 is software upgradeable and editor software is also planned. SRC2000 converts AES-EBU and SPDIF signals at sampling frequencies from 25kHz-60kHz, producing output at 44.1kHz or 32kHz. It can also remove copy prohibit bits and change incorrect emphasis coding. The manufacturer claims that simply passing a digital audio signal through the unit can improve it by reducing tape dropout errors and removing jitter.

**Behringer**

**343**



## NEWS FROM TUBE-TECH MEC 1A



The new TUBE-TECH MEC 1A is a state of the art complete recording channel.

Features: Mic. Preamp/DI, Three band parametric Equalizer, Optical Compressor.

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### SPL's triple

SPL has launched three new products: a valve version of its stereo Vitalizer, the Qure equaliser, and the Transient Designer dynamic signal effects processor.

The new Stereo Vitalizer MK2-T combines valves with vintage type coil filters for a retro sound. Qure is a dual-channel, 3-band parametric equaliser featuring a control designed to 'cure' digital harshness by introducing warmth, depth and dimension to mixes.

The unit is said to selectively employ valves, coils and transistors at their optimum working frequencies. For easy recall of control settings, the unit is equipped with stepped potentiometers throughout.

The Transient Designer introduces SPL's Differential Envelope Technology said to provide much greater control and flexibility in level-independent sound processing. Transients can be accelerated or slowed down and sustain prolonged or shortened, while all time constants are automatically adjusted.

**SPL**

**344**

ONE LISTEN...  
YOU'LL  
GET IT.

# the DRAWMER MX30

## STUDIO SOUND Zenon Schoepe:

"The MX30 is as happy at clamping down dialogue gently as it is beefing up drums and pumping whole mixes. The extreme settings are delightful, abusing the limiter on its-own produces a fabulous 'phwaat' to the leading edge. This is an amazing box that represents amazing value for money."

## THE MIX Paul Mac:

"Musicality is definitely the MX30's strong point, most obvious when you ride the programme with some subtle settings and then gradually turn the threshold and ratio to the harder end. The transition is smooth, and with the right combination, dynamic material can become even more expressive in its variations."

## SOUND ON SOUND Paul White:

"Even absolute beginners will find it difficult to get a bad sound out of the MX30."

## MUSIC MART Peter Forrest:

"When mixing down, the MX30 simply did everything right - performing for all the world like a much more sophisticated and expensive compressor operated by an equally sophisticated and expensive engineer...the MX30 performs effortlessly."

## MIX (USA) George Peterson:

"The MX30 is one versatile compressor/limiter/gate...anyone wanting to step up to Drawmer-level performance should check out the MX30."

## RECORDING (USA) Geno Porfido:

"Everything just came through with great tone, great level. Vocals treated to the MX30 were smooth and liquidy, while strapping the unit across a drum submix was a beautiful thing. It inspires confidence that whatever you send in will come out sounding better - in record time."

## PRO AUDIO REVIEW (USA) Russ Long:

"The compressor was great on bass, electric and acoustic guitars, synth, and vocals, it always sounded smooth and musical. At a cost of £225, the Drawmer MX30 is a jaw dropper...a budget minded easy to use piece of equipment that sounds like a million bucks."

**The Drawmer MX30**  
**Gated/Comp/Limiter £225 (EX. VAT)**

**New MX Series products:**



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Reader Response No. 049



**PROGRAMME ADAPTIVE GATE**  
Makes isolating what you want easy and fast. This sets the gate Threshold.

**COMPRESSION RATIO**  
Sets the amount of compression/gain reduction.

**LINK**  
Links the two channels for stereo operation. Channel 1 operates both Left/Right.

**FAMED DRAWMER GATING**  
The most popular gates in the world, Drawmer has perfected the ultimate "all purpose" envelope following expander gate.

