

WIN A \$9,000 PA SYSTEM - SEE PAGES 44/45

# INTERNATIONAL MUSICIAN AND RECORDING WORLD

USPS 331-630

02175 €  
OCT. '79  
\$2.00

**Carmine Appice**  
*On the Rod Stewart beat*

**Lee Ritenour** ★ **Jeff Porcaro**


**Taj Mahal** ★ **Laurence Juber**

**IN THE STUDIO**  
**Jimmy Iovine** • **Hotline Studios**



TESTS: ODYSSEY ELECTRIC GUITAR • PEARL VARI-PITCH CANNON DRUMKIT • MINIMOOG SYNTH • STUDIOMASTER 16/8 MIXER • IBANEZ AD200 ANALOG DELAY • BABY AMPS PART 2

*Studiomaster*  
**No. 1 IN THE WORLD!**  
Circle 701 on Reader Service Card



For full specs see pages 62/63

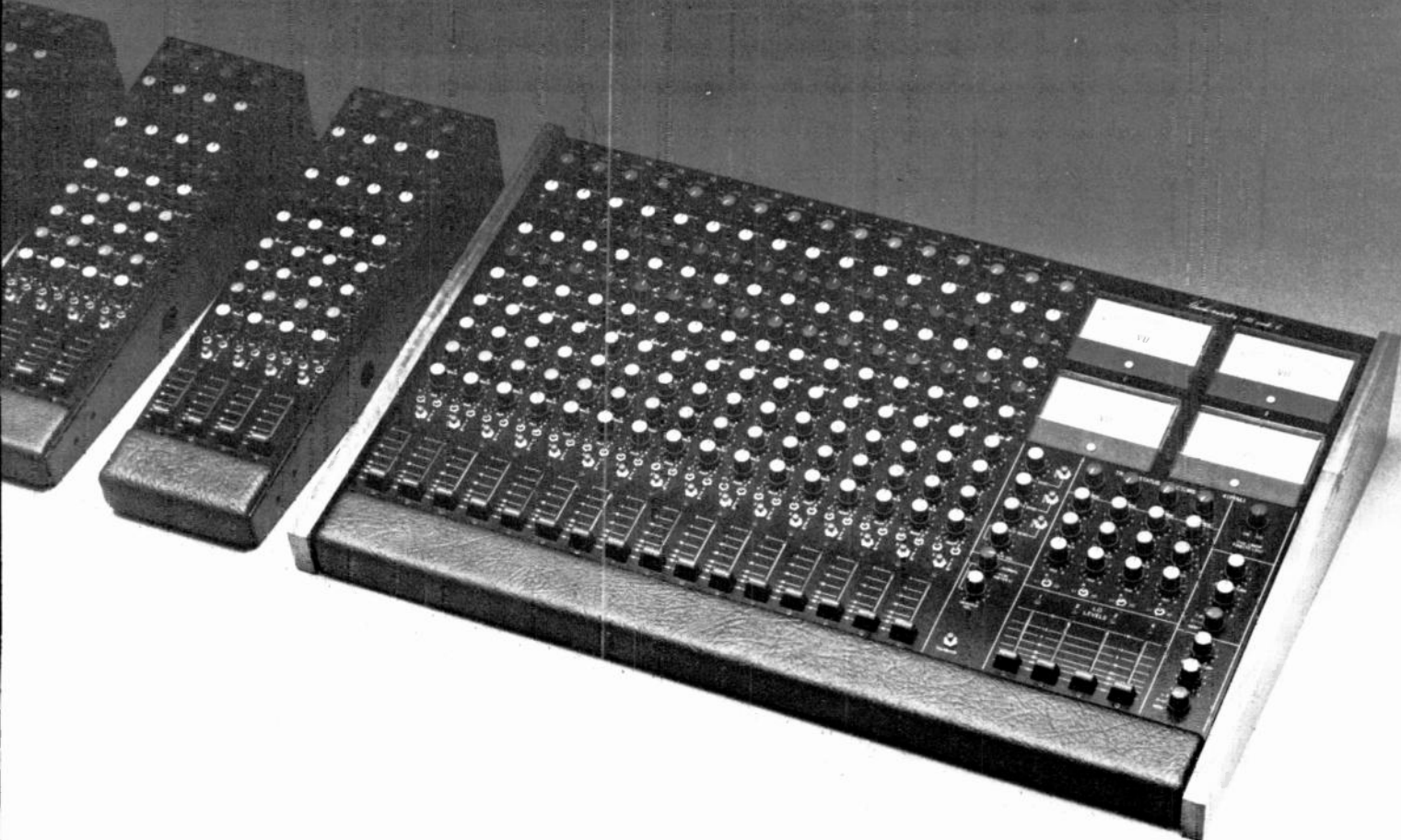
When you've  
got the sound



you don't have to talk about it so much.

Circle 794 on Reader Service Card

World Radio History



# We Don't Leave You Hanging

Before Studiomaster came along, you may have thought that the possibility of outgrowing a 12 or 16 channel mixer was a great excuse to *not* buy it. Maybe so, but not now. As you can see, our Studiomaster mixers are expandable, almost *ad infinitum*. Through use of ingenious 4-channel-at-a-time bolt-on expander modules, your 16X4 today can be a 24X4 tomorrow, at a surprisingly low cost, too. And easy to handle . . . no cables or dangling expanders. Just a smooth desk top for ease of operation from channel one on out.

Now that our new 16X8 mixer and 800C stereo power amplifier have joined our already superior 12X2B and 16X4 studio quality boards, there is really no excuse to for not visiting your closest Studiomaster dealer today to check this all out. He won't leave you hanging, either!

<b>ALABAMA</b> Fry's Music 7 5th Ave. No., Birmingham, 35203 252-4498	<b>CALIFORNIA</b> Guitar Center 7402 Sunset Blvd. Hollywood 40046 213-874-1060	<b>COLORADO</b> Solid Sound 1638 Pearl St. Noulder 80302 303-444-1734	<b>ILLINOIS</b> D.J.'s Music 5055 W. 31st. St. Cicero 60650 312-863-7400	<b>MICHIGAN</b> Hy-Jams Enterprises 716 Catherine Ave. Ann Arbor 48104 313-994-0934	<b>NEW JERSEY</b> Rondo Music Hwy. 22 at Vauxhall Rd. Union 07083 201-687-2250	<b>OKLAHOMA</b> Driver Music 6600 N.W. 39th Exprwy Bethany 73008 405-789-4711	<b>TENNESSEE</b> Strings & Things Memphis 1492 Union Memphis 38104 901-278-0500	<b>(VIRGINIA)</b> Rolls Music 1065 W. Broad St. Falls Church 22046 703-533-9300
<b>ARIZONA</b> Fry's Music Center 2 N. 7th Street Phoenix 85020 602-997-6253	<b>CALIFORNIA</b> Guitar Center 2432 S. Colorado Blvd. Denver 80222 303-759-1455	<b>COLORADO</b> Pro Sound 303-759-1455	<b>ILLINOIS</b> I.R.C. Music Stores 5911 East 82nd St. Indianapolis 46218 317-849-7965	<b>MICHIGAN</b> Marguerite's Music 2409 10th Street Moorhead 56560 218-231-2546	<b>NEW JERSEY</b> M&M Music 2006 Deleba Dr. Vineland 08360 609-691-9568	<b>OKLAHOMA</b> Portland Music 520 SW 3rd Portland 97204 503-226-3719	<b>TENNESSEE</b> Danny's Band Box 4303 Montana El Paso 37903 915-566-8675	<b>(VIRGINIA)</b> American Music Retailers 4450 Fremont No. Seattle 98103 206-631-1774
<b>ARIZONA</b> Fry's Music Center 2 N. 7th Street Phoenix 85020 602-997-6253	<b>CALIFORNIA</b> Guitar Center 96 N. 2nd Street San Jose 95115 408-298-6336	<b>COLORADO</b> East Coast Sound 440 Coalwood New Milford 08776 203-354-1369	<b>ILLINOIS</b> J.B.O. Productions 1701 N. Harrison St. Fort Wayne 46808 219-422-1976	<b>MICHIGAN</b> Audio by Zimet 1038 Northern Blvd. Rochester 14612 716-663-8820	<b>NEW JERSEY</b> Whirlwind Music 100 Boxart St. Rochester 14612 716-663-8820	<b>OKLAHOMA</b> D.C. Short Sound Systems 239 Center Ave. Elkworth (Pittsburg) 15202 412-761-2724	<b>TENNESSEE</b> River City Music 6718 San Pedro San Antonio 78216 512-826-4101	<b>(VIRGINIA)</b> Washington Music Center 1151 Viers Mill Rd. Wheaton 20902 301-946-8808
<b>ARIZONA</b> Fry's Music Center 2 N. 7th Street Phoenix 85020 602-997-6253	<b>CALIFORNIA</b> K&K Music 1904 W. San Carlos St. San Jose 95128 408-249-5760	<b>COLORADO</b> Music City 311 W. Robinson Orlando 32801 305-421-4204	<b>ILLINOIS</b> Advanced Audio 202 Douglas St. Iowa City 52240 319-354-3104	<b>MICHIGAN</b> GMS Music Cook Center, Terry Rd. Jackson 39212 601-373-1604	<b>NEW JERSEY</b> Kubera Music 910 Fillmore Buffalo 14211 716-894-5190	<b>OKLAHOMA</b> Markham Music 1651 W. 26th St. Lirie 16508 814-452-3340	<b>TENNESSEE</b> Parker Music Co. 5005 Gulf Freeway Houston 77033 713-923-9026	<b>(VIRGINIA)</b> The Piel Piper 1200 3rd. Ave. Huntington 25701 800-624-3498
<b>ARIZONA</b> Fry's Music Center 2 N. 7th Street Phoenix 85020 602-997-6253	<b>CALIFORNIA</b> W&H Sound 1115 R Street Sacramento 95814 916-444-5411	<b>COLORADO</b> Music City 1713 S. Lois Ave. Lompoc 33609 813-879-8327	<b>ILLINOIS</b> E.M. Shorts Guitars 2525 E. Douglas Wichita 67211 316-684-6252	<b>MICHIGAN</b> GMS Music 1803 Drenny Ave. Pascagoula 39567 601-769-2658	<b>NEW JERSEY</b> Specialized Audio Rd. 5, Rte. 50 & Hutchins Rd. Saratoga 12866 518-885-8966	<b>OKLAHOMA</b> Swissvale Music 2035 Noble Pittsburgh 15218 412-351-5882	<b>TENNESSEE</b> Billy's Band Aid 150 Hamlet Shopping Center Amarillo 79197 806-383-3232	<b>(VIRGINIA)</b> WISCONSIN Regenberg Music 6635 W. Capitol Milwaukee 53216 414-462-2700
<b>ARIZONA</b> Fry's Music Center 2 N. 7th Street Phoenix 85020 602-997-6253	<b>CALIFORNIA</b> Guitar Showcase 3090 S. Bancroft Ave. San Jose 95124 408-377-5864	<b>COLORADO</b> Ace Music 11630 W. Dixie Highway N. Miami 33181 305-891-6201	<b>ILLINOIS</b> Sound City 306 N. Carrollton Ave. New Orleans 70119 504-482-7894	<b>MICHIGAN</b> Big Dede's Music City 3817 Broadway Kansas City 64111 816-941-4638	<b>NEW JERSEY</b> The Music Connection 14312 Pearl Strongsville 44136 216-238-6966	<b>OKLAHOMA</b> Smith Music House 109 B Bank St. Burlington 05401 802-862-1905	<b>TENNESSEE</b> Guitar City Studios 470 N. 1100 W. Centerville 81044 801-292-8461	<b>(VIRGINIA)</b> UNCLE BOB'S MUSIC 219 Jefferson St. Wausau 54401 715-845-5950
<b>ARIZONA</b> Fry's Music Center 2 N. 7th Street Phoenix 85020 602-997-6253	<b>CALIFORNIA</b> Guitar Showcase 3090 S. Bancroft Ave. San Jose 95124 408-377-5864	<b>COLORADO</b> AAA Swing City Music 1312 Vandavia Collinsville 62234 618-345-6700	<b>ILLINOIS</b> K&L Pro. Audio 28 Acton St. Watertown 02172 617-926-6100	<b>MICHIGAN</b> Pro Drum Shop 608 Mayland Pkwy. Lax V-pas 89101 702-387-9147	<b>NEW JERSEY</b> Howard Early Music Center 3171 Glendale-Milford Rd. Cinetanni 45241 513-563-9300	<b>OKLAHOMA</b> Smith Music House 109 B Bank St. Burlington 05401 802-862-1905	<b>TENNESSEE</b> SIDI Audio 109 B Bank St. Burlington 05401 802-862-1905	<b>(VIRGINIA)</b> Ambassador Music 7461 Lidewater Drive Norfolk 23505 804-583-1894
<b>ARIZONA</b> Fry's Music Center 2 N. 7th Street Phoenix 85020 602-997-6253	<b>CALIFORNIA</b> Guitar Showcase 3090 S. Bancroft Ave. San Jose 95124 408-377-5864	<b>COLORADO</b> AAA Swing City Music 1312 Vandavia Collinsville 62234 618-345-6700	<b>ILLINOIS</b> K&L Pro. Audio 28 Acton St. Watertown 02172 617-926-6100	<b>MICHIGAN</b> Pro Drum Shop 608 Mayland Pkwy. Lax V-pas 89101 702-387-9147	<b>NEW JERSEY</b> Howard Early Music Center 3171 Glendale-Milford Rd. Cinetanni 45241 513-563-9300	<b>OKLAHOMA</b> Smith Music House 109 B Bank St. Burlington 05401 802-862-1905	<b>TENNESSEE</b> SIDI Audio 109 B Bank St. Burlington 05401 802-862-1905	<b>(VIRGINIA)</b> Ambassador Music 7461 Lidewater Drive Norfolk 23505 804-583-1894



# Z PLUS™

## More for your "Les"

Z PLUS™ is really the only pickup for your Les Paul. It is unique; from its durable molded exterior, to its very efficient magnet/coil structure, Z PLUS is certainly not just another humbucker. This is a pickup made in a completely new way.

The sound of Z PLUS is its own. A smooth, rich, warm voice that speaks clearly and distinctly with great strength. It can shout the heaviest chords, or whisper the most delicate phrases. Z PLUS responds to your pick and your mind in a most satisfying way.

Our words cannot truly tell you about the sound of the Z PLUS, so we urge you to hear it for yourself.

Anyone familiar with a screwdriver and a soldering iron can install a pair of Z PLUS pickups in his Les Paul. The instructions are simple and complete, including directions for 'coil splitting' using only the tone controls already in your guitar.

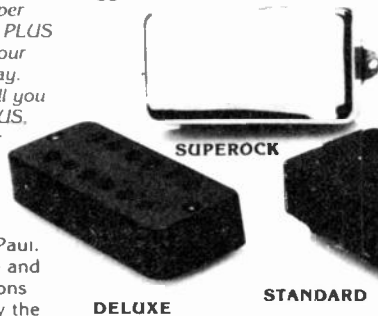
Z PLUS is now available in three styles:

**Z PLUS STANDARD**—to replace standard size humbuckers.

**Z PLUS DELUXE**—to replace small humbuckers.

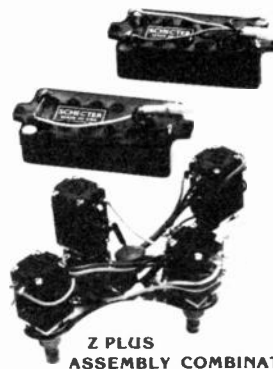
**Z PLUS SUPEROCK**—for all-out, very high output.

The already famous Z PLUS Assembly offers guitarists 21 complete switched combinations. This is the sensible way to get all the sounds with push-pull convenience. The Z PLUS Assembly features any two Z PLUS pickups and four Allen Bradley Omni switch pots. The Z PLUS Assembly comes fully wired and mounted on a brass grounding plate. Color coded wiring harness allows easy, convenient connections and installs directly into your Les Paul—replacing your old controls and pickups without the problems of drilling holes, mini toggle switches, or batteries.



DELUXE

STANDARD



### Z PLUS ASSEMBLY COMBINATIONS:

When all four omni pots are pushed in your Les Paul will function exactly as it did before installation of the Z PLUS Assembly.

Pulling out the following pots will perform these functions:

**RHYTHM TONE CONTROL**—When this pot is pulled out the rhythm pickup is in single coil mode.

**LEAD TONE CONTROL**—Pull this pot out and the lead pickup is in single coil mode.

**RHYTHM VOLUME CONTROL**—Pulling this pot out does three things. First, the two humbucking pickups are connected in series (they are parallel when the pot is pushed in). Second, the selector switch is bypassed (regardless of how the switch is set, both pickups will be on in series).

Third, the rhythm pickup volume becomes a master volume control for both pickups.

**LEAD VOLUME CONTROL**—Pulling out this pot does two things. First, it puts the lead pickup out of phase in relationship to the front pickup. Second, it will select which coil is active in the single coil mode.

Sound incredible? It IS, but hearing is believing!

### SCHecter's NEW "KROS-LOK"™ BRASS TUNAMATIC:

The bridge we have all been waiting for is finally here.

Designed with smooth, rounded contours for comfort and good looks, Schecter's unique "KROS-LOK" design features individual adjustment and locking screws for each saddle. Precision fit with solid brass sustain make "KROS-LOK" a noticeable improvement for your "Les Paul".



Available in two models for the Original or the new Nashville styles.

See your SCHecter Dealer or send \$2.00 postage and handling for our beautiful new 16 page color catalog to:



Post Office Box 9783-GP  
North Hollywood, CA 91609  
Telephone (213) 782-3202

### INTERNATIONAL DISTRIBUTORS

**AUSTRALIA** Ram Music Trading Co 348 Punt Road South Yarra 3141 Melbourne, Australia (03) 267 4418 **DENMARK** Guitarzan Music Sales, Drostpedersvej 3, DK-6706 Ribe, Denmark 05-42-2725 **ENGLAND** Chandler Guitars, 159 Sancy Combe Road, Kew, Richmond, Surrey, 01-940 5874 **GERMANY** Musik Schell, Postfach 1235, Bleicherstrasse 2, 7336 Uhingen, West Germany (07161) 3856H. **JAPAN** Moon Corporation, 1F Yamaguchi, Shoji Building, 24 14 Ebi-u 1 Chome, Shibuya Ku, Tokyo, 150 Japan. **LUXEMBOURG** Music Noel 55 Rue de Anvers, Grand Duché, Luxembourg **SWEDEN** Englund Musik AB, Box 610, S 126 06 HAGERSTEN Stockholm, Sweden 08 97 09 20

# INTERNATIONAL Musician AND RECORDING WORLD

OCTOBER 1979

VOLUME 1 No. 10  
1500 Broadway, (19th floor),  
New York, NY 10036  
Tel: 212-921-9050

## PUBLISHERS

President Richard Desmond  
Creative & Editorial Vice President  
Ray Hammond  
V.P., Finance, David Sarter

## Editor

Bill Stephen  
Art Director  
Mervyn King  
Associate Editor  
J.C. Costa

Advertisement Director  
Alan Poster  
Executive Director  
Alan Marcuson

## Editorial

Nashville Bill Littleton  
San Francisco Scott E. Kutina  
Los Angeles Steven Rosen  
Montreal, Canada Ian Cooney  
Contributing Writers Mitch Holder,  
Chester Thompson, Alan Holmes, Jim  
Rodford, Robin Lumley, Bob Henrit  
Administration Manager Andrea Beerman

## LONDON AGENTS

Cover Publications Ltd  
Grosvenor House, 141-143 Drury Lane,  
London WC2B 5TE.  
01-379 6917/01-379 6342  
Telex 24676

## SWISS AGENTS

Badger Publications S.A.  
16 Rue de L'Industrie  
1700 Fribourg 5  
Tel: 037-225-447  
Telex: 36 450  
(Answer Back SORAU)

International Musician and Recording World (USPS No. 331-630) is published by International Musician and Recording World USA, Ltd., 1500 Broadway, 19th Floor, New York, NY 10036. Telephone 212-921-9050. US and Canadian circulation by Curtis Circulation Company, West Caldwell, NJ 07006. International Musician and Recording World is a registered trademark. All rights reserved. © International Musician and Recording World USA, Ltd. While every care is taken in the publication of the magazine, the publishers cannot be held responsible for any results arising from the contents thereof.

Published, produced and printed in USA.

Sole International Distribution Agents  
Gordon & Gotch (Australia) Ltd.,  
Melbourne, Sydney, Brisbane, Adelaide,  
Perth.  
Gordon & Gotch (NZ) Ltd., Wellington,  
Auckland, Christchurch, Dunedin.  
International Magazine Distributors,  
Capetown, South Africa.

## SUBSCRIPTIONS

USA and Canada \$20 second class postage paid at New York and all additional mailing offices.

## Subscription Requests

GPO Box 44, Brooklyn, NY 11202  
POSTMASTER: If undelivered, please send form 3579 to GPO Box 44, Brooklyn, NY 11202.  
Tel: 212-834-0550

# World Paper Shortage

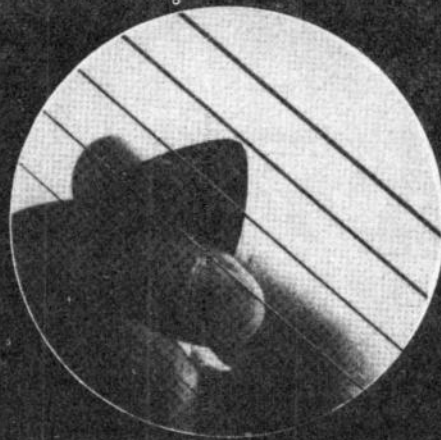
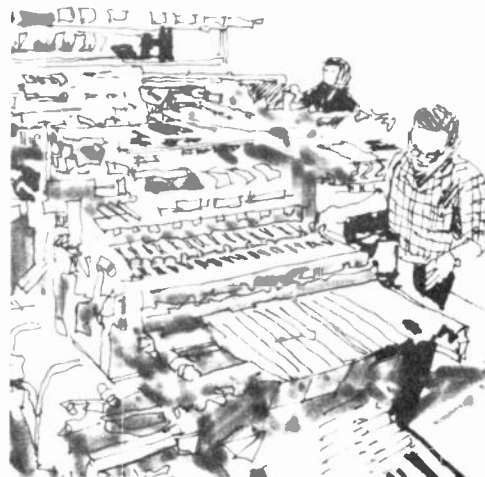
Due to the fantastic acceptance of our publication in America, we wanted to print in the U.S.A., as opposed to printing in Europe as we have been doing since the magazine's inception. When we made this decision, we wanted it to be immediate and therefore chose a printer and printed in America from last month. Unfortunately, due to world paper shortages, we have been informed that a non-coated paper was used for some sections of some of the magazines (not all sections or all issues) – this was beyond our control.

In this month's great issue, you will notice an excellent heavy, glossy paper has been used throughout the magazine. This is as compensation to you, our reader, and will not be the normal paper that we will be using in future – for future use we are seeking a similar but lighter paper.

However, we are a magazine run by people, not by an industrial conglomerate with satellite organizations and we all felt very bad about last month's situation.

We look forward to us all enjoying this issue of International Musician & Recording World and all issues for the next 40 years.

RICHARD DESMOND,  
President,  
INTERNATIONAL MUSICIAN &  
RECORDING WORLD U.S.A. LTD.



The best thing next to your fingers.  
D'Andrea guitar picks.

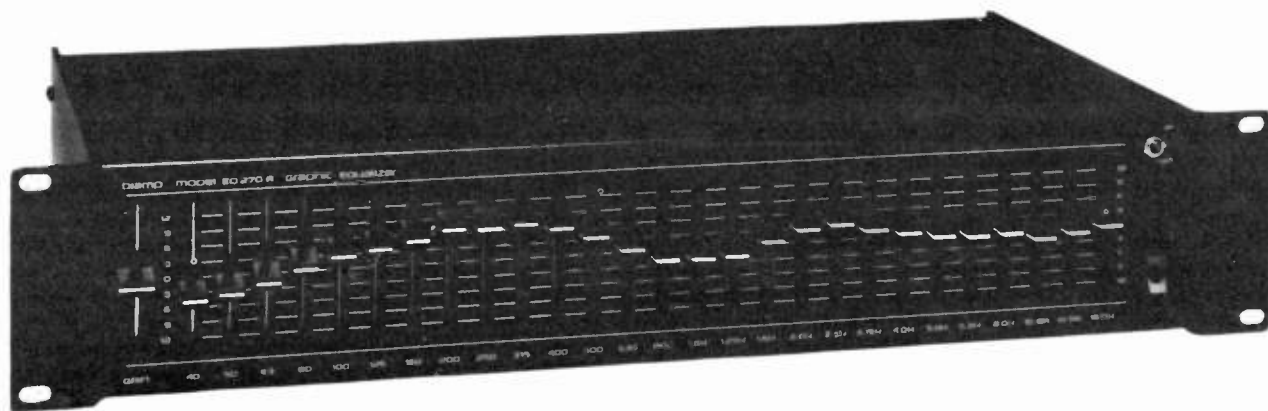
**D'Andrea** MFG. CO. INC.  
141 Eileen Way, Syosset, N.Y. U.S.A. 11791

# DOUBTLESS

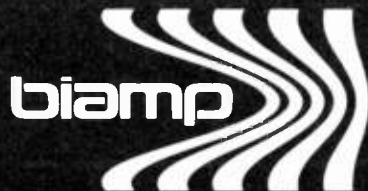
WITH THE ALL NEW

## BIAMP EQ/270A 1/3 OCTAVE EQUALIZER

- ALL NEW ADVANCED FILTER DESIGN • PROPER COMBINING ACTION OF FILTERS
- EXTREMELY LOW DISTORTION • T.H.D. AND IM LESS THAN .0075%
  - HIGH SLEW RATE DEVICES • EXTREMELY ACCURATE FRONT PANEL CONTROLS
  - FREQUENCY RESPONSE  $\pm .1$  dB 15HZ-30KHZ • NOISE  $-90$  dB at 0dBv REFERENCE
  - BALANCED OR UNBALANCED LINES IN AND OUT • VARIABLE GAIN CONTROL
  - OIL DAMPENED SLIDE CONTROLS WITH CENTER DETENT.



Now BIAMP brings you the ultimate in  
1/3 octave equalization at a price you can afford!



Don't just take our word – we invite you to  
compare the specs and the value.  
Then listen to the EQ/270A yourself at your  
local BIAMP dealer, along with the rest of BIAMP'S  
complete line of professional audio products.

9600 S.W. BARNES ROAD, PORTLAND, OR 97225  
503-297-1555

Call or write for the dealer nearest you.

# Contents

## 22 Lee Ritenour

From the studio to the stage, the guitarist tries for the top, and reaches it. By J.C. Costa

## 36 Carmine Appice

Laying down the beat for Rod Stewart can be both rewarding and compromising. Carmine talks about it all and what's coming up. By Steven Rosen

## 40 Taj Mahal

Scott E. Kutina finds out about Taj and the musical roots that made him great

## 44 PA Contest

In a major contest some lucky winner will walk away with a PA system worth over \$5,000. Just turn to the page and answer the magic questions

## 84 Laurence Juber

The noted British session guitarist joins Paul McCartney's **Wings** for a flight into pop music. By David Lawrenson

## 90 Jeff Porcaro

Being the sticks man in **Toto** has its compensations as the band of noted session musicians lights up the airwaves. By Eamonn Perciva



World Radio History

## REGULAR FEATURES

### 8 Letters

A reader takes us to task on Robert Fripp, another finds someone's comments on Clapton out of line and we answer questions about Steve Howe's new Gibson.

### 92 Albums

Discs that sound on the IM&RW turntables this month include Steve Hackett's **Spectral Mornings** and Keith Jarrett's **Eye of the Heart**.

### 96 On The Road

Our newest feature is designed to help musicians with the problems of traveling.

### 102 Build-A-Solid

In the continuing saga of building your own guitar, Stephen Lelitt supplies the latest segment.

### 108 Understanding Synthesizers

Tony Horstman continues to wind his way through the morass of the synthesizer world, making it easy to tell your VCOs from your ASRs.

## TESTS

### 50 Guitarcheck:

The Odyssey by Stephen Delti

### 54 Soundcheck:

Part II of Baby Amplifiers by J.C. Costa

### 56 Synthcheck:

Minimoog by Robin Lumley

### 58 Drumcheck:

Pearl Vari-Pitch Cannons Kit by Eabo Henrit

### 62 Soundcheck:

Studiomaster 16/8 Mixing Console by Mark Sawicki

## PLAYING

### 13 On Drums

Chester Thompson

### 15 On Bass

Jeff Berlin

### 17 On Sax & Flute

Alan Holmes

### 19 On Synthesizer

Robin Lumley

## RECORDING WORLD

### 128 On The Record

A look at whose laying down tracks

### 130 AES Preview

IM&PW previews the hottest items to be at the AES New York convention

### 132 The Studio

Hotline Studios — Frankfurt

### 134 The Producer

Jimmy Iovine by Steve Weitzman

### 138 Home Studio Project

This month Chris Rogers reviews the ins and outs of the mixer world

# Letters



## In Search of Howe

I really enjoy the magazine, especially the issue with Steve Howe on the cover. Do you know if, and/or when, the Gibson/Howe model guitar will be commercially available? How much will it cost?

*Craig Swearingen  
Houston, Texas*

*Recent conversations with Norlin/Gibson confirm that Steve has been at the plant working with them on a prototype, but at this stage that's all that's happening. Until it's been completely designed and tested, there's no guarantee that it will be a full production model.*

## The Synthesis of Jarre

I'm a lifetime reader of your magazine, even though I didn't have the opportunity to buy all of them. I'm real interested in synthesizers and thanks for "Understanding Synthesizers." I wonder why you don't write about the great synth players like Jean Michael Jarre (*Oxygene*) whose father, Maurice Jarre, is a great composer of classical music. Don't stick so much to jazz or American rock. Write about the world's good musicians like Vangelis, Pink Floyd, Yes, Cerrone and the Sex Pistols who do understand what they're doing. They don't need fans, money . . . they're just excellent . . . maybe weird, but excellent. By the way, I like your ads.

*Herman Biglari  
Brookline, Mass.*

*Keep your eyes open, synthesis is on the way.*

## Fripp Freak

I just wish to make a few comments on your Robert Fripp article, a man in whom I have the greatest interest.

Firstly, I believe your article was much too short for a man of Fripp's intelligence and insight. It was truly upsetting to see a mere three pages of Robert Fripp, while in the same issue there exists an enormous interview with Stephen Stills, who is mega-light years behind Fripp musically. Perhaps it is a question of opinion as to whose music one appreciates more, but it is undeniable that Fripp is technically superior to Stills. The brevity of the article may not have been your fault but it was a greatly visible injustice.

Secondly, I would like to say that whoever is responsible for your photography and/or cropping should be terminated. I have seen the picture which was on page 40-41 before, but never with such dust; nor have I seen a poorer cropping job than that done on Fripp on page 42. In addition, one photographer was using a downward slant on Fripp; the man is small as it is, so such a perspective is quite out of order. It is possible that this occurred at Fripp's request, since I am quite happily unable to predict his actions. However, I really don't think he cares how he is posed, since promotion constitutes suffering for him, and you certainly picked a poor picture of him.

Lastly, I really have to disagree with David Lawrenson in his assessment of the Fripp/Weston/Bruford King Crimson as the best version of that group. The musicianship and music on *Lark's Tongues in Aspice* and *U.S.A.* are immensely superior to those on *Red*. And I believe that Bruford's own unhappiness caused by the fact that he was "screwed" in that deal, whereas he usually picks up and leaves "himself" when "he" doesn't like what is occurring or when he is finished in a band. Bruford is undoubtedly one of the greatest drummers in rock & roll, but I think he also might be a touch spoiled.

In all these comments, I simply mean to be constructively critical. If I sound sarcastic or bitter in any of the remarks, that is simply because of my own frustration with all aspects of the rock business, from its press to the record buyers. And in a jungle of ignorant musicians, surpassed in foolishness only by their own followers, Robert Fripp is a guiding light, and any injustice to him I take seriously.

