

MUSIC TECHNOLOGY

NOVEMBER 1989 USA \$2.95 CANADA \$3.95

SPECIAL REPORT: SPATIAL SOUND PROCESSING

RUSS FREEMAN

*Ripping with
The Rippingtons*

THE NEW FOLK MUSIC

Music by The Masses

MUSICIANS IN THE VIDEO AGE

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Music!*



REVIEWS

Lexicon LXP5

Dr. T's Tiger

Bartleby BELS/81

Atari Stacy Preview

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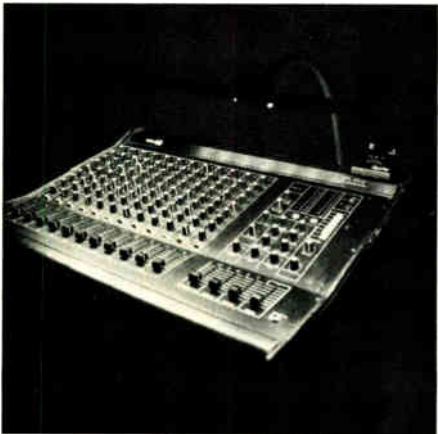


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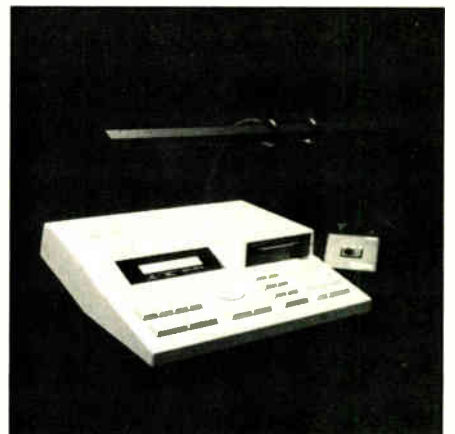
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CATEGORICALLY SPEAKING

I WAS RECENTLY asked to participate in a panel discussion on "New Age" music. As the appointed evening approached, I heard that the theme of the discussion had been changed to "New Folk," and then to "Adult Alternative," "New Jazz," "Adult Contemporary," and finally to "New Alternatives - New Folk, New Age, New Jazz." Just what *were* we going to be talking about, I wondered?

As the discussion began, one of the other panelists suggested that it would be important to establish a definition of the ostensible theme of the panel. In referring to this theme, some of the previous panelists had mentioned a label such as New Age, Adult Alternative, or New Folk, and then said something like "whatever *that is*." Whatever that is, indeed! This confusion is precisely what I had been thinking about in anticipation of the panel discussion. How is New Age music categorized? What are its primary elements? Why are so many different labels used? Do labels and categories mean anything anyway?

Certainly, there *are* musical categories that *do* mean something. Any piece of music can clearly be described as instrumental or vocal. You could also argue that music can be divided into "popular" and "high art" (what most people call "classical") forms, although the distinction between them is sometimes blurred - just consider the music of George Gershwin or the Beatles. Duke Ellington is quoted as saying, "There are two kinds of music: good music and the other kind."

One of the problems associated with labels and categories is that many are not well defined. New Age music provides an extreme example of this. It's often instrumental, but sometimes includes vocals (which are sometimes used as instruments, without words). It has no well-defined musical structures, borrowing elements from jazz, pop, rock, folk, "classical" (what musicologists call "high art"), and world (also called "ethnic") music. It actually fuses more styles than "fusion" (whatever *that is*!). Some people go so far as to apply the New Age label to anything that doesn't fit into any other category.

If New Age music is a synthesis of styles, it seems only fitting that synthesizers are playing a critical part in its creation. Could it be said that this music is idiomatic of synths and samplers? The almost infinite variety of tonal colors available from these instruments lends itself well to the wide range of styles found within New Age music. The lack of well-defined musical structures also makes more sense when you consider the emergence of a new medium, namely electronic musical technology. Structure is being rediscovered and redefined as this medium is explored.

Many people conclude that poor definitions, which are by no means exclusive to New Age, render labels worse than useless. They claim that categories can be misleading and engender prejudice. If you decide that you don't like a certain type of music, the label might keep you from experiencing something that you would otherwise find wonderful. Labels might also prevent musicians from exploring certain ideas in order to avoid an association with a particular type of music. Conversely, musicians might feel compelled to conform to a particular category, compromising their musical ideas for commercial success.

On the other hand, categories serve a positive function as well. They seem to be an essential part of human nature, helping us to organize and understand the world around us. Labels are useful in defining a musical context, albeit with varying degrees of success and precision. Without musical categories, how would record stores know in which bin to put their CDs? How would *Billboard* know on which chart to place the latest album with a bullet? Would there even be albums with bullets?

Ultimately, the panel (of experts, mind you) was unable to clearly define New Age music other than to cite an association with a certain philosophy. I ended up deciding that it wasn't important to define New Age or any other style of modern music - what matters is the music itself. Leave the labels to the historians and marketeers, and make the music you find in your heart. ♦ *Scott Wilkinson*

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World Radio History

C O N T E N T S

PEOPLE

12 Gary Chang
 An early pioneer in computer music programming, film composer Gary Chang has garnered a formidable resumé over the years. After working with just about every synth from the early Moogs, to the Fairlight CMI, to New England Digital's Synclavier, Chang has more than a few things to say about the place of computers in the creation of music today. Larry Ullman interviews.



Gary Chang – p12

28 Russ Freeman
 Frontman for the too-cool Rippingtons, Russ Freeman's extraordinary musical talents take on a gaggle of guises – everything from jazz to rock to pop to fusion to new age (whatever *that* is!). You may not be able to easily label his music, but then again, it really doesn't matter, 'cause it sure *feels* great. Scott Wilkinson interviews.

68 Visual Music Productions
 Tom Seufert and Chris Desmond have found enormous success scoring television commercials for such mammoth corporations as Toyota, Chrysler, General Motors, Pioneer Electronics, Disneyland and countless others. By approaching their work as "Painting With Sound," they've been able to achieve that elusive, subjective quality we call *art*. Dan Rue interviews.



Visual Music Productions – p68

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Ex-Ultravox keyboardist Billy Currie is in the spotlight this month with a stunning first solo album. Plus Andy Summers, Simple Minds, Wang Chung and more find favor this month.	
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 A new era in signal processing is on the very near horizon, one which will have as great an impact on recorded music as the development of stereophonic hi-fi. We will soon be listening to pre-recorded music in a three-dimensional sound field without the aid of elaborate speaker setups or special playback devices. Ernie Tello reports.

43 The New Folk Music
 In a recent address to The World Future Society, futurist and regular *MT* contributor Travis Charbeneau outlined an amazing vision of the impact that technology will have on the music of tomorrow. He asserts that hi-tech, synth-based music workstations will become as common as the appearance of a television in every home, leading to a new "music by folks."



Spatial Music – p38

APPLICATIONS

16 Musicians in the Video Age
 Ernie Tello takes us through a broad overview of some of the increasingly sophisticated video tools available today, and some of the more inventive ways to incorporate them into our own music.

52 Mastering D-50 Maneuvers
 Lorenz (The Magnificent) Rychner continues his tales of Roland's D-50, enlightening our frustrations with words of wisdom on the essence of true programming within L/A synthesis.



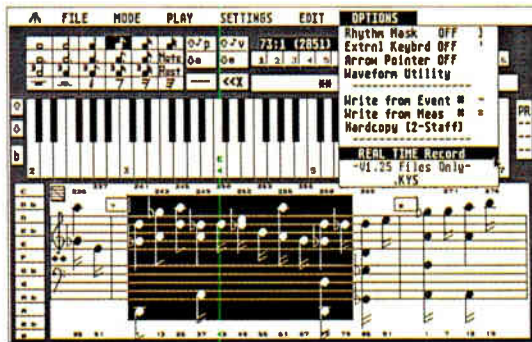
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TOOLS

32 Dr. T's Tiger
 At last, a generic graphic sequencer editor for the Atari ST. Dr. T's continues to support its Multi-Program Environment with this monster of a MIDI File program. Glen Darcy reviews.

34 Atari Stacy
 Atari's entry into the laptop computer market looks to be a significant development for hi-tech musicians everywhere. Jeffrey Rona previews.

50 MicroReviews
 This month's quick looks zero in on a new editor/librarian for the Yamaha TX81Z and IBM PC clones from Bartleby Software called BELS/81; and MIDI beginners might want to take a look at Hal Leonard's new instructional videotape, *Untangling MIDI*, for the real lowdown.



Dr. T's Tiger - p32

62 Lexicon LXP5
 Lexicon's new low-cost multi-effects unit complements the LXP1, sporting an impressive variety of sounds, exceptional versatility and some great MIDI implementation. Robert Rich reviews.



Lexicon LXP5 - p62

Finally!

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It's about time someone addressed the power requirements of today's improved near-field reference monitors. After installing more Perreux amplifiers in recording studios across the country than all other pro audio dealers combined, we've gained a certain amount of invaluable experience with high quality **studio** amplification. All too often, the amps we found ourselves replacing were P.A. units... durable, but offensive to the ear. With the success of the T.E.C. award winning Tannoy PBM Series Monitors and the introduction of their new AVM and NFM high-resolution loudspeakers it became obvious that a new, truly high fidelity, source of power was required. In bringing the new **Hot House Professional Audio** amplifiers to market it is our goal to provide the industry with an amplifier of true audiophile quality built to professional specification, that is both reliable and above all **affordable**. Previously, an amplifier with this speed, resolution and purity was available only at very high cost, and rarely in a professional format. Now there are two choices, stereo or mono... and they're priced to compete with run-of-the-mill music store amps.



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READERS LETTERS

Got something on your mind that you'd like to get off your chest?
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missive to: Readers' Letters, *Music Technology*,
22024 Lassen St., Suite 118, Chatsworth, CA 91311.

Outta Sync

In 'Synchronizing Basics: Part I' (August '89), Chris Many discusses the various types of longitudinal timecodes, and may have created some false impressions with this discussion. Specifically, drop-frame timecode and 29.97fps timecode are not synonymous terms. Drop-frame refers to a method of counting frames, while 29.97fps refers to the rate at which those frames are counted. Non-drop frame, 29.97fps timecode is a format extremely common in the world of audio post. As Chris noted, this distinction becomes important if you mix differing code types in a synchronization system not designed to handle such variety. I hope this helps to clarify a confusing subject.

Jay Scott
Detroit, MI

Rainer Fan

I have been an avid reader of *Music Technology* for over a year now and must say I enjoy your magazine very, very much. I just wanted to drop a line to Mr. Peter Freeman, who wrote the article on Rainer Bruninghaus (July '89). I really enjoyed the article very much and I'm glad to see some exposure to some phenomenal, however obscure, musicians. As Mr. Freeman stated, Bruninghaus is quite well-known in Europe, and it is amazing to me how he has virtually slipped by Americans.

Hopefully, the article will turn some heads and people will check Rainer out. It would be well worth their while. Kudos to Peter Freeman and *Music Technology* once again for another great job.

Gary De Rosa
Slater Island, NY

Gimme Horner

Recently, I was in a record store and purchased my first issue of *Music Technology* [June '89]. I did so because of the fine article on Jerry Goldsmith by Deborah Parisi.

I am inquiring as to whether or not *Music Technology* has ever or will ever have an article on movie composer James Horner who has scored such films as "Gorky Park," "Red Heat," and "Field of Dreams."

I became interested in Mr. Horner about seven years ago after I saw *Star Trek II: The Wrath of Khan*, one of his first films. Over the years, he has gradually relied more and more on electronics to compose his wonderful scores, and it would be incredible to read an article on his abilities.

Frank Altomari
Philadelphia, PA

We agree with you about Mr. Horner's excellent scores. In fact, we have tried to schedule an interview with him, but so far with no success. He is extremely busy, but perhaps your letter will demonstrate that there are many people out there who would like to read about him. Are you listening, James? — SW

Elusive Exclusive

For those of you who like to use system exclusive patch dumps to configure your synths for a sequence (who doesn't) and thought that it wasn't possible for the D-50, take heart! There is a way, and it's not in the manual.

To send SysEx patch info on the D-50,

press the MIDI button and go to MIDI menu 3. Press the button below Exclu and use the increment/decrement buttons or the joystick to set it to P-Dump. Then press Exit. Now whenever you select a patch, its SysEx data will be sent via the MIDI Out port.

The P-Dump feature should not be selected when you are using program changes because it slows them down. If you haven't already discovered P-Dump by accident, it should be great news!

Roger Hoilman
Newark, DE

A Cry for Live

Where is live performance software for the Mac? Consider the combined power of the SE30 (16MHz 68030 CPU with up to 8Meg RAM and a choice of hard drives) and a professional sequencer with MIDI interface. You've got a super system that's only a few pounds heavier than the Yamaha C1 laptop.

But at this moment, the musical Mac is only at home in the studio. Software developers have ignored the live performer who'd like to tap the Mac's power and convenient user format. It seems it could be easily done within a HyperCard stack.

Maybe developers don't know what performers want. Well, as a solo musician, I'll tell you what I want:

I'm looking for integrated music software for sequencing, notation, and live performance. I want to use keyboard instruments and modules with sequenced "songs" for live playback. At the same time I want a simple notation and lyric "lead sheet" to appear on the monitor for each song.

If the "lead sheet" is too big an order, at least give me a notepad for a "lyric sheet." Oh, you say the screen is too small? OK. How about a MIDI teleprompter that would scroll fairly large lyrics down the screen?

A collection of these songs on a hard disk would be like a personal "fake book" of my repertoire with built-in sequencing (notation limited to the melody line). It follows that I'll need capabilities for "chaining" those songs according to "indexes" (i.e. "fast songs," "slow songs," "Rock," "Standards," "wedding reception repertoire," "senior citizen repertoire," etc.).

MUSIC TECHNOLOGY

7

There's one other need for live performance software. Often songs need to be extended during playback (i.e., for soloing or additional dancing time). I want to be able to hit a function key and the sequencer will loop to a point pre-designated during the programming of the recording. A cycling function, if you will.

Perhaps you can devote an article to live performance needs that will get these developers moving.

*Ron Free
Thurmont, MD*

PC Dilemma

I own a Roland D50 synthesizer and need a patch editor, a librarian manager, and a sequencer. I'm hesitating between PC, Mac, and Atari-based software, although I have a preference for the PC due to the large existing base of users.

Do you know if Steinberg will sell PC-based software? If yes, where can I ask for some information?

A company which seems to have interesting software for PC under MS-Windows is: Playroom Software, 7308-

C East Independence Blvd., Suite 310, Charlotte, NC 28227. This company advertised in *MT*, so I wrote three times in a six-month period, and never got an answer. Do you think they still exist? Or aren't they interested in the European market?

Do you know if there are other companies which sell good PC software providing extensive mouse support, high user interactivity, graphic interface, etc.?

In any case, thank you for the quality of *MT* and keep up the good work.

*Olivier Baillif
Geneva, Switzerland*

Well, Olivier, I should first mention that you'll find quite a large user-base for all three computers, particularly the PC and Atari in Europe. We spoke to Steinberg, and while they distribute a PC sequencing program called MIDI Music, they do not have any plans to port their own programs from the Atari to the PC.

Regarding Playroom Software, they are very much in business, and in fact they plan to announce a new professional sequencer which will

operate under MS-Windows at the 1990 Winter NAMM show. They've been hard to get a hold of recently because they've been concentrating heavily on R&D rather than sales.

Some of the better-known sequencing software available for the PC includes:

- Magnetic Music's Texture and Prism
- Twelve Tone Systems' Cakewalk
- Voyetra's Sequencer Plus Mark III
- LTA Productions' Forte II
- Roland's M.E.S.A.
- Robert Keller's 48-Track PC II
- Passport's Master Tracks Pro
- Computer Concepts' MIDI-Manager 7
- MIDI Concepts' Concepts One

This is not an exhaustive list, so you're sure to find several other products of high quality floating around out there. Obviously, choosing a sequencing program becomes a subjective matter, and ultimately your best bet is to try several of them out at your local dealer before forking over the bucks for one of these traditionally expensive programs. — DR

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NEWS DESK

NEW DRUM CONTROLLER

Drum Workshop and Terry Bozzio have developed the TBX-3, an electronic drum pad which features three separate trigger areas. The output of the three sensors trigger non-MIDI electronic drum controllers, drum machines, and drum-to-MIDI converters. The TBX-3 is compact (8" x 5" x 3"), made of high strength aluminum, and includes three 1/4" output jacks and a modular 6-pin output jack. Other features include a central playing surface and two outer trigger areas that are slightly raised to facilitate faster and easier stick access under performance conditions, and a universal adaptor plate. The TBX-3 will be available at all Drum Workshop dealers this fall and will retail for under \$130.

MORE FROM: Drum Workshop, Inc., 2697 Lavery Ct., Unit 16, Newbury Park, CA 91320. Tel: (805) 499-6863.

JAMBOX SUPPORT

Although Southworth Music Systems has closed shop, JamBox 4 and 4+ owners need not worry about where to get parts, upgrades, repairs, and tech support. Glenn Workman is a former Southworth tech support specialist who is licensing the sale of parts from the company and providing the support that disappeared when Southworth closed its doors.

MORE FROM: Glenn Workman, 430 Uniontown Rd., Westminster, MD 21157. Tel: (301) 876-2678, 10-4pm eastern time.

KORG SCHOOL

Alexander Publishing and Korg USA have introduced several teaching programs, three of which were implemented this summer. The first was the Korg Musician Program at Duquesne University in Pittsburgh, PA, where students were taught on Korg M1s. A three-week

International MIDI Program at the University of Miami and the Korg MIDI Summer School Program at Korg West were also instituted, with Alexander Publishing providing the texts.

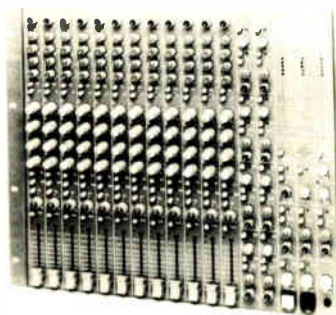
Alexander Publishing is continuing the Korg MIDI School throughout the fall with ongoing classes on MIDI, the M1, and Electronic Orchestration. Alexander has

also planned a series of in-store programs, with targeted cities being Charlotte, NC, St. Louis, MO, and all New York area Sam Ash stores. For more information on upcoming classes, contact Peter Alexander at (800) 633-1123 (outside CA) or (805) 499-6200 (inside CA).

MORE FROM: Alexander Publishing, 3537 Old Conejo Road, Suite 101, Newbury Park, CA 91320.

NEW SYNTH MIXER

Speck Electronics has introduced the Model SSM Synth Supermixer, a rack-mount audio mixer with low noise level and high bandwidth (12Hz to 160kHz!). Its input channels feature 8 effect sends, parametric equalization, stereo in-place solo, mute switch, kill switch, and presence-of-signal LED. The SSM's output section includes two stereo output busses, an effects return group master control, an output for sending a signal to a tuner, and headphone and transmitter outputs. In



addition, the mixer's output level can be adjusted remotely, stereo LED meters display the program output levels, and a third meter shows solo or effects send levels.

The Model SSM is available

in 12, 28, or 44 input configurations. The 12 input main unit retails for \$3295; 16 channel expander unit retails for \$3300.

MORE FROM: Speck Electronics, 925 Main Street, Fallbrook, CA 92028. Tel: (619) 723-4281.

MIDI CD A REALITY

Passport Designs, in cooperation with Warner New Media, has introduced the first MIDI CD. The MIDI data on the CD comprise "songs on disk,"

which are most often MIDI sequences or other specialized digital recordings of MIDI information such as System Exclusive data that can be manipulated, rearranged, and customized by the end-user. The sequences can be used

for accompaniments, live performance, learning to play, rehearsals, multi-media presentations, home entertainment, or generating sheet music.

MORE FROM: Passport Designs, Inc., 625 Miramontes St., Half Moon Bay, CA 94019. Tel: (415) 726-0280.

MIXING WITH SMPTE

MAGI II Console Automation System has been released by JL Cooper Electronics. MAGI II interfaces with any mixing console to provide SMPTE-locked fader and mute

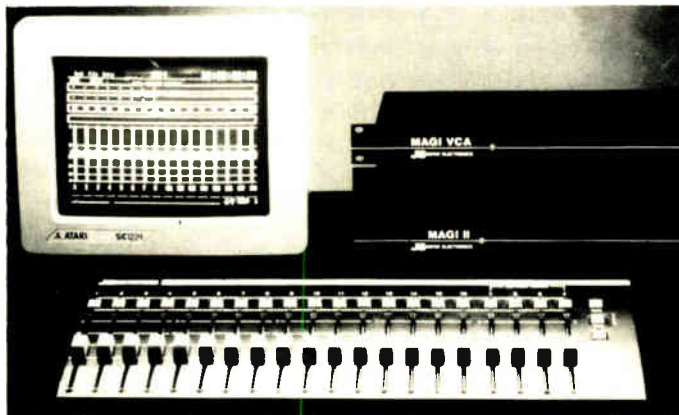
automation. MAGI II consists of rack-mounted, high quality VCAs, the Controller unit, any one of three different remote fader units, and software. The software runs on an Apple Macintosh (SE, Plus, or 512) or an Atari St

(520, 1040, or Mega).

MAGI II's operating system is disk-based, allowing additional features to be added. MIDI Event Generation and Cue List editing are future upgrades that will be offered to registered owners at no additional cost. Other features include full SMPTE synchronization, dynamic graphic software displays, and a built-in SMPTE generator that reads and writes all formats of SMPTE timecode.

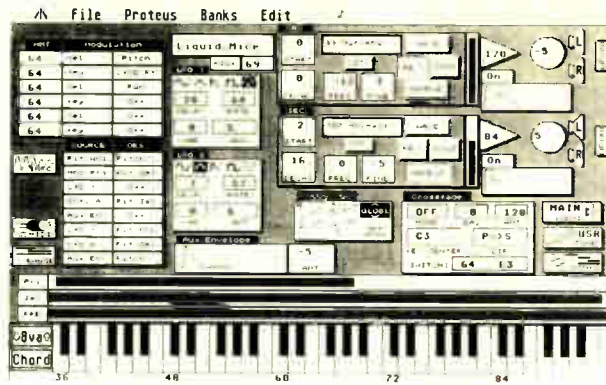
The company also announced the MR-3 remote fader unit, a 16 channel by 4 sub-group fader box that supports 64 channels.

MORE FROM: JL Cooper Electronics, 13478 Beach Avenue, Marina Del Rey, CA 90292. Tel: (213) 306-4131.



ATARI PROTEUS EDITOR

Interval Music Systems has released Protezoa, a visual editor/librarian for the E-mu Proteus and Atari ST. Sound Preset editing is performed on-screen with the computer's mouse or using a keyboard controller's modulation wheel to input parameter changes. The screen displays graphic elements, such as envelope segments, VCA levels, and pan positions. All modulation sources and destinations are simultaneously displayed and selected from pop-up menus. The Multi Editor emulates a



16-channel mixing console with volume faders, pan pots, enable switches, and preset routing. The Tuning Table Editor features computer-assisted table editing, and up

to four tuning tables can be on-line at once.

Protezoa (\$139) also includes a Preset Generator function that generates new sounds with a variety of randomizing

algorithms. Presets, patch maps, and tuning tables can be loaded and saved to disk individually or as a whole. The Loadzoa desk accessory loads files directly from disk from within another GEM program or from the Atari desktop. The software editing package also edits up to six different Proteus units simultaneously and provides automatic MIDI patchbay switching. The program uses a hardware key, so the disks are not copy protected.

MORE FROM: Interval Music Systems, 12077 Wilshire Blvd. #515, Los Angeles, CA 90025. Tel: (213) 478-3956.

TOTAL VIDEO CONTROL

Shomi Corporation has introduced Adventurer Video Image Center, a compact system that operates in any video format, including U-matic, VHS, Super-VHS, Beta, Hi8V, and 8mm. The Adventurer boasts a high fidelity audio processor, a video distribution amplifier, camera control units, a color processor, an image enhancer, a digital pattern and special effects creator, and a colorizer. It has 90 inputs and outputs, 103 features and controls, and integrates several major functional capabilities to give users control of all aspects of video production, assembly, and editing. In addition to allowing custom adjustment of output levels, the system includes a cable equalizer control that allows users to equalize outputs for varying cable lengths and signal optimization.

The Adventurer has an integral multi-camera genlock power supply, with multi-color correction circuitry to synchronize all video inputs. Users are given a 100% range adjustment in blue, red, and green, and a flesh tone control

during viewing or recording. A delay control window permits before-and-after comparison of the processed picture on the monitor screen. A color saturation control can be used to correct color bleed and insufficient color level



allows for correcting and sharpening skin tones. The color processor allows NTSC color components to be corrected and improved

With a black reference setup control, users can adjust the amount of black in the signal up to 7.5%, without adding video noise.

The Adventurer (\$5298) also features a computerized special effects creator (SEC) that has the ability to position, size, shape, or zoom anywhere on the screen. The system includes more than 80 different edit shapes and picture-in-picture or superimposition effects, as well as 42 different wipe patterns. The colorizer's three sections include the color modifier/pattern modifier, the mode pattern generator, and the field color generator. Ten mode pattern generators are provided, including color bar, gray scale, colorized image percentage, art pattern percentage, fixed color field, variable color field, crosshatch color field, and dots color mode. The effects can even be synchronized to the audio amplifier to link visual effect changes with the soundtrack.

MORE FROM: Shomi Corporation, 3940-A Ruffin Road, San Diego, CA 92123. Tel: (619) 278-8800.

NEW API CONSOLE

API Audio Products, working closely with George Massenburg Labs, has developed the All Discrete In-line Recording Console, which allows configurations of up to 96 inputs. The console features the GML Series 2000 Automation Environment and provides 48 track assigns and three stereo busses, with 10 auxiliary

sends per module. Also included are moving faders (1/10th dB), and updatable switches (large and small fader mutes, send mutes, EQ in/out, dynamics in/out, and filter in/out) that are controlled to 1/4-frame accuracy. The remaining I/O switches and the track assignments are resettable within one SMPTE frame.

MORE FROM: API Audio Products, Inc., 7953 Twist Lane, Springfield, VA 22153. Tel: (703) 455-8188.

ERRATA

Boy, is our face red! When we got the first copies of the September '89 issue of *MT*, we discovered to our dismay that the caption under the photograph of Living Colour on page 30 was incorrect, even after we had corrected it for the printer (to be fair, it wasn't the printer's fault, it was simply a case of miscommunication). It should read "L-R: Cory Glover, Muzz

Skillings, Will Calhoun, Vernon Reid." Sorry about that, guys!

Also, we recently discovered that the review of Yamaha's V50 in the June issue stated that the Voice Edit Demo speed is too fast to be useful. However, the speed can be changed by adjusting the Data Entry Slider. Slowing down the demo does make it easier to follow. We are sorry for any inconvenience this may have caused. ♦

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Living The Dream



PHOTOGRAPHY BY MELODIE GIMPLE

Dreaming of making it big as a Hollywood film composer? Here's a profile of a musician whose musical and hi-tech skills have created a thriving career.

Interview by Lawrence Ullman.

QUALIFICATIONS IN BRIEF: composer, arranger, computer musician and performer, with extensive experience in film/video underscoring. Skills include: computer music programming on the Synclavier, Fairlight CMI, and MIDI synthesizers; engineering in a 24-track studio; and operation of various SMPTE synchronization equipment.

With qualifications like these, it should come as no surprise that Los Angeles-based film composer Gary Chang is a very busy man. His film credits include the scores to *Miami Blues*, *Dead Bang*, *Firewalker*, *52 Pick-Up*, and *The Breakfast Club* (for which he has received a gold record). Presently, he is working on Michael Caine's new movie *A Shock to the System*. As an arranger, session synthesizer programmer, and performer, he has recorded with Ute Lemper, Art Garfunkel, Robbie Robertson, Al Jarreau, Eddie Money, Kansas, The Motels, Supertramp – and the list goes on.

Chang has used his considerable expertise with music technology to open many doors. Technology has molded his compositional style and made it possible for him to effectively communicate difficult musical ideas to players. And of course, it has made it possible for him to achieve something that remains a dream for most composers – a successful career in the fast-paced and unforgiving world of Hollywood film making.

He first became involved with music technology in 1972 as an undergraduate composition student at Carnegie-Mellon University in Pittsburgh, PA. Like many budding academic composers in the early '70s, Chang's initial exposure to computer music was working with what he terms "the archetype of computer music programs" – the minicomputer-based and totally non-real-time "Music5" system.

After completing his degree at Carnegie-Mellon, Chang moved to California to do graduate work with composer Morton Subotnick at the California Institute of the Arts (better known as "CalArts"). After the conservative atmosphere of Carnegie-Mellon, CalArts' relaxed attitude proved to be ideal. "There was very little structure at the time [1977]. It was good for me though, because I just lived, ate, and slept what I was hoping would be my business eventually, which is trying to do every-

thing and make music in a situation where I had complete control of everything, like my teachers did."

