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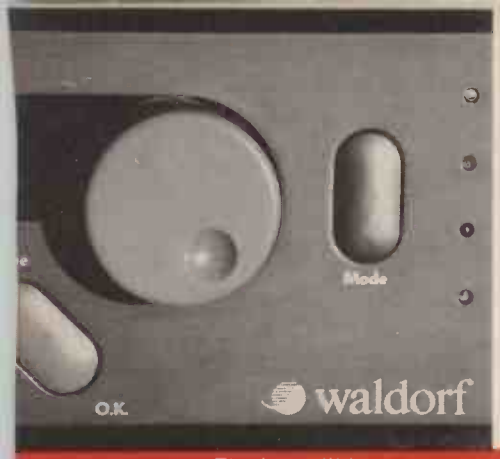

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editorial

SOFT WARS

TECHNOLUST, TECHNOPARANOIA, TECHNOPHOBIA. . . None of these terms quite express the phenomenon we're about to try to discuss, but they're all somewhere near the mark.

By now we've all become only too used to new pieces of hi-tech musical equipment arriving on the scene and making one of our prized instruments suddenly look depressingly restricting and out of date. It's not a new phenomenon, and it's certainly not limited to the hi-tech music area. You name it - photography, cars, even gun sports - amateurs and pros alike in these fields all suffer from the same source of heartache. But the arrival of the computer as a "common" musical tool has seen this problem take a new and even uglier turn.

The problem stems from the open-ended nature of using a machine that can have its role redefined with each new piece of software that is loaded into it. Typically it is the computer's greatest strength that is also its greatest weakness.

If you compare the sort of musical working environment a computer and appropriate software currently offer you with the sort of environment you might have been used to ten years ago, I think you'll agree that there's a lot to be said for computers in music. I'm not suggesting they should suit everybody; indeed, this flexibility - or lack of stability - in a working environment can be as disturbing as it is advantageous. Use of computers has demanded that musicians adapt their approach to equipment from the centuries-old one of dedicated instruments performing (pretty) well-defined tasks to one that will accommodate a machine that might be editing a sample one minute and controlling a mix the next. This many musicians have managed. What almost all musicians have not managed is to control this "technoparanoia" that almost any piece of software can bring about.

Why is it that the announcement of a new version of one software sequencing package induces such discomfort in users of another, comparable system? And why is this especially true at the high end of the market? If you're a computer user and you're tempted to dispute this, let me ask you if you've ever experienced a feeling of relief when the manufacturers of your own software have announced their answer to their competitors' innovations? Why else should that be?

Again, this mixed blessing of software revisions means that the same sort of competition that has always existed between rival synthesiser and sampler manufacturers takes place at a much increased rate where software is concerned. Yet somehow the fears of the musicians have escalated disproportionately.

The real truth of the situation is that, especially where we're talking about the more sophisticated software systems, the improvements are usually centred around more esoteric aspects of the program - subtle improvements in "feel" facilities, for example. Without wishing to imply that all this is only taking place around C-Lab's Creator/Notator and Steinberg's Cubase, one recent cause of "technoanxiety" was the two companies' Softlink multi-program environment and M.ROS MIDI operating system. Are they comparable? Which one is "best"? Will your music actually suffer if you opted for one sequencer before the other company announced the upgrade that sounds most attractive to you? The Digital Muse's Virtuoso has been operating from within an environment designed specifically for musical applications from its conception, where does that fit in? Who has the time or energy to properly investigate any sophisticated sequencing software before they buy it anyway?

Once again, the bottom line has got to be the music that computers and software allow you to produce. Certainly your working environment is important, and that environment is greatly influenced by the equipment you choose to bring into it, but do software developments retrospectively affect the music you've already written? And should you approach software with a "checklist" mentality, where more features automatically equate to better music? In many cases a straightforward (and inexpensive) piece of software may well give you results that more sophisticated systems will not - if only because you don't have to spend half your musical life reading manuals and learning new terminology. ■ *Tg*

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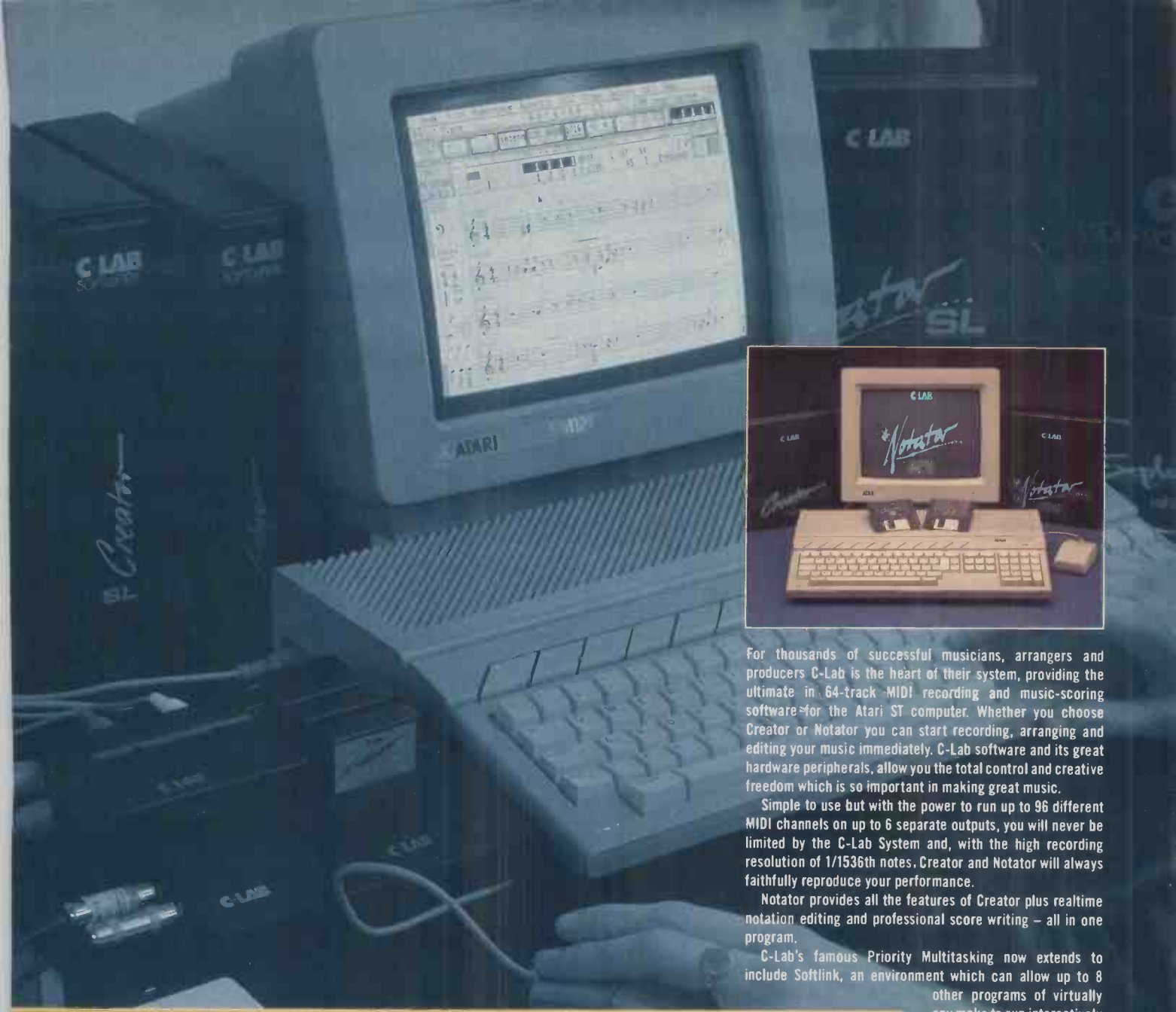

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A hot new discovery from one of Britain's oldest universities threatens to revolutionise music broadcasting. Tim Goodyer's exclusive on a development that could change the world - literally.

DACS TAKE THE LEAD

What's the most essential part of any MIDI system? The MIDI leads which glue it all together. Digital Audio and Computer Systems, manufacturers of the DACS MIDI Patchbay (reviewed MT, February '89), have come up with two types of MIDI lead, both wired according to the MIDI specification (pins 1 and 3 not connected) and available in a choice of black, red, green and blue.

The first type is designed to withstand the rigours of road/gig use, with solid metal-bodied connectors and tough, non-tangling musiflex-type cable with MIDI dataflow indicators. The second type are made of lighter studiflex cable and are designed for use in rack installations.

The heavy duty leads are available in 2m, 3m and 5m lengths (£10.99, £11.99 and £13.99 inc VAT), while the light duty are available in 500mm, 1.0m and 1.5m lengths (£9.99, £10.49 and £10.99 inc VAT). Customised cables are available to order.

This month DACS are also launching two audio modules which can be rack-mounted, panel-mounted or used in stand-alone enclosures. The Monitor Mix is a high-quality audio mixer configurable as 8:2, 2 x 4:1, or 8:1. The mounting panel is 1U-high and 1/3 standard rack width, with eight potentiometers for independent level control but no built-in EQ. Connection is on the rear of the PCB via screw terminals, and the mixer will accept full professional line-level inputs.

The Headphone Amplifier is capable of driving two sets of stereo headphones, with level control via two pots. It will accept full line level signals from the DACS Monitor Mix or other line-level feeds. The mounting panel is again 1U-high and 1/3 standard rack width, with connections on the rear of the PCB. Both modules require an external power supply; DACS make a PSU which will power at least four pairs of modules. The company also make a metal casing to house three or five modules.

The mixer will be priced at well under £100, the headphone amp at less than £50. DACS offer an equipment housing service and can provide systems configured as required.

Contact Douglas Docherty on 091-438 5585, Fax 091-438 6967.

French readers can contact Decidis Audio Sarl on (33 160) 192 929 or Fax (33 160) 190 644, while Spanish readers can contact Ventamatic on (34 3) 230 97 90 or Fax (34 3) 321 21 73, and Swedish readers can contact Handic on (46 31) 289 685 or Fax (46 31) 681 982. ***St***

WORKSHOPPING

One-time MT contributor and samplist extraordinaire Tom McLaughlin has arranged to take on the rights of the Audio FX sample library (which contains the acclaimed Poolside Drums), much of which was sourced and worked on by him.

Tom is also, with partner Susanna Walters, founding the London Sample Workshop, an enterprise with a difference. Samples will be custom made direct from source (a violin sample will have been made direct from a violin played by a violinist especially for the Workshop). In addition, everyone involved in the creation of the library, from the musicians sampled, to the studio used, to the sample engineer, will be paid a royalty on every sample sold. Pretty revolutionary, I'd say. ***Dp***

GETTING IT TAPED (I)

Home taping means many things to many people. If you're a musician recording at home, chances are you record onto cassette, whether on a personal multitracker or straight to a stereo cassette deck. You probably think you're doing nothing wrong, just having a good time. Maybe the results of your endeavours will go on to reap commercial benefits for you, maybe they'll stay within the four walls of your home. Either way, should you be penalised for enjoying yourself?

A couple of years ago this was a distinct possibility. Fortunately, in July 1988 Parliament rejected a clause in the Copyright, Designs and Patents Bill which would have imposed a 10% levy on the sale of blank audio cassettes in the UK. Since that time the Government has repeatedly affirmed its policy against a European-wide harmonisation of levies. This was also the stance adopted by the European Commission in July 1988, in a Green Paper entitled *Copyright and the Challenges of New Technology*. End of issue? Not so.

Late last year the Commission did an about-face, suggesting not only that the harmonisation of European levies on blank tapes should be pursued, but that a system of "double payment" should be considered for DAT recording. So even if you've thrown away your cassette deck and gone digital (an increasing number of musicians master onto DAT) you won't be exempt.

The Home Taping Rights Campaign was formed in 1986 by organisations seeking to defend home taping and oppose any attempt to penalise it. Now it's supported by such UK organisations as the Consumers' Association, the National Union of Teachers, the Royal National Institute for the Blind, the Recording Equipment Group and the Tape Manufacturers Group - whose very diversity shows that "home taping" is not as straightforward an issue as the pro-levy brigade would like to think.

HTRC point out that, despite record company claims that home taping is causing them "crippling losses", recent BPI figures show a 60% increase in unit sales of albums (LPs, cassettes and CDs) in the UK from '84-'88. HTRC also make the point that the two countries where sales increased most rapidly in the '80s - the US and the UK - have achieved this success without any levy.

Talking of America, further evidence that a levy on blank tapes is unjust(ified) comes from the results of an independent US survey, *Copyright and Home Taping - Technology Challenges the Law*. The report shows that most people tape prerecorded material which they've already bought, that home tapers are the best customers of the recording industry, and that home taping stimulates sales.

Another major finding of the report is that the taping of non-copyrighted material occurred more frequently than the taping of pre-recorded material, with three-quarters of taping instances being for something other than music. The report also doubts that DAT will change consumer recording habits, and notes that 60% of the people surveyed felt that a levy to compensate copyright owners for home taping would be unfair, while only 8% felt it fair.

Is tape levying set to become an issue in the UK once again? Anyone wanting to find out more about the campaign against tape levies can contact HTRC at Home Taping Rights Campaign Office, Number One, Dean's Yard, Westminster, London SW1P 3NR, Tel: 01-799 9811. ***St***

GETTING IT TAPED (II)

GLondon mastering house, Tape One Studios, has become the first European facility to offer recordable CD as a commercial option. For less than £200 customers can walk away with a *cd ref*, a reference CD containing up to 60 minutes of their own material to play on conventional CD players.

This is the first system of its kind to be installed outside the USA, where a number are already installed in leading mastering houses. At a cost of around £40,000, the CDR90, as it's called, is unarguably a professional's system.

Accordingly, Tape One are aiming the facility at producers, artists and record companies, who currently have to choose between acetate or DAT masters. They argue that *cd ref* offers considerable advantages over both these options, as it is of digital quality and sounds exactly the same as the finished CD product (whereas there are slight variations in sound between CD and DAT players). It also has the advantage of being a readily acceptable format, as the disks produced will play on virtually any domestic CD player.

Tape One add that the universal acceptance of CD as opposed to the limited availability of DAT means a huge potential for radio and club promotion, while further applications exist in the theatre and broadcast markets, where CD will replace cartridges for sound effects, jingles and incidental music in some instances. Looking further ahead, *cd ref* is expandable into CD ROM and CD-I, markets which Tape One may enter at some point.

The *cd ref* process involves cutting a WORM (Write Once Read Many) CD reference disk directly from a PCM 1630 CD tape master, with the result being an exact replica of the final CD including track and index codes (PQ data).

Tape One will be offering the service for both LP and single formats, with prices ranging from £125 for singles to £195 for LPs when recording from the PQ'd master.

Contact Tape One Studios, 29/30 Windmill Street, London W1P 1HG, Tel. 01-580 0444, Fax 01-580 5455. ***St***

THE VIRTUAL VIRTUOSO

The Digital Muse have announced VMOS, the Virtuoso Modular Operating System, an enhancement of the non-GEM operating system used in their professional ST sequencer Virtuoso and its entry-level counterpart Prodigy.

VMOS allows users to install an unlimited number of program "modules", all of which operate interactively in a fully-multitasking environment. These modules are the individual pages within the program, for instance the Grid and Event pages. Thus new programs from TDM become additional pages (modules) of Virtuoso and Prodigy.

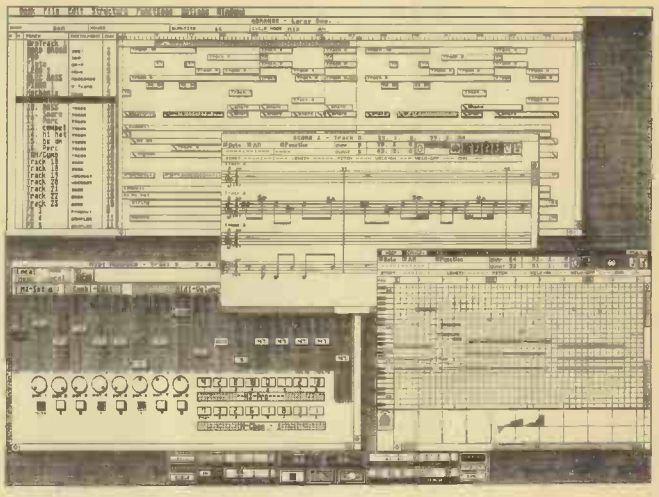
However, more modules don't have to mean less memory for sequencing, as VMOS allows you to decide which pages you want to have in memory at any given time. For instance, if you don't require the Text page at all then you can configure the program so that Text doesn't appear in the menu. Alternatively, if you want occasional access to a module then you can instruct the program to load it off disk into RAM only when it's required - in which case it is called a "virtual" module. Either procedure can be applied to both new and existing pages within the sequencers, making it possible to reduce the memory requirement for Virtuoso quite considerably. In fact, this new approach means that Virtuoso can function on a 520ST, even with the release of further modules, if you're prepared to indulge in a spot of memory management.

TDM are currently developing Score, a smooth-scrolling score-edit facility for Prodigy and Virtuoso. An inexpensive MIDI Monitor page for has already been completed, and a module allowing the use of GEM desk accessories (more than six at a time) is planned for the near future.

Virtuoso v1.1, which should be available by the time you read this, introduces Autosave, which automatically saves your work at defined intervals, Edit Sliders for easier control of real-time track parameters, MIDI Remote Control for operating the program from the keys of your synth, user-definable Chaseback options, instant Gate-time Editing on the Grid Page, and a Time-signature Map which represents your time-signature changes on all the relevant pages.

More information from Steve Wright at The Digital Muse, 44 Gloucester Avenue, London NW1 8JD, Tel. 01-586 3445. ***St***

Things To Come...



Not a company to rest on their laurels, Steinberg are gearing up for this year's Frankfurt Music Fair with a number of new launches. New add-on hardware comes in the form of Midex, a combined multiple MIDI port, timecode synchroniser and key expander unit for the Atari ST, and the Avalon DA Board, which as its name suggests is a digital-to-analogue board allowing samples to be monitored while they're being edited in Steinberg's Avalon software.

New software will come in the form of Amiga 24000, the company's long-awaited version of Pro24 "plus a lot of extras" for the Amiga, a Synthworks editor/librarian program for Yamaha's new flagship synth, the SY77, and Cubase for the Apple Mac complete with fully-implemented M.ROS for networking and multitasking.

M.ROS will allow the Mac version of Cubase to run in an integrated environment with what is perhaps the most significant of the new developments, the Topaz computer-based digital recording system (previewed in MT, February 1990), which is also set for a Frankfurt launch.

Roland are also launching a plethora of new goodies, including the S770 digital sampler, with 2Meg of memory on board, expandable to 16Meg, and built-in SCSI interface, the D70 Super LA synthesiser, the U220, a U20 in a rack-mount module, as well as a shedful of new instruments from the Rhodes and Boss divisions. These include the Rhodes Model 760 RS-PCM keyboard and the new Boss DR550 Dr Rhythm .

Also due to be revealed in its finished form at Frankfurt is the long-awaited Peavey DPM3 digital phase modulation synthesiser, along with quite a few other Peavey developments. ***St***

A BETTER TOMORROW?

As every teacher in the UK will be only too aware, our education system is currently undergoing radical change as a consequence of the 1988 Education Reform Act. First and foremost there's the gradual phasing in of the National Curriculum, with its attainment targets and programmes of study for pupils from the ages of 5-16. Then there's the Technical and Vocational Education Initiative, which is intended to help gear education for pupils aged 14-18 towards the demands of the world beyond. One of the Initiative's objectives is to "prepare young people for a highly technological society that is part of Europe and the wider world economy".

These days it's not only the world *out*side school which is highly technological. While Technology is a Foundation subject in the new Curriculum (its soon-to-be-published attainment targets and programmes of study will have to be implemented in schools as from September), computers now have a significant, perhaps fundamental, role to play in the teaching of many other Curriculum subjects as "the teacher that never shouts". The new Local Management of Schools provisions, which guarantee schools the freedom to make their own purchasing decisions within an agreed budget, are a further contribution to this brave new world of education.

All of which makes this year's British Education and Technology Training (BETT) show, held in London during three days in January, a highly significant event for the teaching profession. Two exhibition halls at the Barbican allowed the purveyors of technology in education to display their wares. The BETT show was billed as "the UK's largest and most comprehensive exhibition dedicated to technology in education", and with over 140 exhibitors present, I can believe it. As well as exhibitors, BETT had its share of seminars, dealing with such subjects as Planning IT in the National Curriculum, IT and the Primary School, "Technology across the curriculum – making it happen" and "Applications in schools and colleges of the current developments in optical storage".

Computer manufacturers such as Acorn, Research Machines, Apple and Commodore are taking the educational market very seriously, as was demonstrated by the sizeable stands which each of these companies occupied. Acorn launched their CD ROM drive, and the show made it very clear that the new optical storage media, such as CD ROM and videodisk, will have a major impact on the way in which subjects are taught and studied in and out of school. A striking example of this was provided by the first offering in a new series of CD ROM-based interactive music study aids from Warner New Media known as Audio Notes: Mozart's opera *The Magic Flute*. Running on any Apple Mac, the package consists of a set of three CD ROM disks containing a specially-recorded version of the opera and a Hypercard software stack of 7000 cards. You can follow the story line or read the libretto on screen as the music plays, call up a display of the original 1791 playbill with accompanying narration, listen to definitions of musical terms such as cadence, modulation and diminished seventh chord using examples from the opera, read a "master class" analysis of the complete opera (again with musical examples), and test yourself on your knowledge of the opera. You can select any part of the opera from an onscreen Opera Map, and the software will guide the CD ROM player to the relevant location on the disk, from where it can start playing your selection. The Audio Notes series is being handled by distributors 2001 in the UK. *The Magic Flute* is expected to retail at around £99.

Warner, of course, already have the rights to a vast amount of music, and the Audio Notes series will include compilations covering music as diverse as Rennaisance vocal music and jazz improvisation. The next Audio Notes release will be Benjamin Britten's *Young Person's Guide to the Orchestra*, while other early releases will include Bach's *The Art of Fugue* and Stravinsky's *The Rite of Spring*.

Like Technology, Music is a Foundation subject in the new Curriculum. But whereas the Orders for Technology will have to be implemented from the beginning of the next academic year, Music doesn't even reach the Working Group stage till June of this year, and new programmes of study and attainment targets won't be implemented until Autumn 1992. In the pecking order of National Curriculum subjects, Music comes bottom of the list along with Art and PE – which seems to be symptomatic of its status in the new educational world of financial constraints. But alongside the more traditional world of school brass bands and orchestras, music is one of the most technological subjects going, as any reader of MT knows, and very much a part of the "technological society" that education is supposed to be preparing youngsters for according to TVEI. In practice it appears to be the more visionary establishments such as Pimlico School and Kidderminster College of FE who are tackling this area of music education head on.

Not much musical technology was in evidence at the BETT show, however. But then as it's such a vast subject, perhaps BETT isn't the best place for it. Still, EMR were exhibiting their MIDI software for the Acorn Archimedes and A3000, while Pandora Technology were showing a near-release version of their !Inspiration sequencer for the same computers. Hybrid Technology, who have long been involved in the educational music market with their BBC Micro-based systems, introduced the Music 5000 "Universal" add-on for the Beeb, Music 3000 expander and AMPLE Toolbox, and the first packages in their Sound Worlds range for infant, primary and special needs schools. Meanwhile, Micro-Illusions' Music X was on constant demo on the Commodore stand, while computer distributors Silica Systems, who have their own Education Division, included C-Lab's Notator v2.2 on their stand. Also on a MIDI note, so to speak, Miles Gordon Technology launched their eight-bit (Z80B) SAM Coupe computer, which I mention because it has MIDI In and Out sockets (though no MIDI software as yet) and a Philips SAA 1099 six-channel, eight-octave, stereo sound chip. A SAM Coupe with 256K RAM (expandable to 512K) and a slot-in 3.5" disk drive costs £249.90 including VAT (minus disk drive and utilising cassette storage: £169.95). Up to 16 Coupes can be networked (via the MIDI ports, unfortunately), allowing them all to utilise one disk drive and one printer. MGT apparently have a special interest in primary schools, and are actively sponsoring educational software. Away from the high-powered world of the Amiga, Archimedes and Macintosh, perhaps there's an entry-level role for the Coupe in education - and in MIDI-based music-making. ***St***

SORRY, MARY

Anyone trying to follow up last month's reviews of Stiletto's sounds for Roland's D-series synths and Casios CZs will have discovered the phone number supplied was out of date. Stiletto, having moved premises, are now available on (0387) 50748, and the sounds are just as good as before the move. All that remains is to say "sorry" to Mary who took the misdirected calls! ***Tg***

THAT'S A START

You're probably familiar with That's blank cassettes, but how about That's CD-R (Compact Disk Recordable)? Taiyo Yuden, the company who manufacture That's tapes, have united with Sony under the name of Start Lab in a joint venture dedicated to the development and manufacture of CD-R write and read equipment.

"Start" stands for Sony Taiyo (Yuden) Advanced Recording Technologies, and the two companies will be sharing the capital investment 50/50. The Sony hardware will be branded "Start Lab" while the disks will continue to be marketed under the That's banner.

As yet there's no indication of when the first Start Lab technology will be available, but it's expected that it will be launched initially into the studio/broadcast field when it is. ***St***

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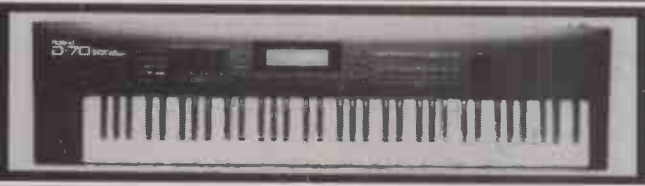

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communiqué

LETTER OF THE MONTH

infection contained

I read with interest the article in February's Music Technology (*The Software Syndrome*) penned by Vic Lennard, and noticed the "plug" our shop received with regard to Atari computer viruses. Happily, the problem of our demo disks being infected with the Signum virus was rectified soon after Vic's visit to the shop. This incident has certainly served as a lesson not to be complacent about viruses.

Viruses are a problem where disks and computers are available in a shop for customers to freely try out and test. In our case the virus originated from a reputable software distributor - and this is not the first time viruses have appeared through reputable sources as I recently received a PD virus detection/elimination program from a Macintosh magazine publisher on a disk that was itself infected with a virus that the program could not, at that time, detect. This goes to show that you should check *all* disks that you introduce to your system. We now have copies of Virus Killer for the Atari and also Vaccine INIT for the Apple Macintosh available to customers, as the virus problem is not confined to Ataris.

As all businesses involved in music are becoming increasingly dependent on computers, and whole albums are being recorded using a computer, the stakes are becoming very high. Where you benefit from using a computer to store your songs is that you can back them up with no loss of quality. This is very important, yet most people forget to do it, thinking that they will never need to recover information from a corrupt disk.

I hope MT will continue to publish less glamorous, but important and informative articles like *The Software Syndrome*, though I hope without "guest appearances" from us (or any other shop for that matter).

Nick Thomas
Director, Soho Soundhouse

Let me be the first to commend you for acting promptly, Nick. It was in an attempt to deal with the growing computer virus problem - both within the trade and amongst computer-using musicians - that this article was run, and that a virus killing program (for the Atari ST) is currently available to our readers. Unfortunately (in one sense) the problem of infected demo disks is unlikely to be limited to one shop, so can I strongly suggest that anyone not having checked their stock for infection follows this example? If there's anyone out there without an ST virus killer, MT will be happy to help. Just drop us a line. ***Tg***

the last word. . .

Yes, it's the dreaded "he/she/it" subject again. Although I can appreciate what David Howard and Sean Sanderson are trying to do (Communique, February '90), do they really think that a few little words are going to stop us women "making it" in the music industry? Just take a look at the charts. . .

After all, isn't it a person's (either sex) musical and technical abilities that actually count? What I find most amusing, however, is that this assault on Tim Goodyer is being made exclusively by men. Maybe it's you blokes who really have a problem with sex.

And, David, although your heart seems to be in the right place, don't you think that running all-female training courses is likely to cause more problems than it solves? Isn't it just a wee bit patronising? And doesn't that old word "segregation" rear its head once again? After all, if this industry *is* dominated by men, women will have to face them at some time or another.

Let's get back to the music - thanks, MT, for all your *informative* articles.

Rose Sims
Penryn
Cornwall

. . .almost

February's Communique was given over entirely to the issue of equality. Whilst I in no way wish to diminish the importance of increasing the level of awareness that ability does not depend on sex, race or any other circumstance to which we are born, I do think that Messrs Howard and Sanderson are taking matters far too seriously in the context of MT columns.

I have never read into the pages of MT any unfair bias in any of these areas. Contrary to the arguments raised, I would suggest that the vast majority of people are aware of equal rights issues, and would not take words such as "mankind" to exclude women.

The artificial ring of the new alternatives (like "personkind") is counterproductive because it is faintly ridiculous to scrupulously avoid all possible references to gender, even when no reference to a particular sex is implied.

There is one factor in all of this which seems to be missed very often - by using these artificial methods of increasing awareness of equal rights issues, many people are awakened to divisions they did not perceive previously. For example, at school young children are perfectly happy to have friends of any race or colour until someone overly concerned about equality (or perhaps a racist parent) points out to the children that their friends are "different" and must be treated differently to avoid any misunderstandings.

This is liable to perpetuate a biased viewpoint, not eliminate it. We are all human (huwomen, hupersons. . ?). Whatever sex, whatever race, we all have individual abilities and talents. There are as many women as men worthy of mention in the pages of MT, and even more of both sexes who aren't.

Stop taking things so seriously. If we simply accept each other as we are it works so much better. Howard and Sanderson should go and watch Monty Python's *Life of Brian* - the issue of Stan's right to have babies, despite his lack of anywhere for the baby to gestate, made the point about being too serious about these matters.

Should Tim Goodyer try to avoid offending the wicked by calling himself Tim Good/Badyer? Should we close down our prisons as a first step in the "equal rights for murderers campaign"? As for my personal bias, I don't happen to like Tim Goodyer's hairstyle, but 1. It's nothing to do with me, 2. He writes a damn good editorial and 3. Why don't we all stop nit-picking and enjoy MT in the spirit in which it's written instead of believing it to conceal threats to the freedom of half the population?

Steve Clark
Cowes
Isle of Wight

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YAMAHA SY55

WELL, AS HINTED in our TG55 review (March '90), here comes the SY55 - a TG55 with keyboard attached. It has a built-in sequencer and there are a few changes in sockets but otherwise the gubbins of the two beasties are identical.

The idly curious can peruse this In Brief at a leisurely pace, although if you think the SY55 is for you - and I can think of no earthly or unearthly reason why it should not be - then more info is available in the aforementioned in-depth review.

The tone generation system is based on Yamaha's custom 16-bit sampling technology, AWM2 (Advanced Wave Modulation, second generation). The SY55 has 74 sampled waveforms in 2 megabytes of ROM. These have been sampled at 32kHz or 48kHz and with 24-bit internal processing and 22-bit digital-to-analogue converters the output is exceedingly clean.

There are two modes of operation - Voice and Multi. Voice simply plays a single sound, the one you select. Multi mode is used to create multitimbral setups for use with the sequencer.

Like the TG55, there are 64 Voices in ROM, room for 64 programmable ones in RAM plus another 64 or 128 on an optional memory card. There are 16 Multis in ROM and 16 programmable ones in RAM and more can be stored on memory cards, too.

A Voice can be made from one, two, or four Elements which, basically, consist of one of the waveforms plus a number of parameters such as volume, tuning, keyboard zones and so on. Each Element has two filters with resonance for further sonic shaping, and there are 34 digital effects. Two of the Voices are dedicated drum sections, each key playing a different drum sound. You can create your own kits, too. All the sounds are identical to the TG55 as are the excellent demos.

Cosmetically, the SY55 is obviously from the same stable as the SY77 although it has fewer controls. The keyboard is light, but firm to the touch. It's not the same as the keyboard on the SY77 and the travel seems shorter (every synth keyboard seems a little different these days). It's velocity and aftertouch sensitive and pitchbend and modulation wheels are situated on the left of the panel just above the keys.

The SY55 has the same two-line LCD as the TG55 plus two card slots, one for waveforms, the other for data, which includes voice and sequencer info. Buttons below the LCD select Voice and Multi modes, the sequencer, edit, copy store and utility operations. Buttons on the right are used to step through edit Pages and change parameter values (this can also be done with a data entry slider).

Further to the right are more buttons - a numeric keypad (another way to enter data) which doubles as a track selector for the sequencer, a duration selector for step-time input and Element selector for voice creation.

The sequencer has eight tracks (the SY77's sequencer has 16) and can hold eight songs (the SY77 can only hold one) with a memory capacity of 8,000 notes (the SY77 can hold 16,000 notes). There's a card song directory (similar to the SY77's song directory on disk) and songs can be loaded, saved and deleted individually.

In Multi mode, a Voice is assigned to a MIDI channel (as opposed to assigning a MIDI channel to a Voice), which means two Voices can't play using the note info on one channel, a miss when playing live perhaps. However, this arrangement simplifies voice/channel assignments when using a sequencer. The internal sequencer's tracks can be assigned a transmission channel, too.

The SY55 is 16-note polyphonic, but voices are assigned dynamically during playback so you don't have to reserve voices for a part in the way of the TX81Z, for example. But you can do so if you wish.

You can record in replace, overdub, step-time and punch-in modes. You can filter out aftertouch and/or velocity information during recording (aftertouch eats up sequencer memory) and there are measure insert, copy and erase operations. You can remove pitchbend from a track and there's a track mixdown function (although the combined track will be transmitted on one MIDI channel). Quantise options run from 1/4 to 1/48th notes which, to some, may seem a little coarse.

The SY55 has only one set of stereo outputs (the TG55 has an additional pair of Individual outs), headphone, volume and sustain jack sockets plus a socket for a breath controller.

The TG55 calls itself a Tone Generator and the SY55 calls itself a Music Synthesiser. No mention of workstation or even sample playback whatsit anywhere. Yamaha obviously see the two instruments as synthesisers and the fact that they use sampled waveforms seems to be incidental to their function of creating sounds. Just another form of synthesis. And why not?

The difference in price between the TG55 and SY55 is £350, and the SY seems well priced for the extra facilities it offers. It's also one of the cheapest "workstations" around, and if you're in the market for a piece of all-in-one kit, you'll find it very attractive indeed. Well worth a trip to your local, friendly Yamaha dealer. ■

Ian Waugh

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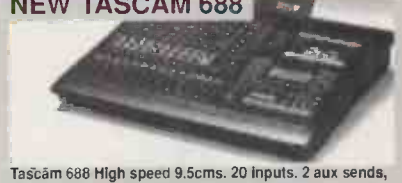

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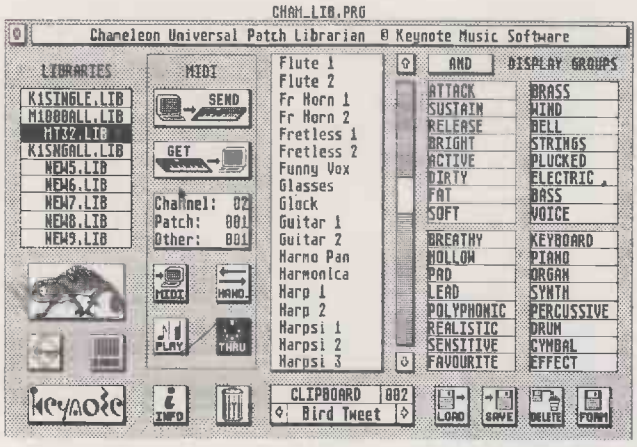
TWO NEW MUSIC COMPLEXES IN LONDON

DISKOGRAPHY

IN THE PAST we at Music Technology have rarely offered runners-up prizes in competitions, preferring to devote our energies to securing a single item with the most benefit to the winner. In recent months however, we've been made one or two offers we simply couldn't refuse - on your behalf, of course. This month there are not one, but two main prizes of



Keynote's powerful Chameleon generic patch librarian software for the Atari ST - put that down to the generosity of Keynote's Ian Paterson. There are also five runners-up prizes of the *Can U Feel It? The Champion Legend* double CD - put that down to the fact that some people will go to almost any lengths to get themselves mentioned in the world's most popular hi-tech music mag.

First the software. Chameleon (reviewed MT, December '89) is a universal patch librarian that adopts a fresh and powerful approach to organising and accessing synth patches. It is also capable of converting patches into MIDI Files so that you can store them in your sequencer as SysEx data along with the rest of the song data. Add to this the fact that Chameleon will work as a desk accessory (so that you don't have to exit your sequencer to use it) and you've got an almost indispensible piece of software.

The hardware, meanwhile, is a double CD of house tracks that have appeared through Champion Music - hence the title. All the tracks have been remixed by two British remixers, Streets Ahead and LA Mix (whose Les Adams was interviewed in MT in October last year), and include Royal House's 'Can You Party', and Salt 'n' Pepa's 'Push It' as well as Farley Jackmaster Funk's reworks of Stevie Wonder's 'As Always' and Lyn Collins' 'Think', and the Voodoo Ray-inspired 'Women Beat Their Men' from Voodoo Doll. All in all it's quite a neat and collectable selection of house tracks.

THAT'S WHAT WE'VE done for you, now here's what you have to do for us in order to win one of the prizes. Once again we've devised a short list of questions to test your knowledge (or resourcefulness - you have been fore-armed) related to the prizes up for grabs. So without further ado (as they say in all the tackiest TV game shows), here they are.

1. Is Chameleon compatible with *all* GEM-based sequencing programs?

2. Which single established Les Adams' LA Mix in the British charts in 1988?

3. Which Chameleon screen icon doubles as part of its copy protection?

4. Which vocalist appears on both LA Mix' debut LP and Stock, Aitken & Waterman's 'Roadblock' hit?

ANSWERS SHOULD BE sent on a postcard only, please, to arrive no later than second post on **Tuesday, 8th May** at the following address: **"Diskography", Music Technology, Alexander House, Forehill, Ely, Cambs CB7 4AF.** You should include your name, address and a daytime telephone number on which you can be contacted, with your entry.

Once again we must stress that multiple entries will be disqualified from the competition. Some of the attempts to pass off multiple entries so far have been clever, entertaining even, but the three large identical gilt-edged entries for the Yamaha TG55 competition impressed nobody, Nigel Humberstone of Sheffield. As we've recently comissioned the Goodyer-Poyser Automatic Multiple Entry Detector And Rejector (GPAMEDAR) in the post sorting office, we're confident that multiple entries will soon be a thing of the past.

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in brief

MARK OF THE UNICORN PERFORMER V3.2

IN 1985 WHEN Mark of the Unicorn's Performer MIDI Sequencer for the Apple Macintosh first appeared, computer-based sequencers were often regarded as a novelty - or not at all. It was the ST/Pro24 combination that made professional computer MIDI sequencing affordable, but precocious Performer users were sequencing away on Macs two years earlier. Since then Performer has undergone three major upgrades, and many other enhancements. Here we'll look at features that arrived from v3 onwards.

Performer's first major competitor emerged in '87 in the form of Passport's Master Tracks. Though having only half the recording resolution of Performer, Master Tracks made better use of the Mac's Graphic User Interface (GUI). In Master Tracks, notes are viewed in a piano roll-type display, bars are depicted as blocks and controllers can be drawn as curves on a simple graph.

Mark of the Unicorn were not slow to appreciate the graphic appeal of Master Tracks, and upgrades to Performer have tended to prove the old maxim that imitation is the sincerest form of flattery.

Version 3.2's graphic Edit Window supplements Performer's original simple MIDI Event List, in depicting notes and controllers graphically. The Information Bar displays the current pointer location, the currently selected MIDI data and the note grid's time resolution (this can be changed with the Time Zoom icon). The Marker Strip displays user-designated markers along with meter/key changes. Loop symbols can be dragged backwards and forwards in time.

The black rectangles in the note grid represent notes. The vertical axis is pitch (graphically represented by the mini music keyboard called the pitch ruler). The horizontal axis represents time. The time ruler can display time in bar/beats/clicks, real time or SMPTE. The longer the rectangle, the longer the note it represents will play. Moving the pointer over a note rectangle will cause it to sound (if the loud-speaker icon is on), and clicking on a note produces a handle so that it can be dragged around. Its velocity appears in the information bar and a new value can be typed or played in.