**OUTPUT GAIN**  
Sets the amount of "make-up gain" after compression.

**PEAK LIMITER**  
A zero attack time, zero overshoot Limiter for setting max output level.

**BYPASS**  
Disables processing for "before" and "after" comparisons.

**RELEASE TIME**  
Alters the Auto Release characteristics of the adaptive gate to slow or fast.

**GATE METER**  
Above and below Threshold indicators.

**INPUT/OUTPUT METER**  
Shows output level, also input level in "bypass".

**BYPASS LED**  
Channel is bypassed when this is depressed.

**LINK STATUS**  
Shows stereo or 2-channel mono operation.

**GATE RELEASE SPEED LED**  
Shows fast/slow Release status.

**COMPRESSION METER**  
Shows gain reduction/amount of compression taking place.

**PEAK LIMITER LED**  
Shows Limiter activity.



### Vox Box

Manley's Vox Box (detail above) is a combination compressor, mic preamp, 33-frequency Pultec-style equaliser, de-esser and limiter based on several of Manley's existing valve designs including the 40dB microphone preamp, the electro-optical limiter and the all-tube mid frequency equaliser. However, it achieves this with a significantly shorter audio path and more processing power than the individual units. Features include a variable attack-release opto-compressor located before the mix preamp, instrument and line inputs, VU meter, high pass filters, phase and phantom power switching, and is said to be well suited to drums, guitar, synthesisers and bass. The EQ's based on the Pultec MEQ but the low and high frequency peak boosts are extended to another six positions. The opto de-esser-limiter circuit has four notching frequencies and a 'flat' limit position that is claimed to be almost identical to the EL-OP limiter.

**Manley**
**348**

## Oram launches Microphone Workstation MWS mkII

The Oram Microphone WorkStation of two channels of mic pre and 4 band EQ has been enhanced. The MWS mkII has an improved noise floor and an insert before the preamp and the EQ.

Octamix is a rack mountable 8-channel mixer with 8 pan controls, 2 switches per channel for routing to the 2 stereo outputs, individual volume control and LED metering together with balanced XLR outputs. A second stereo output has a headphone jack output for cueing.

The BEQ Series Four, is a professional small format console with 4 sub-masters, stereo and



cue outputs. The input section is identical to the Oram BEQ Series 8 console. Available with 8, 10 or 12 input channels and optional PPMs it is also available in a flight-case. Mains or battery powered, the internal battery pack will run for 10 hours on a recharge of less than 30 minutes.

The first Compressors from the company, the Soniccomps have switchable solid-state and LDR

attenuators for maximum flexibility. Soniccomp I, is targeted at the project studio and is a linkable two channel compressor with identical sonic performance as Soniccomp II with LED metering. Soniccomp II complements the Oram Hi-End range in a bigger case with VU meters. Both units have variable pots for input level, threshold, ratio, attack, release and output level.

**Oram**
**346**

## Lexicon updates PCM processors to 81 and 91

Lexicon has introduced the PCM 81 Digital Effects Processor and the PCM 91 Digital Reverberator, which follow in the footsteps of the established PCM 80 and PCM 90 respectively.

The PCM 81 adds more onboard effects, more effects algorithms, more delay, AES-EBU I/O and comes with 300 presets. Other features include 24-bit internal processing, true stereo signal path, balanced analogue I-



O, and the ability to mix analogue and digital inputs and outputs. Presets are editable, with access in 'Pro' mode to as many as 100 parameters.

The PCM 91 includes all features of the PCM 90 and adds Dual Reverb algorithms together with dynamic spatialisation effects for 2-channel or surround sound applications.

Like the PCM 81, it has AES-EBU I/O and the ability to output AES-EBU and SPDIF simultaneously. The PCM 91's dual-processor architecture features two of Lexicon's proprietary Lexichips. Its 450 presets derive their heritage from Lexicon's top-of-the-line 480L and Model 300 studio processors.

**Lexicon**
**347**

## The Pro Audio publication with 'Rapid Response'

**OUTBOARD**
**33**

### Genesis: a revelation in ADs

The latest addition to the Digital Genius range of converters is the two channel analogue 20.16/2 A/D unit. This has 20 bit AES/EBU or serial output and simultaneous 16-bit/SPDIF output.

Input headroom is variable using analogue gain controls with front panel access. The linear phase filters are said to give a 'fully coherent stereo image'.

The Sculpture series of hi-fi speakers have the distinction of cabinets made from Welsh slate, a material that the designers claim is not a gimmick



but ideally suited to the application. Each enclosure apparently takes a number of days to manufacture and the finished systems are computer matched.

Sculpture One has a quoted frequency response of 80Hz-20kHz, while Sculpture Two has a fre-

quency response of 40Hz-35kHz. Both are two way systems with bass drivers of 142/180mm and a Morel soft dome tweeter.

The latest addition to the Digital Genius range of converters is the two channel analogue 20.16/2 A/D unit.

**Digital Genius 322**

### Weiss choices

A detail unit, the E81 has seven fully parametric bands of equalisation. Each band covers the entire frequency spectrum and can be set to shelving, cut or peaking mode.

Each parameter has a dedicated knob, which has a sensitive operation that switches the relevant parameter to the LCD. The unit can also be addressed via MIDI RS-02 and RS-232.