Juxtaposition of various musical elements and styles is a primary element of Chang's music. His initial exposure to this eclectic approach was via the jazz greats of the early '70s. He soon realized, however, that this technique was not limited to jazz. "As a composer in graduate school, I had this fascination with what Miles [Davis], Weather Report and Herbie Hancock were doing. Although they probably have a completely different description of what it was, I always sensed it being a different way of making musical feel by simply juxtaposing identifiable, yet opposite, elements together."

At CalArts, Chang was exposed to compositions by Charles Ives and Elliot Carter, both of whom often use juxtaposed themes, styles, rhythms, and other musical elements within a more "classical" context. "This became kind of a gestalt for one of my main musical styles. I've gone back to a contemporary chamber music approach that combines elements of jazz, rock, minimalism, and twentieth-century avant-garde."

CHANG NOW SPENDS most of his time as a composer, which is what he likes to do best. But this was not always the case. "When I got out of school, I was a closet-case computer musician. I didn't know what to do with my chops, and I wasn't a great keyboard player, but I had an established aesthetic and a writing direction for what I wanted to do with the technology. But the technology didn't exist at any level outside of the university at that time.

Getting a job at Fairlight as a product specialist turned out to be a case of being in the right place at the right time, and one thing soon led to another. "As the Fairlight evolved into a more viable instrument for the industry, more people became interested in using it. I eventually started moonlighting with the Fairlight at the Village Recorder. One of the projects that I did was *The King of Comedy*, a Warner film. That was produced by Robbie Robertson, and led to a friendship with Robbie that still exists.

Word soon spread, and Chang found himself greatly in demand

as an arranger, session player and programmer. "One of the first projects I did was an entirely electronic score for a Ladd Company feature film *Purple Hearts* in 1983. The composer was Robert Folk. After that, I started working with Pat Williams, because he had a Fairlight. I guess I'd say that was probably the most popular time for me as a session musician. I did a lot of sessions, programming the Fairlight and other synths. I got to work with Al Jarreau, Barbara Streisand, Supertramp, Kansas, the Motels, Martha Davis, America, Eddie Money..."

Even though things were going great for Chang as a session musician, he had never planned to make his living as a player and was not really happy in that role. "I wanted to go back to what's comfortable for me. And frankly, walking around L.A. from studio to studio was very uncomfortable. I was used to fooling around with tape recorders in my parents' den, or sitting at CalArts in an electronic music studio. I'd rather be by myself behind closed doors, not watching the hundred dollar bills take wing and fly out the window."

In 1984, Chang worked for Giorgio Moroder and contributed music to several films including *Electric Dreams* and *The Neverending Story*. Then his film scoring career really took off. "At that point, I met Keith Forsey, who was contracted to do the music for *The Breakfast Club*. Working with Keith on that project led to my first actual 'additional music by' credit."

At that time, Chang was still doing sessions, particularly with Robbie Robertson, but he did score a feature film called *3:15*. "The following year, I did *52 Pick Up* and *Firewalker*. I slowly edged away from the session work, and took on more and more film work, until now I'm just doing features. This year I did *Dead Bang* for Warner Brothers and *Miami Blues* for Orion. As you can see, the brunt of my work has moved both towards and away from playing. Because frankly, I can play my music a lot easier than I can play someone else's."

THE IDEA OF being able to compose and perform his own music with total control over every aspect has long been the driving force behind Chang's love-hate relationship with music technology. His efforts to find a "turn-key" music composition workstation



► (which you simply turn on and start making fully produced music) lead him to create a large MIDI system. He has now pretty much abandoned this approach in favor of his current love, the N.E.D. Synclavier.

"When basic consumer MIDI stuff came out, it really excited me, but at the same time it really depressed me. The stuff that I could afford was seriously limited. I think it's wonderful that things are affordable. But at the same time, it seems like its created a whole bunch of nonessential information for us. In order to amass a system that's large and versatile enough to create complete music projects, you end up creating this interface nightmare of unpublished information, inter-manufacturer hidden secrets known only by consultants – whatever you want to call it."

The idea of a versatile, turn-key system is a dream of many electronic composers, and Chang is no exception. "You should be able to go to a system and actually say, 'This is what I'm going to make music with,' and not have to bring a ton of extra things to it. Certain companies have tried to create such a system, let's say like the Yamaha QX1/TX816 system. That is

an alleged complete system with the addition of a DX7. Obviously, it's not really a complete system, or else everyone would just stop right there, and that would be the end of it. When I was working with the Fairlight, notes became an issue because there were only eight notes it could play. I mean, how do you orchestrate when you realize, 'Oh, I only have two notes left.' Well forget it. So I moved away from instruments like the Fairlight and the Synclavier at that time."

He soon amassed a huge and complex MIDI system. But, like many composers have discovered, the weight of what is supposed to be creative technology can become a real drag. "My MIDI system is basically a rack with four Roland MKS-80 Super Jupiters, a Yamaha TX816, a Roland MKS-20, and a pair of Roland MKS-70s. I have a PR-7 Beetle that's controlling the 816, and an MEP-4 MIDI Event Processor. It's all being controlled from a laptop Toshiba T-3100 PC with a Roland MPU-401. For sequencing, I run Roland's M.E.S.A. and I also use the Bacchus software for editing and organizing the FM instruments.

"The straw that broke the camel's back appeared when I started getting

more work writing for films. When I did *52 Pick Up*, there was an hour and fifteen minutes of music including source cues, and it was many different kinds of music. So file maintenance became really nuts. After every single cue I had to save each bank of each instrument, and then put it some place where I could easily get back to it. And not only that, the turnaround time between cues became progressively slower and slower. I'd have to figure out where the sounds were in the first place. So I had this basic problem, and then things started to get *really* nuts. I was doing a film project and I'd get a record project in the middle of it. How do I put anything on the shelf? How do I remember what I'm doing?"

In the end, Chang decided that the Synclavier wasn't so bad after all. Chang has owned one for almost two years now, and obviously loves it. "My Synclav has 16Meg of RAM and 32 voices. It has MIDI and SMPTE interfaces. It's created an older feeling for me, a more familiar feeling that represents what this medium is all about. The idea for me was to get back to music, get back to being able to actually write the notes without having to think about technology or relearn it every couple of years. Or to transfer all of my information, whether it be in my head or on disk, to another medium altogether. I was looking for an instrument I could spend a really long time at.

"The beautiful thing about the Synclavier is the sequences include SMPTE offsets, tempo changes, whatever. Now, if I have to stop doing a record project to work on a film, I just swap disks and load the sequence – everything is on one disk. I'm using my own sounds entirely now, and so my music has a very individual kind of sound to it."

CHANG HAS FOUND that electronic musicians wear a lot of hats, and therefore must structure their time effectively. "What I found in doing scores is that I make very particular formal changes in my duties at any given point in time. When I'm composing, I have one patch on the patchbay, and I'm facing towards the [Synclavier] keyboard. The mixer [a Soundcraft 200B] is configured in a particular way. I don't even look at the multitrack. Everything sits in a particular way and

I write. When I'm done writing, I archive it onto disk. That's my writing environment.

When I go to record, I become a recording engineer. I put the Synclavier in SMPTE sync. I put 2-inch tape on the tape machine, and I'm a recording engineer. I don't look back at the Synclav anymore. I just write down where all the instruments are and I'm at the board. In other words, I've tried to become less integrated, because it allows me to become more musical."

Another component in Chang's setup is a Sony MCI 24-track tape machine. "I always thought it was necessary to get away from the tape

"The brunt of my work has moved both towards and away from playing. Frankly, I can play my music a lot easier than I can play someone else's."

recorder. The reason I have it is because it's my industry interface. It's what allows me to do industry work up here [at home]. When I do a feature film, I can just take the 2-inch tape downtown with me if I don't mix here. And that's a heck of a lot more convenient to carry than all my synths."

Unlike many electronics-based composers, Chang usually doesn't start with a simple rhythmic groove as the foundation for a score. "The best film music is really sensitive to the picture. So the first part is analysis. I'm more structure-based, kind of like a minimalist composer. What I tend to do is break the cue down into smaller segments, and then weigh the segments as to where everything should be, density-wise. In other words, if there is dialog, you can't have much density. So I tend to look at the density first and then try to write the melodic elements. I see how to solve the puzzle, so to speak, from that aspect. And then I simply live with the basic structure for awhile and write a piece of music for that structure."

If the project doesn't call for an all-electronic score, Chang uses live players to create dynamics and excitement, and he uses technology to communicate complex musical ideas to them that would be very difficult to convey using a written score. "Live players create energy, so if I need more dynamics in a piece, I'll use live players to create it. But when things get really small, the Synclavier is creating that. What the live players do

is stop anyone from being pissed off at 'yet another electronic score.' It sounds like an ensemble - it sounds exciting, more magical. Computers haven't replaced the player - they've replaced the paper. Now I'm able to make particular edits and I can get players to come up and actually play something that could be completely abstract. Now they can hear it, and in very particular ways. Suddenly, it's not obtuse anymore. It's simply music."

When working with live performers, Chang creates "a private rehearsal tape for them. I just make a tape with a finished vocal on it, and hand it to the player and have him absorb exactly what it is. He would also get a chart with all the eccentricities written on it. But the idea ultimately is to make it convincing."

With all the power and control available from the Synclavier, why bother with live players at all? "It's like the difference between hand-written calligraphy and a word processor. People don't want to hear computer music. They just kind of automatically turn their ears off and say 'give me the human being.' It does work in pop music, though. You can have all-computerized music because

there's a vocal on top of it. So there's something to focus the music. I guess what I'm saying is that computers create the best accompaniment, because they have no personality and they never take up any of the foreground. So, I use live players when things are to be featured, because it sounds natural. It's a very natural feeling for the audience to be immediately drawn to the human rather than the track. That's why I'm always integrating."

Perhaps the secret of Chang's success lies in his attitude towards technology as a means to an end, rather than an end in itself. "I just want to get back to the music. I want to get back to traditional sensibilities. I want to get back to what I feel - or what I felt when I was younger and excited about music. And it's not just that. It's a matter of coming to terms with my career. I compete with composers who don't know technology, but do know music. Technology is not really important at all. All it has done is make more expeditious certain types of expression that were previously considered 'adventurous.' And you know, I'll tell you honest to God, the only thing that really counts is the music." ♦

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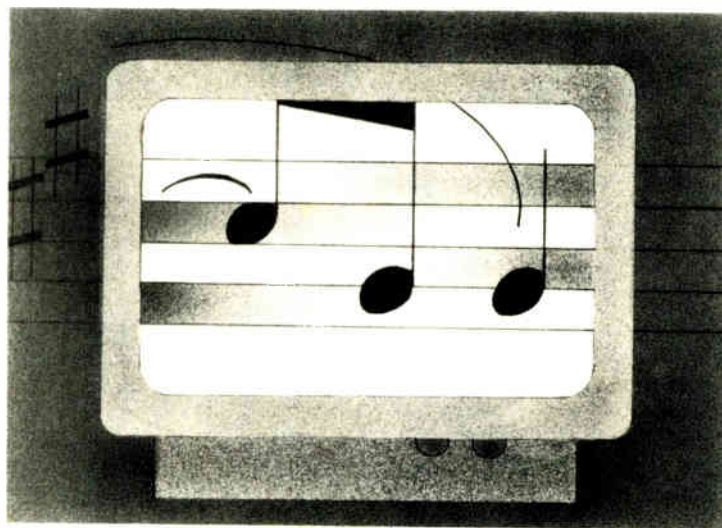


ILLUSTRATION BY BRENT HEINTZ

Video technology is becoming increasingly important for musicians everywhere. But what's a poor musician to use in order to take advantage of this new opportunity?

Script by Ernie Tello.

MUSIC VIDEOS HAVE become a fact of life for performers interested in presenting themselves to the public effectively. But the price tag for producing them with first-rate professionals is simply beyond the means of most musicians. Those with major recording contracts can usually count on the record company to pick up the tab, but otherwise, it might seem out of reach. For those who are ambitious enough to consider producing their own music video, there is some superb equipment that has appeared recently to make this option more attractive than ever. Even so, some important skills and techniques are needed if rolling your own video is going to result in more than just an expensive home movie.

There are also other important uses to which musicians are putting video equipment in addition to promotional

videos. This article will cover three activities that are particularly important: mastering audio on video tape, scoring for video and film, and rolling your own music video. The gear used for these activities varies in capability and cost from the medium and high-end consumer category to the low-end professional equipment. Since the gear you select depends on the exact techniques that will be used, as well as your available budget, it's best to know what your approach will be before you get married to any particular piece of hardware.

Format Wars

As it now stands, VHS and its new high-resolution offspring, Super-VHS (S-VHS), are the leading consumer video

formats worldwide. However, VHS is being given a run for its money by 8mm and the new Hi-8 format. There are also many variations on the Beta format, the main one being Betacam, which is a standard professional format. A newer variation that may have a future in the format sweepstakes is ED-Beta.

Before getting down to specifics, there are some basic things you should know about the current video formats. Compared with audio tape decks, the transport speeds of today's VCRs and camcorders are quite slow (about 2cm/sec on the average). For this reason, it was quite a trick to implement Hi-Fi stereo sound on these machines at all. One of the very unfortunate side effects of this technique is that audio dubbing on VHS Hi-Fi stereo VCRs is not possible without destroying the video signal!

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On the flip side, the VHS Hi-Fi stereo format generally doesn't allow you to dub video separately from audio either. The old audio tracks are destroyed when the new video is recorded. Many of the techniques outlined here can be used to get around this limitation. We will also examine some new gear that finds ingenious ways to solve the problem at the hardware level.

Audio Mastering

Many musicians are finding video tape to be a cost-effective format for mastering albums, demos, and soundtracks. The sound quality of VHS Hi-Fi audio recordings is quite good enough for many applications. There are also a number of other interesting options, including several devices such as the Sony F1, 501, 601, and 701 as well as the Nakamichi DMP100. These devices convert any VCR into a PCM (Pulse Code Modulation) digital audio recorder. They sample incoming audio signals at 44.1kHz or 48kHz and convert them into 14- or 16-bit digital signals. These digital signals are then recorded onto the video tracks of the tape. These devices essentially convert any VCR into the equivalent of a DAT (digital audio tape) recorder.

Another interesting unit is the Mitsubishi U80 S-VHS VCR that was designed with this kind of use in mind. The U80 includes an internal PCM analog-to-digital converter that allows you to record audio signals digitally onto video tape. This unit also includes a limited audio dubbing capability. You can dub a new (mono) sound track onto a cassette that already has video and stereo audio tracks. There are various practical uses for this, the most important being the ability to add SMPTE timecode to a live concert recording as a reference during insert editing (a process in which sections of the video or digital audio signal are transferred from one VCR to another). Although the U80 allows insert editing, this does modify the Hi-Fi stereo track as well as the video, so you can't simply edit various shots right onto the original tape with this deck.

When it comes to editing, the U80 is hampered by the fact that audio dubbed onto a tape erases any audio recorded there previously. This means that audio tracks from a live concert should be dubbed onto the video tape separately as a scratch track for assembling the edited video. To make the final master, this edited video has to be

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▶ dubbed onto a fresh cassette simultaneously with the original stereo tracks.

The Sony EV-S900 is an 8mm deck with an audio-only mode that allows you to record up to 24 hours of PCM digital stereo on six 4-hour tracks that can be individually indexed. You can designate up to 99 different selections for rapid access. It's hard to beat such capabilities for mastering on video tape.

Film and Video Scoring

There are still professional film composers who score to cue sheets rather than to the picture, although their numbers are decreasing. Video makes it possible to view the actual edited sequences while composing and performing. If doing a score for a video is an occasional thing, you can use consumer decks for composing at home. If you plan on doing film or video scoring for a living, you'll want to consider professional video decks that are designed to take that kind of punishment. Some manufacturers even have professional versions of their high-end consumer VCRs.

In film or video scoring, you use the edited visuals to guide you in the composition and calculation of the timings

Camcorders: Roll Your Own

For musicians, one of the most exciting things in video is the appearance of camcorders that can record near-CD quality Hi-Fi stereo. They have been available in Japan and other countries for some time, but have appeared here only recently. This is of the highest interest for do-it-yourself music video projects, both for live music recordings and dubbing to existing demos and CDs. Because of the slow transport speed, only Hi-Fi stereo VCRs offer sound quality suitable for recording music. Up until now, there have not been any Hi-Fi stereo camcorders available in this country, other than an 8mm unit manufactured by Sony.

The following units are two expanded-resolution camcorders that have recently become available that feature Hi-Fi stereo recording. Both have flying erase heads for clean edits, fade-in and fade-out capabilities, programmable timers, and powerful multi-speed electronic shutters. And they both have a fully automatic mode that includes both automatic focusing and auto iris exposure control with an option for bright foreground compensation.

The Canon A1 is one of the new Hi-band 8mm camcorders, but it has some-

animation effects can, in principle, be accomplished with the A1.

Another very neat thing about the A1 is the wireless remote controller Canon is featuring with several of their camcorders. This lets you run the camera from a distance. You can operate all of the record and play controls and even the wide or telephoto auto-zoom buttons. This is ideal if you want to record yourself on a vocal take, as long as you keep the controller off camera. That takes practice, though, because you have to be able to operate the controller without looking at it.

JVC has been one of the leaders in the development of commercial video formats and Hi-Fi stereo camcorders. The JVC GR-S707U Super VHS-C is another long-awaited solution to the lack of a good, relatively small stereo Hi-Fi camcorder.

One of the things that has prevented the VHS-C format from becoming more popular is its short playing time (as you may know, VHS-C cassettes are a miniature version of standard VHS cassettes). The 707U solves this problem by using the new STC-30 cassettes, which can supply up to 90 minutes of recording time. Sandwiched on either side of the camcorder are two LCD displays that give you visual access to what is happening. You can get audio gain readings from bargraphs that move with the soundtrack level in real time. The 707U also has automatic level control (ALC) for audio recording, which can be overridden by a manual level control.

In addition, the 707U has a "master edit control system" that facilitates assembly-style editing with another JVC VCR equipped with a remote pause terminal and/or 10-pin camera connectors. Automated dubbing of shots with predesignated edit-in and edit-out points is what this is all about. During this process, the 707U first prerolls the tape for five seconds to get up to full speed, and only then begins playback. The external VCR begins recording when the edit-in point is reached. When the edit-out point is reached, both the camcorder and the recording VCR are placed in pause mode.

As if these features weren't enough, it also supports time-lapse recording, animation, and even includes a self-timer. This means that you can set up a shot of your band from behind the camera and have time to get up on stage and into position before it starts recording. My initial impression is that ▶



Mitsubishi HS-U80 VCR

for the final soundstage recording. There are several excellent software packages in use throughout the industry to allow the timing of cues to be calculated automatically. Such products include OpCode's Cue and Digi-design's Q-Sheet for the Macintosh as well as Auricle's Auricle II for the Commodore 64 and Yamaha C-1.

All-MIDI orchestrations are sometimes used for soundtrack recordings, but many composers prefer to use a live orchestra and a MIDI system together. This means that you must be able to deliver click tracks to the orchestra members that shift tempo as needed in perfect sync with picture timing and MIDI sequences. Currently, many of the leading film composers have found Auricle II running on the Yamaha C1 to be a reliable system for this type of session.

thing that no other Hi-8 has: Hi-Fi stereo recording. Everything about the design of the A1 reflects the decision to make portability one of its major assets. This makes it a great camcorder to take on the road with you. With its full 10:1 zoom, low light sensitivity, flying erase heads, and wireless remote controller, it has tremendous appeal.

For example, you can advance the tape one frame at a time from a pause on a still frame. This means that you can do single-frame animation even though there is no ability to record one frame at a time. In a one second burst there are 30 frames of video, but with the A1 you can rewind back to the first frame, advance the tape one frame forward and record the next burst, then repeat the process, so that only a single frame of each burst will be retained. Even the hairiest stop-frame

THE ULTIMATE STUDIO ACCESSORY?

Despite the rapidly falling cost of high quality equipment, the pressure on both studios and home recordists to keep up with the very latest in technology can still mean that budgets get stretched to the limit.

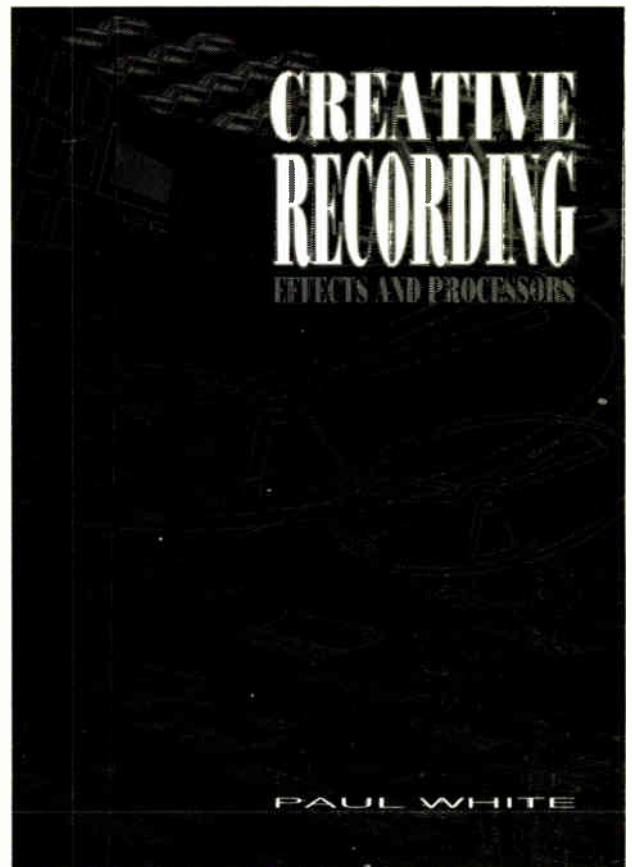
And when each new acquisition seems to expose as many problems in your recording system as it solves, it becomes increasingly necessary to choose equipment which is precisely suited to your needs and to get the very best out of it on a day-to-day basis.

Of course, the instruction manual is always there to show you exactly how a piece of equipment works. What it seldom does is explain *when* it is needed, *why* it is necessary and *where* it should be used...

The first in a series, *CREATIVE RECORDING* has been written to provide all those with an active involvement in sound recording with a comprehensive overview of modern recording practice. Volume One is a modern sourcebook of information on all the different types of effects and processors currently found in the studio.

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► it takes a better picture than the Canon, but picture and sound on both camcorders are excellent.

If you already have a stereo mix, a

achieve Hi-Fi sound dubs as long as you're working with segments that include no lip-syncing. This method assumes that you have two video



Canon A1 8mm Camcorder

Hi-Fi stereo camcorder may not be essential, but a Hi-Fi stereo VCR with editing and dubbing capabilities may well be. Other camcorders that have audio/video dubbing include the JVC GF-S550, Panasonic PV-S150, PV-420, PV-425, PV-430, PV-S445, PV-460, RCA CC 310, Sharp VL-L250U, Sony CCD-V220, and Zenith VM7050.

Rock Bottom Video

I'd like to present some methods and gear for do-it-yourself music videos that are among the least expensive options. For example, the most practical technique for recording outdoor vocals on location is "lip-syncing" to prerecorded tracks. There are a lot of problems associated with this technique, but that's not to say that it can't be done. With Super-VHS and Hi-8 camcorders like those described above, it's possible to wait until after the shooting is done and stripe SMPTE timecode on the mono audio track for editing purposes. Without this capability, you must match frames for lip-sync manually.

The process involved in scoring a video or film is almost exactly the opposite from making a music video. In the latter case, you assemble sections of the raw video takes into an edited version that matches the already finished music.

For those on a very modest budget, there is a trick that you can use to

recorders, one with mono audio and flying erase heads, and the other with Hi-Fi stereo. It doesn't matter which, if either, is the camcorder. Take your finished stereo recording and dub a mono version onto a fresh VHS cassette. Then insert-edit the video shots that you want with the music onto this cassette. Once you're done, make a dub of this edited video and your original stereo mix simultaneously onto a new cassette on the Hi-Fi stereo deck.

If the music is a MIDI instrumental, you can even try a live dub of a sequenced piece directly from your studio setup rather than from tape. Those with SMPTE sync capabilities can dub even more precisely. Use the playback deck (which is sending SMPTE timecode) to drive the sequencer.

There are many tools that can make on-location shooting possible with less expensive gear. Shure has an excellent belt-mounted mixer for use with cameras and external mics that don't have their own level controls. By carefully planning how to utilize the right gear using the right techniques, you can cut costs dramatically.

Editing Options

If there's room in your budget for editing gear, then another world of fun opens up for you. And the effects! As you probably know, this has become one of the most characteristic aspects of the MTV "look." The key to good

video editing is finding the proper balance between extremes. On the one hand, you shouldn't be afraid of messing with the beautiful pictures you took. On the other hand, you should avoid the temptation of getting completely carried away. For about \$500 and up, there are various stand-alone editing and special effects decks that can put truly professional touches on a music video. Affordable desktop computer-based video editing systems are also available.

Sony keeps coming up with great ideas in the video editing category. One handy piece of equipment is the Sony RMT-424 Wireless Commander, the first remote controller with a Jog/Shuttle wheel for manually stepping through separate frames.

Another standout in the video editing department is the Panasonic WJ-MX10 Audio/Video Mixer. The main feature of this little gem is an automatic frame synchronizer that allows you to edit any two NTSC (National Television System Committee) video sources, regardless of whether they are synchronized with each other. A 4-input audio mixer is also onboard. A large palette of special effects are part of the appeal of this unit, includ-

"The technique that is the most practical for recording outdoor vocals on location is lip-syncing to prerecorded tracks."

ing mosaic, paint, still frame, strobe, and 17 different wipe patterns.

If you want control over the quality of your images, then an accessory like the Sony XV-C900 Color Corrector can be a valuable addition to your desktop video setup. Besides allowing you to adjust the color balance, you can create color wipe transitions between shots and even do positive-to-negative conversions of video images.

Summing Up

We are now seeing the appearance of video gear that greatly increases the opportunities for musicians to use this medium professionally. Until now, the sound quality of camcorders has been a problem, and there has been a wide margin between picture quality and affordability. By using discrimination in your purchases and careful technique, this margin can now be narrowed considerably. ◆

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World Radio History

LISTENING LAB

This month, we turn our critical ears towards new offerings from Billy Currie, Andy Summer, Wang Chung, Simple Minds, and Gary Numan.

BILLY CURRIE

Transportation

I.R.S./No Speak



Pick of the Month

I don't often use words like "magnificent," but when I hear this album that's the first thing that comes to mind. Closely following are: brilliant, consummate, masterful, rhapsodic. With Ultravox, Currie consistently demonstrated a keen sense of melody, a delicate balance between pop rock and grandiose philharmonia. For his solo work, he has abandoned the strict structure of the pop song format, as well as the rock icon of the vocalist. In

this new setting, Currie no longer needs to accommodate those limiting energies, and his talents as a *composer*, in the fullest sense of the word, become vividly apparent.

Although this album is instrumental, it is very unlikely to be classified as New Age, as the energy level throughout far exceeds that stereotype. In a broad sense, *Transportation* seems very soundtrackish due to its bold, up-tempo themes and rich orchestrations. On the other hand, the music defies description by either pictures or words. The frequent all-out rock beats make the album great for driving at top speed on a deserted road just for fun, but then again, this isn't what we'd normally consider "rock." In short, *Transportation* proves to be an excellent example of a nearly-impossible-to-classify musical artform.

This album's merits lie not only in its enrapturing melodies, but in the vast palette of tone colors as well. Currie has combined his passionately performed acoustic piano and viola with fascinating synth timbres – analog, digital, sampled, you name it. Add to that Currie's trademark heavy arpeggiation, sampled and acoustic drums, scattered fretted and fretless bass, and impressively restrained performances on six of the tunes by guest guitarist Steve Howe. Howe's instruments of choice include everything from the Stepp synth guitar to mandoline to Spanish acoustic to (of course) standard electric guitar. Currie's orchestration and programming is near-impeccable, delicately balancing the sequenced parts with the real-time performances. I found myself neither wanting to hear more nor less of the various individual components.

The end result is beyond rock, beyond New Age, beyond much of anything I've heard. *Transportation* breathes with life. To say that Currie has succeeded with this album is a gross understatement. He's created an experience you'd be foolish to miss. ♦ Dan Rue

ANDY SUMMERS

The Golden Wire

Private Music

We need a new label, a new slot to put things in. There's a new wave of New Age happening in which artists with talent and ideas (and not always the most euphoric of intentions) are creating instrumental music with a lot of technology. It's almost all consonant (some of it is even just-intoned), and some of it is even *intended* to be background music, but it has more overall weight than the light cocktail jazz and cotton-candy electronics that currently make up the New Age stereotype.