The Median Strip (sounds like an Asimov title) separates the note grid from the Continuous Controller Data grid, and displays discrete MIDI events like Patch Changes, mode changes and SysEx events. Clicking on these icons allows their values to be changed.

The Continuous Controller grid can display both pitchbend and controller data. Different controllers are represented by the use of "x"s, diamonds, squares and so on. A v3.2 enhancement displays individual controllers in their own window, with a Mac Paint-like reshape tool to draw curves in more easily.

Version 3.2's meatiest feature is the "Chunk". Chunks are songs or sequences that can be arranged to play sequentially or simultaneously. Chunks are listed in the Chunks window (which replaces v3's Sequence window) and graphically displayed in the new Song window.

There are several ways in which Chunks can be put to use. Firstly, a part of a sequence can be defined as a Chunk; it's possible to define, say, a bassline, drums, FX and so on as individual Chunks, so that remix or arrangement ideas can be tried without having to edit the main sequence or Save As. . . This is achieved by dragging Chunks around within the Song window.

Chunks also provide a quick way of loading data from other sequences. Previously the only way to do this was to (deep breath): close the current sequence, open the desired sequence, copy the desired data, close that sequence, open the original and paste. As Performer is particularly slow in opening and closing files, Chunk loading is a very welcome addition.

Thirdly, Chunks provide automated live performance possibilities, as each Chunk can be assigned a MIDI Song Position Pointer or a discrete SMPTE time.

Real-Time tempo control also arrived with v3. This window allows the player to play freely, without reference to the metronome, and is therefore ideal for improvisation. This is achieved by providing a means to tap-in beats during or after a performance. To do this a note or a controller is defined as the Tap Input. Defining a footswitch as the Tap input makes it possible to play two-handed. Real-time tempo recording also allows Performer to learn a tempo track from another sequencer or synchroniser.

If you've ever started playback from the middle of a sequence and heard the wrong patch being played you'll appreciate Performer's Event Chasing. With this enabled, Performer searches through the sequence for the last pitchbend, patch change and controller event on each track and transmits them before playback begins.

As this procedure can take time (if there are many tracks and/or many controller events), there will be a significant delay before playback begins. Clicking the Pause or Wait button causes Performer to chase to the currently displayed bar, so that on pressing Play Performer can begin immediately.

Version 3.2 also offers alphanumeric/music keyboard shortcuts for all Performer's transport controls, SysEx editing, MIDI files (including the ability to expand loops), adjustable tempo change curves in the Change Tempo window, hard disk installation and quantised triplet conversion to Professional Composer.

One problem still not addressed in v3.2 is that Performer still insists on using the non-standard Direct Time Lock (DTL) instead of MIDI Time Code (MTC) for synchronisation. This isn't such a problem in the States, but in the UK and Europe, the SRC/AT and Roland SBX80 are the most popular synchronisers, and neither support DTL.

Further useful borrowings from Master Tracks might include the graphic Conductor Track, graphic pop-up faders, and a separate Event list editor for events "locked" to SMPTE.

Opcode's Vision, being the most recent Mac Sequencer, offers several features from which Performer would benefit. The ability to loop record, and have multiple sequences open simultaneously, makes recording in drum machine segment/song style much easier. The ability to upgrade software means that the three major Macintosh Sequencers, Performer, Master Tracks and Vision actually look rather similar. Performer and Vision in particular share most specifications. Master Tracks, on the other hand, deliberately adopts the position of "cheaper alternative", by virtue of providing only half the recording resolution of Performer and Vision, (though it's still 2.5 times that of Pro24).

None of the programmes offer rhythm-orientated composition facilities like Intelligent Music's Upbeat 2 and Real Time, nor do they offer the latter's ability to edit data with the sequence running, a feature also to be found on Cubase. Integrated notation is also missing, Performer requiring a sister notation package called Professional Composer. ■ ***Kendall Wrightson***

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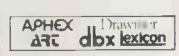

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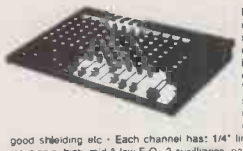

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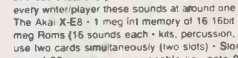

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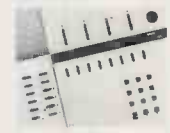

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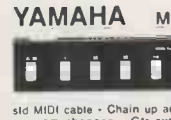

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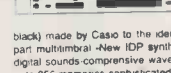

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YAMAHA SY22 DYNAMIC VECTOR SYNTHESISER

IT SEEMS THAT Yamaha are wasting no time in following up the release of their flagship SY77 RCM synthesiser with a succession of cheaper variations. But where the TG55 expander and SY55 synth (reviewed MT, March and April respectively) are directly descended from the SY77, somewhere along the way the 77 mated with Sequential's Prophet VS synth and the SY22 was conceived.

"Why the Prophet VS?" you may wonder. Well, older readers may recall that Yamaha bought out the ailing Sequential in late '87, a move which allowed them to buy into the American company's technology and expertise. Sequential ceased to exist as a separate entity, and Sequential instruments such as the VS (which first appeared in '86) fell by the wayside. But now at least (at last?) the VS' innovative angle on real-time synthesis, namely vector synthesis, lives on in the SY22.

The VS allowed you to mix four waveforms in real time using a front-panel joystick operating on an X/Y axis. These four waveforms were "located" at the four tips of the axis, and the joystick's position in the X/Y "field" at any given moment determined the sonic balance of the waveforms. The precise intersection of SY and VS occurs with the four Elements of RCM synthesis, which on the SY22 take the place of the VS' four waveforms - if you're beginning to think you've wandered into a maths lesson by mistake, don't worry, I'm just winding you up. The word "vector" may have mathematical connotations, but the SY22 is more likely to exercise your hand than your mind - if you can wiggle a joystick, you'll be OK.

No doubt in anticipation of some serious wiggling from SY22 users, Yamaha's vector controller is a cross between a tracker-ball and a joystick, which means you should be able to cross your X with your Y and not end up with sweet FA. There are also slight indentations in the "ball" to facilitate more subtle fingertip control (perhaps I should rephrase that for our younger viewers. . .).

Like the SY77, the 22 allows you to combine up to four Elements to make a Voice (of which there are 64 onboard, with a further 64 accessible from a plug-in card). Elements A and C can each consist of a sampled sound, Elements B and D of an FM-synthesised sound - so that, unlike the 77, the 22 doesn't allow you to combine four sampled sounds. On a more positive note, the SY22 retains the 32-note polyphony of its more expensive relative (again divided equally: 16:16 between the FM and sample sections). The 22 is eight-part multitimbral compared to the 77's 16 parts, and implements Multi patches as on the SY77 - however, with the addition that up to all eight parts can be assigned to the same MIDI channel if you want (in this way you could create a four-sample sound by layering two Voices). It also has a five-octave, synth-style keyboard which is sensitive to attack velocity and channel aftertouch.

Unlike the SY77 and SY55, the 22 doesn't have an onboard sequencer, but it does include a "drumkit" of 61 sampled and synthesised drum and percussion sounds (collectively specified as sample 127) and a digital effects section offering a choice of 16 effects (hall, room, plate, club, big metal and gated reverbs; delay 1, 2, and 3; doubler; ping pong; panned reflection; early reflection; delay+reverb 1 and 2; and distortion+reverb) with depth control as the only alterable parameter.

The SY22 has a total of 127 samples, excluding those in the drumkit section, and unlike those on the other SYs and the TG55, these are 12-bit. Also unlike its relatives, the 22 doesn't have access to further samples on ROM cards (the only card facility is for loading and saving Voice parameter data) and doesn't have any filters, while its FM synthesis capability is four-operator as opposed to the SY77's six, is limited to one algorithm (two carriers each with one modulator), and provides control over carrier envelopes and feedback amount only - though significantly you do get a choice of 255 preset modulator envelopes which provide a quick means of creating timbral changes in the FM sounds.

The SY22's vector controller allows you to create a continuously shifting mix of the four Elements within a Voice. But it doesn't limit you to live mixes: for each Voice you can record a sequence of up to 50 X/Y coordinate positions of the joystick for level, and another 50 for detune (governing all four Elements at once); in this way, level and pitch changes for the four Elements become an integral part of the Voice. These can either be recorded in real time using the joystick, or in step time by numeric entry via the LCD window; additionally you can get the SY22 to create random level and detune changes which you can then store as part of a Voice if you like the results. You can also loop these vector sequences and alter their speed, while an even more interesting option apparently allows you to use two pairs of MIDI controllers (governing the vector X/Y axis in each case) for external MIDI sequencer control of Element level and detune. Many possibilities suggest themselves here, but I'll refrain from getting too enthusiastic until I've checked this feature out.

In addition you get a choice of eight preset Vector sequences which step through a series of sounds *within* an individual Element; these can be integrated into any Voice. It's a neat feature, but not as flexible as it could have been (ie. you can't create your own sequences).

Yamaha conceived the SY22 as an ideal first instrument for home keyboard players wanting to cross over to the world of synthesisers. On first impressions, gained from a short time with the synth at the company's R&D centre in London, I'd say they've succeeded by deliberately keeping the SY22 relatively straightforward both operationally and functionally. At the same time it appears to be sufficiently sophisticated sonically to attract synth players - who, of course, value qualities like straightforward operation, too. Vector synthesis, meanwhile, looks as if it could be a gimmick in some hands but a considerably more interesting prospect in others.

Yamaha have been criticised in the past for the complexity both of FM synthesis and of the way FM synthesis has been presented as a programming system. With their new flagship synth they have to some extent eased the latter, but not compromised on the sophistication and complexity of the instrument as a whole.

In contrast, the SY22 looks to be a synth for those musicians who don't want to deal with undue complexity, while offering enough to intrigue the inquisitive. ■ ***Simon Trask.***

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Dear Cynthia

Dear Cynthia,
I want to buy a sampler but am worried about truncating and looping. I have led a very sheltered life and am unfamiliar with this practice.

Signed Earnest of Ealing.

Dear Earnie,
With the new generation of sample players like the Proteus, the Roland U series and the Yamaha TG55, your problem is solved. All those nasty, fiddly jobs are done for you and you get perfect reproduction of all your fave instruments, instantly. If you must buy a sampler then for goodness sake go to a shop with a huge disk library otherwise you could spend the rest of your life confined to your bedroom, wrestling with technology. I'd recommend "The Keyboard Shop" in Shepherds Bush Centre which I am sure will come as a huge surprise.

Dear Cynthia,
My husband recently bought a Yamaha SY77 keyboard. At first I thought it was just another synth and that he'd soon be bored with it. One night while he was out I switched the instrument on and found myself fondling its keys and playing with its fulsome timbres. Pretty soon I was committing acts I'd only ever read about in magazines. Layering, assigning midi channels and even a little mild S & M (Sequencing and Multitracking). Unfortunately I was so carried away that I failed to anticipate my husband's return and he caught us in flagrante. He has now moved out and taken the Yamaha with him. How can I get custody of the synth, Cynth?

Desperate of Deptford.

Dear Desperate,
Under new E.C. regulations, you can claim custody of any "keyboard or fretted instrument over 17 feet long". Since the SY77 is considerably shorter than 17 feet I am afraid you'll have little chance.

Dear Cynthia,
I'm 15 and my parents say I'm too young to synthesize but most of my friends do it and say it's quite safe.

Worried of Worcester.

Dear Worried,
Your parents are quite right. There's no such thing as truly safe synthesis. Especially with the new breed of budget machine like the Roland D5 and the Kawai K1. These are dangerous instruments that can blow a lead guitarist off the stage at twenty paces and should only be handled by an expert. Unfortunately, at present, there is no law to prevent you buying one of these touch sensitive, multi timbral keyboards from as little as £440 with full voice-library access. Even in Shepherd's Bush.

Dear Cynthia,
Why are there so many acronyms used in electronic music? I find it difficult to remember them all.

Puzzled of Purley.

Dear Puzzled,
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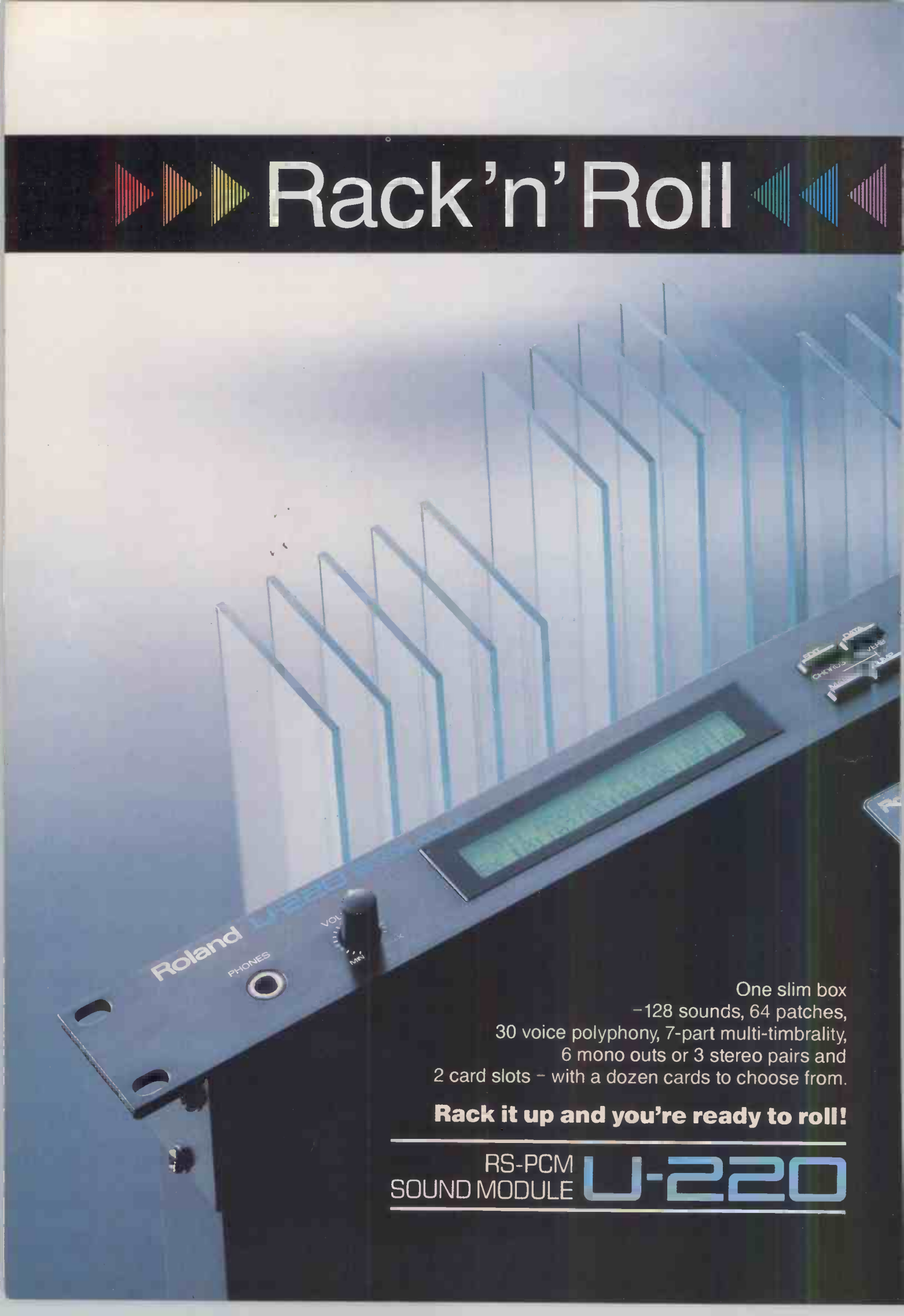

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on the grid

PHOTOGRAPHY: JAMES CUMPSTY

After Soft Cell - what? The question that faced Marc Almond's enigmatic keyboard-playing partner has been answered by The Grid. Interview by David Bradwell.

ASK THE AVERAGE SYNTH-POP FAN WHAT became of Soft Cell's David Ball, and you're likely to be told he's the Missing Man of Pop. Seldom heard of since Marc Almond became a Mamba, his legendary image as the straight man of sleaze is just a memory from vintage *Top Of The Pops*. As Soft Cell were Britain's answer to Sparks, so Ball cut a magnificent Ron Mael figure, resplendent in black behind the finest in analogue synth technology. As a role model to a thousand early '80s synth duos, Soft Cell were awesome, a non-stop erotic cabaret of music to make love to.

Ten years later David Ball is reclining in the Pacific Recording Studio, not far from London's Liverpool Street station, still wearing black. Richard Norris, his new partner and chief spokesman, is opposite, sporting Troop leisure wear. Also in the room is Genesis P. Orridge, a renegade from Psychic TV in a punk vicar's outfit, and the most obviously eccentric of the three.

Ball and Norris, who together make up The Grid,

met each other while working with Orridge on a project called Jack The Tab. It was an attempt at a psychedelic acid house record in 1987, before any of them knew what acid house was, and is now viewed as a classic of its genre. On its completion Ball and Norris collaborated on various projects, including remixes of 'Supernature' by Cerrone, and the Art Of Noise's James Bond theme. WEA Records suggested they make a record of their own because "they had so many new approaches to dance music", and so The Grid were born. After producing a track called 'Islamatron' for a WEA compilation album, The Grid set about recording their debut album and single, both entitled *Intergalactica*.

Norris is 24 and comes from St Albans. He claims to be unmusical, yet trades ideas and enthusiasm without the need for training and technique. With the kettle switched on, he and Ball begin to explain The Grid, the LP and their involvement in the reshaping of British dance music.

"The LP's like a soundtrack for dancing", begins the former Soft Cell man. "We use a mixture of all kinds of influences from techno to ethnic; everything from dance music to Pink Floyd. We definitely reckon there's going to be a return to pompousness, so we've used a few pompous synth sounds", he adds, with a grin.

"There's definitely a big soundtrack influence", confirms Norris. "You could imagine quite a lot of our tracks with visual accompaniment rather than just on a dancefloor. I think we try to go a bit further than a straightforward dancefloor band would go. Our main aim is to get people to listen to it, with the variety of sounds and the juxtaposition between the various sounds.

"I think a big backlash is brewing over house music at the moment because it's becoming really repetitive and boring, which in its purest form is very true. I really like people like the KLF, who are the only people worth listening to in that field in this country, and Mr Fingers from America. Apart from those two, general house is becoming really boring and we're trying to push back the frontiers and blend a lot more influences rather than the typical ones that you get.

"Three years ago, if you heard a great house record out in a club you got really excited, and that's the kind of effect that we're aiming for. It's so easy to make a house record now, what's difficult is to make it totally different.

"What we're trying to achieve is the most difficult thing to do in the field of popular music. That's something like, say, the Human League did. They were very accessible, but they also had a very different slant on things. I can't think of many bands who've done that apart from maybe the Human League or Kraftwerk or Yello."

While Norris was quoted in *Sounds* as knowing nothing about samplers and equipment, it's the combination of Ball's technical proficiency and the pair's joint artistic vision that motivates The Grid. After ten years in or around the forefront of the business, Ball confesses to a "warehouse" full of synthesisers, due to his policy of never throwing anything away. The group like to use unusual equipment to help try to establish an individual sound, but there are still some famous names in the equipment he uses most.

"A lot of it's the usual stuff, like an Atari with C-Lab software, although I still use an old Alesis MMT8 because I don't like screens", he begins. "Most people I know who use screens end up being myopic programmers. We also use quite a lot of old stuff, because I've still got things like a PPG 2.2, and we've used a Prophet 5, Juno 106 and Jupiter 8 because there's a lot of arpeggiated stuff. A big problem with a lot of modern sequencers is that you have to write arpeggiation in yourself – there isn't actually a machine which arpeggiates, which is a shame because it's nice when it's more random. We use S1000s, S900s, and an FZ1. I tend to use the FZ1 as my main sampler just because that happened to be the one that I bought."

"We're into older sounds and different synths, because you get weird variations in the sounds", adds Norris. "When the Prophet 5 is warming up it's slightly out of tune, or when you get an arpeggiator that'll do weird random notes, it's more exciting than a computer. If you do a lot on a computer it becomes really linear, and especially with dance music it's very difficult to get out of being very linear. We like to get in more chance elements, just to give a more human feel."

"We've had some very hi-tech sounds and then used things like Leslie cabinets to get a really grungy sound", continues Ball. "We've used a Roland Space Echo, and a wah-wah unit just as a filter. We sometimes use parametric equalisers, and put the sequence into the parametric, altering the filter as it runs through to liven things up.

"Because everybody's basically got the same equipment – S900s, D50s and stuff – one of the ways we've been thinking we might go if we can get the money is to start using a Synclavier. That's the other reason why everything sounds so similar, because everybody has been using similar low-budget equipment. If we could use something that nobody else has got it would give us a totally different sound."

"We'd like to blend that with the cheap trashy stuff", finishes Norris. "As soon as Yello got their Fairlight they sounded totally different."

Sounds and the way they interact are of vital importance to The Grid. They never use synth presets, and most other sound sources are effected beyond recognition. The only recognisable guitar on the album was played by Cobalt Stargazer of Zodiac Mindwarp and, although deep in the mix, you can also find real trumpets, clarinets and percussion. Sounds, whether synthetic, real or sampled, go towards creating a mood. Samples are equally as important as synthesised sounds, although sampled loops seem frowned upon.

"In Jack The Tab there were loads of film bits, from loads of trash films", begins Norris. "Now we've moved away from using vocals and got more into voice samples. The idea is to stop songs being interpreted in one way. Vocals can really focus a song and we're trying to get away from that so that they're open to interpretation. People have said that some of our really happy songs sound evil, and I'd much rather that was the case than people being pinned down by one vocal melody. Even where we have got vocals we've tried to ➤

"What we're trying to achieve is the most difficult thing to do in popular music - I can't think of many bands who've done it apart from the Human League or Kraftwerk."

➤ use them in the same way as samples, which is quite disembodied. On a track called 'Driving Instructor', the singing vocals and the sampled vocals just float in and out.

"When I got a DAT recorder I went out and recorded traffic in Oxford Street, I went to Brighton and recorded the sea, and I did the bird house at London Zoo and the Science Museum and Natural History Museum. We're not using samples so that people recognise where we got them from, we're using them just as part of the sound."

"If somebody sampled us I'd take it as a compliment, depending on how much they used", adds Ball. "We tend to try things out. A lot of the tracks start out as one thing, and then end up as another. One track started out as a trashy disco thing, that was very commercial, but a bit PWL, that nasty sort of cheap thing. It's gone through three stages and it's now turned into a Latin track. We do tend to scrap things, because we're not precious about stuff. If something sounds nice and tasteful we like to put something way out onto it just to make it more exciting and give it more dynamics."

Tracks start from either an idea for a song, or a drums/bass rhythm, but rarely from the vocals. Rough ideas get worked on at Ball's house, but the songs really come alive in the studio. Vocals are a minor part of The Grid's sound, but Norris doesn't think the age of the three-minute song is over.

"Because of extended lengths of commercial recordings on CD, you've got much more time to play with", he begins, "so the boundaries have been stretched. It's a good opportunity not to be stuck with just that three-minute format. I would have thought a lot of our stuff isn't designed to be played on the radio, it's designed to sit in your living room and listen to, so why not create something that's seven minutes long? The whole album's going to be linked, so the idea is just to listen to it in one piece like, say, the De La Soul album is."

"As far as the record company are concerned, radio is very important", adds Ball, "and they keep putting on that pressure, because you've got to have two singles, which is fair enough. The point is that it's an albums thing rather than a singles thing."

Integral to the music is the concept of making machines sound like machines – to be innovative rather than imitative. They have sequenced links of sampled vocals rather than perform with a singer, highlighting the machine elements to make them part of the sound. Even when they base tracks on natural sounds or rhythms, these often get replaced by synthetic counterparts.

"We've just done a track with a traditional Indian rhythm loop, and in the end we replaced each bit with our own electronic sounds", begins Ball. "It's just a basis for the track – one thing gives us the starting point and then we just take it wherever we want to go."

"'Floatation' started with a drum loop which we never used in the end", adds Norris. "The difference between our approach and most other people's approach to technology is that we like to push it to the limit - use it, abuse it and make it do things that it wasn't meant to. I was reading a new book that's just come out on Brian Eno, and it says he used to leave strings on his guitars for years so they went dull and made different sounds and I really like that approach. We used to really batter keyboards so that when they're old they do things that you wouldn't expect them to do. We're not very po-faced about our technology, we're more into ideas and moods and atmospheres than being totally techno.

"Once we've left a song for a few weeks it'll develop and we have new ideas and normally we'll put on just one sound that we really like and that'll take the song into a totally different direction. I think that happened with 'Intergalactica'. There were some spacy noises and a particular metallic keyboard sound that we wanted. We're getting away from sampling – anyone can sample and unless they're doing it in an original way, they're better to just create their own unique sounds."

AFTER THEIR ALBUM IS RELEASED, THE Grid hope they can take their moods and atmospheres to other artists in the form of remixes. They've both worked on commercials for advertising companies and want to do as much extra-curricular work as they can, outside the pop routine. Their approach to mixing is to clutter tracks up and then take things out, but they're not big fans of lots of remixes.

"I think generally speaking they are a bit self-indulgent and doing 20 mixes of one song doesn't actually help it", Norris begins. "I don't think it helped The Beloved's 'Hello' and I don't think it helped 'The Sun Rising' - I think that there's one good version of that song.

"We changed the Art of Noise's James Bond theme so much that they said they couldn't put it out because there was hardly any Art Of Noise left. I think everybody agrees, including the record company, and maybe the band themselves, that we did a much better job than they did, and I'm sure that they just felt a bit embarrassed because it was a Grid track with just a bit of the Art Of Noise on top.

"We'd love to do some more remix work. It's such a shame the Art Of Noise track hasn't come out because I'm sure if it had people would give us loads more remix work. We've been offered an Australian band with digeridoos and Aborigine noises on it - a kind of ethnic Art Of Noise, and we might do that."

While these are the areas The Grid are looking to pursue, a large proportion of new keyboard bands get accused of harking back to the early '80s by a press and public blinded by their own preconceptions. How many times have sparkling synth-pop demos been dismissed with a comment to the effect of "sounds like The Human League to me"? How many careers haven't got past the starting post because an A&R person only associates electronic music with Soft Cell, Depeche Mode or Ultravox?

Ball is keen to suggest why these attitudes prevail.

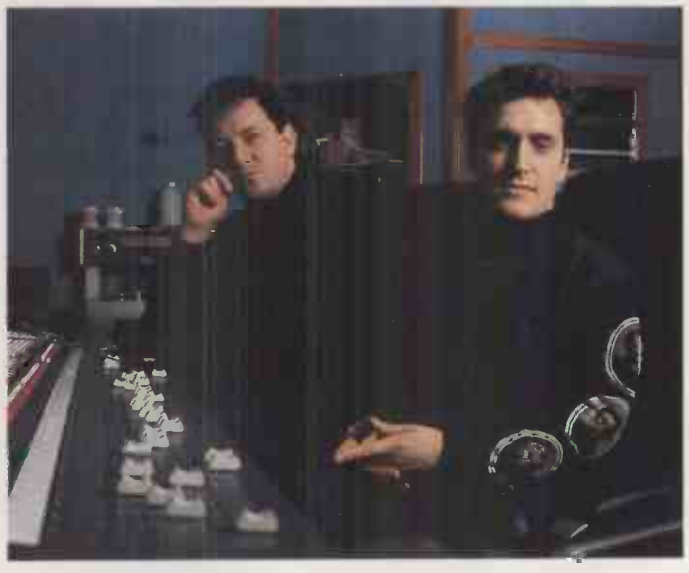
"There are a lot of people who are just copying each other and not doing anything new. They hear something and they know that they can do it, so they're just copying what everybody else has done. When I started out we were doing something new and I still feel like that. I've never had the inclination to

"We've moved away from using vocals and got more into voice samples. The idea is to stop songs being interpreted in one way - vocals can really focus a song."

copy what everybody else has done. The problem is that there are so many people who are doing it, that there aren't very many who are actually doing something interesting. That's why people get dismissed, I think: they're all using the same James Brown samples."

Norris: "It would be so much easier for us to calculate what we're doing and become a dance band. We could put black girl soul singers on our records and sell them into the pop charts, but that's not actually going to do our integrity any good."

"It's the lowest common denominator really, and anybody could do that", Ball continues. "People get a funky bassline and a Lolleata Holloway soundalike to come in and do something over the top. So what?



"Whereas most bands that copy dance records would love to be 808 State or S'Express, we'd much rather be Pink Floyd or Tangerine Dream. If you listen to Pink Floyd's first album compared to *The Dark Side Of The Moon*, it sounds completely different. We want to keep developing – I'm not saying we want to be Pink Floyd - our sights are certainly higher, but I think, just because of the variety of some of the tracks on our album, people can't call us a dance band - it's just one element of what we're doing."

For the future, Ball and Norris have been working on an *avant-garde* live show, featuring The Grid Machine, an 8'x 5' sub-Spinal Tap stage contraption, made from chrome and flashing ambulance lights. They'd love to explore the possibility of 3-D sound, and other experimental areas, and have a wish to write a soundtrack for Patrick D. Martin's Psycho Mobile (see MT, December '88). Combining all this with the music they have so far produced should make them unique amongst their contemporaries and a likely marketing nightmare for Warners. Such is the price of innovation. ■

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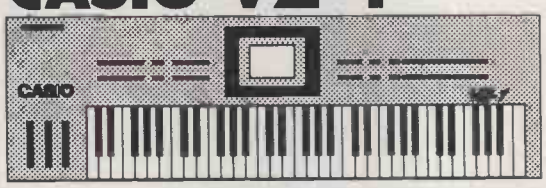

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PART 9

BRAZIL - HOME OF THE RIO DE JANEIRO CARNIVAL AND UNCOUNTED "ETHNIC" PERCUSSION INSTRUMENTS. BRAZIL - SUBJECT OF THIS MONTH'S RHYTHM PROGRAMMING LESSON. TEXT BY NIGEL LORD.

AFTER HAVING (HOPEFULLY) whet a few appetites in last month's article on Cuban rhythm, it's time to shift the scene a couple of thousand miles south-east to a country whose very name has become synonymous with Latin American music. Though no more (or less) important than Cuba in its contribution to the rhythmic arts, Brazil, probably as a result of its closer ties with the West (Cuba having been aligned with the Eastern bloc over the last three decades) is often the country which most readily springs to mind when we think of Latin music.

Much of this stems from the imagery which surrounds the annual four-day carnival in Rio de Janeiro - arguably the best known event of its kind in the world. Far from simply providing a few days of celebration for the beleagured citizens of one of the world's poorest nations however, the carnival engages the time and energies of literally thousands of people for many months of the year. Pre-eminent amongst these are the Samba Schools who compete at the annual event to determine the best costumes, the best dancers, and of course, the best samba arrangements.

Unlike Cuban music, there is no obvious division between

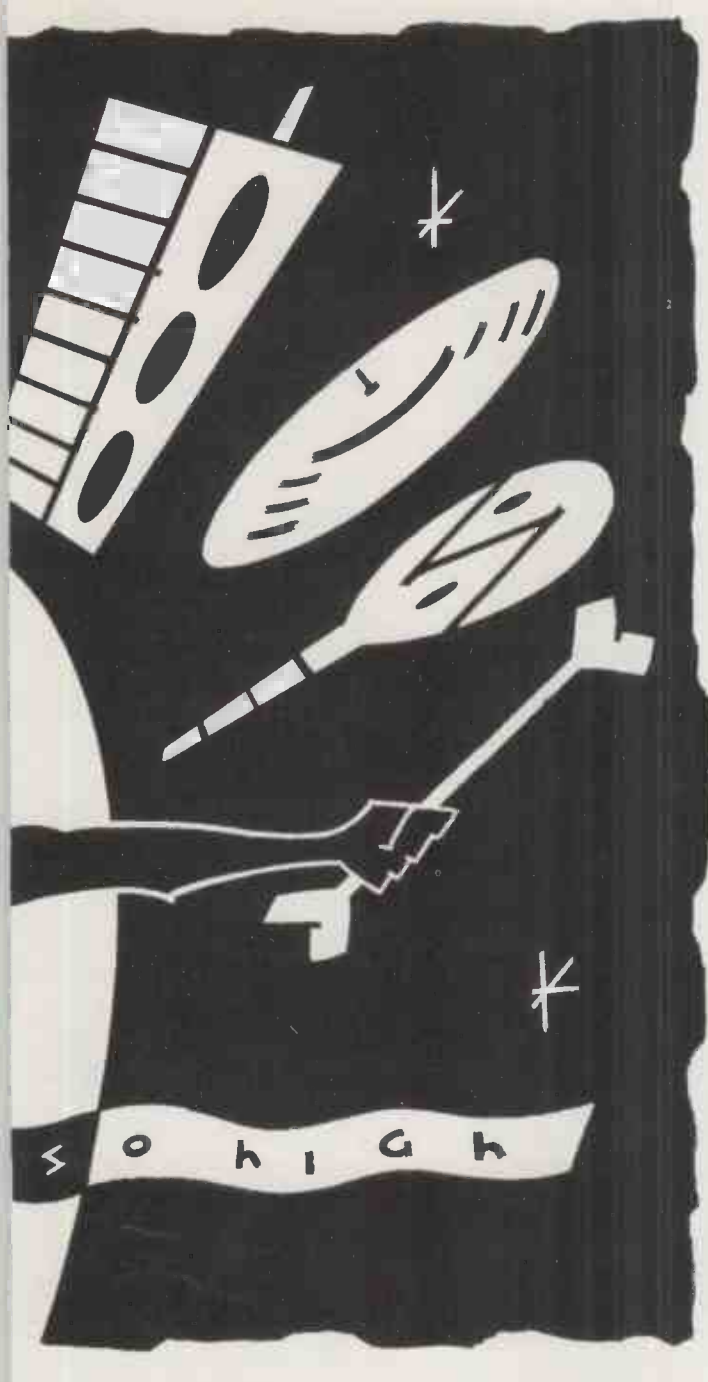


ILLUSTRATION: CLIVE GOODYER

traditional and modern rhythmic form in Brazil, though being a much larger country, there has been a greater diversity of cultures involved in its development. There's a broader range of instruments and more flexibility in the line-up of bands too, and this has led to the evolution of a huge array of "ethnic" instruments, many of them with a sound quite unique to Brazilian music.

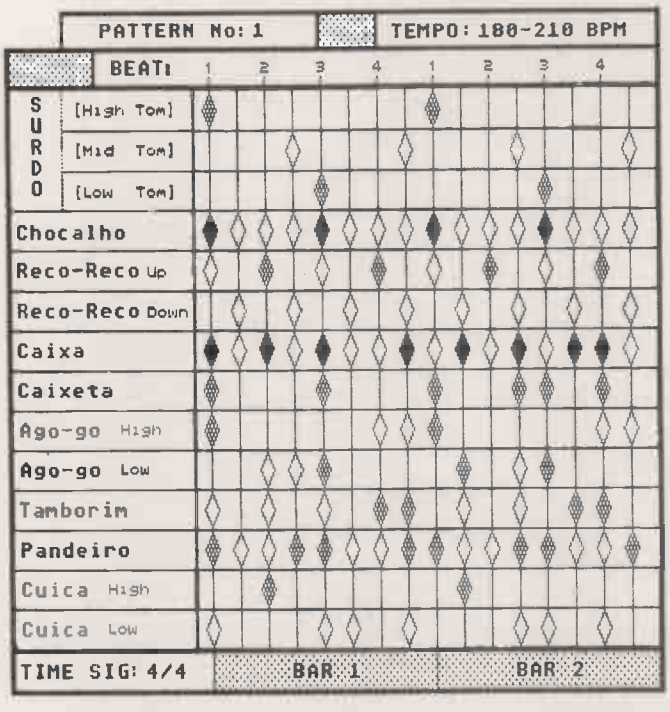
This, of course, poses real problems for the beatbox programmer anxious to sample the delights of a country for whom rhythm is, quite literally, a way of life. Few machines are equipped with the kind of instruments which provide Brazilian rhythm with its essential character. The sampler is, once again, perhaps the best means of overcoming this problem, and with world music now fairly well represented in the country's record shops, it shouldn't be too difficult finding a suitable source for your (covert?) sampling activities.

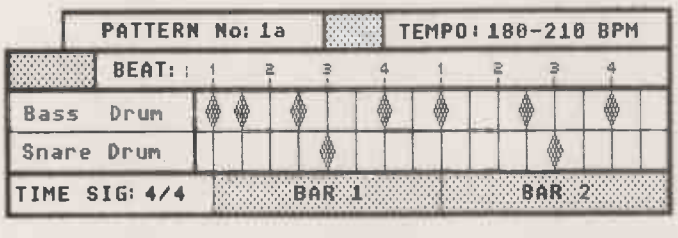
In the absence of a sampler, there are certain alternatives to the prescribed instruments (different types of shakers, for example, are often freely interchangeable) and there are ways of manipulating onboard sounds to make them more usable within the context of Brazilian rhythm. Certain instruments, however, really have no effective substitutes and will either have to be omitted from a pattern completely or exchanged for different instruments altogether. Of the two approaches, I would most definitely recommend the latter - at least that way you stand a chance of producing an interesting groove even if it doesn't have a totally authentic Latin flavour.

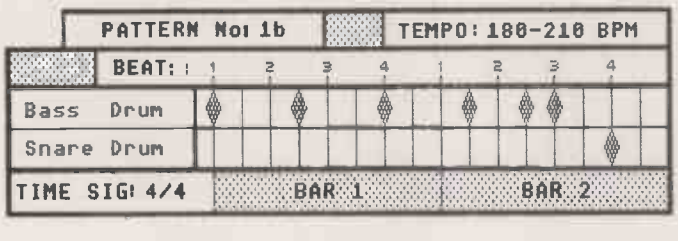
The first, and perhaps most important instrument is the surdo (pronounced *soor-doh*). This takes the form of a large double-headed drum of about the same internal volume as a bass drum, but more closely resembling a large floor tom-tom. Its importance lies in its role as the foundation for most rhythms in Brazilian music: the drum which provides the deepest sound in an arrangement. As you might imagine, as a close relative of the tom-tom, it's quite an easy instrument to recreate on the drum machine, particularly if (de)tuning is possible. However, because the surdo player uses a hand as well as a stick to increase the tonal range of the instrument, we have to make use of the other two other tom-toms to achieve a convincing effect. More on this later.

The ago-go bells will, perhaps, be more familiar to programmers, as they are included on a number of machines currently available, and on many of the classic models of the last few years. With a rather more open, penetrating sound than the cowbell, they need to be pitched about an octave apart and kept well down in the mix if they are not to become overbearing. Of course, two cowbells tuned an octave apart would make a perfectly acceptable substitute if ago-gos are not available, but they will need to be pitched fairly high.

The chocalho (pronounced *sho-chal-yo*) is the most popular type of shaker within Brazilian music and in its most common ➤







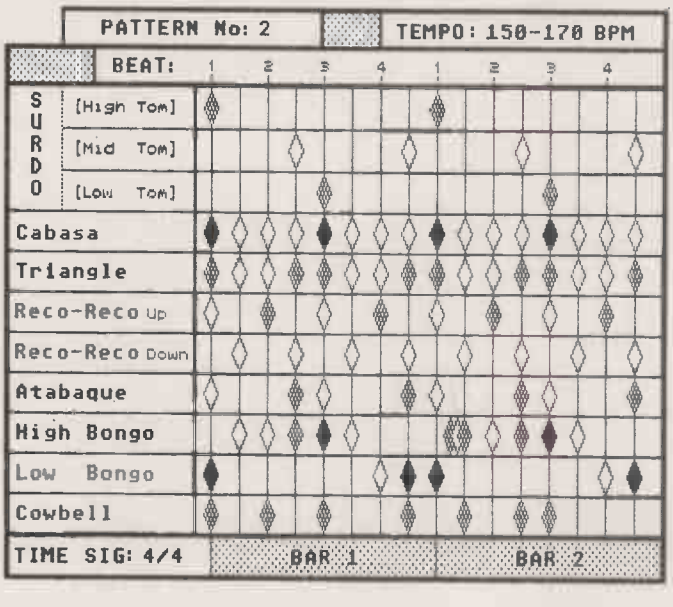
form comprises a metal cylinder about 18 inches long filled with sand or shot. In practise this can produce tones ranging from a fairly loose rattle to a tight "chic" on accented notes. Again, it's not particularly difficult to recreate with other types of shaker, but it's best to keep the tuning quite low, and perhaps add a short, high-pitched maraca sound for the accented beats.