*David M. Stanton  
Essex Fells, New Jersey*

## Putting Clapton Ahead

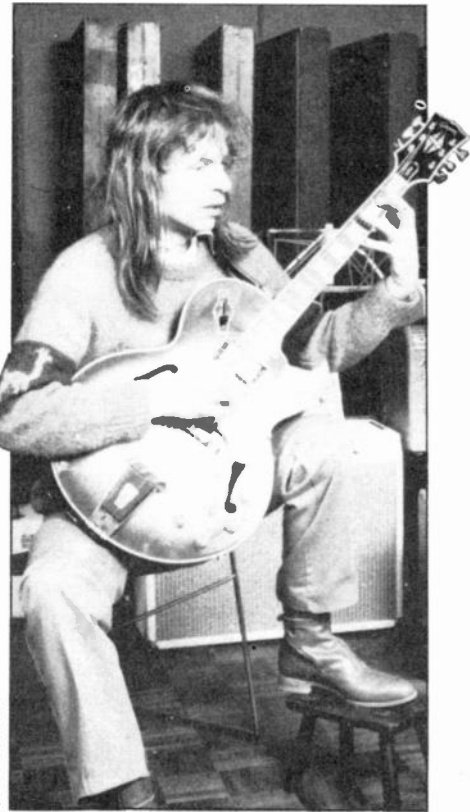
Thank you very much for the American edition of *International Musician and Recording World*. As a serious guitarist, I find it quite helpful.

I would like to comment on Paul Levy's remark that Eric Clapton should "play like he did with the Bluesbreakers." I feel that Eric is doing a great job with the music he's playing now, despite slagging from critics and cries of treason from countless fans. Mind you, the stuff he did with the Bluesbreakers, Cream and Derek and the Dominoes was very good; but if he stayed with that sound people would dismiss him as being in "the same boring rut."

Will you be planning on running articles on Randy Bachman, Todd Rundgren and Brian May? These are very good guitarists that rarely get articles on them.

*Daniel Drebellis  
Brandon, Maine*

*Everything's possible.*



*Send your comments, criticisms and queries to Letters, International Musician and Recording World, 19th floor, 1500 Broadway, New York, NY 10036.*



# How can we say that our MXD-5 is the best analog delay for your needs?

Who do you think you are . . . a musician, a PA engineer, a home recorder? What do you play . . . guitar, keyboards, a console? Are you a vocalist? We designed the MXD-5 to be the best value in analog delays for the majority of professional musical applications. The MXD-5's versatility and performance are unequalled in its price range. But whether or not you think it's the best depends on who you are and what you need from a delay device.

## What do we mean by 'a majority of professional music applications'?

The MXD-5 is versatile. It will provide echo from the entire gamut of instruments and mics. With the MXD-5 individual channels for high and low level input signals make it possible to achieve a proper interface which is so important for sonic performance. We know that in order for any signal processor to work without distorting new material or adding unwanted noise there must be a correct matching of levels.

Right now you may be working on the road, tomorrow, may be in the studio. The MXD-5 is at

home in either situation. A three position switch allows an optimum interface whether going into a musical instrument amplifier, recording console, or a PA mixer.

## How much delay is enough?

Once again, the answer to this question depends on who you are. You may never need more than 100 ms. of delay time. The MXD-5 offers from 20 to 200 ms. of delay at an astonishing frequency range. It was developed to provide a wide range of delay times, which are practical, while the quality of the audio signal remains extremely clean. This means a remarkably quiet product with a relatively wide frequency range at all delay settings. We feel that this is a very important factor to consider.

## What about, 'how little delay is enough'?

Most other analog delays offer no less than 50 ms. This limits them severely in that they cannot achieve a subtle thickening for instruments or voice. Their delay range starts at a contrived doubling. The MXD-5 can deliver delay from a thick double, to a distinct repeat; in all ranges the performance is superior.

## What kinds of things comprise an echo?

In addition to a single time delay, or repeat, there are other factors which effect the way an echo sounds. The intensity of the signal is an important consideration. In many units the volume of the delayed signal is not controllable. With the MXD-5 it can be regulated from a hint to a wallop.

A multi-repeat is achieved by recirculating the delayed signal through the analog circuitry over and over again. In order to get a clean multi-repeat you've got to start with a superior delay circuit. This is what makes the MXD-5 so together.

## What qualities exist in natural echo?

Echoes rarely exist in nature without some degree of reverberation. That's why we built in a high quality spring reverb. The sustain time is variable to a maximum of three seconds. The depth is independently controllable. This reverb feature further separates the MXD-5 from other delay units. The MXD-5 can achieve the illusion of natural spatial relationships.

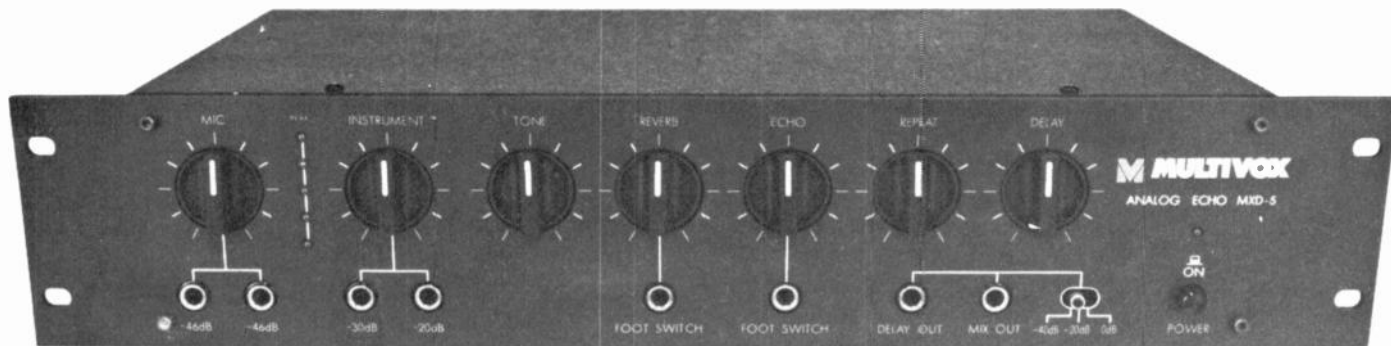
The EQ of the echo and reverb signals are adjustable so that subtle variations of the effect are

attainable without affecting the dry signal.

## What makes the MXD-5 better than other competitive units for live performance . . . the road . . . the home studio?

The MXD-5 will work consistently under the most strenuous professional conditions. No matter how good a unit sounds, it would be of little value to you if it lives on a repair bench. The MXD-5 is built with the same mechanical and electronic integrity that you would expect from any professional musical product. It is standard rack mountable and an optional road case is available for the most adverse travel conditions. The MXD-5 was also designed to suit your needs on stage. Instant switching of echo and reverberation has been provided for with remote control which may be foot operated (optional) independently.

The LED overload meter is bright enough to be seen for positive visual monitoring of the input signal. There's access to the delayed signal without the reverb signal for recording or on stage panoramic stereo-like effects.



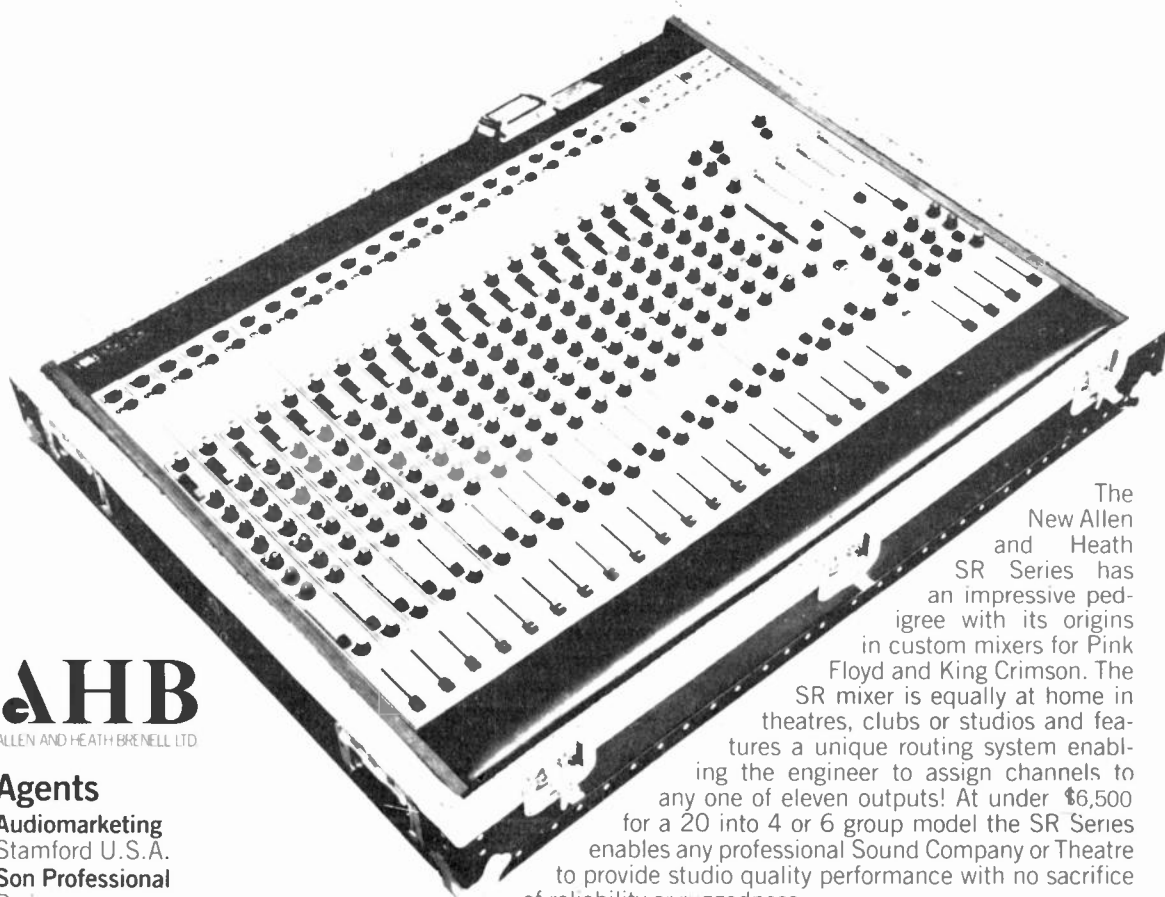
The bottom line is hearing and using the MXD-5 analog delay. For your needs, today and tomorrow; this delay line should prove to be universally better, in both flexibility and performance, than anything in its class. The **MXD-5 . . . \$399.50**, suggested retail.

Sorkin Music Co., Inc.

**M MULTIVOX** 370 Motor Parkway Hauppauge, N.Y. 11787 516-231-7700

# SR20 and SR28

## MIXING BUSINESS WITH PLEASURE



**AHB**  
ALLEN AND HEATH BRENELL LTD

### Agents

**Audiomarketing**  
Stamford U.S.A.  
**Son Professional**  
Paris

**Intersonic**  
Stockholm

**Fading**  
Madrid

**Studio Sound**  
Frankfurt

**TEM**  
Brussels

**Sun Music**  
Denmark

**Audiolab Hellas**  
Greece

**Peter Bollen**  
Eindhoven

**Audio Consultants**  
Italy

**Lastron**  
South Africa

The New Allen and Heath SR Series has an impressive pedigree with its origins in custom mixers for Pink Floyd and King Crimson. The SR mixer is equally at home in theatres, clubs or studios and features a unique routing system enabling the engineer to assign channels to any one of eleven outputs! At under \$6,500 for a 20 into 4 or 6 group model the SR Series enables any professional Sound Company or Theatre to provide studio quality performance with no sacrifice of reliability or ruggedness.

- Fully modular construction allows any format up to 28 inputs per frame.
- 8 routing busses to groups and masters.
- 3 auxiliary busses for foldback and effects.
- 10 echo returns for multiple effects mixing.
- Integral stage communications system.
- Built-in oscillator with frequency sweeping.
- Sweep frequency equalization as standard.
- Phantom power as standard.
- Heavy Duty external power supply.
- XLR transformer balanced microphone inputs with low noise preamplifier.
- LED Peak reading meters with stereo monitoring.
- Comprehensive headphone monitoring system.
- Military spec multipin connector as standard.
- +18dBm output head room.
- P & G fader option.
- Solo (PFL) of all desk functions.
- Special dual frame option for 40 or 48 inputs.
- Heavy duty flight case (as shown).

ALLEN AND HEATH BRENELL LTD. AUDIO MARKETING, GLENBROOK ROAD, STAMFORD, CONN

# PAT METHENY AND GUILD

Pat plays what he likes...and he likes to play Guild. He's used one of our electrics for years. Now he's into Guild flat-tops as well.

Guild gives you a sound that many professionals believe just can't be duplicated by any other guitar, made by anybody else, anywhere in the world. Intonation is exceptional. Playing is easy. The instrument's projection brings you closer to your audience.

One reason for the Guild sound is our woods. We scour the markets for the finest, at a time when scarcity prevails. Another is our manufacturing methods. We're more careful in our assembly and finishing processes than ever.

We're uncompromising on details, such as factory-stringing all our flat-tops with Guild Phosphor Bronze Strings.

Think of a Guild Guitar as an investment in quality...and the beginning of a beautiful friendship, like Pat Metheny's.

Try a Guild at your dealer soon.

Guild Guitars, P.O. Box 203,  
Elizabeth, New Jersey 07207.

- Enclosed is \$1.00.  
Send Pat Metheny Poster 8732-D.  
(N.J. residents add 5c sales tax)
- Send free Guild Flat-Top Catalog.
- Send free Guild Electrics Catalog.

Name \_\_\_\_\_

Address \_\_\_\_\_

Age \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

My Dealer/City \_\_\_\_\_

PHONES: (201) 351-3002 • (212) 227-5390.  
TELEX: 138711.

# Guild

HAND-MADE IN U.S.A.

D-40C

**SEND FOR PAT METHENY POSTER!**  
For a 17" x 22" poster/blow-up of this picture, mail the coupon to Guild with \$1.00. Offer good only while the supply lasts.

# Don't let your speakers control your sound...

## Electro-Voice stage systems put you in control.

Why should a musician allow his creativity to be limited by his speaker system? With amplifiers, pre-amps and the myriad of other state-of-the-art electronic devices available, why should a musician limit his sound by playing his equipment through a speaker system that hasn't changed in design since 1957? The answer is he shouldn't, and with Electro-Voice Stage Systems he doesn't have to. These three new instrument speaker systems let you hear all the sound your instrument is capable of producing, the way you want it to be heard, by choice not by chance.

The S18-3 lets you hear all the notes you never heard before from your keyboard or synthesizer from below 40 Hz to above 16,000 Hz. The famous EVM-18B delivers the bass. The Electro-Voice

exclusive vented midrange driver delivers the midranges as efficiently as a horn, but without the typical "honky" small horn sound. The ST350A tweeter gives you clean highs over a solid 120° angle, eliminating the high-frequency "beaming" that limits the enjoyment of your performance to the few people sitting directly in front of the speaker.

The two new bass guitar systems also incorporate the VMR™ vented midrange. It can be controlled from the front panel, thus giving the bass player total control over the midrange harmonics missing from "standard" bass enclosures. The B115-M uses a single EVM-15B in an optimally vented enclosure. The result is the tight sound preferred by many jazz bassists and studio musicians. The B215-M has two EVM-15B's for a bass sound with more "carry"; perfect for the larger venue or

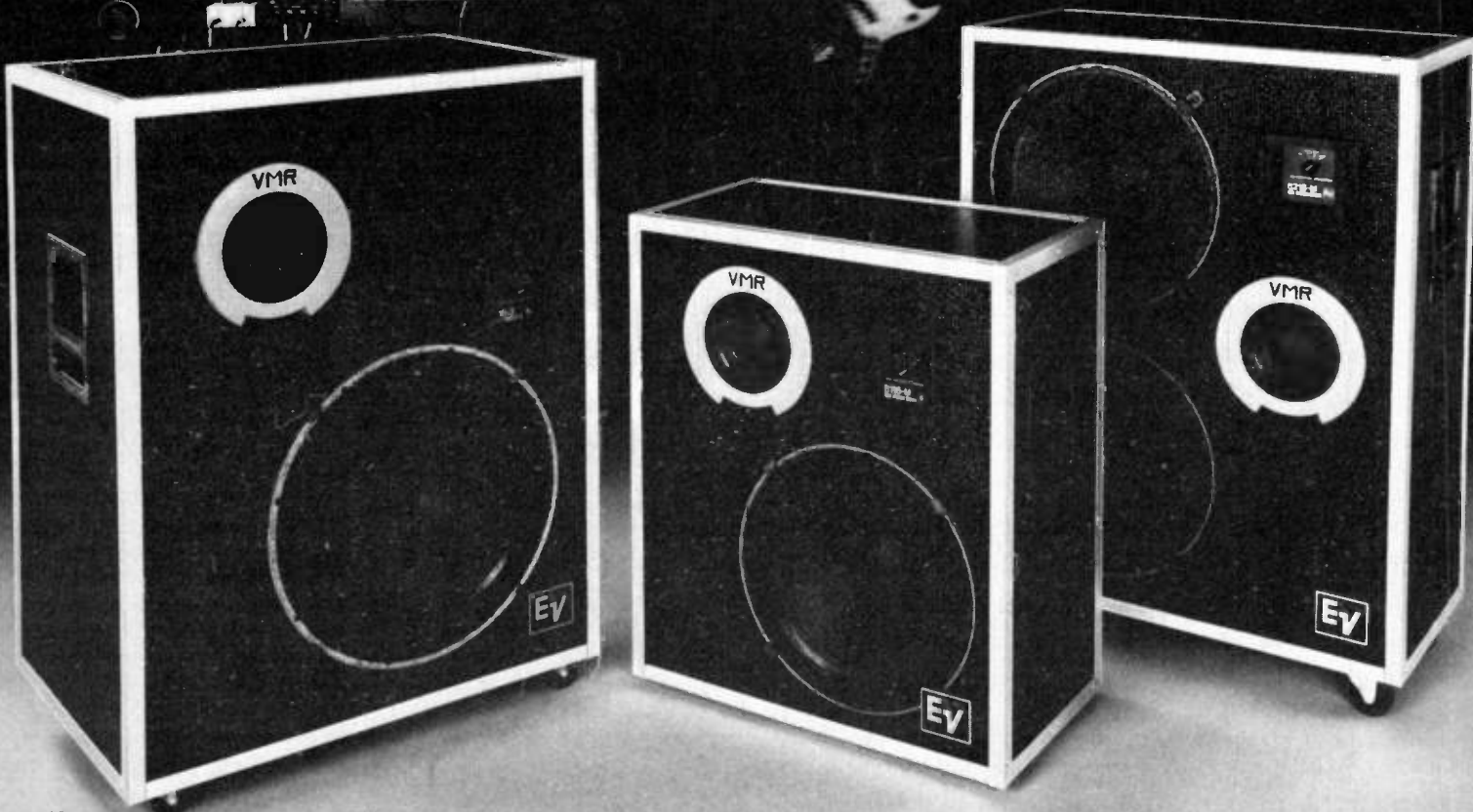
for the rock musician who wants more low-frequency "punch." In both cases, the VMR brings out sounds you may have heard before only on studio recordings.

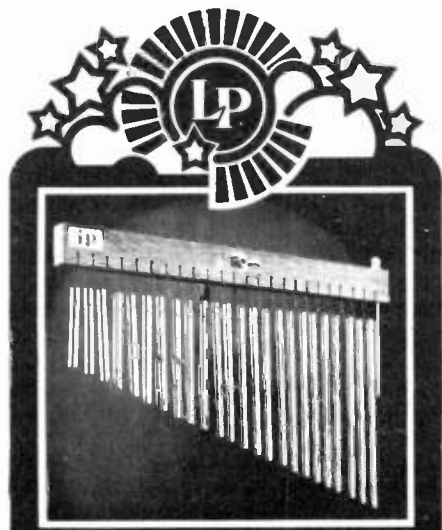
All systems have identical styling. Black vinyl covered 3/4" plywood construction for durability, further protected by extruded aluminum trim on all edges. A metal mesh grille screen protects the drivers from accidental abuse.

If you want to have control over your sound, these are the speakers for you. See and hear these superb instrument speaker systems at your Electro-Voice dealer.

**Ev Electro-Voice**  
a gulton company

600 Cecil Street, Buchanan, Michigan 49107





**SOLID  
BAR CHIMES  
by LP**

Send \$1.00 for catalog

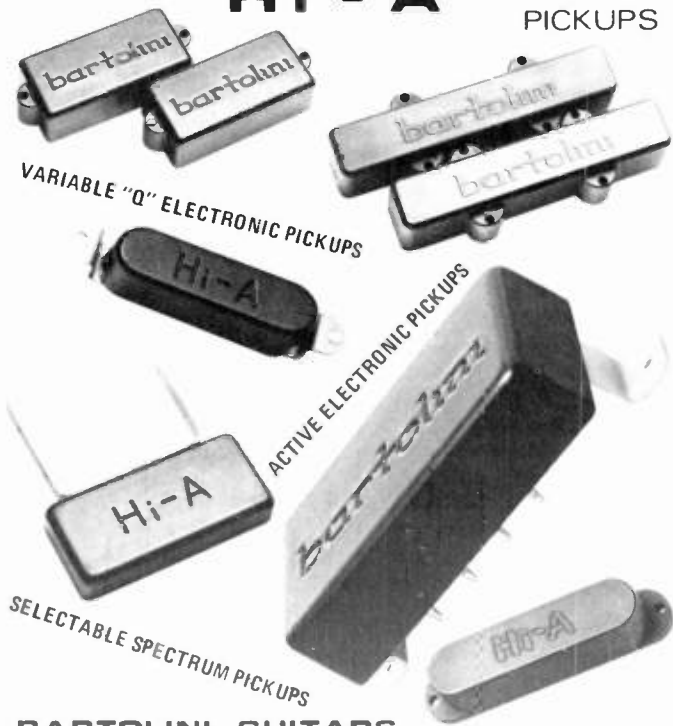
Trust the leader®  
**LATIN PERCUSSION**  
P.O. BOX 88 • DEPT. DB • PALISADES PARK, N.J. • 07650

Circle 807 on Reader Service Card

# bartolini

Hi-A

PICKUPS



**BARTOLINI GUITARS**

BOX 934 LIVERMORE, CALIF. 94550 (415) 443-1037

Exact Replacement Pickups For Most Electric Guitars And Bases.

Circle 800 on Reader Service Card

# On Drums

Chester Thompson



The subject I would like to talk about is riding the cymbal. Or to be more specific — the use of the fingers and wrist. If you've played a lot of jazz you probably know just what I'm talking about. If you only play "heavy metal" then maybe you haven't had the need for it.

If you've ever noticed your wrists getting cramped near the end of the gig, it might be a good idea to examine your cymbal technique. Pain is a definite indication that something is wrong.

As with practically anything else, getting tense is one of the worst things you can do. The tendency is to grip the stick tighter which means you're using only your wrist, which is not designed to do the kind of work that is best suited for fingers.

Now we come to the question — "What do you do with your fingers?"

What's really holding the stick is your thumb and forefinger. The other fingers act as guides. I use the middle finger or the two middle fingers to propel the stick, in combination with the wrist. It's almost a trigger pulling motion with the fingers. The result is that you use much less of the wrist and can play longer and faster.

The means, if course, that you can't hold the very butt end of the stick because then there's nothing for the fingers to work with. Holding the very end of the stick also means that you've got an awful lot of weight to move up and down. Your forefinger should act as a fulcrum for a lever (the stick).

Rhythmically, you might start with the wrist moving on quarter notes and the fingers on eighth notes.

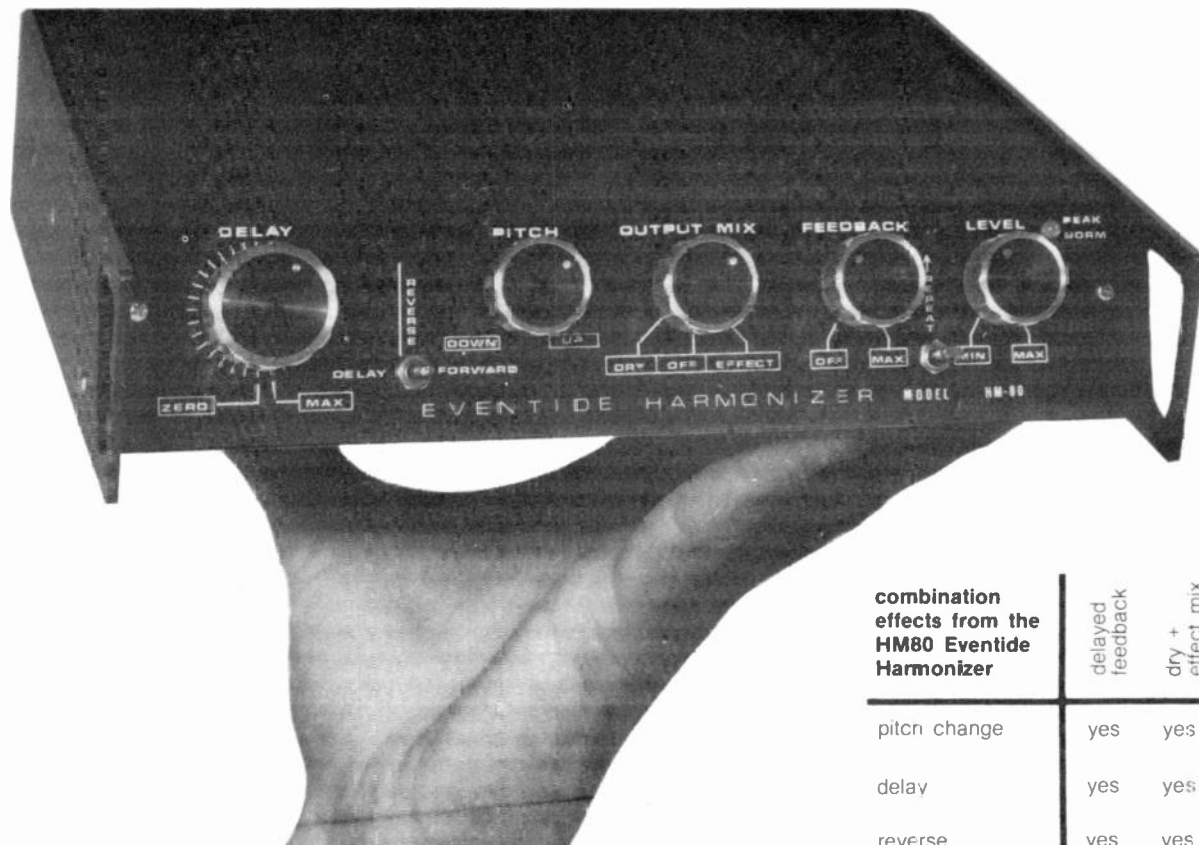
Where to grip the stick is — "where it is most comfortable and balanced to you." You might try holding it between 1/4 and 1/3 of the length and experiment from there.

To get an idea of what can be done on a cymbal, listen to people like Tony Williams and Louie Bellson, on practically any of the well-known jazz drummer. It's not that they are the only ones with good technique but the cymbal plays a more important role in jazz than in most other music.

Changing bad habits always takes a lot of work and while playing high energy music it's hard to think of being delicate. But remember, cymbals cut through so you can use some of that energy to be more creative when you're not using all your strength just to keep up.

*Chester Thompson currently tours with Genesis and has worked/recorded with Frank Zappa, Weather Report, Curtis Mayfield, George Duke and the Pointer Sisters, to name a few.*

# a real *live* Harmonizer



## for \$775

combination effects from the HM80 Eventide Harmonizer	delayed feedback	dry + effect mix	repeat	effect only
pitch change	yes	yes	yes	yes
delay	yes	yes	yes	yes
reverse	yes	yes	yes	yes
pitch change + delay	yes*	yes*	no	yes*
pitch change + reverse	yes	yes	yes	yes

\*limited delay selection

Top studios and top bands throughout the world use Eventide Harmonizers.

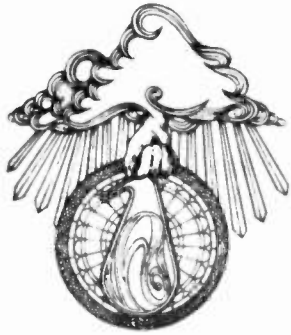
Now, there's a compact version for the working musician—designed for live performances.

Using digital technology similar to that in the studio-quality Harmonizers, the HM80 can **change pitch** up to an octave above or below the original, it can provide **delay** up to 270 milliseconds, it can capture and **repeat** a word or short riff. Continuing the Eventide tradition, it has a completely new effect, true **time reversal**, which must be heard to be believed. Versatile **dry vs. effect** and **feedback** controls are provided, making a mixing console unnecessary.

Frequency response of 10 kHz and dynamic range of 80 db make the HM80 Harmonizer eminently suitable for live performances. All this, in a sturdy black aluminum chassis which weighs under three pounds, measures 10½" x 8¼" x 2¼", and costs only \$775.

Eventide Clockworks Inc. 265 West 54th Street New York NY 10019 (212) 581-9290

Harmonizer is a trademark of Eventide Clockworks Inc.



# ALEXOBICA

**OWN  
the  
original**

**45 FOLEY ST.,  
SANTA ROSA,  
CALIF. 95401**

## **On Bass** Jeff Berlin

I would like to welcome you to my first article about the fastest developing instrument in contemporary music. Although the electric bass is a rather new instrument (around 30 yrs. old), it has been evolving a quick enough rate to become an instrument deserving a place in the fore-ground of modern music. The recent invention of multi-sound effects and synthesizer hook-ups in addition to the bass player's own musical ideas legitimizes the idea that every bassist on earth can have his own distinctive sound and playing style — one that is completely different from everyone else's.

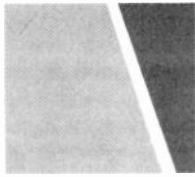
Forget it! It'll never, ever happen.

There are several reasons why bass players won't break any new ground with their instrument. I have a few suggestions that, if followed, should help you gain a new perspective of your guitar. Of course, everything I write is simply *my opinion* — and some of you may disagree with me. But those of you who know my playing, my study (practice) habits, or the kind of musicians I have worked with in the past, will see that my ideas come from years of development, criticism and work. These comments can also be applicable to musicians who don't play the bass. I hope to create some unrest in terms of your musical ideals and force you to start practicing things you've never done before.

There is a serious dearth of musical literature written specifically for the electric bass. There are bass books full of licks from jazz to rock to "cha-cha's," there are books discussing harmony and theory that can be applied to the bass, there are books showing variable scales and modes in certain positions and fingerings. All of this is good stuff to be sure. The problem with these books is that none of the books allow the student to move steadily and consistently from one musical point to another in a well-thought out program of study.

Picture in your mind a child's toy blocks and imagine how he can build a big house by joining small wooden blocks with pieces cut out to fit other blocks with the corresponding pieces removed; something like a log cabin. Each chapter in your practice book (like each individual wooden block) should have a cohesiveness with the next chapter or, for that matter, with any other bass book once you've finished the one you're working on. Violin students must be prepared to undergo years of intensive study in order to achieve a particular sound, manual dexterity and a comprehension of his or her instrument. There are plenty of qualified violin teachers and tons of written material that will insure the steady forward progress of the serious student. This is virtually impossible for the electric bass player. Upright bass music may be OK for reading exercises, but since it was written with bowing technique in mind and has string bass fingerings all over it, I can't recommend it too highly. As an alternative, you should check out trombone music, preferably jazz trombone solos. The best book I've found so far is called "Chord Studies For Trombone," by Phil Wilson and Joe Viola (printed by Berklee Press, 1140 Boylston St., Boston Mass. 02215). The advantage of trombone music is that it will take you all over the bass and into 5 & 6 ledger lines.

Another reason bass players have a hard time with their instrument is their lack of knowledge of what music to listen to and *how* to listen to it. And, most importantly, when to *stop listening* to the hot players of the day.



# fact: Shure's new loudspeakers may look compact...but there's plenty of room for all your sound!

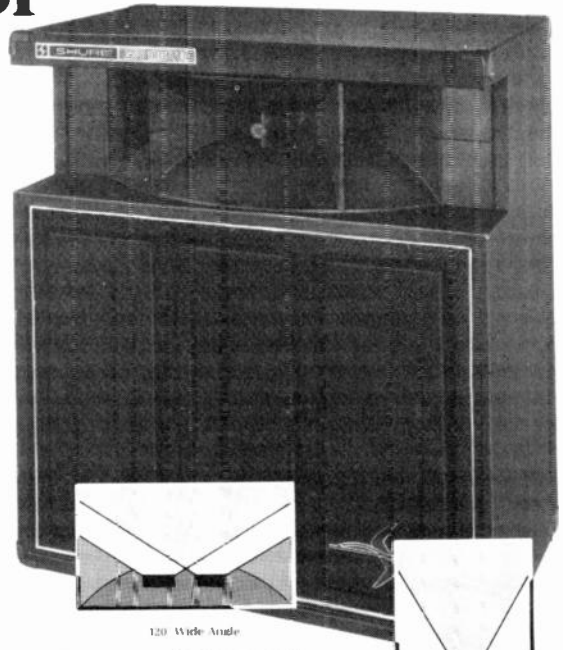
## PRO MASTER™ Model 701 Loudspeaker

- Adjustable dispersion—for long- or short-throw applications.
- Easy to transport—practically abuse-proof.
- High efficiency—100 dB SPL at 1.2m (four feet) with one watt power.
- High power handling—handles up to 150 watts continuous.