Anybody who caught Patrick O'Hearn live on his last tour knows what I mean – the band kicked ass, but the whole atmosphere was still mysterious and futuristic. Industrial Age? Post-industrial Age? Power Age? Timbre Jazz? We've gotta find something, "New Age" is a disservice to some of the *real* musicians out there.

Case in point – the Private Music solo outings of Andy Summers. Those accustomed to his thinking-man's guitar heroics with Soft Machine and The Police were stunned (in a negative way) by the complete lack of fretted histrionics on his perfect Whatever-Age album, *Mysterious Barricades*. Gaining a footing on this new ground, he's now added drums (courtesy of Kurt Wortman, from the Mark Isham band – see *MT* December '88), bass (thanks to Jimmy Haslip and particularly Doug Lunn, who turns in some nice fretless work), sax (none other than Paul McCandless), and some of the speedy linear guitar work Summers promised in his *MT* interview last October.

This sounds like a transition album – there are still wisps of the D50 patches and Frippertronics that graced *Barricades*. When keyboardist/producer David Hentschel is left alone to the drum programming the end result is a little heavy-handed, such as on the otherwise-great 'Blues of Snake.' But there are also sections of pure brilliance such as the hollow-noise per-

cussion effects on 'A Piece of Time' and the evil/eastern feel of 'Earthly Pleasures.' Rounding it out are a couple of pleasant guitars-only pieces by Summers, 'Imagine You' and 'A Thousand Stones.'

Summers seems to be trying to forge a style that's a cross between ambient and thoughtful jazz/rock. The whole album has a unique sound that's a combination of D50, linear-processed guitar, and heavily reverbed percussion. *The Golden Wire* isn't perfect, but it's a great direction, and I'm looking forward to the tour and future albums. ♦ *Chris Meyer*

WANG CHUNG

The Warmer Side of Cool
Geffen

There was a time when this band was on the cooler side of cool (remember 'Dance Hall Days'?), but chasing radio play seems to have changed that. Nonetheless, the production (courtesy of Peter Wolf) is still hot.

For starters, there's a lot of great snare sounds. 'Praying to a New God' has one of those tight, hollowish snares I personally die for – too bad there's no dynamics at all (drummers Vinnie Colauti, Michael Baird, and Brian Hitt are underused throughout). 'Swing' features a good gunshot/trash snare, and the title track has one of those perfectly gated bright rooms on both kick and snare that we can never seem to quite get out of our drum machine and \$99 reverbs. Also evident is some unidentifiable pitch-bending percussion by Paulinho Da Costa. On the other hand, an otherwise tasty (but sans-dynamics) snare almost ruins the otherwise emotional ballad 'When Love Looks Back at You.' There's also a great vocal percussion sample on 'Snake-dance' (courtesy of engineer/mixer Jeremy Smith) that's more guttural (sounding like a wet slapped throat) than the typical "oomph"/body punch sound that's used a lot these days.

FM is used to double or replace the electric bass to good effect on several songs – the synth bass on 'Snake-dance' in particular is the best cross between FM and resonant analog synths I've heard. There's also a wealth of modern fuzz guitar sounds (particularly in 'New God' and 'At the Speed of Life'). Other sounds of note include an overdriven, mutated synth break on

'What's So Bad About Feeling Good?' and the flanged vocal swell in the intro of 'Swing.' There are also numerous tasty small details. However, too many nice touches are underused or undermixed (the last two mentioned above being good examples). Will any of that hurt album sales? Nah – just staying power. ♦ *Chris Meyer*

SIMPLE MINDS

Street Fighting Years
Virgin/A&M

The concept of Trevor Horn and his disciple, Steve Lipson, producing Simple Minds is definitely intriguing. Horn, the master of tasteful excess, can make bands sound good whether they're his own (The Buggles), have no talent of their own (Frankie Goes to Hollywood), or have too much talent for their own good (Yes). But Simple Minds already have a registered, highly polished sound – one as rich as any tapestry, with each song describing a complete microcosm. What effect might we expect from a collaboration of the two?

Well, as you can imagine, the sound is bigger than imaginable. The tapestry is now blown into full three-dimensional bas-relief, with detail added where before there were just shimmering colors. One particularly nice piece of contrast is the pizzicato bass intro to 'Soul Crying Out' opening into chorused piano and a full synthesized orchestra. In keeping with the Minds' recent attempts to roughen up their image, there's a lot of action in the percussion department too, with Manu Katché joining the already very capable Mel Gaynor on drums, plus a trio of percussionists.

But somehow, the spirit is missing. Exactly what's wrong is hard to pin down. Perhaps the most telling sign is the treatment of Jim Kerr's voice. For starters, it's almost buried on the title track and the aforementioned 'Soul Crying Out,' and doesn't have his normal depth throughout the album. On 'Belfast Child' he sounds like he's imitating Bono – not a bad person to imitate, but Kerr used to have a great voice of his own.

The best single example of great parts/no whole is their flammed and reverbed cover of Peter Gabriel's 'Biko.' It sounds *great*, particularly the noise splash that appears throughout, but it

adds nothing to the original, with the weight of the lyrics being lessened considerably by Kerr half-moaning/half-yelling "Who-oooh" at the start. Horn has made both good voices (Jon Anderson of Yes) and bad voices (Holly Johnson of Frankie – you can hear sections on *Welcome to the Pleasuredome* where the Fairlight is used to extend his range) sound fantastic; fumbling Kerr's is a mystery.

In short, buy this album for its contents, but *not* for its substance. ♦ *Chris Meyer*

GARY NUMAN

New Anger
I.R.S.



Last January, we reviewed Numan's *Metal Rhythm*, an import LP on the independent label *Illegal*. Unfortunately, getting a hold of that album was pretty much a lost cause unless you were *very* lucky. Numan has since signed a contract with I.R.S. Records, and *Metal Rhythm* has been released here in the States under the title *New Anger*. With the exception of two tracks and the song order, the albums are essentially the same.

Not to labor the point, but this album is really worth a listen. To quote Chris Meyer back in January, "It had me twitching all over the place." So there you have it. ♦ *Dan Rue*

EQUALIZER

This month, we continue our discussion of signal processing by taking a look at the equalizer – and we don't mean the TV show! *Instruction by Scott Wilkinson.*

EQUALIZATION: *The process of selectively enhancing or reducing certain frequencies within a sound for the purpose of altering the overall timbral characteristics or eliminating feedback or other noise.*

DURING THE LAST two months, we've covered many of the major types of signal processing found in recording studios of all sizes. I'd like to continue our discussion of the audio components found in a studio by introducing equalizers. These helpful devices allow you to adjust the overall tone of a sound and, in some cases, remove unwanted feedback or noise.

Equalizers got their name during the early days of telephone communication. It was discovered that different frequencies within the sound being carried by telephone cables were attenuated (or reduced in volume) by different amounts over long distances. Special amplifiers were designed to selectively boost the strength of those frequencies, thus *equalizing* the volume of the overall signal.

Equalization is perhaps the most widely used form of signal processing. Anyone with a home or car stereo system has probably used equalization (or EQ as it's called) to adjust the tone of the music. The familiar bass and treble controls are used to amplify or reduce the volume of the low or high frequency components respectively, in order to optimize the musical sound for a particular room or car. These controls are actually a simple type of EQ.

On The Shelf

Technically, the bass and treble controls on a stereo are of a type known as *shelving EQ*. The bass (low frequency) control allows you to amplify or reduce ("boost" or "cut" in tech talk) all frequencies below a certain value (typically around 100 cycles per second, or 100 Hertz, abbreviated 100Hz). The treble (high frequency) control boosts or cuts all frequencies above a certain

value (typically around 10,000 Hertz, or 10kHz).

These frequency boundaries are called the *turnovers* or *knee frequencies* for each control. Frequencies below the bass turnover or above the treble turnover are all affected equally by the control's setting and are said to be "on the shelf." Frequencies above the bass turnover or below the treble turnover are still affected by the control's setting, but less and less as you move farther away

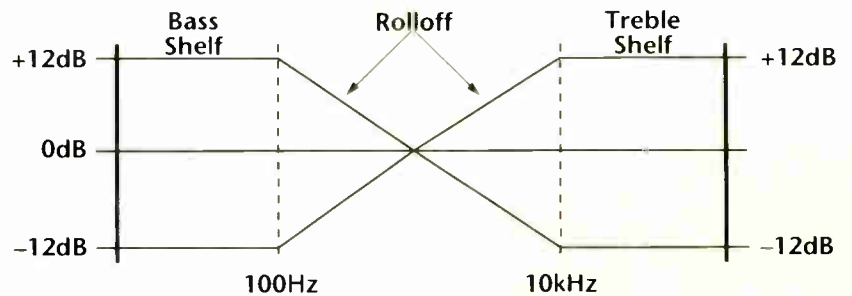


Figure 1a. The range of effect for a simple bass/treble shelving EQ.

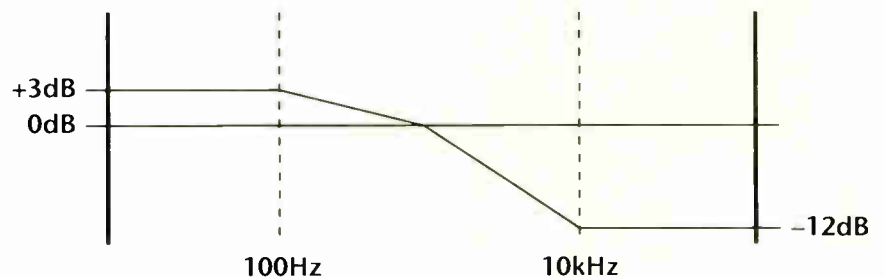


Figure 1b. In this setting, the bass frequencies are boosted by +3dB and the treble frequencies are cut by -12dB.

from the turnover. Figures 1a and 1b illustrate these concepts (although you should know that the figures in this article are meant only to illustrate the *general* concepts presented and are not meant to be entirely complete from a purely technical perspective).

The amount by which high or low frequencies are boosted or cut is measured in *decibels* (abbreviated "dB"). As you may remember from other encounters with this word, decibels are used to measure the relative volume or loudness of a sound. While the nature of this unit of measurement is too complicated to go into here, suffice it to say that an EQ setting of 0dB allows the appropriate frequencies to pass unaffected. If you cut the high or low frequencies by -3dB, their volume will be cut in half (the decibel scale is logarithmic rather than linear, so you will see no obvious correlation between the number of decibels and the amount by which that setting affects the appropriate frequencies). If you boost these frequencies by +3dB, they will be twice as loud as they were at the input to the EQ. Most EQs have a boost/cut range of ±12dB or greater, which means that the appropriate frequencies can be boosted to sixteen times or cut to one sixteenth of their original volume or more.

Take another look at Figures 1a and 1b. Notice the diagonal lines indicating the effect of the bass control on frequencies above its turnover and the

"Equalization is perhaps the most widely used form of signal processing. Anyone with a home or car stereo system has probably used it to adjust the tone of the music."

effect of the treble control on frequencies below its turnover. As I mentioned before, these controls affect incoming frequencies that are not "on the shelf" far less than those that are. The farther a frequency is from the turnover, the less it is affected by the EQ. The slope, or steepness, of these diagonal lines is called the *rolloff*. You'll often hear specs like "a rolloff of 6dB per octave." This simply means that a frequency one octave away from the turnover will be affected only one quarter as much as a frequency at the turnover. If the rolloff of an EQ is 12dB/octave, a frequency ▶

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▶ one octave away from the turnover will be affected only one sixteenth as much as a frequency at the turnover.

Getting Graphic

More sophisticated sound systems sometimes include a *graphic EQ*, often as a separate device. The controls on this type of EQ usually consist of a series of sliders which create a physical graph of the EQ's settings, hence the name. A graphic EQ divides the entire frequency spectrum into a number of sections called "bands," each of which is controlled by a slider. The range of frequencies that fall within each band is called the "bandwidth" or "Q" (technically, there is a difference between bandwidth and Q, but it isn't necessary to get into here – for all practical purposes, the two terms are synonymous).

For example, the entire theoretically audible frequency spectrum from 20 to 20,000Hz encompasses about 10 octaves. If a graphic EQ divides this spectrum into five bands, each band would have a bandwidth of two octaves. A professional graphic EQ might divide the spectrum into 30 bands, each with a bandwidth of $\frac{1}{3}$ octave. **Figures 2a and 2b** illustrate the bands of a graphic EQ.

As you can see in Figures 2a and 2b, frequencies at the center of each band are most affected by that band's setting. As the frequency moves away from the center of the band, it is affected less by the EQ setting due to the rolloff on either side of the center frequency. In graphic EQs, the center frequency and bandwidth of each band is fixed.

Parametric Power

The most powerful type of EQ is called *parametric equalization*. A parametric EQ divides the audio spectrum into bands, just like a graphic EQ. However, the center frequency and bandwidth

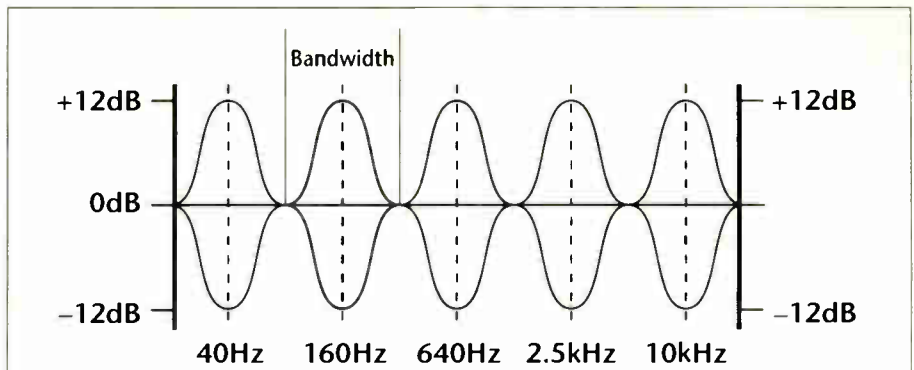


Figure 2a. The range of effect for a 5-band graphic EQ.

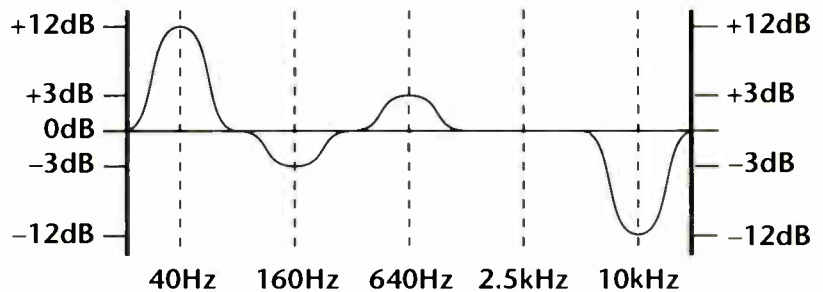


Figure 2b. In this setting, band 1 is boosted by +12dB, band 2 is cut by -3dB, band 3 is boosted by +3dB, band 4 is unaffected, and band 5 is cut by -12dB.

of each band is user-definable. This approach requires fewer bands than a graphic EQ because it allows you to dial in the specific frequency that you would like to cut or boost, and affect only that frequency by specifying a narrow bandwidth. This makes it easier to custom-tailor the tone to your environment and taste.

Recognizing a parametric EQ is easy. Look for three knobs: a "Frequency" knob to set the center frequency, a "Gain" knob to control the amount of cut or boost, and a "Q" knob to set the bandwidth. Parametric EQs are used for a variety of applications such as eliminating feedback or resonances at certain frequencies. **Figure 3** illustrates

a typical parametric EQ.

A variation of the parametric EQ is known as the *sweepable EQ*. In this type of equalization, the center (or knee) frequency of one or more of the bands is adjustable, but the bandwidth is fixed. In other words, a sweepable EQ is like a parametric without the Q control. You can recognize a sweepable EQ by the presence of a "Frequency" knob, in addition to a cut/boost knob such as those found on shelving EQs. This type of EQ is commonly found in mixers (about which more next month).

Most EQs found in mixers, multi-effect units and some synthesizers are actually combinations of two or more types. A very common EQ configuration includes three bands with shelving high and low controls and a sweepable midrange. This three-band approach allows for a reasonable degree of control over the frequencies that most often need equalization.

Stay Equalized

Next month, we'll delve into the mysteries of mixers, which form the audio centerpiece of virtually all recording studios. Until then, keep on making music... ♦

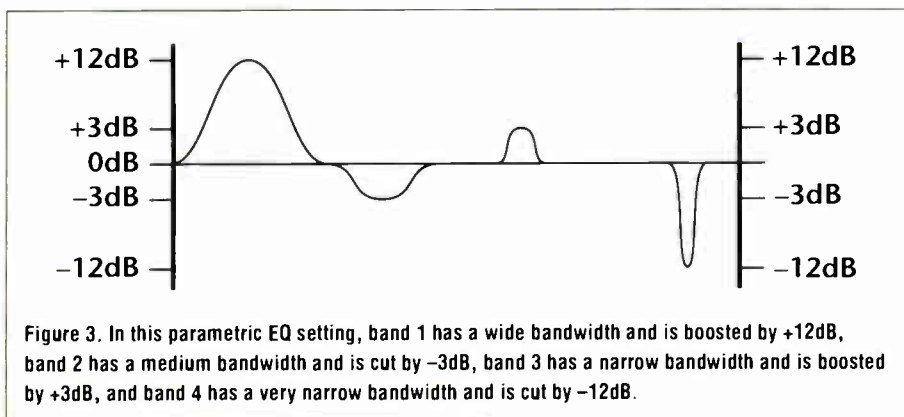


Figure 3. In this parametric EQ setting, band 1 has a wide bandwidth and is boosted by +12dB, band 2 has a medium bandwidth and is cut by -3dB, band 3 has a narrow bandwidth and is boosted by +3dB, and band 4 has a very narrow bandwidth and is cut by -12dB.

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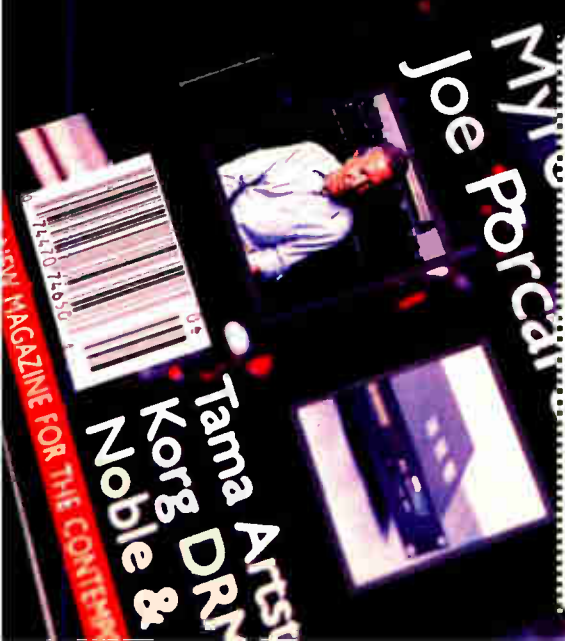
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Russ Freeman ripping tons of labels



PHOTOGRAPHY BY MELODIE GIMPLE

Even in the difficult market of popular instrumental music, Russ Freeman and the Rippingtons are finding great success making music that defies singular categorization. Listeners might not easily label it, but they love it! *Interview by Scott Wilkinson.*

AS I LISTENED to the Rippingtons' latest album, *Tourist In Paradise*, I began to wonder what my response would be if someone asked me "What kind of music is that?" The answer to this question is not at all obvious. There are some artists whose music clearly falls within one category or another. B.B. King sings the blues. Iron Maiden plays heavy metal. The Academy of Ancient Music plays... well, ancient music.

But what of the Rippingtons? Their music is smokin' rock 'n' roll one minute, and smooth samba the next. There are no words being sung, and yet a wordless vocal line soars through the tapestry of sounds and textures. Well-programmed synthesizers are blended with acoustic guitar, saxophone, and "found sounds" from nature. Altogether refreshing and invigorating, but what to *call* it?

I decided to get the scoop straight from the horse's mouth, so to speak. I asked the leader and prime mover of the group, Russ Freeman, what *he* called it. "In the past couple of years, I've noticed that there's more awareness of different musical cultures and styles, thanks in part to the media. So, I'm trying to expose people to this style of music that it is non-vocal, yet still appealing – diverse enough to expose them to different kinds of music they might not have heard before, like African or some kinds of Latin music that have become popular. What I've tried to do is take the contemporary jazz that people like Kenny G have made popular and expose it to audiences that like pop and rock 'n' roll. And that seems to be happening for us now.

"Our music is influenced by different cultures. We have a real worldwide kind of awareness in our music. Also, it's instrumental music that's geared towards the listener who enjoys pop music and dance and rock 'n' roll and contemporary jazz. It's a contemporary form of music that's not really vocally oriented."

Non-vocal, eh? Finding success without vocal tracks is one of the toughest challenges in popular music. People want to hear words of significance, words of meaning. Why does Freeman avoid them? "I've tried to stay away from vocals because I've noticed that when you add vocals to a track, it takes a focus away from what you've started the track to be. That's true in almost any style of music –

dance music or rap or pop or soul. Whatever it is, when you put vocals in there, that's the focus. The words become the story. That's not necessarily bad, but we seem to have been lucky enough to carve a niche for ourselves in the instrumental field, which is very difficult to do. And especially now that we're selling records and

Freeman is also keenly aware of the new categories that have cropped up recently and the advantages that they offer. "There's progressive adult contemporary and new adult contemporary – these are maybe the most accurate labels that have come around in a while. It's also exciting that there are finally some new formats emerging.



The Rippingtons (L-R): Tony Morales, Steve Reid, Russ Freeman, Steve Bailey, Brandon Fields.

really out there being noticed, I don't want to go against the formula we've started. I must say that I'm vitally interested in vocal music, but I want to take it in a different direction, perhaps produce a vocalist, rather than just throw vocals on an album and say 'here's our hit single.' To me that doesn't really work.

"I was talking with Larry Rosen of GRP [the Rippingtons' record label] and he agreed that simply adding vocals to a primarily instrumental group just to expand an audience has never really worked. I mean, it's not really an honest thing to do artistically. What you've got to do is decide what you're saying thematically on a record and then just go for that. And if vocals are part of it, great. But I don't think you can just force them to become part of it. So, that's why I stayed away from it up until now."

I mean, even in *Billboard* magazine, we now have contemporary jazz and traditional jazz – they're finally making a distinction between the two. I think that, out of necessity, you can't say jazz is just one kind of music when Dizzy Gillespie and The Yellow Jackets are quite different.

"In a sense, I think that categorizations are good, because they help uneducated listeners guide themselves towards what they like to hear. Without these categories, they'd be lost. I mean, there are so few ways of really finding the music. I think anything that helps do that, whether it's creating new categories or adding new kinds of formats to radio stations, is helpful to the music."

Speaking of radio stations, with their well-defined (and usually quite narrow) formats and playlists, I wondered how they were dealing with the

▶ Rippingtons' diversity. "We seem to have increased our airplay dramatically this year, partly due to other stations throughout the country expanding their formats to include instrumental music. And a lot of these stations are not jazz stations. They're pop stations. They're easy listening stations. And in some cases they're AOR [Album Oriented Rock]. So, our audience seems to have expanded into the area of radio that deals with not Top 40 tunes *per se*, but I guess Top 40 AOR. This has really extended our listenability I think, and exposed the music to a lot of people who would otherwise not have heard it."

But what about the downside to categorization? Doesn't it tend to restrict the audience's perception of the music? "I think so, in some instances. The Rippingtons are a pretty diverse group. You know we have acoustic ballads, we have hard-driving rock 'n' roll, we have some reggae and calypso influences. There are also many percussion instruments from Brazil and Africa. So when it's that diverse, it's frustrating to be labeled as just one thing. You know, when it's appealing to so many different people because of its diversity. That would probably be the only down side."

ONE THING THAT seems to characterize contemporary instrumental popular music is the use of electronic musical technology, and the Rippingtons are no exception. "I play the guitar synthesizer first and foremost, which is not all that common. Most players are either guitarists or synthesists. I've been able to bridge the gap between writing music and realizing it with digital instruments. On stage, I actually use a Roland GM70 guitar controller to play utility

"One of the things I always try to do is change voices in the melody. I never have one instrument play through the whole song."

parts like brass and strings and pan flutes, or solos. I think that this has been largely responsible for some of my success, because there is a lot of texture as well as melody in this new adult-oriented contemporary jazz. Our music is very melodic, but at the

same time there are different textures throughout. And the technology of MIDI and sequencing has greatly helped in realizing that."

I had particularly noticed the wonderful use of shifting textures and moods in each of the cuts on *Tourist* (all but one of which are written by Freeman). "One of the things I always try to do is change voices in the



PHOTOGRAPHY BY MELODIE GIMPLE

melody. I never have one instrument play through the whole song. I also change the textures within a song. One of my theories is that the average adult listener has heard thousands of hit songs. So everyone is almost like an unwitting expert in the field of music, because they've been exposed to so much of it. And I think that the awareness of details is much higher than a lot of people give the listeners credit for. So I try not to play that down, really give the best that I can in terms of production – on stage or on the albums, because people do appreciate it. They hear it and respond to it."

How does technology aid in the process of composition? "A lot of it is mental at first. I'll come up with a theme or an idea or some kind of musical phrase that I think is strong enough to be developed. And I don't really use too many instruments for that. I'll try to retain it in my mind. Then, over time, the idea will almost develop itself. At that point, I'll sit down with a guitar or at a keyboard and play it to tape or a sequencer. When I have finally expanded a tune into a full arrangement, I'll decide which parts would be best served by live players and which parts would be better played by a sequencer.

"I like machines. I mean, not in the machine way, but I like them because they're exact, they do what you tell them and their time is right. So, I'm

partial to machines. But the trick is not to have anyone know what they're hearing. I have a great story about Gregg Bissonette, who asked our drummer, 'How did you play that snare and hi-hat thing? It sounds impossible!' Well, it *was* impossible. What he was hearing was sequenced, but it was musical enough that it wasn't obviously sequenced. That's what I try to do, especially in the rhythm tracks. Otherwise, it's a dead giveaway if you hear a part that's unplayable by a real player, like super-fast repetitions. I try to stay away from that and use more organic parts that a real guy would play. In some cases, I've doubled the machine with a player. Also, I'll take the machine out and have a real player play a different section. We started doing that on our *Moonlighting* album – the machine played the bass part in the body of the tune, and then Jimmy Johnson came in and played fretless bass, when the texture of the song changed."

Another technique that Freeman uses extensively is the combination of electronic and acoustic sounds. "I'm trying to strike a balance between acoustic and electric sounds. Of course, the digitally-based sounds and samples are important to us. But in some cases, we'll actually double them with real sounds or not use the samples at all. For example, Steve Reid used almost no percussion samples on *Tourist In Paradise*. The sounds were all real – all of the African instruments were really there. I'm also very fond of the human voice. It's a powerful and emotional instrument that cannot be reproduced."

While this statement might seem to contradict his instrumental orientation, in fact it doesn't. Freeman often uses wordless vocals as another instrument within his ensemble. On *Tourist*, Carl Anderson provides some powerful performances singing in a "vocalise," or wordless style. Brandon Fields, one of the hottest session sax players in the business, adds another distinctly acoustic flavor to the sound of that album. In addition, the cymbals are all played live, even when the drum tracks are sequenced.

Another acoustic aspect of Freeman's music is known as the "soundscape," which might be described as the "non-musical" part of a song. "It's just a texture that might include a wind-storm, or rain sounds, or things in nature. For example, on 'One Summer Night In Brazil' [from *Tourist*], Steve Reid used cricket sounds, and tried

to create a nocturnal atmosphere." There's nothing like a little ambience, I always say.

ALL OF THESE techniques are very well suited to recording in a studio, but what about live performance? The Rippingtons are on the road more than I care to contemplate (in fact, I caught up with Freeman on the *one* day he was in town between tours). "I have a Linn 9000, and another Linn sequencer. That triggers the Kawai K5 and the Yamaha TX816 on stage, just for extra keyboard parts, like bells and stuff that Rob Mullins can't grab."

One problem facing anyone who uses sequencers on stage is the fact that you're locked into the programmed tempo. Many performers find this to be quite frustrating if they want to take a tune a little faster or slower than usual – adrenaline can do some strange things on stage in front of a full house. "You know, that's true. And a lot of times the tempo seems to fluctuate. But I have variable tempo inside the Linn. If I don't like it, I'll change it right there on the spot. It's easy to do. Most of the things we use the sequencer for are up-tempo, almost rock 'n' roll things, anyway. In these

"The average adult listener has heard thousands of hit songs. So everyone is almost like an unwitting expert in the field of music, because they've been exposed to so much of it."

cases, we wouldn't want a real variable tempo. We also use crossfades, like the tune will fade out and go into a different tempo. So, there's still some flexibility with it."