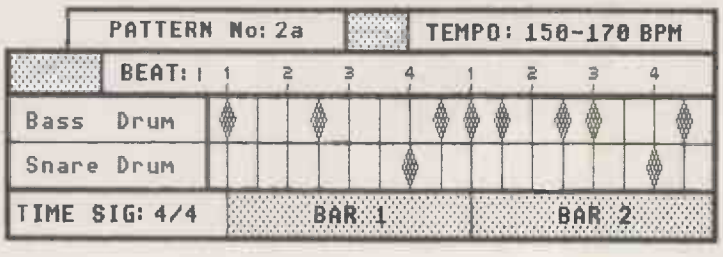
The reco-reco (love the names) was traditionally made out of bamboo with a series of grooves cut (at 90 degrees) along its side. It is played with a scraping action using a short stick across the grooves to produce a characteristic "zipping" sound, which as you might imagine is almost impossible to recreate in any other way. Given the wealth of applications for this instrument - both inside Brazilian music and out - I strongly recommend that owners of samplers, at least, make every effort to track one down and commit it to disk.

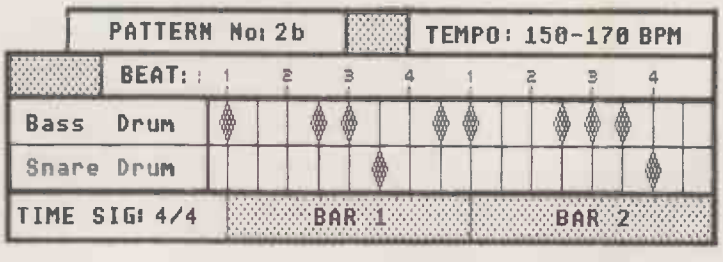
The tamborim is a high-pitched single-headed drum looking rather like a small tambourine, but without the jingles. It is played with a drum stick in one hand and the fingers of the other to muffle the tone by pressing the head underneath. Those with samplers should have no problem recreating this - simply take a tambourine (everybody has one lying around somewhere - or knows a man who does), and either remove the jingles altogether or tape them down with gaffa tape. When you're sampling, remember to record both the open (accented) and closed (muffled) sounds.

Non-samplers might try using a highly tuned tom-tom with perhaps a low pitched sidestick blended in to produce more of a "rap". On machines like the HR16 where you're offered a choice of single and double headed toms, try using the single headed drum to produce the closed, muffled tone and the double headed for the open accented note.

In case you're wondering, the Brazilians do actually use a tambourine in their music, but they call it the pandeiro (pronounced *pon-die-roh*). It differs from the European version in that the jingles are made of tin and produce a much drier sound than the high-pitched "ring" familiar to European ears. When sampling, this is easily achieved by applying a small piece of gaffa or carpet tape to each jingle and again, recording both the open and muffled head sounds. If you're restricted to the tambourine on your drum machine, you might like to try detuning it a few semitones and/or using the mid to high EQ on the mixing desk to filter out







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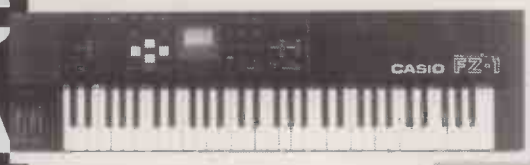

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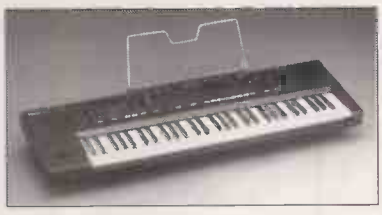

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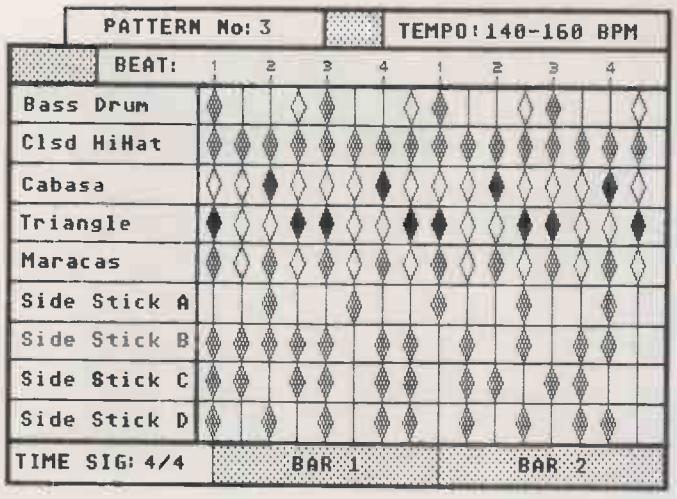


the inherent ringiness of the instrument.

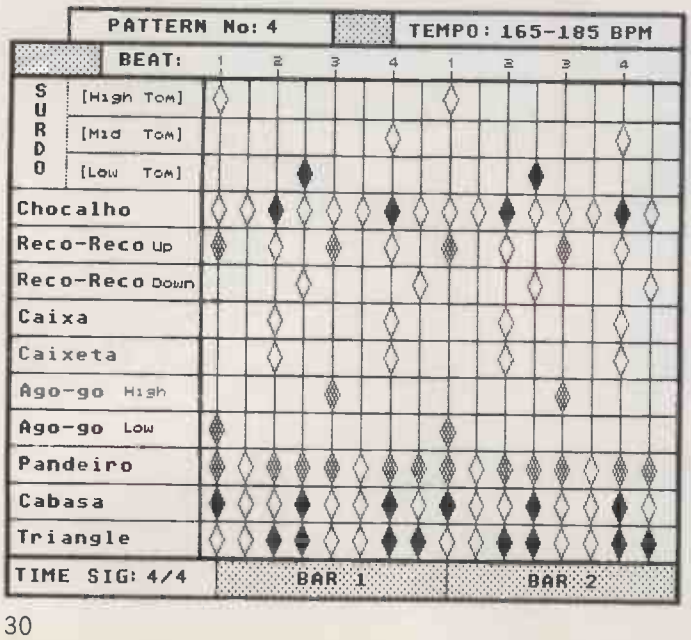
The caixa (pronounced *guy-shah*) is a fairly dry-sounding, high-pitched snare drum (a descendant of the European marching drum). The traditional Brazilian playing technique involves the use of both a stick and the hand to dampen the sound, but this isn't really essential in the rhythms presented here which simply use a combination of accented and non-accented notes.

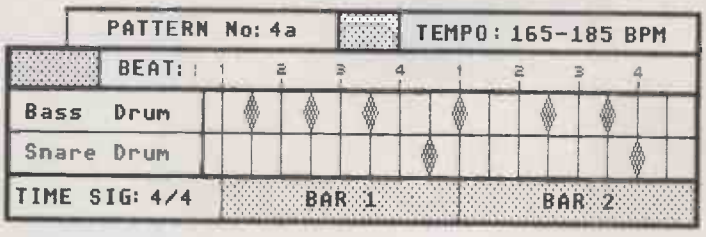
The caixeta (pronouced *guy-sheh-tah*) - a type of wood block used in many Brazilian rhythms - shouldn't prove much of a problem either. Most types of wood block provide broadly the right kind of sound, but if you can't put you finger on one (so to speak), the claves can be used instead (and frequently are in Brazil itself). Sadly, the same flexibilty cannot be applied to the cuica (pronounced *coo-ee-kah*) which produces a sound somewhat akin to a wet finger being rubbed on a sheet of glass. Like the reco-reco, there is no real substitute for this instrument (although those with samplers might like to try their luck with a window and a well lubricated digit), however, as it is only used in one of this month's examples, it's probably not worth losing any sleep over.

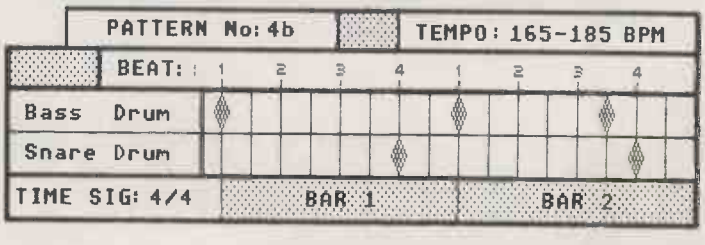
The cabasa will (hopefully) be familiar to most people: it has been included in the sonic array of drum machines for quite a few years now. If, however, you do not have access to the instrument you might try using a combination of shakers and maracas to produce a sound which, when installed within the overall mix, should provide acceptable enough results. And speaking of maracas, I can't imagine anyone requiring a description of their sound from me, or that of the bongos or triangle come to think of it, so I'll move swiftly on to the atabaque (pronounced *ah-tah-bak-ee*) which turns out to be the Brazilian version of the Cuban conga. In its more low-key role here, only one drum is required and we can just about get away with using accented and unaccented notes (unlike the open, closed, slapped and accented notes which occur in Cuban rhythms).

Before looking at this month's examples it's probably worth mentioning that, in common with most Latin Amercian music, Brazilian rhythms should really be played and written in 2/4 but, as with last month's article, I'll be presenting them here in 4/4 to make them more compatible with Anglo-American music forms. If you decide to modify or add to any of this month's examples, however, I would recommend that you keep your mental metronome ticking on beats 1 and 3.

Also like last month, I've



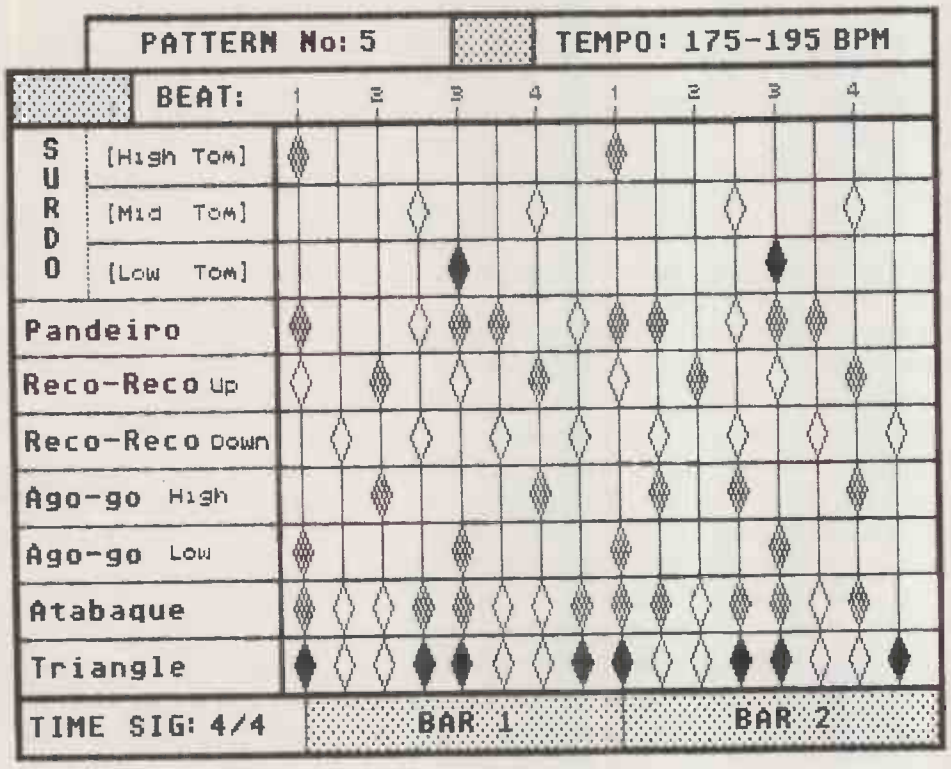


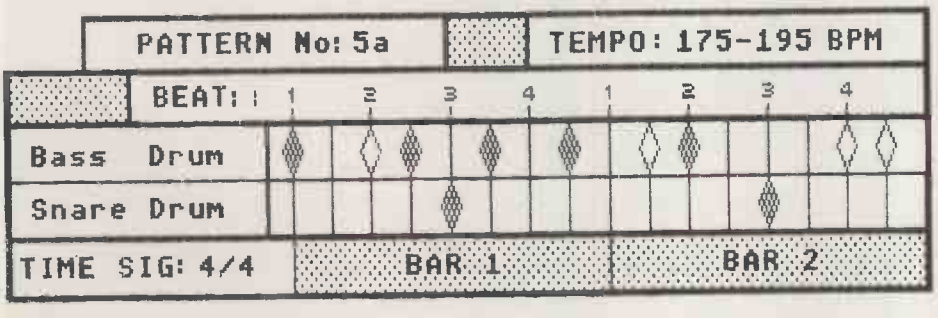


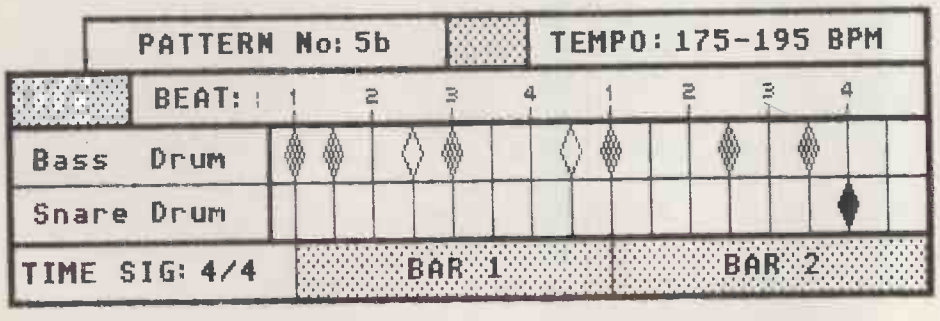
included a couple of bass/snare drum additions for most of the patterns - just to placate those who cannot live without the thud-n-blat to anchor things down. They will almost certainly rob each rhythm of whatever authenticity I have managed to preserve, but what the hell - this is beatbox programming. Having said that, given the overlap of instruments this creates, some care should be given to the choice of bass and snare drum sounds if the underlying rhythm is to at least be heard.

Reflecting its importance within Brazilian music, the first two examples this month are of samba patterns. Notwithstanding my earlier comment on the absence of any defined traditional and modern styles in the rhythms of Brazil, the two examples here - samba Batucada and samba Moderno - highlight the evolution of samba rhythms for different social occasions. The first example, Batucada, closely approximates the style of samba played at the Rio carnival. Fairly open in its interpretation, it can (and often does) involve most members of the Brazilian percussion family in a strident, full-blooded rhythm perfectly suited to a street situation. See Patterns 1, 1a and 1b.

As indicated earlier, the surdo part which ➤







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➤ would be played on a single drum (though, of course, there might well be many such drums in a samba orchestra), is composed here of three different parts. The low tom is used as a replacement for the open surdo and should therefore be fairly clean-sounding without too high a click or noise component. The mid and high toms are intended to recreate the effect of a player using his hand to muffle the drum, and should, if possible, be of fairly short duration. Incidentally, I had considerable success using a tight bass drum for the mid and high parts, with a tuning interval of about three semitones between the two. This works because a well-damped bass drum often sounds higher pitched than an undamped floor tom-tom, and the sounds are much shorter. In fact, this could well represent the best starting point on a number of machines.

As in past months, it isn't possible to go into too much detail as to relative instrument levels - that has to be left to your discretion. But obviously, an instrument like the caixa (the snare drum) playing consecutive quavers throughout the pattern needs to be held at a much lower level than, say, the chocalho. A lot depends on which frequencies overlap and which don't, and this, of course, depends on the tuning for each instrument. Experimentation is once again, the order of the day.

Needless to say, there's nothing to stop you adding further instruments, should you wish: whistles, for example (the MT32 has two of them), can be used to give the pattern a much more authentic samba flavour and can be improvised more or less at random. And, as I said earlier, if you find yourself absolutely stumped for a particular sound, there's nothing to stop you swapping it for another instrument altogether.

The second example is known as samba Moderno, and is generally a rather more sophisticated form of samba intended for the dancefloor. Though broadly similar in structure to the Batucada, it is considerably slower paced and provides space for less robust instruments such as the cabasa and triangle. See Patterns 2, 2a and 2b.

The bongos also make an appearance and can be brought well to the fore, volume-wise. The high bongo figure at the beginning of bar two can be dispensed with if you wish, but this would be the ideal instrument to develop further as the rhythm progresses. Try to pitch the atabaque (the conga drum) so that it doesn't intrude too much on the bongos, and likewise, make sure the cowbell doesn't obliterate the triangle where the two coincide.

For many people, the Bossa Nova (literally: *new rhythm*) epitomises the more sophisticated aspects of Latin music, particularly where it crosses over into jazz. Despite this, few people realise it was a deliberate creation by a handful of the "cooler" musicians and poets during the late fifties and early sixties, led by Joao Gilberto, Antonio Jobim and Joao Donato. In essence it was a reaction to the more conservative elements of Brazilian music, which, by that time had gained wide acceptance in the US, but had become somewhat watered down in the process.

As a fairly recent creation, the rhythm was developed for the conventional drum kit more or less from the outset, and this, of course, makes it much easier for us to cope with as a rhythm program. Though it can be accompanied by most percussion instruments, its subtlety and gentle, lilting feel is particularly suited to the triangle, maracas and cabasa which are featured here. See Pattern 3.

The characteristic side stick provides much of the variation introduced into the rhythm, and I have included four patterns here as a starting point for this process. If you wish, you can replace the closed hi-hat with a ride cymbal, providing it isn't too overpowering, and by doing this you should provide more space for the maracas which can easily be lost alongside the hi-hat.

Remember: the key element of the Bossa Nova is its laid-back feel, a tempo of 160bpm represents an absolute maximum, and no instrument should be allowed to dominate the proceedings.

In contrast to the Bossa Nova, the Baion (or Baiao) is one of the oldest rhythms in Brazil and was originally used in folk-music in the north-eastern part of the country. Since then it has been adopted by every kind of ensemble from large carnival orchestras to smaller dance bands. In its form here, it is characterised by a relatively simple surdo part and the pairing of the chocalho and the cabasa. See Patterns 4, 4a and 4b.

Tempo is non-critical, and the figures provided are only a rough guideline. Likewise, the instrumentation - with the exception of the surdo and the triangle - may be regarded as a starting point and freely expanded (or limited) should you wish.

Finally we come to the last example for this month, the Maracatu. A relation of the Baion, the rhythm is not widely known outside Brazil in its traditional form, but still enjoys considerable popularity on its native soil. The ago-go provides the main area of interest (outside the surdo), and should be maintained throughout the rhythm. Tempo is medium to fast, but still fairly flexible, and once again it is perfectly OK to substitute instruments should you feel the urge to experiment.

And that's about it as far as Brazilian rhythm is concerned - though there are many more examples and variations I could have included, space has once more got the better of us. Next month we'll be looking at Latin-related rhythmic forms including Salsa and Calypso and hopefully a few hybrids. See you then. ■

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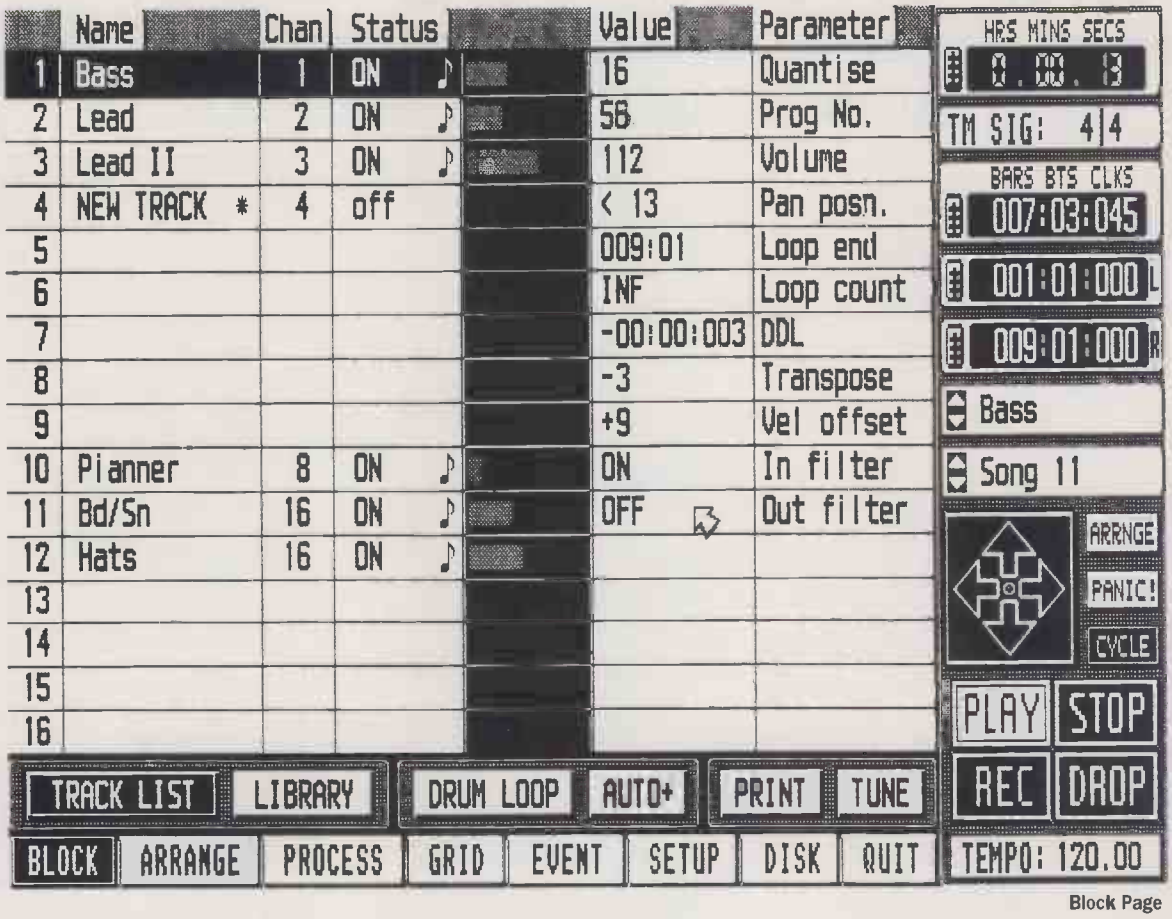


Block Page

Adopting its own operating system and multitasking made TDM's Virtuoso possibly the fastest sequencer currently available - these are just two of the facilities it has handed down to Prodigy. Review by Ian Waugh.

LIFE GOES ON. And the search for the ultimate budget-priced software sequencer continues.

Ever since Steinberg set the "going rate" of pro sequencing software at £285 with the Pro24, it seems that any software wishing to be classed as pro has to have a price tag to match. Many cost more than the computer they run on, and Steinberg's Cubase has recently set a new standard - certainly in terms of price, which has just been hiked up to £550. But what about the little fellow, the dabbler, the home user and the semi-pro who can't afford or justify spending a month's wages on a disk, a dongle and a manual?

It took a while for the developers to wake up to the budget market but it has been exploited ruthlessly over the past year. I can now count over a dozen sequencers for the ST at under £130 and the competition here is even greater than in the professional arena. One of the latest combatants is Prodigy (review version v1.05), progeny of Virtuoso and the only budget-priced multitasking sequencer for the ST currently on the market. It comes in a cardboard box - no folder, sorry - and consists of two disks (one for colour and one for mono operation), a dongle and a ring-bound manual.

If you have already read MT's review of Virtuoso (see MT, October '89) and liked it but couldn't afford it, you'll find Prodigy very interesting. You'll also notice many similarities between it and Virtuoso - as you would expect between father and son.

RELATIVE CONTROL

PRODIGY DISPENSES WITH GEM altogether in favour of its own multitasking operating system - just as Virtuoso does. It has its own menu bar along the bottom of the screen and clicking on a button calls up a new screen or page. On the right-hand side is the control panel containing the record controls, left and right markers, tempo and so on. The control panel and menu bar are common to every page.

In the control panel, a clock shows the time elapsed during recording and playback, a counter shows the current position in the song in bars, beats and clicks and the markers define a section of music which the program calls a zone.

A set of four-way scrolling arrows (similar to those on Virtuoso) move you back and forth through the music and scroll up and down through the pages.

A panic button sends MIDI all notes off commands (this may cause an error message on some machines) and a centre pitchbend instruction. You can alter the time signature (which only affects the way the music is displayed) and select Cycle mode for recording and playback. Drop mode automatically drops you in and out of record between the left and right markers.

A FAMILY AFFAIR

LIKE VIRTUOSO, THE basic working unit within Prodigy is the block, which is made up from 32 Tracks (Virtuoso has 99). These are listed in the block page and the scroll arrows scroll through them. Blocks can be linked together in the Arrange page. Unlike Virtuoso, Prodigy has no dedicated Zone page but I don't think too many users will miss this.

Tracks can be given a 16-character name, they can be copied, deleted and re-ordered on the track list. A status column is used to solo and mute the Tracks and a channel column sets the MIDI transmission channel although a Track can also transmit on its recorded channel(s).

A column to the right of the track list acts as a velocity indicator and doubles as a set of slider controls to adjust the values in the next column. This houses real-time processing parameters which include quantise, program change number, volume, pan position, loops and repeats, DDL (a Digital Delay Line which offsets the track to create chorus and echo effects), transpose, velocity offset and filter settings. These are "soft" functions which only affect the track during playback and don't alter the actual data. Good.

PROCREATION

TO RECORD ON a Track, you click on the record button, wait for the count-in then off you go.

There are three types of Cycle Record. Normal cycles through the zoned area continually replacing the contents of the track with each pass. In Drum Loop mode, each pass adds to the Track and in Auto+ mode the program automatically moves on to the next Track after each cycle - you need to be a quick worker/thinker to use this well.

The Blocks you create are shown in the Block Library page along with details of their length, number of events and memory used.

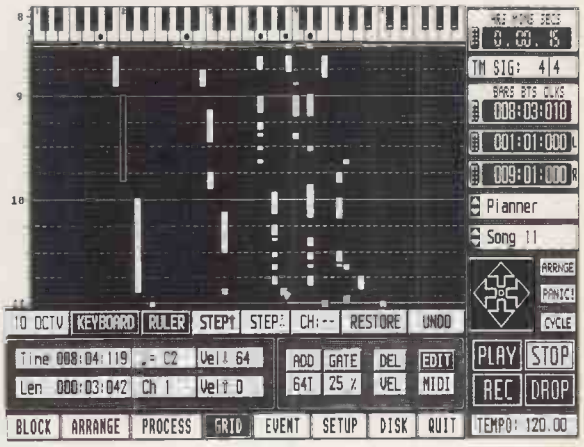
The Arrange page also lists the Blocks but here you can drag them into an arrange stream to create your final song. It's a very easy business to change the order of sections of music and even to change their time of entry. If the first Block say, is an eight-bar intro and you think it's too long, you can bring in Block 2 on the fifth bar instead of the ninth.

EDITING

PRODIGY HAS THREE edit pages - Grid, Event and Process. The Grid page shows note data as now-familiar bars - the longer the bar, the longer the note. However, in this grid the bars lie vertically and scroll up the page rather like a piano roll. Far more logical than a horizontal layout, I reckon.

You can toggle a piano keyboard onto the grid and move it up and down and left and right across the grid. A dot shows the notes currently playing as they scroll over the keyboard and a ruler on the left shows the bars as they pass by.

In Edit mode, clicking on a note shows its details in an information box, and these can then be edited. Notes on the grid can be moved in time with the left-hand mouse button and their duration can be changed with the right. Using different on-screen buttons you can alter velocity and delete notes.



Grid Edit

Notes can be entered in step time, too. First you select a duration by rough quantise values in a note length box, then you select a gate on time (as a percentage) for the articulation. You can use the gate time to insert notes longer or shorter than the specified value. If you click and hold a note on the grid, you can alter the pitch and its velocity by moving the mouse - neat. You can enter duration and velocity direct from a MIDI keyboard, too.

The system works well, although having to cycle through note durations - and gate times to further adjust the durations - can be frustrating. A row of note durations (as used in Virtuoso) would make the task easier and this is one area where the cut-backs are felt.

HAPPY EVENTS

THE EVENT PAGE shows notes and events in a list - time, event type, MIDI channel, event data and so on. You can choose the types of event you don't want listed, making it easy to edit just notes, program changes or controller data. In Chord mode, notes and events which are supposed to occur together are shown grouped. Notes and events can be inserted here, too, although I found the grid far better for this.

The Process page is used to edit large amounts of data on selected Tracks or Zones. You can bounce tracks together and unmix them by MIDI channel (a MIDI channel filter in the Grid page can be used to show data on just one channel to help with the editing of mixed tracks).

A copy function lets you copy the data between the zone markers to a track and steps on automatically to the end of the data ready for another copy. There are also insert, delete and clear commands.

There are three operations you can perform on a Track or a Zone of events - quantisation, volume change and transposition. These are "hard" operations and permanently alter the data.

Quantisation has a strength setting plus eight preset "feels" which move the quantise values away from the strict timing values. The volume operation ➤

➤ can be used to create crescendos and diminuendos. Another neat facility.

There are very useful undo and restore buttons on all edit pages - a godsend when your edit finger gets a little over-zealous. The Grid and Event editors are linked, too, so you can select an event and flip from one editor to the other.

SETUP & FILES

THE SETUP PAGE is where you set MIDI filters to prevent unwanted data being recorded. You can set a number of preferences, too, such as count in, super mouse (speeds it up - I like this), MIDI or internal metronome, MIDI echo and internal/external clock. You can enter your name here, too, which will be inserted in any arrangements you make. All these settings can be saved to a file which will be loaded automatically on booting.

Prodigy's file handling system supports individual Tracks, Blocks and Arrangements. You can save setups and the complete environment (Tracks, Blocks, Arrangements, Setups - the lot). Prodigy also supports the MIDI File format which it handles on a Block basis. Files can be given a 24-character name (although this doesn't appear - obviously - on the actual disk). Luxury.

I did, however, experience a couple of problems when using a hard disk, especially with MIDI Files. Prodigy seemed to have an aversion to certain files it had saved. This may be due to the way it handles long filenames on a hard disk. Anyway, TDM have been informed and the problem should soon be sorted out. No such problem with floppies, though. Oddly, the MIDI Files loaded perfectly into Notator.

Although the flexibility of the file handling is useful, it can be initially a little confusing. For example, loading a Block or an Arrangement doesn't automatically show the first Track or Block in the track list - it has to be selected from the Track library page first. An empty unnamed Track appears by default and heads the library list. That's one reason why you need to read the manual.

"Prodigy is extremely powerful for a budget sequencing program - in fact, it's pretty powerful, full stop."

MANUAL DISTRACTIONS

THE MANUAL IS one of the best I have seen for a program of this kind - it even has an index. At least TDM have taken note of many a reviewer's criticism about software manuals (but what about the use of the apostrophes, chaps - "its" and "it's", for example?).

The first four chapters include an ST, a MIDI and a Prodigy primer. Chapter five takes you through a hands-on session which uses most of the basic features you need to make a recording. All the input is your own, so start feeling creative - there are no demo files. I always think it's nice to see what a programmer can do with his own work but it's no big deal.

There are also extensive help pages within the program and you could probably suss out most of the operations using these alone, although you really should read the manual too (you know why). Prodigy will run on a 520ST and if memory is at a premium you can elect not to load the help facilities.

MOUSE IN THE HOUSE

PRODIGY USES THE mouse extensively, although there are also many keyboard alternatives. However, in place of a GEM double click, you have to click both buttons. The manual says many people find this easier (but if you're used to GEM it only becomes more confusing). It also says the program supports both methods but it doesn't. Irksome.

To quit the program you click with both buttons on Quit in the menu bar. Now, you'd probably have to be a bit of a div to do this accidentally but a pop-up box requesting confirmation would be reassuring.

VERDICT

LACK OF A GEM interface means you can't run desk accessories such as voice editors and librarians (a link into GEM is rumoured to be on the way for Virtuoso and this may filter down to Prodigy). But how important this is depends on the user.

There are a few obvious omissions - no drum edit grid, for example, and no score edit facility. These are both also missing from Virtuoso so it's hardly surprising, and they are the kind of features traditionally reserved for pro programs. A score edit page is rumoured to be on the cards for Virtuoso, too.

There *is* a memory free indicator (double-click in the box where the four scroll arrows are) although there is no mention of this in the manual.

Prodigy is extremely powerful for a budget program. In fact it's powerful full stop, although if you compare it with Virtuoso you will end up with a considerable list of differences - Virtuoso is very well specified indeed.

Prodigy files should be upwardly compatible with Virtuoso, according to TDM (the dongles are different) but I couldn't load them into Virtuoso v1.07 (this will undoubtedly soon be fixed). You will want to do this if you upgrade to Virtuoso and TDM are tempting you with the offer of a full refund of the cost of Prodigy.

Perhaps because of its flexibility, the raw newcomer to software sequencing might find Prodigy a little daunting initially, especially in the way that Tracks, Blocks and Arrangements link together and the fact that the filing system handles them individually. If you're not afraid of a little work, however, it's well worth getting to know.

Prodigy's speed and multitasking make other GEM-based sequencers seem rather slow. The ability to flip - instantly - from page to page is a neglected luxury. One day all sequencers will be made this way.

If you want to check it out - heartily recommended - a demo is available from TDM for a fiver, or as one of the demos on MT's own Vkiller disk (see elsewhere in this issue). ■

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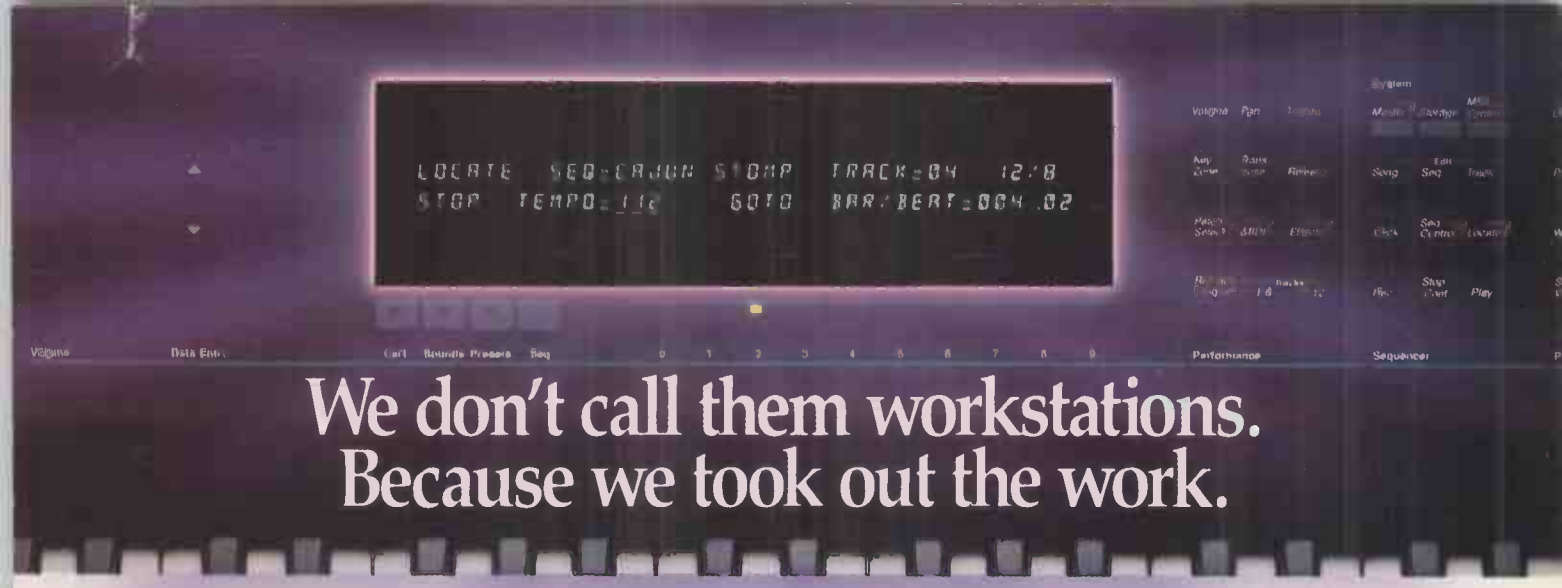

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THE BIG PICTURE

ILLUSTRATION: SALLY COCHRANE

A SUCCESSFUL CAREER IN FILM MUSIC IS A COMMON MUSICIANS GOAL, YET TODAY'S CINEMAS ARE STILL USING YESTERDAY'S SOUND TECHNOLOGY. WHAT CAN BE DONE TO BRING FILM SOUNDTRACKS INTO THE '90S? TEXT BY TIM GOODYER.

SO YOU'RE NOT going to be a pop star or pioneer new techniques in experimental sound composition - instead you're going to put music to pictures on The Big Screen. Aside from the music, what technical considerations need to be made? Sure, films use stereo imaging for the music, but what about the dialogue and fx - how do they fit into the picture? And what about the last link in the chain, the replay of the soundtrack in cinemas country- or world-wide?

With the launch of more television channels in the UK and the increasing quality of home video replay systems, it's small wonder that movie theatres are currently facing some stiff competition. What the cinema currently has is a virtual monopoly on new films and a screen big enough to give the images a presence beyond the scope of domestic television. What the cinema does not have at present is a sound system that matches the scale of its pictures. Let's take a look at the 1990 film theatre - not at the quality of the images, not in terms of theatrical presentation, not even in terms of the state of the auditorium, but simply the sound the audience hears.

The history of cinema sound is well documented, with today's systems little changed from techniques developed over 20 years ago. While digital techniques for storage and transmission of sound have improved the production stages, the same cannot be said for the average movie theatre.

The cinema needs to recapture a sense of awe and mysticism that it has lost over the years, to offer an experience both visual and aural not readily available within the home. Technological advances in the professional audio sector have progressed to the point where a distinction between domestic systems and the movie theatre should be more than clearly obvious. Naturally it is the task of the producer and director to use the tools and people at his or her disposal to their best advantage. Unfortunately, a lack of adherence to standards and bad practice within the theatre industry can easily ruin the efforts of all concerned. A large screen poorly illuminated, or a projector with motion instability is an irritation compounded by scratches, dirt, bad splices and irrational cue dots. Poor sound in the form of unclear dialogue and distortion is a good case for renting or buying the video instead. Admittedly, sound is subjective because we all hear slightly differently, but ground rules should still apply to allow a satisfactory sound balance to be achieved.

Television sound uses a mono FM transmission system which is technically superior to the 35mm optical system which serves the cinema – and then there's the more advanced two-channel digital NICAM that is now beginning to be broadcast. Couple this with domestic hi-fi video recorders, CDV machines and Dolby Pro-Logic stereo decoders – and with HDTV (High Definition Television) around the corner, what price a cinema ticket?

SOUND ON FILM

THE MAJORITY OF 35mm film soundtracks are optically based using Dolby SVA encoding with Dolby A noise reduction. Lately, film prints using Dolby SR noise reduction (offering increased dynamic range and reduced distortion) have become more widespread. From the film's two tracks, four tracks: "left", "centre", "right" and "surround" are derived. Basically the stereo pair take care of the music, leaving one channel each for dialogue and ambience or special effects. The engineering behind this is straightforward and admirably suits the requirement for central dialogue, stereo music and ambience when required. However, there are serious limitations to the optical sound reproduction system in its current form, besides the replay system in the theatre. With an optical dynamic range of 45dB (60dB with Dolby A), a frequency response from 40Hz-12kHz and a THD (Total Harmonic Distortion) that varies between 4% and 40%, the optical system by comparison with other storage media is a poor relation.