A giant step forward in compact, professional quality sound reinforcement equipment! The PRO MASTER 701 Loudspeaker is specifically designed to meet the needs of today's entertainers and musicians, in intimate clubs, lounges, large auditoriums, churches, and schools.

The revolutionary PRO MASTER loudspeaker is the result of sophisticated computer-assisted design techniques, state-of-the-art materials engineering, and countless hours of consultation with performers and sound technicians in all fields.

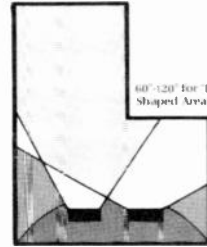
The highly efficient design allows the PRO MASTER loudspeaker to deliver a walloping 100 dB SPL at 1.2m (four feet) with only one watt power. And, you put all the sound *where you want* it with exclusive adjustable dispersion, that adjusts for wide-angle (short-throw) or long-throw applications. Each speaker weighs only 26.4 kg (58 lbs), and two fit into many subcompact cars.



120° Wide Angle



60° Long Throw



60°-120° for T-shaped Areas

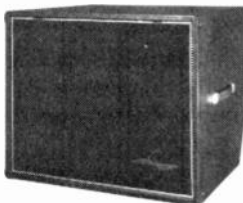
### PRO MASTER Modular Loudspeakers

These modular units may be used to construct a custom speaker stack, add high- or low-frequency emphasis to another full-range system, or create custom stage monitor systems. Each speaker is designed to operate with an amplifier capable of delivering up to 150 watts continuous to an 8-ohm load.



#### Model 708 High-Frequency Speaker

The high-frequency portion of the Model 701, including adjustable dispersion horn. It has a frequency response of 2,000 to 15,000 Hz, an internal crossover filter rolling off at 18 dB per octave below 2,000 Hz.



#### Model 707 Low-Frequency Speaker

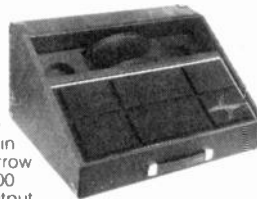
The low-frequency portion of the Model 701, with rubber feet on two surfaces and a diagonally beveled back allowing the speaker to be tilted. It has a frequency response of 50 to 2,600 Hz, an acoustic rolloff above 2,600 Hz.

### PRO MASTER Stage Monitors

Really cut through in monitor applications! The Shure-developed shaped response is a performance-proven way to put the sound energy where it belongs.

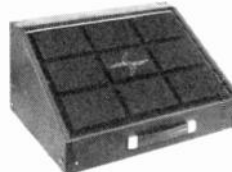
#### Model 703

Special removable wedges enable the monitor to be used in a wide-angle or narrow pattern. Rated at 100 watts to 8 ohms, output 117 dB SPL at 1.2m (four feet) with 100 watts.



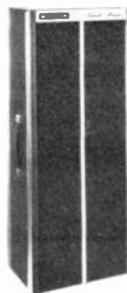
#### Model 702

A compact two-way system rated at 50 watts to 16 ohms, output 114 dB SPL at 1.2m (four feet) from only 50 watts. Features a built-in volume control.



#### VOCAL MASTER® Stage Monitor

The VA301-S is a highly directional stage monitor, featuring a built-in volume control. Designed to be used with the Shure VOCAL MASTER Sound System, it is rated at 50 watts to 32 ohms.



### Compact Speaker Systems

Three professional speaker systems (SR112B, SR112W, and SR116B) that combine high output capability, high power handling ability and wide frequency response into a compact package. Extraordinarily efficient, they produce 95.5 dB SPL at 1.2m (four feet) with just one watt. And, each is rated at 100 watts to 8 ohms!

#### SR112B (SHOWN)

Designed for permanent or semi-permanent installations indoors or outdoors.

#### SR112W

Same as SR112B with woodgrain finish, matching many indoor decors.

#### SR116B

Carrying handle and extra built-in corner protection, built to stand up to the bumps and scrapes of touring.



### Shure... The Sound of the Professionals

Write for full details, or get in touch with your dealer



Shure Brothers Inc. 222 Hartrey Ave  
Evanson, IL 60204

In Canada: A C Simmonds & Sons Limited

Outside the U.S. or Canada, write to Shure Brothers Inc., Attn. Dept. J6 for information on your local Shure distributor.

Manufacturers of high fidelity components, microphones, sound systems and related circuitry.



# On Sax and Flute

Alan Holmes

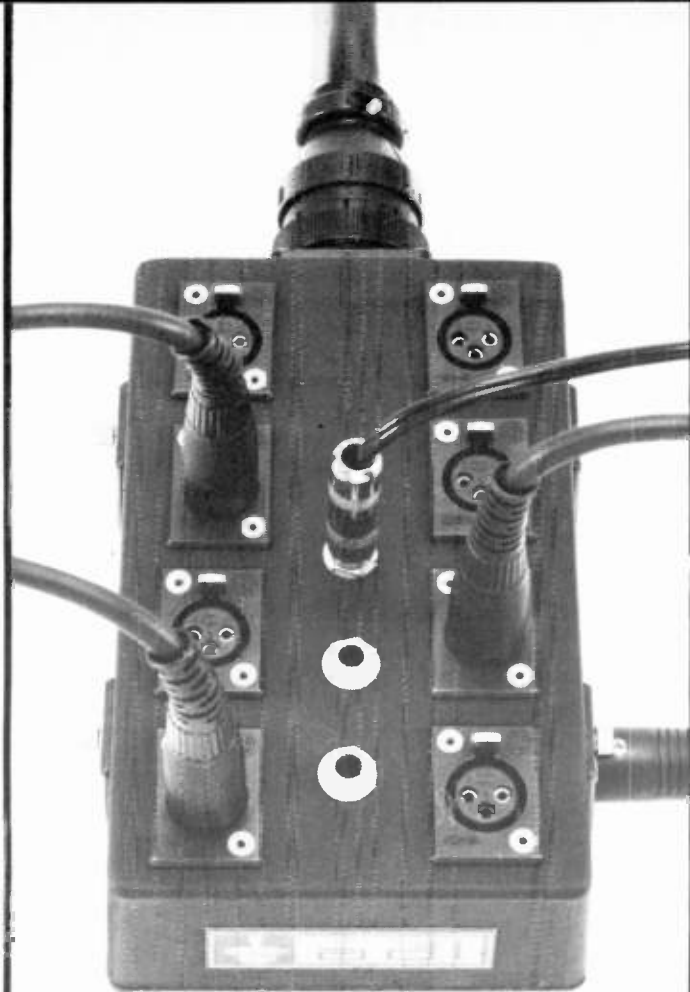
Vibrato is a rhythmically regular and rapid wavering of pitch, which also has elements of volume change as well, to produce a pulsating effect similar to that of the human singing voice. It can vary considerably in depth and speed and these are generally selected by the good taste of the player. You might be familiar with the type of rapid vibrato which characterized the Twenties era and just the addition of this to the funkier piece of music will make it sound very "tongue in cheek" as if one is being sarcastic. The use of a slow, shallow vibrato in blues playing is part of the Texas "soul" style of players like Wilton Felder and King Curtis. The slow, breathy and deep vibrato used by Colman Hawkins and Ben Webster for their ballads really is the essence of that particular style, just try playing a ballad without vibrato and check the effect.

Coltrane just used a very slight vibrato at the end of notes and most of the time didn't use any at all, concentrating instead on the note patterns for effect. So the degree and speed can make a big difference to the interpretation and expression of a piece, and the choice of the vibrato used makes a large contribution to the individual style of each player. Very often if two players are reading a piece accurately, the only difference that will set them apart is their tone and the way they use vibrato.

The pulsation most generally used varies between five and six pulses per second, much faster and you get the "nanny goat" effect, although the controlled slow vibrato is very effective in the right place. In singing, the pitch variation can be as much as half a tone and should alternate above and below the note in equal amounts. A common fault is to just flatten the note only, so the vibrato has the effect of lowering the pitch and producing a tuning problem, so it is essential that you can play well in tune without vibrato, by producing an organ-like straight sound and checking this against a piano or keyboard so that you have control through the range of the horn. Otherwise, if you have no built-in pitch centering then vibrato will interfere with your intonation. The same goes for lipping and slurring of pitch which should never be tried until it automatically returns to the correct tuning, rather like the pitch bend wheel of a synthesizer.

This is another serious pitfall for the beginner who very often will have no pitch stability at all, lipping and slurring each note so that there is no general sense of pitch. The three main methods of producing vibrato are: Jaw, which is the most common. Throat, which gives nanny goat effect on sax, and Diaphragm which involves a HA HA HA type of pulse from the stomach and is used on the flute and oboe, sometimes with slight assistance from the throat. To use the jaw requires practice of *slight* variations of pitch above and below the note combined with a regular speed. It is advisable to alternate the vibrato notes with straight ones so that the sense of intonation is not lost. Start at fairly slow speed and work up to the five or six a second standard rate. The notes should be in one breath so that the vibrato merges out, into straight and back again, possibly using a metronome if you need to. Obviously, half a tone is excessive for the sax, so use just enough so it sounds right. On flute, the pitch change is even less and the diaphragm pulse must be mastered, by practicing the HA HA HA until it becomes regular and even.

Vibrato is an essential part of tone and should melt imperceptibly into the music, where it should be used for life and colour. It should not be used rigidly like throwing a switch for each note, but only with taste and artistry.



## PROFESSIONAL AUDIO AND CONNECTORS CABLE PRODUCTS

INDUSTRIAL COMMERCIAL CONSUMER

Our line of professional Modular Snakes, Stage boxes and input Connectors are designed for fast set-up, tear down and noise-free operation. Their uniqueness of design permits you to interchange and expand parts to meet your exact requirements.

SOLE AND EXCLUSIVE U.S. AGENT  
FOR ADL PRODUCTS



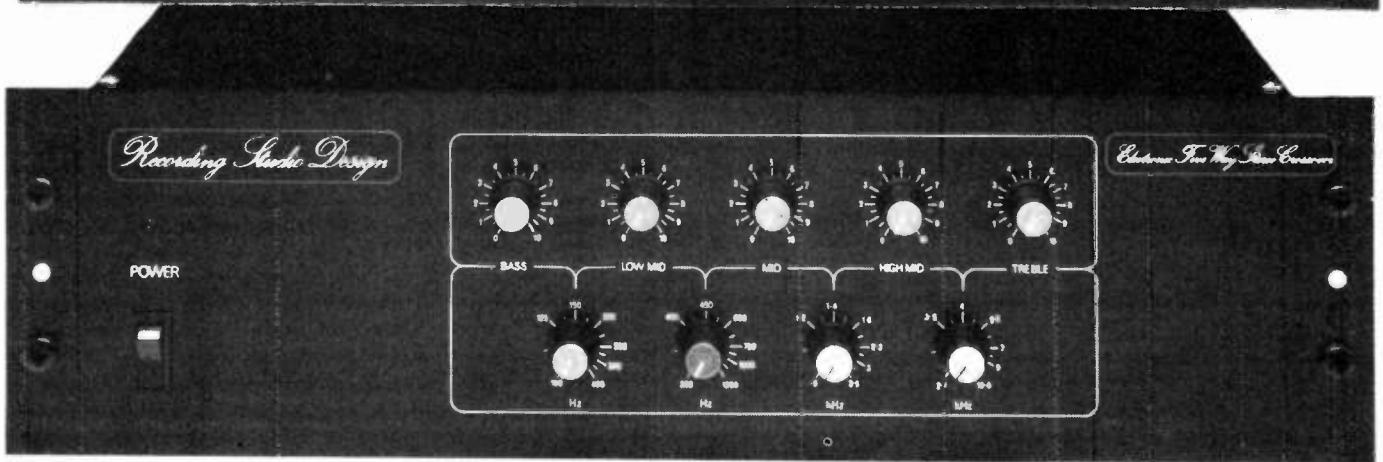
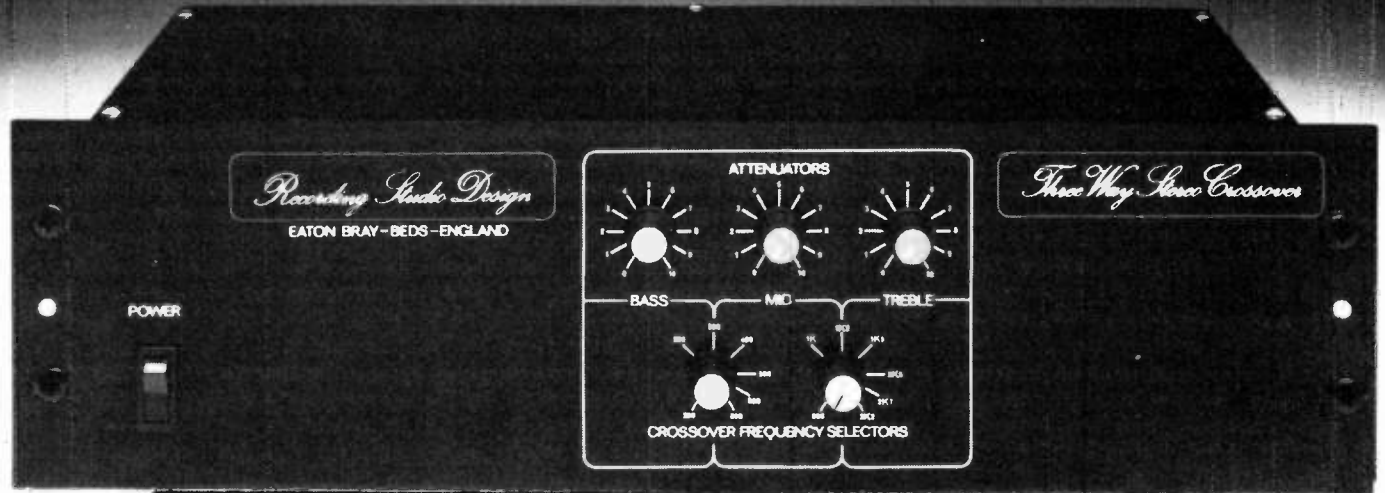
**SANO CORPORATION**

317 Cox Street, Roselle, New Jersey 07203  
201/241-8008

Circle 721 on Reader Service Card

# VARIABLE 3WAY AND 5WAY ELECTRONIC STEREO CROSSOVERS

For your P.A./studio. With individual XLR connections and multicore connector (for our stage return multicore and stage box) on rear panel.

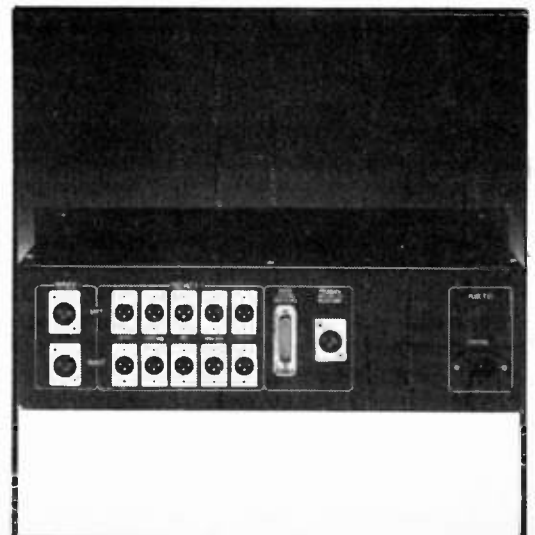


*Recording Studio Design*

Home Farm, Northall, Dunstable, Beds. Tel: Eaton Bray 221331

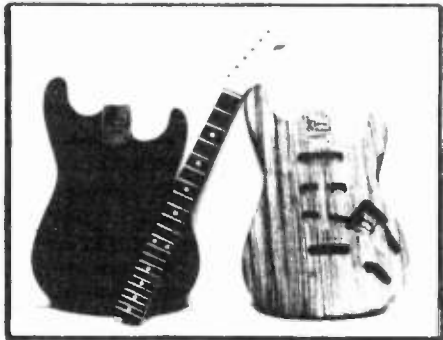
**Distributors:**

- Europe - ATC Ltd, London 01 995 3654
- England - Mick Johnson Music, London 01 788 3491
- London - ITA, London 01 724 2498
- Scotland - Westmill, Edinburgh 031 441 7926



## Rock 'n Roll Your Own

With exotic wood bodies and necks from the company with 3 generations of woodworking excellence behind it.



Circle 786 on Reader Service Card

Send \$1. for brochure Dealer Inquiries Invited

**Kharma**  
**Bodies**



Dept. M.R.  
P.O. Box 82  
W. Hempstead, N.Y.  
11552  
(516) 489-2038

Circle 708 on Reader Service Card



Classical guitar strings  
**ACOUSTIC & ELECTRIC**

Circle 707 on Reader Service Card

14 WEST 71ST STREET, NEW YORK, ZIP CODE 10023.  
212-799-6781/212-932-4464.

# On Synthesiser

Robin Lumley

Sorry I didn't have time to write anything for you last month, but I've been really tied up in the studios lately. Nevertheless, I managed to undo the knots and escape, briefly, for this month's blurb. Still, the album I've been working on has actually been a working proof of the theories expounded in this column of late, and forms a useful, practical avenue of carrying on where I left off writing. Can't actually name the artist and content right now (BIG SECRET) but it is a totally keyboard and synthesized album. If you remember, I've spent a lot of column-inches talking about frequency separation when recording oscillator-sound source musical program. Well, these principles have been coming in for a severe test of validity in this project, and indeed, they DO work. Also, some extra, unexpected problems have occurred, and been solved. When we've been recording multiple banks of synths, we've really appreciated being careful with forethought on how things are going to sound when they're all put together. It's funny how the ear can be deceived by a bit of sensible equalization for example, recording a whole lot of brass section work on a particular synthesizer, as well as a string section, plus, perhaps, a harmony flute line, again synthesized. By filtering, and adding, at certain frequencies, between these overdubs, they can all obtain a clarity and a fullness, even though their individual sounds may be made less than excellent on purpose. But you haven't got a 24-track tape version of the music to play at home, you've got a stereo mix on a disc. So it's what it all sounds like together that is all that matters. And in this case, the whole *must* be greater than the sum of the parts, or you've not done it properly.

Returning to the brass/strings/flute recording example, if you find the frequencies that supply the front of the note to the brass sounds, and tweak them up by a gnat's whisker, and then *remove* lots of that frequency from the strings and flute, when played back with the brass, because the brass sound will *appear* to give these attack frequencies to the other sound sources around them. And there will be no fader-fighting between the three sounds as they will not be competing in the same frequency areas. This is fundamental and basic to recording and mixing *anything*, by the way, and not just synthesizers. It's what the words *BALANCE* and *EQUALIZATION* are really all about.

Different manufacturers' brands of synthesizers all have an inherently different oscillator sound, which is why you can pretty well instantly differentiate between a Moog and an ARP when you hear one. This is another way of obtaining clarity in multiple synth-usage — have a selection of different brands, and thus sound sources, and don't just have all your keyboards made by the same firm. Otherwise, you're going to find it harder to make them work and breathe along with each other, because, down deep, they'll all have a similar, intrinsic, sound starting point.

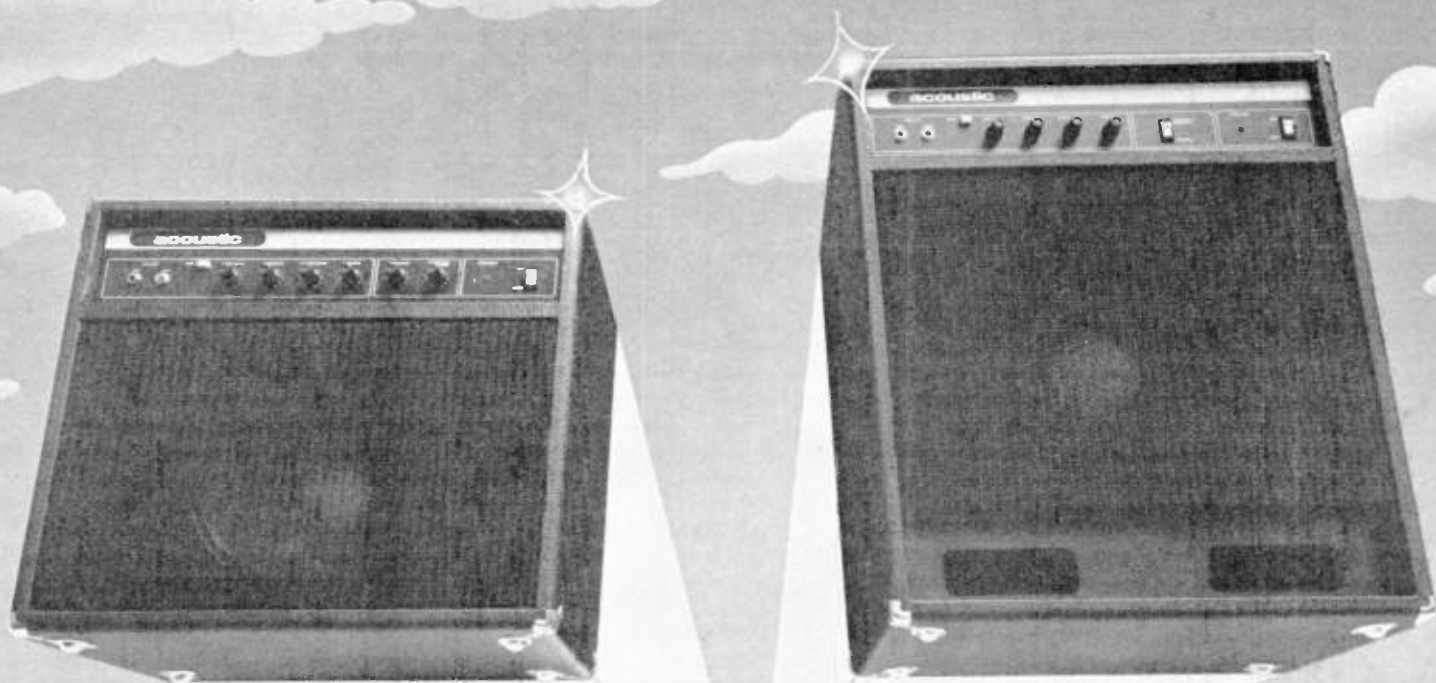
Now, these factors I've mentioned before, but from more of a theoretical view. It's nice for you to know that they actually work in practice. We're having no trouble at all in the studio balancing very large numbers of synthy-sounds, because of pre-planning with E.Q. And this applies to live performance in just the same way, don't forget. More problems and more solutions next month. \_\_\_\_\_

# YOU CAN TELL A GREAT CASE BY THE COMPANY IT KEEPS!



\*ADONIS\*\*  
\*\*THE ALLMAN BRO  
\*\*AMERICAN TEARS\*\*HERB ALPER  
\*\*AVERAGE WHITE BAND\*\*ROY AYERS\*\*BEE GEL  
\*\*THE B-52'S\*\*BLONDIE\*\*BLUE OYSTER CULT\*\*THE D  
\*\*KENNY BURRELL\*\*CARILLO\*\*THE BRECKER BROTHERS\*\*BURNING ROSE\*\*  
\*\*COBIAM\*\*NORMAN CONNORS\*\*CHICK COREA\*\*A CHORUS  
\*\*CLAIR BROTHERS AUDIO\*\*THE DOBBIE BROTHERS\*\*EARTH,WIND,& FIRE  
\*\*ANGELS\*\*THE JOHN DAVIDSON BAND\*\*THE DINGOS\*\*AL DEMIO  
\*\*LAKE, & PALMER\*\*EVITA\*\*FABULOUS POODLES\*\*DIZZY GIL  
\*\*THE GOOD RATS\*\*MOLLY HATCHET\*\*HEART  
\*\*HERMITS\*\*HORSELIPS\*\*THE IAN HU  
\*\*JEFFERSON STARSHIP\*\*BILLY  
\*\*BAND\*\*STEVE KAHN\*\*  
RAHSAAN KIRY  
& THE GAY  
RENCE &  
LARRY  
\*\*HUGH MC  
\*\*JOHN MC  
\*\*GLENN MI  
METROPOLIT  
\*\*PINK FLOYD  
\*\*JEAN LUC P  
RAWLS\*\*LOU  
\*\*RENAISSANC  
\*\*VICKI SUE RO  
SEBASTION\*\*  
\*\*CARLY SIMON\*\*  
\*\*THE ROD ST  
\*\*THE RICHIE FAMILY  
\*\*LONNY LISTON SMITH\*\*VAN  
\*\*SAVOY BROWN\*\*JOHN  
\*\*STEPHEN STILLS\*\*TWISTED SISTER\*\*  
\*\*EDGAR WINTER GROUP\*\*LENNY WINTER\*\*  
\*\*WISHBONE ASH\*\*AND MANY, MANY  
OTHER FINE PERFORMERS!!!  
THANKS FOR YOUR  
SUPPORT!

catalog write: CALZONE CASE CO., P.O. Box 862, Norwalk, Conn. 06856 or call 203-853-7907.



# Highly Acclaimed. And now, Highly Affordable.

The waiting is over. Your patience has been rewarded. Acoustic, the leader in professional amplifiers, has made available to the serious musician two compact yet powerful amps high in quality and low in price. Both the Model 117 Guitar Amplifier which retails at \$379.00 and the Model 118 Bass Amp which sells for \$399.00, reflect the same quality and reliability that established the reputation Acoustic has enjoyed for over a decade.

Designed to perform equally well in club or studio situations, each amp features a 50 watt RMS power section, a responsive preamp that includes high and low input jacks, bright switch, 120v or 240v power supply, a master volume and switchable reverb for the Model Dealer Inquiries Invited

117, a power boost switch for the Model 118 and much more. Both units are built with 3/4" interlocked construction, and covered with top quality heavy vinyl to withstand rough handling. Best of all, Acoustic's exclusive lifetime protection plan, the finest in the industry, is available with both models.

So, for you musicians who love Acoustic but couldn't afford it . . . what are you waiting for?

**acoustic**

professional sound equipment

7949 Woodley Avenue □ Van Nuys, California 91406  
For more information, send for free catalog at above address.

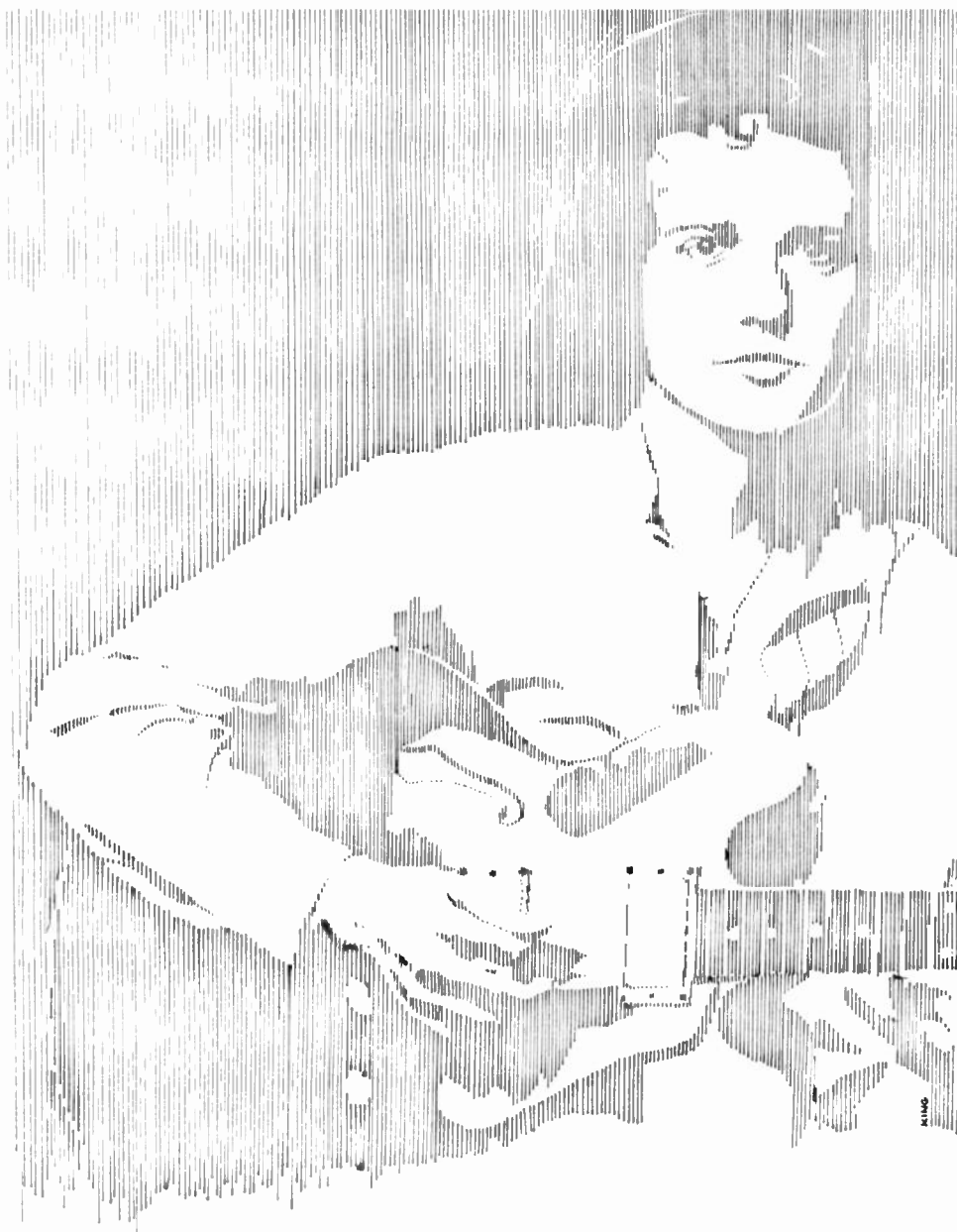
# Lee Ritenour & Friendship

## Escape From The Studio

**L**os Angeles, "the city of a thousand sessions," has easily surpassed other U.S. recording centers in recent years as the promised land for studio musicians. An inordinate amount of recording studios are busy night and day, churning out every conceivable kind of music, not to mention the soundtracks for all of those non-movies and bio-degradable TV shows that pollute our daily lives.

This has created an extraordinary demand for studio players and a steady stream of promising young musicians filters through L.A. every year, each one anxiously looking for that special key to allow them passage through the golden door of opportunity. The ones lucky, and talented, enough to break into big time session work invariably create a subtle generational shift in the existing hierarchy of studio veterans.

Because so much of today's music hinges on the unmistakable sound of the electric guitar, guitarists have been some of the prime movers on the L.A. scene. The first generation (Fifties through middle Sixties, roughly) was dominated by the irrepressible Tommy Tedesco (remember Happy Kyne's Mirthmakers?) and Dennis Budimir. They were closely followed by Louie Shelton and Larry Carlton. Just a few years after that, Lee Ritenour, Jay Graydon and Dean Parks came along. These days the "hot" young players gobbling up all of the available liner credits include Steve Lukather, Mitch Holder and Tim May.



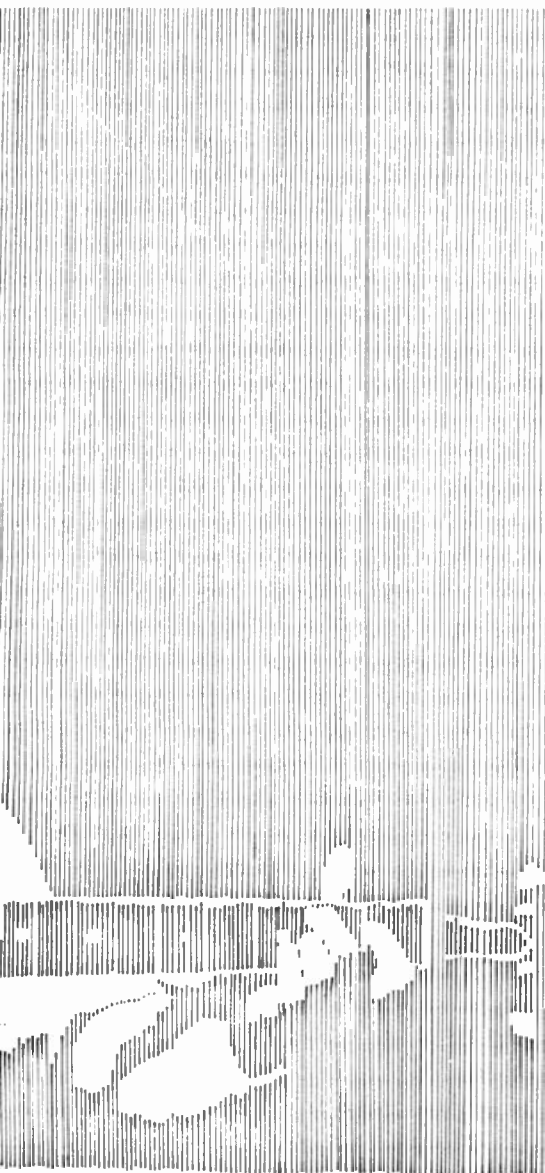
It's no accident that Lee Ritenour and Larry Carlton have emerged as the best-known L.A. session guitarists. Both are strong lead players, both have solo albums (Ritenour has four counting the latest, *Feel The Night*), and they each share a need to break away from the confines of the studio to periodically re-energize their music with live performances.