Still, it must be a bear carting all of that technology around and dealing with it on stage. "The keyboard player has a massive rack. I have two massive racks. The drummer has one. The percussionist not only has the E-mu Emulator III, but he's got a sample player as well, both of which he plays from a Roland Octapad. Our drummer uses pickups on his drums, so he can play the rims and trigger his Akai S900. He'll sample some of the soundscapes from the CD right into the S900, and then he plays them on stage." Other essential equipment includes a Roland D50 and an old MKS30 module, a

Korg M1, and a Kawai K5. In addition, an E-mu Proteus has recently joined the lineup.

What about the acoustic side of things on stage? "It's to the point where I think any more electronics would be overkill. I always play acoustic guitar on stage when I can. And our newest member, Jeff Kashiwa, will be playing the saxophones and flute – it's just a real nice combination. I've encouraged him not to get a rack.

"Touring has gotten really good for us this year. We went to the Orient and did a tour in Japan. We've also been to the Caribbean, and next year we'll go to Europe. So, all of a sudden, we've become an international kind of a band. That's what I've hoped would happen for the group. One of my original goals was to become a world-conscious kind of touring unit, because as such, we're exposing our music to people out there in different countries. Also, we're being exposed to different cultures, and that can only help the music. I love that. To me, it really brings the whole thing together."

IMUST ADMIT that I've always been curious about the name of the group. "I was asked to do an album for a Japanese label, and I was already signed as Russ Freeman on another label, so I couldn't use my own name. I had to come up with a pseudonym. One night, I was at a club watching my friends play, and I said, "Those guys are ripping. They're tearing it up. They're...the Rippingtons!" After that I thought, well, that's a stupid enough title to use. I thought it was just gonna be one record, on a Japanese label, and that was it. I thought I could use the most inane thing I could think of. But as it turned out, we licensed that album in the United States. That was the *Moonlighting* album, and it immediately took off and became a top ten record. So there was a lot of interest and we kept the name. You know, it kind of stuck."

Another easily identifiable logo is the "jazz cat," who is seen surfing on a guitar on the cover of *Tourist*. "There's a real visual identification thing with it. People can go into a store, and they see pastel and bright colors against black. And they see the jazz cat and say, 'Oh, I know that group.' It's really been a good identifying point for the band. The original jazz cat on the

Moonlighting album was a 1984 Atlanta Jazz Festival poster. We licensed that piece from Bill Mayer, the artist, after which we asked him to do original artwork for *Kilimanjaro* and *Tourist*."

What about personnel? "Originally, the concept for the band was that it would change with each album, and I would have different guest artists come in. That way, there would always be a fresh new thing. But in the past couple of years, we found a core of players that we've stuck with [including Steve Reid on percussion, Rob Mullins on keyboards, Tony Morales on drums, and Steve Bailey on bass]. This has added a real unity to the group that otherwise would not be there. The band is ten times tighter than it would have been if it was always pick-up players. I think that really adds to the sound. We still have artists like Carl Anderson and Brandon Fields coming in."

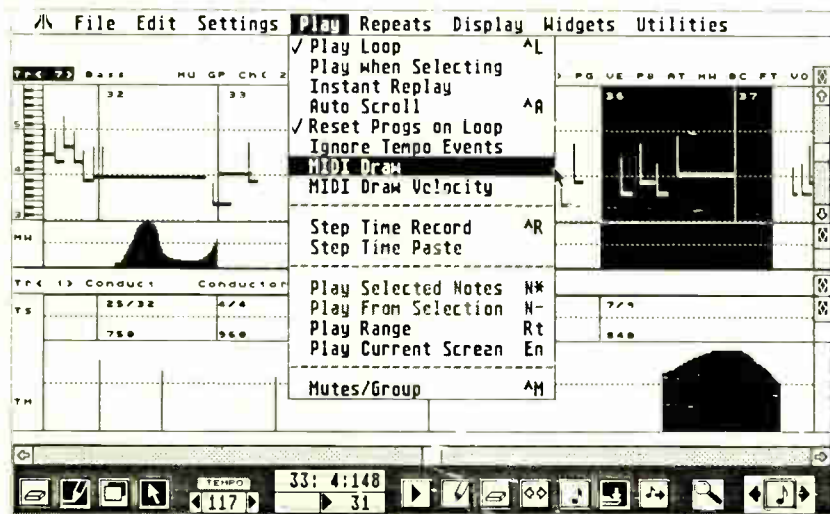
As improbable as it seems, Freeman still has time to devote to other projects. "Tons of them. I've done a lot of projects in the last couple of years as a producer and arranger for different artists. I did a couple of songs with Tim Weisberg, and Full Swing [a vocal trio] has recorded a number of my songs. I've also written a number of songs with David Naranjo. I co-wrote the title track of his last album *Every Step of the Way*, which was a real good song for him. I'm getting more and more calls to produce other bands, which is exciting to me."

And the future? "We'll continue to make Rippingtons albums, because they do well for us and it's fun. It's an exciting avenue. I would also like to produce other artists and other types of music. Maybe write for films eventually."

WORTHY GOALS, TO be sure, and quite diverse, of course. I have no doubt that Russ Freeman will meet those challenges brilliantly as he continues to explore new musical realms. His exceptional talent and skill have brought him success in a most difficult market, even though his inherent diversity contributes to that difficulty. More importantly, they have also brought him satisfaction, allowing him to make his own statement in his own way. So, it really doesn't matter *what* you call his music. Just listen and enjoy. ♦

Dr. T's TIGER

Big Game Hunting in Softwareland



TIGER's main editing screen with additional graphic controller editing window.

Dr. T's introduces a new generic graphic sequence editor that works with the Atari ST and any MIDI File format sequence.

Review by Glen Darcy.

TIGER, 1. A large carnivorous Asian cat having a tawny coat and black stripes; 2. a hip term used as a pick-up line in a bar, as in "hey Tiger, hubba hubba;" 3. a graphic editor from Dr. T's Music Software. In today's lesson we'll be covering definition #3.

So, What Is TIGER?

TIGER (The Interactive Graphic Editor) is a graphic sequence editor that is designed to make the tiresome task of editing sequence data easier. It does so by displaying note and controller information in a graphic format as opposed to the standard text listings found on most sequencers. The program works as a stand-alone product or it can be used with any sequencer that stores its file information in standard MIDI File format. I used it with Dr. T's KCS v1.7 sequencer, which, with their Multi Program Environment (MPE),

amounts to a very neat and complete system.

Although it can be run on its own and record MIDI events, TIGER is not really a sequencer. Its major purpose in life is to be an editor, so I will consider it as a companion program for other sequencers.

Some General Features

The screen display looks much like other graphic editors on the market (those included within a sequencer, that is), although it seems a little less cluttered than most. One problem I've had with other programs is they get icon-happy and fill the screen with functions that aren't used very often. With your monitor at any distance over three feet, you can't tell what you're doing or where you're clicking. TIGER makes use of icons and pull-down menus in a way that makes good sense and keeps you from squinting

when your computer monitor can't be kept within arms length. And while TIGER will run on a monochrome or color monitor, the owners manual suggests that you use the monochrome screen (with which I agree).

Unfortunately, I found that the program was not very intuitive. The owners manual *must* be read (not that you wouldn't thoroughly read your owners manual!). On a positive note, the manual is well written, and includes a good tutorial that will get you going fairly quickly. I found after reading just this section alone, I was able to get around TIGER pretty well and could figure out a lot of the functions not covered in the tutorial. Between the contents and index, I was able to answer all of my questions quickly. Each of the pull-down menus and icons are described in detail and there is a chapter describing different ways of utilizing the program. In the back are also some useful MIDI charts and quick reference tables for most of TIGER's functions.

TIGER allows for real-time editing of note, controller, tempo, and time signature data. Loop points can be set so as to hear and edit a phrase repeatedly. I used this feature often. When redrawing aftertouch or mod wheel data, it's almost impossible to correctly edit them 100% in one pass. Also, if you really mess up (i.e., your mouse slipped), you can hit the undo key and your data will be restored to the last settings. Multiple tracks can be brought up on the screen at one time, and each of these tracks can be edited in real time. I personally liked this because I record all of my drum parts on separate tracks and it's nice to be able to see where every drum is in terms of time and velocity.

The playback functions are fairly

"The program works as a stand-alone product or it can be used with any sequencer that stores its file information in standard MIDI File format."

extensive, allowing for many options. Tracks can be solo'd, individually muted, grouped together for selective playback, or you can press the spacebar to hear all tracks from the beginning (muted ones excepted). I appreciated being able to point the mouse at a measure, hit a number on the ten key pad, and hear that many bars played.

For example, point the mouse at bar 12, hit the number 3, and bars 12 thru 14 will play in an endless loop. Up to 6 cue points can be set and recalled. If you're using KCS v1.7, modifying these cues in TIGER will also modify them in KCS and vice versa.

The Display

As stated earlier, the display is typical of many graphic editors. Notes are displayed as L-shaped characters – the stem height representing velocity (note stems can be set to a uniform height for legibility) and the length representing duration. Controller data is displayed as vertical lines, with height representing a value between 0 and 127. Controllers such as pitch-bend, whose values are offset (0 being equal to +63), can be centered or balanced around the value of +63.

At the top of the note display is a text area that reveals things such as active track number, MIDI channel number, group on/off indicator, mute indicator, program number, initial volume level, and track offset (the time at which the first event happens). To the left of the note display is a vertical keyboard. This can be used as a reference during note entry or you can click the mouse on a selected key and it will transmit a note on the track's selected MIDI channel. Standard GEM scroll bars allow you to move vertically (pitch) and horizontally, allowing you to move forward or back in time.

In-Depth Editing

The good news is that TIGER is loaded with features, large and small. The bad news is that space won't permit covering all of these features, so I will try to cover the ones I found most useful.

You must first select the note or notes you wish to edit. TIGER offers many methods of note selection. Individual notes can be selected by pointing the mouse and left-button clicking on the desired note. Multiple notes or phrases can be selected by pointing the mouse, holding the left button and dragging the mouse to the desired end point. Separate note ranges can be selected in this way by limiting the vertical distance of the mouse (i.e., selecting notes between C5 and C4 will select only those notes that fall within that range). By selecting "Widgets" (a drop-down menu), you can select notes in a global manner for the current track. This menu allows you to select notes

by pitch (i.e., all D:3s in track 4), select all notes below or above a certain pitch, select by pitch class (i.e., all D:s regardless of octave), select pitch range, and select all.

Once notes have been selected, select the attribute or attributes (pitch, duration, velocity, value, etc.) that you want to edit. Pitches can be transposed, set to a fixed value or inverted around a specified pitch. Velocities can be increased, decreased, inverted, set, and scaled by a selected percentage. Velocities can also be clipped to fall within a specified range or deleted if they fall below a specified value. Note durations, pitch-bends, and any selected controller can be similarly modified.

Many sequencers allow certain functions to operate globally on an entire track, such as quantizing. With the ability to select a note range on which to perform the edit function, you open up many possibilities. And speaking of quantizing...

The quantizing functions within TIGER include all of the standard stuff found in most sequencers, plus some extra options, such as Quantize With Offset. With this function, you can set your quantize value to the normal values (1/4, 1/8 and 1/16), but then you can specify an offset (in clock pulses) to push everything ahead or behind the quantization value. There is also a Quantize With Swing option with a variable swing amount, and a Quantize To Sequence function that uses another track as the reference. Selecting this will quantize the selected note range to the timings of another track.

All standard cut, paste, move, erase and copy functions are supported with the addition of a Fill command that duplicates the selected range of data to the end of the track, and a copy/transpose function that is pretty self-explanatory. An interesting command that I liked was the Stretch/Shrink function. This allows you to expand or contract, in time, the currently selected notes.

Conclusions

Music software is an odd beast. It should be simple to use in order to promote quick, easy work without hampering the creative mood, yet it has to be extremely flexible and allow for intricate fine-tuning of your songs. Finding both of these qualities in one package has been my software quest for quite a while. And TIGER does

indeed fulfill both of these wishes.

I used the program with a WX-7 wind controller which transmits pitch-bend, aftertouch, and MIDI volume in mass quantities. I usually have problems with the WX-7 sending extraneous note-on messages if my fingering isn't perfectly accurate, causing note glitches and multiple triggering. I found TIGER invaluable for editing the kind of complex controller and note data that I transmit. It allowed me to fine tune my sequences in real time with a minimum amount of effort. It did take some getting used to, but as I men-

"TIGER allows for real-time editing of note, controller, tempo, and time signature data."

tioned before, once I read the manual it was very easy to get around the program. Since it can read standard MIDI Files, it will boost the efficiency of the sequencer that you are already familiar with, and can stay with you if you ever decide to buy another program.

The only feature I had any problems with was the Zoom Screen function. There were times when I wanted to zoom in or out three or more times. The problem is that, after you click the mouse, TIGER immediately begins redrawing the display without waiting to see how many times you want to zoom. This can be time-consuming when you have a controller or two displayed with dense note data. One way around the problem is to use a feature that allows you to store different screen displays in RAM and instantly recall them with the function keys. Another problem I experienced was that the smallest zoom window gets extended as the pulse per quarter note resolution decreases. In other words, the lowest zoom time may display no fewer than 4 or 5 bars if you've imported a MIDI File that was recorded at 24ppqn, as opposed to displaying only one bar in a sequence recorded at 96ppqn or higher.

Nonetheless, these minor modifications would probably be the only things I would change in TIGER. All in all, I liked it very much and would highly recommend it to anyone interested in making their editing life easier. ♦

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MUSIC TECHNOLOGY

33

Atari STacy

Laptop Computer

Atari's new laptop version of their 1040 ST computer may be just what the musician called for. Preview by Jeffrey Rona.

THE DECISION TO get a computer or a dedicated hardware sequencer can usually be based on simple ergonomics (not to mention economics). Sure, computers are much more versatile than dedicated sequencers, but there is a big trade-off in bulk, weight, price and physical dependability. If you plan to do any studio, club or road gigs, get a small dedicated sequencer, right? Graphical, software sequencing programs are generally easier to use, but require a bulky computer, fragile monitor and additional cables or peripherals. I know a couple of people who have used the Apple II/c with a flat screen display and an MPU-401 MIDI interface as a portable sequencer, but that was years ago. And while there's a wide selection of laptop IBM PC compatibles available today, few can support MIDI interfaces such as the MPU-401. What to do, what to do...

The answer may have just appeared in the form of a small, inexpensive laptop computer that might just make the decision between dedicated and computer-based sequencers an easy one. It's the new STacy from Atari. The STacy is the functional equivalent of the 1040ST, which has gained a lot of favor from musicians these days. I had a brief opportunity to check out the STacy in Atari's busy booth at the recent Chicago NAMM show. It weighs only 15 pounds, which might be considered heavy for a sequencer but falls easily in the "portable" computer category. Its flip-up lid includes a large, high resolution, back-lit LCD screen. The prototype unit on display was not back-lit, but was still quite legible at several different angles.

The briefcase-sized unit comes with one megabyte of RAM (expandable to 4Meg) and a single 3.5" 800K floppy drive. Also included are a numeric

keypad, a built-in (somewhat small) trackball, an expansion port similar to the one found on the Mega ST series (for connecting large screen monitors and other peripherals), a standard ST



expansion port, and connectors for a mouse, external floppy drive, external monitor and joystick. Of particular interest to musicians, Atari's highly insightful built-in MIDI ports were not forgotten. The computer is based on the 68000 microprocessor running at 8MHz, and can be configured with an internal, low-power consumption

"The STacy might just make the decision between dedicated and computer-based sequencers an easy one."

20Meg hard drive in addition to the built-in floppy. Atari claims that the unit can run on batteries for up to 35 hours, depending on the configuration of the machine and the type of batteries used (rechargeables run down faster).

Perhaps one of the most intriguing aspects of Atari's NAMM demo of the STacy was the software they were running. When I took a look at the machine, what I saw was a popular Macintosh graphics program! A small, third-party

company is marketing a Macintosh emulator card for Atari STs that will run a number of Mac programs, claiming speeds greater than a standard Mac Plus. This device is called the Spectre GCR, and is available from Gadgets By Small for \$299.

To answer the question many of you are probably asking right now – no, it won't run Mac MIDI software, or any Mac software that requires any sort of special interfaces or extra hardware. Still, for Mac fans looking for a portable to take out of the house (especially in light of the estimated \$7000 price tag on the upcoming Mac laptop), the prospect of running some Mac programs in addition to ST-based software is very appealing. Those who purchase the emulator must supply the Macintosh ROM chips, which are available as a replacement part from authorized Apple service centers. It would be an infringement on Apple copyrights to sell the device with the chips included.

At a starting price of (are you ready?) only \$1295 (\$1995 with the 20Meg hard drive), Atari clearly should have a winner on its hands. Of course, you'll still need to buy software but, with such a low list price, you're likely to have more bucks to spend on the programs of your choice. Any drawbacks? Well, on the prototype version I saw, the LCD display got a bit smeary, making some games or rapidly scrolling information hard to see. Sometimes the cursor would even disappear when moved rapidly.

With the long-awaited laptop Mac still unannounced, Atari is definitely getting a jump on Apple in the portable market. And at over \$5000 less, this computer could get even more musicians to jump onto the Atari bandwagon. Hopefully, Atari will begin to support the ST (and the upcoming TT) series as diligently as Apple has with new system and utility software. Musicians need very sophisticated system tools to create a functional, reliable working computer environment.

The STacy promises to bring the world of computer-based sequencing closer to the arena now occupied by dedicated sequencers, and take it some steps beyond. I'm not sure exactly where these steps will take us, but I'm sure looking forward to finding out. ♦

PRICE: \$1295; with 20Meg hard drive: \$1995

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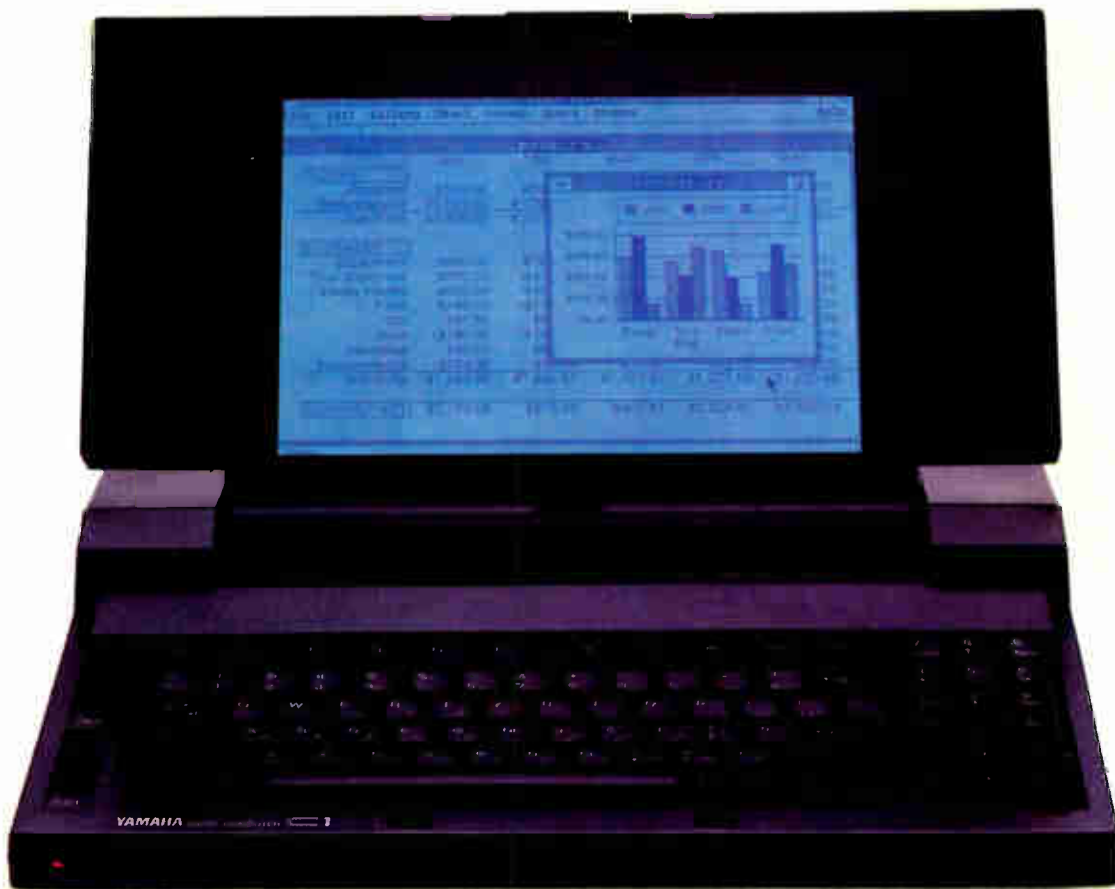
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Spatial Music



ILLUSTRATION BY ANDREW KINGHAM

Technology has come of age in the reproduction of three-dimensional aural imagery. The impact that this will have on recorded music could literally be, as yet, unimaginable.

Text by Ernie Tello.

YOU MAY NOT be familiar with "spatial sound processing" by name, because it's a new and somewhat hi-tech field. But it's quite likely that you will be hearing more and more about it as time goes on. And whether or not you've heard of it, you've almost certainly heard some of its effects.

Spatial sound processing is usually

included in the general category of effects applied to music and sound, but it's important to understand that this process is different from reverb and most other forms of digital sound processing. Effects like reverb and delay allow us to simulate acoustic spaces of different sizes and characteristics. Spatial sound processing allows us to simulate the effect of sound sources

moving within such an acoustic space or field. For example, panning is a form of one-dimensional spatial sound processing with one sound source.

My own interest in spatial music was sparked at a concert in the '70s given by the Harvard-Radcliffe Symphony Orchestra in Harvard Square. It was a rainy evening during which Beethoven's *7th Symphony* and Bartok's *Concerto for Orchestra* were performed. Partly because of the weather, and partly because of the urban setting, it was impossible to avoid hearing the sounds of the city – taxis sounding off, sirens blaring, etc., during the performance. However, rather than causing a distur-

bance in the concert, it blended in (at least to my ears). Or rather, the classical music and the street sounds at night blended together into a larger piece of music that "worked."

This resulted in some alteration in my ordinary perceptions, because as I watched the musicians performing, I became particularly aware of the music as an energy that was circulating through the orchestra according to a plan conceived by the composer, and then traveling out to the audience. On that evening, music became apparent to me as an energy circulating through space as well as time. At the end of the concert, when the conductor and orchestra members took their bows, the whole thing seemed like a charming, somewhat comic ritual in which the audience returned the energy given them according to some special predetermined formula.

After this experience, I have always tended to think of orchestral music as moving in patterns through the space of the orchestra and out to the audience. While studying electronic music synthesis in the '70s, I came across spatial music again, in the form of what was called "location modulation." It soon became apparent to me that even acoustic piano music, in the complex ways the sound board resonates, was just as much a spatial as a temporal experience. Let's take a look at how the new technology is giving us powerful control over this little understood effect.

Where's It Coming From?

In most amplified music, the sound source seems to be your speakers. They project or disclose voices and instruments that appear to be coming from some sound environment that is not exactly "here," but "offstage" somewhere. One of the major effects made possible by spatial sound processing is the ability to make a musical performance, whether live or recorded, inhabit the space in which listening occurs in a way that sounds independent of the speakers. This is achieved by understanding the production chain of audio performances in a different way than in conventional audio engineering. With spatial sound processing, the end point of the production chain is considered to be the listener's ears, rather than a pair of loudspeakers.

Understanding how musical sound behaves in space has been a major

goal of acoustic engineers involved in designing concert halls with desirable sound characteristics and electronic devices intended to simulate these characteristics. In recent years, different people have independently come to the conclusion that sideways or lateral reflections cannot be ignored in concert hall design or electronic sound processing. For example, David Gresinger of Lexicon has developed a concert hall simulator that can utilize up to eight speakers. In a system such as this, which is capable of driving separate loudspeakers on the sides, independent reverberation for front, rear, and side speakers is essential. An alternative to the use of side speakers is the use of front speakers that utilize

"On that evening, music became apparent to me as an energy circulating through space as well as time."

some form of aural crosstalk cancellation, eliminating the sound from the left speaker heard by the right ear, and vice versa, as headphones do.

One of the first impressive demonstrations of accurate spatial imaging was in John Chowning's composition *Tueneas*. This was accomplished using special software running on a large computer. Today, much the same thing can be done with microprocessor-based equipment. Some interesting research in spatial sound processing has also been done in Germany. In one recording of a radio play, the voices of the actors appear to float about the listener with no sense that the sound is emanating from speakers.

Spatial Hearing

One of the primary paradoxes in sonic imaging is the fact that human hearing occurs in stereo, and yet stereo sound reproduction seems to be inadequate for faithfully recreating what we hear. To understand how spatial sound processing works, we must delve into some of the basic phenomena of psychoacoustics that affect how we determine the location of sound sources.

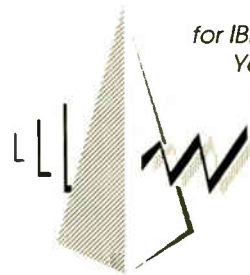
The main cues that allow us to tell whether a sound is coming from the right or left are the loudness or intensity, and the arrival time at each ear. However, if you imagine a vertical plane passing through the center of your head that is equidistant from your right and left ears, then the location of sounds

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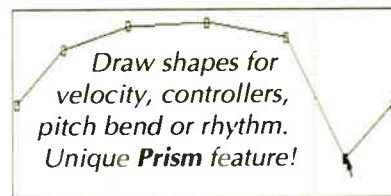
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▶ occurring anywhere on this plane cannot be determined by this method. The loudness and arrival time for such sounds are the same for both ears. The way that we locate sounds above and below, behind and in front, is largely due to our outer ear, and apparently also to our experience with the way sound is conditioned by the shape of our heads.

To prove to yourself that the outer ears, or "pinnae," are the culprits that allow up/down and front/back localization of sounds, perform this simple experiment. Use your hands to fold over your outer ears, shut your eyes, and have a friend shake a set of keys at different places and try to guess the location. Then try the same thing without holding your ears. You'll be amazed at the difference.

From this experience, it is apparent that stereo symmetry by itself does not allow us to hear the true directional characteristics of three-dimensional audio. Some additional kind of encoding is necessary to capture the information deciphered by the brain from the outer ear so that up/down and front/back distances are detected as well.

Simply adding more channels is not the solution. Quadraphonic sound systems failed because adding more channels merely increases the cost without addressing the problems of improving fidelity while preserving the spatial relations of sound sources to one another and to the listener. Besides, directional hearing and clear imaging are possible with stereo headphones. This has been known for some time. I have listened to stereo recordings in which a pair of scissors clipped away around my head with such realism that I was prompted to look down and see if any hair was actually being removed.

Various strategies for capturing and reproducing the directional properties of musical sound have been tried for many years. These include specially designed microphones, speakers, and dynamic sound processing equipment. In order to understand just what is going on with this technology, it is indispensable that we focus on the production chain that is used for developing final products utilizing the latest in musical sound technology.

The Production Chain

Traditionally, the production chain for musical sound has looked like this:

Instrument – Microphone – Recorder – Processor – Speakers. Today's production chain is rapidly becoming something like this: Source – Microphone – Sampler/Player – Recorder – Processor – Spatializer – Speakers – Ears. The ability to produce a final result means accepting the challenge of knowing just what to do at each step of the production chain. Needless to say, this is a field that is still too new for any accomplished masters or proven experts to have appeared as yet.

If one were to assemble a studio consisting of all available spatial sound processing equipment, it might consist of the following: binaural or sound field microphones and their control units or decoders, stereo or multi-channel samplers, automated mixers, effects processors, spatial processors, audio enhancers, and speakers designed for phase cancellation of interaural crosstalk. However, at this point, it is not clear that all of this equipment could be made to function properly as

"I have listened to stereo recordings in which a pair of scissors clipped away with such realism that I had to look down and see if any hair was actually being removed."

a single system. It could very well turn out that the effects produced by some devices would defeat those produced by others, because they were not designed to be used as an integrated system.

The most common error is to treat spatial sound processing Hollywood-style, like a special effect or quick fix to be tacked on after the fact. Make no mistake about it, sonic imaging is not just another effect to throw in your proverbial bag of tricks. Utilizing this technology involves a major commitment that should be considered at the very outset of a project. Ideally, music should be conceived, composed, and orchestrated with spatialization technology in mind to obtain a purposeful, aesthetic result. Many technicians and audiophiles look upon spatial sound processing as the only proper means of faithfully reproducing the sound characteristics of the concert hall. Does this sound familiar? It's the very same issue that we've had to deal with for so long in music synthesis.

Faithful reproduction is a great testing ground to try out the teeth of a new technology, allowing it to show its stuff.

And it's a valid artistic tool for many purposes. But to leave it at that is like discovering a new planet and then bringing back examples of things readily available on Earth. Although bringing the true sound of a concert hall into one's living room or studio is a perfectly legitimate goal, to stop there is to miss out on a tremendous world of creative opportunity. The real future of this technology is the creation of dynamic 3-D worlds of musical sound that otherwise could not exist.