**Weiss Engineering 323**


Rorke 'n' roll CDs  
MediaMaster CD-121 and CD-121 are CD replicating systems which support multiple formats. CD-121 is a 4x to 4x standard duplication system, while the CD-121 is a 4x

### Rane gear from Santa Fe

Rane's new 2 channel 1/3 octave graphic equaliser is a 1u casing in the constant design has 16 user memory locations with settings



tern, a servo controlled de-esser, gate/expander, com-

### Focusrite Pink!

The new Focusrite machine by is and internal digital switchbox which will route any digital or analogue input to any track and any track to any digital or analogue output. It also assists digital bouncing when using

Readers get the 'low down' from the product stories...

...and further information from the supplier

**What's New in Pro Audio makes finding the right product so much easier**

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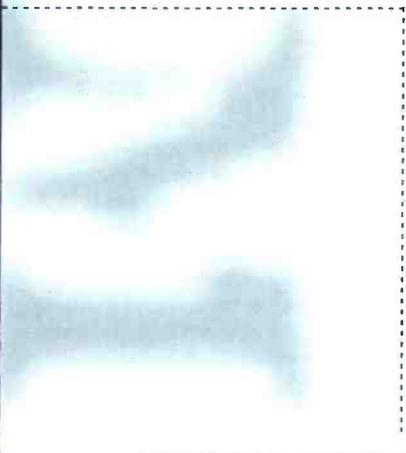
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**Reader Response No. 050**

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Reader Response No. 051

**PreSonus**  
[audio electronics]



**LA Audio's DigEQ**

LA Audio's DigEQ programmable EQ features simultaneous graphic and parametric equalisation, sweepable high and low pass filters, shelving EQ, compressor/limiter and noise gate. Options include dual channel slave units, a choice of wired or wireless remotes, RTA, digital delay and digital I/O.

**LA Audio 345**

frequency response of 40Hz-25kHz. Both are two way systems with bass drivers of 142/180cm and a Morel soft dome tweeter. The late addition to the Digital Genius range of converters includes the digital 20, 6/2 W/D unit.

**Digital Genius 322**

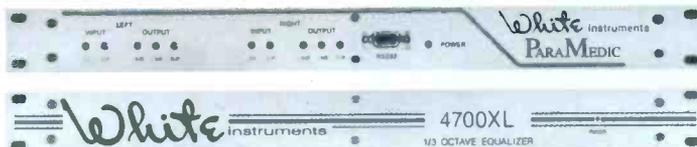
**Focusrite Pink!**

The new Focusrite machine boasts an internal digital patchbay which will route any digital or analogue input to any track and any track to any digital or analogue output. It also assists digi-

**RS-232**  
**Wets Engineering 323**

**Rorke 'n' roll CDs**  
MetalMaster CD-421 and CD-321 are CD replicating systems which support multiple formats. CD-121 is a 4 to 48 stand-alone duplication system.

**Rapid Response works!**



**White units**

Using 32/40-bit floating point DSP, White Instruments Paramedic digital parametric EQ offers 70 filters. These can be configured as parametric and very narrow notch filters, one-third and one-sixth octave graphic filters, and high pass, low pass and shelving filters. Frequency centres are adjusted in 1Hz increments and amplitude in 0.1dB steps. Paramedic Plus models add delay to the package. Servo balanced I-Os are standard but trans-

formers are an option.

White has also introduced the single channel 4700XL and dual channel 4700-2XL digitally controlled one-third octave graphics. Control is afforded by RS232 connection to a PC running suitable software. Also new are the two channel DSP5022XL and four output DSP5024XL digital signal processors again with PC control.

DSP and graphic EQs have been released for the Crown IQ system.

**White 349**



**Focusrite Green gets quad comp**

The latest addition to the Green range of processors is the 6 Quad Compressor Limiter. Described as an affordable and versatile model, the Green 6 is said to be ideal for recording to digital formats requiring accurate compression and instant limiting. Sound Reinforcement is another

suggested application.

Class A audio VCAs are used. Functions include threshold, fast/slow attack and release, auto-release, ratio and make-up gain combined with threshold limiter. VU and gain reduction metering is provided.

**Focusrite 350**



**ART valve EQ**

Art's Tube EQ 4-band single channel equaliser uses a 12AX7a and fully adjustable input and output controls. The fixed LF and HF bands can be switched between 50Hz/80Hz and 5kHz/15kHz respectively while the two frequency variable mid bands both sweep from 20Hz to 20kHz with the help of x10 multiplier switches. All bands offer +/- 12dB of boost and run to balanced XLR and unbalanced jack connectors.

The Tube Pac on the other hand uses two valves to combine a mic/line preamp with phantom power and phase reverse and an optical compressor. Equipped with fully variable threshold and output pots, switches select limiting or compression and automatic or fast release times.