Lee Ritenour, currently embarked on just such a "vacation from the studios," a successful club tour with his band Friendship, is more than happy to break away from what can be a very lucrative business. Comfortably ensconced in Elektra Records New York offices a few hours before a sold-out performance at the Bottom Line, he reflects on the current state-of-the-studios with few regrets.

"I'm glad I stopped doing sessions when I did. Disco music is stronger and more formula-oriented than ever.

In L.A., virtually all of disco is recorded with a digital metronome and the musicians put down their tracks individually, even the drummer. Most of it is written out beforehand, especially the bass parts, so you just come in, spread the charts out over three or four stands, rehearse it down once because the music is incredibly simple, then everybody splits but the drummer who puts his part down by himself. In L.A., Ed Greene and James Gadson have it locked up. They're the kings of disco drumming. But there's little of interest for the guitarist or piano player. In fact, the guitar seems to be regressing fast. The musicians don't like it, but these new disco arrangers are laughing all the way to the bank."

Friendship, which includes Don Grusin (keyboards), Abraham LaBoriol (bass), Alex Acuna (drums), Steve Foreman (percussion) and Ernie Watts



(saxophones) provides a release for Ritenour and his fellow musicians — all highly paid session players in their own right. In fact, the “appeal of playing fresh music in front of real people” has tugged at Ritenour for some time now. Starting with Tuesday night sessions at a small club in the San Fernando Valley called The Baked Potato, he has continually developed his live chops with an impressive array of musicians like Patrice Rushen, Harvey Mason, Anthony Jackson and others, slowly evolving into the current line-up.

Throughout our conversation, Ritenour made a point of emphasizing the “communal” nature of Friendship. These musicians, who are actually sacrificing a lot of income to go on the road, obviously have more to offer than most backing units.

“When I first took these guys out as back-up, I quickly realized that to

keep this caliber of players around, it would have to be a *lot* more than Lee and his *backing* band, because the salaries I could pay them weren’t comparable to their fees for studio work. Elektra saw the band and the magic that was happening, and decided to sign Friendship as an individual act, so everything worked out well. We’ll be starting our first Friendship record after this tour ends, and we’re gonna try to make sure that what you hear live at the Bottom Line is what gets on the record.”

All of this makes a lot of sense, especially when you see other studio players in live performance using support musicians only as a showcase for their instrumental fireworks, but how does one differentiate between a Lee Ritenour solo album with Friendship and a solo Friendship LP with Lee Ritenour on guitar? Pianist Don Grusin, the “glue” that holds the band together, explains.

“Well it won’t be wall-to-wall guitar [at which point Ritenour jumps in with a quick “That’s what *they* think!”] for one thing. We’re going to make it a ‘live’ sounding album while retaining each band member’s individual colors. If we can just keep these six individual colors and record it the right way, we’ll come off sounding somewhat like what Lee does but it’ll be distinctive enough for people to know.”

Besides being one of his most accessible records to date, *Feel The Night* marks a major transition in the way Ritenour approaches his guitar sound on record. On the new material, the guitar is hotter, more “opened up.” After some prompting, Ritenour explained the story behind the evolution of his guitar sound.

“My guitar sound has been constantly changing over the years. My first two albums for Epic were recorded in and around being a session musician and, at that time, I made a point of being *the* guitarist in town who could cop any sound he wanted to. My third U.S. album — *Captain’s Journey* for Elektra — was done with Dave Grusin and we went for a mellower approach because I wanted to do an orchestrated album and Dave was the best choice to

do that with. I produced *Feel The Night* myself and I was most interested in getting more of the sound I get on stage onto the album.

“If you’re a guitar fan this album is great because the guitar is up front all the time, it pervades the album and seldom lets up. But I like to hear the other instruments too, so I may go another way again in the future. This time, I did most of my soloing live as opposed to overdubbing, which works better for me as a soloist.

“I have a lot of facets to my playing that haven’t really come out yet. In a few months, I’ll be doing an acoustic album for JVC (Ritenour’s Japanese label) and those albums vary widely also because of the ‘direct-to-disc’ process we’ve been recording them with. We’re gonna take a ‘pretty’ approach, but with a lot of playing. Because that aspect has been a part of each solo album and I like that side of it too. I’m happy with the guitar sound I got on *Feel The Night* — I feel it’s one of the better jazz-rock type guitar sounds on record today.”

No matter how much presence or heat is generated by his solo guitar playing, Ritenour is not overly enthused about soloing or individual “grand-standing” by musicians.

Life on the road has meant certain “adjustments” for the musicians in Friendship. Accustomed to the more orderly existence of a studio musician where everything is geared to exacting timetables, Ritenour, Grusin and the others have devised new ways to overcome the tedium and potential chaos of a concert tour. As Grusin puts it: “We try to play as if we were recording, but we have a whole bunch of fun doing it. We’re starting to learn how to let the crowd participate in the music *with* us. Playing well on-stage is becoming second nature to everybody, and it’s a lot more fun that way.”

This Friendship tour has also given birth to the “Fun Olympics.” Because each band member is under extreme pressure from studio and family commitments while at home, this time on the road together is perfect for self-discovery and loosening up a little. Basically, the object of the Fun ▶▶



**THE STAR OF THE STARS.**



**Unicord** A DIVISION OF G & W MANUFACTURING COMPANY, 89 FROST STREET, WESTBURY, NEW YORK 11590



# The best drums do grow on trees.

Slingerland only makes wood drums—because anything else is second best. Check the wood inside the shell. While it's easier to simply spray over any imperfections, it's better to hand finish the shell and coat it with hot lacquer. And Slingerland drums are made with that perfect finishing touch in mind.

Slingerland's five ply shells are thicker than a lot of nine ply shells on other drums. And they're made with the most beautiful woods for the most beautiful tones—select mahogany, poplar and maple. The grains run in opposing directions so they hold each other in perfect place... and keep their perfect shape.

Slingerland even offers the greatest selection of natural wood finishes—mahogany, walnut, maple, rosewood, teak, cherrywood and oak. You even get your choice of lacquer or oil finish.

When it comes to the best sounding drums, wood is a natural. And when it comes to making those drums, nobody's more natural than Slingerland.

## Slingerland®

6633 N. Milwaukee Avenue, Niles, Illinois 60648  
Call Toll Free: 800/323-4077

## Lee Ritenour

Olympics is to see who can get the most points for staying up late, hanging out, partying or just general carousing around. Points are deducted if you try to take a quick nap the next day. Up to now Steve Foreman and Alex Acuna were leading, but Lee and Abraham were closing fast. Laughing, Ritenour summarized the whole thing: "From that point-of-view, it's a considerably different lifestyle from what we lead at home. But we *are* an excellent live band. Other studio bands I've seen come across sounding like studio bands."

As far as musical equipment is concerned, Ritenour continues to experiment with an armada of new guitars and effects. Of course, he's been playing Gibson 335's since he was 17, (the guitar he's known for) and the one he has retained is a mint 1959 ES-335 with dot inlay and a stud tailpiece — a guitar that's recently become so identified with studio players in general and Ritenour in particular, Gibson has re-issued the ES-335 "Pro", a close approximation (in looks) of the original.

He also plays a '63 Fender Strat (serial no. 335, appropriately enough), a '58 Les Paul Standard and a 30 year old Gibson L-5 that "feels like part of my soul." He is working with Yamaha and Ibanez on a series of semi-hollow body guitars and although he was a bit wary of these instruments at first, he is convinced that the new Ibanez ("it sounds real soulful") should make a major dent in the marketplace.

Ritenour uses Fender and Music Man amps exclusively, and is especially fond of his "little" Music Man (210/65) amp — one of the first ones out — which has seen service "on a million dates without anything but the tubes being changed." His new "up-dated" effects rack built by Chris Foreman of Altec, includes a Lexicon "prime-time," a Yamaha Analog Delay Line, Echoplex, Phasers, Flangers, Volume Pedal and an air conditioning unit for those hot summer nights in the clubs. He enthusiastically endorses 360 Systems guitar synthesizers and although he's played through every effect imaginable, he winds up the interview with a comment that punctures today's obsession with MI hardware.

"A lot of guitar players talk about equipment but I learned real young from playing with a lot of people who had real identities on the guitar that just picking up their guitar did *not* make me sound like them. Ultimately, getting the right equipment will help, but the bottom line is here (points to his heart), here (points to his head) and here (hold up his hands)."

# SONS OF B-3

The Hammond B-3 revolutionized the music world when it was introduced. Now, in the same tradition, come two new professional organs for today: the B-3000 and B-200.

Both of these new Hammonds start with the famous sound of the B-3 and then add new features made possible by advanced Hammond electronics technology.

The B-3000 is an open-pedestal console with two new piano voices, a transposer, strings, variable sustain and delayed vibrato. The B-200 is a portable for the musician-on-the-go and features harmonic percussion, piano and a tuning control. Both the B-3000 and the B-200 have a "key click" option to duplicate the traditional Hammond B-3 sound. And both have special Leslie speakers with quadrasonic amplification that turns on the audiences of today.

See the new B-3000 and B-200 at your Hammond dealer today. If you thought the B-3 was the living end, these new Hammonds will prove it was only the beginning!

Hammond Organ Company, 4200 West Diversey Avenue, Chicago, IL. 60639

Please send me full-color literature on the new professional Hammond organs, as indicated below:

B-200     B-3000     BOTH

NAME \_\_\_\_\_

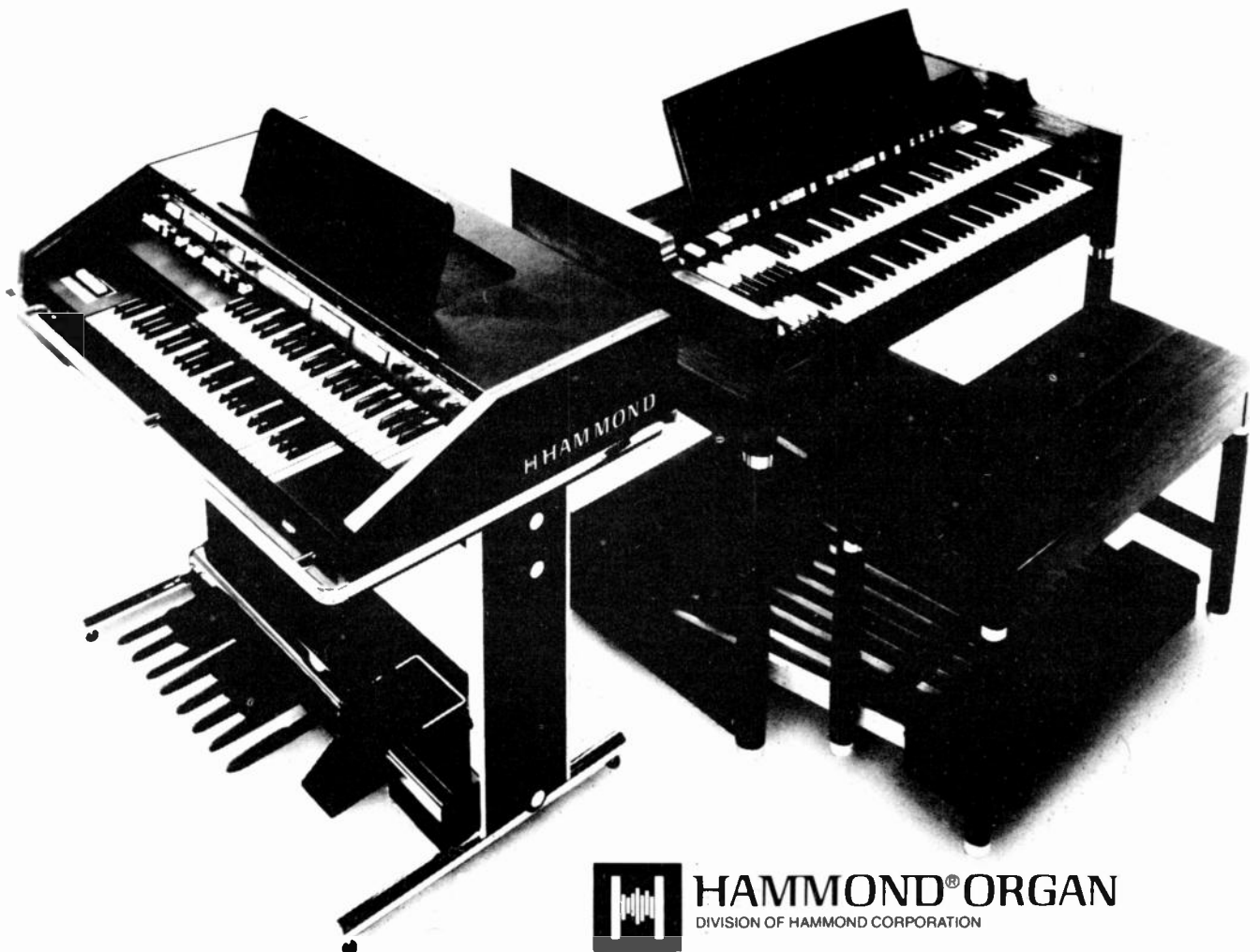
ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

ZIP \_\_\_\_\_

DEPT. 101



**HAMMOND® ORGAN**  
DIVISION OF HAMMOND CORPORATION

*Almost 100 years in the making.  
Yamaha's Handcrafted Folk.*



*The experience we needed to make our Handcrafted Folk Guitars began in 1887. That was the year Yamaha started making musical instruments. Ever since, we've been perfecting our expertise in handcraftsmanship, woodworking and manufacturing technology in order to create these superlative instruments for your enjoyment.*

*The Yamaha Handcrafted Folk. Six models, each guitar meticulously crafted from the highest-grade woods we've specially chosen from forests worldwide. Then hand-adjusted to the most stringent specifications. To admire and play the result of almost a century of work, write us for the selected Yamaha dealer nearest you.*



**YAMAHA**

Acoustic Guitar Department  
P.O. Box 6600, Buena Park, CA 90622

# Pickups,



# Parts, Performance



For a complete listing of all hardware and a catalog,  
send \$1.00 to:



**DiMarzio**<sup>®</sup>

Musical Instrument Pickups, Inc.

Dept. IM

1388 Richmond Terrace, Staten Island, NY 10310 USA  
(212) 981-9286



MADE IN U.S.A.

**Keas Electronics, Inc.**  
 210 W. Main  
 Chanute, Kansas 66720

ROSS  
 Level  
 Channel 1  
 Channel 2  
 10 BAND STEREO  
 POWER  
 OFF ON

\$239.95

ROSS  
 Level  
 Channel 1  
 Channel 2  
 15 BAND STEREO  
 POWER  
 OFF ON

\$289.95

ROSS  
 Level  
 31 BAND EQ  
 POWER  
 OFF ON

\$299.95

Circle 782 on Reader Service Card

# Gibson guitars. To the tune of \$399 and up.



**Marauder**  
\$399.00\*



**Grabber**  
\$429.00\*



**G-3**  
\$489.00\*



**The SG**  
\$499.50\*



**The Paul**  
\$529.00\*



**S-1**  
\$459.00\*



**Ripper**  
\$599.00\*

If you take your guitar playing seriously, you can't afford to go without a Gibson. But, maybe you thought you couldn't afford the best name in guitars. The fact is, you can purchase an extraordinary Gibson for about the same price\* as an ordinary instrument.

Gibson electric guitars begin with the Marauder at \$399. And it begins where most of its competitors leave off—with high power electronics, a full range pan pickup potentiometer and the same craftsmanship you'll find in even the most expensive Gibsons.

The Paul and The SG come from two of the most respected traditions—legendary SG and Les Paul lineage. They're priced like some of Gibson's imitators. Except they're the real thing.

You've been hearing the Gibson S-1 for a few years now, on quite a few hits. Those famous artists could afford the most expensive guitars, but they chose the same model that fits a working man's budget.

Gibson basses have been on their fair share of best sellers too. The Grabber, Ripper and G-3. Their sliding pickup, sound switching and fresh body styles deliver a rich range of sound. For a modest price range.

When you check out the hand craftsmanship, rare woods and unequalled specifications, you'll see why each Gibson is such a prized instrument. But, you're in for one more surprise. The price tag. Gibson, the most valued name in guitars is still a value.

**Gibson**  
A division of Norlin Industries

Quality, Prestige, Innovation. Yesterday, Today, Tomorrow.  
7373 N. Cicero Ave., Lincolnwood, Illinois 60646  
51 Nantucket Blvd., Scarborough, Ontario Canada

Circle 770 on Reader Service Card

\* All prices are manufacturer's suggested retail 31

# CRUMAR BOARD MEMBERS



Circle 786 on Reader Service Card

Designed for the creativity  
in every musician.

For a full color poster of this ad and  
complete product literature, send \$2.00 to:



**MUSIC TECHNOLOGY,  
INCORPORATED**  
105 Fifth Avenue  
Garden City Park, N.Y. 11040

Our thanks to Rolling Stone for their assistance.  
World Radio History



# The Carvin DC150

At Carvin you're not only buying the best, but the price is right too!

We handcraft guitars & other professional products in limited production quantities and sell only DIRECT to you thus passing on super quality with big savings.

Try us for 10 days and prove that we're better or your money back.

For more information write for our FREE 64 page Technical Catalog, or Call Monday thru Friday TOLL-FREE 800-854-2235 (Calif. 714-747-1710).



- All Carvin Guitars are backed by a solid 5 Year guaranty and hand-crafted in America.

- Hardrock Maple Neck is laminated and contoured into body.

- Eastern Hardrock Maple Body for unsurpassed sustaining qualities. Available in Black or Clear

## NEW!

- 2 Super M22 Humbucking Pickups for tremendous sustain.

- Entirely new adjustable 22 Pole magnetic field assures you of no power loss while bending strings.

- Brilliant highs never thought possible from a humbucking pickup.

- Sledgehammer midrange delivered with punchier tone than any other pickup made.

The M22's are available as a Direct Bolt-on Replacement for Gibson at \$49 ea.

# Carvin

Dept. IM-23, 1155 Industrial Ave.,  
Escondido, Calif. 92025

Write or Call TOLL-FREE 800-854-2235 (Calif. 714-747-1710)



- Solid Brass Nut

- Schaller Machine Heads

- Maple fingerboard with Nickel-Silver frets. Optional Ebony fingerboard add \$20



- Super low string action. Guaranteed string height to be less than 1/16" at the 24th fret.

- Phase switching and Dual-to-Single coil switching allow for unlimited special effects.

- Stereo wiring allows the Treble and Bass pickups to be directed into separate channels.

- Completely shielded controls and wiring gives superior protection against hum or interference.

- Solid Brass Tune-O-Matic Bridge and Tailpiece

- You may order by PHONE with MASTER CHARGE or VISA or by enclosing a \$460 Certified check (plus \$27.60 Calif. Tax if shipped to Calif.) for payment in full. This price includes a high quality Hardshell Case and UPS shipment to your door anywhere in the Cont. USA. If you're not 100% convinced of Carvin's quality, we'll buy it back after you have tried it for 10 days! Call if you have any questions.

## The DC150

DIRECT

### \$460

Including  
Hardshell Case

**ORDER BLANK**

Carvin  DC150  M22 Pickup(s)  Free Catalog

Name \_\_\_\_\_ Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ 33

Enclosed \$ \_\_\_\_\_

Circle 789 on Reader Service Card  
World Radio History

IM-23

**A**ND HE COMMANDED THE PEOPLE  
OF SOUNDCRAFT THUS:

TAKE ALL THE FRUITS OF YOUR  
LABOURS, ALL THE WISDOM OF YOUR  
TEACHERS, AND BUILD A TESTAMENT  
TO YOUR CRAFT.

LET ITS USES BE ABUNDANT.

LET ITS EXCELLENCE BE WITH-  
OUT LIMIT.

LET ITS BEAUTY BE A REVELATION.

AND THE PEOPLE OF SOUND-  
CRAFT OBEYED HIM.

MANY DAYS AND NIGHTS  
THEY LABOURED, AND AT LENGTH,  
LOOKING UPON THEIR WORK  
AND FINDING IT GOOD, THEY ASKED  
AGAIN FOR GUIDANCE.

TAKE FORTH YOUR WORK, HE  
COMMANDED, AND MAKE IT PLENTI-  
FUL TO ALL OF THE PEOPLES OF THE  
EARTH, THAT THEY MAY LOOK UPON  
IT AND FIND JOY IN THEIR HEARTS.

AND SO IT CAME TO PASS.



**THE NEW  
SOUNDCRAFT SERIES  
400/800  
MIXING CONSOLE**

SOUNDCRAFT ELECTRONICS LIMITED  
5-8 GREAT SLITTON STREET  
LONDON EC1V 0BX ENGLAND  
TELEPHONE: 01-251 3631  
TELEX: 21198

SOUNDCRAFT INC.  
PO BOX 2023  
KALAMAZOO  
MICHIGAN 49003, USA  
TELEPHONE: (616) 382 6300  
TELEX: 22-4408 SOUNDCRAFT KMZ

**SOUNDCRAFT**  
ELECTRONICS LIMITED  
World Radio History

Circle 825 on Reader Service Card



# 44 Years Experience Tells Us It Can't Be Beat.

ADC began in 1935 producing high fidelity transformers, jacks and jack panels to the broadcast and telephone industries and is recognized as a leader in the field.

Today, ADC is introducing a variety of audio connectors and plugs to the broadcast and professional audio industries.

ADC CONNECTORS offer high reliability, total interchangeability, and complete compatibility with other audio connectors on the market. ADC's low impedance input and output three-pin/contact connectors are electrically and mechanically designed to meet EIA RS297 standards.

High impact, crack resistant, glass-filled nylon inserts are easily removable for wiring and soldering. Audio plug connectors are available with either standard or small strain relief grommets. Each connector is shipped completely assembled and available either in nickel or fully conductive black zinc plated finishes.

ADC PHONE PLUGS feature brass construction, brass or plastic thread-on shells, milar insulation tube, crack resistant insulator between tip and sleeve and an expanded size strain relief clamp. The ADC line also includes the all new and unique Heavyweight plug. It is a strong durable plug that will out-perform other plugs on the market. This new plug expands the basic military plug design concept to include a molded, brass assembly with dual strain relief. The audio shaped, unique brass tip ensures positive contact and additional plug life. All plugs are available in either brass or nickel finishes.

Distributed exclusively to the  
Audio-Musical Industry  
by Woodel International, Inc.

## ADC Products

When you want to sound better...longer.

JOBBER INQUIRIES:  
Woodel International, Inc.  
311A, Temple National Plaza  
Temple, Texas 76501  
Telephone: 817-774-8300  
Telex: 730 317



DEALER INQUIRIES:  
Group 80  
P.O. Box 1199  
Temple, Texas 76501  
Telephone: 817-774-8344



## DOUBLE TROUBLE

**An interview with Carmine Appice**



**C**armine Appice is as responsible for the shape of contemporary rock drumming as anyone. Back in the days when he was still with the now-legendary Vanilla Fudge, he instituted the large double bass drum sound as well as large drums in general. His use of double bass drums influenced many players to come and such greats as John Bonham and Roger Taylor acknowledge this.

While with Cactus he perfected the speed type of playing which was that band's hallmark and later, with Jeff Beck, he provided perfect support for the English guitarist's brutally masterful playing. Now, with Rod Stewart, he takes the part of the perfect metronome, giving balance to Stewart's vocals.

Appice is a player. He takes pride in his stage and studio work and to ensure the ongoing process he takes part in clinics, lectures, the writing of books, and the making of teaching records. In the following conversation he talks about all of the above and much more.

### When did you first start playing?

I guess I first started on pots and pans when I was eight or nine years old. I used to bang on everything in the house and my folks said "Well, he's banging on everything so let's get him a set of drums." They got me one of these toy sets of drums with paper heads. For two years running, I'd get them in the morning and, by the evening, I was right through the heads because they were made of paper.

When I was at school, I used to go where the bands were practicing and band on the drums. I didn't really get serious about it all until I was 14, when my parents bought me a regular set of drums which cost \$325. Those were the drums that I used with "You Keep Me Hanging On" with the Fudge.

When I was 13½, I played for six months on my own listening to Gene Krupa and Buddy Rich and all those big band people. In those days there were drum singles out, too, like Sandy Nelson's "Teen Beat" and I used to learn all that stuff. I started studying when I was about 14, and I noticed an amazing improvement. I took lessons for three years but in the span I learned five years' worth of work. In the first week I was there I went through half of the first book. And the teacher said,

"Wow, this is a first for me." I did real well with him, he was just a local guy, Dick Bennett, and he used to teach around Brooklyn. I noticed myself improving at an amazing rate. I had a friend and he was always the neighborhood's best drummer and I was out to get him. He was way up there and I was way down. I started taking lessons and passed him and he just stood there. For me it was like, "Wow, I beat out the neighborhood drummer, this is amazing!" And so I kept with it, kept studying, playing, studying, until I was about 17 or 18.

I started playing bar mitzvahs, sweet sixteen parties, weddings and I started going more toward rock dances for churches and clubs where you had to do all rock. From then on I got basically into rock and left the society gigs out. That went on until I joined a group called the Pigeons which was later Vanilla Fudge.

#### **How old were you when you joined the Pigeons?**

I was 20. When I joined the Pigeons, Timmy (Bogert) was always a loud bass player and in those days, 1966, he was using to Dual Showmans so I put a microphone in my bass drum. I always used to cut up paper and varnish the insides of my drums to make them louder because that would seal up all the pores. I'd have a layer of four or five inches of chopped up paper . . . I'd lay the microphone right on top of that and it would come out the air hole and we'd plug it into Timmy's amp. That worked pretty good because Timmy played out of it and the bass drum came out of it and it gave the spread of the bass drum from the two amps and the sound of the bass drum itself so it was a pretty big sound.

I used that from '66 through '67 and then about April or May of '67, just as we were changing our name to Vanilla Fudge, we were playing up in Poughkeepsie, New York, and a friend of mine who was a drummer said, "I know where you can get this big old bass drum." It was a 26" bass drum, a Leedy from the 1930's. It cost five bucks, so I said, "Great." My concept was, "Well, if they're using bigger amps, I'll use bigger drums." In those days everybody had little drums. So I had this big bass drum which I covered myself in red sparkle to match the rest of the kit. So now I had this Gretsch

kit with a Leedy 26" bass drum which was amazing. Everywhere I went, drummers would come up to me and say "Where did you get that?" and they just used to freak out, especially in Europe. The first time the Fudge went to Europe, all the English drummers went bananas over that drum.

#### **You enjoyed the Cactus band?**

Oh, yeah. You see all the bands with Timmy had the same ending. Timmy is such a good bass player he should get in a band where he should have a bass player and he should play lead bass; he's the only one who does it the way he does. Whereas, when you've got a trio, with a vocalist or whatever, you get a guitar player who goes for solo and Timmy is right on his back. After six months of that the guitarist says "Hey, man, I'm tired of this." That's what happened with Jim McCarty and Cactus and we got this new young kid and he got fed up with it; me and Tim split and went with Jeff and, for the first six months, Jeff loved it. He used to lay down chords so Tim could play solos but, after a while, Jeff used to come up to me and say "Can't Tim lay back? Can't he play a groove?" And I'd have to talk to Tim. Finally, it just got out of hand. It's the same story with any guitarist that Tim's ever played with. I was always in the middle. But I dug Cactus, it was a high energy band.

#### **What did you think of the Beck, Bogert & Appice album?**

I thought it was one of the best things I've done playing-wise. It was the type of thing where we knew it was going to be a big album and being players we knew the audience was going to be listening to the playing. So we just played great. Tim even played good on that because he's playing his style but holding the groove. I thought "Lady" was just amazing bass playing.

But it's very hard to record with Tim because he plays so loud and his bass range is right in the midrange where your drums are. It would knock out your drum sound immediately. At least now, on the Stewart album, the drum sound I've got is what I want. I'm back to "Hangin' On" type drum sound.

#### **What kind of set did you use with the Beck band?**

I used my walnut Octa-Plus set, the

same set I had in Cactus. I did the first two Cactus albums on a smaller set, I didn't use the big set because I was experimenting. Then I went to the Octa-Plus and did the BBA album with it.

I got the Octa-Plus set in '71, about a year after Cactus got together and started using that. So I had the Octa-Plus set from then until now. As a matter of fact, the set I use with Rod is the walnut Octa-Plus set, the original ones. It's actually the first Octa-Plus set Ludwig ever made. It sounds amazing, it really does; that's what we used on the tour here. And I started using that with BBA except, if I remember right, it wasn't that particular set that I used on the album because I've got two of them. One is walnut and one is mahogany and the mahogany set I got in '73 before the BBA tours. And I used the walnut set for Europe, and I used the mahogany set for America, Australia and Japan. The recording of the BBA album was done with the mahogany Octa-plus set. I also did the live Japanese album on the mahogany set.

#### **How long before you went to double basses?**

It was about a year because I got my Leedy bass drum in May of '67 and then "Hanging' On" came out in June and we went to Europe. I still had it then and I got my sponsorship from Ludwig in June of '68. That's when I went crazy with the big drums. They said "What do you want?" and I said "Well, let me see." I told them I used a big bass drum and I thought the concept of all big drums would be great. So I ordered 26" x 15", and my next sized tom was a 16" x 18", and then they made me a 22" bass drum over on the side for a big tom. With a 6½" x 14" snare, that was the drum set that started the whole craze with big drums.

When I got that set I couldn't believe it and, as a matter of fact, they couldn't believe it. Ludwig called me up about two weeks after the order went in and whoever was in charge of advertising said "Mr. Appice, we have an order for drums here that we don't think is right." And I said, "What is it?" and they named it off and I said "No that's right." They said "But these drums are real gigantic, what are you going to do with them?" I said "That's what I want, real loud drums."

# DOUBLE TROUBLE

## An interview with Carmine Appice

**So you feel you were the first to develop the big drum sound?**

Yep, without a doubt. Before "Hangin' On," who had a big drum sound? Keith Moon had a big drum sound but it wasn't really as ballsy as I had; Ginger Baker never really had a big sound, he always had a pretty thin drum sound. My kit was definitely the first big kit. And when we took Zeppelin on tour and John Bonham saw those drums, he said "Oh man, get me some." I remember calling Ludwig and saying "Look, I have this guy who is on tour with us, an opening band called Led Zeppelin. I think they're going to be big. He wants to get a duplicate set of mine so if you can't give them to him for nothing maybe you can give him 50% off or something." So it ended up they sponsored him from my phone call and he ordered a duplicate set of mine.

It was easy to play 26's and that big set with the Fudge because there was a lot of down material. When Cactus came along it was real high energy stuff and I switched over to an Octa-Plus set and I changed the bass drum size from 26" x 14" to 24" x 15" and I only lost one inch. The size of the head was really good because the beater hit right in the middle.

**Your playing on the first Cactus album is some of the best you've ever done.**

That was a hot album, a real hot album. I mean, we just smoked; (Jim) McCarty was ungodly.

**You use the heavy ends when you play?**

Usually; when I'm playing all-out heavy rock. But, for soft tunes, I trun the sticks around. That's why I use the Regals, because they get a good cymbal sound, it's very clear. Even on the toms it's clear.

**How would you describe an Appice solo?**

I have a skeleton solo that I use and I try to incorporate showmanship the way Krupa did; stick twirling and all that because it's not just the solo that people get off on. It depends on what audience I'm playing for. If I play for a BBA audience, it would be a more technical solo than if I played with Rod. Because the audience level of technical consciousness is a lot of little

girls that don't know the difference between a 7-stroke roll and a four-stroke ruff. Whereas, when you get an "instrumental" audience, they know the difference.

With BBA I used to do a lot more technical stuff; I used to try and start the solo off and build it to a point and bring the dynamics down and fool around with different accents and wah-wah and sound, cymbal sounds and bending, and I liked to get the audience involved with me. I'd get them clapping and then I would play to them. That way it's all like one unit. I try not to do it too long because it gets too boring; there's some guys now who still do 20-minute solos.