Many theatres still do not decode the two tracks on film to a reliable mono, wrongly assuming that a mono solar cell accomplishes this task automatically. Compression-related effects of the noise reduction encoding process for either Dolby A or SR are simply ignored. Fortunately the acoustic properties of the cinema screen (behind which some of the speakers are usually positioned) as an attenuator of high frequencies allows it to act as a good mask for those theatres not fitted with the correct decoding equipment - but the nuances of low-level detail and dynamic punch are lost all the same.

For a reduction in inter-channel crosstalk and improved frequency response, 70mm magnetic prints use discrete tracks for each channel. Furthermore, each track may be encoded with either Dolby A or SR noise reduction for greater fidelity. In contrast with 35mm optical, the cost of producing a 70mm print is approximately five times greater, even though the result may not be five times better.

To achieve good results from both 35mm and 70mm requires continual maintenance, especially azimuth alignment on 35mm and head wear on 70mm. From this point on in the sound chain – equalisers, amplifiers, loudspeakers and the auditorium acoustics – the commissioning sound engineer is responsible. Blind faith in spectrum analysers and lack of good hearing accounts for some theatres sounding well-balanced, while others sound shrill and tiresome.

Fortunately work is going on to improve the cinema sound situation, not least of which is being conducted by a British company called AGM. Disregarding the film industry's reluctance to confront new technology, AGM have been considering the evolution of cinema sound from current analogue-based systems to complete digital systems. Digital sound on film is on its way, complete with distortion figures, a dynamic range and a frequency response comparable to that of Compact Disc. The signal source then can be considered clean, but put a punchy CD through many existing cinema replay systems and you'll witness the acoustic phenomena of HF distortion, under-damped loudspeakers and 'hot spots' due to theatre acoustics. Improvements in these areas may be used to advantage on existing 35 and 70mm systems, but only digital will show the true capability of the new techniques.

THE SOUND CHAIN

TO ALLOW PROJECTION staff to be in total control (and to abide by local fire safety regulations), power amplifiers usually reside in the production box. To overcome damping losses of long cable runs, amplifiers capable of monitoring the load at the speaker should be used to maintain a tight transient response.

The majority of screen loudspeakers presently use high-frequency compression drivers coupled to various shapes and sizes of horns. Low frequencies are mainly reproduced from either horn, or now becoming more popular, bass reflex cabinets. The HF compression driver is efficient and with matching horn offers predictable frequency coverage. However their impulse and distortion characteristics fall way short of other methods of generating clean undistorted sound at high SPLs (Sound Pressure Levels). To cover the full frequency range, passive crossovers built into the cabinet need to be used. A passive crossover on the end of a long cable works wonders on damping factors. To avoid the crossover, an alternative technique is to use an array of small multiple full frequency range drivers. However, electronic equalisation is required to correct for falling HF response due to mechanical damping.

The cinema screen acts as a filter and reflector of sound. To overcome the high-frequency attenuation a drive unit capable of sustaining a considerable HF boost but with very low distortion is required. The Compact driver is a new class of loudspeaker component - new loudspeaker technology. It is neither a conventional compression driver nor a ribbon, but uses a flat, rectangular membrane, the driving force being applied over the entire sound radiating surface. The very low moving mass (typically one sixth of a similar compression driver) offers a fast transient response and a 1-30kHz frequency range. The absence of a phasing plug keeps compression-related distortion to below 1.5% at peak power levels of 1kW (other drivers exhibit distortion figures between 30% and 50%). By arraying this type of drive unit, uniform coverage of a film theatre can be achieved without the need for horns.

ACOUSTICS

THE PROPAGATION OF sound within the auditorium has never been properly considered in the majority of cinema complexes in use today. Instead, the decor fundamentally determines the sound treatment. Ventilation systems, door hinges, loose floorboards and projector noise are all distractions that get overlooked - along with the rustling of popcorn. The cost of improving the acoustic conditions is often high and disruptive, and so a system that actively assists the distribution of clean sound throughout the auditorium, effectively overriding the original acoustic is an ideal solution to the problem.

The classical approach of three loudspeakers behind the screen and surrounds for the rear, places a great burden on the acoustics of the theatre for good imaging. Experimentation has shown that by employing a matrix of loudspeakers all around the auditorium, the original sound can be greatly enhanced. The approach proposed by AGM is not a replacement for existing decoders but is designed to be used as an extension to the conventional theatre replay of left, centre, right and surround tracks. The source material may be 35mm two-track optical, 70mm magnetic or any other standard. The acoustic image generated by the processor (called the CSP"A") is not unstable with regard to head movement or seating position and ameliorates the "drawn-in" character of sound towards the screen.

To generate a complete soundfield in the horizontal domain, loudspeakers would need to be regularly placed around the walls of the auditorium - the number and type of speakers required would be determined by its size and shape. Greater energy vectored towards the screen requires more powerful "soundfill" loudspeakers than those commonly employed towards the rear. Each speaker feed would be unique and therefore require individual amplifiers and loudspeakers to suit. As an example, to satisfy a 1000-seater theatre, approx-imately 20 feeds would be needed.

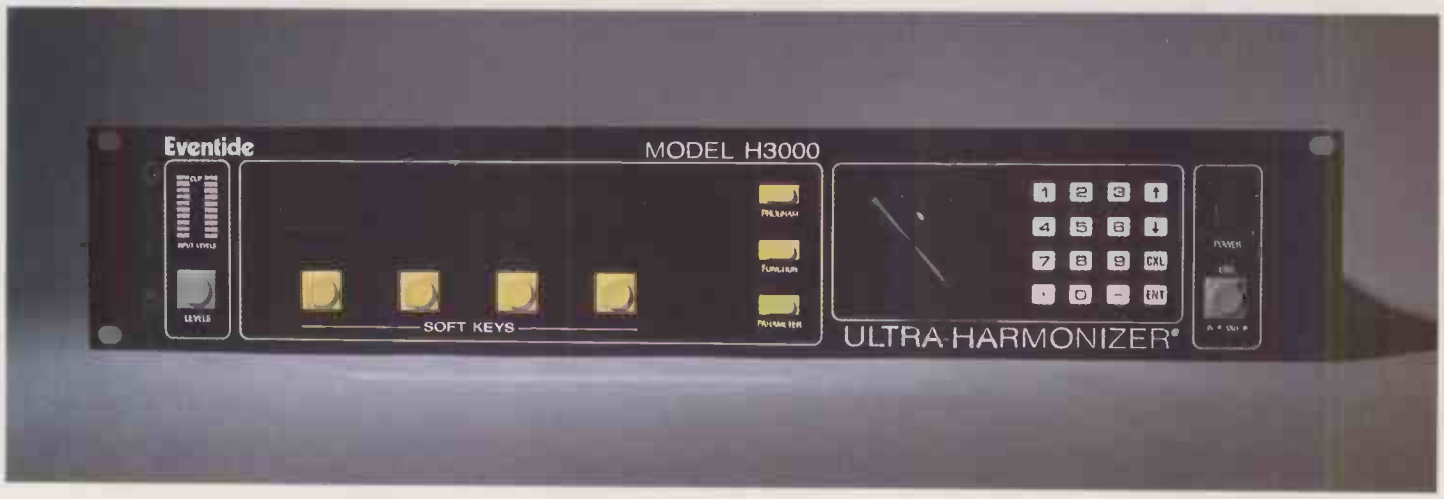
Leakage of sound from theatre to theatre, especially in multiplexes, could be a major problem with such installations as, with reduced loudspeaker distortion and increased number of speakers, peak SPLs will rise. Those theatres with good isolation will realise the difference obtainable by a sound level that stimulates an audience as opposed to one that irritates.

Besides improving the quality of the reproduced sound, today's technology allows some degree of automation of a cinema sound system.

A high speed, digital multipoint communications bus has been developed to allow connection of the amplifier and other ancillary equipment to a central controller if required. Lighting systems, tabs, projectors and so on, may all be controlled via suitable interfaces by the controller. With digital soundtracks incorporating SMPTE timecode, an entire performance could conceivably become entirely automatic. It could be the next step in cinema - if the industry can be persuaded to take it. ■

Thanks to Chris Richards and Anthony Morris at AGM for help in compiling this feature. AGM can be contacted on (0353) 667707.

H3000 ULTRA-HARMONISER



PHOTOGRAPHY: JAMES CUMPSTY

Long recognised for their industry-standard harmonisers, Eventide have raised expectations still further with the name of their latest unit: the Ultra-harmoniser. Review by Vic Lennard.

EVENTIDE ARE RENOWNED for their harmonisers. The H910 was their original offering and can still be found in many studios - in fact, it's still for sale which says something for Eventide's positive attitude towards technology. Unfortunately for you and I, pitch shifting is an expensive business. It requires large quantities of memory and a great deal of research and development that we end up paying for. It comes as a surprise, then, that Eventide's new H3000 costs less than £2000 (before VAT) and offers a lot more than just the ability to harmonise.

OVERVIEW

THE H3000 ULTRA-HARMONISER is a stereo digital audio processor utilising 16-bit resolution at a sampling rate of 44.1kHz. It boasts a frequency response of 5Hz-20kHz (±1dB) and a dynamic range of 92dB (A-weighted). All good stuff.

All programs are based on 11 algorithms - five for pitch shifting, four for delay and two for reverb. Each of these algorithms has programmable parameters at two depths, basic and expert, and there is memory space for saving a total of 1000 programs. There are 50 factory programs initially on board including names like 'Bizarrmoniser', 'Shimmerish' and 'Death Flange'.

APPEARANCE

THE FRONT PANEL is split into four parts. The two central blocks are the most important. The right-hand of these has the control wheel and 16-button keypad. The wheel is of the "incremental" type - it has continuous rotary travel and little resistance to movement. Both wheel and keypad are used for altering the values of parameters. The left-hand central panel contains the display (2 x 40 characters) under which are four "soft" keys for selecting which of the four parameters on screen is to be changed, and buttons marked Program, Function and Parameter.

To the far right are the switches for power and hardware bypass; on the far left are input level meters and a switch for calling up the screen page for altering input and output levels.

The rear panel has the necessary power facilities, three MIDI sockets and stereo, balanced XLR connectors. Finally, there are four ports marked A-D for "possible future expansion".

EXPLORATION TIME

BEFORE WE INVESTIGATE the algorithms, let's take a tour around one program. Call program five, 'Pitch Quantise'; three choices appear on screen - Load (to call up this program), Origin (to see the algorithm the

program uses) and Remove (delete program). Origin tells us algorithm 100, 'Diatonic Shift' is in use. This is a real-time pitch shifter capable of adhering to a key signature and so creating "intelligent" harmonies. Initially, the 11 algorithms are written into memory slots 100 to 110.

Once the program is loaded, the screen displays the four parameters available for editing. Only the left input is used in this algorithm so "L Voice" and "R Voice" select the interval for harmonising the audio from this input. The choices consist of the 15 possible intervals from -1 to +1 octave along with four dominant and tonic pedal notes and two user scales which have to be defined as part of the expert option. Key sets the key signature, although only in terms of C, C#, D, so you'll need a little musical theory to create harmonies for minor keys and the like.

The other option here is Quantise. This works in a similar way to quantise functions on sequencers except that it moves the audio input to the nearest in-key semitone (provided that the unit is in tune with the song - a feature set on a later page).

Hit Parameter again and the next four parameters appear. Left Mix and Right Mix give you the option of using the H3000 on either the auxiliary lines from a mixer or from a direct input. L Feedback and R Feedback loop part of the effected audio back into the input, giving interesting results when re-harmonising a harmony. Using this in conjunction with delays gives harmony notes in the form of a slurred, climbing arpeggio.

The final page contains the two most important functions: Tune checks an incoming note against the H3000's tuning and tells you how far away from the set pitch the input note is in cents. The internal tuning is then automatically adjusted. Shownote gives you a display of incoming notes and how far away from the new tuning they are. Delay delays the harmony by up to one second in millisecond intervals. This could be used to thicken up backing vocals, for instance.

Finally, we encounter Expert mode and the Diatonic Shift function. The first parameter lets you set up the two user scales mentioned above. Each of these can be used to either set up custom scales or to calibrate how far you want the H3000 to play each of its harmony notes from the correct harmony. Each note is selected and a value, in cents, can then be entered.

The remaining two expert functions are used to optimise the performance of the H3000. The wider the range of notes that the harmoniser has to deal with, the longer the delay in creating the harmonies. By limiting the note range, the more accurate harmonies will be and the faster they will be generated. Low/High Note lets you set this range. Finally, the algorithm will handle monophonic and polyphonic lines slightly differently, but needs to know which it's dealing with. Source brings a scale onto the screen with Poly at one end, Solo at the other and a star in the middle which can be moved between the two categories.

OTHER ALGORITHMS

LET'S RUN THROUGH the remaining H3000 algorithms.

Layered Shift: this is similar to the Diatonic shift but without the intelligent approach to the intervals. Two harmonies are generated from the left audio input. L/R Coarse sets the harmony in terms of semitones (from two octaves down to one octave up) while L/R fine works in cents. Delays, feedback and mix are as before. An interesting facility is Sustain, which takes about 1.5 seconds of signal and loops it "sampler fashion". Expert functions are low/high notes and source as previously.

Dual Shift: this has exactly the same functions as Layered Shift but effectively splits the H3000 into two units, using both inputs for twin mono performance. Delays are cut to half of a second but otherwise there's no difference in performance.

Stereo Shift: this has the same functions as for Dual Shift but with only one set of each controls as the unit now operates in true stereo. One extra Expert function, Deglitch Mode, allows the two channels to either work independently or for the first channel to control both. You might use this with two independent inputs which you wanted to set up identically without phase differences.

Reverse Shift: the best way of describing this effect is to envisage a tape loop playing backwards. Although only the left input is used and coarse, fine, feedback and mix control as before, you can also set the R/L Length of time for looping up to 1.4 secs, independently for each output channel. So you can set up two different harmonies with different delays, degrees of feedback and loop times.

Swept Combs: this is the equivalent of having six digital delays, each with a maximum delay time of 0.5 secs, followed by a 6:2 mixer. Each delay can have independent delay times and feedback levels as well as modulation depths and rates for the sweep function and individual levels and panning (21 positions). You also have the option of working in stereo with the left input feeding delays one to three and the right the rest, or in mono with the left input going to all delays. In the basic functions, there is master percentage control over the delays, feedback and sweep rate and depth along with a Width control for the maximum limits of the panning effect. Repeat is similar to Sustain in Layered Shift except that it indefinitely loops the current audio in each of the six delays. With Glide Speed smooths audible glitches when changing delay times.

Swept Reverb: the left and right inputs are summed and then run through six independent delays with feedback before entering a reverb module with independent control over rate and depth for modulation along each line. It's as though the sound is hitting a variety of items and bouncing back, creating a ringing reverb.

Reverb Factory: this also has six delay lines - the delays are in terms of sample points giving just over 110mS per line - preceded by a master pre-delay control which has a highly useful maximum of half a second. There is also a master gate for all lines which has controls for speed of gate opening, threshold and bypass. High/Low EQ and reverb decay exist for both gated and non-gated states. Expert mode lets you set each of the six delays individually.

Ultra-Tap: this is probably the most difficult ➤

"I expected the H3000 to be impressive; I hadn't reckoned on being confronted by the best digital reverbs I've ever heard."

➤ algorithm to work with and certainly the hardest to describe. Right and/or left input signals are fed through four all-pass filters which either pass the signal straight through or else loop it back again while allowing it to decay. This is routed to a 12-tap delay line, with all taps being individually programmable. The individual tap delays, levels and pans along with the delay time for the all-pass filters can be set from an expert parameter called Tedium (accurate), but the initial setting is eminently useable. Master control over percentage changes in the tap and filter times along with feedback, stereo width and mix are all basic parameters. By using Expert mode, you can set the gaps between the taps to follow six formulae; constant, linear/exponential, increa-sing/decreasing and random. The same scales can also be used for the weights of volume level of each tap. . .

Finally, there are 12 different pan locations including settings like "Spread from centre" and "Left to right sweep". The total for all tap delays can't exceed 1450 milliseconds. Definitely one for experimenting with.

Long Digiplex: this is a flash name for a 1.4 second delay line. Delay time, feedback, repeat, mix and glide all operate as in other algorithms.

Dual Digiplex: this has two separate delays each up to 700 milliseconds in length with the option of being fed from the right and/or left inputs. Otherwise, the same as for the Long Digiplex.

USING MIDI

AS YOU WOULD expect from a modern-day device, the H3000 responds to MIDI commands. A specific MIDI channel can be selected and various messages can be used by setting the relevant features accessed by the Function button.

The first of these is MIDI patch change, which allows you to change programs on the H3000 remotely from a sequencer or keyboard. This has two modes; the first loads the program of the same number as the patch change command received while the second uses a user-programmable map. This caters for the H3000's 1000 programs, as any numbered beyond 128 would not be accessible to ordinary MIDI patch numbers.

> "... it's difficult to conceive of a situation where the H3000 couldn't be used to extricate you from a tight spot."

The H3000 also allows you to address many of its parameters using MIDI events. In Diatonic Shift, five of the variables existing in that algorithm can be changed, namely Delay, Left/Right Mix and Left/Right Feedback. You can transmit data on a variety of MIDI controllers including modulation wheel, breath, foot or expression controller. Alternatively note value, velocity or pressure could be used, or even the number of notes pressed down.

This function has a couple of interesting applications. The first uses Note offset and pitch wheel - press a note on a connected keyboard and this is taken to be the base note; pressing a second note will change the variable by the difference between the key numbers (positive or negative). The pitch wheel can then be set for fine tuning.

The second application (which I had great fun with) was setting the delay to the period of the MIDI clock from a sequencer. Now tempo changes cause the the delay time to vary with the MIDI clock. Brilliant.

Another MIDI application (that I first "discovered" on Drawmer's M500 Dynamics Processor) allows changes in on-screen data to be transmitted as SysEx data. This can then be recorded as part of a sequence and, on playback, the sequencer duplicates your edits. This is achieved by using MIDI controllers 98 and 99 to select the parameter number, and controllers 6 and 38 to change the value. You need to use a modicum of care with this though, as the changes are only relative. The initial settings on sequencer playback must be the same as when you started to send data from the H3000 - including the program. In this way you can create complex real-time effects to record them into a sequence.

Comprehensive, but that's not the end of the story. You can also record changes in input and output levels so that reverb fades can be achieved. All parameters can be dumped via MIDI and kept in a librarian either on computer or by using a SysEx recorder such as the Alesis Datadisk. Finally, there's a MIDI monitor which allows you to see MIDI bytes being received by the H3000.

IN USE

INSIDE THE MACHINE, there are a couple of jumpers for setting input sensitivity to -10/+4dB depending on whether you work at semi-pro or pro audio levels. I have to admit that no matter how hard I drove the inputs into the H3000 to just below clipping, the output noise was louder than I would have expected. Perhaps the unit had the wrong internal setting - I really didn't want to open it to find out.

I expected the H3000 to be one of the best harmonisers on the market. I hadn't reckoned on being confronted by just about the best digital reverb I've ever heard. There's not a hint of grain to the sound, and it's clinical without being cold - one of the dangers of digital effects.

As for the harmoniser, I found it a little awkward to use in a couple of ways. Firstly, getting the correct harmony notes when working in a minor key is not a simple process, and I found I had to delve into the individual intervals which can be set for the two user scales and then save to internal memory. Once set, these can be transposed as necessary.

Secondly, no matter how carefully I set the unit up it always glitched a little, especially when using the Diatonic Shift. Admittedly the situation was substantially improved by limiting the note range - the bottom note in particular - but this takes a fair bit of forethought. Any delay between note and harmony couldn't be measured and I found myself deliberately putting a delay in to create a thicker result for backing harmonies.

The Quantise function is an odd animal and has to be used sparingly. In this respect, tuning the H3000 to the studio tuning is absolutely imperative or else any

trace of vibrato ends up sounding like tarzan's mating call. The only other machine that I know of which has a similar function is the Publison IM90 which costs the wrong side of £10,000 and was intimated to be the harmoniser Holly Johnson used to get his vocals in tune. Can the H3000 deliver the same result?

A vocal track with a slightly out-of-tune line (the most difficult decision was selecting which one) was run into the H3000 on a program based on the Diatonic Shift algorithm, with a unison shift (no change from the input) and quantise off. Running with Hybrid Art's SMPTE Track sequencer locked to tape, quantise was turned on at the right place and then immediately turned off, and the resultant MIDI messages recorded onto the sequencer. Even though the hardware bypass cannot be operated remotely via MIDI (so the entire vocal track had to be passed through the H3000) the result was impressive. How long did it take? About an hour to get it dead right, much of which was spent getting the correct drop-out point for the quantise function to prevent vibrato warbling. It would take a ludicrous amount of work to be able to correct a complete vocal track but it is possible. Enough said.

VERDICT

THE H3000 IS a professional piece of equipment, the use of which can be likened to playing a game of chess. Using it on a basic level is intuitive - the manual didn't get opened for weeks - but using it to its full potential takes time and patience. Even taking that into consideration, it's difficult to conceive of a situation where the H3000 couldn't be used to extricate you from a tight spot.

A lot of thought has been put into making the H3000's use of MIDI as powerful as possible. The idea of addressing parameters over MIDI is certainly not new, having been used in units such as Alesis' Quadraverb, but I've never come across a MIDI device with the range of possibilities that the H3000 has. While few of you will have a mixing desk capable of operating in the digital domain (I certainly haven't) the fact that the H3000 works at 44.1kHz/16-bit should lead to the possibility of a MIDI-automated digital system if used in conjunction with a desk like the Yamaha DMP7. So why isn't there a digital output on the rear of the H3000? Perhaps this is one of the "expansions" on the horizon.

For those of us who own sub-£500 multi-effects units, the H3000 may appear a pipe dream. But you don't need to own one of these to be able to use it. Hiring one will cost perhaps £60 for a day and if you intend to use it as a basic, high quality reverb/harmoniser you should be able to suss it out in five minutes. Who was it that said once bitten, forever smitten? ■

Prices: *H3000S, £1995; H3000B, £2400 (Broadcast version); H3000SE, £2400 (Studio enhanced version with 200 presets). All prices exclude VAT.*
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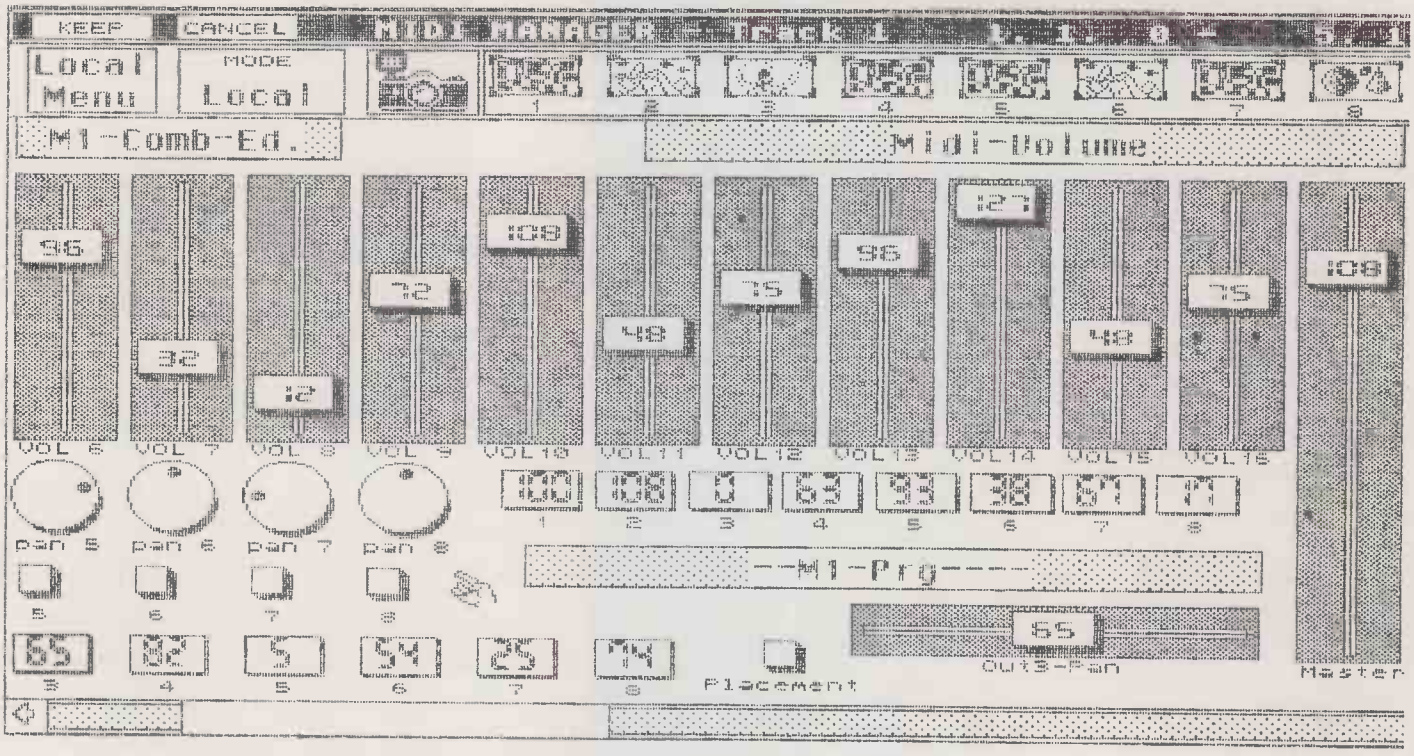

Only six months on from its release, the first update of Steinberg's Cubase sequencing package is with us - and the improvements are considerable. Review by Nigel Lord.

ONE OF THE less auspicious aspects of shelling out on a dedicated sequencer in preference to one of the many software-based systems, is never knowing the pleasure of sifting through the post one morning and finding the disk and manual updates which effectively give your machine a new lease of life. Say what you like, but there's something rather gratifying about finding a system which you have grown familiar with suddenly become able to do other things – or the same things that much more easily.

Though this is not the place to enter a "hard versus soft" debate, I have to say I find the idea of a manufacturer putting time and effort into a system *after* you've parted with your cash, singularly attractive. All too often we're confronted with equipment that's come off the production line and (from an R&D point of view) been forgotten about.

So here we are, six months down the line and Cubase v1.5 is with us. Under normal circumstances, my first question would be, has it been worth the wait? But I doubt anyone's had enough time to exhaust the possibilities of v1.0 to the extent that they've been waiting for an update just yet.

I had a sneak preview of just what v1.5 would offer a few months ago, but such is the pace of development, the upgrade, when it actually appeared, included a host of features which weren't even mentioned at the time.

So what exactly does the upgrade bring? More importantly, for those still deciding whether to take the plunge or not, what extra features are there to attract you to Cubase? First and foremost has to be the Dynamic MIDI Management facility accessed via the Edit menu. This marvel of mind-over-MIDI could justifiably be described as a kind of MIDI "anything box". Principally, it was designed to offer real-time control of MIDI accessible functions and parameters (outside those connected with the main sequencing process) for external equipment. In a sense it can be regarded as a new edit page, though to a limited extent, it duplicates certain functions which already exist within other pages of Cubase. Half an hour with the page on screen and a mouse in your hand, however, and you start to wonder how on earth you put up with the rather perfunctory control over MIDI offered by other systems.

The MIDI manager works at the level of individual Parts to which it assigns a selection of what Steinberg call Objects. An Object is simply an on-screen representation of a fader or pot, a numerical display or perhaps a switch, which may be called up at will (up to 128 of them) and sized and positioned anywhere on screen. The kind of MIDI information you wish each Object to send (anything from

individual note data to SysEx events) is then defined and named, and the range in which it operates entered as minimum and maximum values.

The form each Object takes may be established by calling up a dialogue box. Here you can determine its appearance (ie, rotary or slider control, LCD or switch) and define its precise function. This latter process may be approached on one of two levels. Firstly, you can enter the data in hexadecimal using three sets of figures for the Status byte and two further data bytes (a Note On message, for example, would require a Note On status byte, Note Number and the velocity value). Alternatively, you can select the type of MIDI message you require from a couple of menus, and let Cubase sort out the rest. I have a feeling this latter option might prove more popular.

That said, if you do get off on hex numbers and status bytes, you're guided through the process quite carefully. Each set of figures, once entered, is interpreted as written information on the Info Line, and a dialogue box advises of any errors you may have made. Not only that, but all the information you're likely to need is contained in the rear sections of the instruction manual, and there are also conversion tables from hex to decimal and binary, should the manufacturer of the MIDI device you're using have opted for either of these formats in their documentation. I still prefer those menus. . .

If you don't know which controller or note number you want an Object to send, the MIDI Manager has a Learn function which will monitor the action of say, playing a key or turning a knob (providing this is transmittable as MIDI data) and commit it to memory. It works with Note, Controller and SysEx messages, though the MIDI channel number has to be entered by you.

As with other pages on Cubase, the MIDI Manager has its own set of tools. First of all there's a play tool (no sniggering, Jones minor), with which you rotate knobs, slide sliders or switch switches, a create tool for creating each object, an edit tool for modifying existing objects, and three different erase tools – all selected in the standard way using the right-hand mouse button.

Once set up, two types of MIDI Manager recording may be made. The first is of a "static mix" to initialise instruments and volume levels and so on – at the beginning of a song, for example. This can be done using Snapshots taken by clicking on (yes, you've guessed it) a Camera icon at the top of the screen. The second type of recording is of dynamic changes (hence the *Dynamic* MIDI Manager tag). Here, the moving of a fader or pressing of a switch during recording is faithfully re-enacted on playback. In practice, this means that even if you don't yet possess a MIDI mixing desk, automated mixdown is now possible (providing MIDI Volume is implemented on your external gear), and a rather tedious exercise like opening up the filter on a synth during a recording, for example, becomes simplicity itself.

There's a huge range of editing facilities connected with the MIDI Manager (including saving and loading of anything you've created), which I don't have the space to mention here, but in combination they provide the kind of control over MIDI data which though possible for some time now, has never been presented in such an accessible and attractive way.

When it was first released, the complexity and price of Cubase led a number of pundits to conclude that it was a program primarily designed for the professional studio user and would find few takers at the home studio end of the market. Whether this has proved true or not I'm not in a position to say, but I do know that an improvement featured in v1.5 is going to make it a more popular choice for the commercial studio owner. For the first time (to my knowledge, at least) an Atari sequencing package is now capable of supporting a 19-inch monochrome monitor - which you can configure either to display the usual screen contents in larger format, or to include more information than is normally present on a standard monitor. Whether you avail yourself of this facility depends somewhat on your readiness to shell out the £2,000 required for the cheapest 19-inch (hi-res) unit currently available.

"Cubase now supports a 19-inch monochrome monitor - you either view the usual screen contents in larger format, or include more information than a standard monitor."

A couple of rather more down-to-earth features come in the form of an Auto-save facility which may be set for any period between 2-30 minutes (and which saved my bacon during a lightning storm in early February) and a mouse accelerator or Speeder, as Steinberg refer to it. This latter function is rather different to the somewhat crude versions which "skip" a prescribed number of pixels as the mouse crosses the screen. The Speeder can be set to only operate above a predetermined threshold. In practice this means that you can charge about the screen like Nigel Mansell, but should you wish to do any fine editing (and users of Cubase's Key and Drum edit pages will know just how fine that editing can be), simply moving more slowly gives you back the degree of control possible with an unaccelerated mouse.

Speaking of mouse habits, in the same menu as the Auto-save and Speeder functions, there's also a facility for swapping the increment/decrement operation of the two mouse buttons. This, I would imagine will only appeal to those using Cubase for the first time (the left/down right/up habit being too hard to break for most people), but it's there if you need it. If, on the other hand, you're one of those people who prefer to input values straight from the keyboard, it's now possible to double click on practically every parameter and type in a figure directly.

MIDI delays (set in the Part Parameter box) are ➤

➤ now displayed in milliseconds as well as ticks, and it's possible to copy a complete Track rather than having to do it Part-by-Part. Other functions, designed to make life that bit easier include: a global split function (which works across all tracks); an extended move and size function (which allows you to move and size a Part from within its Info dialog box), and the facility for building a Group Track in real time whilst the music is playing.

On the recording side, there's a new Multi Record mode which allows you to pass MIDI data on to any of four Outputs and MIDI channels, and it's now possible to record both Mute and Solo on/offs within the Arrange Window. If this sounds like a boon for those long arrangement sessions, it is. Just as impressive is Trigger Part function, which allows you to trigger a Part at any time in an arrangement by clicking on it using the magnifying glass from the tool box. Obviously your timing needs to be quite accurate, but I found this immensely useful in the short time I've been using it.

Not quite so useful - in fact somewhat annoying - is the addition of a small graphic symbol (a tiny drum stick) on any parts that have the Drum Map function activated. The idea, presumably is to make drum parts more easily identifiable within an arrangement, but because it cannot be overwritten, there's now not enough room on small parts for anything like a descriptive title - and that, as far as I'm concerned is far more important (especially as it can include the necessary indication of it being a drum-mapped part, if required).

The same thing is true of Parts associated with the MIDI Manager, only here we are confronted by two tiny faders rather than the drum stick. In this context it (perhaps) makes more sense, as we're dealing with a different type of data, but it still makes life difficult if you've cultivated the habit of giving your Parts a name (I won't tell you again, Jones minor).

Back (apparently by popular demand), is the MIDI activity display which appeared on the main screen of Pro24, but was not included on v1.0 of Cubase. Here it takes the form of a column down the left-hand side rather than a row across the bottom, as it did on Pro24, but apart from that, is essentially the same. Speaking of which, it's now possible to convert Master Tracks recorded on Pro24 to enable Cubase to sync to tapes recorded using SMP24 or Timelock. This, I'm sure will come as good news for those who came to Cubase via Pro24, as will details of the continuous increase in M.ROS compatible hardware, which, as of January 1990 includes (in addition to SMP24 and Timelock), MIDEX and MIDEX+, the Fostex R8/MTC1 and C-Lab Unitor.

On the software side, M.ROS can now support non-M.ROS programs whilst maintaining its multitasking capabilities. Thus we're offered the intriguing prospect of being able to run other sequencers at the same time as Cubase. Quite what the use for this would be I wouldn't care to speculate, but it sure as hell lends a whole new meaning to the expression "side by side comparison".

All four of the existing edit windows have been given extra features in the update, including extended Zoom facilities for Grid, Drum and Key Edit, and a new Explode function for Score edit which allows you to split the notes on the staff you're working on into several *monophonic* staves. To quote the example used in the manual update, this means you can now work independently on the four voices which comprise a chord progression and send them out on separate MIDI channels.

Also new in Score Edit is an Auto Quantise function designed to cope with situations where triplets and straight notes appear in the same piece of music (this also appears under the main Functions menu as Analytic Quantise), and there's also a new command which automatically moves the song to the current mouse position. Chord recognition in both Score and Key edit has been improved, though we aren't told how, and (I'm happy to say) Solo and Mute columns have been added in Drum edit. (Any chance of including the Pro24 feature which allowed you to input notes in real time from the computer keyboard in a future upgrade?)

In Grid Edit an extra Comment column has been added, and special events such as mute, stop and MIDI Manager have also been included. In addition, it's now possible to edit SysEx events in Grid edit, but they cannot be sent from here, you have to return to the Arrange window, I'm afraid.

Anything else? Well yes, actually, there are a couple of dozen other minor changes/improvements which I don't have room for - you'll have to check those out for yourselves.

Looking back on this review, it's hard to believe this is a software update we're talking about. Let's put things in perspective: we're looking at a list of additions/improvements which necessitate the replacement or insertion of over 130 pages in the manual.

The icing on the cake here is the MIDI Manager, and you can't help being struck by the thought that Steinberg could easily have released it as a piece of software in its own right - and charged £80-90 a time. That they haven't indicates their intention of keeping Cubase a force to be reckoned with, and in my opinion they've achieved this with room to spare. ■

More From *Evenlode Soundworks, The Studio, Church Street, Stonesfield, Oxford OX7 2PS. Tel: (099 389) 8484.*

"Let's put things in perspective: we're looking at a list of additions and improvements which necessitate the replacement or insertion of over 130 pages in the manual."

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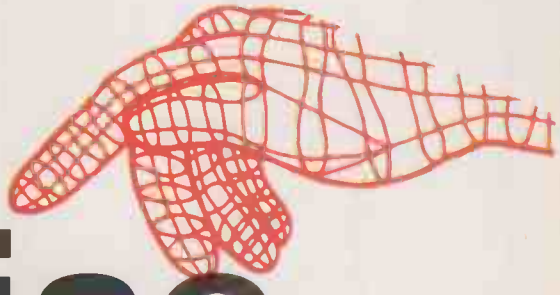

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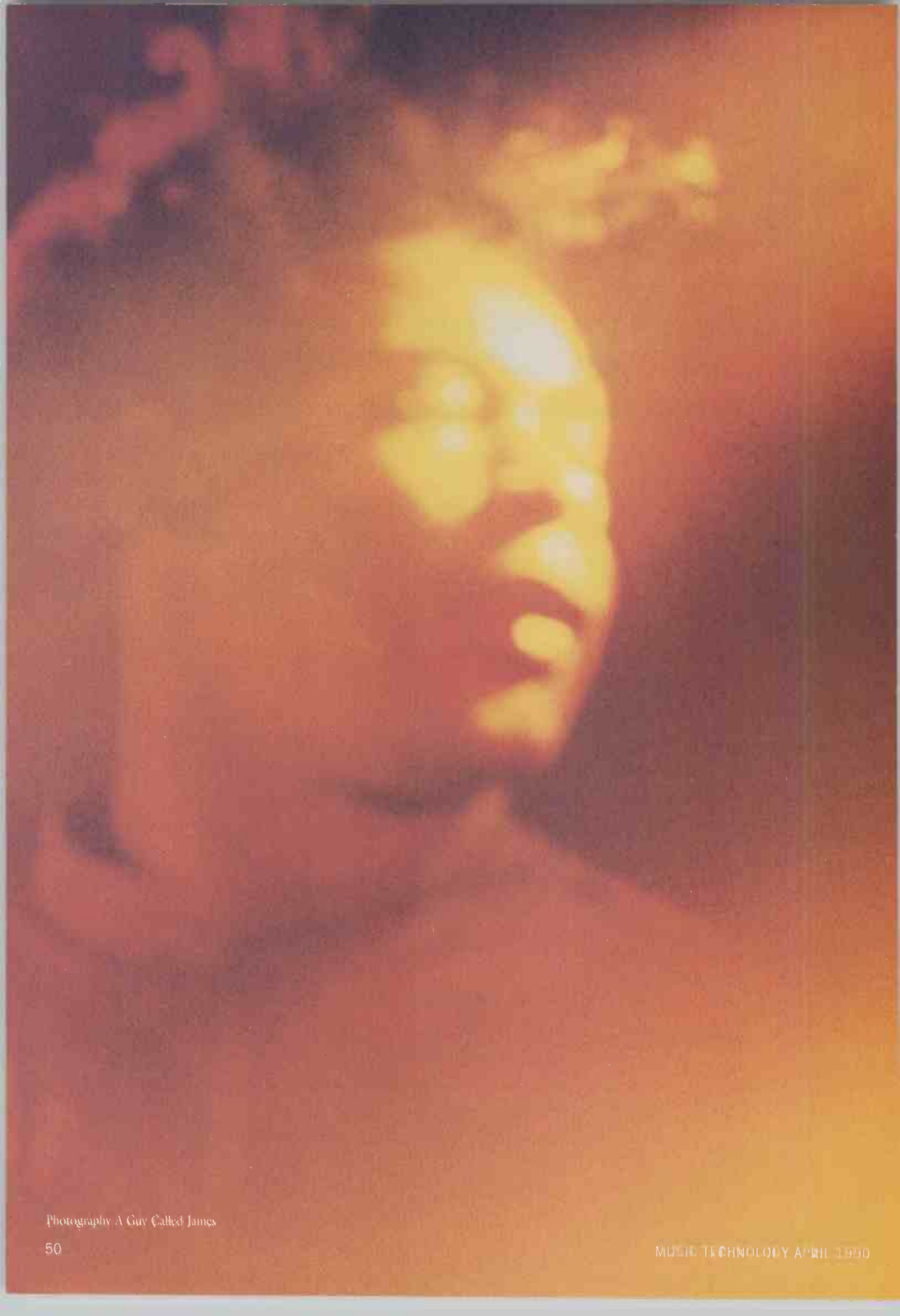

Photography A Guy Called James

VOODOO

A young Mancunian once fell in love with music; as a reward he signed away the rights to his most popular song and had all his gear stolen. Introducing A Guy Called Gerald, and the school of hard knocks. Interview by Simon Trask and Steven Hillier. Text by Simon Trask.