Binaural Microphones

For several years, engineers have tried out many innovative design ideas for microphones that are capable of capturing the directional properties of sound in a three-dimensional environment. The sound field microphone is a multi-microphone assembly of subcardioid capsules arranged in a pyramidal or tetrahedral array. It is designed to work with a control unit that decodes the signals coming from the array.

Recently, I had a chance to test the DSM-5, a low-end stereo microphone set from Sonic Studios that puts dimensional recording in the hands of the average musician and consumer. The key to these microphones is their size. They are small enough to be placed close to your ears in order to capture the way in which sound is conditioned by your head and outer ears. There is some disagreement as to just why they work, but I was able to obtain some very impressive recordings with them.

Another popular approach is to build microphone assemblies in the shape of the outer ear or even the entire human head. These are generally referred to as "artificial head" recording systems. They usually require a binaural mixing console, and are usually quite expensive. Typically, the microphones are placed right in the models of the ear canals. This technique works best when reproduced with headphones that are matched to the microphone assembly. A number of people have shown that when models of the outer ear are used in the vicinity of the microphone, the vertical position of a sound source can be localized even when reproduced with just two stereo speakers or headphones.

As pointed out above, it may be more economical to use an actual human head outfitted with tiny, specially prepared microphones. The two tiny microphones from Sonic Studios are fitted with small loops that allow them to be

conveniently placed over the stems of your sunglasses or eyeglasses and positioned as close to the ear as desired. The best results seem to be achieved when they are not too close to the ear (perhaps individual differences in ear shape become unimportant at a certain distance).

Spatial Sound Matrices

The most well-known spatial sound processing scheme today is the Dolby Laboratories Surround Sound system that is installed in many major motion picture theaters. As you probably know, there are also home units for decoding the Surround Sound signal as well. As a matter of fact, Sanyo has announced a Surround Sound decoder chip that should drive the price of such consumer units to under \$200. In response to this, RCA Records has announced the first CD album mixed in the Surround Sound format. A very simple decoding logic for surround sound is to send the

"One of the paradoxes in sonic imaging is that human hearing occurs in stereo, and yet stereo reproduction is inadequate for faithfully recreating what we hear."

left channel to the left speaker, right to right, right plus left to center front and left minus right to the rear.

Spatial sound processing is something to be used in conjunction with effects processing like reverb and delay. Establishing the direction of the sound source is one thing that can be accomplished with spatial sound processing. If this has been achieved, then the next goal is often to create the effect of one or more sound sources moving through a sound field in one, two, or three dimensions. This kind of processing is effective for both live performance and for recordings. There are a number of distinct techniques that can be used for recording that allow spatialized musical sound to be used in stereo, surround and other multichannel formats.

A sound spatializer like Spatial Sound's SP-1 is capable of handling multiple sound sources in multiple dimensions with a variety of different multichannel speaker setups. In general, you must choose between more sound sources or more spatial dimensions, as both of these require significant processing power. If you must have control over many sources and dimensions,

multiple units can be used to get the most dramatic effects that the human ear and brain can handle.

Once you have created moving patterns for two or three sound sources in a three-dimensional sound field, these moving patterns can be rotated about one or more axes. And if that isn't all your tender brain can stand, you might choose to have the entire sound field expand and contract at a speed synchronized with the beat of the music. Try to become aware of these effects in your environment, and think about how this kind of processing might enhance your own music. The creative possibilities are truly unlimited. ♦

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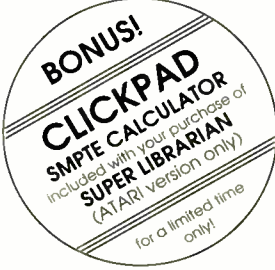
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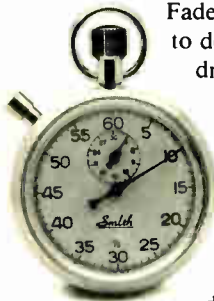
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FaderMaster to delay MIDI

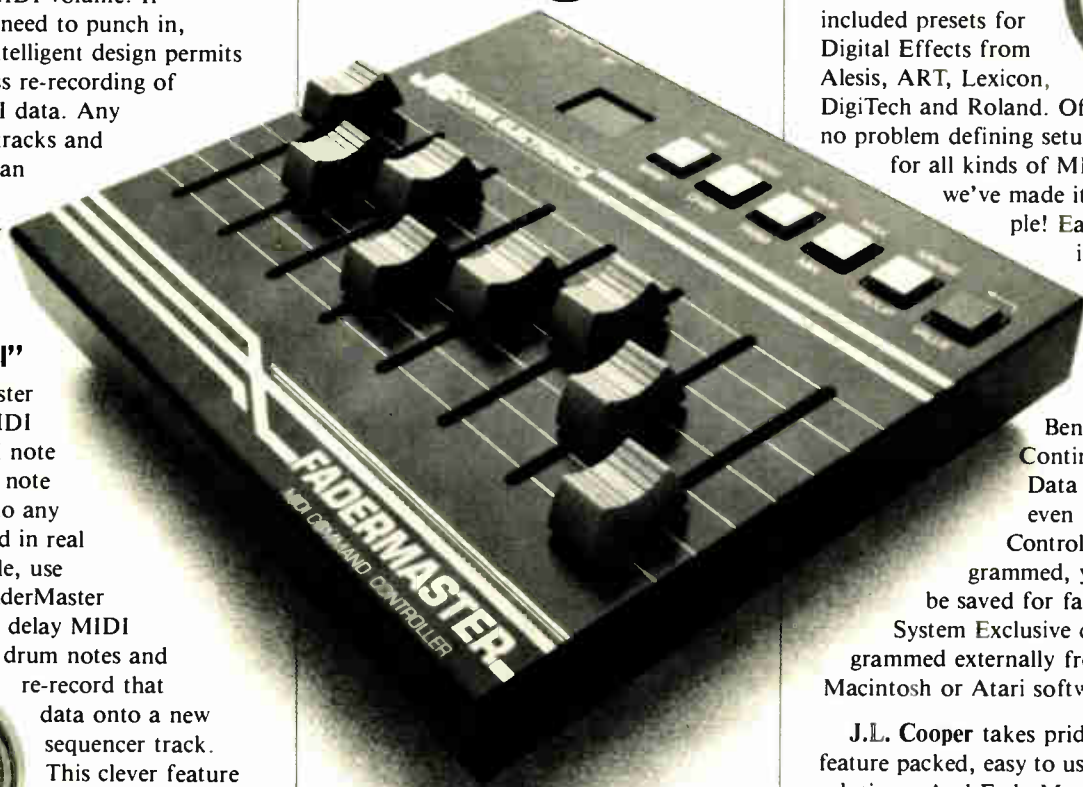
drum notes and re-record that data onto a new sequencer track. This clever feature is useful for adding that "human feel" to your sequenced drum tracks.



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Towards a New Folk Music

An Essay by Travis Charbeneau



ILLUSTRATION BY ANDREW KINGHAM

Musical technology is paving the way for folks everywhere to make music in any and all styles. How will this impact the “music of the masses?” *Essay by Travis Charbeneau.*

ART, MOST OF us will agree, is one of those unique characteristics, like the opposable thumb and a passion for fixed wrestling matches, that distinguish mankind from the lower animals. We have also long thought of art as safe from the dislocating technologies of the higher animals (our-

selves), immune to the onslaughts of automation and robotics. There is some comfort, after all, in the idea that certain distinctly human endeavors will forever remain free of the encroachments of the almighty machine, forever the secure, exclusive domain of real, live humans.

However, MIDI instruments linked

to computers represent a clear and present danger to that comforting assumption. Today, many of us produce music without any acoustic musical instruments, with little or no playing technique, without even microphones or multitrack tape. Today, anyone with a stack of cheap synthesizers, some digital sampling gear and a personal computer can create a sort of “cosmic player piano,” programmed, tweaked and edited at leisure to produce music of startling originality and mind-numbing banality – just like “real” music.

In the 20 years since Wendy Carlos’ “Switched On Bach,” computers have so

► insidiously and so successfully wormed their way into the mainstream music community that popular groups who do *not* use this technology increasingly feel the need to proclaim it on the record jacket. Sort of a Luddite point of pride. Nearly all other pop music, much jazz and even classical and show music is riddled with microchips. Even the new "world music" phenomenon offers vivid examples of how people are melding inexpensive, modern electronics with traditional ethnic musics. Most dramatically perhaps, the "one-man band" has emerged from the realm of vaudeville and arrived with a vengeance.

As they radiate and become more affordable, new music technologies democratize the making of music, enabling the evolution of a new "folk music" worlds away from one player strumming a guitar. This is the "up" side of the technological encroachment outlined above.

The "down" side is illustrated by my reference to the Luddites. These reactionaries smashed steam-powered looms in early industrial England, on the entirely reasonable premise that the mechanical monsters would deprive them of their livelihood. In this article,

we'll be exploring the "up/down" of what I believe is the evolution of a new "folk music," driven by music technology.

Immunity Lost

Long immune to automation, musicians are now finding themselves in a fix similar to that of the Luddites - although, like the Trojan Horse, most at first welcomed the synthesizer. The official line of the American Federation of Musicians *still* appreciates synthe-

"Leaving the 'real' instruments in the dust was bad enough. Abandoning 'real' technique is a sin all-but-unimaginable to traditionalists."

sizers *as synthesizers*. They only started to object when machines began to successfully mimic acoustic instruments. But by then, we were already on the proverbial slippery slope.

Synthesizers and digital samplers rapidly became adept at reproducing acoustic timbres that were certainly good enough for the casual listener

(read: 99% of the music-consuming public). Significantly, they more or less nailed down drum sounds early on. Digital sampling made the first convincing drum machines possible, notably Roger Linn's LinnDrum LM-1 in 1981. An entire drum kit could now fit into a tiny black box, even if the box did cost \$5000. But the prices of competing and ever-more-capable units plummeted to under \$500 within four years.

One ramification of these developments was that sound-proofed rehearsal space was no longer needed. If you've ever had to rehearse a band, you know what an amazing step forward this was (never mind getting your human drummer to even show up!). Suddenly, the folk strummer could now plug in his electric guitar and work with heavy-duty percussion. This development alone radically democratized the making of music.

Then Came Sequencing...

Crude forms of sequencing had been around for a long time as synthesizers were being developed. Analog sequencers could output a small number of user-defined control voltages

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(typically 8 to 24) over a specified period of time. Tiny sequences of notes also drove the new drum machines. But, after MIDI was introduced, the computer was able to enter the loop, and a true revolution was unleashed.

By 1984 the pieces of the puzzle were all present. We had synthesizers that were increasingly adept at producing synthetic timbres as well as some imitative electric and acoustic timbres. We had digital samplers producing the acoustic timbres that the synths just couldn't manage, including the all-important piano and percussion. And we had a crude form of sequencing, MIDI and the computer then assembled the puzzle.

The simple ability to thicken up sounds by playing two or more synths at once was one of the original goals of MIDI. However, once communications were opened, the present Reign of Terror truly began. It was quickly discovered that a personal computer could be taught to speak MIDI to all the little computers that were now controlling the synthesizers, samplers, drum machines and other little black boxes.

Furthermore, the extensive memory

and processing capabilities of the personal computer made it ideal for sequencing far beyond playing a few notes or a simple drum pattern over and over again. And, since the computer merely remembered MIDI performance messages, instead of recording real sound, it was a very simple matter to edit messages which the artist, ahem, didn't really mean to send.

This brought the flexibility of word processing to music. When the picture of the puzzle became clear, it essentially showed the brain of Everyman connected to a pair of speakers.

What About Technique?

You may have noticed that, along with bypassing traditional musical instruments, we abruptly and quite unexpectedly bypassed traditional musical technique. If I can edit every aspect of my composition/performance with the leisure of a writer, produce lightning-quick lines of notes by simply slowing the tempo to a crawl while recording, or paint the screen with whatever notes I like, what's become of traditional musical playing technique?

Leaving the "real" instruments in the

dust was bad enough. Abandoning "real" technique is a sin all-but-unimaginable to traditionalists. Any rube with an ear can now make music.

As my word processor analogy might indicate, the MIDI/computer aesthetic is very much like writing. A major impact of this revolution is that, for the first time, music has been taken out of the realm of "real time." It's as though Bach could write *and actually hear* his paper charts in the same act. And if he didn't like what he heard, he could scratch in an edit and immediately hear the change played back, not just on a harpsichord, but with full orchestration.

Yet another ramification is that, in addition to the absence of "real" musical instruments and the irrelevance of real time playing ability, we have also erased the vast gulf between composition and performance. With MIDI and the computer, the composition *is* the performance, quite literally – a performance which executes at the push of a button, to be recorded on analog or digital tape or simply heard "live," if a computer can ever be considered alive.

The era of coaxing a coterie of frac- ▶

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► tious and costly musicians into giving a performance remotely consistent with your original vision is gone. You can still do it, and the old way offers unique pleasures in addition to the well-known agonies, but wholly new options have arrived. And my classical pretensions are not wholly vain. The musicians union reports new intrusions into live musicals, ballet and even opera, and recorded neoclassical music is already riddled with MIDI.

The implications are radical. Thousands of dollars for musical instruments? They're now available to any rube for a few bucks on floppy disk. Samples of 2500 instruments will now fit on a single optical compact disc, ready to jump to life in your digital sampler.

Thousands of hours of practice to master a single instrument? Again, if any rube has got the ear, he or she can now master thousands of instruments without a single hour of "practice" as it has been traditionally known.

Thousands of dollar's worth of equipment and recording studio time to produce your music? Prices for MIDI gear are dropping like those of the proverbial ballpoint pen, and features are multiplying at a geometric pace. The once-daunting user interface is becoming increasingly "friendly." Recording gear, from remarkably good analog equipment to all-digital setups, is likewise dropping in price and increasing in features. Any rube with a credit card...

Is Obsolescence Obsolete?

Clearly, the all-digital music workstation will soon come to replace the piano or organ as the "family musical instrument." The price/performance curve cited above will continue to apply, and the gear will get easier and easier to use. If you've seen any of the stuff now available in shopping mall organ stores, this conclusion is obvious enough. What is today an elite digital technology, limited to the "technonerds," will become as common as the VCR most of us program and watch everyday. Helping it along is increasing maturation, with less and less threat of obsolescence.

Obsolescence has wreaked havoc in electronic music for many years. My favorite anecdote involves the Buchla Music Box, a computerized music system which was state-of-the-art in 1975, selling for around \$140,000. The

Norwegian Music Academy recently sold theirs for exactly \$29. Lay that kind of obsolescence curve on your average rube and watch any interest in electronic music die a quick death.

But the curve is flattening. For example, while there continues to be dramatic advances, sound generation technology itself is at least *beginning* to stabilize. Affordable digital sampling gear, for instance, now easily reproduces the 20-20,000Hz bandwidth of human hearing. Unless human hearing changes, one important aspect of sonic quality has already plateaued.

Furthermore, just as the old Moog instruments established an "electronic bass" 20 years ago to which musicians are still hopelessly attached, today's popular gear is establishing unique timbres which will persist thanks to *their* unique sound. Yamaha's FM synthesizers, Roland's D-series synthesizers, the Oberheim analog instruments and others can be acquired safe in the knowledge that the sounds themselves will not become obsolete.

In fact, no one is completely sure about the entire range of sounds these instruments are capable of producing. Thousands of new patches are written every year. Some of them stun the original designers of the gear who simply didn't have the person-hours needed to tweak every parameter in every possible direction to get every possible sound. The humble \$200 Casio CZ-101 continues to astound its owners who download the latest patch via modem from their users' group, or simply copy the parameters out of music magazines. An entire third-party "patchware" industry has arisen. The same trend applies with samplers and digital samples.

In addition, multitimbral instruments like the D-110, TX81Z and others make a lot of noise all by themselves. How many such modules are enough for a single system? Until recently, a shortage of available voices forced many computer musicians to buy ever more gear. But, once you've got a hundred different voices going at the same time and all 16 MIDI channels are simultaneously pumping out messages, you've probably got all the noise you can stand.

Yet another stabilizing factor is the MIDI specification itself. Assuming it does go on to higher revisions, it will of necessity have to be "downward compatible." The established user base is simply too huge to be ignored.

In fact, that same MIDI spec is expanding to cover a host of related but non-musical applications: digital effects, lighting, mixing, and so on.

On the software front, we find interactive compositional software, patch editors/librarians, and graphic interfaces that generate musically interactive video images. In addition, evolving notation software takes MIDI Files created by complete music rubes like myself, and prints them out in elegant standard notation, in case Bach would like to read them after all. I probably needn't elaborate on the progress being made generally in personal comput-

"Most dramatically perhaps, the 'one-man band' has emerged from the realm of vaudeville and arrived with a vengeance."

ing that will make it even faster and easier for us rubes to use all of these programs and more.

And what about MIDI controllers? Obviously, the black and white piano-style keyboard was considered the most logical way to control a synthesizer. But what about wind and reed players? What about guitarists? We've all seen the progress made in these areas (*not to mention reading about it in MT - Ed.*).

MIDI is thus the revolutionary constitution on which the New Order is founded, providing a focal point that will draw more and more people, musical sophisticates and rubes alike, to the MIDI/computer link. Obviously, those with the talent and interest will continue to pursue traditional instruments and traditional ways of making music. But MIDI easily integrates itself with traditional approaches. Everything from a one-man band to a philharmonic orchestra with one computerized percussionist is possible.

The radiation pattern of musical technology is no different from that of the personal computer, or the telephone, for that matter. Accordingly, and again, this pattern has democratized music.

Okay - another computer revolution. But what does it have to do with "folk music?" My allusion to "any rube" should tell you. The unwashed masses have invaded the *sanctum sanctorum*.

Music By The Folks

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▶ have already entered the Golden Era of Folk Music. The fact that this music transcends any specific genre, that little of it sounds like Woody Guthrie, is beside the point. Folks who have always heard music in their heads, but who were previously prohibited from realizing it for whatever reason, are now increasingly empowered to do so.

Of course, a lot of our new folk music will be utter drivel, the usual junk-over-genius ratio we find in all popular art forms. That's to be expected. Nevertheless, the sheer mass of ferment should bring more and more genius to the surface, servicing ever more specialized audiences with ever more choices. That will be great.

What's not so great is the plight of traditional musicians caught in the transition – the “down” side. Studio musicians (especially drummers, but also string, brass and other acoustic players) are increasingly, often tragically, out of work. As noted above, the arts were supposed to be “safe” from automation and robotics. We are now finding that this is decidedly *not* the case. Technology has always liberated some and oppressed others. Musical technology is no exception.

The musicians' union reports what they describe as “crippling” impacts, with a dramatic drop in working membership. Mr. John Glasel, president of New York local 802, says that vast numbers of acoustic players are being forced to drop out of the advertising business even as one-man jingle operations thrive, powered by MIDI.

On the West Coast, the mixed media link may be even more devastating. Musicians specializing in film score work can literally be locked out by this new technology. SMPTE has been integrated wholesale with MIDI so that music, sound effects and dialog can march lockstep to picture.

The editing capability I mentioned above is quite a boon for the film editor as well. If he or she decides that three overly-explicit seconds of the love scene simply must be cut at the last minute, the accompanying strain of MIDI violins can be shortened accordingly in no more time than it takes to cut the film. In the old, pre-MIDI days, this sort of fix required calling the orchestra back and spending a day or two re-scoring the whole scene, an expensive process which delighted film musicians, and is now all but doomed.

Recording studios are suffering as well. Once you're working entirely in

the digital domain, the sound quality is every bit as good as a fresh-pressed compact disc, even if you did the work in your basement. Already, many studios have turned inside out. The large floor, which formerly held the orchestra platform, is now littered with digital workstations. Only the tiny control room still contains a microphone, perhaps for vocal recording.

Future aesthetic controversies may prove even more heated. The robot-style beat of drum machines has long been condemned as “too mechanical.” Despite the introduction of crude artificial intelligence schemes which help “humanize” new software and machines like Roland's R-8, “mechanical” will always be a handy epithet for MIDI music.

Still more controversial, how much of a live performance today is really “live?” Last year Stevie Wonder appeared at a huge benefit concert accompanied only

“A lot of our new folk music will be utter drivel, the usual junk-over-genius ratio we find in all popular art forms.”

by his computer and musical equipment. The audience loved him anyway, but there is a school of thought that finds the mere appearance of a computer on stage revolting. More interactive systems, like the “human clock” type of interface or even a completely “conductable” MIDI ensemble of the near future might mitigate this criticism, bringing back some of the spontaneity we expect from live performance. But true technophobes will be little mollified by the intrusion of still more technology.

Furthermore, if you use algorithmic compositional software written by Mr. Jones, is the resulting composition the result of Mr. Jones' genius or yours? Can Mr. Jones take you to court if you have a hit record and don't send him a check? Litigation of this kind has already occurred.

Finally, what about sheer surfeit of product? Who can keep up with the new music issuing forth these days from major labels, much less the indies (independent record labels)? Producing music is one thing, getting it to an audience is quite another. Audience segmentation is the name of the game today, but how much segmentation can reasonably occur?

Recording companies have been

ambushed by the new technologies as well as the new artists and are clearly behind the curve. The days of some new blockbuster gold mine like Elvis or the Beatles would seem to be over, but some are obviously awaiting the resurrection of the dead. Meanwhile, the revolution passes them by, and lots of new artists are shut out.

This is especially true of radio. This medium is clearly going through a major identity crisis as its largest audience, the baby boom, ages. Pursuing this demographic has taken mainstream commercial radio from Top 40 AM, to Progressive FM, to Album-Oriented Rock, to today's widespread “Classic Rock” format, a transparent euphemism for “oldies.” Indeed, so-called “Classic Rock” stations across America now resurrect the dead on a daily basis. The “new folk music” had been making inroads into National Public Radio and college markets, but these, too, are currently in a state of wholesale confusion.

In short, like every revolutionary new technology, the guillotine falls on the just and the unjust. However, when the tumult is over, and for better or worse, the heights of what is surely our purest art form will become more and more accessible to anyone who has the vision. This accessibility in itself will usher in an era of genuine “folk music” which knows no boundaries of style or genre. And, once The Terror ends, just as handcraft industries thrive today, the traditional musician can survive and even prosper.

Meanwhile, physical ability, expense, and eventually even the distribution of product will no longer inhibit the making and sharing of music. The MIDI/computer link provides a smooth interface between what is in the composer's mind and what issues forth out of your stereo. Whatever the current dislocations, if the aesthetic of music involves getting “inside” the artist's head, that aesthetic has a brighter future than ever. ◆

Travis Charbeneau is a freelance writer, electronic composer, and futurist based in Richmond, VA. He typically writes on technological, political, and cultural trends. The article above is derived from a paper he delivered on 18th July, 1989, to the Sixth General Assembly of The World Future Society in Washington, D.C., entitled “Towards a New Folk Music: The Computer Revolution in Music.”

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Bartleby Software

BELS/81

A basic, inexpensive and straightforward TX81Z editor/librarian for PC clones.

Review by Robert Scott.

AS YOU PROBABLY know by now, the Yamaha TX81Z is one of the most popular MIDI tone modules ever, even though it's a pain to program by itself. For those of you who use an IBM

appropriate subdirectory, and copies the files from the master disk.

Each editor and librarian occupies a full screen, all of which is well-designed and logically organized. Parameters are selected by using the arrow keys on the keyboard, which I found to be a bit cumbersome; I would like to see a mouse option in future versions. Help information regarding the currently selected parameter is always available. Unfortunately, the editors do not send System Exclusive (SysEx) data in real time as you change parameters – you must send the data in the editor *en masse* to the 81Z in order to hear the changes you've made.

Each screen offers several appropriate functions such as copying files,

several 81Zs. This function doesn't (but should) allow you to change the program's MIDI Thru mode without going back to the program setup screen. The Voice Editor includes a random patch generator that randomizes only the parameters you have marked.

I installed the program on an AT-compatible computer with EGA color graphics and a hard disk. My purpose was to edit some 81Z voices and performances specifically for use with a wind controller (an Akai EWI, in this case) and organize them into banks. Editing was straightforward although somewhat slow, requiring many saves to the 81Z to check out my edits. Moving voices and performances around within a library was quick and easy

File: INIT.v1 BELS/81 Voice Editor Channel: 1

Voice Name: INIT VOICE

OP. NUM	1 ON	2 ON	3 ON	4 ON	LFO				FUNCTION	
Fix/Rat	RATIO	RATIO	RATIO	RATIO	Wave	TRI	PMD	0	Mode	POLY
Freq	1.00	1.00	1.00	1.00	Speed	35	AMD	0	Bend range	4
Wave	W1	W1	W1	W1	Delay	0	Sync	OFF	Portamento	FULL
Detune	0	0	0	0	SENSITIVITY				Porta. time	0
Out lvl	90	0	0	0					FC Volume	99
EG					AME	OFF	OFF	OFF	Pitch	0
ar	31	31	31	31	EBS	0	0	0	Amp	0
d1r	31	31	31	31	KVS	0	0	0	MW Pitch	50
d1l	15	15	15	15	P Mod	6	4 2-3 1		Amp	0
d2r	0	0	0	0	AMS	0			BC Pitch	0
rr	15	15	15	15	OPERATOR ARRANGEMENT				Amp	0
EG Shft	OFF	OFF	OFF	OFF					P Bias	0
Rate	0	0	0	0	EG Bias	0	Middle C	C3		
Level	0	0	0	0	Algorithm	1	Reverb Rate	OFF		
NOTE					Feedback	0				
Yamaha's INITIAL VOICE DATA										

Load Save Assign Hear Print GoToLib Ops Rand Quit
Load values from file or TX81Z (<ALT>-L)

The BELS/81 Voice Editor screen.

PC/XT/AT-type computer in a studio that includes an 81Z, Bartleby Software provides Bartleby's Editor/Librarian Software, or BELS/81. This program, retailing for a mere \$49.95, requires the ubiquitous Roland MPU401 or compatible MIDI interface and will run on a color or monochrome system with or without graphics (the program doesn't use it).

The first nice thing I noticed was the documentation – it's well-organized and clearly written. The next nice thing I noticed was the fact that the software isn't copy-protected. It even comes with an installer program that creates the

printing the screen, and loading and saving files to disk or the 81Z. These functions are invoked from a menu or with "power" key combinations. Once you learn these power keys (which are quite logical), you should be able to zip through most operations.

These functions include some of the nicest features of BELS/81, such as the ability to hear a series of notes (that you specify in the program setup screen) played on the 81Z directly from the computer. With the Assign function, you can change the patch in the 81Z and the MIDI channel on which the program transmits in order to address

using the power keys.

Overall, I like this program very much. It is logically organized in operation and appearance, and it has a solid feel. I do wish that the program sent SysEx in real time as you changed parameters. Nonetheless, if you are looking for a basic, inexpensive TX81Z editor/librarian program for the IBM computer family, this one is worth checking out. ◆

PRICE: \$49.95

MORE FROM: Bartleby Software, P.O. Box 671112, Dallas, TX 75367. Tel: (214) 363-2967.

Hal Leonard Publishing Untangling MIDI

A new videotape designed as a beginner's introduction to MIDI is under review. Review by Dan Rue.

THE PURPOSE OF *Untangling MIDI* is to give the new kid on the hi-tech block a clearer understanding, a practical foundation upon which to approach this...this MIDI stuff. Perhaps you (or a friend, say) have just purchased a slew of new equipment, all of which, naturally, is MIDI-equipped. But you don't have the slightest idea what all that entails – you're the target audience for this videotape.

As I watched the video, written and presented by Brad Vinikow, and went through the exercises outlined in the accompanying workbook, I realized that I was coming from a knowledgeable point of view, which has its good points and bad. On the positive side, since I'm familiar with the subject matter, I know what specific things *should* be covered, and happily *Untangling MIDI* seems to tackle just about all of them. Beginning with an explanation of the master/slave relationship between various pieces of MIDI equipment, the video goes on to explain how MIDI and audio are two different animals, some common MIDI-jargon like "tone generator" and "master controller," and the nature of "time-based" gear like drum machines and sequencers, including the concept of "synchronization." All in all, the material is comprehensive, certainly enough to get you and your MIDI studio rockin', and presented in a logical progression.

So, information-wise *Untangling MIDI* covers the bases. Unfortunately, bases loaded doesn't necessarily guarantee that a great hit will follow to drive them all through to home plate. I found that all too often the jargon was not re-worded clearly enough to be comprehensible to the absolute beginner. For example, after Mr. Vinikow demonstrated how a master keyboard playing a piano sound could be layered with a slave synth playing a string sound, he switched the string sound to a horn to show that MIDI sends a "description" of a performance to the slave, rather than the actual audio sound itself. In other words, MIDI doesn't care

what it's playing, just *how* it's played.

Unfortunately, he never spelled this point out completely. He simply performed the demonstration and followed up by saying, "It's like telling a violinist to play something, then telling a trumpet to play the same thing. You describe the part to them, but the actual sound comes from each individual instrument." To me, that's not getting down to the brass tacks, and if you really don't have an understanding of what's going on technically, words like "describe" are too ambiguous.