**You really have to lay back playing with Stewart?**

Yeah, obviously. With Rod, it's playing more power than technical beats but when I joined up with him he knew who I was and he said to me "I don't want to cramp your style. You will get a solo and you can play like you played with Cactus." In a way it's good because, through the show, I concentrate on keeping the grooves, playing real powerful, and playing with a lot of showmanship. And by the time my solo comes, I have lots of energy to do it.

If you're keeping a groove and you do some real good fills and then come back to the groove the fill comes out that much better.

Rod is a little different than anyone I've ever played with; I guess it was because he played so long with Kenny Jones (Faces drummer). Kenny is a good drummer and he'd always play behind the beat. There's the beat and you can be a little ahead of it, right on it, or a little behind it and still be in that space of a quarter note. Kenny always played on the very back of the quarter note and Rod got used to that. For me, when I last came in there, I would play spot right on the beat and Rod would say "Lay back a little bit." So what happens is I have to lay back to almost slow down the track and the guitarists have to stay on top of it in order to get that effect. When we do that I count another tempo so it makes it like a flam almost. And that's how I try and keep behind it or otherwise I would just naturally stay right on top of it. It's good because it gives the group a really loose feel instead of a tense feel. With every group you play with, you learn something new; with McCarty and that band I learned to play fast.

**What is the exact set you're using now?**  
I'm using (2) 24" x 15" bass drums; a

5½" x 14" Ludwig Super 400 snare, and the total Octa-Plus toms-toms which have 10", 12", 13", 15", 16" right down the line. A 20" tympani; a 52" Paiste gong; I use a wah-wah hookup on my snare drum which I had built when I was with Beck; I use a set of Syndrums which are implanted in my 6" and 8" tom-toms so they don't look like the Syndrum, they look like a regular drum. I use a 22" Paiste heavy ride; a 20" Paiste medium crash; an 18" Paiste medium crash; Sound Edge 15" medium hi-hats; Speed King pedals and all Ludwig hardware. I also have two Chinese cymbals, one 18" medium Paiste with rivets that always fall out so it doesn't have rivets anymore and one 1930's Chinese cymbal; a real old one from China cymbal; a real old one from China which is a real ugly brown colour. I use those two on two boom stands over and in front of me.

**Ludwig is doing something new for you, what's that all about?**

The new kit they're working on is more or less an update of the Octa-plus kit but with power tom-toms. They are tom-toms that are three inches deeper. This has also been done to the bass drum which is now 24" x 16"; I normally use a bass drum 24" x 15". This will give me a deeper sound and it delivers more resonance from the wood. As for the snare, I'm getting one of the Black Beautys engraved.

**Have you always used Sound Control heads?**

No, I use the Remo black dot head in the studio for recording on the snare drum because it gives a little more bottom end. But I use Ludwig silver dot heads on everything else. I find the Ludwig heads last longer. I had this freak Remo head on for 70 concerts and two albums, it never broke. It eventually broke when a truss fell and split it. So I put Remos on and every show I would have to put another one on because they got wrecked. I think Ludwig is making real good skins now. The only thing they fall down on is their sticks. Their sticks aren't too strong but they're getting better.

**What kind of sticks do you use?**

I use Regal 5A's and I throw out Ludwig 5A's on stage.

**Are your drums amplified in any special way?**

They're just miked from the top, a hole in the bass drum head. I try not to pad anything up; I just put a little piece of foam rubber in the bass drum and just mike around the tops, overhead around the snare drum and mike the

hi-hat. In the studio we have a whole bunch of different tricks.

**Do you like your drum sound on the Stewart album?**

Yeah, Andy Johns is amazing. We've been experimenting together; now I don't use earphones but I use speakers behind me and there's a mike right over my shoulder for the snare drum. Rear mikes and mikes in phase and I think we're developing a good drum sound. On the last album, I didn't use tom-toms and they seem to explode more. Bonzo does that with Zeppelin. I used to do that with the Fudge for the first three albums and then I switched over to the Octa-Plus for three or four years and my drum sound changed. I was thinking back on what I did different and I remember all my drum heads used to be on top and bottom and the bass drum as well. So we're back to that; I started a thing and got off it and people like Bonzo jumped on it and really developed it so now I'm back to where I was.

**How do you feel about disco drumming?**

If you're going to have to play it you better get a great drum sound. When I do it, I just use that real big rock drum sound that I get. Because it's so big sounding it tends to take away the disco sound which is good because I don't like the sound. I think it's basically useless. This way, it gives the sound some balls.

**You like the Syndrum?**

Yeah; I really dig them. I've been looking for electronic things for years. As you can tell, I've got a wah-wah snare drum and I've had that since '73. I don't use the Syndrum very often but when I hit them it's at a dynamic point and they stick out like a sore thumb.

**Where do you get your style from?**

I have a whole combination of people; Gene Krupa, Buddy Rich, Philly Joe Jones, Chico Hamilton, all the real old greats. When I was growing up there weren't any good rock drummers; Sandy Nelson was the best guy and he was terrible! I grew up in between eras. It was when rock bands were starting to happen and big band jazz was still happening.

**I understand you've just produced one of Japan's leading female vocalists.**

Yeah, her name is Carmen Maki and she has been voted the number one singer in Japan for the past four years. I've produced the album in English. I've produced it, played on it, written about seven of the tunes for it and I'm a featured artist on it.

**You're putting together the Carmine Appice Band for your solo project, who will be on it?**

I got together all of the people that were involved in the Maki album. Earl Slick will play guitar, Jim Diamond will do all of the vocals and Duane Hitchin will play keyboards. The singer comes across as a combination of Stewart and Plant (Robert) - a real exciting, high energy voice.

**So you're really trying for a pop record as opposed to a "drummer's" record?**

Well, I'm going to do basically what

I've been noted for. It's sort of going to be like Cactus music but with better songs. More like "Hot Legs" and "Born Loose" - the Stewart stuff but with a little more of an instrumental sound.

**Your newest clinic tour involves donations to the Unicef Foundation.**

Yeah, we are working with the store owners to develop a \$3 entrance fee to the clinic. Out of the money collected, Unicef will get 50 percent. It's been working real well. After just a few clinics we've managed to donate over \$2,000.

# ROCK SOLID A & S CASES

## FOR:

GUITARS  
BANJOS  
AMPS  
TAPE DECKS  
MICROPHONES  
PIANOS  
TROMBONES  
VIOLINS  
CABLES  
STANDS  
DRUMS  
PERCUSSION  
CONGAS  
MIXING BOARDS  
SPEAKERS  
LIGHTING EQUIPMENT  
LIGHTING CONTROL  
BOARDS  
ORGANS  
SYNTHESIZERS  
FLUTES  
SAXOPHONES  
HARPSICHORDS  
HARMONICAS  
LASER TUBES  
PEDAL BOARDS  
AMP BOTTOMS  
ELECTRONIC  
EQUIPMENT  
SCENERY  
MIC STANDS  
PHOTOGRAPHY  
EQUIPMENT  
CINEMATOGRAPHY  
EQUIPMENT  
TELESCOPES  
LENSES  
FILM  
WARDROBE  
LAB SPECIMENS



**A&S  
FLIGHT & ROAD  
CASE CO.**

(213) 466-6181  
(213) 469-8379

1111 N. Gordon Street  
Hollywood, CA 90038

**A&S  
FLIGHT & ROAD  
CASE CO.**

Circle 723 on Reader Service Card

**T**aj Mahal is a rare breed of modern Afro-American musician. While most of his peers and contemporaries are playing disco, funk, rhythm & blues and avant garde jazz. Taj has gone back to the Roots: to the gospel music and rural blues of southern America, and the more atavistic Afro-Caribbean music of the West Indies for his sources and inspiration.

But at the tender age of 37, not only does he play the country blues of Mississippi John Hurt, Blind Willie McTell, Blind Arthur Blake, the Reverend Gary Davis and others with great love and skill, but among his peers he is one of the most respected black musicians in America who can also play and write with ease in the realms of reggae, soul, funk, rhythm & blues and jazz, as evidenced by the soundtrack that he scored in 1973 for the movie *"Brother"*.

Born May 17, 1942, in Harlem, Taj grew up in Springfield, Massachusetts, surrounded by all shapes and forms of music. His step-father was a classical pianist and Big Band enthusiast so Taj grew up with Stravinsky, Mozart and Beethoven, as well as Nat King Cole, Coleman Hawkins, Illinois Jacquet and Duke Ellington.

Taj claims, however, that his personal musical style is influenced more by West Indian music, Calypso, Ska and Reggae, than big band or classical music. His family's genealogical roots stretch back, through his father's side of the family, to the West Indian island of St. Kitts. Taj's childhood was filled also with the rhythms of the steel drum bands and other musical forms that were indigenous to that part of the world and formed the cornerstone of Taj's musical direction.

Musical influences and direction came from other areas as well. The

black cultural influences from all over the world, and consequently, Taj's musical development was that much more electric. He remembers, "I associate my whole thing, about how I feel about the world, with a lot of music. With a lot of different types of music and of people, rather than only a Wilson Pickett-type, or an Otis Redding-type, and that's all there is. I associated myself with a whole picture."

But Taj had a burning desire to play jazz when he was still very young, the cool, cerebral jazz of John Coltrane and Miles Davis. But at the age of 10 or 11 he decided that, "You can't just jump out there and start blowing like



## TAJ MAHAL

### *The Rebirth of the Delta Blues*

Coltrane. You've got to start at Point A, before you can move to Point B." And for Taj, Point A was rhythm & blues, and Mississippi Delta blues.

Taj picked up his first guitar at about the age of 11. "It was an axe that my father had lying around the house that I picked up and started playing; learning Chuck Berry, Jimmy Reed and Howling Wolf riffs." Though Taj reads music, his guitar playing is all self-taught, since he wanted to learn the way that most early pickers learned, by ear and trial-and-error.

Some of his earliest influences were country and western pickers that he would hear on the Grand Old Opry broadcasts late at night while he listened on his crystal radio set. Pickers such as Merle Travis, Chet Atkins and Bill Monroe. He also started hearing blues guitarists such as Leadbelly, Jesse Fuller and Blind Lemon Jefferson at about the same time.

When Taj entered the University of Massachusetts, where he majored in Animal Husbandry and minored in



Agronomy and Veterinary Medicine, his musical horizons expanded ten-fold. For the first time he met white kids who also dug and played the blues, country songs and the exchange of data and energy was overwhelming. There he met Buffy Saint-Marie, who was president of the Pioneer Valley Folklore Society at the time, and Bill Keith bluegrass musician extraordinaire.

Of that time Taj remarks, "This generation of people, of musicians, should spend some time getting educated. That was what was so much more interesting and exciting when I was going to school in the Sixties. The people weren't just interested in hearing the music, they were interested in learning and understanding the history of it - how it evolved. I had no idea that outside of the black musical community, there was any concern for that side of things."

After college, Taj moved out into the east coast folk circuit, and quickly became known as a blues musician *par excellence*. "I was one of the very few young, black musicians at the time who came along and saw it for what it was, took direction from it and contributed to it, and learned from it. It was a very exciting time.

"Freddy Neil was anchoring it down in Florida, and Jim Kweskin had put the light on it in Cambridge and Boston. Then you had the stuff happening in New York City, like Dave Van Ronk, Maria D'Amato (better known now as Maria Muldaur) and the Even Dozen Jug Band, which included Steve Katz, Stefan Grossman, John Sebastian and Felix Pappalardi. Just a whole lot of everybody."

After playing the east coast for a number of years, Taj moved west to Los Angeles. There, along with Jesse Lee Kincaid and Ry Cooder, he put together a band called Taj Mahal and the Rising Sons. He played the West Coast concert circuit for a couple of years and in 1967 released his first album, entitled *Taj Mahal*.

1967, released his first album, entitled *Taj Mahal*.

Down through the years Taj has recorded 15 albums, three of which are movie scores; the aforementioned *Brothers*, *Sounder* and *Sounder II*. He also had acting roles in *Sounder* and *Scott Joplin: King of Ragtime*.

Today, Taj and his family live in a modest home high in the hills above Berkeley, California, where he bases his solo and Cosmic Band tours that keep him busy crisscrossing the US on college, club and studio recording dates. As a result of all of this extensive work, Taj's guitar style and sense of musicianship has developed into a style that is quite distinctive.

Taj's finger-picking style is taken from the older styles of Mississippi John Hurt and the Reverend Gary Davis. He usually uses his thumb and his first two fingers, although sometimes he'll use his third and fourth, in what he calls, "an open-handed style, without the use of finger picks."

He first experimented with teeth from some of his mother's old combs as substitutes for flat picks when he was learning his Chuck Berry, Bo Diddley, Jimmy Reed riffs, rhythms and strums. "But what I wanted to do

was kind of 'pick' the guitar. Then I started studying the pickers, to find out who they learned from. That's when I said to myself, 'Oh. Now I see what's going on.' And then I picked up on the different guys. I started to learn about their different lifestyles, and how *they* learned. A few years later came the folk thing, and there was a closer focus, you could actually see what they were doing.

"I like the 'open-handed' style. I don't play with picks. Well, maybe a mandolin once in a while, I'll play ▶▶

# DeArmond Volume Pedals Best-Selling Pedals in America... at the Best Prices.

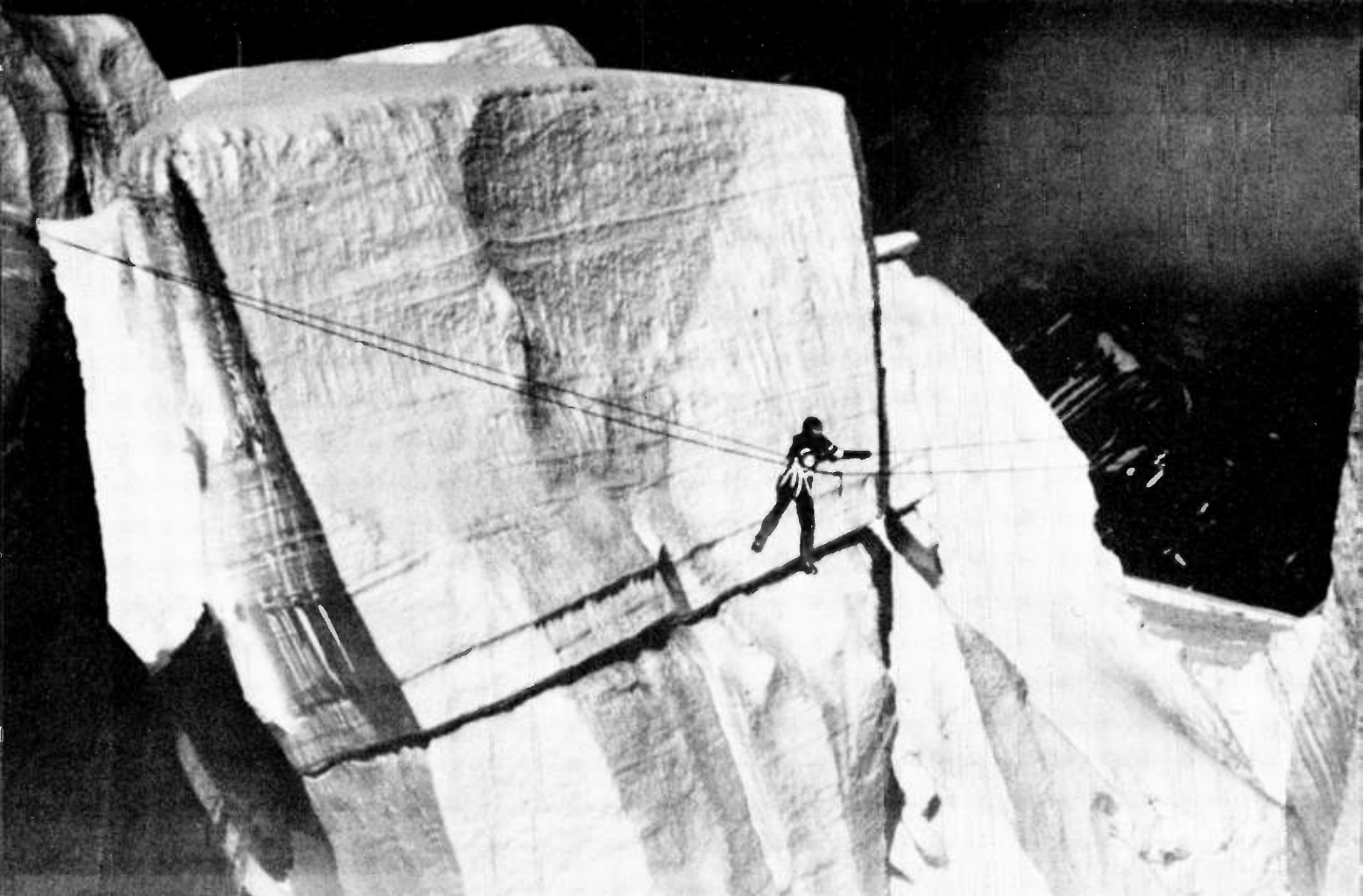
Smooth, Reliable.  
Quiet action.  
Rugged.



Model 1602 is the industry standard.  
Model 1630, the deluxe Optoelectric pedal, is extra quiet,  
extra durable... the professionals' choice.

WRITE FOR FREE CATALOG. 1702 AIRPORT HIGHWAY, TOLEDO, OH 43609

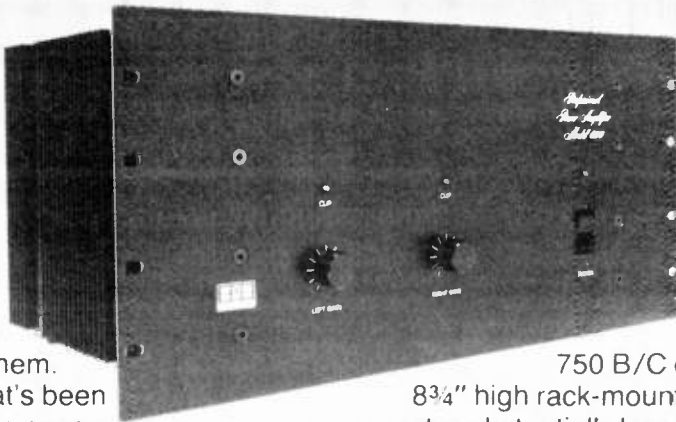
Circle 728 on Reader Service Card



# Professionals depend on their equipment.

Like their BGW amplifiers. Why is it so many have come to rely on BGW? Why in less than ten years have BGW amps become the number one choice among audio pros worldwide?

Because their legendary performance refuses to fail even under the most severe conditions you can throw at them. Rugged, awesome power that's been tamed by continuous common-sense engineering. That's why there are more BGW amps in discos than any other kind, and why there are so many in recording studios and on concert stages. BGW has earned a reputation for building superbly engineered products ... massive heat sinks, large safe operating area, redundant output stages, welded

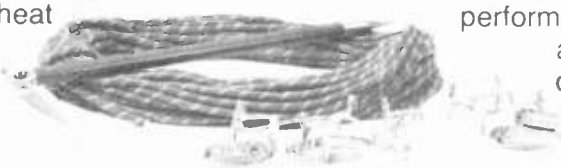


steel modular construction are all synonymous with a BGW product.

We are now proud to introduce a new cost-effective 175 watt per channel power amplifier ... the Model 600. It's a quality basic power amp, built around our super reliable

750 B/C output modules. It's in a big 8 $\frac{3}{4}$ " high rack-mount package so it runs cool and costs substantially less than a 750C. It's a quality BGW amp and the answer to the professional who wants BGW on a budget.

Check out the new 600 at your dealer. He'll show you an amp that lives up to your expectations with performance you can compare to anyone ... and reliability that compares to no one.



**Depend On Us.**

BGW Systems Inc., 13130 S. Yukon Ave., Hawthorne, CA 90250 (213) 973-8090 In Canada: Omnimedia Corp., 6533 Côte de Liesse, Dorval, Quebec H9F 1A3

# RIGHT FOR THE ROAD

The CT-3  
Mic  
Cable  
Tester  
From  
Altair



Right because it's compact — it gets used on the road when other cable testers get left behind. Right because it outperforms other designs — check the features:

- Tests all three conductors simultaneously and continuously for all possible failure modes.
- No pushbuttons — both hands free to wiggle connectors to find loose connections and intermittent shorts.
- Tests long snake cables and permanent studio wiring without bringing the ends together and without using an extension cord. Now you can easily test this critical wiring without tearing the system down.
- Rugged, compact, lightweight epoxy-fiberglass construction.

The Altair CT-3. It's right for you!

# Altair

CORPORATION

202 West Bennett St.  
Saline, Michigan 48176

In Canada  
Yorkville Sound, Ltd.  
80 Midwest Road, Scarborough, Ontario M1P 4R2

Circle 795 on Reader Service Card

Professional  
Series "Sweet Talkin' Bronze"

E&O  
Mari  
Perfectly Balanced Sets

The highest quality and best-tested  
Acoustic Guitar  
strings you can buy today.  
That's why LaBella strings are  
the favorite choice  
of professional musicians.

Available in:  
Round 40P\*  
Thin 40P-T  
Not So Thin 40P-S  
Medium 40P-M  
Heavy 40P-H  
Quarter Round 390P  
Light 390P-L  
Medium 390P-M  
Medium-Heavy 390P-H  
Semi-Round 790P  
Light 790P-L  
Medium 790P-M  
Medium-Heavy 790P-H  
Flat Wound 290P  
Light 290P-L  
Medium 290P-M  
Heavy 290P-H



LaBella makes the widest variety of the  
finest quality strings for more kinds of  
instruments than anyone in the world,  
made in the U.S.A.  
Write for our  
comprehensive catalog:  
E. & O. Mari, Inc.  
38-01 23rd Avenue  
Long Island City,  
New York 11105

Circle 710 on Reader Service Card

## TAJ MAHAL

with a pick, or occasionally a banjo. Or if some certain part really needs that sharp a sound but no other than that, I always play barefingered."

He also names Elizabeth Cotton, Etta Baker, Joseph Spence, Blind Bahama Blake and Blind Lemon Jefferson he says, "He does the original African thing, which is the voice accompanying the voice. And that was the way that the older cats would play, and the younger cats would come on with the illusion, 'Aha, he's singing the song,' and every now and then the guitar would come in. No, no, no. It's the music, and the voice has its part in it, accompanying the way the music is going.

"And back then, when I was learning guitar, most guitar music was heading towards the flat-pick style of jazz guitar, and I wanted to do something more with it. I wanted to seriously develop my finger-picking style so that when I got to be an older man, I'd really be a wizard at that stuff."

Taj's playing and arranging has inspired such groups as the Allman Brothers and Johnny Winter to do covers of his arrangements of "Statesboro Blues" and "Diving Duck Blues" And, in the case of the Allman Brothers' cover of "Statesboro Blues," even turn it into an anthem.

Taj talks about the Allmans' version, "I felt very happy about that, because that's what I was trying to do. It was really funny though, they even copied a mistake that I had made in it, but I thought it was good. They're from Georgia, and that song meant a lot to them. I think that they were a little bit ahead of their time, in what they were doing. They weren't afraid to get out there."

A multi-instrumentalist whose abilities cover a wide spectrum of music, Taj plays guitar, harmonica, banjo, mandolin, upright bass, cello, piano, percussive and wind instruments. He also does his own horn arrangements, as well as arranging all of the music on his albums.

His International Rhythm Band consists of Rudy Costa (alto sax and woodwinds), Robert Greenridge (steel drums), Bill Rich on bass, Koester Smith on drums and percussion and Juma Santos on congas.

Of course, Taj still tours as a solo act when he's not working with his band, and his total repertoire is a potpourri of new and old material. It includes material such as "Going Up The Country" and "Paint My Mailbox Blue," "Corrina," "Stealin" from his earlier albums, and material from his later releases such as "Satisfied and Ticked Too," "Johnny too Bad,"

# INTERNATIONAL MUSICIAN AND RECORDING WORLD

## \$9,000 PA COMPETITION

---

Getting a good live sound is one of the most important aspects of making music today. Your songs may be great and the musicians may be brilliant – but if all the audience hear is a rumble and few high pitched whistles, then you may as well go back to the garage.

The name of the game is to get a good PA system – but as with most things, it doesn't come cheap. That's why we at IM&RW are going to give you a helping hand. We're giving away nearly \$9,000 worth of PA gear from a superb mixing desk down to the cables and connectors.

To be sure that you get the best, we have gone to all the best manufacturers for our equipment, because when you're talking about sound, only the best will do.

The most important part of any PA set up has got to be the mixing desk, and that's why we have chosen the Studiomaster 12/2/b. Superbly made and giving an incredible array of facilities, the best thing about this desk is that its possibilities are really limitless. Add on modules allow any number of other channels to be added in addition to the basic five band eq, full foldback, echo facilities and VU monitoring of the desk.

To power your system you want a good beefy amp that it above all reliable. The Studiomaster 800C is just that, giving 400 watts per channel into 4 ohms and is ideal for both studio use or PA work.

For the speakers we have gone for a system that has been tested by our expert in the pages of IM&RW, the Bose 802.

The system is particularly small in both size and weight, but they are for just about every kind of use, from stage monitoring to conventional theater PA work.

We are giving away two pairs of 802 speakers, one with eq, and stands.

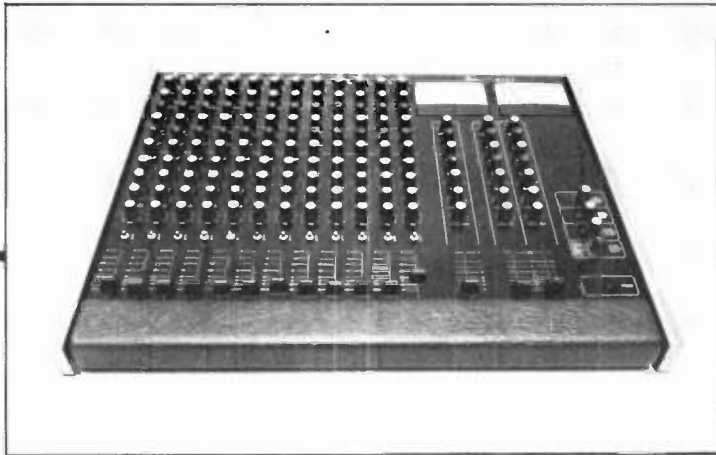
No PA system is complete these days, without the extra "hardware" which will turn a good sound into a great one. The Biamp company is one of the leaders in this field and so the system will come complete with two EQ/270A graphic equalizers, quad limiter, and an FR/240 stereo reverb.

The microphones in a PA system are probably the smallest items, but they invariably make the biggest impact. For our system we've collected four Shure units, and you can't get a higher professional standard than that.

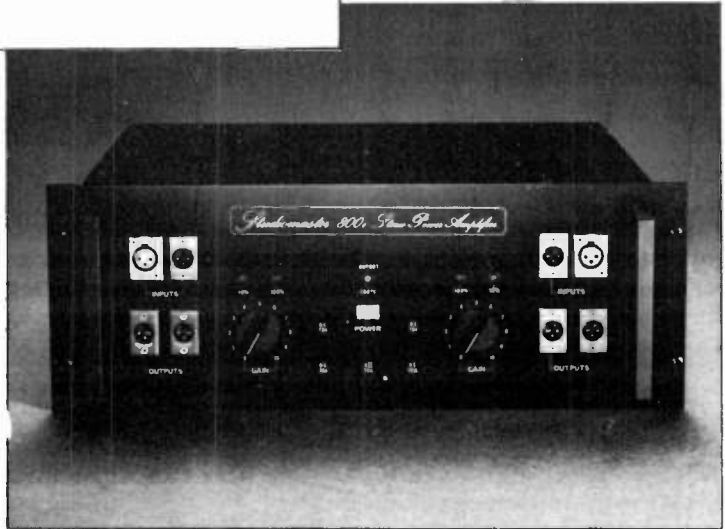
So we've got all the hardware, but the system wouldn't be ready to use without multi-core connectors and a stage box. This can add up to an expensive little "extra", so we are including some top quality Sano equipment to make sure everything goes smoothly.

Before you haul this beautiful system down to your next gig, you have to explain a few well known phrases and abbreviations.

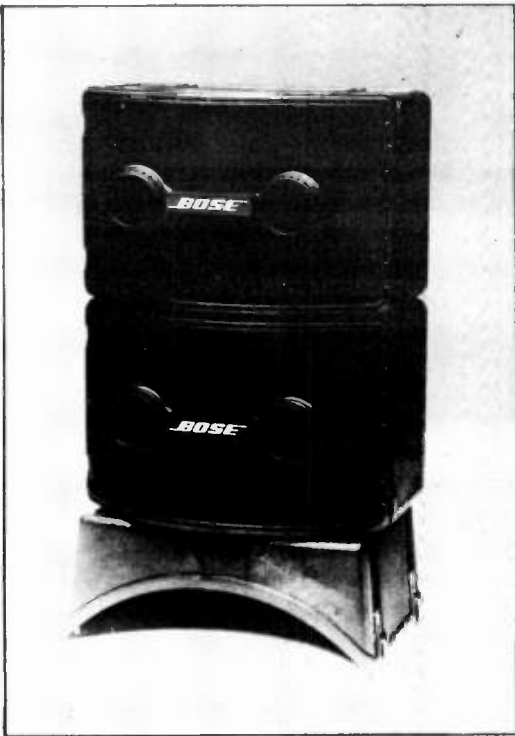
Turn to the Readers Service Card, complete your answers and then mail it free of charge. All the correct entries will be placed in a box and a winner will be drawn out. The name of the lucky reader will be announced in a forthcoming issue of IM&RW.



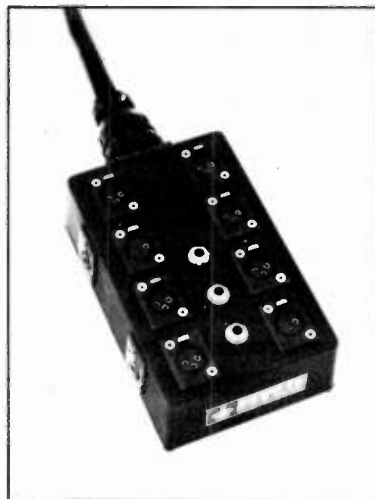
*Studiomaster 12/2/B*



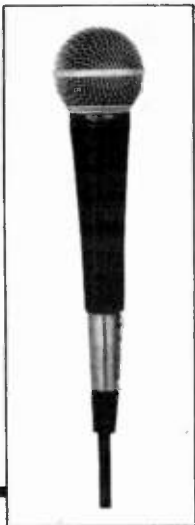
*Studiomaster 800C*



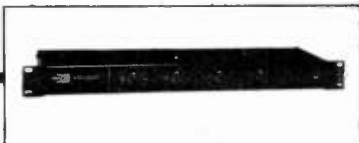
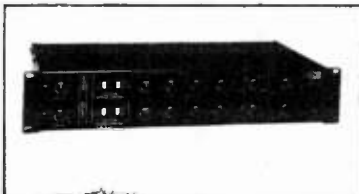
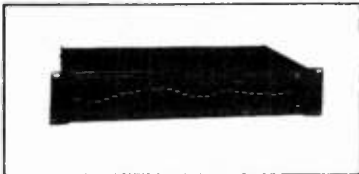
*Bose 802*



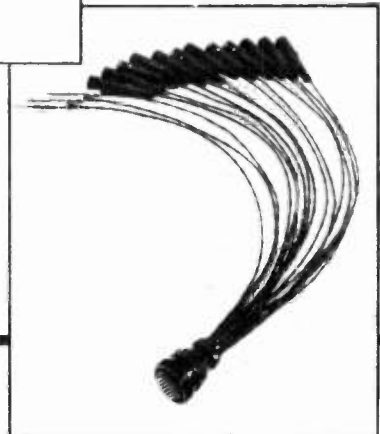
*Sano stage box*



*Shure*



*BiAmp EQ (top), reverb (center) and quad limiter*



*Sano connectors*

# make it!

## AUDIOKIT 62 MIXER

Take a look inside any one of the many stereo mixers available, and you will find a simple assembly of printed circuits and components. With patience and correct instruction, you can put together such a console yourself. AUDIOKIT is a professional quality mixer kit that can be built in a matter of hours, with a few basic tools.

Every part, down to the last screw, is supplied. The comprehensive 32 page manual goes through every aspect of the construction. Gain, treble, bass, foldback, echo and pan are featured on each input. Slide faders are used for inputs and main outputs. Auxiliary inputs and VU meter are also included.