A GUY CALLED GERALD'S EYES LIGHT UP as he recalls countless hours spent making music in the attic of his parents' house when he was a teenager.

"I had an 18" speaker each side of the room, and 15" speakers on top of those. There was a mixer with a turntable at each side in the middle of the room, then an 808, a 303, an SH101 and a little tape recorder. Sometimes I'd program the 101 so you couldn't hear the bass but you could feel it; the floor used to shake and the windows would rattle. . . The Ruthless Rap Assassins used to come round and we'd just jam. We used to call it The Attic Studio.

"But those days are ended now. I reckon they were the happiest days of my life. I had total power coming from the speakers, and I could make any sound I wanted over these records and be mixing them in at the same time. Then I had to do the foolish thing and send my music to the radio stations, and get caught up in all this music business!"

Still only 22 years old, Gerald Simpson has had to grow up quickly in the wide and often wicked world that exists outside his beloved studio. As a naive but talented youngster whose only interest lay in making music, he was ill prepared for the attentions of other people who were more interested in making money at his expense.

"I'd do anything because I loved the music, and if there was any chance to get in the studio I'd take it", he admits, as we sit in his hotel room in Earls Court, London. Now with his own label, Subscape Records, and distribution through the mighty giant that is CBS Records, A Guy Called Gerald seems to be on top of things at last. He's recorded, mixed and cut his second album, the deep, brooding, atmospheric *Automanikk*, a more mature, accomplished and well-rounded affair than his hastily-conceived 1988 debut album *Hot Lemonade*. And the night previous to our meeting he played the first show of a 19-date UK tour which is set to take him the length and breadth of the country in almost the same number of days. Tonight he's playing at the University of London Union, and his tour manager puts in an appearance every now and then to remind him that he has to leave for the soundcheck soon. Gerald remains unperturbed. He's learned to relax, to stay unfazed by the demands of those around him. Later on we take a leisurely stroll through the backstreets of Earls Court as lensman Cumpsty searches out a suitable location to snap the pics, leaving a perplexed tour manager to wonder where the hell the star of the show has disappeared to.

And Gerald *is* a star now, though his shy, quiet-spoken, self-effacing manner suggests that he's more at home in the shadows of the recording studio than the glare of public attention. There again, the massive success of his '88 single 'Voodoo Ray', coupled with the subsequent financial problems that it led to, ensured that he was soon thrust into the spotlight, regardless of whether he wanted to be or not.

Gerald made the fateful move from attic studio to professional studio after independent label Rham Records heard some of his music played on Manchester's Picadilly Radio. They quickly signed him up and put him into a local 16-track studio, Moonraker, with producers Chapter (Anif Cousins and Colin Thorpe). The resulting four-track EP included 'Voodoo Ray', and the massive underground success of that track meant that he was soon in demand with other budding dance musicians. It also meant that it wasn't too long before Rham Records put Gerald back in the studio to record *Hot Lemonade*, even though he had yet to see any money from the single. Then Red Rhino, who handled distribution for Rham, went under. Gerald recalls:

"With Rham Records it was like 'Oh, by the way, the distributor's gone bust so you won't get any money off 'Voodoo Ray', but get on with the album anyway'. And I still ran about for them. I was a sucker for that." ➤

➤ Despite the fact that he wasn't getting any money from Rham and that the story was all over the music press, Gerald's friendly local dole office wouldn't have it that he wasn't getting paid. To make matters worse, he wasn't getting any money from 808 State for his part in their debut album *Newbuild*.

"It was a bad time for me", he admits. "It was like 'Oh no, I'm fucked!'. I was getting messed around left, right and centre, and it was like I wouldn't be able to carry on living much longer if I didn't sort myself out. You can only love music so much, then if you're dead you can't hear it."

Well, you can't argue with that. He never saw any money from the single or album, though recently he's won back the publishing on the album. The story according to Gerald of how he came to sign away the rights to 'Voodoo Ray' runs like this:

"'Johnny Roadhouse', which is *the* secondhand gear shop in Manchester, had a TR727 drum machine for sale. I just had to have it. I thought 'Derrick May's got a 727, I've got to have a 727'. I signed away 'Voodoo Ray' for a hundred pounds so that I could get this drum machine. I had no idea that the record would be so big."

Men have thrown away their careers for the love of a woman before now, but how many have done the same for the love of a drum machine?

Of course it's easy to be wise after the event, and Gerald isn't the first musician, and probably won't be the last, to emerge older and wiser from his encounters with the sharp side of the record business.

GERALD STARTED OUT IN THE EARLY '80S as a DJ playing electro records in the local youth clubs of his native Manchester. His introduction to the world of electronic musical instruments came in '83 when he chanced upon Roland's TR606 Drumatix and TB303 Bassline in A1 Music.

"I remember thinking 'No way can all that sound be coming from those two little boxes'", he recalls with a gleam in his eye. However, it wasn't till '84 that he was able to buy them. "I felt as though I was going to take over the world with them. I used to mix in the 606 over records while I was DJing, and the audience thought it sounded excellent. Unfortunately my partner in DJing wanted us to concentrate on scratching techniques rather than muck around with drum machines, and when we fell short of money we had to sell it. That was definitely a mistake. I soon got out of the partnership to concentrate on making music."

He took to working lengthy shifts at MacDonalds in Market Street, Manchester, in order to save up enough money to buy the equipment he wanted. In '85 he was able to buy a secondhand TR808 from Johnny Roadhouse.

"It's such a reliable instrument, it's not given me any problems at all. I bought a whole load of Roland gear around this time. It was very difficult to know what pre-MIDI gear was compatible with what, so I guessed that Roland synthesisers would work with Roland drum machines. I bought a couple of SH101s and a CSQ600 sequencer to complement the 808 and the 303, and the setup worked very well."

As he was getting into this gear, big changes were taking place in dance music. Chicago house and Detroit techno records were finding their way into Manchester on import. Gerald recalls the lengthy queues outside Spin Inn Records at ten o'clock on a Saturday morning as eager youngsters (himself included) clamoured for the new music. At the same time hip hop was "sort of sliding into samples and breakbeats, using other people's performances. I liked heavy electro, so it was 'bye bye hip hop, keep on with the breakbeats. Don't wear your records out, and I'll try not to wear my floppy disks out'."

Gerald wasn't only interested in the heavy beat of the new dance music, however.

"To many people, house music is just a beat to dance to, period. But it's a fallacy to believe that all a house track is is a 'four on the floor' drum beat and a couple of sequencers to pull it along. With my music, it's just as important to me to create a certain atmosphere within a track with unusual sounds as it is to create a danceable rhythm."

With such an outlook it was hardly surprising that he gravitated towards techno:

"Those guys came out with some sounds I'd never heard before. They've all got their own feel. Juan Atkins is more analogue, whereas Derrick May uses the DX100 - his sound is really sharp and aggressive. If you listen to the complexity of what he does. . . I reckon if you get into the machine, then you love it and you really learn to use it. When you love a machine enough you can get any sound you want out of it. I've spent years with my 808, 303 and 101, and I'll always be the master of them."

And it was this setup which Gerald eventually used for the 'Voodoo Ray' EP, with the SH101 providing that curious almost-a-steel-drum bassline on 'Voodoo Ray' itself while the 303 did its acidic thing on the other three tracks.

The whole EP cost only £800 to record. Gerald explains: "By having most of the programming for the tracks finished before entering the studio, we were able to keep the recording costs to an absolute minimum. We knew exactly what we wanted for the record and got on with it."

However, the famous pseudo-Arabic vocal wail on 'Voodoo Ray' came about in the studio when Gerald encountered an Akai S900 sampler for the first time.

"That vocal sample was of a friend of mine who was working in the same studio as us. We thought it'd be a good idea to have a chant-like vocal on the record so we taped her improvising over the backing track that we'd devised. We found a fantastic section in her vocal which was almost Arabic in style, and sampled that for the main body of the song. By looping it and running certain sections of it backwards we ended up with an extraordinary, almost scat vocal line. We left the sound she had made drawing her breath at the beginning of the sample, which kept it sounding quite human even after all the looping."

Gerald reveals that the actual sampled phrase 'Voodoo Ray' was lifted from a comedy record by Peter Cook.

"I've got a huge collection of spoken word recordings which I sample tiny snippets from", he adds

by way of further explanation. "I try to avoid using just the sound straight off the record, though. I often pitch-shift the samples or reverse them to come up with something new. What's the point of producing something that people have heard already?"

Gerald is very clear about his attitude to sampling, and he's happy to expound on the subject.

"Breakbeats are definitely out. There's got to be a better way of using samplers than just for stealing someone's record. People must use their imagination more. I could never understand why people felt that they had to go out and buy old funk records that were two or three decades old to sample them into a piece of gear that was made yesterday! Why sample off records even, when there's so much sound around us?

"There's a certain band I know who were once sorting out a track in the studio. There was a section in the song where they wanted a peculiar crashing sound, but instead of using their synthesisers they got out a BBC sound effects record and sampled it. With all the equipment they had and with all their imagination they had to resort to that. I just stood there in disbelief.

"If one of my records was sampled and used in a way that I liked I would take it as a compliment, in a way, because whoever sampled me would be stating on record that I came up with something which was better than anything he could do. But if someone bunged 'Voodoo Ray', say, into his track just because it's a house track and he thought he would gain credibility from it, that would annoy me. That would be stealing my music."

Hmm. There's a fine distinction in there somewhere, but then the sampling issue seems to be all about where to draw the line between creativity and plagiarism.

"When it comes down to it, if a musician was being creative I don't think he'd be using someone else's beat, he'd devise his own. It's like drawing a picture: what's the use of tracing someone else's picture if you can draw your own? Surely you'd be more satisfied if your work was entirely yours?

"The problem stems from the fact that music nowadays is about making money, not about creating new kinds of music. Chart music has never produced anything new. Rather than trying to find their own style, many musicians are moulding their music for the charts before they even begin writing a track. Subconsciously they're thinking 'I'd better use this sample because it'll sound like so-and-so', and that's terrible.

"If you copy someone's melody from a song and call it your own you'll probably end up in court. Why, then, can you do the same with samples and get away with it? In house and techno music the bassline and the drum part are the melody, in a sense, but they're unprotected by law."

This argument was advanced by Blue Mountain Music, publishers of the M/A/R/R/S track 'Pump Up The Volume', when they threatened legal proceedings against Intersong, publishers of Sybil's 'My Love Is Guaranteed'. The gist of the case was that the backing track for Phil Harding's Red Ink remix of Sybil's track bore a striking similarity to the backing track of 'Pump Up The Volume'. Blue Mountain maintained that the bassline was the nearest thing to a melody on 'Pump Up The Volume' and it was permissible for the bassline to carry a melody (indeed, in classical music, and especially in pre-classical polyphonic music, the 'bassline' frequently carried a melody).

But if sampling has become just another tool of commercialism, surely the same can be said about remixing. How can artists be expected to develop their own style and identity when their music gets used as a vehicle for the artistic impulses of the remixer?

"I think there'd be a lot more music if there weren't so many remixes. That's why I've given up on that sort of game, I'm not doing any more for a while. The Stone Roses was the last one, and that didn't get released."

NOWADAYS GERALD'S COLLECTION OF Roland gear runs to a TR808, TR909, TR727, TB303, MC202, two SH101s and a Jupiter 8, with an MPU101 for MIDI-to-CV conversion. A veritable Roland museum, except that these particular exhibits are still very much alive and kicking in Gerald's music. Although he now samples all his drum sounds into an Akai MPC60 for live work, this is more out of respect for his precious machines - which he always returns to for recording purposes.

"Because I once used to carry all those instruments around so much, they're knocked about now", he explains, "so I didn't want to bring them out on the road again. Plus they went through the ordeal of being stolen recently, so I decided to leave them at home resting."

Gerald's attachment to his old analogue gear is for more than just sentimental reasons. He knows it inside out, and for him that means he can get the best out of it. He's scornful of any suggestion that as hi-tech gear gets more sophisticated it can help people to become more creative.

"It's ridiculous to think that your music will sound any better if you go out and buy or hire the latest keyboard. If you've got a feel for music and you know what you're trying to achieve, it doesn't matter what equipment you use, you can near enough get away with using anything. People tend to crave after better equipment when they don't know what they want from their music."

If Gerald is beginning to sound like a fully paid up member of the technological luddite lobby, this is far from the case. He has no interest in turning back the technological clock.

As he exclaims: "It's no use looking back; it's a waste of time companies like Roland spending millions on developing all these new instruments if no-one's going to use them."

So come on Gerald, is there any new technology that you *really* want?

"If anybody from Akai is reading this, sponsor me! I want an ADAM - I'll wear your T-shirt to bed, I'll wear it at every gig."

Gerald's current home recording method consists of recording everything straight to his treasured Casio DA1 DAT recorder (which he carries with him everywhere, along with another electronic gadget, a Psion Organiser) through a "cheap and nasty" mixer, with a Yamaha SPX90 as his only effects processor. An Akai S950 takes care of vocal samples, keyboard bits and pieces (like sampling a chord off the Jupiter 8 into the ➤

"It's ridiculous to think that your music will sound any better if you buy the latest keyboard - people crave better equipment when they don't know what they want from their music."

"I'd like to see manufacturers making new instruments where you could manipulate sound manually in real time. I know it's asking a lot, but please?"

➤ S950 and then playing it back from single notes) and sound effects.

He currently uses the MPC60 for all his MIDI sequencing requirements. Originally he used the company's dedicated ASQ10 sequencer, which he purchased using money earned from remixing Cabaret Voltaire's track 'Hypnotised', but later part-exchanged it for the MPC60, which he describes as "a brilliant machine; you can do some really wacky things with it". Although it gets used for live work, he's now also thinking of using it for recording. He also has an Atari 1040ST sitting around doing nothing at home, and is aware of what programs like Notator and Cubase can do.

"They're alright, but I'd rather use the MPC for sequencing", he announces. However, the new MIDI Manager page in Cubase, which allows software sliders and knobs to be configured onscreen for MIDI performance and SysEx edits, has him intrigued; the connection with his preferred analogue synth front-panels is not lost on him.

Because discovering that unique, special sound has always been important to Gerald, presumably he is no fan of presets, no matter what machine they appear on.

"I hate them", he confirms. "Nowadays you go into a shop or a studio, and the gear that's available gives you instantly interesting sounds at the touch of a button, but that sort of thing can make you lazy. It's far easier to press a button and get 'Super Dooper Bass Sound No.3' than it is to sort out exactly what sound would best suit your track.

"It's rather like painting. If you're using a spray-can you're going to get harsh, straight, well-defined colours with no shades in between. But if you use a brush it's more manual, you have more control and that helps you to get what you want. The SH101 is rather like a painter's palette. You can see at a glance exactly what the components of your sound are and you can manipulate them instantly with its sliders. You have to make your sounds manually, and in this sense it's far more a performance instrument than a DX7 with all its presets. I'd like to see manufacturers making new instruments where you could manipulate sound manually in real time. I know it's asking a lot, but please?"

GERALD AND HIS MUSIC HAVE GROWN out of the club scene rather than the traditional gigging circuit, so it comes as no surprise that his tour has been organised as a series of club nights - even where they take in traditional college venues (like the ULU). When the doors open at 10pm and Gerald isn't scheduled to go on till 1am, you know this isn't a rock gig. The late hour hasn't deterred anyone from attending, though; when we arrive at the ULU around 11.30 there's a lengthy queue outside, and when we get inside the place is packed. Yep, it's sold out.

Gerald is being supported on the tour by rappers the Ruthless Rap Assassins and Kiss AMC as well as guest DJs John DaSilva and The Jam MC. When the acts aren't onstage the DJs take over.

Onstage Gerald controls the overall mix and uses the MPC60 to play the drum parts and to sequence the S950 and a Juno 106, with his Yamaha SPX90 plugged into the effects loop of the MPC60 for effecting the drums. He's joined onstage by keyboard player Rohan Heath, who's using a Roland W30 and a Kawai K1, plus a Korg 707 as a strap-on remote keyboard MIDI'd to the W30 so that he can occasionally step out from behind his rack and play a solo (in one case a screaming 'electric guitar' solo played using a W30 sample). Heath's role is to add live keyboard accompaniments and solos to Gerald's sequenced parts. They're joined by singer Viv Dixon (who also provides all the female vocals on the album), while Gerald himself takes the vocal spotlight for 'I Won't Give In', revealing himself to be the possessor of a husky, drawling and emotive voice, as he sings his song of defiance aimed at all those people who have tried to bring him down. Who says techno music is impersonal?

Altogether they're onstage for around an hour, playing some ten songs including encores - one of which is a cheekily-included version of 'Pacific State', with Gerald vocalising the birdcalls and sax line. 'I shouldn't be doing this', he jokes, but nobody cares. The crowd are enjoying themselves. It's an effective set, with the mixture of live and sequenced parts gelling together well.

Taking technology to the stage is nothing new to Gerald, as he's been doing it since his DJing days in the early '80s. At the ULU there were no apparent technological hiccups, but back at the interview earlier that day Gerald recalls with some amusement a show he did once at which the technology more than hiccupped - it had a seizure.

"I was halfway through a track when the CSQ600 just stopped functioning. The audience must've thought it was some arty 'stop in the middle' because they applauded it. I think they eventually realised something had gone wrong when there was a five-minute interval between that track and the next while I was panicking trying to bring the sequencer back to life."

With such a wealth of experience in a variety of aspects of the modern music scene, what lessons did he feel he had learnt?

Gerald speaks slowly and thoughtfully: "I've learnt to keep myself to myself. I've learnt who my friends are, I've learnt to suss con merchants out, I've learnt to tell the difference between people who really love music and people who love music through their pockets. I've learnt to use a sequencer and sampler, and now I'm at the stage of learning how to engineer properly and how to use an SSL desk. I'm expanding from using my 808, 101 and 303 into a whole new world of studios."

And one of the benefits of learning any lessons the hard way is the ability to pass on advice to those interested in pursuing similar aims. . .

"I'd say get a keyboard and drum machine and learn them inside out. And before you do anything for anyone, get hold of a solicitor and sort out a contract. I know it costs money, but in the end it'll save you court costs. Don't be naive, because even if you just love making music and you're not really into making money, in the end you'll suffer because someone will take your music away from you."

Sound words of advice from someone who really has learnt the hard way. ■

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THE PERFORMING ART

Part 3

IN THE FINAL PART OF THIS SERIES ON MIDI CONTROLLERS, THE SPOTLIGHT FALLS ON PROGRAMMING SOUNDS FOR GUITAR, WIND AND PERCUSSION CONTROLLERS AND MIDI MODE 4 - THE FORGOTTEN MIDI MODE. TEXT BY OLLIE CROOKE AND SIMON THOMAS.

THE MOST POPULAR guitar synth of the moment is the Roland GR50 - if shop sales are anything to go by. The reason would seem to be the Immediacy of the system and the quality of its internal sounds. Keyboards, too, sell on the quality of their presets, and Yamaha's WT11 wind sound module seems designed to cash in on wind players with an ear for a useful preset. It's hardly surprising that most people just want to be able to plug in and go.

But you discriminating MT readers are more interested in the potential for greater control and the ability to program unique and personal sounds. Aren't you? So what's the difference between a "playable" keyboard sound, a "playable" wind synth sound and a "playable" guitar synth sound? Anyone who's tried just plugging a wind or guitar controller into an expander will know inappropriate sounds can glitch.

While there's basically only one way of triggering a sound on a keyboard - pressing a key - guitar controllers can produce sounds from left or right hand techniques. The right hand plucks, while hammer-ons and slides can be independently produced with the right hand. On wind controllers a note can be triggered by a new outlet of breath or by a new fingering with the same stream of breath. This is also true for bowed instruments but not for percussion instruments.

These two types of triggering involve two different types of attack: normal and legato. With legato playing the normal attack portion of a note is not sounded and the second note is a continuation of the first at a different pitch.

This is where MIDI Mode 4 (Mono Mode) comes into the frame. It not only means that the sound source becomes monophonic, but that when two notes overlap, the attack portion of the second note will not be played. This allows legato playing on wind controllers and, with a separate sound source for each string in Mono Mode on a different MIDI channel, it allows hammer-ons and slides on stringed instruments (bowed or plucked). It also copes with slightly unco-ordinated playing techniques. For example, a series of rapidly tongued notes on a wind controller

will produce extra Note Ons if the keys are pressed fractionally before or after the note is tongued. Mono Mode will make these events sound like a single note (as they do on a real saxophone).

HARD & SOFT

APART FROM KEYBOARDS there are five basic types of MIDI controller available: wind Controllers such as Yamaha's WX7 & WX11, Akai's EWI & EVI, the Synthophone and Casio's MIDI Horn; guitar controllers such as the Stepp, Synthaxe, Roland GR50, Yamaha G10, Casio PG380 & MG510, Wal's MB4 Bass and many others; pitch-to-MIDI converters such as Digigram's Midimic and various systems that blur into the guitar controller category; percussion instruments like the Simmons Portakit, SDX, SDS range and Silicon Mallet, Roland Octapad and Ddrums; hybrids such as the Zeta Systems MIDI violin, MIDI Chapman Stick and things such as MIDI noise gates which can be used to trigger MIDI from live performances.

Of all these controllers only the percussion category wouldn't benefit from the use of Mono Mode. Of course some cry out for it more than others - the Chapman Stick uses a two-handed tapping triggering technique which is more akin to keyboard playing than guitar playing, but you can slide up and down strings and Mono Mode makes that a more natural-sounding legato process.

There are four main considerations that make programming for controllers different from programming for keyboards. The first of these is Mono Mode. With a wind controller the question is simple - does your sound source support Mono mode? If it does then use it. (If it doesn't then ring the manufacturers and give them a hard time.) With a polyphonic instrument such as a guitar, each string will need a separate voice on a separate MIDI channel in Mono Mode. This usually demands a multitimbral instrument, but certain synths (such as the Matrix 1000) allow several voices to play on different channels in Mono Mode (but all with the same timbre). You should not, however, assume that just because a machine is multitimbral that it will go into Mono Mode. Korg's M1R and M3 don't, for instance, and very few samplers do.

Once you've got your synth or expander set up in Mono mode, the next thing to consider is the envelope shape. This applies only to sound-producing envelopes and not to sound-altering ones - on an FM synth it applies to carriers but not modulators. The aim here is to make the sound respond like a guitar string, a saxophone or whatever. That's not to say that we want it to sound like a guitar or sax but it must react so that the musician's playing style will produce the same sort of effects as on the "real" instrument. You can overcome most problems in this field except for effects like guitar harmonics and dampened strings, which often trigger as open strings or as nothing at all.

As far as amplitude envelopes go, for both stringed and wind controllers you want a fast attack and instant release. Before all you wind controller players rise up in a frenzy of outraged letter writing, you then achieve a slow attack through breath control, with the strength of your breath determining the (MIDI) volume. The fast attack on the envelope is so that you can play staccato as well. The instant release may seem at first to be the wrong approach for guitar strings, but sounds have to be "dampable". The decay on a plucked string should only occur as long as the note is sustained - the volume of the sound should start to decay after a Note On and should continue to decay unless a Note Off is received.

The assumption here is that a sustained guitar string decays over about eight seconds at loud volume and about five or six seconds at low volume. Unfortunately, MIDI note lengths from guitar controllers will be about the same as for unamplified guitars, and so long sustained overdrive sounds will need to be extended with a MIDI sustain pedal.

An ADSR envelope should be almost "square" - A = 0, D = high, S = 0 and R = 0 for a guitar. Level/Rate and Level/Time envelopes can be set in a number of ways, but the initial and final rates are at their fastest, and the level before the final rate should be zero. With DX7 and TX802 sounds, Rate 2 should be in the 90s and Rate 3 should be between 18-30.

With wind controllers, A = 0, D = anything, S = max and R = 0. L/R and L/T envelopes need not necessarily be completely square, but this shape does mean that the envelope is entirely under the breath control of the player through MIDI volume.

The MIDI violin should have sounds with amplitude envelopes like those for a wind controller - high sustain, fast attack and release - when being bowed, but like a guitar with shortened decay when played pizzicato. The Silicon Mallet sends a short MIDI Note when struck (like a drum pad) but also has a sustain pedal for increasing the length of a note. There are therefore two approaches to creating envelopes for this instrument. The first is to use a long decay time so that, as soon as the Note On and Off have been sent, the note takes a long time to die away. This is the least satisfactory of the two because you have no way of varying the length of the sustain whilst playing. The other way, which Luis Borenius, who plays a Silicon Mallet with MIDI Chapman Stick player Jim Lampi, recommends, is the use of the sustain pedal that Simmons provide. The sounds can therefore be programmed with any desired sustain level and any release rate. Chapman stick envelopes should be like guitar envelopes, and Midimic envelopes should be like wind controllers.

"A PATCH NEED NOT SOUND LIKE A GUITAR OR SAX BUT IT MUST ALLOW THE MUSICIAN'S PLAYING STYLE TO PRODUCE THE SAME SORT OF EFFECTS AS ON THE 'REAL' INSTRUMENT."

Our sound source is in Mono Mode and has a volume envelope like the "real thing". The next thing to consider is velocity response. With wind controllers there's not a lot of considering to do, really. The things you normally control with velocity on a keyboard, should all be taken care of with MIDI volume and breath control. The overall volume is controlled by MIDI volume, while breath control takes care of any timbral responses from simple brightening of the sound when blown harder to the introduction of complex new waves and even sample crossfades. "Should" because, unfortunately, not all synthesisers allow dynamic MIDI control of parameters, and of those that do, a large proportion only allow the "amount" of LFO to be varied. More on this later. Suffice it to say that if you can't get the effect you want with breath control, you may have to resort to velocity response. This is a shame because it restricts you to using the initial strength of your attack to shape the timbral quality of the sound. If you can use breath control then it's a good idea to turn off any velocity response, because high initial velocities involve high Breath Control levels at the start of a note, and you may find yourself doubling the effect you wanted to create.

With guitars the question is more complicated. What you want from the velocity response of your sound will depend on what range of velocities your guitar controller generates. For instance, the G10 has a very wide range that it delivers in a pretty smooth curve - in fact you can define your own. With the G10 then, set the velocity response at maximum sensitivity and make ➤

➤ adjustments to the guitar or its brain to suit the player and style - plectrum, strummed, finger-picked and so on. Maximum velocity response on the sound gives the added advantage of allowing expressive dynamics to be played and also of minimising the volume of damping glitches.

"WITH KEYBOARD PLAYERS, EXPRESSION CONTROLS ARE A SORT OF ADDED BONUS THAT MIDI HAS PROVIDED, AND ARE A MUCH LESS INTEGRAL PART OF PLAYING TECHNIQUE."

With the Wal MB4 there are a few more problems. The velocity sensing on the MB4 is more like a series of five or six discrete steps than a smooth curve. This means that a smooth playing curve on the natural sound of the instrument is represented as a coarse set of velocity responses. There are two discrete ways of dealing with this; the first, and simplest, is to switch off the velocity response of the instrument and play the line at a fixed volume (and therefore timbre as well) with possible recourse to using a foot controller both for MIDI volume and timbral control. The other way is to use the real-time filters on your sequencer to compress the MIDI signal so that the steps are close enough together for it not to sound odd with a very sensitive sound. This is usually a more satisfactory way around the problem than just making the sound less responsive. Obviously the way to find out the best velocity response for any sound on any controller is to experiment, but in general, volume should be more responsive than any timbral changes. The sound should become brighter as it's played louder, but consider the options of using a foot controller or overdubbing a modulation wheel part to effect any dramatic changes in the sound, as you can get a much more natural feel out of a pedal than you can from using velocity in an unfamiliar way.

This brings us neatly to our fourth and final consideration: the use of such real-time effects as breath control and foot controllers. Most keyboard players already use mod wheels and aftertouch; the difference between keyboard and sax players (and, to a lesser extent guitarists) is that they come to MIDI with the attitude that it's in the nature of their instruments to control the timbre of a note whilst it is being sounded. With keyboard players expression controls are a sort of added bonus that MIDI has provided, and are a much less integral part of playing technique.

Until recently it was unusual to find a synthesiser (and pretty nigh impossible to find a sampler) with any parameter other than an LFO (modulating either pitch or amplitude) that could be assigned to breath control or any other continuous controller. One way around this, if you have suitable sequencing software, is to use real-time MIDI mapping to translate breath control (or any other) information into System Exclusive messages. This means that you can edit one or more of the parameters on your synthesiser as you play. Thus if you're using Notator, you could map MIDI Controller 2's value to SysEx 67 16 0 19 plus "Value" and you'd be editing the fine frequency on Operator 6 of a DX7 with its device number set to 1. Controller 1's value Mapped to SysEx 240 66 48 36 65 22 plus Value gives your mod wheel the power to edit the Intensity of a Korg M3R's Cutoff MG.

Luckily, more and more companies are implementing that old analogue synth capacity to edit various parameters in real time whilst you're playing, but instead of sticking a knob for each parameter on the front of the box they allow you to assign them a MIDI controller number which you can then play. Thus on the Yamaha TX16W you can not only go into Mono Mode but you can also set up a crossfade point on a continuous controller and slide from your Sweet Tenor sample into Raspy Sax halfway through a note and back out again, and be controlling it all from a footpedal. On a Korg M3R, Controllers 1 and 2 and aftertouch can be set to affect Pitch Modulation, VDF Cutoff and VDF modulation. On Yamaha's TX & DX range of FM synths you can use breath control (or any other control for that matter) to directly vary the volume of one of the operators - set the EG Bias of Breath Control to 99 and then adjust the "Ams" parameter on the Sensitivity page for the operator you want to affect. This works wonders on a modulator that is introducing a lot of brightness, edge or fuzziness to your sound - find out what each operator does to a sound by turning it off and seeing what it sounds like without it.

So there you have it - now there's no excuse for all you guitarists and sax players not to start programming your own sounds. At the very least you should modify all your favourite patches so that they react in a more natural way to your playing style. One of the most persistently annoying things about the pop charts in recent times is that everything sounds as if it's been programmed by a keyboard player. Whilst there are a lot of great keyboard players around, maybe it's time for bass players to play basslines again. And why not get a real horn player to play your synth brass lines or a guitarist to strum your Pan Flute pad? Until recently technology has been one excuse - MIDI controllers are an opportunity for technology to bring musicians back again.

MODULES

IT'S TIME TO dish the dirt; which instruments support Mono Mode? The first thing to say is that things are getting worse rather than better. Mono Mode 4 seems to be something that manufacturers have decided isn't important any more. This is sad because there's huge potential for guitar and wind controllers, and the only way they're ever going to communicate in a glitch-free way over MIDI is by using Mono Mode 4. As controllers become more user-friendly and glitch-free, it seems short sighted not to make the most of them by including Mono Mode.

What's also quite depressing is the fact that it's incredibly difficult to find people, even in the technical departments of some pretty heavyweight manufacturers, who actually know what Mono Mode 4 is. Most people seem to think that multitimbrality is the same thing - if you could have six or more sounds on different MIDI channels. Oh, no.

Akai's VX600, which is a Matrix Analogue synth, goes into Mono Mode and has six voices so it's fine for MIDI guitars as well as wind controllers. Unfortunately, Akai haven't yet invested the time and effort needed to convert any of the software for their samplers so that they can run in Mono. They assure us that it's something that they're looking into, but it doesn't seem too high on the list of priorities, so as yet the S900, S950 and S1000 may not be top of your shopping list if you're after a sound module for your MIDI guitar.

Casio's VZ range of Phase Distortion synthesisers are both multitimbral and use Mono Mode, but their FZ range of samplers don't. One encouraging factor is that, being makers of guitar controllers and a MIDI horn, Casio have looked into the MIDI requirements of these instruments and, as they mention it in their sales literature, you can only hope that there's a section in all their manuals about the use of the VZ synths with MIDI controllers.

Unfortunately E-mu's man in England wasn't in England when we tried to check the official E-mu line on Mode 4. Ron Lebar at the Synthesiser Service Centre reckons the Emulator II, the Emax, the E-mu III and the Proteus all "might" support Mono mode, and that the Proteus had the most advanced MIDI spec and so was the most likely. Still, we thought a lot of ➤

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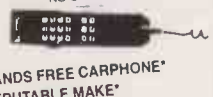

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➤ machines "might" go Mono. . .

Ensoniq are one of the few companies that seem to have a genuine commitment to Mono Mode 4 - their EPS and EPS-M samplers support Mono Mode, as do the highly praised VFX, SQ80 and ESQ1 synths. They were even eager to lend us a VFX so that we could try it out with various controllers but we didn't get it together in time for our deadline. Still, they deserve a pat on the back considering that they don't make any guitar or wind controllers.

Although Korg syths used to support Mono Mode, or at least the DW6000 that we used to have did, the M- and T-series do not. Using multi mode and some dynamically allocated sounds makes the M3R more friendly to non-keyboard controllers, but it's not a substitute for the real thing.

Oberheim's Xpander and Matrix 12 both support Mono Mode. The Oberheim sample player is a more complex matter - it will definitely play samples recorded for the Prophet 2000 and 2002 in Mono Mode if the sounds were in Mono on the Prophet. As to whether it's possible to put samples from other machines into Mono mode on the Oberheim we haven't been able to find out.

Roland's MKS series of analogue synths support Mono mode, and both the MKS70 and MKS50 allow for six independent MIDI channels. Unfortunately the S50, D50, U110 and all the other little S-, D- and U-series do not. The MR50 guitar controller plays its own sounds with a personalised set of extra messages that allow slurs and hammer-ons, but obviously this information is unique to this system and is not sent via MIDI.

The Sequential Prophet 2000 and 2002 samplers both support Mono mode and also allow "real time" crossfades controlled via MIDI Controller 1. With the right mapping capabilities on your sequencer or MIDI routing facilities, it is possible then to translate Breath Control or Foot Controller information into Controller 1. We couldn't find out about the Prophet VS but in an old review we discovered a couple of hints that Mono mode was supported, and as Sequential Circuits were such MIDI pioneers it would seem likely.

Until very recently there was nothing but nice things to be said about Yamaha - they produced the excellent TX802 with its capacity for eight Mono DX7 voices and several features specially included for non-keyboard MIDI devices. They also produced the TX81Z - a great budget module that also offered Mono Mode. The DX range supports Mono mode as does the TX16W which, with its v2 software, seems to be the only sampler in the universe that goes into Mono Mode. Nothing but praise then for Yamaha until the SY77 and TG55 came along. The boffins at Yamaha admit their new synths only partially support Mode 4.

So there it is - Mono mode is supported by many, though not all, MIDI instruments and it's an invaluable aid to getting not just playable, but exciting sounds out of controllers other than keyboards. It's up to those of us with a vested interest in retaining the playing techniques of non-keyboard instruments in the expanding world of MIDI. ■

Thanks are due to Ron Lebar (and Anton) at the Synthesiser Service Centre. If anyone feels they have any wisdom they would like to pool with the authors, we would be very happy to hear from you. Also, if you'd like any more information about anything you have read about in this series of articles, contact us.

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R8M

PHOTOGRAPHY: JAMES CUMPSTY

Is there a future for the dedicated beatbox in a world of increasingly affordable yet increasingly sophisticated sequencers and samplers? Roland hedge their bets with a rack-mount version of their flagship drum machine. Review by Simon Trask.

ONE OF THE first instruments I reviewed on joining this magazine in 1985 was Korg's MR16 MIDI Rhythm Unit. I can remember being a bit perplexed by it at the time. Here was a non rack-mounting MIDI expander which brought the sounds of Korg's (non-MIDI) DDM110 and DDM220 drum machines under one roof, but left their pattern- and song-recording facilities out in the cold. Its individual front-panel level and stereo pan controls and - for those with enough inputs on their mixing desk - individual audio outs were a welcome bonus, however.

The concept was clear enough: a MIDI sequencer could be substituted for the onboard sequencing of a drum machine. The MR16 could be set to receive on any one MIDI channel, and each of its sounds could be triggered by a (pre-assigned) MIDI note number as indicated on a front-panel keyboard diagram. You could play it from a MIDI keyboard or from an electronic drum-kit equipped with pad-to-MIDI conversion. In fact, the idea of the dedicated drum expander *sans* sequencing really began with the electronic drumkit.

By placing a MIDI sequencer in between controller and expander, the MR16 could be incorporated into the wonderful world of MIDI-based recording. But in those days MIDI sequencers were limited on memory, limited on tracks, and not well suited to drum

machine-style rhythm recording. Surely it was better to save on memory and save on tracks by programming your rhythm patterns into a drum machine. Was there, then, a place for the MR16?

The review's last sentence was "Whether it's setting out to do a particularly useful job. . .is something only time will tell". Well, time has shown that the MR16 was ahead of its time. With the advent of 16-bit computers (and in Europe the Atari ST in particular), computer-based MIDI sequencers have gained substantially more tracks and substantially more memory, and have increasingly adopted features tailored for drum machine-style recording. Owners of powerful MIDI sequencing programs like Cubase and Notator will be able to think of countless other advantages to be had from using today's sophisticated sequencing software for rhythm programming. And, of course, nowadays the more adventurously inclined can investigate the possibilities of alternative MIDI software such as algorithmic composition programs.

The past five years have also seen the advent of affordable sampling and the rise and rise in importance of rhythm in popular music. Nowadays samplers are frequently pressed into service as dedicated drum expanders, and the drum machine's hegemony has been challenged by the combination of MIDI sequencer and (rack-mount) sampler. Today a drum machine can no longer be a static entity, a mere electronic recreation of a drummer's drumkit, but something altogether more fluid and versatile.

Roland have taken on that challenge with their R8 flagship drum machine (reviewed MT, February '89) and its cheaper relative, the R5 (reviewed MT, July '89). But while both machines can be played (and synced) via MIDI, they are still primarily self-contained entitities. What many of today's musicians with their sophisticated computer-based MIDI sequencing setups want are the sounds without the pattern- and song-recording facilities, which are redundant as far as they are concerned.

In recognition of this fact, Roland have come up with the 1U-high, 19-inch R8M, essentially a rack-mount version of the R8, stripped of the pattern- and song-recording facilities. Perhaps it's surprising that they haven't come up with a dedicated drum expander before, but there again the R8 is really the first Roland drum machine to offer the sort of sonic flexibility and versatility which is required to compete with rack-mount samplers. Other manufacturers haven't exactly been enthusiastic where dedicated drum expanders are concerned. Korg followed the MR16 with the 1U, 19-inch DRM1 Digital Rhythm Module (reviewed MT, February '88), which was to the company's DDD1 and DDD5 drum machines what the R8M is to the R8 and R5 now, while more recently Akai have produced the 1U, 19-inch XE8 MIDI Drum Expander (reviewed MT, April '89). In the context of the electronic drum kit, Roland produced their first dedicated drum expander back in 1985 with the DDR30 Digital Drums (reviewed E&MM, December '85), a unit which was both MIDI-compatible and, with the addition of PD10 and PD20 drum pads, the "brain" of an electronic kit.

Today, the drumkit metaphor is still a useful one, if only to show how far the dedicated drum expander has come in the past five years.

OVERVIEW

THERE ARE PROBABLY three things that will strike you about the R8M when you look at the picture accompanying this review: it has a backlit LCD, it has three PCM ROM sample card slots, and it doesn't have many buttons. At least two of those observations will make R8 and R5 owners sad, as neither drum machine has a backlit LCD and the R8 has one PCM card slot while the R5 has none. Turning to the R8M's rear panel, alongside the MIDI In, Out and Thru sockets and the L/Mono and R stereo audio outs are six polyphonic individual outs, a number which sits midway between the R8's eight and the R5's four. Pricewise the R8M also sits between the two drum machines, though it's nearer to the R8 than the R5.

"The R8M is well thought out, easy to use, sonically versatile both in its range of sounds and in the ways you can alter those sounds."