As another example, Vinikow introduced the concept of "real time" following another performance demonstration with these words: "What you just heard was an example of *real-time* performance. In other words, you can build up layers of sound while playing."



PHOTOGRAPHY BY MELODIE GIMPLE

Hal Leonard's *Untangling MIDI* video.

He continued with a discussion of sequencers and time-based "devices" (another fairly non-descript term littered throughout the presentation), and how they do not operate in real time. To me, this leaves a gray area in comprehension, especially for the beginner, because no mention was made of the flip-side of the coin, step-time. What happens when our young, green MIDI user is confronted by a sales rep or reads product literature that stresses the advantages of "real-time sequencing?" Again, the bridging words, something like "real time refers to actually pounding on the keys of the synth, as opposed to playing the part back from the sequencer," are missing. The key

M I C R O REVIEWS

idea is presented, but the brass tacks are not exposed.

I finally came to a point at which I asked myself, "Am I wrong? Is enough said here to enlighten the unknowing?" So I tested it out on a couple of musician friends of mine. One of them had a basic understanding of MIDI, the other had no knowledge of it outside of the fact that it's some synth-thing (she's a guitarist). Neither were able to follow the presentation entirely. Mind you, my friends aren't the ones reviewing this tape, but it helped to strengthen my suspicions.

In all fairness, I must stress that the basic concepts *are* here, and repeated viewings of the videotape are certainly going to induce a clearer understanding of what Vinikow is saying. In addition, the accompanying workbook is particularly useful in the "how-to-hook-it-all-up" category, probably the first barricade a new MIDI user has to overcome, taking the student through various common MIDI setups. The workbook also includes a short glossary of common MIDI terminology that helps to clarify matters.

But the bottom line remains: if you're looking to recommend this videotape as an instructional product to a friend, you'd better be prepared to answer some follow-up questions. If you're in this thing on your own, and you're trying to make heads or tails of this strange bunch of gear in which you've just invested, it would be worth your while to spend the time reading a book on the stuff in addition to watching the video, 'cause you ain't gonna get the whole ball of wax here. *Untangling MIDI* can be viewed as an excellent, reliable reference guide for the fresh and still-confused, but without some initial exposure to the jargon, without at least a *basic* understanding of the technology behind MIDI or other computer languages, it's likely to lead to more questions than answers. ♦

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Mastering D-50 Maneuvers



ILLUSTRATION BY TOBY GOODYER

This month Lorenz takes us through a step-by-step training course on the subtle programming capabilities of the Roland D-50 L/A synthesizer. Text by Lorenz Rychner.

LAST MONTH, WE examined the way in which the D-50 combines layers of sound to produce the 64 patches that it can hold in memory at one time. This month, I'll be taking you through the planning and programming of a patch that will involve most parameters in some way or other.

All you need to begin is a patch that you don't mind altering permanently so that you'll be able to store ("write") the result to its memory location. I'll assume that you can find your way around the different screens since it would take up too much space to describe every move in terms of push-

ing buttons. Instead, I want to use the available space to explain the reasons for pushing certain buttons so that you can follow my train of thought.

I'm shooting for a Brass Horn type of sound that feels like the horn is miked from a close distance. This sound should have all of the realistic and breathy expression you'd ever want, from the nastiest splutter on lower notes to an impossibly pure and extended high range that mellows out and stays musically useful. Sustained notes should sound modestly modulated without any obvious chorus sweeps, and velocity should make a big difference between polite classical

sounds reminiscent of French Horns and raunchier tones like those from trombones (*Be careful what you say about trombones!* – Ed.). Easier said than done? Let's make a shopping list of what we know about such sounds.

Shopping List of Ingredients

First of all, let's agree on the basic patch type. A D-50 layer provides the opportunity to use four partials in two tones. This leaves us with eight note polyphony, plenty for even the richest brass arrangement. In one of the two tones, I intend to use the sawtooth waveform for one partial and the famous breath PCM sound for the other partial. It's no secret that the sawtooth is the basis for most synthesized brass (and string) sounds, and the breath sound can help us achieve the desired impression of a close-up microphone. If we ring modulate the sawtooth and

the breath, the result should be a touch of metallic color.

The other tone should provide more of the realistic attack aspects of the sound. We'll be looking for just the right blend of blown attack transients from among the PCM samples. With this rough outline in mind, select a patch you can spare and turn it into DUAL mode (ignore the split point SP), then set the BAL to 50.

Lower Tone – Common Parameters

Press L-Tone Edit and name the tone 'Breath-Horn,' then press Exit and move on to the Common screen. Let's think about the structure for a moment. There is rarely only one "right" solution. Remember that S stands for synthesized waveform (square or sawtooth), while P is a PCM sample. Here I suggest structure #5 because it offers ring modulation that can add the desired metallic flavor.

What about the Pitch Envelope? It's typical for brass sounds to have a quick wavering of pitch at the beginning of most notes, momentarily reaching a higher pitch than that of the intended note. It's funny, we're so used to this in most commercial and military styles of

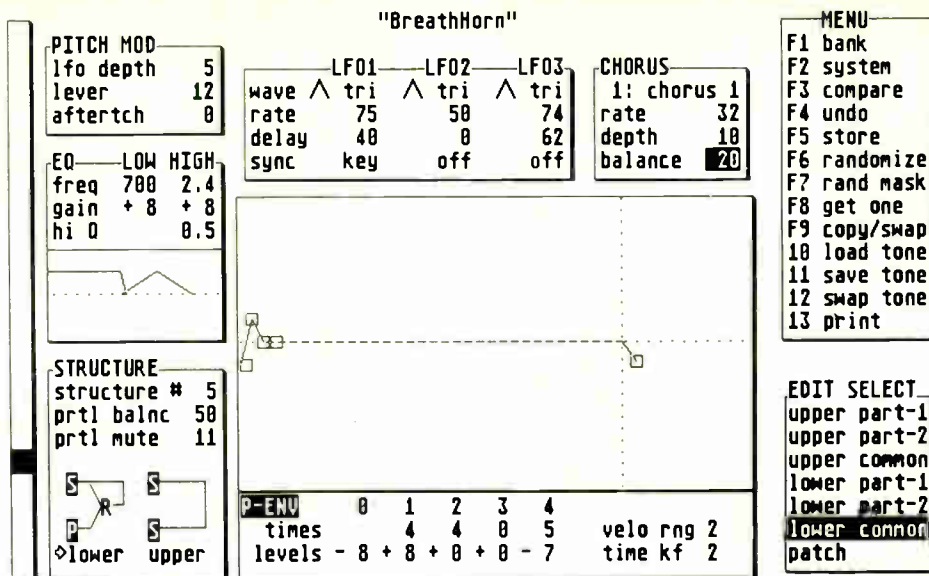


Figure 1. The common parameters for the Lower Tone with the Pitch Envelope displayed graphically.

playing that a classical player can sound flat if he just plays the true pitch.

Set the envelope timings at T1=04, T2=04, T3=00, T4=05, and the levels at L0=-08, L1=+08, L2=00, SusL=00, EndL=-07. Press the left-arrow button to get to P-ENV Edit and set Velo=02, so that the velocity influences the pitch movement. Set TKF=02 so that higher notes trigger faster speeds for these

pitch movements than lower notes. On the LFO Pitch Modulation Edit screen set LFOD (Low Frequency Oscillator Depth, the constant amount of vibrato) to 05 for a very subtle amount of vibrato, Levr to 12 and Afrt to 00 so that a push on the lever can introduce more vibrato, but aftertouch produces none.

On the LFO-1 Edit screen set the wave to TRI (triangle), Rate=75, Dely=40, ►

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► Sync=Key. Leave LFO-2 alone since we're not going to use it in this tone. LFO-3 is going to modulate the volume of the sawtooth, so set it to the TRI wave with a rate of 74 and a delay of 62 (SyncOff). The EQ (tone control) for this tone is up to you and depends largely on your taste and on your sound system. I set the low frequency (Lf) to 700Hz with a low gain (Lg) of +8, and the high frequency (Hf) at 2.4kHz with a high gain (Hg) of +08, and a high bandwidth (HQ) of 0.5.

Next, set the chorus to type 01 with a rate (speed) of 32, depth of 10, and balance of 20, for a modest effect since we're after the impression of a solo instrument rather than a whole section. This completes the Common parameters for this tone (see Figure 1), so let's get to the individual partials and their parameters.

The Lower Partial

Press Exit twice to return to the L-Tone Edit Menu screen, press Tone Balance to access the Edit Menu for Partial 1, and press U-Tone Edit to activate the *Init* selection. Then press Enter in answer to the question: "Are you sure?" This initializes all of the settings for this Partial. You'll soon memorize the initialized values (see Figure 2). They're handy to know whenever you make a sound from scratch.

Now press Key Mode to access the Pitch screen. It should look like this: CorsC4, Fine+00, KF1. Change it to CorsC3 and Fine+1. The next screen (press the right-arrow button) deals with this partial's responses to LFO (set to "+"), ENV (which is the Pitch Envelope, set to "+"), and Bend (set to "KF").

If doing all of this seems tricky because you don't even know yet what waveform this partial is going to play, check the next screen to clear this up. The Wave is SQU. Change it to SAW. Are you wondering about the other readout, showing a PCM number? Don't let this confuse you - the PCM is currently inactive because we have already selected structure #5 where partial 1 is always a synthesizer waveform, so ignore the mention of PCM on this screen.

The next screen deals with the pulse width of the waveform, and all of the initialized values are at zero so that the LFO assignment doesn't matter. If you were to let one of the LFOs modulate the pulse width of a sawtooth wave, you'd get the kind of sweeping

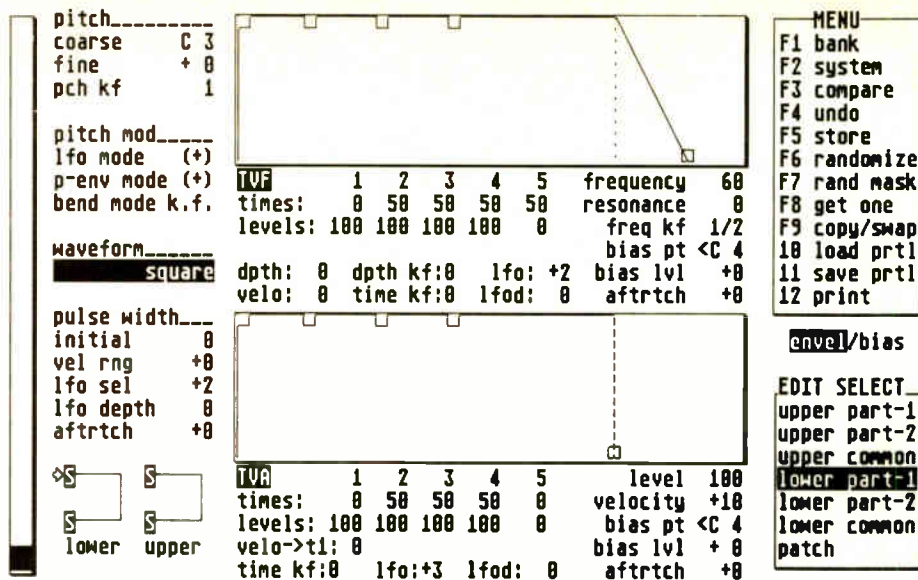


Figure 2. The initialized values of a Partial.

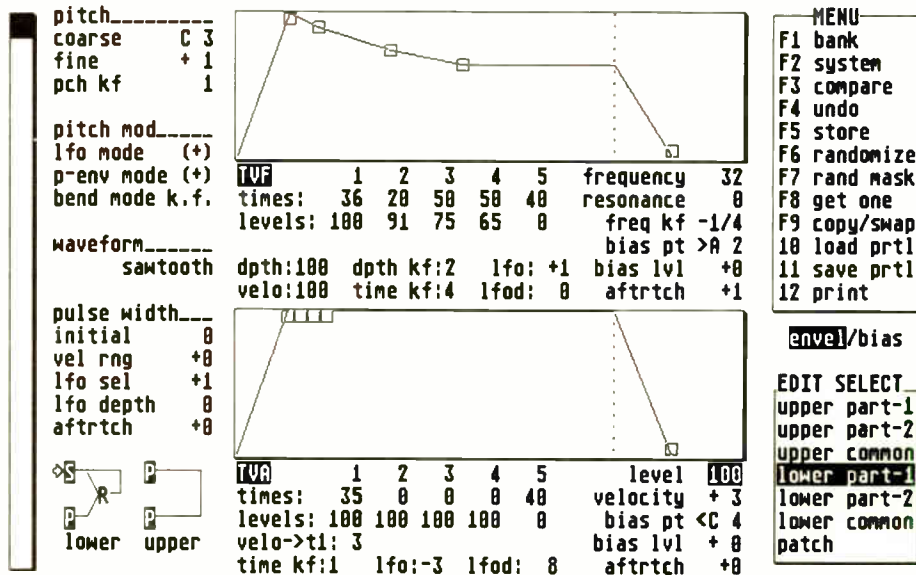


Figure 3. The finished synthesized part of the brass sound.

sounds that you've heard from cheap chorus effects. Now we're coming to the filter screen, which controls the TVF.

Filtering the Brass Sound

There's a trick to creating successful brass sounds, in addition to the pitch envelope mentioned before. The filter cutoff must behave in just the right way at the beginning of every note, to imitate what happens on a horn. The first snippet of sound should have very few overtones, so the initial filter cutoff frequency must be low. As soon as a key is struck, the envelope generator must take charge quickly, opening up the filter to let the bright brassy overtones through.

As with the pitch, it's a good idea to

have a quick overshoot of the cutoff point for added realism. Set the Freq. to 32, leave Reso(nance) at 00, set KF to 1/4, leave BP at C4 and Blvl at 00. Then press the right-arrow button, set the Depth to 100, Velo to 100, DKF (Depth Key Follow) to 02, and TKF (Time Key Follow) to 04. Press the right-arrow button and set these times: T1=48, T2=20, T3=50, T4=50, T5=40. Press the right-arrow button and set these levels: L1=100, L2=91, L3=75, SusL=65, EndL=00. On the next screen leave LFOD at 00 and set Afrt to +01.

Here's what all of that means. The Freq. of 44 ensures that the beginning of every note has a fairly muted sound color. The Depth of 100 causes the envelope generator to shift the cutoff frequency upwards a great deal, so that

the sound gets a lot brighter. The times and levels dictate the exact shape formed by this movement – quickly (T1=48) to a very high level (L1=100), then quickly (T2=20) back down to a lower level (L2=91), further descending via L3=75 to the sustaining level, SusL, of 65. No more changes occur until you let go of the key, at which time the cutoff frequency goes fairly quickly (T5=40) down to EndL=00, which matches the low cutoff frequency of 32.

A variety of other parameters can also influence the filter, and therefore the tone's overall brightness. Out of these, we'll leave Resonance, Bias Level, and Low Frequency Oscillator Depth at the initialized values of zero. But we're making use of velocity, so you'll be able to change the filter cutoff frequency with hard/soft playing variations. Frequency Keyboard Follow, Depth Keyboard Follow and Time Keyboard Follow let you play with the differences in sound color and timings across the range of pitches from low to high.

Shaping the Volume

Let's move on to the loudness envelope. Press the right-arrow button to get to the TVA screen for Lower Partial 1.

When you hear a low brass instrument, there's a distinct swelling of volume and color at the start of every note. The same thing happens on higher-pitched brass instruments, except that it's too fast to be heard as a swell – it's more felt than heard.

If your first instinct is to go to the TVA Attack Time (T1) to give it a slow speed value (high number), think again. With its cutoff movement, the filter creates the impression that the sound gets louder as it gets brighter. If you slow down the onset of volume in the TVA too much, you risk missing out on that crucial early filter movement.

Start with an instant attack time (in this case T1=00), then work backwards while listening critically. Leave Lev1 at 100, set Velo to +03, ignore BP and leave Blvl at 00. On the next screen, change T1 to 35 to soften the attack and T5 to 40 to stop the clicking at the end of every note. Keep all values as initialized on the next screen. One screen later, change Velo to 03 and TKF to 01. On the next screen, set LFO to -3, LFOD to 08, and Afr to 00.

Play a few keys (make sure that the other three partials are muted – the screen should show L: Str 05 1000) and listen to this very basic synth-brass sound from just one partial.

Most programmable synths let you conjure up this sound if you start with a sawtooth wave, as long as you remember the need for movement in the filter cutoff frequency (see Figure 3). But the D-50 can take you far beyond this basic sound.

Adding a PCM Partial

Mute the Lower Partial 1 and unmute the Lower Partial 2. Initialize Lower Partial 2. On the screen Part-2 WG Form, select PCM 32:Breath. The initialized values are just fine except for the TVA Velo which I prefer at +50 so that harder playing produces more

breath than soft notes.

If you're tempted to filter this PCM sample, forget it – the D-50 doesn't let you do it. Only the "S" (synthesized) waveforms can be affected with the TVF screen parameters. You can save yourself the bother of changing the TVA envelope because this PCM sample can't sustain, even though there's a SusL value of 100 in the initialized values, since it's a "one-shot" (not looped) sample.

Now you have a brass Tone that sounds fairly rude when struck hard, particularly in the low range, but it can be played with a lot of expression if you accent only the notes that really ▶

We hear a lot about excellence these days. Everybody wants it. Some say that it's what Americans once had but, having gotten complacent, began to lose. Others maintain that in an increasingly complex and competitive world, the only way to achieve it is through specialization.

We think the truth lies elsewhere: The American capacity for excellence has never been greater, new generations of students have never had more opportunity to prepare for it, and specialization is even more useful when supported by a rich general background in the arts, humanities, and sciences.

The fact is, music study is not just part of this experience—it's an *essential* part. To understand music is to know an entire range of human expression, and to be able to play it means participating in that communication. As much as writing or mathematics, music represents a special form of literacy with its own repertoire of emotional and intellectual content. Perhaps as in no other discipline, to study music is to study a truly universal language, one that illuminates our culture as it connects us with other people and other times.

It's no wonder, then, that the understanding of music and the ability to play it have long been regarded as marks of a well-educated individual, as much as music itself is the mark of civilization. It's in this context—the pursuit of the best possible education—that a sequential, balanced, comprehensive program of music study belongs.

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▶ matter musically. It's the contrast between accented (brighter) and unaccented (darker) notes that makes your phrasing musically convincing.

Building a Complementing Tone

It's time to get the Upper Tone together. The high end of this sound isn't exactly typical for a horn. If anything, it has a whistle or flute character – kind of wimpy, like a cheap penny whistle. The breath helps, but I found that PCM 35: Low Flute gives it a lot more bite, almost restoring the missing brass character.

Set the Upper Tone Partial 2 to PCM sound 35 (see Figure 4). Initialize the partials like you did before, so that you know what values you're faced with from the start. The most important aspect here is the Bias Point and Level in the TVA. By setting the Bias Point >C5 with a level of -8, you're fading it out towards the left-hand range where its flute character doesn't work too well for the intended brass sound.

In Partial 1, do the same thing in reverse (see Figure 5). The PCM sound 39: Lips 1 works best in the low range, so fade it out above a Bias Point of A1, at the value of level -6. I called this Tone 'BrassFlute.' By itself it sounds more flutish than brassy, so you might want to layer it with other Tones for different results. But when layered with the typical sawtooth and enveloped like a brass instrument, it sounds like embouchure crackles and wind noises.

Finishing the Patch

There's a lot of control over the listener's perception at your fingertips. Do you want to give the impression that we're sitting right next to the player, hearing all of the grunts and spit (sorry, but that's life) up close? If so, set the BAL of the patch to 75 or higher.

What room are we in? Consult page 25 in the Basic Owner's Manual for the reverb types, and note that most of the effects listed aren't just reverb either. Select the output type (I liked Mode 01). A lot will depend on your value for Rbal (reverb balance). I settled on a Rbal of 50. Changing the reverb type from #5 Box, where the horn sounds like it is being played in the broom closet of the artist's dressing room, to #8 Medium Room is like walking out onto a stage with the curtains still closed. Switch it to #3 Large Hall and the concert can begin.

Throughout this article, I've given

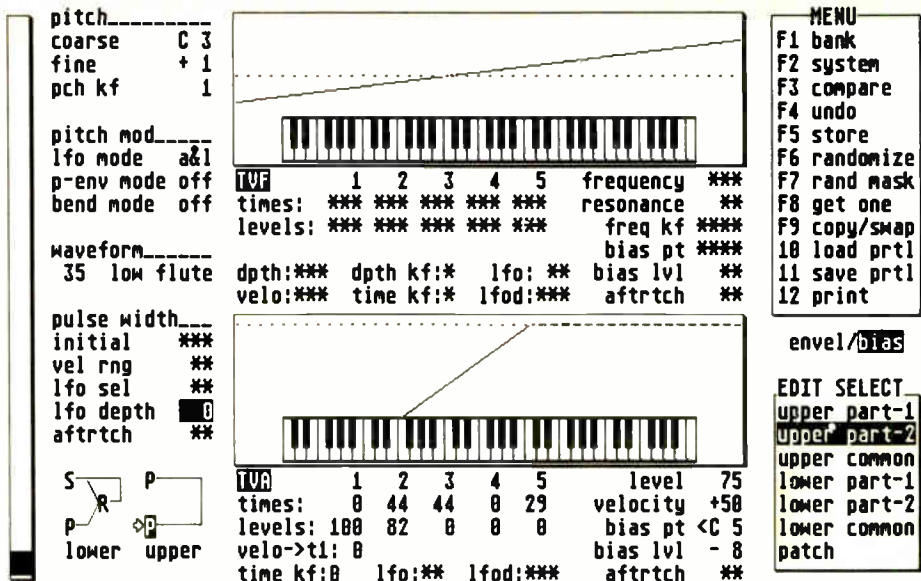


Figure 4. The lower diagram shows the TVA Bias fading the sound of the Upper Partial 2 towards the low range (ignore the TVF diagram).

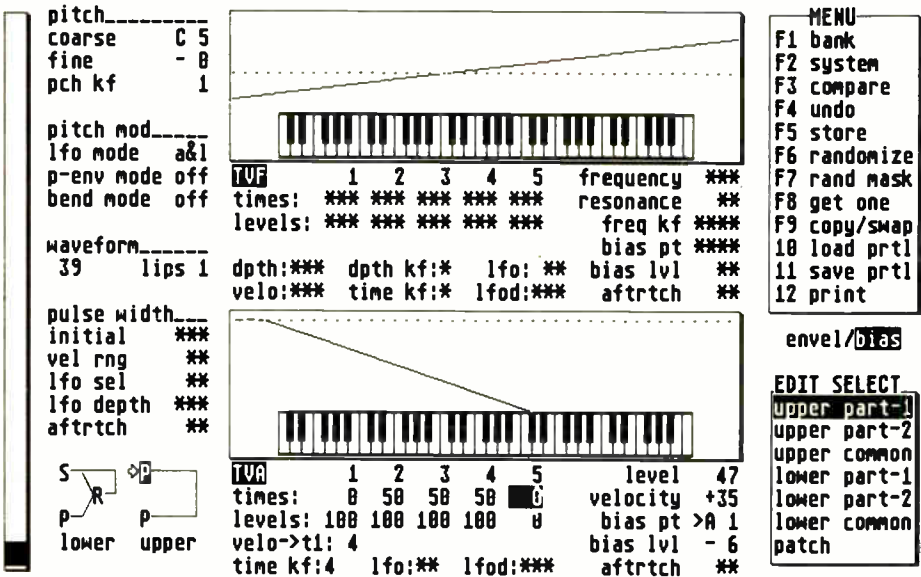


Figure 5. The lower diagram shows the TVA Bias fading the sound of the Upper Partial 1 towards the high range (ignore the TVF diagram).

you a lot of values to punch in. Most of these are not scientific, but rather, very subjective. Feel free to change some of them at will, but always listen critically. Whether a value is 45 or 46 rarely matters. In fact, most parameters that are specified on a scale from 00-99 actually yield a smaller number of steps, so 45 and 46 could well be exactly the same. What matters much more is the commonsense approach of your intent.

Do you want a change in an envelope to happen quickly? If zero is the fastest available speed, start somewhere near zero and let your ear be the guide. If it's supposed to happen slowly, set it to a high number and listen.

Don't be surprised if you need to make seemingly sweeping adjustments even after you guessed a ballpark number. The "Time" parameters are really rates of speed, and how long an event takes depends both on the speed (the T value) and on the distance between the two levels that are involved in the change. Keep an open mind, listen carefully, and soon you'll memorize some ballpark values that will make your work much quicker. ♦

Footnote: The illustrations are edit screens from the Caged Artist/Dr. T's Music Software DE-50 Editor/Librarian program, written by R.J. Melvin, printed as screen dumps from the Atari ST computer to the Atari SLM804 laser printer.



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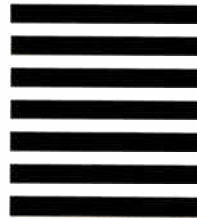
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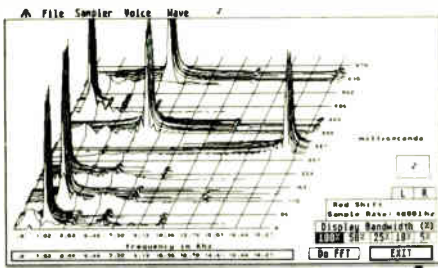
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updates & upgrades

The evolving nature of today's technology necessitates continual status reports, thus we have no recourse but to provide you with the following information...

■ **GenWave/16:** Interval Music Systems (formerly Drumware, Inc.) has introduced GenWave/16, an update to the GenWave/12 Waveform Editor for Atari St and Mega computers. The program, which features digital processing functions, allows 16-bit samples to be edited in either the frequency or time domain. Time domain editing functions



GenWave/16 FFT Display

include visual looping, waveform drawing, and mouse-drawn digital enveloping. Frequency domain editing functions include digital equalization, high order sample rate conversion, and pitch drawing.

A high-resolution 3D Spectral Analysis module performs a Fast Fourier Transform (FFT) on all or part of a sound. GenWave/16 supports up to 8 loop points, has stereo editing capabilities, and can function as an audio-to-MIDI note trigger when used with the optional external D/A converter.

– Interval Music Systems, 12077 Wilshire Blvd. #515, Los Angeles, CA 90025. Tel: (213) 478-3956. GenWave/16 retails for \$349 (includes both GenWave/16 and GenWave/12).

■ **Finale:** At the recent NAMM Expo in Chicago, Coda Music Software announced a price roll-back of their Finale music notation software from \$1000 to \$599. In order to compensate those who paid the original price, Coda has created the Finale Founders Program. For Finale users who purchased the product prior to June 15, 1989 and sent in their warranty registration card, Coda is offering a choice of three different "Founder's premiums" at no charge. Premiums include

the Finale 2.0 upgrade, the complete Finale Font Set (Seville, Rameau, Newport, and Midicom), or initial PAN Network sign-up fees.

– Coda Music Software, 1401 East 79th St., Bloomington, MN 55425. Tel: (612) 854-1288. Finale 2.0 upgrade: \$150. Finale Font Set: \$276. PAN Network sign-up: \$150.

■ **MacRecorder 2.0:** Farallon Computing has released MacRecorder 2.0, which features interactive multimedia support through the new HyperSound Toolkit. The Toolkit allows users to build interactive HyperCard sound stacks that record and play sampled and compressed sounds from any HyperCard sound stack. MacRecorder 2.0's updated version of HyperCard includes buttons to record, playback, and monitor input level or control volume. It will also copy a sound to any stack and automatically create a button to play the sound. The external programming routines allow users to create stacks to record voice or music, or stacks to play stereo sound or compressed sound.

The new MacRecorder Sound System also includes an upgraded version of its SoundEdit sound processing application. It now supports the Sound Compression system and contains new special effects such as Reverberation and Tempo. Reverberation adds a pre-computed echo, while Tempo allows users to play a sound in half or twice the time while maintaining normal pitch. SoundEdit also includes sophisticated sound analysis tools that create two or three dimensional maps of a sound's frequency content.

– Farallon Computing, Inc., 2201 Dwight Way, Berkeley, CA 94704. Tel: (415) 849-2331. Upgrade is \$40 plus a \$10 handling fee for registered MacRecorder users. Free upgrade to 2.0 with proof of purchase and a \$10 handling fee for purchasers of MacRecorder after January 15, 1989. MacRecorder retails for \$249.

■ **Roland R8:** Roland has introduced three additional ROM cards for the R8 Human Rhythm Composer, each con-

taining 26 different sounds or effects. Included on the first card (SN-R8-04 Electronic) are electronic drums and percussion, and sounds from Roland's TR808. The Jazz card (SN-R8-05) contains brushed snare drums, "sizzle" or riveted ride cymbals, and a drumset tuned expressly for jazz. The Ethnic Percussion Card (SN-R8-06) features instruments from Asia and Africa, including Japanese hand drums, Indian Tabla and Baya, and the huge Matsuri Taiko. Each new card comes with a demonstration song, as well as editing capabilities for sound parameters.