AUDIOKIT 62 (KIT)  
\$250.00

AUDIOKIT 62 (ASSM)  
\$380.00

AK62 PS AC  
POWER SUPPLY  
\$15.00

Circle 719 on Reader Service Card

For further information, write to:  
audiomarketing Ltd.  
652 glenbrook rd.  
stamford, ct. 06906  
tel: 203-359-2312

**E&O Professional Series** "Fast Talkin' Steel"

**Perfectly Balanced Sets**

The highest quality and best-tested Electric Guitar strings you can buy today. That's why LaBella strings are the favorite choice of professional musicians.

- Available in:
- Round 60P
- Thin-Thin 60P-TT
- Thin 60P-T
- Regular 60P-R
- NotSo Thin 60P-S
- Quarter Round 30P
- Extra Light 30P-X
- Light 30P-L
- Medium 30P-M
- Semi-Round 70P
- Extra Light 70P-X
- Light 70P-L
- Medium 70P-M
- Flat Wound 20P
- Thin 20P-T
- NotSo Thin 20P-S
- Heavy 20P-H



LaBella makes the widest variety of the finest quality strings for more kinds of instruments than anyone in the world. All LaBella strings are precision made in the U.S.A.

Write for our comprehensive catalog:  
E. & O. Mari, Inc.  
38-01 23rd Avenue  
Long Island City  
New York 11105

## TAJ MAHAL

"When I Feel The Sea Beneath My Soul" and "St. Kitts' Woman." "Just a whole lot of different stuff."

His collection of instruments includes a 1941 Gibson L-7 guitar with Johnny Smith pickups, strung with light gauge Martin Marquis strings, that he plays through a Fender twin amplifier with an MXR Phase 100 phase shifter, for tone color. He also has a Muse, 5-string, long-neck banjo, a custom-made, Biffin-Smallman 12-string guitar, as well as a couple of National mandolins. He strings his banjo with La Bella light gauge strings, and his 12-string with light gauge La Bella bronze wound strings.

He also has a National resophonic steel guitar and a brass dobro, which for years were his trademark. These days though, he hardly ever takes them on the road with him. "I'm not playing them on the road because they catch too much trouble travelling. I've used every kind of case imaginable, and they've still managed to knock them out of whack. Even with Anvil cases. So I've just stopped taking them out on the road with me.

"But I guess I spend most of my time playing my Gibson. I love that guitar. It's got just the sound. It goes in any direction I want to go with it. Of course, all of these give me a lot of flexibility. You just don't have one sound. You might have a style that everybody likes, but you also have the capability of these different sounds, and you can work with them."

Down through the years Taj has assimilated and mastered many styles of music, and after years of neglect by the recording and entertainment industry, the San Francisco Bay music community this year awarded Taj a Bammie (Bay Area Musician's award) as best ethnic performer, which he accepted with much grace and aplomb.

Taj is a dedicated musician who loves his music and is totally consumed by it. He is constantly aware and growing, his mind tuned to a high degree to the various forms and nuances of music, whether he plays that particular style or not, *vis a vis*, the Punks.

"What I think is the matter with the Punks is that people take them seriously. That's their biggest trouble. The young kids that are coming up, going through all those changes. It's just a weird relationship. Whatever they're doing, and they can say what they want, but it all still sounds like Chuck Berry, the Beach Boys, and when they come up with some new notes and new chords, playing three chords, then you're playing something. Other than that, they're just copying."

Scott E. Kutina

# If it doesn't have an ANVIL<sup>®</sup>... you don't have a case.

A lot of musical instrument and amp cases are going around these days trying to pass themselves off as ANVIL<sup>®</sup> cases. And a few dealers are adding to the confusion by using the word "anvil" to describe cases that may look like ours on the outside but don't even begin to measure up on the inside.

The fact of the matter is simple: If it doesn't have the ANVIL<sup>®</sup> on it — it doesn't have ANVIL's experience, reputation and quality construction in it.

Sturdy, dependable ANVIL<sup>®</sup> cases are the industry standard — always have been. They're designed around the delicate equipment they carry and are perfectly balanced for easy handling. They're dent-proof, scuff-proof, and slippery-fingered-roadie-proof. And

they're available in just about any color you can name.

So if you want your guitar, synthesizer, cello, drums, amps and sound-reinforcement gear to get to the gig in one piece — depend on ANVIL<sup>®</sup>. We can make a strong case for just about anything



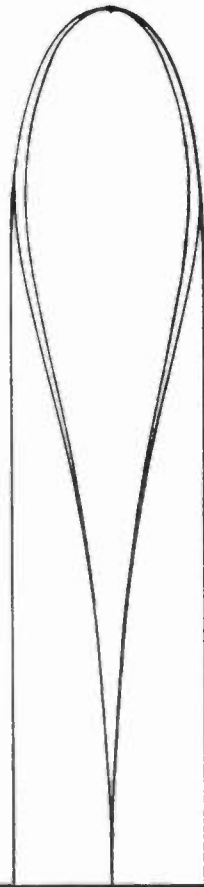
Circle 761 on Reader Service Card

ANVIL<sup>®</sup>CASES, INC., 4128 Temple City Blvd., (P.O. Box 888), Rosemead, CA 91770 (213) 575-8614.

# sound lasers

An audio transducer system so different that it's easier to conceive of it by analogies with laser technology than in terms of horns and baffles. As Sound Lasers move from the laboratory to the marketplace, audio professionals will be called on to evaluate and apply them. If you need to understand this unique concept, ask for our free Sound Lasers technical analysis, today.

**Transylvania Power Company**  
260 Marshall Drive  
Walnut Creek, California 94598 USA



Circle 809 on Reader Service Card

It's time the Professionals were given a few things they've never had before.

**McCAULEY**

Commercial Series

McCauley Sound Co  
13608 94th Ave E  
Puyallup, WA 98371  
(206) 848-0363



Circle 716 on Reader Service Card **World Radio History**

**E&O Mari Professional Series** "Deep Talkin' Bass"  
**Perfectly Balanced Sets**  
The highest quality and best-tested  
**Electric Bass**  
strings you can buy today.  
That's why LaBella strings are  
the favorite choice  
of professional musicians.

Available in:  
Round 760R  
Extra Light 760R-X  
Light 760R-L  
Medium 760R-M  
Quarter Round 760Q  
Light 760Q-L  
Medium 760Q-M  
Semi-Round 760S  
Extra Light 760S-X  
Light 760S-L  
Medium 760S-M  
Heavy 760S-H  
Flat Wound 760F  
Extra Light 760F-X  
Light 760F-L  
Medium 760F-M  
Heavy 760F-H



LaBella makes the widest variety of the finest quality strings for more kinds of instruments than anyone in the world. All LaBella strings are precision made in the U.S.A.  
**Write for our comprehensive catalog:**  
E. & O. Mari, Inc.  
38-01 23rd Avenue  
Long Island City,  
New York 11105

Circle 712 on Reader Service Card



**Now!**  
**16** electric  
 failsafe  
 pedals



# MORLEY®

... no pots, gears or batteries

Opto-electronic circuitry and AC power eliminate the 3 most common causes of pedal failure in the middle of a gig. Reliability for sure — plus amazing versatility with the best signal to noise ratio and extended range performance in the industry. Each pedal passes 33 on-line inspections and is individually tested and played before packing. Built of heavy gauge steel to take brutal road abuse. Finished in gleaming chrome.

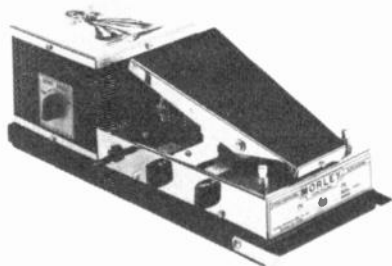
**NEW!** **ATTACK CONTROL (AC).**  
 The first time you have insurance control of your attack. React from the moment you strike your string — no matter soft or hard your attack. Adds new dimensions to your expression with unique bowed and other effects.

**NEW!** **SELECT-EFFECT (SEL)**  
 Lets you control up to 5 different effects without moving from one spot. Gets rid of mass confusion and effect disarray once and for all.

Professional's choice.

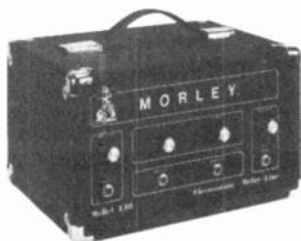
**VOLUME (VOL)**  
 Long pedal travel assures precise control. No volume loss or tone change.

**STEREO VOLUME (SVO)**  
 Two separate inputs and outputs for simultaneous control of two instruments or for stereo instruments.



**VOLUME/BOOST (VBO)**  
 Provides up to 40dB gain with Boost on. Same as VOL with Boost off.

**PRO PANNER (PVL)**  
 Pan between 2 channels or 2 amps. Volume Control when Panner is off.



**ELECTROSTATIC DELAY LINE (EDL)**  
 Distortion free. Continuously variable delay from 10 to 333ms. Mono or stereo. Meets recording studio criteria. Excellent frequency response. Best signal to noise ratio. Cabinet Model. Not a foot pedal.

**POWER WAH (PWO)**  
 Seven octave response. Ideal for bass, guitar, keyboards.

**WAH/VOLUME (WVO)**  
 Combines features of the VOL and the PWO.

**POWER WAH/BOOST (PWB)**  
 Combines the VBO and the PWO.

**POWER WAH FUZZ (PWF)**  
 Continuously variable fuzz. Same as the WVO with the Fuzz off.

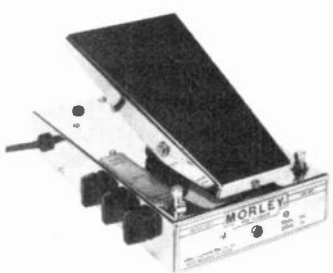
**AUTOMATIC WAH (PWA)**  
 In the automatic mode the pedal angle controls the wah rate from 1/10th to 10 cycles per second. Same as the WVO with the automatic off.

**PRO PHASER (PFA)**  
 Treadle angle sets the phasing rate. Manual phasing like a wah with the automatic off.

**VOLUME PHASER (PFV)**  
 Identical to the PFA but also a volume pedal with the phasing off.

**ROTATING WAH (RWW)**  
 Five functions: wah, rotating speaker sound, volume, rotating wah, rotating sound with volume.

**ECHO/VOLUME (EVO-1)**  
 Finest echo made for studio and stage. Non-magnetic. Mono or stereo. Ideal for any musical instrument and for vocalists. Pedal control. Volume pedal with the echo off.



**PRO FLANGER (PFL)**  
 Quieter, more versatile, broader band pass than units costing over \$1000. Synthesizer effects, pedal control of rate, foot control of flanging in non-automatic mode and much more. The ultimate flanging machine.

**We build them failsafe because we know your career depends on it — and so does ours.**

**Indisputably the world's finest pedals. The pro**

# Guitarcheck

## Odyssey 200 series \$995



Those of you who read your copies of IM&RW from cover to cover, may appreciate that I was recently at the NAMM music trade show in Atlanta. One of the displays of new instruments which particularly attracted my attention was from the Canadian company Odyssey, and I have much pleasure in now reviewing one of their guitars. I saw a great number of new guitars and basses at the show; some ingenious, some splendid, some dull and some which looked rather like last year's model under new colors. Although the Canadian guitar industry is really quite small, (when compared to the combined weight of the American and Japanese companies) it seemed to me that half the guitars which showed signs of real class came from Canada. I don't know whether this is a new phenomenon, or whether we have just been isolated from it in England, but I am impressed.

Most of the Odyssey guitars seem to be fitted as standard with DiMarzio Dual Sound pickups. These are essentially the same as the same company's 'Super Distortion' model, but with facilities for series or parallel wiring of the coil pair. (The 'series' connection produces the same sound as the 'Super Distortion' and the alternative switched 'parallel' connection gives a brighter sound with more emphasis on the higher harmonics). The DiMarzio 'Super Distortion' is now available on several makes of high-quality guitar. Allowing for variations

produced by the different styles of guitar construction, it should be possible to pick out what is the characteristic sound of this type of pickup. It is not an outstandingly subtle sort of sound, and I don't honestly think it was ever intended to be subtle or in any way delicate. (DiMarzio *does* make subtle pickups, but I don't think that is meant to be one of them).

It is not my favorite guitar sound, and until recently, I would have said that a 'Super Distortion' would produce almost the same sound on almost any conventional, well-made solid guitar.

This Odyssey guitar seems to make the exception to the rule. If they are indeed standard, unmodified pickups, then the combination of these pickups on this guitar must be a particularly happy match. Either that, or the Vancouver air has had a civilizing influence on them. Whatever the reason, this guitar retains the punch and attack associated with high-output pickups, but with warmer, richer and more interesting undertones.

The electrical controls on this Odyssey are fairly conventional for this type of guitar, but arranged in a slightly unusual way. There are the usual pairs of volume and tone controls with a miniature 3-way selector switch set close to the volume knobs. It looks rather too close for comfortable operation, but when playing the guitar, I did not notice any inconvenience. At the other side of the group of four knobs, and level with the heavy brass tailpiece, is a tight cluster of three more miniature switches and the jack socket. Although not identified on the front of the guitar, these are 'Dual-Sound' switches for each pickup and a phase-reverse switch for when both pickups are in use. I suppose one could become used to it, but I think some players are going to find the close spacing of these switches a bit inconvenient. It is difficult to fit so many switches on a guitar without spoiling its appearance, but there would be room to put these three rather more spread out, in a line toward the bottom of the body. If it did not change the vibrating properties of the body, I think this in-line arrangement would be preferable. I would also like to see some sort of numbering available on at least the tone controls, and probably the volume controls as well. As the tone controls on this guitar have quite a wide and useful range, it would be helpful if they could be set up with reasonable accuracy before starting to play, or between numbers. I like the unusual brass knobs and as engraving on these could be difficult and expensive, perhaps they could be grafted onto some sort of pointer or clear plastic dial with numbers.

The internal wiring is neat and efficient, in spite of the added complexity of three closely-spaced miniature switches. The volume and tone controls work very evenly. This makes 'violining' effective with very little practice, and one the tone control, removes the common difficulty of finding much of the tone range



cramped at one end of the dial. The mechanical operation of the pots is fairly smooth, but probably too stiff for easy operation of the knobs with the side of one finger. Many players like to produce 'violining' effects with the side of one finger, and there are pots available both from America (Bourns) and from Japan (Noble), and probably also others, which are easier to turn in this way.

There are two other points about the electronics of this guitar which could be improved. The inside of the control cavity is lined with a dusty white layer which appears to be lacquer rubbing compound: also there are wood shavings loose in the cavity which seem to have collected mainly around the jack socket. As neither jack socket nor pots are sealed, sooner or later some of this debris is going to cause trouble. I also found, on this review sample, that although the control cavity was fitted with a fine brass back plate, there was no electrical connection to the plate. As the cavity does not appear to be lined with any sort of shielding, at least the back plate should be grounded. In some areas of high electrical interference, it may be advisable to line the whole cavity with foil or conductive paint.

Apart from the control arrangements, which are adequate, but might benefit from a slight re-think, I like the rest of the guitar very much. The neck is laminated from three layers of maple and two narrow strips of a darker wood, probably black walnut. The neck extends right through the body and forms its center section: the main part of the body is formed by two pieces of ash, glued on each side of the neck section. The front and back of the body are practically flat, but the deep bevels around the front outline and at the back of the waist give the impression of a carved, gently curving front and back. This further emphasized by the careful sunbursting of the body edges. This is a 24 fret guitar, and I usually find such instruments rather difficult to hold. However, it is so well balanced and comfortably shaped, that I did not at first notice the extra length of neck and slightly different proportions. To produce a 24 fret guitar which feels like a standard 22 fret model is a considerable achievement in itself). (At last there is a 2-octave neck which does not require a 2-octave arm to play it).

The neck seems to be hand-shaped and changes gradually from a slightly triangular cross-section by the nut to a more rounded back shape at the body end. The fingerboard is ebony, with neatly-fitted medium width frets and a gently cambered front surface. Machine heads are gold-plated units from Schaller, and work smoothly.

The nut on this sample is brass and cut away under the strings, so that they rest only near the front edge. This is an unusual approach, but it seems to work well except for the 6th string. In this case, the width of brass remaining for the string to rest on is rather narrow compared with

the dimensions of the string. Exact tuning is a bit jumpy and it is not due to the machine head. I think the difficulty could be solved by leaving more width of brass under the string.

It is difficult to find any fault at all with the bridge and tailpiece on this guitar. The bridge is massive, with a positive method of locking the brass saddles in place. I suspect that adjustment of the saddles could be slightly difficult, but the mechanism is simple and sturdy, and the adjusting screws actually pull the saddles *down* onto the bridge base when they are tightened. Many cases of poor sustain on otherwise good instruments can be traced to loose or rattling adjustable bridge saddles. (A gap of less than the thickness of a fine cigarette paper can be enough to kill the sustain on a top string). I have not taken this bridge assembly apart, but the upper part of the bridge seems to be fastened to a large block of metal set into the guitar body. This is done by some makers to improve, or even out the sustaining properties. On this instrument, the natural sustain of the strings is good and acceptably even between different strings and positions. There appears to be one 'dead' note which appears half-way between f and f-sharp on the third string. There is a distinct 'impulse' body resonance at this note, which is not produced when the same note or its octaves are played in other positions. If this is a 'dead' or 'wolf' note, its bandwidth is so narrow that it only appears on the *quarter-tone* between f and f-sharp. The straight fretted notes on either side are not significantly affected. (Most guitars have one of these somewhere: I only found this one by chance because the third string was tuned slightly flat and the odd note then fell exactly on the f-sharp fret).

#### Conclusion

This is a well-made guitar which combines good taste and a modern design. It has 24 frets, heavy brass fittings and, most of all, it has class! The control layout and the barely adequate screening arrangements are the only weak points I can see, and these could be much improved with only very minor changes. Our sample was supplied nicely adjusted for action and intonation and fitted with an excellent set of strings. "Square" cases and aluminium flight cases are available.

#### Measurements on Odyssey 200 guitar ser, 79, 1404.

Scale Length: 630 mm

String spacing at bridge: 51 mm

String spacing at Nut: 44 mm

Depth of neck at fret 1: 22 mm

Depth of neck at fret 12: 23 mm

Depth of neck at fret 15: 23 mm

Action as supplied 0.9 mm treble/1.2 mm bass.

(performance satisfactory with this low action).

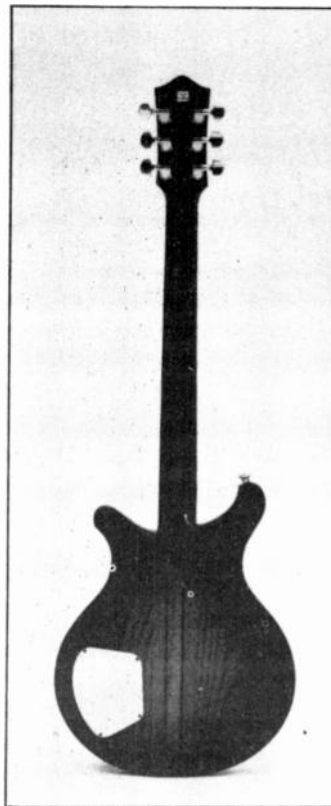
24 frets on fingerboard, body joins at fret 22.

Heel begins at fret 18.

Stephen Delft

*Stephen Delft is a maker and repairer of guitars and other instruments, and a member of the Institute of Musical Instrument Technology. He is also a more than capable performer on the guitar.*

Circle 901 on Reader Service Card



# The Echo of the Future.



## Korg made all other echoes a thing of the past.

To design the Echo of the future you have to solve the problems of today.

Tape Hiss. The Korg SE-500 features a built-in Compressor Noise Reduction System.

Fidelity. The SE-500's studio quality heads keep the echo's sounding like the source.

Long Delay. The SE-500's delay is the longest in the business.

The SE-500 also features genuine Sound-on-Sound for multi-track effects. Balanced 600 ohm XLR in/out for professional patches. Voltage-Controlled Echo Speed for external control (i.e., with the optional MS-01 pedal or any variable voltage source.) Selectable Input Attenuators....

The new Korg Stage Echo is the fastest, slowest, quietest echo of its type. If we said much more, we might risk repeating ourselves. We leave that up to the SE-500.

## THE SE-500 STAGE ECHO

**KORG** Does it again, and again, and again...

UNICORD, A DIVISION OF G & W MANUFACTURING COMPANY, 89 FROST ST., WESTBURY, NEW YORK, 11590

Circle 803 on Reader Service Card

## ULTIMATE VERSATILITY IN ALL FREQUENCY RANGES



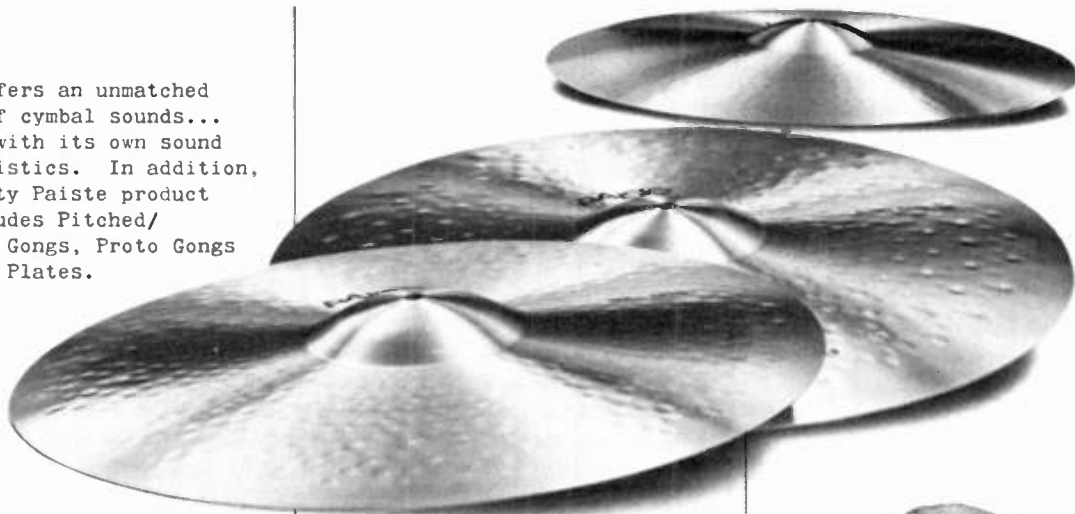
- MUSICAL INSTRUMENT SYSTEMS
- SOUND REINFORCEMENT APPLICATIONS
- HI-FIDELITY ACOUSTICAL DESIGN
- STATE OF THE ART CONSTRUCTION
- EFFICIENT FOR COLUMN STACKING



**BAG END**

MODULAR SOUND SYSTEMS, BARRINGTON, ILL., TEL. (312) 382-4550

Paiste offers an unmatched breadth of cymbal sounds... each one with its own sound characteristics. In addition, the quality Paiste product line includes Pitched/Symphonic Gongs, Proto Gongs and Sound Plates.



**SOUND CREATION RIDE CYMBALS**

Sound Creation is an entirely new collection of quality cymbals with unmatched variety in pitch, texture, color and feeling. The collection includes three ride cymbals. The Dark Ride is low, warm and full sounding, while the high-pitched Bright Ride is brilliant, clear and sparkling. The Bell Ride provides a full, powerful and penetrating bell sound.

**ARTIST PROFILES**

A 160 page brochure listing some 200 Paiste Drummers and includes a personal profile and drawing of each artist's set-up. For your personal copy write: Paiste Profiles II, Box 4137, Fullerton, California 92631.



**ROY BURNS**

Born in Kansas and began key phase of his professional career when he moved to New York. Joined the Woody Herman band in 1957 and thereafter played with major artists in live performance, TV appearances and records. Became Rogers Staff artist in 1968. A Paiste artist.



**JACK DE JOHNETTE**

Born in Chicago and studied music since the age of four. Started playing Jazz professionally on piano at 14. Switched to drums 2 years later. Has performed on records and in concert with some of the greatest Jazz artists in the world and now leads his own band. A Paiste artist.

**CARL PALMER**

Started playing drums at age 11. At 15 left school and came to London to play in a group. Early in 1970 joined with Greg Lake and Keith Emerson to form "Emerson, Lake & Palmer." A Paiste artist.

**PAiSTE**

**PRONOUNCED PIE-STEE**

Paiste cymbals (pronunciation above) are made in Switzerland by a family which has dedicated a lifetime of work and experience in sound making. They are exclusively distributed in the USA by Rogers Drums.

# Soundcheck

## BABY AMPS PART 2

For those of you who missed the first part of this series in September's *IM&RW*, a brief reiteration. "Baby Amps" – not a particularly appealing term for some manufacturers, but catchy and rather harmless in the larger scheme of things – refers to those popular small amp configurations more and more in demand for practice sessions, back-stage tuning and warm-ups, jamming in the closet and, for more evolved members of the species, recording.

An arbitrary power ceiling of 50 watts was established – ease of handling or portability (the hernia factor) was also a consideration. Even within these rather relaxed criteria, I found a healthy amount of variance in terms of size/weight to power ratios, looks, relative mass, signal-to-noise, and general standards of construction.

Without stumbling into the hornet's nest of comparative evaluations, I've attempted to express the pros and cons – vis a vis the manufacturers stated intentions – of each unit with a minimal amount of bias.

### Traynor TS-25 (\$280.00)

Traynor – now distributed through Yorkville Music in Ontario – is a Canadian company whose amps have been making sporadic appearances in this country over the last few years. Not much was known about these behemoths from the north except for some vague rumors about their lack of reliability over the long haul. In any case, I was pleased and surprised to discover that their new TS-25 "small" amplifier – small is relative in this instance, the total weight is around 36 lbs. – is a handsome, sturdy and extremely functional unit with more than enough punch for most club situations.

Covered in battleship gray telex (a plus for U.S. Navy musicians) with white trim, the TS-25 presents a sober and practical appearance to the guitarist. The control knobs, all with the standard functions of these kinds of amplifiers – "Gain (preamp volume)" "Bass," "Treble," "Reverb" and "Volume" – are large with easy to read numbers and a nice linear taper. A "Boost" switch, located to the immediate right of the "low" and "normal" inputs, is provided for extra sustain. The power on/off switch is white for contrasting visibility and is located alongside the FET indicator light.



Circle 817 on Reader Service Card

The TS-25 pumps a full 25 watts through a 12" heavy duty speaker. The power amp section features a Darlington output stage for wide bandwidth and extra stability. The resulting sound is full and rich at most levels (the louder the better – up to 7 or 8) and the distortion or break-up, achieved by turning up the preamp gain and activating the boost switch, is smooth with lots of presence – perfect grist for those with a penchant for bad Jimmy Page parodies. The cabinet is massive enough (weight-wise, this easily qualifies for the "Baby Huey" award) to render a fair approximation of a reduced Marshall sound – there's even a tenuous connection in terms of appearance.

### SPECS:

Input Sensitivity @ 1 kHz

Normal	1m volts
Normal w/ boost	0.75m volts
Low	15m volts

Speaker: Heavy duty 12"/70 watts  
RMS/8 ohms 1½ V.C.

Power Requirements:

North America	117V	60Hz
UK/Europe	230V	50Hz

Dimensions: 17½ x 20½" x 11"  
(44cm x 51cm x 28cm)

Weight: 36 lbs. (17 kg.)

### Acoustic Model 117 (\$379.00)

Acoustic assures us in their promotional literature that the Model 117 is their "small" guitar amplifier, but with a shipping weight of 52 lbs. a power rating of 50 watts RMS and cabinet dimensions measuring 20" high x 22" wide x 10" deep, they would seem to be stretching the rather loose definition of baby amps to its limits. I wouldn't want to carry this amp *anywhere* unless I had guaranteed access to a vehicle of some kind.

The 117 is covered in heavy black vinyl with a faceplate featuring the characteristic Acoustic color combination of black, white and baby blue. The control knobs are a bit stunted but reasonably efficient. Features offered include switchable reverb (foot pedal-optional), Master Volume control, line output (extra speakers), this amp already has a very "bright" sound, another Acoustic characteristic), 120V & 240V supply, Treble/Bass/Midrange controls and an L.E.D. power indicator. The accompanying literature also claims ¾" interlocked dado construction throughout.

With a power handling capacity of 50 watts RMS, the 117 is evidently one of the most powerful of the baby amp line-up. The sound is exceptionally clear with a lot of bite, but it still sounds a bit stiff or "cold" to my ears. The distortion or overdrive characteristics are better than expected but lack the rich fullness of other units in the top-end of the baby amp power spectrum. The amp is exceptionally sturdy, well-built and, my personal aberrations aside, seems ideal for use on the road and in the studio.



Circle 818 on Reader Service Card

### SPECS:

Cabinet Design: Open Back  
Speaker Complement: 1 12" speaker  
Speaker Access: Rear mount  
Power Handling: 50 watts RMS  
Nominal Impedance: 8 ohms  
Cabinet Size: 20" high x 22" wide  
x 10" deep  
Weight: 52 lbs.

### Roland CUBE-40 (\$340.00)

A masterpiece of packaging and logistics, the Roland CUBE-40 packs a solid 40 watt RMS punch into a sleek little cabinet covered with rich brown vinyl (plastic reinforced corners) measuring a mere 12.2" wide x 14.5" high

x 8.1" deep. The only amp I've encountered to date with a fitted cover (Roland and other Japanese companies are skilled at making you feel like you're getting your money's worth), the CUBE-40's reduced weight (23 lbs.) and full array of features makes it immediately appealing.

And that full array of features includes: a two input system (overdrive/normal) to match any guitar's output; reverb capability; multiple jacks (Pre-Out/Main-In/Reverb Foot-switch/External Speaker); a *head-phones* jack (keep your neighbors as friends) for monoaural or stereo phones, and a newly developed "high-efficiency" speaker. There is also a separate line/line out circuit for effects over and above the built-in reverb. This and the aforementioned extras maximize the flexibility of the CUBE-40.



Circle 819 on Reader Service Card

This amp can be as loud as you want it to be without significantly "dirtying up" the signal, the overdrive/distortion effect retains clarity and presence no matter how much you rev it up. The reverb effect is quite subtle — for some, this is preferable — but the separate effects circuit gives you the option to add all the flanging, echo or extra reverb you might want.

**SPECS:**

- Output: 40 watts RMS
- Speaker: 25 cm
- Input Jack: Overdrive/normal
- Controls: Volume/Treble/Middle/Bass/Reverb/Master Volume
- Power Consumption: 36 watts
- Dimensions: 310 mm wide x 368 mm high x 205 mm deep
- Weight: 10.5 kg., 23 lbs.

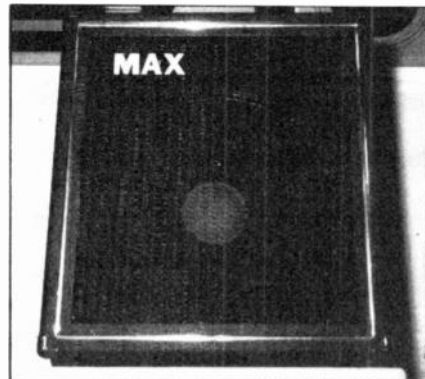
**Sano/Fane "MAX"**

- (\$325.00-\$350.00 w/ production speaker)
- (\$395.00-\$425.00 w/ optional FANE speaker)

Sano Corporation's "MAX" amplifier offers a colossal (for this school of

amps) 55 watts RMS, the highest power output in this series, in a surprisingly compact, but heavy, cabinet measuring 15½" high x 14" wide x 10" deep. The unit is covered in black telex with a black grille cloth and overlay panels, top and rear, processed in brushed aluminum with silkscreen lettering. Controls are standard and to the point — volume/master volume/bass/treble.

The model tested, a prototype, was



Circle 820 on Reader Service Card

equipped with the optional FANE 12/80 (12" capable of handling up to 80 watts) speaker and I suspect it had a lot to do with the favorable results achieved. The "production" speaker (\$70.00 cheaper) is probably OK, but the smooth and unusually rich response of the FANE through the entire dynamic range makes it a must option for yours truly. 55 watts RMS into 4 ohms means *big* sound, not just *loudness*, and the distortion sound is the barely contained roar of a Marshall or Hiwatt stack, scaled-down in overall size. The control panel on this prototype seemed to be on upside down — that, and the fairly hefty weight (33 lbs. w/ FANE speaker), were the only two minor criticisms one could muster at this excellent, if expensive, unit.

**SPECS:**

- 55 watts RMS into 4 ohms
- 12" Production speaker or 12" FANE 12/80 \*optional
- Dimensions: 15½" high x 14" wide x 10" deep
- Weight: 33 lbs. w/FANE 29 lbs. w/ Production speaker
- Input Sensitivity: 70 mV to full output

**Marlboro G-20R (\$185.00)**

Marlboro Sound Works, a division of the Musical Instrument Corporation of America, offers a line of guitar and bass amps incorporating the G-10R (10 watts RMS), the G-20R (25 watts RMS) and the G-40R (30 watts RMS). The model tested, the middle-of-the-power line G-20R, measures 18" x 17½" x 7¼" and is covered in black

vinyl set off with white trim. The control panel features normal and "bright" inputs, tremolo/reverb (grouped under the not particularly cool heading of "special effects," the kind of nomenclature that will send most pros running for the door), volume/bass/treble and a tremolo-reverb footswitch jack.