**ART 351**



TL Audio have taken the outstanding valve performance and flexible operation loved by professionals in our Classic Series, packaged it in enclosures oozing style and presence and combined it with an ultra-affordable price tag. There simply is no better sounding or better value valve signal processors.

**5021 2 Channel Valve Compressor**

Each channel offers fully variable control of input and output gain, threshold, ratio and gain make up. Attack and Release times are switchable for 'fast' and 'slow' modes. An expander/gate is provided with control of threshold. Metering is via VU meters - either output level or gain reduction can be monitored.

A front panel instrument input is also included. The unit will work in dual mono or stereo linked modes, and a compressor bypass switch is provided on each channel. Inputs and outputs are duplicated on balanced XLR and unbalanced jack, and a sidechain insert point is included on each channel.

**£399** EX VAT  
In USA \$699



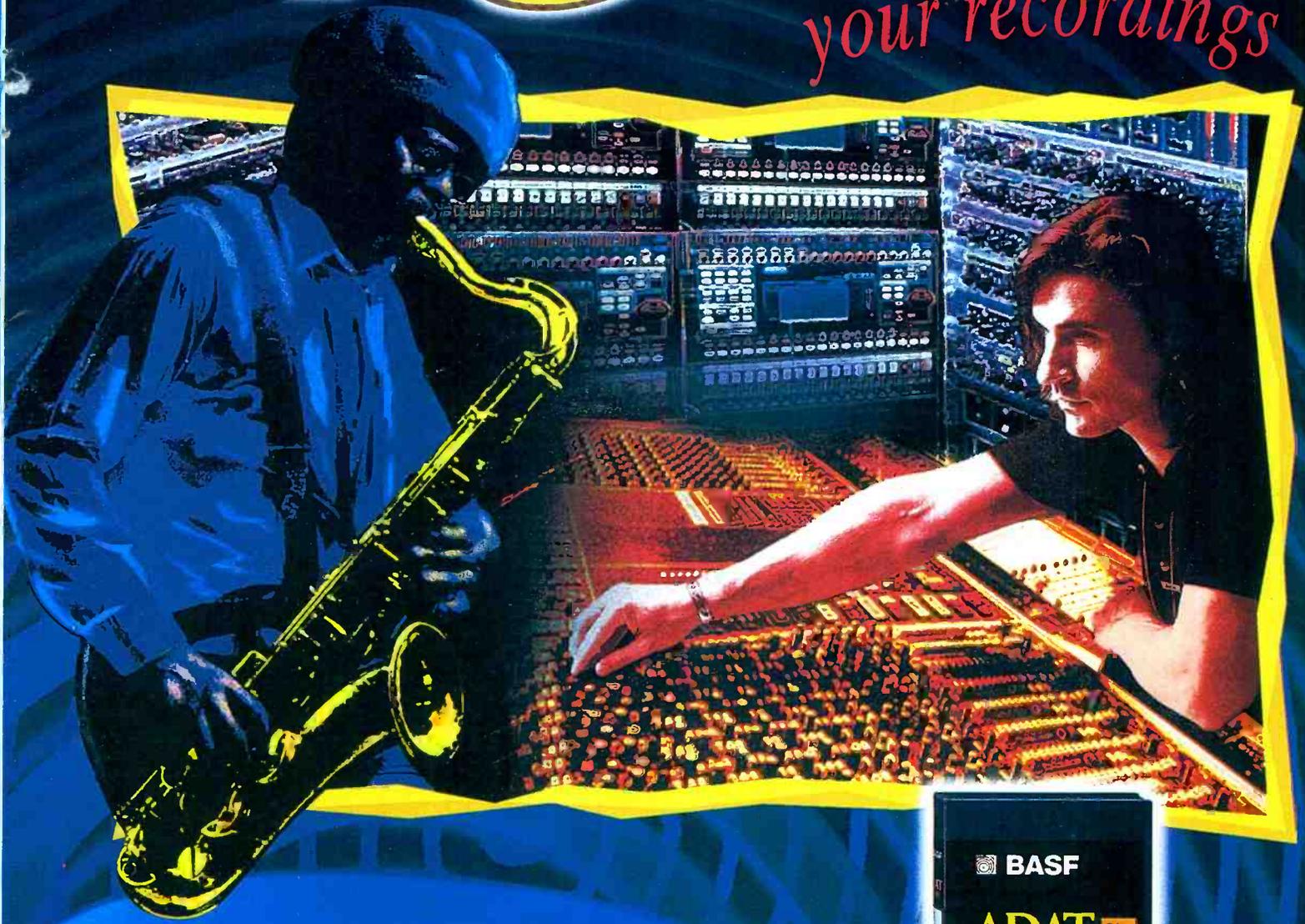
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