Roland U110 PCM Sound Module owners will no doubt notice that the front panels of the U110 and the R8 look exactly the same, and in fact operationally both instruments are exactly the same, with the same six buttons: Note #/Jump (the U110 substitutes Part for Note #), Edit/Exit, Cursor Left and Cursor Right, and Value Up and Value Down/Enter. The R8M's parameters are structured in a clear hierarchical fashion, and you use the Enter and Exit buttons to respectively drop through and climb back up through a maximum of four Edit levels, while the Cursor buttons allow you to select different Edit options at each level and then move through the screens of each option, and the Value buttons allow you to edit the parameter values. You can also select up to four LCD screens to Jump to using the Note #/Jump button, and return to the Play mode screen at any time by holding down both the Note #/Jump and Edit/Exit buttons. Once you've familiarised yourself with these buttons and with the location of each parameter within the programming structure, it's surprising just how fast editing on the R8M can be.

Like the R8 and R5, the R8M comes with 68 internal 16-bit 44.1kHz drum and percussion sounds which are known as Instruments. In fact, these are the same sounds that are in the R8 - which means that many but not all are the same as those in the R5. One thing the R8, R5 and R8M have in common is that "sound" 68 is silence (or silent); and if you're wondering what good a silent sound is to you, all will become clear later on.

Roland currently have nine PCM ROM sample cards available for the R8 and R8M. With 26 Instruments on each card, that's a total library of 301 sounds including the onboard samples (302 if you include the silence). With its three PCM sample card slots, the ➤

➤ R8M can provide you with a selection of 145 sounds at any one time.

The R8M's fourth front-panel slot is for RAM data cards. Now, if there's no onboard memory for patterns and songs, why the need for such a card? The answer is that, whereas on the R8 and R5 you can create a single MIDI "drumkit", or arrangement of Instruments across the MIDI note range, on the R8M you can create up to 32 of them. As on the R8 and R5, the "drumkit" is known as the Instrument section, and this section is complemented by four Performance sections which each consist of a single Instrument spread across the keyboard. On the R8M these five sections (each of which can be assigned its own MIDI receive channel) are collectively known as a Patch, and as I've just intimated there are 32 of them in internal memory. A further 32 can be stored per RAM card, and used without you having to load them into the internal memory first. A quick spot of arithmetic will tell you that this gives you a maximum simultaneous choice of 64 Patches - though you can only *use* one Patch at a time. Patches (including those on card) can be called up from the front panel or via MIDI patch change commands received on a user-specifiable Control channel (1-16), the latter option making it easy to automate kit changes between or even during songs. You can create your own patch change map within the R8M which allows you to call up Patches and Feel Patches separately or together and in any order.

"You can give the R8M's 808 bass drum sample a longer decay than the original sound, which allows you to get more of a bass boom out of it."

Although the R8M drops the "Human Rhythm Composer" tag of the R8 and R5, the "feel" elements of the two drum machines (basically the Feel Patches and Control Changes), have successfully migrated to the expander; in fact, the R8M doubles the number of Feel Patches: 16 to the eight on the R8 and R5. Both Feel Patches and Control Changes are concerned with creating real-time changes in Instrument pitch, decay and nuance - in other words, with trying to get away from *regularity* of sound. As with the R8 and R5, what makes this aspect of the R8M so interesting is that you can either be subtle or extreme with it - try for a more "acoustic" sound or, instead, revel in the machine's electronic nature.

Of course, inflections in the sound of an instrument represent only part of a definition of feel. Variations in timing and dynamics need to be added, and in practice all these elements work together. The R8M's Instruments are velocity responsive, and MIDI velocity is one possible control source for introducing Instrument pitch, decay and nuance inflections. As for timing, the more sophisticated MIDI sequencers with their dynamic tempo tracks, their high timing resolutions, their Grooves and their 1001 varieties of quantisation are well up to handling this aspect of feel - far more so, in fact, than the onboard sequencing options of the R8 and R5.

The R8M has various ways of helping you to organise your Patches and Feel Patches. For instance, you can copy the parameter settings for individual Note numbers from any internal or card Patch to any Note number in the temporary (edit) area, and also exchange Note-number parameters between internal/card and temporary memories. Patches and Feel Patches can be copied and exchanged complete, and individual Performance sections from any internal or card Patch can be copied into the temporary area.

Patches, Feel Patches and Setup data can be bulk transferred between the R8M and a RAM card, while MIDI SysEx allows you to transfer internal and card Patch and Feel Patch data in bulk or as individual patches.

The R8M also allows you to define global on/off settings for MIDI SysEx, Volume, Pitchbend, Panpot (MIDI controller 10), Hold (MIDI controller 64) and Note Off velocity.

The R8M's Stack mode achieves the same result as the more familiar MIDI Overflow mode, in that it allows you to build up a "composite" instrument out of multiple R8Ms (in this case up to eight of them, giving 96-note polyphony!). But where MIDI Overflow requires you to chain instruments together, Stack mode allows you to hook up multiple R8Ms to a MIDI Thru box without any chaining.

The R8M's manual deserves a positive mention: it's thorough, clearly written and clearly laid out, and the inclusion of an Index by Function and an Index by Term allows you to locate information on any aspect of the R8M very quickly.

PATCHES & INSTRUMENTS

THE R8M'S INSTRUMENT section spans MIDI notes 21-108. You define your MIDI "drumkit" by assigning one internal or one card Instrument to each note - so you can have up to 88 Instruments per R8M kit. When you select a card Instrument, you specify not only the Instrument but the card number; this has the advantage that you never have to remember which card goes in which slot, because it doesn't matter - each time a PCM card is inserted, the R8M reads its number and from then on automatically addresses the relevant slot. The card number parameter allows for 30 cards, so there's plenty of scope for additions to the existing library. If you need a quick memory jog as to which card(s), if any, should be inserted for a particular Patch, in Play mode you can use the Cursor Right button to scroll to a screen which tells you. Another screen in Play mode, incidentally, tells you at a glance which MIDI channels the five sections of the current Patch are assigned to.

Pitch (±4 octaves in 10-cent steps), decay (0-127), nuance (0-15), output assign (one of seven stereo pan positions or one of the six individual outs), volume level (0-15), assign type (poly, mono, exclusive 1-8), velocity curve (1-8) and MIDI Note Off receive (on/off) parameters are all programmable per note, which means that an Instrument is affected by the parameter values of the note(s) it's assigned to. With the exception of MIDI note off receive, all these ➤

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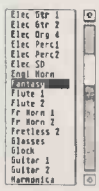

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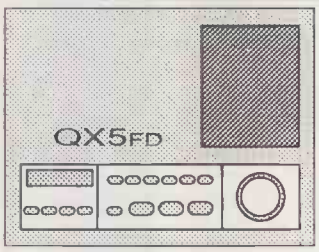

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The effect of nuance depends on the Instrument: in the case of cymbals, different nuance values generate the effect of striking the cymbal in different places (from the edge to the bell), while for other Instruments the low-frequency component of the sound increases as you increase the nuance value. However, nuance doesn't apply to all Instruments. Where an Instrument does allow you to set nuance, you can also set separate decay times for low and high frequencies or for cymbal edge and cymbal bell strikes.

If you want one Instrument to cut out when you play another, all you have to do is assign them to the same Exclusive number (1-8). The obvious example here is open and closed hi-hats, but, where that sort of "restriction" used to be built into drum machines, it's now up to you what and how many Instruments cut one another off - which is the way it should be.

An alternative way of cutting an Instrument short is to enable its response to MIDI Note Offs. Then when a note off code is received for the relevant note number, the Instrument will be muted. If your MIDI keyboard can transmit release velocity, and you've enabled response to it (a global parameter), you can control the rate of amplitude decay after the note off is received by the R8M. Obviously, note offs and release velocity won't have much effect on very short percussive sounds, nor will you be able to get much mileage out of them if you're thwacking drum pads. However, they're a further option for dynamic control of R8M Instruments if you're playing the expander from a keyboard or tinkering with MIDI data in a sequencer.

The R8M's approach to creating "drumkits" means that it's easy to visualise the layout, or spread, of your kits. You can select the Instrument assign screen or one of the parameter screens and then scroll through the MIDI note range using the expander's Cursor buttons, or select notes directly by playing them on your MIDI controller.

In contrast, the approach which Roland adopted on the R8 and R5 - where a MIDI note and the associated parameters detailed earlier are programmed per Instrument - is far less immediate and far more confusing. However, this approach does make it easy to layer Instruments via MIDI (just assign the relevant Instruments to the same MIDI note). The R8M's approach, on the other hand, means that a special Layer function is required. When switched on (per Patch), this function layers the Instruments assigned to MIDI notes 77-108 onto notes 29-60, which in turn removes them from the 77-108 range (giving you a still very reasonable 56-note/Instrument range). For programming convenience, when Layer is on you can program two Instruments per note in the range 29-60; switch Layer off and the layered Instruments are transferred back up to notes 77-108.

The four Performance sections (mentioned earlier) provide an easy means of playing selected Instruments over a wide note range, complete with pitch, decay and nuance changes (making them well suited to playing pitched instruments such as bass, vibes and marimba). As each Performance section's MIDI channel can be independently assigned, you can layer any combination(s) of these sections. The R8M introduces a programmable note range for each Performance section, allowing you to zone them, either on different MIDI channels or the same channel.

The Instrument assigned to each Performance section can have its own parameter settings. In addition, volume level, pitchbend range, MIDI modulation controller destination (off, decay or nuance), key follow reference note and key follow amounts for pitch, decay, nuance and panpot can all be Performance section-specific.

FEELING MIDI

AS MENTIONED EARLIER, on the R8M you program pitch, decay and nuance values for each MIDI note within a Patch, whereas on the R8 and R5 you program these parameters for each Instrument. The two drum machines both have 16 pads, which can effectively be expanded to 80 pads by stepping through five Pad Banks A-E. Each pad in each Pad Bank can be assigned offset values for the above parameters, which means that if you assign the same Instrument to more than one pad you can give it different values.

To incorporate pitch, decay and nuance inflections into rhythms recorded into an external MIDI sequencer, you simply assign the same Instrument to two or more MIDI notes and give each note different pitch, decay and nuance values. Then when you record a rhythm you vary the notes that you play for the relevant Instrument(s). If you want to achieve the same result via MIDI on the R8 and R5, you have to copy an Instrument to one or more of 26 Copy Instruments, and then assign a different MIDI note number and different pitch, decay and nuance values to each Copy Instrument. The R8M has no need of Copy Instruments, so you won't find any included on it.

Where spreading the same Instrument across several MIDI note numbers allows you to work with a fixed number of pitch, decay and nuance inflections, the aforementioned Feel Patches and Control Changes provide far more varied dynamic variation. You assign one of the 16 internal or 16 card Feel Patches to a Patch, whereas the Control Changes are programmable parameters within each Patch.

Control Changes can work on up to nine Instruments, each of which can have its pitch, decay, nuance or stereo pan position modified dynamically. If you select the same Instrument more than once you can modify more than one parameter - but at the expense of the number of Instruments that can be modified. As you might imagine, Control Changes allows up to nine MIDI controllers to be used as the modulation sources. These are preset as modulation (controller No. 1) and controllers 16-19 and 80-83. Obviously, if your keyboard can't generate these controller codes then the most you can do is insert them into your sequencer track(s), though if your sequencer is able to convert MIDI data in real-time

(convert MIDI modulation or pitchbend into any controller code) then you've got no problems. The advantage of this approach when working with a MIDI sequencer is obviously that you can record controller data on a separate track from the note data and re-record it or edit it at any time - in some cases (re)draw it onscreen.

The Feel Patches, on the other hand, allow you to use MIDI velocity, a user-programmable series of "looping" real-time value offsets, or R8M-generated random value changes (with a programmable depth parameter) as the modulation source for each of up to eight Instruments, governing pitch, nuance, decay or velocity. Again, you can use different mod sources for different Instruments or for different parameters of the same Instrument.

For MIDI velocity you can set a central reference velocity, at which the Instrument will be played with its programmed value, and a velocity sensitivity amount and polarity (reversing the polarity when pitch is the parameter, for instance, means that harder key strikes generate lower pitches).

The "looping" parameter value offsets are referred to as Groove, and can only be used when the R8M is receiving MIDI clocks. This is because its series of up to 16 ± value offsets for the selected parameter have to lock up to MIDI sync in order to function, though its actual rate is determined by its Groove step setting (from 1/4 to 1/32nd notes including triplets). The overall amount of effect is determined by a Groove Depth parameter (1-8). Groove allows you to, for instance, cycle around a fixed pattern of nuance changes on a ride cymbal part.

PCM SAMPLE CARDS

THESE DAYS MUSICIANS expect - or at the very least prefer - any new drum machine to be backed up by a sample card library. While the R8 arrived *sans* cards, the R8M is in the fortunate position of being able to draw on the nine sample cards (234 samples) which Roland have brought out since the R8's release. These are: Dry, Electronic, Power Drums USA, Contemporary Percussion, Ethnic Percussion, Mallet, Jazz, Jazz Brush and Sound Effects. Each card includes a demo sequence of its sounds which can be played by selecting first Util and then ROM Play in the R8M's Edit mode; the Value buttons Start and Stop the sequence. The R8M's internal sounds have their own permanently-stored sequence which can be activated in the same way.

The R8M comes with a healthy variety of kick, snare, tom tom, cymbal and Latin percussion sounds, but if you want even more variety then the Dry and Power Drums USA cards are well worth checking out for kicks, snares and toms, and the Contemporary Percussion card for Latin percussion.

The Electronic card includes samples of every sound off Roland's TR808 drum machine (except for the handclap, which is included in the R8M's internal sounds). The bass drum sample has been taken with the Tone control knob turned up, so you get that ➤

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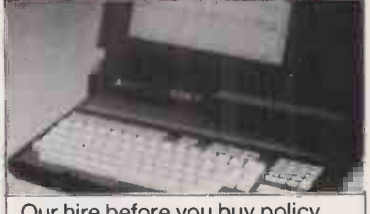

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➤ percussive "blip" on the attack. On an A/B comparison with the real thing, the samples held up well, though for some reason the snare and open hi-hat samples don't exactly match any setting on the 808. Incidentally, you can give the R8M's 808 bass drum sample a longer decay than is possible with the original sound, which allows you to get more of a bass boom out of it. Other sounds on this card include electronic kicks, snares, cymbals and toms together with the likes of 'Rap Noise' (noise yes, rap no), 'High Q', 'Wood Box' and 'Synthesiser Bass'. Now when are Roland going to get around to those 909 samples?

The Ethnic Percussion card provides samples of Eastern and African drum and percussion instruments, with the likes of 'Tabla Na', 'Tabla Tun', 'Tabla Te' and 'Baya Ge' from north India, 'Khole Na' and 'Madal Din' from Bengal, 'Rama Cymbal' from Tibet, 'Moroccan Bendir', 'Djembe Centre', 'Djembe Rim', 'Talking Drum' and 'Talking Drum Bend Up' from West Africa, 'Thai Gong' and, as you might expect from a Japanese company, a number of Japanese drum and percussion instruments: 'Tsuzumi High' and 'Low', 'Ohkawa', 'Matsuridaiko', 'Matsuridaiko Rim', 'Shimedaiko', 'Atarigane' and 'Hyoushigi'. You can also find the deep, resonant Japanese Taiko drum included in the R8M's internal sounds.

As you might expect, the Mallet card provides marimba, vibraphone, xylophone and glockenspeil samples (variously providing two or three samples of each at different octaves) but also the likes of 'Barafon' 1 and 2, 'Tubular Bells' 1 and 2, 'Wind Bells', 'Finger Cymbals', 'Angklung' (apparently a bamboo instrument from the Philippines) and four Indo-nesian gamelan samples: 'Gender', 'Saron', 'Bonang' and 'Kenong'.

> "Roland's drum expander scores over the R5 and R8 with its provision of multiple MIDI-selectable "drumkits" and complement of three PCM card slots."

Contemporary Percussion, as I mentioned earlier, allows you to expand your Latin vocabulary with the likes of low and high timbale, open and muted pandeiro, low and high bongos, open and muted surdo, open and muted cuica, maracas and long and short guilo. Now you can try out those Latin rhythms in MT's *On the Beat* series. Other sounds include concert bass drum, timpani, bell tree, kalimba (African thumb piano), log drum and steel drum.

Apart from the rather clichéd ride cymbal, drum machines have never offered much in the way of sounds suitable for jazz-style drumming. Now Roland have rectified the situation with the Jazz and Jazz Brush cards. Thus you get 'Beater', 'Full Low', 'Loose', 'Thin' and 'Full Bright' kicks, seven snares including 'High Tune' 1 and 2, 'High Tune Rimshot', 'Mid Range' and 'Cram Mute', several open and ringing toms, and a couple of crash cymbals plus 'Ride Cymbal With Rivet' and 'Ride Bell Cymbal With Rivet'. Jazz Brush provides brush swished, slapped and rolled snares, toms, hi-hats and ride and crash cymbals along with 'Deep, Resonant', 'Sharp' and 'Attack' kicks. Nuance can be applied to the majority of the sounds, and works well for delicate shadings in the jazzy context. The Jazz card also includes a fretless bass and the Jazz Brush an acoustic bass, which can be assigned to Performance sections for pitched use alongside their kits.

Finally, there's the Sound Effects card, which gives you lots of percussive sounds like 'Enormous' and 'Car Doors' (slamming), 'Cannon', 'Gunshot', 'Glass Crash', 'Smash', 'Slap!', 'Wow', 'Foot Step', 'Punch' (perfect for those old kung fu movies), 'Finger Snap', 'Drill', 'Spray' and, for all you swashbucklers out there, the clashing swords of 'Katana'!

The clarity and detail of all the sounds, internal and card, is very impressive, preserving all those subtle nuances (and I'm not talking about the parameter here) which bring acoustic sounds to life, giving them immediacy and vitality and allowing them to "breathe".

VERDICT

THE R8M HAS a lot going for it. Well thought out, easy to use, sonically versatile both in its range of sounds and in the ways you can alter those sounds, and blessed with a readily comprehensible and easily editable MIDI access, the R8M is a pleasure to work with. Roland have done more than just rack-mount the R8 and strip out all its sequencing: the expander has been optimised for MIDI performance whereas the R8 and R5 are optimised for "self-contained" performance. So if you prefer to record all your rhythm parts into a MIDI sequencer rather than a drum machine, your choice is clear - not that the R8M has much competition in the dedicated drum expander stakes. However, it's worth pointing out that the degree of "feel" control provided by expander and drum machine via MIDI, and in comparison to the drum machines' onboard feel control, is essentially the same.

Roland's drum expander does score over the two drum machines with its provision of multiple MIDI-selectable "drumkits" and complement of three PCM card slots, which give it the edge in terms of sonic versatility (with three slots you can combine sounds off two or more cards - Jazz with Jazz Brush, for instance, or Mallet with Contemporary and Ethnic percussion - which is something you can't do on the R8.)

The R8M plus PCM cards provides you with a large, varied and expandable palette of high-quality drum and percussion sounds made readily and simultaneously available in a versatile fashion, and allows you to use these sounds in a uniquely flexible way. I would say that justifies it a place alongside the digital sampler in many a MIDI studio, where they can live in happy co-existence. ■

Price *R8M, £599; PCM sample cards, £45 each, RAM data cards, £95 each; prices including VAT.*
More from *Roland (UK) Ltd, West Cross Centre, Brentford, Middlesex TW8 9EZ. Tel: 01-568 1247. Fax: 01-847 1528.*

It's a pity that more retailers don't copy our ideas (instead of just our ads), free courses with packages, faulty goods replaced and money refunded are all part of a service to which customers are entitled. It is a shame that more retailers do not realise this.
By the way, have you noticed how some shops are incapable of giving you a price on the telephone? (Frustrating, huh?) Next time a shop respond with "How much have you been quoted already?" say "Why - are you too thick to think of a price yourself?" They'll soon learn!

NEW STOCK

Whilst we do not pretend to carry EVERY item from EVERY manufacturer, *(as some shops seem to - ever tried putting it to the test?)*, all new equipment is tested in one of our three working studios, and if we like it, our buying power can usally ensure that we have it in stock at all times (even when your local dealer might have run dry!). In addition, if we recommend an item, we will REFUND YOUR MONEY if you do not agree with us.
In fact we are the largest pro audio dealers in Britain for Alesis, Korg, Drawmer, Casio, Fostex, Seck, Yamaha, TOA, Tascam, Studiomaster, Allen & Heath, C-Labs and a good many more! (Last year we sold nearly 700 new 8 & 16 track packages and around 300 s/h machines!!). It's always worth ringing us for a quote on new equipment and if you're still unconvinced, ask yourself why we became the biggest in such a short time (or better still ask the rest!)

If you are bewildered by the vast amount of multitrack recording products currently on offer, Thatched Cottage fax packs should make the job of choosing the right equipment that much easier. There are 5 in the series; P.A. – Portastudios – 8 Track – Financial advice and MIDI. To obtain any of our fax packs just phone or write.

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When it comes to new equipment you may have noticed that we don't say 'phone for the best deal, POA, or "lowest price guarantee" (Ha! Ha! if the prices are so great why don't they just print them and amaze us all). Our bulk buying policy can usually guarantee that a telephone call to us will not be wasted and in any case we can throw in those "hidden" extras – cables with multitracks, patchbays with desks. (By the way, next time a dealer "guarantees" the lowest price and then can't deliver, try reporting them to the local Office of Fair Trading - it will teach them not to waste your time!)
To be honest though, if you spend all afternoon on the telephone the chances are you might find someone somewhere who will undercut us by a pound or two. The difference at THATCHED COTTAGE is if your E16 breaks down on a Sunday morning or your Drum Machine blows up on a Bank Holiday Monday you CAN ring us, we'll be here and we WILL do something about it – 365 days a year. Have you ever needed help and advice outside shop hours? If you are serious about your music you will know that it is quality of service that makes the difference and at THATCHED COTTAGE it's only a phone call away!

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Tascam 238 8-track + RSD pro-line 16:4:8	£1675 + VAT
Tascam 238 8-track plus Nomad Reddimix 8:2 mixer	£960 + VAT

THATCHED COTTAGE RECORDING SCHOOL

In response to popular demand we now run a one-week recording course, designed specifically for those of you who feel they can make a go of running a professional 8, 16 or 24 Track Studio. The emphasis will be largely on the practical side and topics covered are finance, premises, running a recording session and hints and tips on every aspect of recording. Class sizes are limited to eight at a time and guest speakers will cover relevant areas. The price is just £200 for the week, including accommodation. Interested? Telephone or write and we'll tell you more. We also run "arranging courses", useful for samplers, call for details.

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In order to cater for the increased demand for advanced multitrack systems we have just opened a new division – Thatched Cottage Digital. Housed in a brand new purpose designed building, it handles 24-track analogue (including the new Tascam MSR24) and all digital and leading edge installations (such as the new Yamaha digital Multitrack).
If you are considering any kind of professional set-up and feel that the legendary T.C.A. service value is of interest, contact Rob or Andy on (0223) 208110 or ring the normal T.C.A. number for full details of what we can offer (including our second-hand and ex-demo list) What have you got to lose?

THE THATCHED COTTAGE CHALLENGE

This suggestion for a wet afternoon takes about 10 minutes, but results are usually worth the effort! First of all you flick through the pages of this magazine and take phone numbers of every dealer who "guarantees the lowest price" or operates any kind of unique "Best Price" policy. (There are usually around 10!)
Then, pick any item (It helps if you make it difficult – say a Midiverb II, although any popular item will do) pick up the phone and start dialing!!
Points are scored as follows;
1. "That's no longer available Sir" .....1 point
2. "No – what you really want is a . . . .2 points
3. "Whoever quoted you that, is lying Sir" .....5 points
4. "We can't quote on the phone, but if you come in with cash" ...15 points
5. "Give us a credit card number and we will quote you" .....25 points
6. "Who quoted you that price?" (Just name one of the others) ....30 points

Anyone who can score over seventy-five points and furnish us with the names of the shops and their answers contained in a vaguely humorous letter will get a free microphone.
Microphones will also be awarded to anyone who encounters a good answer, fob off or excuse we haven't thought of! Good Luck!

SOME SECONDHAND AND EX-DEMO BARGAINS

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Yamaha GSP100 guitar processor	£115
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This list represents only a fraction of our current secondhand and demonstation stock. Call us for a full listing – All prices exclude VAT.

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JL COOPER PPS100 SMPTE MIDI controller	**£195 + VAT**
TASCAM MSR24 plus Allen & Heath Saber 24:16:24	**£14,000 + VAT**

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At our fully equipped in-house service centre we can service all types of equipment (esp. 8-16 tracks) Every reputable dealer should have one on site (don't let anyone tell you any different) Believe it or not, some retailers actually sell complex electronic equipment from their front room or garage (nothing wrong with that of course - we all had to start somewhere - when you are successful though, you outgrow it pretty quickly!) It does though tend to suggest a lack of back up facilities. So if your multitrack needs a service or the heads looking at, give us a call before it's too late.

For those of you who are seriously considering starting a commercial studio we've come up with three packages, each containing everything you will need for your first paying session, from the Multi-track Machine right through to DI Boxes and Cables. The price of the 8 Track System is £4,300 + VAT, the 16 Track is £7,800 + VAT and the 24 Track is £15,750 + VAT. At Thatched Cottage we proved it *could* be done, and we have helped many new studios to open and start making money – our experience could help you. Give me a ring and have a chat – what have you got to lose? Plus: FREE Thatched Cottage Recording School Course to package buyers!!

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Access VISA TCA

software

FROM THE HUMBLE origins of trying to provide some sort of solution to a ST computer virus situation that was getting well and truly out of control, MT's "software service" is beginning to take on a more flexible role. This isn't to say that the computer viruses have taken fright, and that the virus writers have all mended their wicked ways - only continued care and vigilance on behalf of software writers, distributors and users will ensure that our work is safe from destructive software strains. MT's Vkiller is here for all who want or need it - please continue to make use of it.

As a result of both Vkiller and the software demos we slotted into the unused space on the Vkiller disk, we've had many requests from musicians - that more demos be made available, and from distributors and manufacturers - that their demo programs might also be made available through the magazine. And as we're always eager to please, we've arranged to make a wider range of software available. The result is that we now have a selection of demonstration programs from a variety of sources that will allow you to get the feel of a a piece of software before committing your money to it. We've also been provided with further "virus combatting" software by George Woodside - writer of Vkiller - with promises of further updates to follow in good time.

Obviously there's a limit to what can be fitted onto a single disk, so there are now a number of disks available to you. The disks have been arranged to make best use of the available storage space, so the combinations of programs on any disk are a result of this attempt to make the service as friendly and cheap as possible, not for any other reason. Please note that not all the programs will be accessible to the 520ST due to the nature of its disk drive, but all programs are accessible on all other STs. (We will try to make special arrangements for anyone wanting to run a particular program on a 520ST who finds it inaccessible on the standard disk.)

Unfortunately, the cost of administration and copying the disks necessitates that we increase the price to £5 - not an unreasonable amount to pay for two or more programs, we hope you'll agree, and a cost that reflects the cost of the service rather than a profit-making venture on behalf of the magazine.

Please send me the following disks, for which I enclose a cheque/postal order for £.....

Disks required.....

Name .....

Address .....

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.....

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Send to ***MT Software, Music Technology, Alexander House, Forehill, Ely, Cambs CB7 4AF.*** Please allow 28 days for delivery.

DISK 1

Vkiller, TDM Prodigy demo, Mididrummer demo.

The original virus killing program by George Woodside (written in May '89 and able to cope with almost all viruses currently in circulation). Also includes fully working demos of **Prodigy** and **Mididrummer** (reviewed MT, June '89) with only save routines disabled.

DISK 2

Flu, Hybrid Arts Ludwig demo.

Flu (written by George Woodside) is a simple program which demonstrates some of the less harmful screen symptoms of viruses currently circulating. **Ludwig** (reviewed MT, April '89) is Hybrid Arts' powerful algorithmic composition program.

DISK 3

Gajits Sequencer One, Keynote Chameleon, Dr T's Proteus Editor.

All recent software: **Sequencer One** (reviewed MT, March '90) is a comprehensive entry-level sequencer, **Chameleon** (reviewed MT, December '89) is a new-style generic patch librarian that will run as a desktop accessory and **Proteus Editor** (reviewed MT, March '90) is Dr T's editor for E-mu's popular sample reader.

DISK 4

Intelligent Music Realtime, Dr T's X-Or.

Realtime (reviewed MT, April '89) is an "intelligent" sequencing program which encourages experimentation. **X-Or** (reviewed MT, November '89) is Dr T's powerful generic patch editor.

DISK 5

Hybrid Arts EZ Track Plus, Quinsoft Trax Recording Studio Manager.

EZ Track Plus (reviewed MT, Dec '88) is a budget sequencer which retains the essential feel of Hybrid's more upmarket Edit and SMPTE Track packages. **Trax** is a new nest of studio management programs which includes a pull-down track sheet, a cue sheet, mixdown list, cassette labelling, address book, invoicing forms. . .

DISK 6

Hollis Trackman, Quinsoft FB01 & 4-Op FM librarians.

Trackman (reviewed MT, March & December '89) is Hollis Research's friendly, cost-effective answer to the sequencing heavyweights. Quinsoft have adopted a similar *The Price is Right* philosophy to librarians for Yamaha's FB01 and 4-Op FM synths (reviewed MT, Feb & March '90 respectively).

NB: This is the library available at the time of writing. More disks will be added to the list as soon as they are ready. This service is for you, to help you try out software before you buy - we will continue to run it as long as the interest is there to support it.

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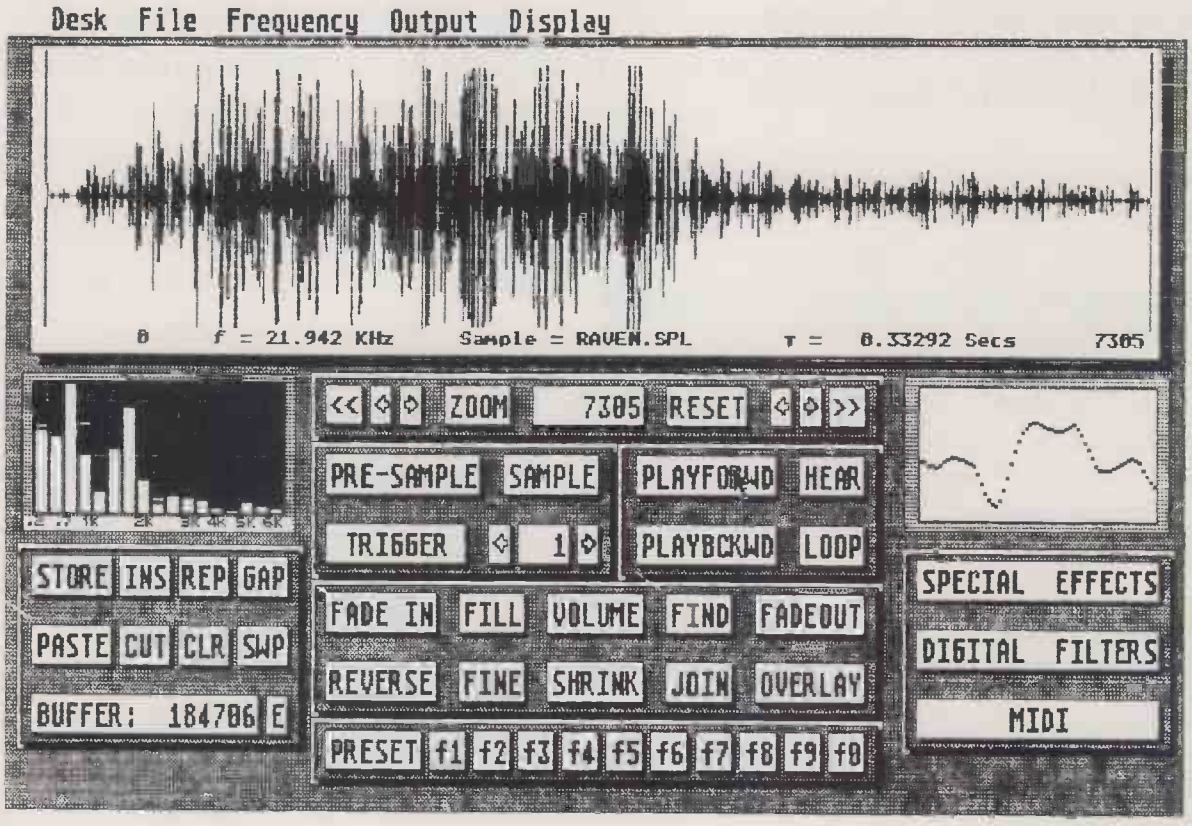
Korg Z3 Guitar System	£978	£599

All are either new or ex-demo call for details.

ARC - 073088 300

REPLAY PROFESSIONAL



Main Editor Screen

The original Replay turned your ST into a sampler for under £100. Now for under £150, Replay Pro brings improved sound quality and extra features. Review by Ian Waugh

ONE OF THE most enduring types of program for 16-bit computers is the sampler. Such programs are bought by musicians and non-musicians alike and if you've ever dabbled with one you'll know why - addictive little beasties, aren't they?

Sampler programs give you an insight into the workings of their mega-siblings such as the Akai S950 and although you can't buy an S950 for 50 or 100 quid (if you can, get me one, please) software samplers can give you a good feel for the business of sampling - the joys and the heartaches.

ST Replay was one of the first samplers to appear for the Atari ST, and has always been regarded as one of the best, both in terms of facilities and quality of output. That early version, however, made little use of the mouse, which didn't sit well with rodent aficionados (me included). ST Replay 4 (£79.95) was released about a year ago and included many improvements on the original package. Now the boys from AVR (*neé* 2-Bit Systems) have produced ST Replay Professional which far outdoes the other programs.

The package contains a sampler cartridge which plugs into the ST's cartridge port, three disks and three manuals. The cartridge sports Audio In and Out

connections (on phono sockets) and although you can play samples from the editor through your monitor, you'll get far superior results if you plug the cartridge Out into your hi-fi or an amp and speakers.

The disks contains three programs - the sample editor itself, Drumbeat Professional and MIDIplay.

THE EDITOR

THE FIRST NOTICEABLE difference in the new software is the screen display. The program runs in high- or medium-res and has a more "serious" look about it. The sampling rates are preset (as they are in the other Replays) at 5.5, 8, 11, 16, 22, 32, 44 and 48kHz. In practice this is unlikely to cause any problems although a fully variable range would have been nice, especially if you want to lift samples from other sources.

A 520 ST can store 230K of sample (approximately ten seconds at 22kHz) and a 1040 can store 750K (34 seconds at 22kHz). In now-traditional format, the sample appears in the top part of the screen in a choice of three display options - filled, outline and envelope (sounds like a fashion show) and sections of it can be isolated with left and right cursors. The positions are also shown numerically so you always know exactly where you are. A helpful touch is the time display which shows how long the sample between the cursors will last when played at the current frequency.

Two windows below the sample area, a Spectrum and an Oscilloscope display, show the frequency and volume of incoming signals, allowing you to set the optimum recording level. You can set a threshold trigger level for sampling and a pre-sampling option lets you sample a sound *after* you've heard it - one pinched from the big boys. With so much memory to play with, however, it's generally just as easy to record a chunk and edit out the unwanted bits.

INS AND OUTS

THE SECOND NOTICEABLE difference is a marked improvement in sound quality. Sampling still takes place at 8-bit resolution but the output is 12-bit, resulting in cleaner sound. At the two highest sampling rates, 44kHz and 48kHz, the signal can only be routed to the cartridge output, but the results are very impressive, if a little hungry for memory.

You can play a sample forwards and backwards (without physically reversing the sample) and loop the section between the cursors. All edit operations take place in the area between the two cursors. To help juggle samples, there is a cut and paste buffer with insert, replace, clear and swap commands.

Up to ten sample positions can be stored on the function keys. These can be used as temporary pointers to parts of samples and to remember the positions of samples for use with the MIDI options. These allow you to play the sample or parts of it via MIDI. This is a useful testing ground before using the MIDIplay program.

The edit functions are extremely comprehensive and all are selected from the main screen. They include Fade In and Fade Out, Fill (fill selected area with the sample in the paste buffer), Find (find occurrences of a sample segment held in the paste buffer), Reverse, Shrink (compress a sample to half size) and Overlay (superimpose the buffer on the sample). You can also scale the volume up or down.

The infamous (and subsequently somewhat tired) "N-N-N-Nineteen" effect is easily produced - it's as good a way as any to practice editing.

A Join function helps with one of the most difficult aspects of sampling - locating good loop points. The central display butts the end of the sample against the start of it and you can shift the ends either way until you get a neat join. Very neat indeed.

FILTER

REPLAY PRO MAKES much of its filters and their use is well documented in the manuals (which also warn that performing a filter operation on a large sample could take *hours* of processing time). There are fast and slow filter options (fast filtering generally has a wider range of effects than slow filtering but is less accurate - but the processing time is faster).

The range of parameters is quite impressive and includes low, high, band and notch filters, boost, bass, no DC (effectively making a sample appear closer to the central line) and treble settings. You can also draw a graph of the filter response so you can see what is going to happen to the sample.

From the Filter options, you can draw a FFT display (3-D graph) of the sample, although this will typically take about a minute. Again, impressive - just the sort of thing to print out and hang on your wall.

An effects section now forms part of the main program. This includes reverb and echo effects with selectable delay times. The effect can be applied to an incoming signal or to the sample.

MIDIPLAY

MIDIPLAY IS QUITE a sophisticated program. It can hold up to 128 samples in memory at once (RAM permitting) which can each be assigned to a different MIDI note number. Playback is only through the cartridge output but you can play back up to four notes at once.

Each voice has its own range of parameters including loop points and tuning and you can adjust pitchbend sensitivity. Initially you may find you have to tune each sample on assignment to a key, but once completed four such keyboard setups can be stored in memory and saved to disk.

You could well record a piece from a MIDI keyboard using the samples created with the program. The quality is certainly high enough.

DRUMBEAT

AVID ST WATCHERS may recall a Microdeal program from 2-Bit called Digi-Drum. Well, Drumbeat is much more sophisticated. In time-honoured fashion, a song can be constructed from up to 50 patterns which are built up on a drum grid which can hold up to 32 ➤

"Although some of the drum samples may lack individual sparkle, the sum of the parts easily rivals certain of the cheaper drum machines available."

➤ steps. The program can store up to ten songs constructed from 99 entries in a Song list. This includes lists of patterns as well as repeats and jumps.

The grid holds 15 samples, which can be tuned instrument samples as well as drum sounds. Complete kits can be saved and loaded and individual drums can be given their own volume level. Like MIDIplay, up to four samples can play at the same time and playback is only through the cartridge output. Each sample can be assigned a MIDI note number and velocity value so you can effectively use the program to construct drum patterns to play on an external drum machine or synth. This is quite a viable alternative to programming your drum machine from its front panel.

Tempo can be set in beats per minute (40 to 239) and the program can sync with an external drum machine/sequencer via MIDI.

There's only one major drum demo on the disks but it really is impressive. Although some samples may lack individual sparkle, the sum of the parts easily rivals some of the cheaper drum machines. Using sync you could well use Drumbeat to lay down a drum track.

I did have one major gripe with this program - and I confess, perhaps I'm being a little picky. Drumbeat doesn't use the GEM menu bar although it has a menu bar of its own. Each selection has its own exit button and, annoyingly, you can't select another option from the bar before exiting the current one.