– Roland Corp US, 7200 Dominion Circle, Los Angeles, CA 90040. Tel: (213) 685-5141. Each ROM card retails for \$74.95.

■ **Texture v3.5:** Magnetic Music has announced the version 3.5 update of their Texture 24-track MIDI sequencer by Roger Powell. New features include the ability to import and export Standard MIDI Files and multiple MIDI Out port support for the Yamaha C1, the Music Quest MXQ-32 MIDI interface and the CMS-404 interface card. This version also supports SMPTE synchronization with the C1 and MQX-32 interface. Texture v3.5 is not copy protected.

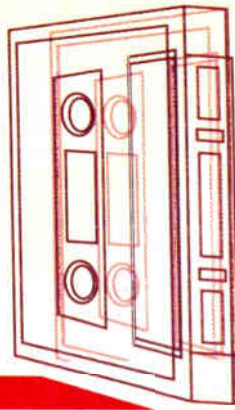
– Magnetic Music, 6 Twin Rocks Rd., Brookfield, CT. 06804. Tel: (203) 775-7832. Update is \$40 plus a \$5 postage fee for registered users. Texture v3.5 retails for \$199 (includes Texture LIVE! and Support Tools).

■ **Music Publisher:** Repertoire Pty. Ltd., the developer and publisher of Music Publisher Version 2.0.3, has restored support and service for Music Publisher in Santa Cruz, CA. Version 2.0.3 is the third bug fix version to ship since the release of 2.0. Repertoire announced that the next major upgrade will be 2.5, which will feature speed improvements and real-time entry of notes onto the page. Interested users and prospects may call, write, or Fax Repertoire for more information.

– Repertoire/Music Publisher, 200 7th Ave., Santa Cruz, CA 95062. Tel: (408) 476-1753; Fax: (408) 479-4196. Version 2.5 will be free to all registered users excluding a \$10 postage and handling fee.

Manufacturers: If you have software or hardware revisions or upgrades that you'd like MT readers to know about, please send info to: Updates & Upgrades, Music Technology, 22024 Lassen St., Suite 118, Chatsworth, CA 91311; or Fax (818) 407-0882.

READERS



TAPES

**"It was hot, the night we
burned Chrome..."**

(William Gibson)

Reviews by the Cyberpunk.

YUNG'S BEEN FLATLINED. He was smarter than I thought; you never expect these metaphysical junkies to be into tweak electronics. He got past my first line of ICE (Intrusion Countermeasures Electronics) and almost replaced my bootleg data squirt with his legitimate one before I could react.

I reacted *hard*. He'll have some interesting stories to tell when he comes back. On with the work:

- **Danz Beat**/*Beyond Technology*: Techno-savvy dance music from wood sculptor, NASA Jet Propulsion Laboratories

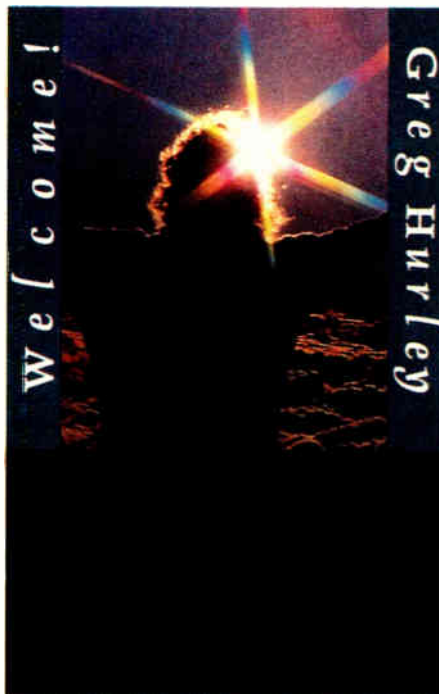


sound designer/alternative energy expert, Motown bassist, and self-avowed zen/taoist Bob Dazinger (*sounds* like one of Yung's friends.) "Sex in space

presents the following difficulty...when you thrust against someone in space both of you continue in the direction of the thrust until you hit a wall or something. NASA hasn't figured which positions to engineer for yet." Solid impulses; unusual/dark sounds; weak text. Plusgood.

- **Jonathan Keezing**/*Hidden Wonders*: Realtime cleanroom electric guitar to PCM. A variety of musical and performance algorithms all well-implemented in a relaxing mode more effective than the most current designer drugs. Doubleplusgood.

- **Greg Hurley**/*Welcome!*: New Age of an airier, jazz blueprint. Main algorithms employed: variety of guitars (acoustic, Chapman Stick, Gittler fishbone); syn-



thesizer and percussive subroutines called regularly. Attention to detail; lack of substance. Stasis/good.

- **Shaun Guerin**/*Both Sides of the Coin*: Group vocal and solo instrumental selections by a drummer/singer/key-

boardist. 1970s coliseum rock timbre; Led Zeppelin and pre-pop Genesis style. Partial voiceprint match: Phil Collins. Plusgood.

- **Philip Rosengarten & Alan Donson**/*two-song demo*: I hate would-be guitar heros - particularly bad acoustic ones. Donson's hyperthyroid vibrations obliterate Rosengarten's tunes. Tripleplus ungood.

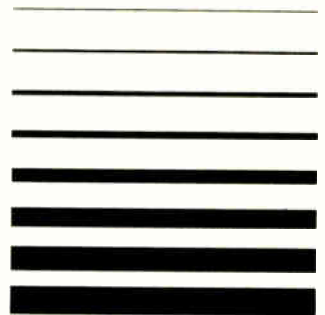
- **Michael Poeschl & Eric Tomzick**/*Music From the Den*: Gene-splice experiment between guitar rock and New Age ("New World Rock"). Limited success; guitar genes proved dominant, upsetting symmetry of resultant musical helix. However, further research is warranted. Stasis.

- **Greg Lief**/*Tomorrow's Hits Today*: Message enclosed: "Please help me! I am an unsolicited tape in search of a kind and loving home. I don't eat much - all I ask is that you play me. Sincerely, Max L." Side one: Efficient, relaxed, polygraph-true vocal pop (augmented tastefully with scurrying keyboard lines) optimized for open turbocar cruising. Plusgood. Side two: Positive-attitude-adjusted instrumental muzak without depth. Stasis.

- **Tomasz**/*Five Corners*: New Age with intriguing genes implanted, including unusual percussion and flugel horn



FIVE CORNERS



(reference set: Jon Hassell). Entire side two is time expansion of title cut (which is also the last index/side one). Minor jitter in keyboard timing, but final evaluation of the equation is Fresh. Plusgood.

- **Victor A. McCoy**/*Unrequited Lust*: Came with a sincere form letter. There's some music on here somewhere, but the poor recording obscures it. I ran a SQUID (Superconducting QUantum Interference Detector) and got traces

of resonant analog bass, Latin drum machine, and early-'70s pop vocals. Ungood.

– **PBK**/*die brüke*: Physicists refer to it as "an accumulation of dissonances" or "an acoustical event in which a large number of frequencies and their associated pyramids of overtones are present simultaneously." Composer Edgar Varèse calls it "any sound that one doesn't like." Most 'music' in the Power Electronics mode ranges between cathartic and nihilistic distortion and noise. PBK creates what Varèse would call music – slow-scan images of a television jammed between channels; of the Moon blowing up. Tripleplusgood.

– **Dean Manfredi**/*Al's Song*: Double-tracked chorused acoustic guitar with occasional amphetamine flashes. Stasis.

– **Scott Bruder**/*Stolen Moments*: Instrumental acoustic piano + synths and samplers. Different from typical non-human algorithmically composed New Age – shows thought and skill while remaining an effective endorphine analog. Plusgood.

– **Xpertise**/*Demo 88*: A dense alloy consisting of jazz, technopop, and soulful/metaloid funk with an Annie Lennox vocal overlay. Good.

– **Wendell Ing**/*Taking Off*: I get irritated by home-grown electronic instrumentals that sound mindlessly happy – particularly when they try to sound hip at

– **Sky Door**/*five-song demo*: Multi-tracked instrumental New Age/light jazz with a strong lack of correlation between musical lines. Melodic trains of thought quickly forget where the beats are or why they started in the first place. Ungood.

– **Steven Porter**/*eight-song demo*: Derivative piano + synth instrumentals with traces of jauntiness and melodrama. Positive nervous energy offsets final rating above mediocrity. Stasis.

– **Peter Min & Chris Koch**/*two-song demo*: Their note to Yung: "A cure for the Monday blahs is to stay in bed." Yung should have taken the advice. Professional AOR (ancestors: modern country, Police); ingredients include clean electric guitar, synthesizer tints, large but controlled drums, and critically damped (read: smooth) vocals. Plusgood.

– **Daniel Emmanuel**/*Sunrise/Sunset*: A seductive nervous system depres-

tening). Final rating unfairly suffers only because it's not my style. Good.

– **Bronx Irish Catholics**/*Eponymous*: He's from Norway, she's from Oklahoma; neither are Catholic (false front created to crash security on a New York tape compilation). Melting pot rock. Partial voiceprint matches include Patti Smith, Wendy O. Williams, and some punk/New Wave vocalist my damaged cranial storage system can't fully recall. Music reference sets: thrash (skateboard/surf punk), acid rock (early Black Sabbath and Hawkwind); electronic-laced New Wave (Urban Verbs). Will probably be outlawed in two years. Get it now. Doubleplusgood.

– **Exposure**/*five-song demo*: Modern synth + guitar rock that steals from the '70s for playful atmosphere and numerous changes. Plusgood.

Jacking out... ◆

Contact addresses:

Danz Beat c/o The Giffhorse Recording Company, 3907 West Alameda Avenue, Burbank, CA 91505. Tape = \$8, CD = \$12; add \$1.5 s/h (CA residents: add 6% tariff).

Jonathan Keezing c/o Little Room, 101 School Street, Cambridge, MA 02139. Fon: (617) 868-2145.

Greg Hurly c/o Patrick William Salvo Public Relations, 8686 Olympic Boulevard, Suite #2, LA CA 90035. Fon: (213) 659-1792, 659-1760, & 657-2987.

Shaun Guerin, somewhere in Los Angeles – trace for the band 'Tantara.'

Philip Rosengarten, 145 Sullivan Street, NYCNY 10012. Fon: (212) 260-6567.

Michael Poeschl, 175 Snake Den Road, Ringwood, NJ 07456. Fon: (201) 831-7424.

Greg Lief, POB 17761, Salem, OR 97305.

Tomasz c/o Out Chorus Studios, 631 First Street, Jefferson, WI (no zip code – go to jail). Fon: (414) 674-5277. Tape = \$8.95.

Victor A. McCoy, 2213 Atkinson, Detroit, MI 48206.

PBK, 115 West 33rd, San Bernardino, CA 92405. Tape = \$6 ppd (make check to P. Klingler); extensive catalog available.

Dean Manfredi, 20702 El Toro Road, #573, El Toro, CA 92630.

Scott Bruder c/o Scott Bruder Music, 2355 South Overlook, Cleveland Heights, OH 44106. Tape = \$7.95 + \$1 s/h (OH residents: add 7% tariff).

Xpertise c/o Inverted Vision Music, Box 405, Rodney, Ontario, Canada NOL 2C0. Fon: (519) 785-2180.

Wendell Ing c/o SunnysideUp Productions, Oto Professional Building, 41 Laimana Street, Hilo, HI 96720. Fon: (808) 935-4151.

Sky Door c/o Tony Rubino, 1841 Central Park Avenue (#7D), Yonkers, NY 10710.

Steven Porter, 726 12th Plaza, Pleasant Grove, AL 35127.

Daniel Emmanuel c/o North Star Productions, POB 8516, The Woodlands, TX 77387. Fon: (713) 363-0032. Tape = \$9.95 ppd.

Us c/o Gist Sounds, POB 5641, Plymouth, MI 48170.

Bronx Irish Catholics c/o Small-Time Austin Records, POB 402346, Austin, TX 78704-0346. Fon: (512) 447-7107.

Exposure c/o Joe Iacano, 526 Roslyn Avenue, Akron, OH 44320. Fon: (216) 867-0924.

Tapes are reviewed in FIFO (first in/first out) priority. Upload material along with ID, physical and cyberspace addresses (on tape), technical documentation, photoscan, and price in New Yen to: *Readers' Tapes, Music Technology, 22024 Lassen St., Suite 118, Chatsworth, CA 91311.*



Daniel Emmanuel

SUNRISE
SUNSET



CHROME TAPE

LOURY C PROFX

sant. Minimalistic synths, melodies, and clock pulses deployed with efficiency and deception. Plusgood.

– **Us**/*Under Construction*: Hook-laden vocal/guitar/synth poprock with stadium energy level and solid execution (no detectable bugs under normal lis-



TAKING OFF

WENDELL ING

the same time (Sorbothane big drum sound, bridge-cable-twang bass, etc.). Lack of precision in execution also reduces impact; numerous timbre shifts partially salvage the effort. Ungood/stasis.

Lexicon LXP5

Multi-Effects Processor



128, Peavey UltraVerb, ART MultiVerb, and others. Lexicon has now entered the fray of budget multi-effects units with their new LXP5, a little box with an impressive depth of features. The LXP5's effects capabilities include a great sounding reverb, 3-octave pitch shifter, stereo delay, modulation delay, EQ, and an extensive MIDI modulation scheme. Most of these effects can be applied simultaneously, and just about every meaningful parameter can be tweaked.

The System Concept

The LXP5 looks a lot like the LXP1. When you put them next to each other, they look like a single rack unit. However, the LXP5 is a very different beast, with features that complement the LXP1 quite nicely. While the LXP1 specializes in ambience (with room, plate, gated and reverse reverbs), the LXP5 seems happiest in the bizarre realm of wobbly echoes, pitch shifting, and heavily warped chorus/reverb combinations. The LXP5 cannot create gated and reversed reverbs, nor does it have the resonant Chorus 2 program found in its older sibling. However, it can create several effects at once.

Lexicon has decided to take a modular approach with these devices. Rather than try to create one expensive box that does everything, they are making several little ones that do different things. (Of course, you can still go out and spend \$10,000 for one of their big machines.) The typical studio uses lots of effects these days, sometimes dedicating one to each channel of a mix-down. Even small home studios can afford to dedicate effects to certain tracks. The folks at Lexicon envision a system of several effects units (preferably theirs, I'm sure) interconnected with MIDI and managed from a single remote control – the MRC MIDI Remote Controller (see sidebar, *The MRC and the LXP5*).

To my mind, this system approach makes sense. I use a lot of effects in my own music, and a mixing session can become a nightmare of knob-settings and patch chords. I dread the thought of re-mixing some of my older pieces, because I simply can't recreate some of the effects. With a few LXPs and other MIDI effects tied together with the MRC or a similar device, I can envision setting up the effects for an entire mix and recalling these settings with the push of a few buttons. Live

Lexicon is taking a system approach to signal processing. How well does the new LXP5 complement the other members of this budget-conscious family? Review by Robert Rich.

WE ALL KNOW how digital reverb has changed the sound of modern music. We can now record CD-quality music at home with the illusion of almost any acoustic space imaginable. That's old news. Now that digital reverb is cheap and commonplace, many of us dream of owning

several effects processors. Digital reverb is no longer just a fake room, it's a sound.

As musicians start using more and more digital effects, it makes sense that companies should start producing units that can supply several effects at once. Examples of this trend include the Alesis QuadraVerb, DigiTech DSP-

PHOTOGRAPHY BY MELODIE GIMPLE

performers can also benefit immensely from this approach, controlling several effects with a single unit similar to the stomp-box programmers used by guitarists.

Externals

Lexicon would like people to view the LXP5 as a companion to the LXP1. However, while the LXP5 does not

level needed to make the red LED flash. The actual dynamic range is much greater than it appears, but it's easy to induce clipping if you adjust levels according to the green light. Oh well...

The three knobs on the right of the LXP5 control the programmable parameters. The center knob selects which mode or bank will be active. Its 16 positions cover the following choices: four Preset memory banks (Pitch, Delay,

inal settings, the light will turn green again. When MIDI messages enter the LXP5, the light flickers. When you save a program, it flashes quickly for a moment to let you know it's thinking.

A quick glance at the back panel reveals the usual stuff: Left and Right 1/4" phono inputs and outputs (the inputs sum to mono), a footswitch jack that can be programmed for defeat or memory increment, 9V power adaptor

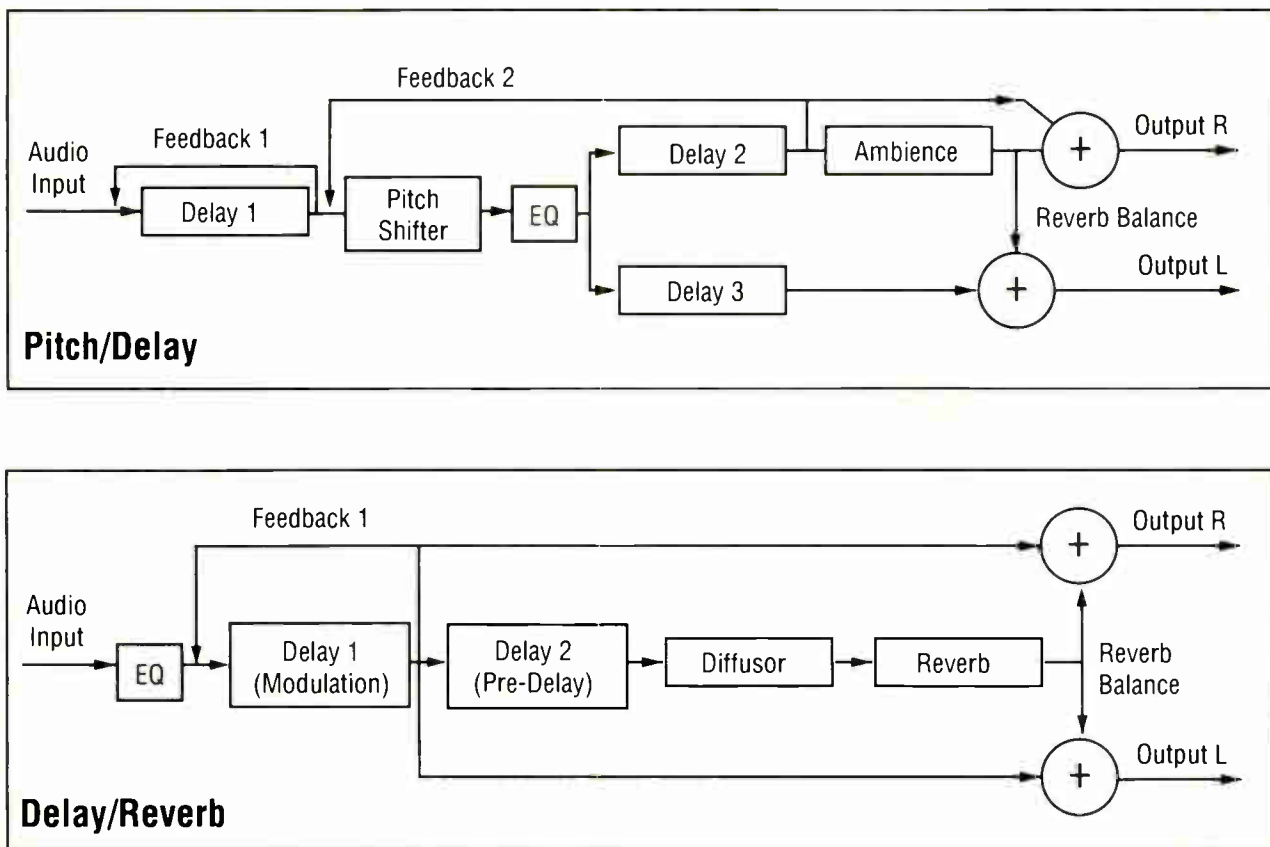


Figure 1. Lexicon LXP5 Algorithms.

replace the LXP1, it does improve upon it in several areas. Lexicon has rearranged and redefined the front panel controls to give the user full access to all parameters, without the aid of a computer or the MRC.

While the appearance of the LXP5 is far from flashy, everything about it is useful. Its low-tech appearance may be due in part to a predominance of knobs. I like knobs. They feel more natural to me than any other user interface. They may not be very sexy, but they sure make us old analog junkies happy.

The front panel has six knobs. On the left side are knobs for Input level, Mix, and Output level. The input level is indicated by one green and one red LED - green for normal levels and red for clipping. One minor annoyance is that the level needed to make the green LED flash is not much lower than the

Chorus and Multi), 8 User memory banks, 3 Edit banks, and Bypass. Within each of these banks are 16 choices, totalling 128 MIDI-addressable user presets, 64 factory presets, 28 edit parameters and an intricate Patch Edit page. The Select knob to the right of center selects among the 16 slots for each bank. The rightmost Adjust knob performs data entry and editing tasks. While in one of the preset or user banks, the Adjust knob can change up to five different parameters at once. You can define which parameters are affected, and save the knob assignments along with each preset.

A single front panel LED helps you guess what's going on inside of the beast. When you call up a program, it flashes green. If you change the program in any way, the LED turns red. If you return the parameters to their orig-

jack, and two MIDI jacks. I was very happy to find a switch that turns the MIDI Out jack into MIDI Thru.

The Guts

I could write forever about how to program this creature, but the magazine isn't thick enough. I'll focus on two more important questions: a) How does it sound? and b) What can it do that makes it special?

Here's the abbreviated verdict. It sounds great, as you would expect from Lexicon. On the negative side, the pitch shifter is a bit glitchy and the LFO sounds a bit unstable. On the positive side, the reverb is silky smooth, and combined effects tend to hide the imperfections of the pitch shifter. As for special characteristics, the processing algorithms are very versatile. The

► pitch shifter allows for some truly rich and occasionally bizarre sounds, especially when combined with the other effects. The modulation possibilities are astronomical, especially the MIDI control features.

To get a better idea of what the LXP5 can do, examine **Figure 1**, which shows the two algorithms used to create effects. The Pitch/Delay algorithm provides the basis for most of the factory presets. It's capable of generating some very fat chorus/doubling effects and wildly bouncing intricate echoes, along with most of the other-worldly extremities we have come to associate with pitch shifters.

Some of the sounds generated by this algorithm can get a bit "crunchy," for two main reasons. First, the reverb generator used here is not quite up to Lexicon's usual fluffy standard. Second, the pitch shifter occasionally hiccups, and jitters around quite a bit. The problems seem to be worse at low frequencies. When I pointed these noises out to the folks at Lexicon, they explained that the two Z80 microprocessors inside the LXP5 were taxed to the limits, and occasionally had problems finding the good splice-points needed to generate a clean pitch shift. Who can argue with that logic? (I asked them why they weren't using faster microprocessors. They said it would raise the price. Typical.)

The Delay/Reverb algorithm sounds a lot smoother than Pitch/Delay, but doesn't do quite as much. However, it does create thick, lush, beautiful reverbs. I confess, I love the "Lexicon sound." The Delay/Reverb algorithm has one unique feature – the Modulation Delay, which allows you to add chorusing or warped echoes (up to 1024ms long) to the reverb. Unlike many so-called modulation delays found in other digital processors, this one acts just like a DDL, changing pitch as it gets shorter and longer rather than just chopping or adding segments to its delay time.

Modulation and MIDI

Hidden deep inside the LXP5 lie some sophisticated modulation possibilities. It takes a while to learn the system, but it's worth the time. Luckily, the LXP5 responds in some very intelligent ways to the outside world. Most of the tricks involve the appropriate use of a button on the front panel labeled "Learn." When you press this button, you instruct the LXP5 to pay

attention to its environment and change itself in some appropriate way. For example, to save an edited preset you press Learn while dialing up a user bank or sending a MIDI Program Change. The LXP5 will then store the edit in that slot when you release the Learn button. Similarly, to select a MIDI channel for the LXP5, hold down

Learn and send any MIDI message. The unit will automatically switch itself to the MIDI channel of the incoming message.

Programming a Dynamic MIDI Patch involves a similar use of the Learn button. Let's say you want to modulate the LXP5's Pitch Interval with the mod wheel of a synth. You enter the

■ The MRC and the LXP5

HOW IMPORTANT IS a good user interface? Would you pay extra for an informative display and some sliders? Most companies assume that users would rather save money and sacrifice such conveniences as knobs and a clear display. Of course, if you like to program your own sounds, you wind up stuck in a labyrinth of menus with only a pair of increment/decrement buttons to guide you. Aargh!

Lexicon chose a creative alternative: the MRC – a generic front panel for the LXP1, LXP5, and PCM70. It's a little box with four sliders, backlit LCD screen, numeric keypad, some extra buttons and four MIDI jacks. Lexicon originally released the MRC along with the LXP1, and while it made a great companion for that device, it seemed a bit incomplete.

Lexicon has now upgraded the MRC to make it compatible with the LXP5, and they've added a bunch of welcome improvements. To make room for these improvements, they got rid of one of the functions, the DX/TX Editor for Yamaha FM synths. With all the software editors available for these synths, this doesn't seem like a huge sacrifice.

I examined a beta version of the new MRC software, and I liked what I saw. Here are some highlights of the improved software (note that these features may have changed slightly by the time you read this):

■ **Extra Memory:** the MRC can now handle up to 16 Machines (external MIDI devices) and up to 64 Setups for each of the LXP1, LXP5, and PCM70. Machines of the same type share the same 64 Setups.

■ **Global Setups:** you can define up to 20 of these. Selecting a Global Setup will send up to 32 program changes – one per MIDI channel for each of the two MRC MIDI outputs – and assign a Setup for each of the 16 Machines.

■ **Generic MIDI Setups:** these have been greatly improved. The old MRC software provided 10 GMIDI Setups, which could do little more than send controller data. The new GMIDI Setups can send all controller

messages, aftertouch, all-notes-off, program changes, and SysEx. With user defined SysEx strings, the MRC can act as a simple patch editor for almost any MIDI device.

■ **MIDI features:** a MIDI Monitor lets you look at incoming MIDI messages – but unfortunately not SysEx. Dynamic MIDI Patches let you route incoming MIDI messages to any of the parameters controlled by the MRC. This turns the MRC into a mapper of sorts. For example, the MRC could assign incoming pitch-bend messages to a slider controlling LXP5 pitch shift amount, allowing keyboard controlled pitch shifts. Of course the LXP5 can do this stunt without the MRC, but the same trick could work with other devices using the MRC's new SysEx capabilities.

Does all this sound complicated to you? Well, it is. The MRC has become a sophisticated little remote controller. Using it can get downright confusing at times, just because there's so much depth. Ahh, the price of power...

The MRC still has its faults. The backlit screen makes a somewhat annoying mechanical whining sound. This high buzz can be distractingly audible in a quiet studio. Another gripe involves the PCM70 Setups, which show arbitrary numeric values 0-255 for each parameter, rather than more meaningful units like "%," "seconds" or "ms." A good interface should display the correct units.

In almost every other way, the MRC is a great user interface. The unit makes it fun to edit sounds on the LXP1 and LXP5. You quickly find yourself tweaking an effect for that "perfect" sound – which usually takes less time than it takes to scroll through a hundred presets in search for a close approximation. The MRC completes the Lexicon system, allowing several effects devices to share the same front panel, and it's a better front panel than the LXPs could ever afford to offer on their own.

The hard part is trying to convince a starving musician to shell out \$400 for something that doesn't make noise! ♦

Edit mode on the LXP5, select the Pitch Interval parameter, hold down the Learn button and nudge the synth's mod wheel. The LXP5 will automatically assign the mod wheel controller to Pitch Interval. If you want to get fancy, you can control several parameters at once with one or more MIDI controllers, but the method is a bit more complex. Suffice it to say that you can control just about anything with anything.

I have one big complaint about the way the LXP5 responds to MIDI. When you send it a MIDI program change, it jumps to the proper program, but if you then tweak the front panel Adjust knob, the preset reverts to the one previously selected by the front panel knobs. I want the Adjust knob to control the new preset – not the old one – regardless of what the front panel knobs tell me. To avoid an unpleasant surprise while performing live, I recommend that you use MIDI controllers to modulate parameters, not the Adjust knob.

Opinions

None of my complaints would keep me from buying an LXP5. Most other budget effects units suffer from problems like those I found here. The LXP5's many strengths far outweigh its weaknesses. Unlike the LXP1, you can edit all of its parameters from the front panel. It gives you deep access to these parameters, allowing an impressive degree of control. Dynamic MIDI modulation lets you perform some pretty interesting real-time effects variations. Most importantly, the LXP5 sounds great. Even if you never program it, the 128 factory presets are varied and useful. While certain settings can introduce a bit of grunge, the overall quality is clean and silky smooth.