Far from being one of the most powerful amps in this series, the G-20R delivers a "comfortable" 25 watts RMS — more than enough for most small amp needs. As the manufacturers stress in their intelligent little company booklet entitled "Marlboro . . . sound, not just wattage," they believe, like an increasing number of sound people, that wattage is a lot less important than speaker efficiency; the reason why most of their efforts have been devoted to the efficient 12" heavy duty speaker in the G-20R, not in uselessly boosting the wattage.



Circle 821 on Reader Service Card

**SPECS:**

- 25 watts RMS
- Dimensions: 18" x 17½" x 7¼"
- 12" specially designed heavy-duty speaker
- 2 instrumental inputs
- Ind. controls for vol/bass/treble/reverb
- Footswitch jack for tremolo/reverb

**ED. CORRECTION:**

Last month in Part I of the "Baby Amps" article we incorrectly reported certain facts relating to the Pignose 30/60 amplifier. The list price for the 30/60 is \$259.00, not \$129.50. The speaker size is actually 12" instead of the reported 10". Some copy relating to the performance of the 30/60 amp was also left out. The sentence deleted reads as follows: "An excellent value at twice the price." J.C. Costa

# Synthcheck

## Minimoog \$1,995

I suppose that this is a propitious time to take another review-like look at the Minimoog, seeing as this stalwart of small synths has recently been updated in its technology for the first time in a long time, discounting small cosmetic modifications to detail fittings. The instrument has great historical significance, not only in its longevity as a purchasable item, but also in its design and layout which has not needed alteration since its inception to stay in direct competition with anything else available. This has to mean something about the original excellence of the instrument, especially as it was conceived in the very early Seventies, without the benefit of hindsight. The updating consists of a solution to a nagging problem with oscillator stability. The old oscillators were not that well-behaved at staying at the tuning setting in which they were put, so, if you were using two of them tuned together and left the machine switched on for 19 hours, playing it from time to time. At the end of this period, the tuning had not slipped at all. Thus, the one real Minimoog nasty has been cured for good. But even if you own, or obtain secondhand, an old Mini not fitted with stable tuning cards, the parts can be fitted in to bring yours up to date.

The appearance of the instrument hasn't altered since it was first manufactured, except for very minor detail differences like a change in the plastic of the pitch bend and modulation wheels. Different wood is used from time to time for the casing which makes for a little individuality. But the instrument has always looked right and good, appearing solid, well laid out and an extremely attractive, if small, piece of furniture reminiscent of a piano, with the woodwork casing. What has always impressed me about the Mini is the logical, simple way that all the controls are laid out on the panel, which itself is hinged so that it can be set at whatever angle is comfortable for the user.

The Minimoog has become to me, over the years of owning and playing one, the most enjoyable and communicative of synthesizers on which to solo. One can really feel at home and in total sympathy with it, even though it is electronic and not an organic, breathing, acoustic-sound source

instrument like a piano or a guitar. The controls fall under the fingers very much like a guitar, however, in the way in which the jobs the hands do on a guitar. One's right hand, like a guitarist's, physically causes the notes to sound, while the left hand, tied up intrinsically with the right, operates the pitch bend wheel and modulation wheel, for vibrato, perhaps. These are some of the jobs that a guitarist left hand does, so my analogy should become clear. Thus one can get a genuine "feel" with the instrument, with practice and familiarity the only requirements for further freedom. With the three oscillator sound sources, one has the freedom to use two of them for a fat and complex sound, while using the third either as a sound source with the other two, or as an LFO for modulating the other two. There is a large choice of waveform selects on all three oscillators, arranged very logically clockwise on the dials in order of harmonic content.

Each oscillator has also got footage or octave positions from Lo through 32' right up to 2', giving the instrument tremendous scale width. I love the intrinsic sound of the Moog oscillator, as opposed to other manufacturers, but this is very much down to taste. The product of the oscillator's outputs is easily blended and mixed by simple output level controls, before the signal is sent via the filter banks and modifiers, and finally the ADSR section. So everything moves logically from left to right on the instrument.

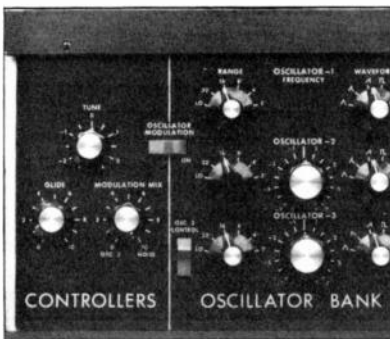
There are only a few little modifications I would like to see on the Mini Moog, none of which are defects as such, frustrations. For accurate tuning it would be nice if all the tuning pots (the overall tuning pot, and the individual oscillator tuners) were provided with 10 turn pots or vernier pots, so that they could be much more accurately set, and also the pitch bend wheel would be more fun if perhaps it contained a spring function that caused increasing resistance to upward bending, just like a guitar string. But these are things that one can easily have fitted anyway (and, indeed, I have!).

So the Mini Moog is a very well loved little synth that has almost limitless possibilities of sound production and manipulation built into it that quite belie its size. After owning and playing one for some years, I still frequently sit down and find something else that it can do, either in a sound or a way of using a sound, that I hadn't discovered before. That in itself is good enough reason for the instrument's ongoing success; you never outgrow it for what it is, regardless of the new and more complex synths that have appeared much later. Whole reputations and sounds have been born on the instrument (witness the styles of Jan Hammer or George Duke) simply because it allows any player to obtain a totally individual and recognizable sound and style.

What more to say, except that it can grow up with you, and be as much use to a beginner with synths as it can to a seasoned expert. It does exactly what you tell it to do, and therefore whether you sound good, and are satisfied with playing it, is totally dependent on yourself and not through any defect that it has. So you really know where you are all the time.

Robin Lumley

*Robin Lumley is a record producer and keyboard player. His work with Brand X and on David Bowie's Spiders From Mars won him an international reputation. He currently divides his time between freelance producing and session work.*





# THE MS-20 Above and Beyond.

## TWO VOLTAGE CONTROLLED FILTERS

Low-pass and high-pass for extended control of the entire frequency spectrum. Each filter features continuously variable resonance control: flat to self-oscillating.

## ENVELOPE GENERATOR 1

Separate AR envelope generator with Variable Delay Control.

## 5-PART ENVELOPE GENERATOR

Features variable ADSR controls plus unique Variable Hold Control

## ADVANCED APPLICATION PATCH PANEL

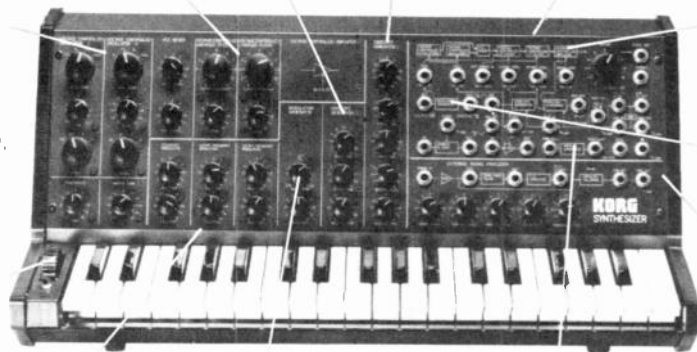
The extensive complement of control voltage inputs/outputs expands your creative possibilities by creating new combinations of the MS-20 modules (such as interfacing with external synthesizers, sequencers, etc. separately or in conjunction with the MS-20's internal capabilities).

## TWO VOLTAGE CONTROLLED OSCILLATORS

Each with 10-octave range. Selectable, switchable waveforms include: Triangle, Sawtooth, Variable Pulse Width (50%-0%), White Noise, and pre-patched Ring Modulator.

## PROGRAMMABLE CONTROL WHEEL AND MOMENTARY SWITCH

Can be programmed to vary pitch, cut-off frequency, VCA gain, modulation, sample and hold, etc.



## PROGRAMMABLE SECOND VCA

For controlling modulation depth, sample and hold, expression, etc.

## PROGRAMMABLE SAMPLE AND HOLD

For "random" or "stepped" patterns.

## EXTERNAL SIGNAL PROCESSOR MODULE

Contains advanced envelope and pitch follower, allowing any external instrument to actually "play" the MS-20. Module consists of pre-amp, variable bandpass filter, pitch-to-voltage converter, envelope-to-voltage converter, and variable threshold trigger detector. Outputs include amplified filtered signals, pitch control voltage, volume control voltage and trigger output.

## MODULATION GENERATOR

Features continuously variable waveforms: Triangle-Sawtooth; Rectangular-Pulse.

## PINK AND WHITE NOISE GENERATOR OUTPUTS

For both audio and control voltage sources.

## PROGRAMMABLE, MIXABLE FREQUENCY AND CUTOFF FREQUENCY MODULATION CONTROLS

When Korg set out to create the new MS-20 synthesizer, the idea was to build a professional, fully variable instrument for the serious synthesist that would be a cut above the rest.

Korg built in two VCO's, two VCF's, two VCA's, two EG's, an MG(LFO), a sample and hold circuit, extra noise generators and much more. (We're showing you the essential controls of the MS-20 so you can compare it, feature-for-feature, with anything on the market.)

If you're satisfied that the MS-20 compares favorably even to synthesizers cost-

ing far more (there's really nothing like the MS-20 in its price range), then consider what makes the MS-20 truly incomparable!

The MS-20 contains a built-in External Signal Processor module that lets any external instrument actually "play" the synthesizer! (To purchase this feature separately, you'd have to pay more than the entire purchase price of the MS-20.)

Considered solely as a keyboard synthesizer, the MS-20 stands above all the competition. But, with its ESP module, Korg has taken the MS-20 a quantum step beyond.

# THE MS-SERIES

**KORG**

**Puts Synthesizers within reach.**

Unicord Division of Gulf & Western Manufacturing Company, 75 Frost Street, Westbury, N.Y. 11590

# Drumcheck

## Pearl Vari-pitch Cannons Price unavailable

The Pearl Vari-pitch Cannons were first introduced at the NAMM Trade Show in Chicago in June 1978. A professional drummer called Randy May did something which a lot of players had thought about but had somehow never brought to fruition. *He fitted a Roto-tom to an ordinary drum.* This gave him the unique facility of a Roto tom which sounded like a drum yet with more sound spread, but also with the handy facility of an easy tuning system. I don't believe the Vari-pitch drum was ever introduced to change pitch (gliss) as you played it, but more to enable the player to select the optimum pitch instantly. More of this later.

Anyway, Randy May interested the American musical conglomerate Norlin in the idea and they went ahead, experimented and finally patented it. As far as I can ascertain the original idea for the Vari-pitch system was to have a fitment which enabled the Roto-toms to fit any drum. However, the powers that be decided it would be better to devise a whole new drum kit, including snare drum, to sell as a unique sounding and looking set. They decided on using Pearl's Phenolic material for their shells which up until then had not been available, although Europeans had been using Phenolic concert tom toms for five years or so. (Phenolic is a hard Bakelite-type material made from glued, compressed cardboard which has a very bright sound.)

Their experiments decided that the obvious shell sizes 12 x 8 etc., didn't add enough bass to the Roto-tom's sound so they were made slightly deeper at 10½ inches which gave them more strength. The floor tom tom too had this shell depth without, as far as I can see (or hear), any loss in tone — the look of the drum takes a little getting used to, but because the Roto-tom is suspended *over* the shell rather than inside it the actual distance between top head and shell bottom is two or three inches more. There are four tom tom sizes available 10, 12, 14 and 16 inches in diameter but all have a two inch smaller Roto-tom fitted to them with the exception of the three snare drums. These are slightly different with a 14 inch Roto-tom for the five or six and a half inch shell drums. (There is also a five inch drum available with a

12 inch Roto tom — out of all the snare drums I preferred this one for inexplicable reasons.)

Anyway, as I said, the Roto-toms themselves are mounted inside the drum via a cross-type framework which is adjustable for any size drum and is fixed to the shell at four positions inside it. Actually, four 'L' shaped flat M.S. bracket struts are slotted to take eight drum-key operated screws and these locate and fix the threaded pressed steel center boss. This thread takes the Roto-tom's center rod and keeps it steady. However, to enable the Roto-tom to tune or detune it is necessary to lock this center thread and Pearl (or rather Norlin and Randy May) came up with a unique way of doing this. They have a flat steel locking 'nut' which has a four inch piece of steel tube brazed to it, into which one fits the butt end of one's drum stick (which has been conveniently thrust through the gap between the Roto-tom's top rim and bottom cast ring). This effectively locks the center rod thread solid to the crossed framework and allows the down head to be tensioned by turning.

The sounds from all of the drums is slightly deeper than usual although I feel that all of these Vari-pitch drums, and come to think of it Roto toms themselves, have a much better sound when their heads are tensioned higher rather than lower. I find that ordinary Roto-toms "clack and clatter" a little especially from a distance. Mind you the reflectors which Remo makes these days go a long way to "rounding out" the sound since they spread the sound sideways. (A drum without a shell has no spread and it's soundwave simply goes down and up.)

The 22x14 inch bass drum supplied with VP422 is also of Phenolic which is reasonably unusual because although Pearl have made some of these in the past (and of course their concert toms) this is the first I've seen of them. Anyway, its fixtures are exactly the same as any other Pearl bass drum with 20 'T' handled tuners and claws and fiberglass (or could they be Phenolic) counter hoops.

I feel that the beauty of the Vari pitch set will be appreciated more in the recording studio where it will be very simple to tune the drum to the optimum sound which the *engineer* wants to hear. Since it only takes a turn or two up or down to change the pitch, the engineer can tell you to stop when *he* hears it at the right note. The same of course applies for the Phenolic snare drums, although here the procedure is a little more complicated because as any drum teacher will tell you, on a *snare* drum you can't tension the batter head up or down without it having a profound effect on the snare (bottom) head, and subsequently on the sound of the drum. Therefore, one finds that in most cases its necessary to adjust the sympathetic bottom head once the batter tension has been changed.

Having said that you'll appreciate this is not such a simple matter and one must resort to

Circle 844 on Reader Service Card



World Radio History

ones drum key (as per usual) to do this. Pearl use their normal, internal, under-batterhead-operating dampers with this snare drum but since they can't be mounted to the shell as they normally are because they would foul the lower ring of the Roto-tom. They are actually fixed to this lower ring and so rotate with the drum head when tensioning is being carried out.

There are, I am led to believe, two different (yet the same) Vari-pitch sets available. Europe have theirs completely built in Japan but America has theirs assembled in Nashville, Tennessee. I can see no real difference because of course the Roto-toms and the shells are the same, but the American drums had, when I saw them last, an inverted, 'U' shaped plastic strip to protect their under Roto-tom top shell edges — the ones from Japan do not.

It suddenly occurs to me that there might well be guys out there reading this who have been "out in the woods" for some time and won't have seen a Roto tom. So, I'll run one down for you. They were invented quite a few years ago by a noted American percussionist who took pieces of a couple of other Remo products, put them together and the result was an easily tunable drum albeit without a shell. Basically, it consists of two different sized spoked, cast, dished rings say 12 inches and 14 inches in diameter. The larger ring has holes drilled and tapped into it to take ordinary square headed tension screws and these holes match up to the holes in an ordinary triple flange, pressed-steel rim.

So far, so good. The larger ring has a hole through it's center boss which is tapped to take a largish, coarse threaded bolt. The smaller ring has a blind clearance hole for the same bolt. So, we take our ring, put a lead inside it, then our smaller ring (which fits neatly inside the head) then our large ring which we join to the counter-hoop with the tension screws and finally our threaded rod. As this rod is held firm and the lower ring's boss revolves around it, eventually the threaded rod pushes the smaller ring up against the head and so tensions it. That is just about all there is to it. (prior to the Remo inventions there had been a way of tensioning bongos which worked in this manner).

The cast rings are nowadays black plastic coated and the square tension screws are held silently with rubber washers. It is, as usual, necessary to ensure even tension and sound around the drum head at the counter hoop and the tension screws work as usual for this. Are you *sure* you haven't seen a Roto-tom?

#### Accessories

The Vari-pitch sets come complete with the newish 900 series stands and pedals which I have never reviewed before, so here goes.

Pearl's new tom tom holder is like "chalk and cheese" coupled to the original "ball and socket" model. This new one has no pressed-steel parts and, with the exception of two tubular steel rims, is completely cast. It has a

cast double receiver plate bolted to the best drum shell with a strengthening plate behind it and inside the drum. On the top of this shaped plate are two raised circular shaped receiver holes split in half to take the artrial arms with a half section clamp. This clamp is fixed and sprung on one side (yet adjustable a little with a drum key) and freed with a large wing bolt on the other. Once tightened it grips and immobilizes the arm and therefore the toms' downward movement. Above this is a sort of cast "jubilee clip" tightened to the tubular arm by a drum key operated screw which has a lug sticking out of it. This locates into a female slot on the actual receiver plate. This too immobilizes the arm and so the tom toms circular, horizontal movement. This has the added advantage of ensuring the two 'L' shaped arms always fit into their sockets the right way round (left and right) each time. Pearl call their clamp system LOCK STOP.

The *piece de resistance* is the vertical position adjustment for the horizontal tube. Actually, its through two cast circular bosses attached to the tubes which locate one inside the other. Inside these bosses is what's known as a slipping clutch center — a thick edged metal strap which is shaped to fit inside the unit when the drum key operated screw is tightened it pushes down on this edge and forces the hardened steel against the walls of the smallest boss and arrests all movement. (One needs to be careful not to use excessive force on this screw though because its tapped directly into the casting. Also very little pressure is necessary to lock the unit solid.) By the way I noticed recently at the British Trade Show, that Pearl have updated this tone angle adjustment. I'm pretty sure the principle is the same but the two halves of the round bosses do not "cup" together, instead key "sandwich" together and are locked with a pair of "Phillips" type bolts.

Anyway, the unit works extremely well and is sensibly factory-located close to the front of the bass drum. This means the tom toms can be set more closely together. The tom tom's receiver plate is a smallish, cast single unit which bolts to the drum shell and has all the attributes of its larger double mate on the bass drum including of course the jubilee type, lock stop pipe clip.

Pearl's 900 hi-hat stand is, I feel, a logical improvement on their old one. It has a two piece cast footplate like before but this time its sandblasted for non-slip and is actually filled with a toe stop. (The 800 had provision for this but never had one). It has something unusual too, in its twin adjustable springs on each side of its center pull and outside the down tube. These springs give much more adjustment than before from very soft to very, very hard in very few turns. Their at every tube locking adjustment point on all the 900 stands including the stool Pearl's engineers have filled the die cast joint clamp which is to be found at the top of ►►

# WOW...



## SYNARE SENSOR TURNS YOUR ORDINARY DRUM INTO A SYNTHESIZER. \$140.

Here's today's hottest breakthrough in electronic music. And so unbelievably inexpensive that everybody you know is going to have one.

The Synare Sensor.

With it, any tom, snare, bass, bongo, literally every drum becomes a synthesizer with a Sensor clamped to its rim. All you do is hit the drum to get any of a wide variety of popular synthesizer sounds. The Sensor's not in your way; it picks up vibrations through the drum's rim. No interference with the drum head or sound.

Not only that, but at \$140 list, you can buy one for every drum in your kit. Our optional foot pedal turns the Sensor on and off, and you can use one foot pedal to control several Sensors. Requiring only a standard



nine-volt battery for operation, Synare Sensors plug into any amplifier.

Needless to say, our Synare Sensors incorporate the durability and reliability you've come to expect from our whole line of electronic drums, percussion synthesizers, and accessories.

**Go down to your local music store. Ask for the new Synare Sensor. If it isn't there, scream! Or write to us today for more information.**

 **STAR**  
INSTRUMENTS, INC.  
Dept  
P.O. Box 145  
Stafford Springs, CT 06076  
(203) 684-4258

---

---

the bass drums mounted tom tom arm receiver plate. It has the split rings and ensures the same height positioning and indeed position relative to the drummer each time. (The only slight snag I find is that each single section of stand must be dismantled from its neighbors to put the set away).

Anyway, the hi-hat has this memory stopper facility too. The feet on the tripod legs are very interesting – they revolve to offer the player either a rubber or sharp spiked tip to match, as they say, any floor surface. This position can be locked with a drum key operated screw. The top cymbal clutch and bottom cymbal seating seems to be the same as before. I played the 900 hi-hat next to my 800 and found quite a lot of difference in feel. The 900 is of course more sophisticated and for my money worth any extra bread.

Pearl's cymbal stands from the 900 series are pretty much the same as before except they too have the die cast joint at the two height adjustment positions. They still have tripod legs with rubber feet but the tilter has been changed. It's exactly the same as the slipping clutch angle adjustment on the Vari system tom tom holder only quite a bit smaller. It has a largish wing nut to arrest its vertical positioning and Pearl have made the top cymbal rod which is joined to the top of the tilter longer to enable us to get even more weird and wonderful cymbal angles. The company do not use felts and leather washers anymore but instead have a pair of unique "flying saucer" shaped softish plastic washers which keep the cymbal happily swinging in a good playing position. If one so desires one can lock these down hard (although one shouldn't) with a large wing nut.

The 906 snare drum stand is exactly the same as the 806 but of course with the inclusion of the memory locking die cast joint. It has a basket type holding mechanism with tripod legs and by my calculations is the lowest snare drum stand available. It also can, with a very simple tube cutting job, go even lower – so, anyone out there with an eight or 10 by 14 inch snare drum you know which stand to buy.

This only leaves me with the 910 bass drum pedal. Honesty makes me admit to not liking this pedal when I first tried it a year or so ago, but I understand that its teething problems have now been ironed out. It too has the cast, two-piece, sandblasted, non-slip footplate and of course the lock stop. The unit locks to the bass drum hoop in one simple cam action with a large lever. There is Pearl's usual nylon core strap and also a new beater shaft of hardened, black, high tensile steel. The adjustable spring action is enclosed in a cast case and this too (like the old 800's) is within easy reach for any adjustment of the spring. I've never owned one of these although I've played quite a few on my travels – I love the look of it though and now they have the bugs ironed out, I'm sure will be on to a winner. (Those of you looking for a

good, cheap double expansion spring pedal should check out Pearl's even cheaper 710 – it ain't that bad!)

I notice from my new Pearl catalog several things which I thought you mob out there might conceivably be interested in. First of all, there are now only three different shell construction materials available for the *normal* sets: fiberglass, maple and birch (hereafter known as *dynamic wood*). Vari-pitch as I've already mentioned are slightly unusual in that they alone are made from Phenolic. In addition, there is a 6½ inch maple shell snare drum with a layer of fiberglass on the inside available only with the Jupiter parallel-action, snare throw-off, and die-cast hoops top and bottom. There are also extra depth (at eight inches) double headed concert tom toms which sound excellent and Pearl have (I feel) quite rightly discontinued the six inch diameter concert tom. Drums that small never seem to have a convincing sound and if one was in a hurry to get around lots of tom toms from smallest to largest, one could often start an otherwise amazing fill off with a click or two because ones aim wasn't too good that day. Nowadays, all Pearl's concert toms have their new cast tom tom holder (as do all the other drums) which is definitely a move for the better since it does away with the terrible old spade-fitting holder. Also, there is an extra length (355mm) 'L' shaped tom tom holder arm, the 717H especially made to fit the 18 inch bass drum. I found the old one at 200mm was simply not tall enough to put my tom toms at a comfortable playing height.

Pearl now do a set called Contemporary II which I find very interesting. It's a six drum set which has *no* floor toms. Instead it has something which I have been campaigning for, and about for a long time – stand mounted tom toms on the side cymbal side. I have spent (dare I say wasted) hours in studios while engineers have tried to match up the sounds from mounted and floor standing tom toms. I know from bitter experience that the two types cannot sound the same because the floor drums sound is transmitted straight to the floor – the stand or bass drum mounted ones do not (or at least not with quite the same acoustic effect). So, Pearl haven't quite got the sizes right yet, they have 9x13 and 10x14 – they should instead I feel have say 12x14 and 14x16. Still they are definitely on the right track as far as the recording player is concerned. Lest I forget all Vari pitch cannons are factory fitted with Remo C.S. Heads – but of course you can fit any decent head to a Roto tom. Ambassadors sound fine to me on them.

There are now some new finishes available from Pearl which brings their total to 15. They all seem to me to be OK apart from the marine pearl which I never liked – my favourites of the new batch are wine red, green flash and army green which is a sort of khaki.

**Bob Henrit**

# Soundcheck

## StuDiomaster 16/8 mixing console \$5,749

StuDiomaster has added to their already steady line the 16 into 8 microphone mixing console. Its electronics incorporate many advanced features, including low impedance with electronically balanced inputs, a comprehensive EQ, track status switching, monitoring, etc. The 16/8 is derived from its smaller version, the popular 16/4. This mixing desk was specially designed to meet the operational standards of the increasingly popular eight-track recording system.

### Construction

The 16 input channels of the StuDiomaster console are equipped with identical controls and these are (top to bottom): (1) 0dB, -30dB range switch with associated red LED indicator; (2) Rotary channel gain potentiometer calibrated 15-60; (3) Trebel rotary control calibrated -16dB; 0; +16dB; (4) Middle frequency range rotary control calibrated 0.4-8KHz; (5) Middle rotary control calibrated -16dB; 0; +16dB; (6) Bass frequency range rotary control calibrated 30-300Hz; (7) Bass rotary control calibrated -16dB; 0; +16dB; (8) Echo 1 level rotary control calibrated (0-10); (9) Echo 2 level rotary control calibrated (0.10); (10) Foldback level rotary control calibrated 0-10; (11) Channel pan pot control calibrated L; 0; R; (12) Routing (to 8 output groups) push button switches, i.e. 1-2, 3-4, 5-6, 7-8; (13) Channel PFM selector switch; (14) 67mm long channel fader potentiometer calibrated , -50; ....-5; 0.

All function control knobs are color coded - red for gain, gray/black for equalization, blue for echoes, green for foldback and yellow for pan. Both the 16/4 and the 16/8 StuDiomasters have similar controls and features, but one of the few novelties is a smart routing/PFM push button. When this switch is depressed the button

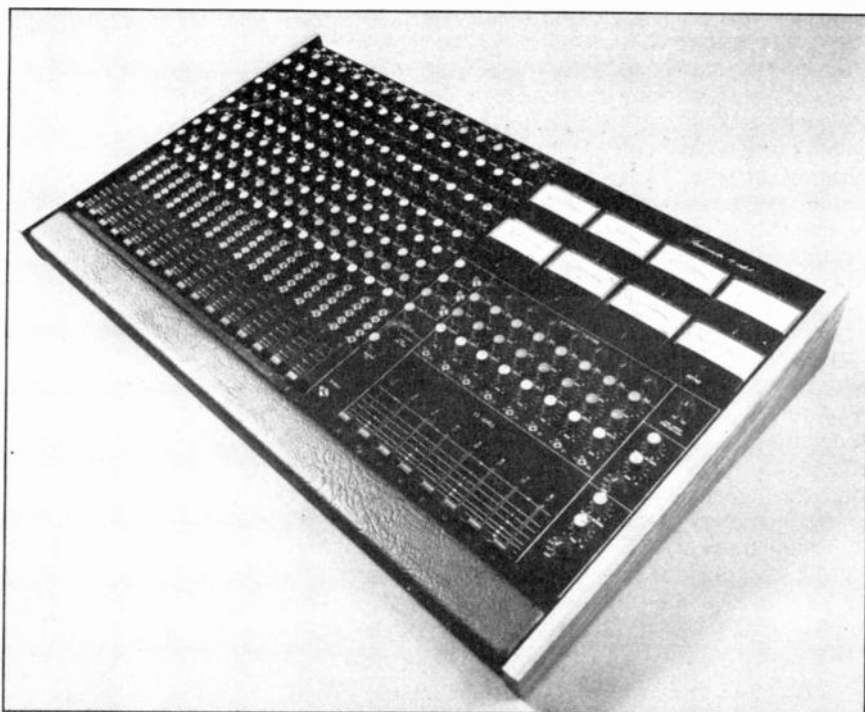
color changes from black to orange; this color indication is totally mechanical, without the usual internal lamps, LEDs etc. The channel PFM push button acts as channel prefade to PFM bus selector. This allows the signal in the channel to be read on meter 8, and, as the manufacturer says, "to be listened to 'solo' on the monitoring system."

The right hand side of the control panel is occupied by eight output groups, as selected from individual channel routing and represents the eight "sends" to the eight-track recorder. Each group (one to eight) has its own 67mm long fader slide pot, followed by a line amplifier with approx 10dB gain which can be added to the 60dB of the channel gain, making a maximum gain through the whole mixer of +70dB. The 10dB gain line amp feeds the line out sockets on the rear panel. Other outputs are the two echo or effects "sends," the foldback send and the monitor sends. (The foldback send may be used to drive a power amp, for example, or up to 10 pairs of 600 ohms headphones if so required.)

On the monitoring side, a stereo loudspeaker mix is derived from the eight monitor channels situated directly above the group's output faders. Each of the 16 channels may be independently chosen to monitor either to the group lineout or in the sync/playback return from the tape recorder. The foldback signal may also be derived from each monitor channel. These facilities are intended to allow the loudspeaker/foldback mix to be derived from either tracks being recorded or tracks already on the tape. The track status switches on the 16/8 console perform exactly the same functions as in the 16/4 i.e. recording and remixing.

Coming now to the auxiliary functions of this mixer 1. echo returns; 2. lining up 1KHz sinusoidal oscillator; 3. talkback. The echo returns may be panned across consecutive odd or even numbered pairs of output groups or monitors. The oscillator when turned on sends a signal to all output groups for lining up applications. This signal is sinusoidal and a standard 1KHz frequency is used. Finally, talkback - very straightforward in form and equipped with a female XLR socket designed to accept a low impedance microphone which together with its volume control and miniature push button control makes for simple stage/console communication. Visual monitoring of the 16/8's performance is realized via eight Componex VU meters calibrated to the usual -20; 0; +3, or on a lower scale 0-100%. All eight meters are internally illuminated.

Now a few details about the connections. First, all the in/out leads are from the rear of the console, thus the operator side is conveniently clear. All 16 microphone inputs are low impedance and electronically balanced, equipped with Neutrik female XLRs wired as follows: pin 1 - earth, pin 2 - in phase, pin 3 - out phase. In case of a common type multicore input, a pair of standard 25-way RS connectors (channels 1-12 and 13-16) is provided. On the left side



of the rear panel, the majority of fitted sockets are ¼" jacks provided for line outputs (1-8), line inputs 1-8, echo 1/2 – sends/returns, line in/outs 1-2 and phones. This picture would not be complete without mentioning a specially provided six-pin power input connector which gives two rails of separate ± 15 volts DC, each capable of supplying at least 750mA and naturally their earth connections.

### Conclusion

The power requirements of the mixer are supplied by an external power supply in order to avoid the possibility of induced hum from an internal transformer. The power supply unit for the 16/8 console will produce an excess of 1.5 amps and hence will support a number of additional inputs if required.

Summing up the performance characteristics of the 16/8 console: with the high standard of workmanship and components, Studiomaster can be proud of this new product. It is carefully designed and beautifully engineered for a first class professional appearance. It really could be worthwhile to incorporate slightly higher teak side pieces, enough to cover the highest level of operating controls, i.e. pots, switches, etc, and consequently protect them against accidental damage for example during transportation.

The 16/8 Studiomaster has its own superbly made aluminium flight case (made by Packhorse Case Co), seems to be extremely strong and is recommended for the touring soundman.