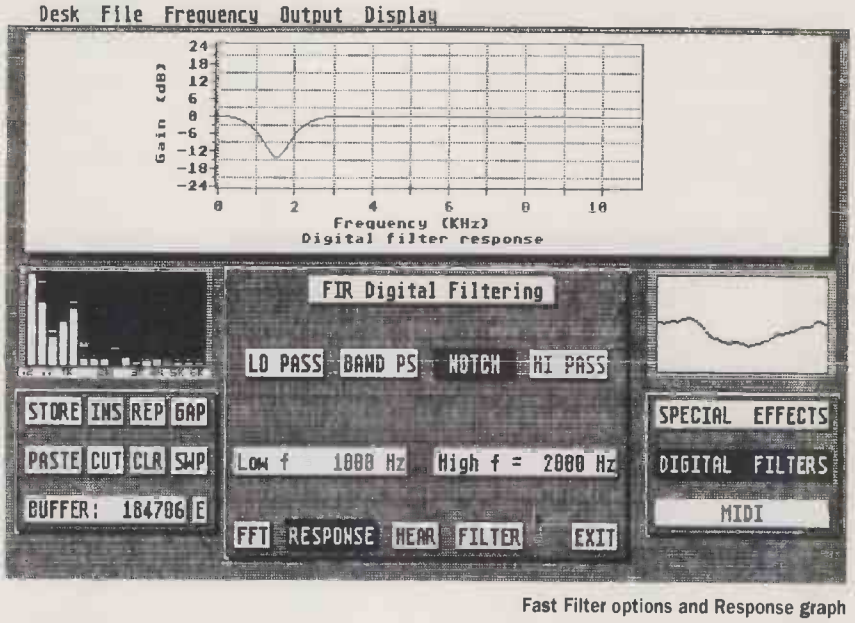
Other minor gripes about the programs in general concern the inability to play Drumbeat and MIDIplay through the monitor. This would have been useful when setting up patterns and samples in order to save you rigging up your amp and speakers. But hardly a major disaster.

MANUAL OBSERVATIONS

THE DISK ALSO contains a PD sample conversion program which can convert samples from Master Sound, STOS Maestro and earlier versions of ST Replay to Replay Pro format.

The manuals are photocopies (one even had the cover stapled to it upside down) and the pages are numbered consecutively from the first manual to the third - odd. And there's no index. You're probably as sick of reading this as I am of writing it - but why can't developers put an index in their manuals? It may take a day or so to organise but I reckon that for a product in this price range, we deserve it. While that's also a comment on many pieces of software, in Replay Pro's case, perhaps a better quality manual is in order, too.

That apart, the manuals are well-written and comprehensive. They not only cover operation but also include hints and tips and lots of technical data. Once you know what the functions do, you'll have little need of the manuals. Most operations are performed with the mouse although sometimes you have to hit the keyboard (but gently, please) to escape from a playback function.



Fast Filter options and Response graph

VERDICT

YES, SAMPLERS ARE fun and with Replay Professional, AVR have improved the quality beyond that which you'd normally expect from a software sampler although, of course, it doesn't match the current crop of professional sample machines. As it is, the 12-bit (scaled) output resolution produces the best quality I've heard from any ST sample program and it is eminently usable for home and even semi-pro use.

The three programs give you lots of sample manipulation for your money although Replay Professional is considerably more expensive than other software-based programs - twice the price in some cases. But quality will out and if you want the best you've got to pay for it. Currently it's the best ST sampler on the market. ■

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VINYL TAKES

The SHE Project
Technofusion
She Records LP

The album sleeve proclaims "Recorded and mixed in The Back Bedroom Studios", which is an ironic way of saying that *Technofusion* was recorded and mixed in group member Pete Hinds' back bedroom. The final mixdown was done onto a Sony DAT player hired in for a weekend.

The She Project (Steve Sinclair, Hinds and Kevin Ellis) have a pedigree going all the way back to such late '70s/early '80s British jazz-funk bands as Beggar & Co and Light of the World (anyone remember 'London Town'?). But *Technofusion*, as its title suggests, is a forward-looking and ambitious fusion of techno, house, hip hop, Latin, soul, African chant, acid and reggae musical elements (but not all within one track) imbued with a melodic and harmonic character which stems from the trio's jazz-funk roots.

From 'Summer Reprise', with its mellifluous combination of Lonnie Liston Smith-style jazz-funk textures and chords (Cm9-F9add6) and a Soul II Soul-type shuffling beat, through the driving uptempo Latin percussion and bubbling synth chords of 'Techno Latino' (no relation to Gino or Sueno) to the manic mixture of acid house and reggae on 'Reggae Jack-House' (the sheer audacity of which is guaranteed to bring a smile to your face), *Technofusion* wears its influences on its sleeve but turns them inside out at the same time. Sometimes this avowed eclecticism gives the music an aimless character, as for instance on 'Sisulu', which tends to wander from one idea to another instead of capitalising on its central idea (the mixture of African chant and house beat). One or two of the tracks on what is a predominantly instrumental album (vocal samples aside) could also benefit from the focus that a vocal line can provide - a fact which is highlighted by Jenni Evans' perfectly dreamy vocals on 'Summer Reprise'.

Ultimately, *Technofusion* is a pleasant and intriguing but not wholly satisfying album which could have benefited from a more disciplined approach. The group have plenty of ideas, and a special strength in their jazz-funk roots, but they need to sort out the wheat from the chaff and develop a tighter, more focussed and more unified style.

Technofusion is available from IMP Ltd on 01-421 2478 or from G&M Records. ***St***

Various
Techno II
10 Records LP

And about time, too. In 1988, Virgin's *Techno! The New Dance Sound of Detroit* highlighted the Motor City's post-Motown musical renaissance, and started Inner City on the road to pop stardom. Now, some 18 months later, *Techno II* focusses on the new generation of Detroit techno musicians who have been inspired by the music of Atkins, May and Saunderson. These include Mark Kinchin (on Area 10's 'Love Takes Me Over' and MK's 'Mirror, Mirror'), Marty Bonds (on Real by Reel's 'Aftermath'), Derrick May's RIR partner Carl Craig (on Psyche's 'Elements') and James Denham (on Vice's 'Ritual').

Detroit techno is not a static, formulaic music which ends up being stifled by its own lack of flexibility (as happened with acid and hip-house), but a living breathing music which can encompass the diversity of Inner City's infectious pop appeal and the strictly underground sounds of Model 500 and Rhythim is Rhythim. Diversity within an identifiable common style is also the hallmark of *Techno II*, with the Area 10 track representing the post-Inner City commercial side of the music while KGB's sombre 'Stark' (which sounds like a weird twisted rewrite of the 'Dr Who' theme) and Vice's RIR-influenced 'Ritual' fall on the underground side of the fence. Somewhere in between come Real by Reel's gentle, almost pastoral 'Aftermath' with its rolling bassline, fluttering piano lines and slow, soft strings chords, and the "new age jazz" ambience of Psyche's 'Elements' with its floating, sustained breathy vocal/organ chords and syncopated staccato organ arpeggios.

The diversity, originality and sheer quality of the eight tracks on *Techno II* make it a worthy successor to the original *Techno!* compilation. The new generation has arrived. ***St***

Unique 3
Musical Melody/Weight For The Bass
10 Records 7" & 12"

The north of England was a musical stronghold for electro and then techno music during the '80s, and it's showing now in the music being produced by the likes of 808 State, A Guy Called Gerald, The Forgemasters and Unique 3. The latter's impressive debut single 'The Theme' from last Autumn put Bradford on the musical map in the vicinity of Detroit, and now they've followed it up with two new tracks which stick to the underground sound.

'Musical Melody' comes across like a technofied version of a rare groove. Strange, but it works well. However, it's overshadowed by the sheer hardcore techno brilliance of 'Weight For The Bass' in its various mixes. An infuriatingly infectious high-pitched whistling motif, jittery piano lines which collide with one another and dance across the beat, and a rhythm track which constantly surprises with its ingenuity combine with a superbly punchy, dynamic, clean sound to make one of the best dance tracks to come out of the UK. The "bass comes in on it" section is a killer. Technology at its most brutal. ***St***

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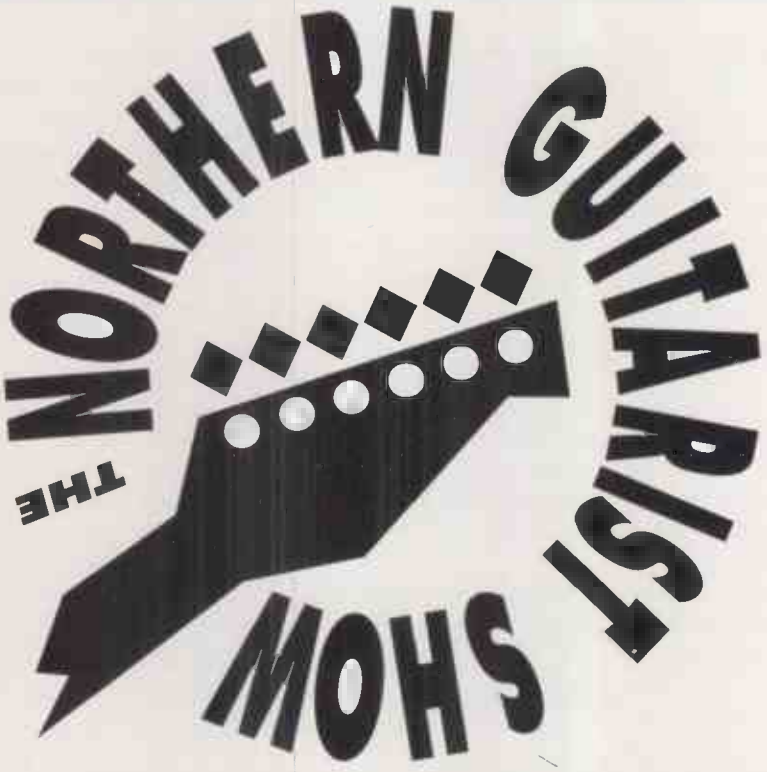

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KLF

Chill Out

KLF LP

If you want to escape from the tyranny of the beat into a world of gentle, floating ambient sounds which soothe rather than pummel the eardrums, why not chill out with *Chill Out*? This is the sort of record that Pink Floyd might be making now if they'd remained experimental and cosmic, substituted Ecstasy for LSD and discovered the digital sampler. Well, maybe. The KLF have fashioned a mixture of sound collage and music, with rolling ocean waves, sonar bleeps, trains clattering into the distance, bleating sheep, barking dogs, chirping birds and diverse dialogue samples combining with lengthily-sustained organ chords and some very laid-back pedal steel guitar playing, while such blissed-out ambient classics as Fleetwood Mac's 'Albatross', 808 State's 'Pacific State' and Acker Bilk's 'Strangers on the Shore' (those mellifluous clarinet tones. . .) meander in and out of this sound collage occasionally. Nothing is allowed to push its way to the front of the mix, though; everything is submerged in a wash of reverb to give it a distant, "removed" quality. The overall result is not only relaxing but quite affective.

The album cover shot of a group of sheep sitting around in a field doing nothing in particular could well be said to sum up *Chill Out*, except that the music does move (gently and slowly) through quite a few changes. KLF have a talent for being serious and taking the rise at the same time, and the fact that you can smile while you listen to this album has to be a point in its favour. Let's face it, any record which samples Acker Bilk can't be all bad. ***St***

D E M O T A K E S

So anyway, there I was, still laughing my socks off at the Tim Goodyer/MT/sexism scam, when this demo dropped into my lap - addressed to "Mr Skum". It's not that I object to a little respect where it's due, but who the hell told **Biddolph Putney** that I was a boy? I'd be the first to admit that Skum isn't the kind of name most girls hanker after, but it's not a boy's God-given right to be dirty, slovenly and irresponsible - and I quite enjoy it. None of which actually tells you whether I'm a boy or not, does it? But on to matters of more import - though not, perhaps to myself. . .

Out of my lap and into the cassette player goes the offering of Mr Putney (I reckon I can tell from the vocals). There's a moment's pause before I get the feeling I'm witnessing some fictional coupling of early synth experimenter Wendy Carlos and a Space Invaders machine. We're talking *Switched On Bach* era Carlos (so we're actually talking Walter Carlos), and we're talking serious novelty synth patches, narrative vocal and minimal production. The first of the four tracks is entitled 'Oi Can't Fly' and is not without some initial charm. But it's short lived, as the parade of novelty sounds trades novelty value for irritation value. We move on to 'Elemental' (all 8 mins 40 seconds of it) and Genesis' *Lamb Lies Down on Broadway* is resurrected through some of the wailing synth lines. There's no vocal this time, just the endless procession of synth patches over an endless drum pattern. 'Lend Me Your Flamethrower' and 'Gringum Goolash' complete the picture: the manic deadpan repetition of the former's title is replaced by a tacky synth sound and line of criminal proportions in the second. The other elements remain essentially the same; Biddolph's blown it.

Looking back over the encounter it's difficult to lay too much of the blame at the feet of the Yamaha TX81Z and EMT10, the Akai VX90 and S612, Alesis Midiverb II or Fostex X15 - though the Casio HT700 and Jen SX1000 could have something to answer for. No, I'm afraid it's Biddolph's fault, isn't it. Leaving out the vocal fiasco, there are high marks for laying into the gear and disregarding the inviting "string", "brass" and "lead" sounds that most people opt to work with, but low, low marks for missing an opportunity to program sounds that work for the music. There are object lessons to be learnt here from the likes of Japan's Richard Barbieri, Peter Gabriel and even the Stranglers' Dave Greenfield, if it's tack you're after.

Let's get this in proportion though, this game of programming innovative sounds is not for the faint-hearted, especially if you're forsaking the guidance offered by "natural" sounds. Maybe old Bid deserves a nod of approval for his attitude, if not the resulting music. Consider yourself nodded at, Bid.

Another commendable spirit is that currently residing in the body of **Rob Norman**. This man, after a recent encounter with *DemoTakes* he describes as like being "among a group of people and witnessing several being devoured by alligators", he's come back for more.

And an irritating opener he provides us with in 'New Pumps?' - but not without conceding the possibility in the opening paragraph of his letter. We'll say no more about that then except to remark on the synchronicity of Biddolph's Wendy Carlos fixation and the Isao Tomita 'Human Whistle' patch here - someone wants me to have a bad time tonight.

Moving on, Rob's piled no less than ten tracks onto his demo and then apologised for them - you'll get away with it here, but the big bad music biz will spit you out if you assume it's as understanding as yer old mate Skum.

And so it is with uncommon patience I have to wait until track three, 'Ice Dragon Theme' before the demo becomes worth listening to. But here we have an instrumental track (as are the others) that jerks along in the most appealing way. It's hard to describe (always a good thing) but the rhythm factor is high, the sounds fresh and intriguing and the music languishing somewhere in the Caribbean. 'Chuffed!' picks up the ball and takes it somewhere in the very modern jazz/funk/dance area. My best approximation is a fledgling Man Jumping. Further out in ethnic funk territory is track five: 'Ask Dad' (naff title). All the above flattery applies except that now there's a desperate wicked bad bass patch babbling away beneath a virtual percussionist with some serious conga chops and a synth that wails like an elephant (or it could be the other way around).

The production is immaculate throughout - perhaps this is a result of the demo having been mastered onto Casio DA2 DAT (a DemoTakes first, I believe), but it's probably a combination of the DAT, the fact that the recording has been made without the use of a multitrack, and that Rob has what we'd call "a good pair of ears". Further equipment listing goes something like: Alpha Juno 2 and D110, Kawai Q80, Korg Mono/Poly and Yamaha R100 reverb.

Rob has two secrets to his resourcefulness. The first is that he makes his living from "doing music with special help groups. . .as part of drama and dance productions"; the second is that his taste in music is wide enough to encompass the Gypsy Kings and Brahms. The first instance suggests he's probably being forced to create music to suit situations and ideas he'd never have has to deal with if he were working in isolation, while a broad taste in music means he's open to ideas thrown up by different sorts of musician working in different ways with different types of instrument. Let's face it, there's nothing more tedious than listening to a heavy metal band that listen to nothing but Iron Maiden and Anthrax, a synth band that listen to nothing but Tangerine Dream and Jean Michel Jarre or a house band that listen to nothing but Tyree and the Beatmasters.

Rob talks about abandoning his quest for a sampler in favour of a Waldorf Microwave as "everyone's making sampler noises these days" - a positive attitude towards individual sounds or what? Now, I'm outta here before the editor reckons I'm on Rob's payroll. See y'all soon, y'hear. ***Skum***

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MUSIC OF THE SPHERES

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THE WORLD OF music broadcasting is about to enter a new era. Ever expanding the horizons of music, technology is about to change its form irrevocably - never again will a radio or television transmission be regarded in the same light. Sound interesting? Sound revolutionary? It certainly should.

Let me explain a little more slowly: preparations have been made for a completely new kind of broadcasting - not just for music, but for any audio signal. The first experimental broadcast is due to take place on the morning of the first Sunday this month, and will take the form of a 30-minute music broadcast. The new system will take the form of satellite signals and use the higher reaches of the atmosphere and TV radio receiver dishes as transducers to convert the signals back into sound.

Let's go back five years to a small research team based in one of England's great universities. Three men and one woman - Professors David Lloyd, John Mortimer, Phillip Latton and Susan Edmunds - are conducting a research program intended to find out more about the upper reaches of the Earth's atmosphere when they discover that, if polarised by a particular kind of electromagnetic field, a layer only a couple of molecules thick can be turned into a rigid, transparent sheet. While further investigating this unexpected phenomenon they discover that, due to the curvature of the Earth, and hence its atmosphere, the sheet is the shape of a perfect loudspeaker cone. Not only that, but if the polarising signal is then modulated by an analogue signal in the audio range it will actually work as a loudspeaker.

Until now the project has been kept under the tightest possible security by the university in question, but they agreed to provide advance details to MT after news of the discovery was leaked to select areas of the hi-tech press. The university behind the project still wishes to remain anonymous for now, but research team leader David Lloyd confirmed details of the impending broadcast at a meeting only days before this article is due to appear in print.

"Yes it's true", he concedes, with the kind of gentle smile that only comes with years of patient disappointment spent in pursuit of science. At 57 years of age, Lloyd can claim that the "Skycast" is the culmination of all his research.

"There's still a lot of preparation to be made before the Skycast can take place, and there's far more work to do in finding out if it has any genuine use, if it's socially acceptable to fill the air with the music and so on. At present we've chosen to make the trial a program of light hymns to take place on a Sunday morning simply to make it as unobjectionable as possible, but it's certain to attract a lot of criticism."

Many of the theoretical details concerning the atmospheric phenomenon that looks likely to become known as the "Lloyd Effect" will not be made available even after the first broadcast, but Lloyd was happy to tell me what he could of the arrangements.

"The music signal will be transmitted to three satellites in orbit around the Earth", he explains. "They will be able to superimpose this on an unfocussed transmission over the United Kingdom and it is this that will cause the Lloyd Effect. But there are two major complications from there on. The first concerns the speed of sound in the rarefied atmosphere this high above the earth - in the thin air the sound will travel quickly and be transposed down in pitch as it encounters the thicker air lower in the atmosphere. For this reason we must first transpose the signal up for broadcasting and this is a rather imprecise science at this point. The second problem concerns the absorption of the sound by the atmosphere as it travels, and phase cancellations introduced by movements in the atmosphere - the lower frequencies will travel relatively undisturbed, but the higher ones would suffer severe and unpredictable phase cancellations and be almost completely attenuated by the time they reached the ground. Even if they were not, they would be disturbed in the same way as music at large open-air rock concerts: the sound tends to drift in the wind and easily becomes lost."

For this reason a second new principle will be tested on the inaugural Skycast broadcast.

"We're going to make use of all those unsightly TV dishes that Rupert Murdoch's Sky TV fiasco has spread around the country, and their owners won't even know it's going on", he chuckles. "We can split the signal into two - just like you would in the crossover in a domestic hi-fi system - and let the Lloyd effect provide our woofer and the TV dishes be our tweeters. In this way there's very little in the way of adverse atmospheric effects to account for. There will be anomalies of course; if you don't live near any TV dishes, all you'll be able to hear is the bass - a bit like sitting next to the bass organ pipes in church - and if you live near a concentration of TV dishes you may get high-frequency echo effects as the sound from successive dishes reaches you. These are the problems that cannot be overcome in an experimental broadcast.

"But if the system were to become widely accepted we could set up a network of high-frequency dishes across the country, or indeed the world, to give an even sound quality throughout. You see that's one of the beauties of it all - the Lloyd layer has no mass to speak of, in theory at least, it's a perfect loudspeaker."

PROFESSOR LLOYD AND his team may be well on their way to inventing the perfect loudspeaker system, but the world's human inhabitants have already made

sure they've left him problems of their own.

"Over Britain, indeed over most of the globe, the Lloyd Effect should work perfectly, but there are problems over the poles. You see, the Effect relies very heavily on certain characteristics of the ozone layer to work, and where that layer is damaged or missing, it won't work properly. It's as if mankind's aerosol deodorants have poked little holes in my speakers", he muses sadly.

There are many ramifications to Professor Lloyd's work; some of these are theoretical, some are social. Theoretically, if there was enough gas in space we could use the atmosphere to make sound broadcasts to the stars - they'd take a long time to get there, but how would it be to hear the voices and music of an alien race?

More practically, how are people going to react to the idea of having the air full of music they're powerless to turn off? It's bad enough on the beach - this could be the turning point for the Noise Abatement Society. Lloyd, however, is too wrapped up in the possibilities of his proposals to dwell too long on the problems.

"Imagine. . ." he says, clutching at my sleeve, "Imagine a world where we could have music around us wherever we went. Imagine the music of the great classical composers, pure and undistorted, greeting you as you set out for work. . ."

"What about the advertising potential?", I venture. "Don't you think there's a danger that less idealistic people could use your discovery to bombard us with radio commercials?"

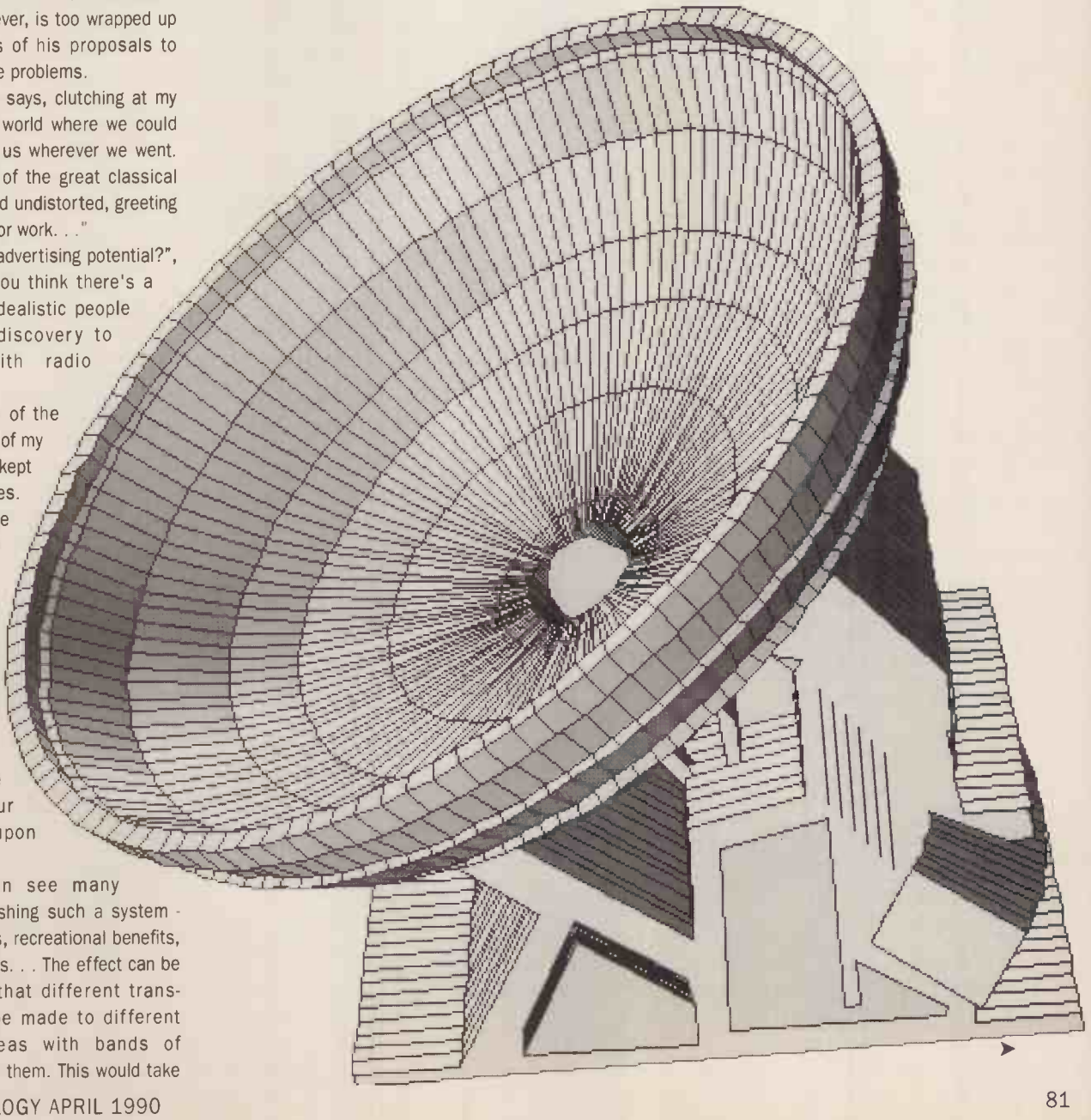
"That's just one of the reasons the details of my research are being kept so quiet", he replies. "Even the satellite people making the test transmission will only know what they need to know. At the moment my team are the only people in the world with this knowledge - we could inflict our musical tastes upon you!

"No, no. I can see many benefits of establishing such a system - therapeutic benefits, recreational benefits, educa-tional benefits. . . The effect can be regionalised so that different transmissions could be made to different geographical areas with bands of separation between them. This would take care of differing regional requirements whether they were international or quite local. With a sufficiently sophisticated system, I've no doubt we could even isolate individual properties and beam down a different music program to every garden in the world. It would be expensive, of course, but possible."

I contacted various governmental departments in an attempt to establish what their policies would be on such a system if it were to exist. It's remarkable how closed-minded people in authority can be to technical developments that are only just around the corner. The only conclusion I can draw from my research at this point is that their reaction is unlikely to be a sympathetic one, regardless of the technical merit of the achievement.

So, if you're not doing anything at 11.30 on the first Sunday in April, go out into the street and listen to what you might call the first broadcast of real World Music. It may be a once-in-a-lifetime opportunity. ■

"WE CAN SPLIT THE SIGNAL INTO TWO - JUST LIKE YOU WOULD IN THE CROSSOVER IN A DOMESTIC HI-FI SYSTEM - AND LET THE LLOYD EFFECT PROVIDE OUR WOOFER AND THE TV DISHES BE OUR TWEETERS."



back issues

Even if you missed an issue of the world's most popular hi-tech music mag first time round, all is not lost. And as we regularly receive phone calls demanding to know which issue a particular review, interview or feature appeared in, we thought the following listing might be helpful to many of you.

This list covers only the last 12 months of Music Technology's nine-year history, but older issues are still available and photocopies of any items are available where the issue in question is sold out. Further details are available from MT's Back Issues Department at the editorial address or on the editorial phone number. Happy reading. . .

MARCH 1989

APPRAISAL: Roland Super-MRC Software; Songwright IV (IBM PC); Oberheim Cyclone arpeggiator; Hollis Trackman (Atari ST); Turtle Beach SampleVision (Atari ST); Dr T's, Soundbits, Drumware & Steinberg Kawai KI Visual Editors (Atari ST).

MUSIC: Marshall Jefferson; Shriekback; Frazier Chorus.

STUDIO: Roland R880 reverb; Fostex R8 8-track; Roland RE3 Space Echo.

TECHNOLOGY: The Human Touch (programming feel in drum patterns); Frankfurt Show Report; The Secrets of Computer Composition (algorithmic composition, Pt 1); NAMM Show Report.

APRIL 1989

APPRAISAL: Microdeal Replay sampler (Atari ST); Oberheim Systemizer; Hybrid Arts EditTrack (Atari ST); Philip Rees & Groove MIDI Merge Boxes; MIDI Mouse D50/550 Capture! (Atari ST); Hybrid Arts Ludwig (Atari ST); Steinberg Synthworks (Atari ST); Akai XE8 drum expander; Intelligent Music Real Time (Atari ST).

MUSIC: New Order; Colin Wilson; Stig Miolsson.

STUDIO: 360 Systems Audio Matrix 16; Alesis Quadraverb reverb.

TECHNOLOGY: Mellotron (retrospective); MIDI In Control; Further Secrets of Computer Composition (algorithmic composition, Pt 2).

MAY 1989

APPRAISAL: Ensoniq EPS-M (preview); Roland W30 workstation; Studio Electronics MIDImoog synth; AB Software Midistudio (Atari ST); Yamaha V50 synth; Elka CR99 MIDI disk recorder; Roland CD5 CD ROM; Akai MX76 MIDI keyboard controller.

MUSIC: DJ Mark the 45 King; Pascal Gabriel; Fon Force.

STUDIO: Akai AR900 reverb; PWL's Pete Hammond; Digitech DSP128 Plus reverb.

TECHNOLOGY: The Small Print (MIDI Implementation charts, Pt 1); Real Time MIDI; Moog Source (retrospective).

JUNE 1989

APPRAISAL: Yamaha TQ5 expander; Roland A50 & A80 MIDI keyboard controllers; Opcode Vision (Mac); Bit By Bit MIDIDrummer (Atari ST). Ensoniq VFX synth (preview); Technart TUK200 pitch-to-MIDI system; Yamaha RX8 drum machine; Aphex Feel Factory humaniser.

MUSIC: Soul II Soul; Cutmaster Swift; Front 242.

STUDIO: dbx SNR1 noise reduction.

TECHNOLOGY: Time Exposure (synchronisation codes); The Small Print (Pt 2); Synclavier update (Pt 1); Korg MS20 (retrospective).

JULY 1989

APPRAISAL: Dr T's MRS (Atari ST/Amiga); Roland R5 drum machine; Musicsoft MIDIman MIDI tape recorder; Roland D5 synth; CDP MIDIgrid (Atari ST); Roland W30 workstation; Yamaha DD5 MIDI drum controller; HB Engraver scorewriter (Mac); Ensoniq VFX synth.

MUSIC: Beatmasters; Mark Mothersbaugh (Devo); Animal Logic (Stewart Copeland/Stanley Clarke).

STUDIO: Korg A3 reverb; DigiTech IPS33 pitch shifter.

TECHNOLOGY: Exclusive Performance (applications of SysEx); Synclavier update (Pt 2); DAT's Life (Digital Audio Tape)

AUGUST 1989

APPRAISAL: Roland U20 RS-PCM keyboard; Roland GR50 guitar synth; Steinberg Cubase sequencer (Atari ST, Pt 1); Anatek Pocket FX; Hollis MIDIman (Atari ST); Musicsoft Syncman.

MUSIC: Living Colour (Vernon Reid); KRS One; Ray Lema.

STUDIO: XR1 XR400 MIDI patchbay.

TECHNOLOGY: On The Beat (drum machine programming series, Pt 1); Music By Design (algorithmic composition applications Pt 1); Synclavier update (Pt 3); Microtonal Musings (microtonal tuning).

SEPTEMBER 1989

APPRAISAL: Korg M3R/RE1 synth & programmer; Cheetah Master Series 7P MIDI keyboard controller; C-Lab Explorer 1000 (Atari ST); Steinberg Cubase (Atari ST, Pt 2); Steinberg MusiCal (Atari ST).

MUSIC: Simon Harris; A Certain Ratio; Arthur Baker.

STUDIO: Yamaha FX500 multi-fx processor.

TECHNOLOGY: On The Beat (Pt 2); Music By Design (Pt 2); BMF Report.

OCTOBER 1989

APPRAISAL: Casio VZ8m expander; TDM Virtuoso sequencer (Atari ST); Kawai K1-II synth; Roland Pad5 MIDI drum controller; Pandora D110 Editor (Atari ST); Music-X sequencer (Amiga); EMR Studio 24+ (Archimedes); C-Lab Explorer 32 editor (Atari ST).

MUSIC: Les Adams; The Blue Nile; Ed Williams.

STUDIO: JL Cooper FaderMaster.

TECHNOLOGY: Media Link (the MIDI Local Area Network); On The Beat (Pt 3); Using MIDI Controllers.

NOVEMBER 1989

APPRAISAL: Studiomaster MA36 MIDI Analyser; E-mu Systems Proteus sample reader; Dr T's X-or generic patch editor (Atari ST); Roland Rhodes electric piano; TC Music Publisher (Atari ST).

MUSIC: Can; 808 State.

STUDIO: Tascam MM1 mixing desk; ART Multiverb II multi-effects processor.

TECHNOLOGY: Amiga Profile (a look at Commodore's Amiga); CEDAR (audio restoration); On The Beat (Pt 4).

DECEMBER 1989

APPRAISAL: Yamaha SY77 synth; Atari STacy laptop computer (preview); Ensoniq VFX-SD workstation; Hollis Trackman II (Atari ST); Kawai K4 DMS synth; Wal MIDI Bass MIDI controller; Korg T1 workstation; Steinberg Avalon (Atari ST); Keynote Chameleon patch librarian (Atari ST); FM Melody Maker (Atari ST).

MUSIC: Gary Chang; The Art of Noise.

STUDIO: ART SGE multi-fx processor.

TECHNOLOGY: On The Beat (Pt 5); The Analogue Sampler (sampling old analogue synths); Karl Steinberg.

JANUARY 1990

APPRAISAL: Yamaha SY77 synth; Alesis Datafiler MIDI data recorder; Waldorf Microwave synth expander; Roland CM Modules (CM32L, CM32P, CM64 and LAPC1).

MUSIC: Jesus Jones; The Beloved

STUDIO: Lexicon LXP5 multi-fx processor.

TECHNOLOGY: On The Beat (Pt 6); MIDI Merging (merging MIDI info); Spatial Awareness (reproducing three-dimensional sound images).

FEBRUARY 1990

APPRAISAL: SDA TOPAZ digital recorder (preview); Musitronics MEX D50/D550 expansion; Cheetah MQ8 sequencer; E-mu Systems Emax II sampler; Quinsoft FB01 Librarian (Atari ST); Clares Armadeus sampler (Archimedes).

MUSIC: Prince Paul; WBTM Music.

STUDIO: Sansui WSX1 cassette multitrack recorder.

TECHNOLOGY: On The Beat (Pt 7); The Software Syndrome (viruses and how to avoid them); The Performing Art (performance applications of MIDI controllers, Pt 1); MacWorld '89 Show report; The Jupiter Legacy (Roland MK80 Super Jupiter retrospective).

MARCH 1990

APPRAISAL: Quinsoft 4-op FM editor (Atari ST); Gajits Sequencer One (Atari ST); Casio FZ20M sampler; IMS Protezoa and Dr T's Proteus editors (Atari ST); Yamaha TG55 tone generator; Dynaware Ballade sequencer (IBM PC); Passport Designs' Encore score writer (Mac).

MUSIC: Adamski.

STUDIO: Yamaha Studio 100 Series studio modules; Alesis Midiverb III.

TECHNOLOGY: The Performing Art (Pt 2); Stakker; On The Beat (Pt 8); Adrift On An MTC (MIDI Time Code); Oberheim In Time (Oberheim OBXa retrospective).

Back issues of the above, where available, can be obtained at a cost of £2.00 per issue, or £1.00 per photocopied article, from ***Music Technology Back Issues Dept, Alexander House, Forehill, Ely, Cambs CB7 4AF.*** Cheques should be made payable to Music Technology (Publications) Ltd. Please note that photocopied articles are available only when the issue in question is sold out.

free ads

MUSIC TECHNOLOGY's free classified section is the biggest of its kind in the business. Every month, we carry more ads for synthesisers, samplers, computers, signal processing gear and assorted other goodies than any other monthly magazine. So when musicians and studio engineers are on the lookout for some extra gear to update their line-up, they turn to these pages *first*.

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Just fill in the form at the end of this section, indicate which sub-section you'd like your ad to appear in, and send it to us by the date specified. We'll do the rest – and it'll cost you no more than the price of a postage stamp.

If you buy and sell musical equipment as part of a business, you'll have to use the regular classified section on the last page. And we regret we can't answer any queries regarding free classifieds published in MUSIC TECHNOLOGY.

KEYBOARDS

ABSOLUTE BARGAINS: MC202, £60; SH101, £70; CZ1000, £130. VGC. Tel: (0766) 85368, eves.

ACID! SH101, Vesta Fire MR30. Swap for Yamaha FB01 and/or sequencer or both if cash required, WHY. Tel: (0266) 46828.

AKAI AX73, £400; Yamaha FB01, £150; Carlsbro Colt 45 keyboard amp, £150. All immac cond, hardly used, boxed. Tel: (0252) 835268.

AKAI MX73, mint cond, £275; Vantage bass, £100; Fender Stratocaster, £195; Revox A77, £85. Tel: (0977) 557560.

BOSS BX16, Yamaha MT3X, £700 ono. New, boxed. Chris, Tel: 01-868 0070. Terry phone me, lost your number.

CASIO CZ synth cartridges, two. Suit all CZ's. 64 sounds each. £69 the pair. Tel: Nottingham (0602) 253916.

CASIO CZ1, touch sensitive synth, £420; Cheetah MS6 analogue synth module, £215. Tel: 01-278 5266.

CASIO CZ1 and RAM, bigger library than VZ1, £385; (firm) 20 2ft x 2ft Acoustitiles, £10. Tel: (0223) 311610.

CASIO CZ101, £80 ono. Tel: Standish (0257) 422657, after 6.30pm.

CASIO CZ101 MIDI polysynth, manuals, PSU, excellent cond, only £120. Tel: Bracknell area (0344) 771862.

CASIO CZ1000, case, Atari randomiser etc, £160; Siel analogue MIDI expander, £100. Tel: Hartlepool (0429) 232549.

CASIO CZ1000, £150; Yamaha FB01, £100; Casio SZ1, £60; Korg DDM220, £40. All boxed. Tel: (0706) 843814.

CASIO CZ3000, boxed, as new, plus 4 RAM packs, £350 or offers. Cal, Tel: (0734) 811449.

CASIO CZ5000, flightcase, 350+ patches on tapes and patch sheets. All cables, immac cond, £300. Mike, Tel: Bexleyheath 01-304 8369.

CASIO CZ5000, £350 ono; Akai S612/MD280, £250 ono; Casio 1000P, £120 ono. Swaps considered. Tel: (0827) 60243.

CASIO VZ10M synth moule, as new, boxed with manuals, £275 ono. Richard, Tel: 01-349 3448.

CRUMAR Trilogy synth, Serial No F1/01034, £50. Tel: 061-491 3706.

DIGISOUND modules, keyboard plus Yamaha RM804 mixer. Will split. Offers. Matt, Tel: 091-386 6609, eves.

ENSONIQ ESQ1, immac cond, 20,000 note seq, flightcased, £570 ono. Wanted: X7000 sampler, £450 cash. Tel: (0742) 589282.

ENSONIQ ESQ1, V3.5, expanded sequencer, 120 sounds cartridge, £560; Pro1, £120. Tim, Tel: (0229) 53749, 5-7pm.

ENSONIQ MIRAGE and disks, Juno 6, Roland SH2 and CSQ100. All for £650 or swap for ESQ1. Tel: (0292) 316608.

FENDER RHODES 73, MkII. Classic electric piano, rare perfect cond, offers around £275. Tel: (0444) 243410.

HAMMOND B200, Leslie 822, Hammond AV64, rhythm unit, LE Logan strings, excellent cond, superb combination, £650 ono. Andy, Tel: 01-865 5714.

HAMMOND X5, portable, Leslie 760. Forced sale of good friends, £650 ono. Tel: (0533) 555576, work; (0533) 545114, home.

HOHNER D6 Clavinet, £50; Technics digital piano SX-PV10, £150. Tel: 01-274 2379.

HOHNER PIANET T, excellent cond throughout, £80 ono. Tel: (0223) 464117, days; (0638) 720090, eves.

HOHNER PIANET T electric piano, 5 octave, non-MIDI, touch sensitive, 'Rhodes' sound. Robert, Tel: 01-864 3154.

KAWAI K1, DC8 RAM, case, £500; SCI SixTrak analogue MIDI synth, £300; QX21 sequencer and data leads, £100. Ian, Tel: (0904) 703383, eves.

KAWAI K1, less than one month old, with card, £470 ono. Steve, Tel: (0484) 719057. West Yorks area.

KAWAI K1, as new, boxed, stand, home use only, £395. Tel: Harrogate (0423) 508829.