The LXP5 really shines when sitting in a rack with other effects, especially when controlled by the MRC or some other remote editor. Its MIDI abilities make it a perfect contender for the new breed of automated small studios. It adds a range of sounds that are hard to achieve with most other budget effects processors, and complements the abilities of the LXP1 in particular. Alas, at \$549 the LXP5 isn't the cheapest budget effects box, but it may be one of the most versatile. ♦

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INAUGURAL ISSUE *

People: Peter Gabriel, Patrick Moraz. *Tools:* Yamaha SPX90, Akai S900, Synclavier, Prophet VS. *Features:* Marrying MIDI and SMPTE, Dx Explained pt. 1 (of 5), Guitar Synthesis.

FEBRUARY 1987

People: Frank Zappa, Seigen Ono. *Tools:* Oberheim DPX1, Beetle PR7 and QR1, Dr. T's KCS, Yamaha DMP7, Jam Factory, Korg DRV1000. *Features:* Digital Reverbs, Percussion Technology.

MARCH 1987

People: Adrian Belew, Michael Stearns. *Tools:* Digidesign Softsynth 2.0, Intelligent Music "M", Sequential Studio 440. *Features:* Bandwidth Jargon, 1987 Winter NAMM report, MIDI Modes, Using Sample Dump pt. 1 (of 2).

MAY 1987

People: Allan Holdsworth, Kim Ryrie. *Tools:* Kawai K5, Yamaha RX5, Roland MKS70, Kahler Human Clock, Alesis MIDIverb II. *Features:* Stereo Sampling.

JUNE 1987 *

People: Bill Bruford, Jerry Goodman, Richard Horowitz. *Tools:* Roland D50 pt. 1, Casio FZ1, Korg DDD5. *Features:* MIDI Delays, Mac MIDI Workstations.

JULY 1987

People: Ryuichi Sakamoto, Cutting Crew. *Tools:* D50 pt. 2, Yamaha TX81Z and MDF1, Passport Master Tracks Pro. *Features:* Recreating Acoustic Instruments, MIDI Time Code, more.

AUGUST 1987

People: Laurie Anderson, Danny Elfman. *Tools:* Kawai K5, Integrated Media Systems Dyaxis. *Features:* Wavetable Synthesis, 1987 Summer NAMM report, MIDI 101, more.

SEPTEMBER 1987

People: Steve Roach, Level 42, Wally Badarou. *Tools:* Alesis HR16 and MMT8, Yamaha TX802, Sequential Prophet 3000, Kawai R50, Grey Matter Response E1 2.0. *Features:* Microtuning, MIDI 102, Art of Looping pt. 1 (of 3), more.

OCTOBER 1987

People: Todd Rundgren, Vienna. *Tools:* Akai EW1/EVI, Roland MT32, Hybrid Arts ADAP, Yamaha QX3 and REX50, Garfield Time Commander, Kawai M8000. *Features:* S900 Update, MIDI 103.

JANUARY 1988

People: Yes, Lucia Hwong. *Tools:* Roland

BACK ISSUES

GP8, Korg DRM1, Mark of the Unicorn Performer 2.2, Digidesign Q-Sheet. *Features:* MIDI Switchers, Scoring to Video, Subtractive Synthesis.

FEBRUARY 1988

People: Rush, Brian Eno, Peter Erskine. *Tools:* Ensoniq SQ80, 360 Systems Pro MIDI Bass, Yamaha RX7, Artistryn MIDISax, Simmons Silicon Mallet. *Features:* Artificial Intelligence and Music, Envelope Generators, Sampler Quality, more.

MARCH 1988

People: Steve Reich, Marcus Miller. *Tools:* Kawai K1, Technos Acxel Resynthesizer, Yamaha WX7, Ensoniq EPS, Alesis MMT8. *Features:* 1987 Winter NAMM report, IBM Sequencers, MIDI Processors pt. 1 (of 2), MIDI Automation.

APRIL 1988

People: Thomas Dolby, The Christians. *Tools:* Alesis HR16, Lyre FDSOft, Sting EW2, C-Lab Creator. *Features:* Re-Sampling, Additive Synthesis pt. 1 (of 2).

MAY 1988

People: Lee Ritenour, John Abercrombie. *Tools:* Axxess Mapper 2.0, Yamaha TX16W, E1 for the DX7II, Simmons SDX, Korg 707. *Features:* Multitasking, more.

JUNE 1988

People: Jan Hammer, Jane Siberry. *Tools:* DigiTech DSP128, Yamaha DX7II, E-mu Emax SE and Roland S550, Kawai K1, Blank Software Alchemy. *Features:* Hard Disk Recording, Secrets of Timbre, Sampling Bowed Guitars, Digital Pianos.

JULY 1988

People: Earth, Wind and Fire, Richard Burmer. *Tools:* Korg M1, Beetle Quantar, Forte Mentor, Akai/Linn MPC60. *Features:* Music Notation, Wind Synthesis, Vocal Sampling pt. 1 (of 2).

AUGUST 1988

People: Scritti Politti, Contemporary Christian artists. *Tools:* E-mu Emulator III v.1.14, Roland D110, Casio PG380. *Features:* Copy Protection, Intro to Digital Audio pt. 1 (of 2), ARP 2600.

SEPTEMBER 1988

People: Joe Zawinul, Hip Hop producers. *Tools:* Oberheim Matrix 1000, Casio VZ1, Digidesign Turbosynth, Sonus SuperScore. *Features:* AudioFrame Explained pt. 1 (of 4), Bass Sampling, Summer NAMM Report.

OCTOBER 1988

People: Andy Summers, Frank Harris, Hi-Tech Heavy Metal. *Tools:* Simmons Portakit, Roland D20, Passac Sentient Six, SMPTE-to-MIDI converters. *Features:* Algorithmic Composition, Interactive Music, Programming Tricks.

NOVEMBER 1988

People: Tom Scott, film composers. *Tools:* Roland E660, Kawai Q80, Yamaha DEQ7, Softwind Synthophone, JL Cooper Mix Mate. *Features:* MIDI Files, Post Production, Dynamic Panning. *Outside:* Wiring Your MIDI Studio, The Other Side.

DECEMBER 1988

People: Mark Isham Band, Information Society. *Tools:* Yamaha G10, Roland Pad80 Octapad II, Lexicon LXP1 & MRC, Coda Finale, Yamaha C1. *Features:* MIDI Live. *Outside:* Scoring on a Budget.

JANUARY 1989

People: Al Di Meola, Brett Tuggle. *Tools:* Akai S1000, Twelve Tone Systems Cakewalk Professional. *Features:* FM Programming Compleat pt. 1, Rehumanize Your Sequences pt. 1, 1988 Winter AES report. *Outside:* Passport NoteWriter review, The Other Side.

FEBRUARY 1989

People: Art of Noise, Techno-World music. *Tools:* C-Lab Notator, Oberheim Systemizer, Roland U110, Eventide Ultra-Harmonizer. *Features:* HyperCard MIDI Programming pt. 1, Rehumanize pt.2. *Outside:* John Lifton, MIDI Book of the Dead.

MARCH/APRIL 1989

People: House/Cutup/Acid/Techno music special. *Tools:* Akai S950, Intelligent Music DvalTune. *Features:* 1989 Winter NAMM report. *Outside:* Roland TR808, Syntonyx Overtone.

MAY 1989

People: Dave Grusin, Yello, Sanctuary Studios. *Tools:* Roland R8, Intelligent Music RealTime 1.1, 360 Systems Audio Matrix 16, Voyetra Sequencer Plus/C1. *Features:* 1989 Winter NAMM Report pt. 2, Fun in the Waves pt. 1 (of 2), Rehumanize pt. 4, Sequencing with MIDI Guitars, Programming pt. 4. *Outside:* Alesis QuadraVerb, The Other Side.

JUNE 1989

People: New Order, Jerry Goldsmith. *Tools:* Oberheim Cyclone, Synclavier Explained pt. 1 (of 3), Yamaha V50, Sansui WSX1. *Features:* Programming pt. 5, Rehumanize pt. 5, Fun in the Waves pt. 2.

JULY 1989

People: Philip Glass, Howard Jones, Rainer Bruninghaus. *Tools:* Yamaha RX8, Aphex Feel Factory, Yamaha WX11 & WT11, Opcode Vision, Synclavier pt. 2. *Features:* Programming pt. 6 (Korg M1), Real-Time MIDI, System Exclusive pt. 1 (of 2).

AUGUST 1989

People: Midge Ure, Jeanette Acosta, Charles Amirkhanian. *Tools:* MediaLink, DrumKAT, Synclavier pt. 3, UltraMIDI. *Features:* Programming pt. 7 (Korg M1), System Exclusive pt. 2, Synchronization Basics pt. 1 (of 2).

SEPTEMBER 1989

People: Vernon Reid, Pat Metheny and Lyle Mays, The Plant. *Tools:* Sample Source Survey pt. 1, E-mu Proteus, Roland GR50. *Features:* Microtonal Musings, Synchronization Basics pt. 2, Programming pt. 8 (Korg M1).

OCTOBER 1989

People: Spyro Gyra, Supercussion, Peter Buffett. *Tools:* Blank Software Alchemy 2.0, Ensoniq VFX, Namm Report. *Features:* Programming pt. 9 (Roland D50), Sample Sources pt. 2, Index (Inaugural issue through September '89).

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QX1: Yamaha, see C1.

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RMT-424: Sony, see CCD-V220.

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Super Jupiter: Roland, see D10.

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S-VHS: JVC, see GF-S550.

Synclavier 3200, 9600: New England Digital, 49 North Main Street, White River Junction, VT 05001. Tel: (802) 295-5800.

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TX7, TX216, TX802, TX816, TX812, TX16W: Yamaha, see C1.

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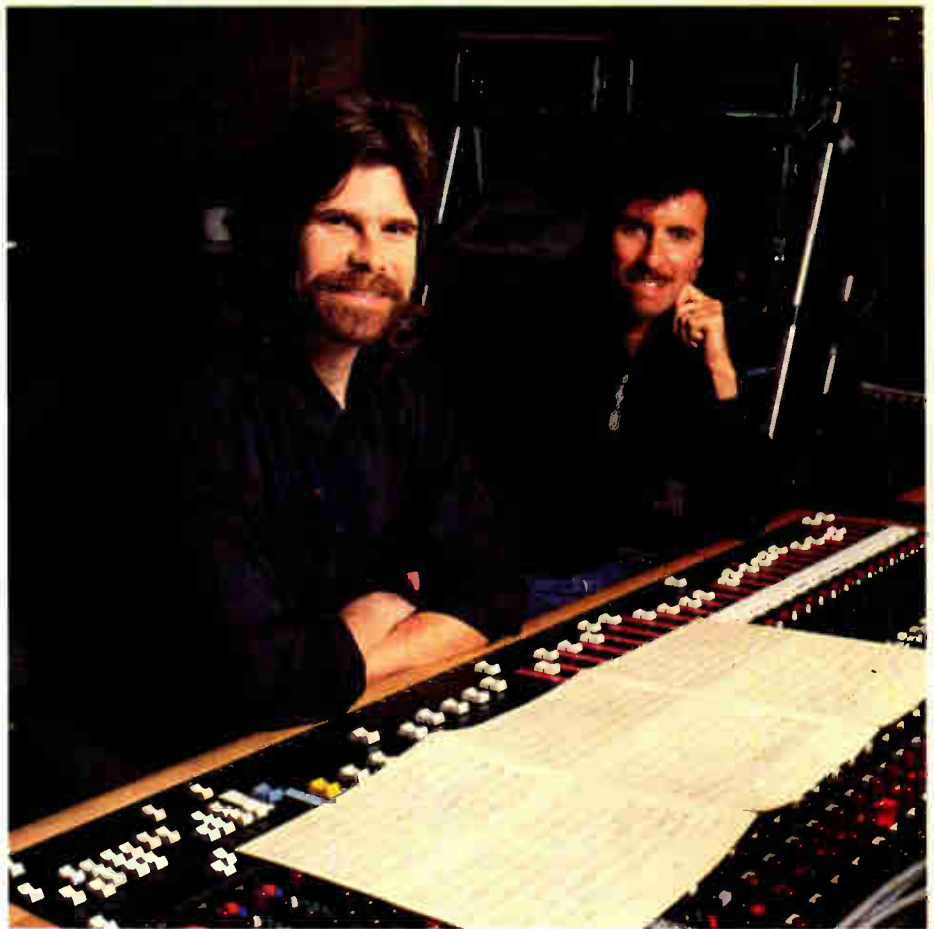
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visual MUSIC



L-R: Chris Desmond and Tom Seufert.

PHOTOGRAPHY BY MELODIE GIMPLE

Tom Seufert and Chris Desmond of Visual Music Productions have had enormous success scoring for commercials, television and film. At the root of their success lies a unique attitude towards the nature of music. Interview by Dan Rue.

"MUSIC IS USED in this culture to anesthetize and stimulate the consumer. It's either to calm them down so they'll buy things or get them hyped up so they'll buy things." Chris Desmond speaks these words with an absolutely dead-serious expression. He thinks about it for a moment and adds, "I mean, a lot of people *do* use music to relax, to stimulate their brains and hearts, not necessarily to buy anything, just to experience something. But the way music has been employed with images in this culture, it's tending more and more and *more* to be a servant of marketing rather than an authentic experience." But what is "authentic"?

Frankly, I'm surprised to hear this kind of concern from these two guys — a couple of the most innovative, and undisputably successful, commercial composers in L.A. With their Visual

Music Productions company, Chris Desmond and Tom Seufert have scored television spots for General Motors, Yamaha, Pioneer (you've seen that laser disc ad, haven't you?), and Disneyland. They've done television shows for all three networks, produced records for Arista, Electra and Epic, worked on films like *Jumping Jack Flash*... C'mon, they were the ones to put the melody "Who could ask for anything more?" into Toyota's mouth! So the question is, why should they be so concerned over music being the doggie of commerce?

Now that I think about it, the first thing they said to me when I arrived at their studio had nothing to do with commercials. Rather, it was about a new project they had been working on under their other identity, the award-winning band Eye in the Village. The song is called 'The Ghosts of Beijing.' "We were asked to write an anthem

for China by some underground Chinese filmmakers that are putting together a documentary that's sort of an attempt to counterbalance all of the propaganda being spread around by the Chinese government," Seufert explains elatedly. "We really can't talk about it, but we wrote this song, and it's turning into an epic."

As they loaded up their MCI 24-track, Seufert continued, "We were asked to write an anthem for the situation because they were using old songs like 'We Shall Overcome' and things like that." They fine-tweaked the mix on their Trident Series 80B and apologized all over the place for the incomplete production. "Yeah, we're going to start it really delicate," Seufert described, "with Chinese instruments, just one voice, you know, build each chorus. This song really typifies what we're trying to do with combining the use of the technology with real players and musical styles from different parts of the world."

That perked my interest, and I listened intently as the sparkling timbral ear candy of synths and guitars and a bunch of other percussive stuff emerged from the monitors, flowing

into the strong, masculine vocals of Stan Bush, another member of Eye in the Village. Finally, it exploded into an all-out rock anthem. Pretty impressive stuff, I have to admit. And very telling, now that I look back at it.

SO THESE GUYS are interested in making art as well as money. But vacillating between these two identities must be an overwhelming task. Desmond disagrees, explaining, "The commercial work has been like a laboratory to test out a lot of different ideas. We've had more opportunity to do a greater variety of music within the context of commercials than would be possible in any other area of making music." He shifts in closer. "Within the context of these commercials, it's been nuts. We've been able to do everything from going out and sampling lions and blending them with various sound effects and noises to create certain soundscapes, to developing a score from a Bahrainian war chant, to a funny little flute that was carved by a goat-herder in the mountains in Crete. So the music's there to serve its ends, but on our own little selfish level we're able to use it for our own growth and expansion to explore a lot of other ideas."

Seufert offers another example, "We did a job for Yamaha where they just wanted a soundscape. The job came in and it called for no music, and that was great. We had to basically create a very futuristic, *Blade Runner* type of ambience." I'm beginning to understand. It's in their best interest to expend a certain amount of their creative energies on their commercial work.

"It's sort of like *musique concrète*, you know," Desmond elaborates, referring to the Yamaha ad. "You're basically working with a whole variety of different samples and textures, and then you start blending and composing these things until it takes on a musical form. I mean, there's movement and structure, but it's just sound, rather than traditional musical elements."

"We approach it differently than some people," Seufert explains. "Under our logo it says 'Painting With Sound.' That's how we approach anything we do." Ah, so that's where they get their slogan. It's kind of catchy, maybe that should be the title of this interview...

Seufert recaptures my attention, "Because of the wide array of available technologies, we have this incredible

palette, so we have all these different sonic treatments to try, these different colors and textures. And some of the things we do are pure, you'd almost say they're abstract painting." He refers to an ad they did for Chrysler, in which a red car in a cage is being hoisted down by a bunch of guys who are apparently analogous to zoo keepers. The car is growling and scratching (sonically), until they unleash it. The second the door to the cage is opened, the car flies off like a cheetah in pursuit. All the while, these strange sound effects are going on, the creaking ropes, the metallic clanging of the cage door, etc.

"The music itself has a form," Desmond continues. "If you're sitting in front of the console, and you've got

Desmond: "The commercial work has been like a laboratory to test out a lot of different ideas."

a stereo image up here," he points to the monitors hanging above the mixing board, "you're placing sounds in a field, a physical field, as if you had a canvas to work on. Sound may move within the context of that field, but there's literally a visual image that is created by the sonic elements. So ideally, the music track or any of the stuff that we do can stand on its own, as an experience that has its own visual qualities to it."

"If you look at a stereo spectrum," Seufert continues, "the kick drum and the bass are here," he points to the space at his feet, miming the surface of a wall in front of him. "And you could look at the high end stuff as earth," now pointing at his waist-level, then shifting towards eye-level and above, "and you could look at it as clouds and skies and trees and filigree..."

"...and gummy bears floating by!" exclaims Desmond, visualizing it all.

AFTER WE ALL share a round of laughter, I bring it back down to what would probably be where the bassoons hang out, and ask them how important they believe technology to be in creating these sound paintings.

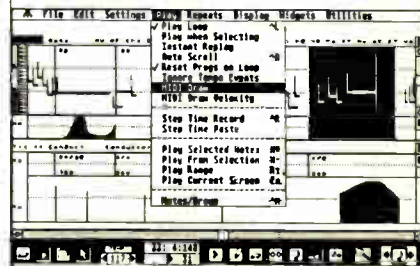
After a momentary pause, Desmond contemplates and says, "The pros of the technology are that it has expanded the palette to make it economically feasible to execute a tremendous



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number of ideas that were expensive to execute before. Also, you're now able to execute ideas that weren't even conceivable before." His face shifts to something closer to a grimace. "The downside of technology is that it's made music cheap, and I mean cheap in the sense that people are losing their respect for it."

Seufert joins in, "They figure anyone can do it. Anyone can get a few boxes..."

"Anyone can make this kind of music. So, we're not going to give you a decent budget," Desmond rejoins, placing the issue right in the lap of his employers. "Any fool can do it. We want it fast and cheap. We're not interested in getting the resources, we're not interested in our agency going to London to work with orchestras, or working with large ensembles anymore."

Geez, I must have hit a sore spot. I look around their studio, centered around a KX88 master controller, an Akai MPC60 and Macintosh II with Opcode's Vision for sequencing. In addition to that, they've been using the Oberheim DPX1, Prophet VS, Korg M1 – just about one (no make that two) of every piece of gear and gadget I could think of. Expanded palette, indeed. I point to the MPC60 and Prophet 2002, not to mention the dozens of synthesizer modules, and ask why this attitude would even be a problem with all these timbral resources lying around.

Desmond becomes very serious, and emphatic with his hands. "Samples are great," he says, looking me straight in the eye, "they're great composing tools, but it ain't the real thing. If you put the two side by side, it ain't even close to the real thing."

Seufert explains, placably, "For the purposes of realizing a composition and putting it in a sketch that isn't full color, say, but rather nice pastels, it's close enough to get a sense of what it sounds like. In a lot of cases, it's very, very usable and very workable."

Desmond continues, careful not to lose sight of the point, "But the use of samplers and synthesizers has colored the audiences perception of what music is, and what it sounds like. They can't tell a sampled string from a real string anymore. People can't tell a sampled horn from a real horn because they don't hear the real ones to know what it feels like – not even what it sounds like, but what it *feels* like. I mean, there's this whole effort

now to 'humanize' drum machines. The buzzword now is 'humanize,' let's get the [Aphex] Feel Factory on it, let's do all that kind of stuff, because they've done all this research with enzyme production, the boredom factor of repetition..."

"When they hear ten beats that are exactly the same," Seufert elaborates, "people just turn it off, turn off an aspect of it. They say, 'Oh, that's a machine.' They may not know it objectively, but subjectively, subconsciously they just turn off to it. There's a real beauty and fluidity that happens from a performance that isn't corrected. Even given a certain amount of flaws, it's a lot more interesting than when it's corrected."

So, through the combination of technology and live players you get the best of both worlds, it seems – the vast palette of sounds and the human feel. That makes sense to me, and it sure seems to be working for them. "The technology has allowed us and

Seufert: "Because of the wide array of available technologies, we have this incredible palette of different colors and textures."

thousands of other people to realize ideas quickly, and that's a real useful tool," says Seufert. "Now before we work on something, we work up a lot of different ideas before we just jump in and start working on two-inch tape. You get a chance to kind of demo it up fast in a few hours, and then you come back to it in a couple of days. In the old days, you'd say, 'OK, we're gonna record a song.' You're in the studio for a week or two and you get finished and you say, 'God, this thing's a piece of junk. The structure isn't right.'"

I think back to 'The Ghosts of Beijing.' I've just received a finished mix in this morning's mail. Their point is well-taken – the song sounds excellent. The vast array of tone colors is stunning, and the transcendent feel is very moving, very human. Maybe this close attention to aesthetics is the secret of their commercial success as well. I asked them if they think this is true, and Desmond responded, "I think the best stuff we've done has been built organically, when we've been able to just feel our way through the process." I think I'd have to agree. ♦

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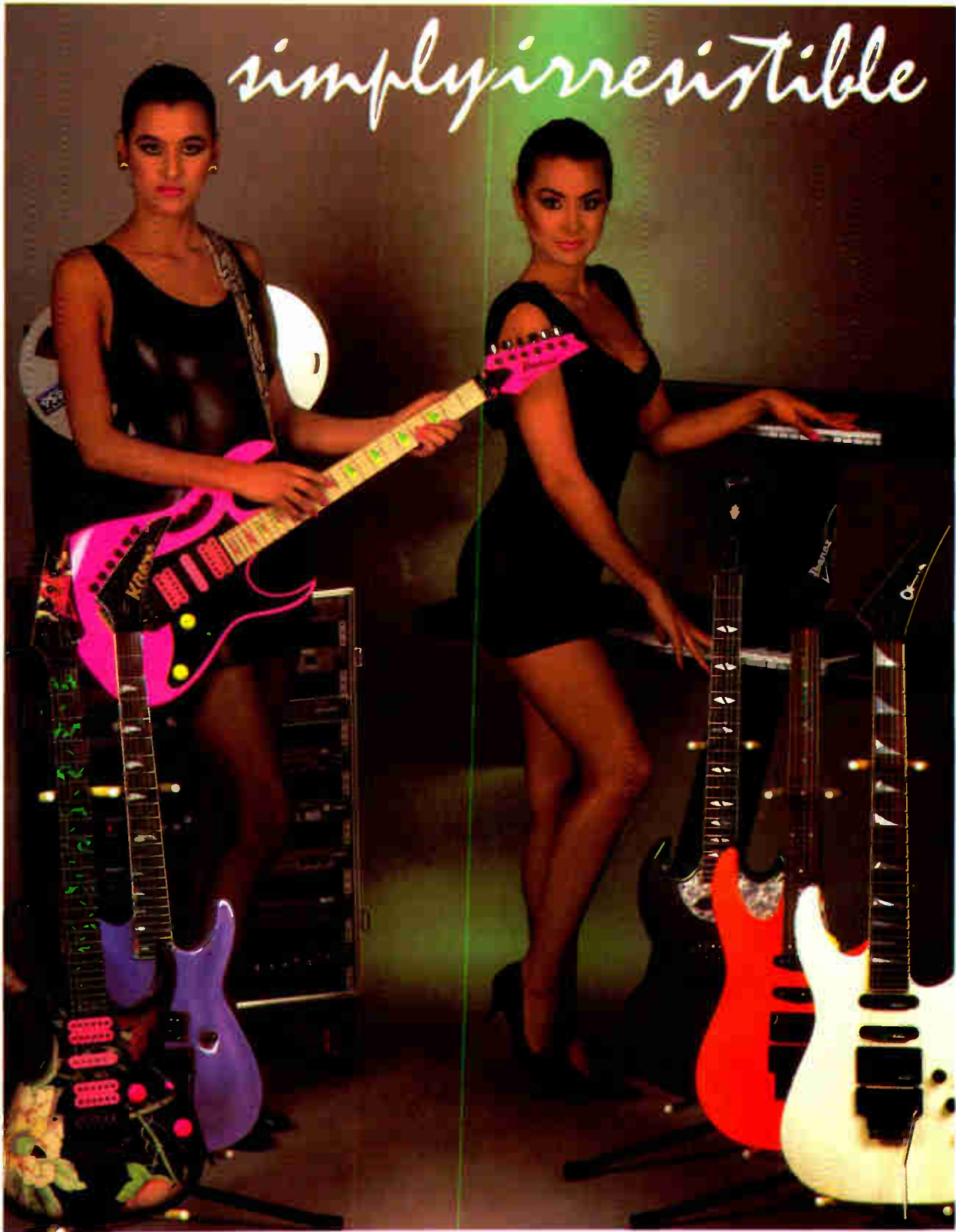
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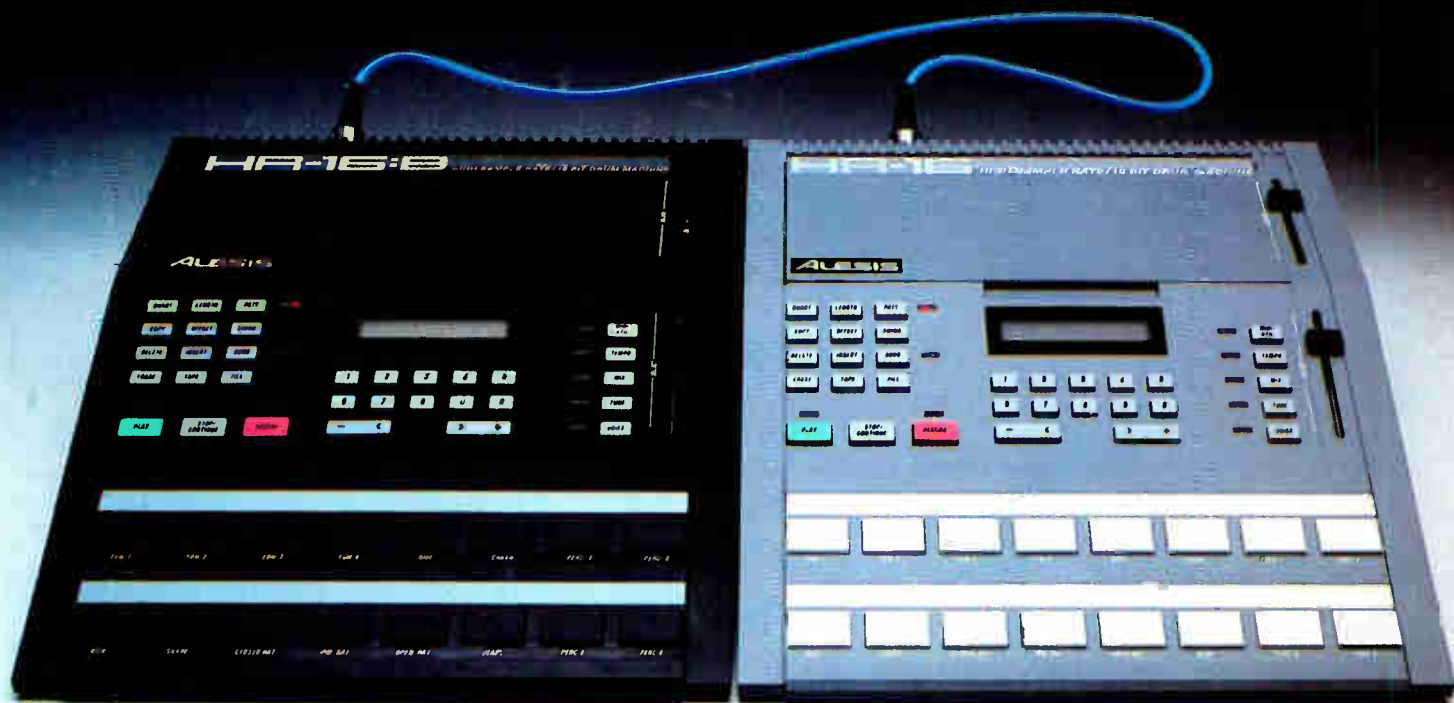
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