KAWAI K1M synth module, 16 note polyphonic, splits, layers etc. Tel: Corby (0536) 743523.

KAWAI K1M, £240; U110, £400; SPM8:2, £180; X15/MN15, £120; MD8, £50; 40 2HD disks, £45; QX21, £95. Tel: (0748) 5481.

KAWAI K5M, mint cond, £500 ono. Philip, Tel: 01-863 2156.

KAWAI/TIESCO 100P, touch sensitive, various modes, 32 presets, as new, £110 ono. Tel: 061-980 6140.

KORG CX3, "Hammond" organ, Leslie, keyclick, overdrive, £250ish; MXR Phase 100. Offers? Mick, Tel: (0376) 562901.

KORG DS8, multitimbral synth, velocity and aftertouch sensitive, still in original box, £375. Tel: (0875) 20692.

KORG DS8, excellent cond, boxed, FM meets analogue, multitimbral, weighted keyboard, 5 octaves, £375 ono. John, Tel: (0532) 576289.

KORG DW8000, 256 waveform combinations, 64 programs, digital delay, aftertouch, arpeggiator, £450. Tel: (0602) 585595.

KORG DW8000 with expander, good analogue synth, £450 or swap for Ensoniq ESQ1 with cash!! Ian, Tel: (0904) 703383, after 6pm.

KORG DW8000 with MEX8000 expander. "Must be one of the best analogue synths around", £430 ono. Tel: (0904) 764963.

KORG EX800, boxed, PSU, vgc, £125. Fass, Tel: (0703) 270100, after 8pm.

KORG M1 with case, manuals, excellent cond, home use only, £1050. Tel: (0472) 823777, eves.

KORG M1, as new, three months old, £1350. Tel: (0603) 401746.

KORG M1, home use only, £1200; Roland D50, home use only, immac cond, £850. Dave, Tel: (0249) 713396.

KORG M1, home use only, bought recently, need the money, £1100 ono. Tel: Manchester 061-798 9865.

KORG M1R, Cheetah MK7VA, 7 octave mother keyboard, £1200. Will split. Owen, Tel: (0248) 364040.

KORG M1R, new, 1 yr warranty, £1090; Cheetah P7, new, 1 yr warranty, £600. Rick, Tel: (0785) 48990.

KORG MONO/POLY, good cond, manual, £130 or p/x Roland D5. Tel: Ingrebourne (04023) 70981.

KORG MONO/POLY, 4 oscillator power synth, vgc, £135; Roland TB303, mint cond, manual, £90. Tel: (0642) 479789.

KORG POLYSIX, flightcased, £220 ono. Steve, Tel: (0253) 892402.

KORG POLY 800, MkII, boxed, as new, £200. Cal, Tel: (0734) 811449.

KORG TRIDENT, warm analogue sounds, multitimbral, £195. Tel: (0927) 33378.

KURZWEIL K250, weighted keyboard, 50kHz sampling, comprehensive sequencer, pedals, stands, manuals etc, £2975. Andy, Tel: (0836) 325242.

MIDI WORK STATION, DX11 synth, QX21 seq, 3 RAMs, pro flightcase, £400. Tel: 01-739 5710, eves.

MOOG OPUS 3 synth for sale, with stand, as new, £225. David, Tel: Southsea (0705) 814323, eves.

MOOG ROGUE 2-oscillator monosynth, boxed, manual, nice cond, £110. Tel: (03543) 5239, eves or weekends.

OBERHEIM MATRIX 1000, 3 months old, still under guarantee, £350 ono. Tim, Tel: Leicester 750939, after 6pm.

OBERHEIM OBX1, 8 outputs, £795; Roland MKS70, £625; Roland MKS20, £575; E-mu SP1200, £925. Tel: 01-462 6261.

PPG 2.2, excellent cond, flightcase, £900; Minimoog Model D, £375; Moog parametric EQ. Paul, Tel: (0532) 406886.

ROLAND ALPHA JUNO 1, boxed, stand. Need an analogue expander? £300 ono. Tel: (0206) 210754.

ROLAND D10, £600 ono; U110, £450 ono; C-Lab Notator, £350 ono; "Eros" Les-Paul copy, £200 ono; Atari 1040 + monitor. Tel: (0909) 566695.

ROLAND D20, as new, boxed, manuals, stand, £950. Ken, Tel:

(0836) 763871, anytime.

ROLAND D20 keyboard, as new, still boxed, stand available, £850. Tel: Cambs (0480) 494939.

ROLAND D50, excellent cond, £825; MT32, £220; DW6000, £350; FB01, £99. Deals on Two+. Tel: (0564) 775181.

ROLAND D50, home use only, perfect cond, manuals, boxed, £850. Graham, Tel: Bedford (0234) 45920.

ROLAND D50 plus 3 cards, £850; Akai S950 sampler and 75 disk library, £1150. Andy, Tel: (0429) 276301.

ROLAND D50, £850; Casio FZ1, £700; MT32, £250; Porta One, £250; 1040STF with SCI224 and Iconix, £600. Everything mint cond. Brian, Tel: (0438) 723630.

ROLAND D50, flightcase, ROMs and RAMs, manual, good cond, £775 ono. Richard, Tel: 01-349 3448.

ROLAND D110, new, boxed, £399; Yamaha TX81Z, home use, £199; Moog Prodigy, £100. Tel: (0494) 713168.

ROLAND D550, £650 ono; Ensoniq SQ80, disks, ROM, unused, £800. Mark, Tel: (0533) 624655, days; (0533) 557512, eves.

ROLAND D550, excellent cond, £595 ono. Alan, Tel: (0246) 204291.

ROLAND E10, LA synth, 32-note polyphonic, rhythm intelligence, digital reverb. Perfect cond, guarantee, boxed, manuals, £620 ono. Tel: (0792) 208485.

ROLAND E20 with rhythm cards, £895; Kawai K4, £695. Tel: (0225) 790131, days; (0225) 705282, eves.

ROLAND JUNO 6 plus stand, excellent cond, £180. Tel: Rochdale (0706) 39648.

ROLAND JUNO 60, plus JSQ60 sequencer with stand, £190; Roland TR707 drum machine, £175. Tel: 01-998 2735.

ROLAND JUNO 106, MIDI, fat basses, smooth strings, inc flightcase, £325. Tel: Sheffield (0742) 586600.

ROLAND JUNO 106, £300; Korg DW6000, £300; Akai AX73, £350; Pro1 mono, £100; TR808, £200. Tel: 091-221 0086.

ROLAND JUNO 106, £300. Richard, Tel: 01-481 0837.

ROLAND JUPITER 6, MIDI, £450; Casio RZ1, £150; Yamaha CX5M, large keyboard, software, boxed, £180. Tel: Sheffield (0742) 334139.

ROLAND JUPITER 6, MIDI update, sound library, £420 ono; 3-tier A-frame, £60 ono. Luke, Tel: (0844) 290180.

ROLAND JX3P, £300; Roland TR707, £160. Tel: (0737) 370910, eves and weekends.

ROLAND JX3P, manual, flightcase, stand and 50W combo, all as new, £400. John, Tel: (0737) 248215.

ROLAND JX3P, programmer, case, £250; Moog Rogue, £80; Yamaha RX21, £100. Offers. Matthew, Tel: (0206) 271145.

ROLAND JX3P, £270 ono; Sequential Pro1, £150 ono. Both £400. Excellent cond. Steve, Tel: (0403) 68292.

ROLAND JX10, flightcase, RAM, manual, £700; Casio CZ1000, RAM, £150; TX7, £150. Tel: Glasgow 041-423 5485.

ROLAND JX10, £850 ono; Juno 2, £375 ono. Both hard cased, 3-tier stand, £45 ono. Lydia, Tel: (0684) 565624.

ROLAND JX10, flightcase, ROMs and RAMs, manual, £850 ono. Richard, Tel: 01-349 3448.

ROLAND MKS20, digital MIDI piano module, immac cond, home use only, £300. Tel: Liverpool 051-260 6675.

ROLAND MKS80 plus MPG80 programmer, analogue MIDI synth, £800. Tel: (0532) 578130.

ROLAND MT32, £250. Tel: (0223) 334319, from 10.30am-6pm.

ROLAND MT32 plus Dr T's editing software, absolute bargain at £290. Tel: (0803) 311672, eves only.

ROLAND MT32, £250; PC100 master keyboard, £40; Roland MIDI drumkit, £350. Tel: Bath 444285/466472.

ROLAND MT32, mint cond, £229; Yamaha QX1 sequencer, (80,000 notes, 8 MIDI outs), £375. Malcolm, Tel: 091-565 4334.

ROLAND MT32 sound module, multitimbral, as new, boxed, £280. Niall, Tel: 061-456 9587, after 6pm.

ROLAND PG1000 programmer for D50, as new, boxed, £200. Tel: 01-985 9059.

ROLAND PG1000 programmer for D50, £150 or swap considered. Tel: 01-281 1918.

ROLAND RD250S piano, unused, boxed, with stand. Delivery arranged, £950. Tel: (0271) 74663.

ROLAND SH101, £85; SZ1 sequencer, £75; Specdrum and kits, £20; Micon XRI and software, £50. Ian, Tel: (0536) 510896.

ROLAND SH101 sequencer synth, £110; Korg Delta strings synth, £150. Inc flightcases. Morfin, Tel: (0482) 802186.

ROLAND SH101, mint cond, home use only and not that much at that! £90. Chris, Tel: (0732) 451802.

ROLAND U20 synth, £825; Kawai K1 synth, £325; Peavey KB300 combo, £275. Iain, Tel: (0543) 579130.

SEQUENTIAL CIRCUITS SixTrak, onboard sequencer, MIDI, excellent cond, £270. Jane, Tel: (0792) 469609, after 6pm.

SEQUENTIAL MultiTrak synth, excellent cond, home use only, £300 ono. Tel: 01-785 9695.

SEQUENTIAL SixTrak, £225. Tel: (0268) 43815, after 7.30pm.

SWAP Emax keyboard for Emax rack unit. Sell Atari 520STFM, £160; two MKS50 units, £200 each. Tel: Ilford 01-539 8916.

SWAP MY D50, 3 ROMs and MT32 (vgc) for M1 or sell for £1200. Tel: (0453) 752759.

TECHNICS EX25 organ, £1800, new, 5 months old, will accept £1500 ono. Tel: Lowestoft (0502) 511961.

YAMAHA CS5 mono synth, plus stereo chorus and octaver pedals, excellent cond, £85. Tel: 051-632 5398.

YAMAHA CS40M two-oscillator duophonic analogue synth, 20 memories, monster sound, excellent cond with manual, £175. Tel: (03543) 5239, eves/weekends.

YAMAHA DX7, ungigged, perfect cond, with original ROMs, manual and pedals, £500. Tel: Southend (0702) 367484, days.

YAMAHA DX7, mint cond, boxed, home use only, £500. Tel: Staffs (0889) 270766.

YAMAHA DX7 MkII, FD, ultimate FM keyboard, disk drive, with 1000's of sounds, home use only. Tel: (0723) 583899.

YAMAHA DX7, IID, hard case, ROM and RAM, mint cond, £775. John, Tel: Walsall 39970, after 6pm.

YAMAHA DX7S, immac cond, boxed, home use, still guaranteed, £750. Tel: (0533) 742857.

YAMAHA DX11, flightcase, great MIDI spec, £350 or swap sampler or piano; Magnum 12:2 mixer, tatty, £65. Paul, Tel: Preston (0772) 39124.

YAMAHA DX11, good cond, £300; Yamaha MT44, 4-track studio, £280. Leroy, Tel: (0734) 582570 or (0734) 509600.

YAMAHA DX11, as new, home use only, £395 ono. Tel: 01-679 1387.

YAMAHA DX21, £200; Roland MT32, £200; Yamaha RX5, £350. All vgc. Stewart, Tel: (0709) 55844, days.

YAMAHA DX21, extra sounds, mint cond, manuals, leads etc, £300ish. Tel: Bradford (0274) 672898.

YAMAHA DX21, manuals, extra voices, sustain pedal, music stand. Chris, Tel: (0202) 303051.

YAMAHA DX21, mint cond, case, extra voices, excellent voices, manuals. Bargain at £250. Tel: (0388) 730512, after 4pm.

YAMAHA DX27, good cond, £220 ono; Frontline spring reverb, £20. Simon, Tel: 01-504 3260.

YAMAHA DX27, as new, boxed, manuals, power supply, £215 ono. Paul, Tel: Droitwich (0905) 779854.

YAMAHA DX27, £220; MT2X portastudio, £320; Alesis MMT8, £150. Excellent cond. Veronica, Tel: 01-985 0250.

YAMAHA DX100, boxed, manuals, mint cond, excellent FM expander, £170. Tel: (0203) 414258.

YAMAHA DX100 keyboard, excellent cond, only £180. Niall, Tel: 061-456 9587, after 6pm.

YAMAHA EMT10, as new, boxed, £150; Leslie 120, £30; Roland Drumatix, £30. Martin, Tel: (0582) 83 2828.

YAMAHA HE8 organ, touch sensitive, MIDI compatible, £2199 new, must sell hence £1650 ono. Tel: 021-430 7385.

YAMAHA QX5, as new, boxed, manuals, etc. Mega machine! £195 ono. Tel: Northampton (0604) 26984.

YAMAHA TX7 sound module, excellent cond, boxed, £250. Niall, Tel: 061-456 9587, after 6pm.

YAMAHA TX802, multitimbral, FM-rack, £790; Seck 12:2 mixer, £390; Roland R8 drum computer, £420. Ilfo, Tel: 01-539 8916.

YAMAHA TX81Z, £235; Juno 106, £360. Tel: (0203) 302752 or 251152.

YAMAHA V50 workstation, 3 months old, 3 disks, £650 ono for quick sale. Tel: (0295) 268314.

YAMAHA YPR6, excellent cond, piano keyboard, 5 preset sounds, £180. Tel: (0793) 729256.

YAMAHA YS200, immac cond, £399; Casio RZ1 drum machine, £150. Will accept £530 for both. Ian, Tel: (0202) 889529.

YAMAHAS for sale: DX11, £350; REX50, £200; EMT10, £200 (with PC100). All immac cond. Chris, Tel: 01-684 2853, eves.

SAMPLERS

ABSOLUTE BARGAIN! Roland S10 sampling keyboard, case and disks, £475 ono. Mike, Tel: 021-354 8377.

AKAI S612, 6-voice sampler with disk drive, complete with brain, instructions etc, £295 ono. Graham, Tel: (0255) 433875.

AKAI S612 sampler, 10 disks, £225; Roland TB303 bassline, £95. (Both inc postage!) Andrew, Tel: (0325) 466319.

AKAI S700 plus memory expansion, with £90 worth of disks. Neil, Tel: Maidstone (0622) 670203.

AKAI S900 sampler, £950 ono; Roland MSQ700 sequencer, £250 ono. Both in mint cond. Leigh or John, Tel: 01-485 4810, office hrs only.

AKAI S950, inc disks, £950. Tel: 01-480 5705.

AKAI S950, fully expanded, plus sound library, £1050. Alan, Tel: (0246) 204291.

AKAI X7000 sampler. Can hold 16 samples of great quality, £490 ono; RX11 drum machine, £160 or swap Casio FZ1 plus cash. Derrick, Tel: 01-633 6236, 9-5pm or 01-311 8124, home.

AKAI X7000 with expander and disks,

unwanted present, still in box, £500. Tel: Staffs (0889) 270766.

CASIO FZ1 sampler with add-on memory, £750; Yamaha MT1X mixer recorder, £225. Tel: Herts (0582) 715549.

CASIO FZ1 sampler, (expanded memory), flightcased, library, £645 ono; Cubase sequencer, (genuine), £295 ono. Both perfect cond. Tel: Hemel Hempstead/London (0442) 862373.

CASIO FZ1 sampler, £699; Tascam Porta One, £250; Roland DEP5, multi-fx, £300; RX11, £190. Tel: (0922) 407967.

CASIO FZ1, still under guarantee until November 1990, many sound disks, £650. Tel: Plymouth (0752) 407664.

CASIO FZ1 and library, ring for detaisl, price around £700 ono. Try haggling on (0424) 436674.

CASIO FZ1/FZ10M sample library, 10 disks, 808, D50 etc, £30. Tel: 01-476 0718, after 6pm.

CASIO RZ1 sampling rhythm composer, manual, £150. Tel: 01-902 2058.

CASIO SK1, £35; ST software, Eidersoft ProSound and cartridge, pro-MIDI, super conductor (sequencer), £40 the lot. Tel: (0305) 770013.

EMAX sampling keyboard, rare home use only, boxed, £1100. Tel: Maidstone (0622) 812423.

EMAX SE, large sample library, Amiga + software, DX21, Kawai R50, Yamaha SE312. Offers. Tel: (0783) 5640085.

EMULATOR II+, two disk drives, SMPTE read and write, 17.5 second samples, good library. Tel: (0706) 78141.

KORG DSS1 sampler/synth with stand and disks, never gigged, £800. Tel: 01-788 2092.

KORG DSS1, pro sampling synth, flightcased, mint cond, £750; Yamaha EMT10, £150; FB01, £120. Tel: 091-536 0285.

ROLAND U110, plus latin card. Swap D110, suggestions? David, Tel: 051-525 3522, working hrs.

SAMPLERS! Casio FZ1, 2Meg, flightcase, library, £695!; Prophet 2000, hard case, £575! Tel: London/Berkhamstead (0442) 862373.

SEQUENCERS

ALESIS MMT8 sequencer, immac cond, hardly used, £175. Tel: (0271) 64498.

ALESIS MMT8 MIDI sequencer, mint cond, £190 ono. Derek, Tel: (0273) 674970.

ALESIS MMT8, boxed, as new, £170. Peter, Tel: (0705) 596087, eves and weekends.

KORG SQ8 MIDI sequencer, £50 ono; Boss Dimension C, £50 ono. John, Tel: (0482) 45647.

KORG SQD1, manual, disks, MIDI lead, home use only, excellent cond, £210. Darren, Tel: 01-595 3552, after 6pm.

ROLAND MC202, 2-track analogue sequencer. Classic acid machine! £80. Adam or Pete, Tel: 051-709 5436.

ROLAND MC500 sequencer with disks, manuals, hints and tips. Home use only, boxed, £400. Tel: (055 385) 497.

ROLAND MC500 MkII, perfect cond, inc D50 sounds disk 'and' V.1 software disk, £839; D50, £825. Tel: (0564) 775181.

ROLAND MC500 plus MkII software, home use only, excellent cond, £499 ono. Lee, Tel: (0252) 871243, 24 hrs.

ROLAND MC500 with performance librarian and turbo software, £440. Tel: (06333) 65758, after 6pm.

SEIKO MR1000 sequencer, absolutely brand new cond, guaranteed until 30.12.90, plus PSU and CC, £50. Tel: Southampton (0703) 452738.

YAMAHA EMQ1 sequencer data filer, 2.8 disks, £170; Tascam Porta 5, 4-track, immac cond, £230. Tel: 061-301 2661.

YAMAHA QX3, 16-track, disk drive, DX7 syco, Linndrum II, £399 each. Alan, Tel: 01-446 3098.

YAMAHA QX5, FD disk drive, 8 tracks, 50,000 notes, brand new, boxed, 10 month warranty, £400 ono. Fass, Tel: (0703) 270100, after 8pm.

YAMAHA QX7, excellent cond, never gigged, boxed, manual etc, £95 ono. Tel: (0283) 760564.

YAMAHA QX21, as new, immac cond, £100. Wanted: Korg DSM1, cash waiting. Jon, Tel: Trowbridge (0225) 762983, after 6pm.

YAMAHA QX21, home use only, perfect cond, boxed, £100 ono. Chris, Tel: 01-748 2767.

YAMAHA QX21, £120; Studiomaster Session Mix 16:2, as new, home use only, £600. Tel: (0273) 463328.

YAMAHA QX21, with loads and manual, vgc, £80. Tel: 01-254 0678.

DRUMS

ALESIS HR16, hardly used, perfect cond, boxed, buying M1R, £250 ono. Chris, Tel: 01-748 2767.

ALESIS HR16, perfect cond, £235 or swap for Roland TR909. Tel: Eastbourne (0323) 35621.

ALESIS HR16 drum box, perfect cond, £250 ono. Tim, Tel: (0229) 53746, 5-7pm.

BOSS DR110, great sounds, perfect cond, £85 or p/x MC202/TB303. Tel: Hants (0252) 546189.

DMX hip-hop beatbox, £140; SCI Drumtraks, MIDI, £140; Simmons suitcase, drum pads, £40. Tel: (0342) 323094.

E-MU SP1200, £950 ono; Alesis HR16, £265 ono; Oberheim DPX1, £750 ono; Tascam 238, £845 ono. Tel: 01-462 6261.

FREE digital rhythm machine when buying Casio CZ1 synth, £350 ono. Tel: Dorset (0935) 814811.

KAWAI R50, extra soundchip, expansion board, electronic, acoustic, 120 sounds, £280 ono. John, Tel: (0532) 576289.

KAWAI R50, with extra (atomic) chip, 48 sounds, MIDI, tuning, pan, effects, manual, £220. Tel: (0602) 411185.

KAWAI R50 AND R50e! In one machine! Excellent cond, £250 ono. John, Tel: (0532) 576289.

KORG DDD1, as new, home use only, boxed, inc ROM card, £220. Graham, Tel: (0705) 829605.

KORG DDM220 and Boss sampler/delay pedal. Swap for MPC percussion computer. Tel: (0252) 26536.

ROLAND DR220A rhythm machine, 12 instrument voices, 64 rhythms, as new. Bargain at £89. Tel: Nottingham (0602) 253916.

ROLAND R8, brand new, £465, or p/x for TR909 and £220. Tel: Southend (0702) 461808.

ROLAND TR505 separate outs, boxed, as new, £99. Wanted: Yamaha PSS680. Sean, Tel: (05242) 62258.

ROLAND TR505, £100; boxed, ten hrs home use, manuals. Chuck, Tel: 01-726 6250, days; 01-373 8336, eves.

ROLAND TR505, separate outputs, excellent cond. Chance of a lifetime! £120. Mike, Tel: (0886) 884620.

ROLAND TR606 Drumatix, good cond, home use only, £50. John, Tel: 061-445 2304.

ROLAND TR626, excellent cond, £150. James, Tel: (0786) 78655.

ROLAND TR707, separate outputs, classic sounds, first class cond, only £165. Tel: (0723) 583899.

ROLAND TR707 The one with the full screen display. Immac cond. Complete, boxed, manuals etc, £225 ono. Tel: (0223) 464117, days; (0638) 720090, eves.

ROLAND TR707 drums, immac cond, occasional studio use only. Absolute bargain for only £150. Tel: (0353) 721523.

ROLAND TR909, home use only, £300 ono; CX5, SFG05, composer, voicing, £200 ono. Mik, Tel: 01-326 0090.

SIMMONS SDS8, white, 5 pads, brain, leads, BD pedal, stands, £300. Tel: Leicester (0533) 376227.

SIMMONDS SDS1000, 5 pads and rack, as new, £450 ono. Tel: 061-998 3494.

SWAP Yamaha DD5 plus £30 for Roland SH101 or Korg MKS20. Tel: Herts (0992) 589275, eves.

WILL SOMEBODY buy my friend's broken TR505 for £50? Volume f*****! Dave, Tel: Southend 337699.

YAMAHA RX17 drum machine, mint cond, £150 or p/x for RX5. John, Tel: (0737) 248215.

YAMAHA RX21, boxed, manuals, PSU, leads, vgc, £100. Tel: Essex (0268) 411890, after 7pm.

YAMAHA RX21 drum machine, immac cond, boxed, leads, manuals, £100. Tel: 01-995 1977.

COMPUTING

AMIGA 500 plus interface, Music X and Korg DVR1000. May split. Offers. Tel: Midlands (0926) 612225.

AMSTRAD 6218 RAM music machine, sampling and software, £25 ono. Tel: 01-995 1977.

APPLE MACINTOSH SE30, 40Meg/HD, £2350; Apple Mac + 2.5Meg, £900; Eventide H3000, £1500; Emax rackmount, hard disk, SE software, £1500. Tel: 01-937 0456.

ATARI 1040STF, mono monitor, £390; Steinberg Pro24 V3, £150. Ronnie, Tel: (0382) 552768.

ATARI 520STFM, inc software, joysticks, new mouse, manuals, complete package, great bargain, £270. Tel: 01-959 3662.

ATARI 1040STFM computer, mono monitor, Steinberg Pro12 sequencer, joystick, games etc, 5 months old, immac cond, boxed, £450. Tel: (0384) 410853.

C-LAB Creator, Unitor, V2.2, in excellent cond, £550. No offers. Steve, Tel: 01-476 0718, after 6pm.

CODA FINALE for Macintosh, very comprehensive Notation/sequencer package, only £450 ono. Paul, Tel: (0457) 853346.

COMMODORE 64 polyphonic synth, bargain at £150: piano keyboard, computer, programmer, inputs to hi-fi. Barry, Tel: (0279) 505461, eves.

COMMODORE 64 computer, disk drive, cassette, MIDI interface, Steinberg Pro16, editor, scorewriter, good cond, £170. Tel: (0234) 63491.

COMMODORE 64+ Spectrum computers and peripherals. Spectrum has sequencer, sampler plus microdrives. Offers. Chris, Tel: (0785) 44187.

COMMODORE C64 plus Pro16, only £110. Why? Ring me. Tel: Walton-on-Thames (0932) 231617.

COMUS TRACK 24 sequencer for Atari 520/1040, used once, £50. Dean, Tel: (0908) 561692.

DR T's KCS, Level II, GEM sequencer, £160; latest D110 editor, £60; DX Heaven, MT32 editors, £55. Tel: 01-948 5880.

EZ TRACK PLUS, as new, £35. Tel: (0440) 707610.

MACINTOSH SE30, 2/40, 6 months old, £3300 ono. Robin, Tel: 01-381 3844.

MI editor, Steinberg Synthworks, brand new, no viruses, £85. Owen, Tel:

(0248) 364040.

PERFORMER and Sound Designer, V1.1, for Ensoniq Mirage. All boxed, manuals, £400. Tel: (0636) 707675, eves and weekends.

STEINBERG CUBASE and Timelock, Atari 1040STF and monitor, £850. Tel: 01-480 5705.

STEINBERG CUBASE, offers? Tel: (0225) 466472.

STEINBERG PRO12 sequencer software for the Atari 520ST. Twelve recordable tracks. As new, £75. Tel: (0602) 253916. Nottingham.

STEINBERG PRO24, V3, official version with key and manual, £125 ono. Graham, Tel: (0255) 933875.

STEINBERG PRO24, V3.0, manual, disk, plus future updates. Absolute bargain! £125. Tony, Tel: 01-940 2235.

STEINBERG PRO24, V3.0, manual, dongle, only £150. Tel: Norfolk (0263) 77 463, after 7pm.

STEINBERG PRO24, V3, official with key and latest manual, updates. Neil, Tel: West Yorkshire (0977) 517672.

UMI 35, pro sequencer for BBC micro, perfect cond, boxed, manual etc. Sensible offers. John. Tel: 061-446 2304.

STEINBERG SMP24 v1.6, ideal for Cubase, 80 MIDI channels and SMPTE for £550 ono. Tel: (0424) 436674.

YAMAHA CX5, SFG05, YK01, YRM501, 102 VFS05c, Bit 2, 400+ voices, manuals, £180. Tel: (0272) 714232.

YAMAHA CX5M, monitor, boxed, £150; Juno 6, boxed, £150; RX15, boxed, £175. Mark, Tel: Essex (0245) 269261.

YAMAHA CX5M, 8-track, FM voicing, keyboard, £180; Yamaha DD10 drumbox, touch-sensitive pads, 32 sounds, £60 or £220 the lot. Tel: (0727) 373077.

YAMAHA CX5M, keyboard, loads of bits, all mint cond, boxed, £160 ono. Chris, Tel: (0732) 451802.

YAMAHA CX5M and SFG05, RX, DX7, DX21, voicing I, II, composer etc. Large keyboard, boxed, manuals, mint cond, £295. Fass, Tel: (0703) 270100, after 8pm.

RECORDING

ALESIS MICROLIMITER, still boxed, £95; Boss percussion synths, hand-clappers. Offers? Ben, Tel: Epsom (0372) 724510, eves.

ALESIS MIDIVERB II, perfect cond, with power lead, manual, £180 ono. Tel: (0375) 641473.

ALESIS QUADRAVERB, £299. Tel: (0252) 521902.

BOSS BX600, 6-channel stereo mixer, £95; Boss GE7 graphic EQ, effect pedal, £55. Both as new. Tel: (0895) 677634.

DIGITECH DX99 RM digital delay, rack mounted, 512msec delay, with "hold", hardly used, £65. Tel: (0602) 253916. Nottingham.

FLIGHTCASED mobile studio, stagebox, 48 inputs, 96 outputs, XLR + multipin, integral monitor amp and speakers, red light etc, £450 ono. Tel: (0606) 75696.

FOSTEX A4 four-track open reel recorder, 7" reels, 3.5/7ips, little use since recent service, very good heads, very good condition, £385. Tel: (03543) 5239, eves and weekends.

FOSTEX B16, 16-track recorder, mint cond, £1995. Woody, Tel: (0420) 86656.

FOSTEX MODEL 80, 8-track, vgc, £825; colour monitor for Roland S50/330 etc, £125. Tel: Merseyside (07048) 74903.

FOSTEX X30, £170; Tandy PZMs, (pair), £30; Company 55 Atari workstation stand, £25. Tel: (0494) 465283.

FOSTEX X80, good cond, very low wear, £900 ono; Korg M1, mint cond, £1200. Tel: (02518) 3231.

HILL 28:4:2, flightcase, £850 ono; Ram RM16, Fostex A8, remote, £1250 ono; H/H bass machine, £295 ono. Tel: (0492) 532436.

IBANEZ VE 405, multi effects, chorus/comp/parametric/delay. Footswitch, rack mount, guitarist or studio, £130. Tel: 01-247 6634.

JBL CONTROL monitors (4311), vgc, £350 pair. Tel: (04022) 28034.

MTR 12:8:2 mixer, excellent cond, £399. Tel: (0743) 240226.

PHONIC pro series mixing desk, LED-meters, graphic EQ input, master, mix & cue faders, immac cond, boxed, £90 ono. Tel: (0384) 410853.

RAM10, 10:4:8, (new sliders), £375; MT32, £230. Dr Boyd-Lee, Tel: (0223) 334319, 2.30-6pm.

ROLAND DEP5 digital prog-rammable chorus/reverb/delay/ parametric EQ, new, £320. Tel: Oxford (0865) 250337.

ROLAND SRV2000 reverb, £250; Roland TR707 drums, £175. Neil, Tel: West Yorkshire (0977) 517672.

RTL EVENT, SMPTE to anything, 3 clocks, MIDI, delay board, also click in, £550. Tel: (09277) 66664.

SECK 12:8:2, £900 ono; Shure SM58 radio mic, £400 ono. Used by Number One funk man Jessy Rae. Kirk, Tel: (0450) 72984.

SECK 18:8:2, boxed, mint, as new, genuine £800 ono. Tel: (0424) 436674, anytime.

SECK 24:2, excellent cond, 1 yr old, £499. Alan, Tel: (0246) 204291.

STUDIOMASTER Series 2, 16:16:2 mixer with MIDI muting, good cond, £2500 ono. Tel: (0422) 351141.

TANTEK, Tanrak. Will split. 1" tapes, cheap. Pete, Tel: 01-367 1720.

TASCAM PORTA ONE, 4-track ministudio, £180 or swap? Brian, Tel: (0752) 674815.

TASCAM 244, some head wear, £260; ETI 4600, £100. Needs some attention. Mike, Tel: (0446) 751150.

TEAC 3440 and RX9 dbx, £475; Promark 8:4:2 mixer, £225; Korg DS8 and flightcase, plus ROM. All boxed, manuals. Tel: (0538) 308680.

TEAC A3340S, 4-track, 15/7.5ips, £300; Fostex 350 mixer, £350. Both good cond. Tel: (078130) 5134.

TEAC DX8, 8 channel noise reduction, £295; Teac 80-8 for spares, offers; GBS, £45. Tel: (0772) 311825.

TWO Yamaha YMC10 MIDI-clock to tape sync units, £50 each. Graham, Tel: (0255) 433875, days.

YAMAHA DMP7 digital mixer, excellent cond, manuals, accessories, £1400 ono. Neil, Tel: Rossendale (0706) 218938.

YAMAHA MT44D, 4-track, manual, £195; Steinberg 12, new, £70 or swap PG1000. Ruel, Tel: (0203) 460540.

YAMAHA SPX90, multi effect module, £250 or swap for R100 and quality graphic. Tel: 041-332 8427.

AMPS

BGW SYSTEMS, American power amp, 19" rackmount, 3000W x 2, £300; Turner 19" studio amp, 140W x 2, £180; 4 input mix/amp, 60W, £70. Tel: (0602) 504052, after 6pm.

CARLSBRO 300W PA system, £450; Soundmaster VF600W power amp, £400; Polsar lights, £500. Tel: (0924) 257239.

CARLSBRO 150W amp: 5 channels, 9 inputs, reverb, fx-loop, 6-band graphic EQ, £155. Paul, Tel: (0925) 72 6309.

CARLSBRO COBRA 90 keyboard amp, 5 inputs, 3 channel, vgc, £215. Steve, Tel: Bradford (0274) 672898.

CARLSBRO COBRA 90 keyboard amp and cab, home use, mint cond, choice of two, £245 per stack. Tel: (0203) 310808.

CARLSBRO COBRA 90 keyboard amp, mint cond, £200 ono. Tel: (0303) 39284, eves and weekends.

DYNACORD 500 guitar amp, 60W valve head, rack mountable, 16 memories, £300. Tel: (0836) 750114.

H&H TPA50D power amps, both immac, £100 each or swap (monitors/hi-fi system). Tel: Cheltenham 510434.

MOSFET M900 power amp, plus emminence 250W cabs, £600. Will split. "Neil", Tel: (0622) 670203.

PEAVEY KB300 keyboard amp, 3 channel, compression, mint cond, £325 or p/x PG1000 programmer. Tel: (0642) 479789.

PERSONNEL

A.O.R. vocalist wanted for band project. Record company interest. 100% commitment essential. Andy, Tel: (0463) 710480.

BASSIST wanted. Christian fusion band, aged 15-17. Write: Geoffrey Eze Jnr, 24 Stanhope Gardens, Ilford, Essex.

DRUMMER into sequencers, beat boxes etc, needed by new Manchester band. Dave, Tel: 061-832 8686 X3203.

EXPERIENCED programmer, sound engineer, producer and keyboard player available for freelance work. Rueben, Tel: 01-995 5063.

GREENGATE USERS!?! The user group doorway is open to all. Free membership! Chas, Tel: 01-584 6733, days; 01-360 1348, eves.

LETS MAKE DEMANDS keyboardist seeks singer for gigs, etc. Influences: Soft Cell, Depeche Mode. Sim, Tel: Telford 255301, days.

LEAD GUITARIST and keyboardist, 20/21. Need band, experienced, talent and attitude crucial. Have material and determination for success. Tel: (0234) 54838.

MUSIC PROMOTER requires techno-beat music for promotion to London-based dance labels. Write: Budeaux's Promotions, 23A Carlisle Road, Bedford MK40 4HR.

NORTH WALES: musicians and composers. Join free MIDI user group. Details from Mike, Tel: (0492) 40549.

SONGWRITER seeks person with equipment to write music with. Any style. Keir, Tel: Manchester 061-860 6875.

STUDENT synth players based in Manchester area, into Depeche Mode, Kraftwerk, Front 242 etc. Andy, Tel: 061-434 9886.

SYNTHIST, 23 Merseyside area looking for synth partner/s to form PSB-type band. Steve, Tel: 051-521 2405.

SYNTHIST/SONGWRITER wants people, (ideas, wit!) for electro-pop band with different angle. Tel: Sheffield (0742) 586600.

VOCALIST required for funk/rock band in Berkshire. Only serious applicants need apply. Gareth, Tel: (06284) 2093.

WANTED: synth player into Tangerine Dream, Circa, UW Sunlight, record, gig, use of massive MIDI setup!! Tel: Reading 580764.

W30 USER seeks others for sample swapping, etc. Paul, Tel: (0742) 699975, after 6pm.

MISC

AKAI ME10D MIDI rack delay, £50; Seiko MR1000 sequencer, £45. John, Tel: (0522) 750846.

BEST leather customs. I'll swap for CZ101, VZ1 or other one. Write: PK833 Sirkeci, Istanbul, Turkey.

BOSS RCE10 digital chorus ensemble, £120; Boss RPW7 power

supply, £45. Brian, Tel: (0602) 224922.

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KORG KMS MIDI tape sync, solve timing problems, manual, £70. Alan, Tel: (0323) 767089, eves.

KORG sound sampling collection compact discs. Volumes one and two, £15 each. Tel: (0229) 33941.

OVATION custom Balladeer, 6-string Sunburst in colour with Ovation case, immac cond, £400. Tel: Midlands (0926) 612225.

PRO MIDI BASS and extra chips, £250; Alesis MMT8, £125; Ferrograph half-track, 15ips mastering, £200. Tel: 01-674 2418.

ROLAND G707 guitar and GR700 guitar synth. Best offer secures. Adam, Tel: Scotland (0698) 749 375.

TASCAM MTS30 tape sync, never used, still in box, £75. Rod, Tel: (0427) 615865.

U-MATIC video recorder, Sony VO-5630 Pal/Secam/NTSC, £440. Tel: (0734) 884607.

VESTA FIRE RIX digital reverb pedal, boxed, as new, PSU, £70. Tel: Sussex (0273) 493659.

YAMAHA MEP4 controls, alters, modifies MIDI messages, 4 outs, immac cond, boxed, £215. Bill, Tel: Upminster (04022) 23345.

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MEMORY CARTRIDGE M64C for Roland TR727 drum machine. Philip, Tel: 01-863 2156.

MOOG ROGUE manual or circuit diagram copy. Pay your price and postage. Trevor, Tel: (0695) 625526.

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ROLAND D50 sounds on sound sheets. Anyone willing to share their sounds? Steven, Tel: 01-848 1936.

ROLAND D550, cash or swap with D110 plus Synthworks. John, Tel: Enfield (0992) 718460.

ROLAND JUNO 106 for £250; TR727, £80; LXP1, £150; LXP5, £150. Must be vgc. Bobby, Tel: 01-485 0131.

ROLAND MT32 but piggy-bank won't stretch much beyond £200. Tel: Basingstoke (0256) 762390.

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ROLAND PG800 wanted. Tel: Watford (0923) 31866.

TASCAM 144 operator's manual. Urgent! Buy, photocopy, borrow photocopy and return. Jack, Tel: 051-220 3124.

URGENTLY WANTED! YRM 501 composer ROM for CX5M. Thomas, Tel: (0981) 240 314, after 5pm.

WANTED: Alesis HR16B, original preset patterns on data cassette. Will pay £5! Dave, Tel: (0272) 864148.

WANTED for Alesis Midiverb II: operation manual, (photocopy acceptable). Will pay. Steve, Tel: (0983) 298969.

WANTED: Dimension D, SRV2000, JP8, MKS80, PG800, Pad8/80, PG300, DX21, D550, SVC350, SBF325. Tel: Reading (0734) 580764.

WANTED: Korg MS02 interface, Roland System 100M, Roland MTR100, Arp 2600. Tel: 01-317 1527, days.

WANTED: user's handbook for Sequential Circuits SixTrak synth. Mr Perrier, Tel: Milby Middle School (0203) 382587.

YAMAHA EMT10. Tel: Northwich (0606) 44240.

YAMAHA RX5 sound ROMs, buy or copy. Martin, Tel: Essex (0268) 411890, after 7pm.

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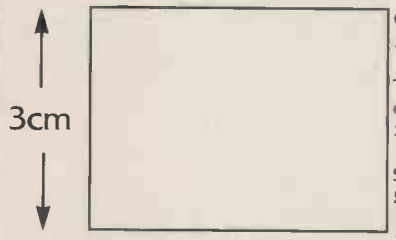

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