Mark Sawicki

PARAMETER	RESULT	TEST CONDITION	COMMENTS
Input impedance	Greater than 5.0 k ohms	Ref. 1KHz	Optimum source impedance for dynamic microphones is approx. 200 ohms.
Nominal operating level	+4dBm (1.2V RMS)	Ref. 1 KHz	Max. output level is approx. 20dBm
Maximum gain	+60dB – inputs +70dB – through the whole system	Ref. 1KHz into 600 ohms. Tone controls – flat	Manufacturer claims minimum gain at –15dB and headroom +20dBm
Total harmonic distortions (T.H.D. %)	Better than 0.02% (0.015% – typically) Better than 0.018% (0.013% – typically)	@ +20dBm Ref. 1KHz into 600 ohms @ +4dBm	Very good. T.H.D. levels and character of this console are virtually identical with 16/4 desk. These figures are relevant to a microphone input to a line output with E.Q. – flat.
Equalisation	±16dB ±16dB ±16dB	Treble @ 10KHz Middle @ 400Hz to 8KHz Bass @ 30Hz to 300Hz	Both middle (400Hz to 8KHz) and bass (30Hz to 300Hz) effective operating frequency bands are continuously variable in order to suit most E.Q. requirements.
Line input level	+4dBm	1KHz	Will accept down to approx. –10dBm.
Equivalent input noise	Less than –120dBm (typically –126dBm)	Input termination is 200 ohms	20KHz effective noise bandwidth (16.7KHz @ 6dB/octave filter)
Signal/noise ratio	Approx. 90dB 88dB 84dB 80dB 72dB	Line output faders down Line output fader normal, channel faders down. One microphone channel at 40dB Four microphone channels at 40dB 16 microphone channels at 40dB	Almost identical with the Studiomaster's specifications. The power requirements of the mixer are supplied by an external power supply in order to avoid the possibility of induced hum from an internal transformer.
Output impedance	Less than 10 ohms	1KHz	Minimum recommended matching impedance is 600 ohms.
VU meters	0 VU = +4dBm	Calibrated on –20; 0; +3 VU instrument scale, Ref. 1KHz	All eight VU meters are accurately balanced and professionally scaled.
Multi input priority	Satisfactory on actual experiments	16 channel test and variations	Very good.
Headphones output level	Approx. 0.5W RMS	Ref. 1KHz with less than 0.5% THD	Manufacturer claims 8 ohms min. impedance Ref. "foldback" o/p. 600 ohms min. impedance Ref. "monitor" o/p
Line-up oscillator frequency	1KHz sinusoidal	Similarly as in 16/4 console. Line up oscillator switch slates 1KHz sinusoidal signal to all groups.	Present in all output groups simultaneously for lining up purposes. A tradition of Studiomaster. Useful.

**SYNDRUM**

**POLLARD ELECTRONIC DRUM KITS**

The professional acceptance of Syndrum is unprecedented as the following list indicates.

**ARTISTS**

RICHARD ADELMAN  
 CARMINE APPICE  
 MIKE BAIRD  
 RANDY BACHMAN  
 JOHN BARBETTA  
 GERARD BAUDRY  
 HAL BLAINE  
 JOSEF BÖCKER  
 MIKE BOTTI  
 TERRY BOZZIO  
 BOLIC SOUND  
 BARRY BRANDT  
 CLYDE BROOKS  
 OLLIE BROWN  
 EVAN CAPLAN  
 BILL CURTIS  
 MERLINE deFRANCO  
 LES deMERLE  
 WILL DOWER  
 GRAHAM EDGE  
 PHILLIP EHART  
 GEOFF EYRE  
 BARRY FROST  
 JAMES E. GADSON  
 TY GRIMES  
 JOHN GUERIN  
 JOHN HARTMAN

KAT HENDRISKE  
 JIM KELTNER  
 KEITH KNUDSEN  
 RUSS KUNKEL  
 L'AQUARIUM STUDIO  
 PAUL LEIM  
 ANDRE LEWIS  
 JERRY MAROTTA  
 RICK MAROTTA  
 CHET McCRACKEN  
 JAMES MONROE  
 LARRIE LONDALE  
 SHEP LONSDALE  
 DEREK LONGMUIR  
 RALPH MacDONALD  
 GARY MALABER  
 ED MANN  
 CUBBY O'BRIEN  
 DEREK PELLICCI  
 JEFF PORCARO  
 DAN PUCILLO  
 TOM RADTKE  
 STEVE SCHAEFFER  
 ALAN SCHWARTZBERG  
 KELLY SHANAHAN  
 MICHAEL SHRIEVE  
 TREVOR SPENCER  
 MARK STEVENS

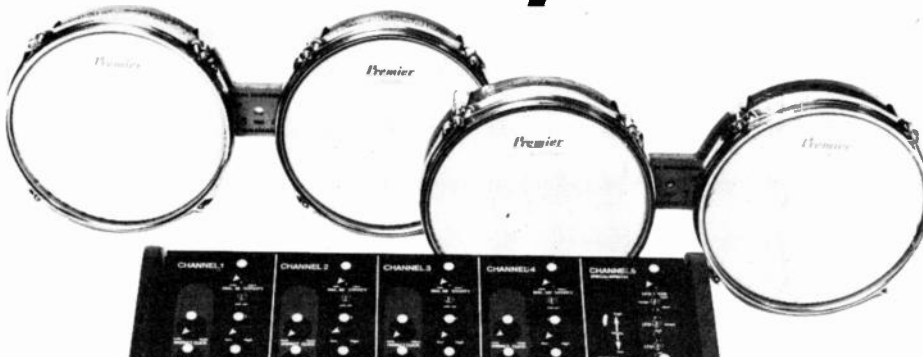
ALVIN TAYLOR  
 CHESTER THOMPSON  
 ED TUDURI  
 DICKIE TORRACH  
 JAN UVENA  
 PETE VRANES  
 LENNIE WHITE  
 ART WOOD  
**SYNDRUM\***  
**CAN BE SEEN AND HEARD**  
**ON THE FOLLOWING**  
**ALBUMS AND MOVIES**  
 "SATURDAY NIGHT FEVER"  
 JACKSON BROWNE  
 STEVE MILLER BAND  
 DOOBIE BROTHERS  
 HALL & OATES  
 CARLY SIMON  
 ROGER MILLER  
 AL GREEN  
 ANGEL  
 CAROLE KING  
 ROD STEWART  
 YES  
 WHO  
 AND MORE

CARMINE APPICE

For complete Syndrum Owner's Manual, send \$1 to  
**Pollard International, Inc.**, 11581 Federal Drive, El Monte, CA 91731  
 © 1978 Pollard International, a division of RDSI

Circle 799 on Reader Service Card

**The best drum synth synth drum synths**



If you've ever wondered how Nazareth, landscape, Avator and Bad Company achieve some of the sounds they get listen to the SDS 111.

- Immediate delivery
- Fully accredited U.S. service stations for spares.
- Unconditional guarantee for one year.

The Simmons SDS 111\* makes almost any percussion sound you can think of (but it definitely doesn't lisp); every effect from gongs to bells, cymbals, thunder, starwars and heavy toms – and more.

You've got to believe Dave Mattocks when he says it's the best drum synth on the market.

The SDS 111 has four completely independent synthesizer channels: triggering is from your existing drum set, via a mike or from the Premier made synth pads.

\*also now available in this range is a small 2 channel version.



Itsth something elsth  
**MUSICAID**  
 ARKAY SOUND LTD.  
 – worth sounding out

Musicaid, 176 Hatfield Road, St. Albans, Herts,  
 or telephone St. Albans (0727) 33868.

Circle 841 on Reader Service Card





## For some professionals, precision is not enough.

We've created the Peavey T-40 for the musician who requires much more from his instrument. We began with a lean and contoured body design for maximum playing comfort and beauty. We used only the finest select ash hardwoods to provide a high density body that is as durable as it is graceful.

We spent years developing designs and methods that have resulted in what has been described as "the finest neck and fret job available on any production guitar,...regardless of price." The T-40's neck has a feel and playability that makes fingering almost effortless.

Still, even with the finest materials and methods, we realize that an instrument is only as good as it sounds. This is where the T-40 really shines.

The T-40's special dual pickup circuit design produces a range of tonal variations never before available from a bass guitar, without the "crutch" of preamps and batteries. Deep, powerful lows, punching mids, and crisp highs; the T-40 has it all with a

minimum of complicated controls and switches.

We added to this special die-cast, chrome plated hardware, precision tuning machines, and a form fitting, high quality case as standard equipment.

Finally, we gave the T-40 something no other bass guitar has ever had: the Peavey reputation for excellence.

The Peavey T-40 Bass and T-60 Guitar are now available with Rosewood necks and Southern Tobacco sunburst finish options. Soon at selected Peavey dealers in your area.



**PEAVEY**

PEAVEY ELECTRONICS CORP. 711 A Street/Meridian, MS. 39301



Circle 745 on Reader Service Card

# THIS IS THE BOOK THE MUSIC BUSINESS BUILT...



\$50.  
Includes  
YOUR NAME  
on the  
cover  
in GOLD!

## THE 1979 8th ANNUAL INTERNATIONAL

### OFFICIAL **TALENT & BOOKING** DIRECTORY



**The Most Comprehensive Music Industry Directory In The World!**

- ★ Over 900 pages
- ★ Hard-bound, personalized
- ★ Over 80 classifications listing thousands of artists, managers, agents, record companies, promoters, manufacturers, record producers, colleges, TV shows, sound, lighting & ticket companies and much, much more . . .
- ★ Market Report Study details goods, services and performance facilities in 271 U.S. and Canadian cities
- ★ NEW International Section covers music business in 20 countries

To order, call toll free (800) 421-4100 or send \$50.00 (plus \$3.25 postage/handling; California residents add \$3.00 sales tax) per Directory to:

OFFICIAL TALENT & BOOKING DIRECTORY

7033 Sunset Boulevard — Suite 222 Los Angeles, CA 90028 (213) 464-8300

**"The Bible of the Music Business" Saves You Time and Money  
Every Day — All Year! Order yours today!**

Circle 746 on Reader Service Card



## The Four Dimensional Cubes

Every once in a while, a product comes on the market that is so special, so different from the rest of the crowd, that it instantly becomes a classic. It is in this dimension that the Cube Amplifiers entered the music industry.

Almost before the Cubes were on the market, they were on record, (actually a lot of records), and that's because the Cubes were designed like no other amplifier on the market. Our design concept is simple—A most efficient package containing an intelligent choice of features.

The Cubes feature what is probably the most flexible distortion contouring section on any amplifier, yet when called upon, the amp responds with incredible

clarity. The tone contour is achieved through three wide-ranging filters and the reverberation is clean and full.



In the studio, the Cubes really shine. The low-noise output can be taken directly from the pre-amp straight to the mixing board, so you can finally put the sound you hear on tape. You can run effects between the pre-amp and power amp so they can be run at their optimum efficiency. All of the Cubes feature a headphone jack so you can practice

anyplace, and they're small enough so you can take them there.

The Cubes come in four different dimensions; the Cube 20, 40, and 60 Guitar Amps, and the newest Cube—the Cube 60B Bass Amp, whose power sound combined with its incredibly small size makes it every bass players' dream.

Try on a Cube—it will give your music a new dimension.

Roland Corp USA, 2401 Saybrook Ave.  
Los Angeles, CA 90040 (213) 685-5141

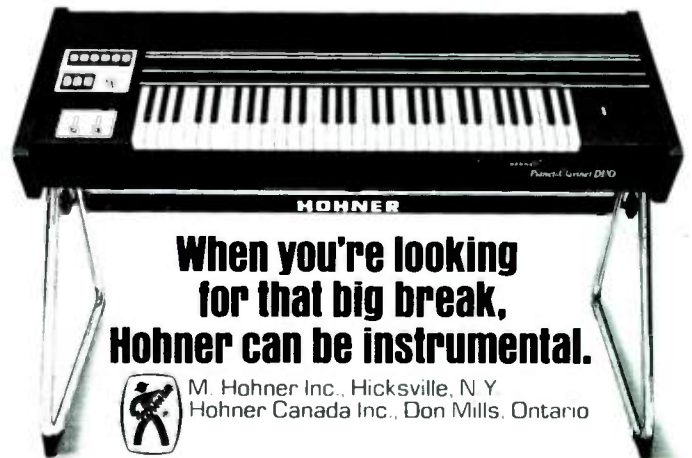
 **Roland**  
We design the future



***"With the Duo. I can mix piano with Clavinet and get endless combinations. nice touch. HOHNER."***

***-Chick Corea***

And who should know better than Chick Corea. The man Contemporary Keyboard has voted "Best Electric Pianist" for the third straight year. Like Chick Corea, Hohner's Pianet/Clavinet Duo is a star performer. It has five full octaves and 60 standard size keys. Play Clavinet with Pianet Bass, or Pianet with Clavinet Bass or a combination of Clavinet and Pianet with Pianet Bass. You can even switch back and forth between Clavinet and Pianet by a simple touch of a foot pedal. The combinations are endless. Take it from Chick Corea, "the Duo is one versatile, solid sounding instrument."



**When you're looking for that big break, Hohner can be instrumental.**



M. Hohner Inc., Hicksville, N.Y.  
Hohner Canada Inc., Don Mills, Ontario

# *Odyssey*



Timeless  
elegance  
for the  
sound of  
today

Odyssey Guitars Ltd.  
1272 Granville Street  
Vancouver B.C. V6Z 1M4  
Canada

Canadian Distribution:  
Peate Musical Supplies  
1855 Labarre Street  
Montreal Quebec

# Fill up your sound your pockets.

Now's the time to take a close look at your instrument. OK . . . now take yourself on down to your local Ibanez and Tama dealer and see the special guitars, drums and electronics he'll be featuring for the next few months.

Like Tama Drums.

Thundering, powerful tone and bulletproof dependability have made Tama a favorite with hard-playing and hard-touring bands around the world. And it's no wonder, with the solid durability of 9-ply wood shells and a selection of distinctive and hardwearing finishes.



Rugged beauty . . . Tama Metallic White and new Royal Pewter.

When it comes to hardware, all the others are a distant second to Tama. The very first cymbal boom stand was developed by Tama and Mercury. Titan and Spartan hardware are the standards of the industry.



Tama Hardware . . . it just doesn't come any stronger.

To give you a special opportunity to step ahead to Tama, we've made a special Tama Royal Star kit. This 5-piece kit features heavy wood shells and rugged Tama hardware at a very special price.



The Royal Star 5-piece kit in Metallic White . . . \$795\*

And if you're up to exploring the outer reaches of the world of percussion, try a Tama Synper percussion synthesizer. It's keyed from your present drum kit and gives you a wide range of percussive and melodic effects in two discrete channels.



Ping! Thud! Zoom! Pow! Boom! . . . 2 channels of electronic percussion. . . The Tama Synper.

There's only one place to go when you're looking for the best and the latest in percussion — Step Ahead at your Tama Dealer.

# without emptying

And there are dozens of good reasons to step ahead to an Ibanez electric right now. Playability and sound are only the beginning — check these . . .



The Ibanez EQ Tone System™ - a rainbow of tone color at your fingertips.

A combination of active and passive elements and carefully shaped bands of equalization make the Ibanez EQ Tone System the most versatile and sweet sounding tone control system ever made for electric guitar. Available on 8 Ibanez models.



Ibanez Tri-Sound™ - rewire your pickups 3 ways at the flip of a switch.

Select the mode of your pickups with the Tri-Sound 3-position mini-toggle — either humbucker, single coil, or reverse phased twin coil. A dozen Ibanez models feature Tri-Sound.

We're so excited about our new line that we've created two special models for our Step Ahead celebration.



The Studio ST-50 . . . . . a steal at \$295\*  
The Artist AR-50 . . . . . more than less for \$345\*

The Studio ST-50 and Artist AR-50 rock straight ahead and steady with fast playing maple necks that are solidly built into the body for stability and sustain. The ST-50 has a solid mahogany body and two sweet singing Super 70 humbuckers. The AR-50 has a carved maple top and a pair of scorching V-2 humbuckers.

\*manufacturer's suggested retail



Fool mother nature with the Ibanez Time Machine delay line . . . bend your mind with the FL-301 Flanger.

But guitars aren't our only strength. Ibanez delay lines can be found in many top studios and the AD-190 Time Machine is our newest and slickest. This tidy, rack-mountable unit gives you a full range of time delay effects Plus flanging. Speaking of which, our new mini-flanger, the FL-301, is the quietest flanger on the market and the first to give you a no-pop FET electronic switch.

## Step ahead with Ibanez & Tama

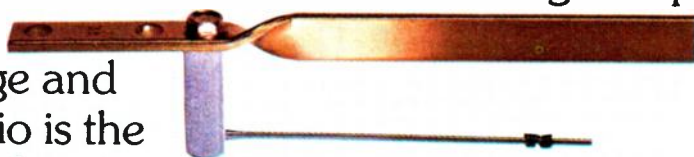
Send \$1.00 to Step Ahead, Dept. IM, for full-color details of the Step Ahead celebration.

Circle 766 on Reader Service Card

P.O. Box 469, Cornwall Heights, PA 19020 • 327 Broadway, Idaho Falls, ID 83401 • 6355 Park Ave., Montreal, P.Q. H2V4H5

# Rhodes reveals the inside story:

This is one instrument worth looking into. Because the Rhodes' overwhelming acceptance on stage and in studio is the result of an engineering concept combining the unique qualities of an



*Modified tuning fork produces that unmistakable Rhodes sound. Tuning spring on tine sets pitch accurately in seconds.*

electric instrument with the unsurpassed advantages of the traditional piano.

A patented, modified tuning fork and adjustable pick-up for each note produce the Rhodes' distinctive tone and allow a variety of timbre settings. Yet mechanical keys, hammers and dampers offer you true touch dynamics for complete sensitivity and control. And you can tune a Rhodes® yourself. In minutes. Without special tools. Get the whole story from your authorized Rhodes dealer today. You know the sound. Now see the difference.



*Hammers and dampers work mechanically for true touch dynamics. The harder a key is struck, the greater the volume.*



*Pitch, volume and timbre are all easily adjusted in the harp assembly. Tuning fork, one bars, tuning springs and pickups are all adjustable.*

*Harp assembly raises easily for tuning.*



Nothing sounds like a Rhodes.

**Rhodes®**  
Keyboard Instruments U.S.A.

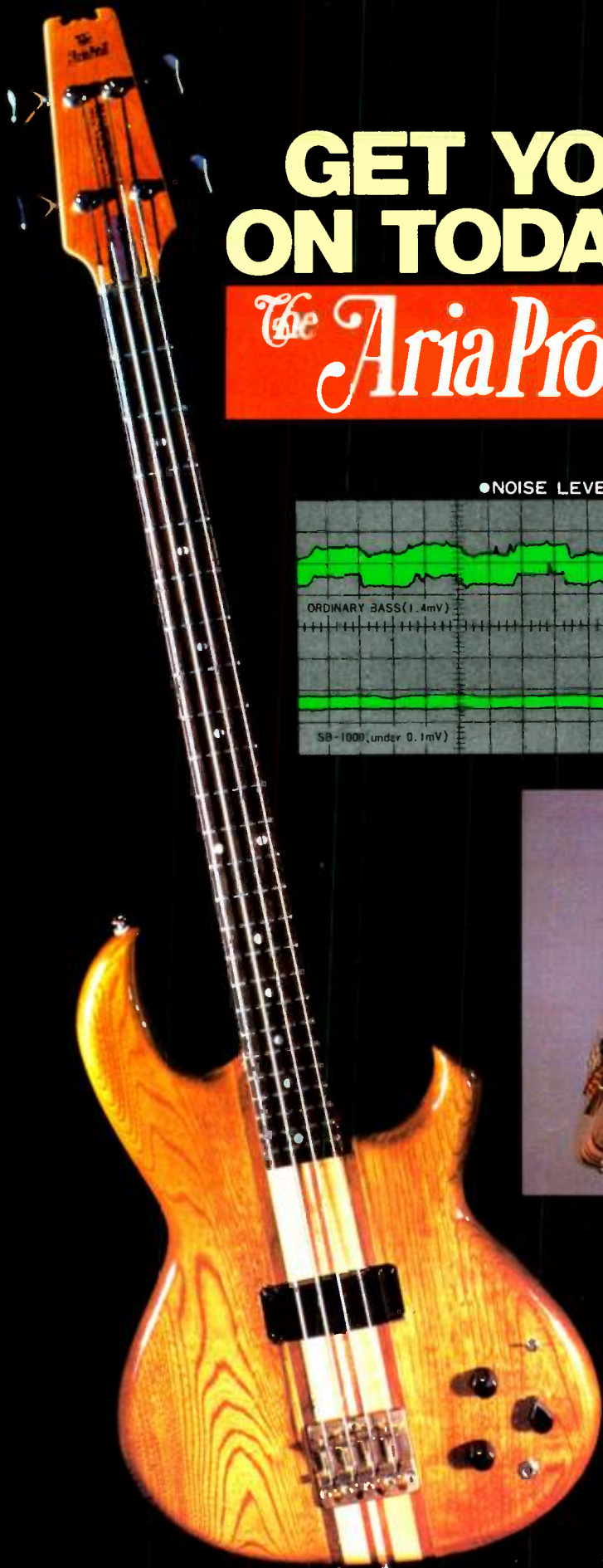
Circle 768 on Reader Service Card

©1979 CBS Inc.

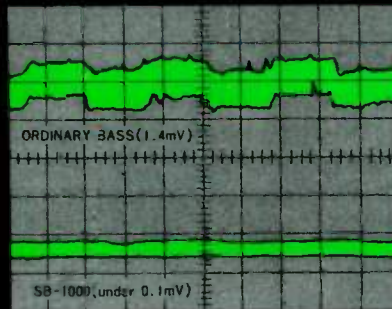


# GET YOUR HANDS ON TODAY'S GUITAR

## The *Aria Pro II SB-1000*



### ● NOISE LEVEL



### Noise Killer Circuit

Reduces hum and unwanted noises from leads etc. caused by capacitance problems, without losing top frequency definition. Your amplifier reproduces only the sounds you want to hear... without external noises. Ideal for studio conditions (the Noise Killer is driven by 9 volt batteries and switches on when jack plug is inserted. Battery life approximately three months with 2-3 hours per day use.)



### SUPER BALANCED BODY

Designed to obtain the best possible balance combined with performance. Carved from solid Ash, tapered for correct weight distribution.

### SPECIFICATION

Six-position mode selector switch.  
Laminated neck.  
Jacaranda fingerboard, 46mm at top nut and 57mm at 24th fret. MB-1 pickup.  
Solid brass bridge and Top nut.

*Aria Pro II*  
**ELECTRIC GUITARS**

Exclusive U.S.A. distributor:

Music Distributors, Inc.

3400 Darby Avenue, Charlotte,

N.C. 28216

TEL: (704)394-4154

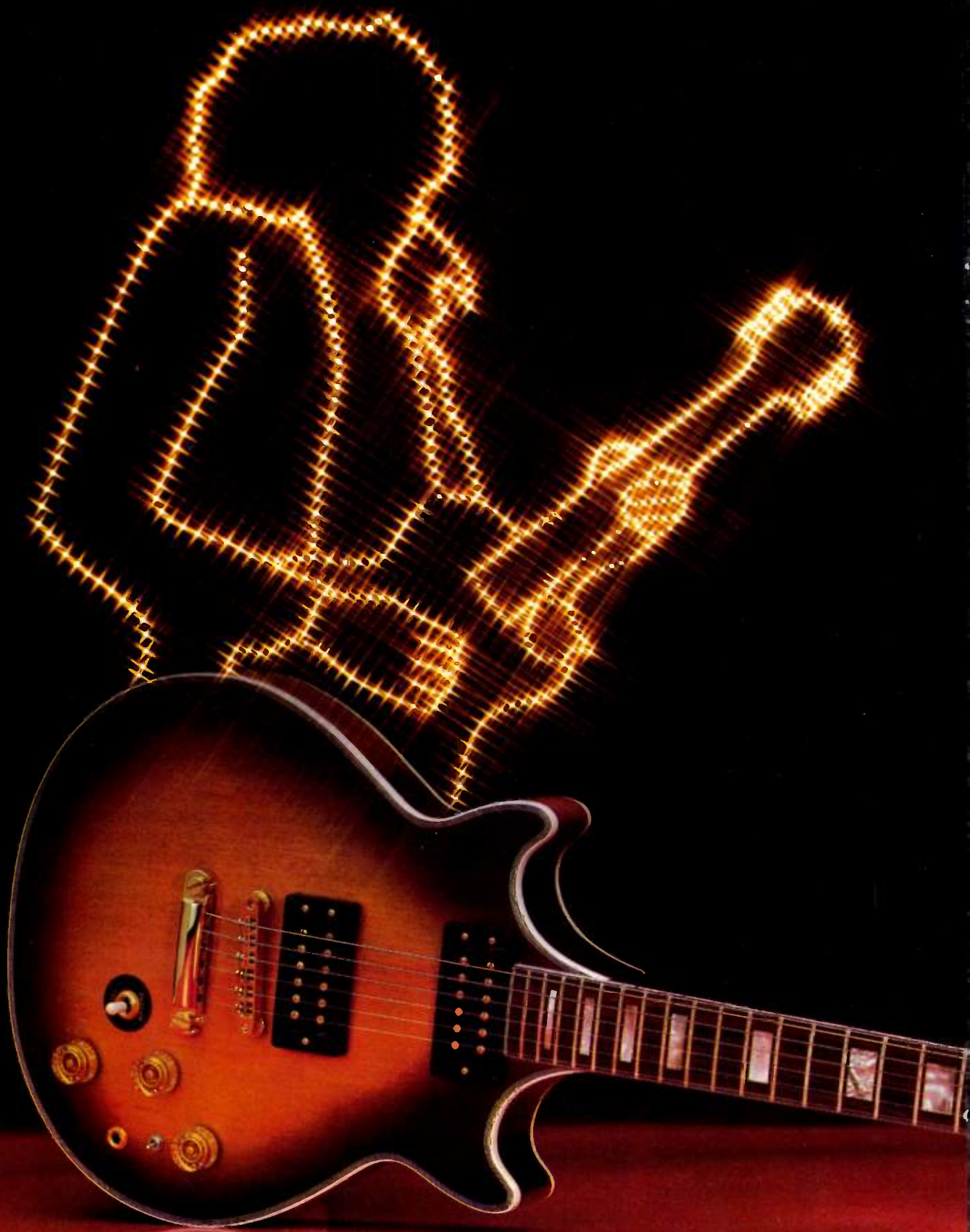
Circle 791 on Reader Service Card

Canadian distributors: Canada Music Supply Limited.

8660 Jeanne-Mance,  
Montreal, Quebec.  
TEL: (514)387-7331

Great West Imports Ltd.

788 Beatty Street,  
Vancouver, B. C.  
TEL: 684-5364



For color catalog send .75¢ for  
postage & handling to: Epiphone Literature Dept.

# SOME LIKE IT HOT

We've created a monster. The new Genesis electric guitar from Epiphone. It's sound is charged by two high energy exposed pickups that breathe fire. And you can add more fuel to your fire with the Genesis Coil Tap switch. How hot do you like it? You can choose the single coil position that delivers incredible highs for brilliant leads. Or, the double coil, humbucking mode for a fat, vibrant sound, sizzling with overtones.

And what a body. Solid mahogany, with a beautifully crafted carved top. So now you won't have to ride the gain to make the sound sustain.

Now, a word about the price: Cool. And that's one more pleasant surprise from one

of the most valued names in guitars, Epiphone. In fact, Genesis is also backed by the leading name in guitars, Gibson. They helped us design each of the three Genesis models. What's more, Genesis is protected by one of the best guitar warranties around ... because it guarantees our materials and workmanship to the original owner for life\*. Plus you get the benefit of full support from Epiphone service centers all across the country.

Sound like it's too hot to handle? Not at all. Just too powerful to ignore. The Genesis by Epiphone. It'll really warm up the audience.



## GENESIS by *Epiphone*

A product of Gibson, a division of  
Norlin Industries, Inc.  
7373 N. Cicero Ave., Lincolnwood, Illinois 60466  
51 Nantucket Blvd., Scarborough, Ontario Canada

Circle 771 on Reader Service Card

\*See your dealer for terms and conditions  
of the Epiphone limited lifetime warranty.

# The biggest difference between a \$17,000 mixer and our M-12 with Expander is about \$12,000.

If you're thinking about 24 channel mixing, you can stop thinking money and start thinking *performance*.

Fender's new 12-Channel Expander — coupled with Fender's M-12 Live Performance Mixer — gives you 24 of the most sophisticated mixing channels in the business with features you'd only expect to find in mixers at two, three or more times the price.

### Bring your live concerts to life.

With 24 in/4 out capability, the Fender® M-12 with Expander gives you the functions you want for the options you need. And that includes live *recording* as well (plus optional interface with other master mixing modules).

Limiters, cueing-talkback, high-level in/out's that run multiple effects simultaneously and the capability of assigning signals anywhere on the board give you

unsurpassed control.

And sophisticated submasters let you mix as many mike or direct inputs on one channel — drums, keyboards or vocals, for example — while you mix the balance of your band and



patched-in effects on the other.

**A new standard in electronic performance.** Any mixer is only as solid as its electronic components. So all Lo-Z input and output channels are transformer coupled and

floating. High slew rate, low-noise op amps are used throughout. Continuous gain controls allow input impedances to remain unaltered. Equivalent input noise is —128 Dbm.

### Built to take life's ups and downs.

Rely on the M-12 Expander to perform concert after concert. The rigid extruded front panels and built-in case keep this set mixing every set. And modular construction makes a rare servicing a snap.

**Let Fender's new 12-Channel Expander expand your band's horizons.** Check the specs and get the whole story at your authorized Fender dealer.

It could start making a big difference in the cheers you get from your audience.



And the smile you get from your accountant.

NEW from  
**Fender**  
MADE IN U.S.A.

Professional Sound Products  
1300 E. Valencia Drive  
Fullerton, CA 92631

Circle 787 on Reader Service Card

# The Roland RS-505



## It Starts as a Symphony Orchestra.

A symphony orchestra is a pretty complex affair. For a keyboard instrument to approximate the range of a symphony it has to be a lot more than just strings. The Roland RS-505 provides the ability to truly orchestrate music through the layering of many symphonic elements. Woodwinds, Horns, Strings and Bass voicings come to life with incredible richness and brilliance.

But orchestration is really just the beginning, as the RS-505's three unique tone-generating sections can be used any number of ways, for any number of effects— as a bass synthesizer, a lead instru-

ment, or as a full range keyboard like a piano or harpsichord. The three sections can be played singly or together, and can independently be assigned to either half of the keyboard.

The key to the RS-505's flexibility lies within its polyphonic Synthesizer section. When contoured by the wide-range VCF, the Synth section produces full-bodied brass and woodwinds. The addition of the unique pitch-shift feature gives horns an added dimension of reality. The String and Bass sections produce voices that are warm, natural, and controllable.

But beyond its applications as an orchestration device, the RS-505 will doubtless find its way into

most of your music—comping rhythm parts, doubling bass lines, performing solos—it's that versatile, and it sounds that good.

In fact, the only thing that's more amazing than its performance is its price—just \$1695.00. The Roland RS-505. It can start a lot of things for you. RolandCorp U.S.A., 2401 Saybrook Ave., Los Angeles, CA 90040 (213) 685-5141

 **Roland**  
We Design the Future

# How to become the your block.



First, it would help immeasurably to get yourself re-born to a nice Italian-American couple in Brooklyn, then let your hair grow long.

Or, you could buy a quarter of all the turquoise in Arizona. And wear it on your fingers. Or, you could practice looking good in Fiorucci T-shirts and jeans.

Then, after you've secured years of stage and recording experience, you put it to work with one of the most popular rock artists in the industry.

# the Carmine Appice of

“After Rod Stewart had unsuccessfully auditioned twenty-five drummers, my wife convinced me I should give it a try

“You know, I have two sides. My rock side, and my jazz-rock technical side. My idea is to play with Rod, and when we have time off, to play gigs and Ludwig clinics on my own...so I can release all those crazies I have inside.

“I like to teach, too. I used to have my own studio on Long Island, and, for my students, it was like being in a drum symposium. Two years worth of work was crammed into six lessons a week for a solid month. And because I think half-hour lessons are a waste of time, my students always got an hour, usually a lot more. You know I started teaching drums when I was 17 for a dollar-fifty a lesson.

“Naturally, I feel lessons are necessary for any drummer who's serious about music. Everything I studied with my teachers, I used at one point or another. You need the basics. And if I hadn't gone through them all, I would have never developed my hands.

“After twelve years of playing with the traditional grip, I switched over to the matched grip. But it wasn't an easy transformation. In fact, by teaching four or five days a week on my time off, I went through all the elementary books with the students, through the technical books and, after about 3 or 4 months, my hands started developing. And you know it's better in a way. Because if I

wanted to do something technical, I'd have to switch my stick around anyway for the accented triplets or 5 or 7-stroke rolls. But now I do it all with the matched grip.”

Performing with the Vanilla Fudge; Cactus; Beck, Bogert and Appice; KGB; and now Rod Stewart, Carmine has earned some of the most impressive credentials in the business. And as author of four instructional books on percussion technique, he's covered a huge spectrum of written music, too.

“Back in 1967, I started the big drum craze. And today, my performance group setup includes six melodic tom-toms, one 16" x 18" floor tom tom, one 5" x 14" or 6½" x 14" Supraphonic snare, two 14" x 24" bass drums, one 50" gong and five Zildjian cymbals. And the drums are all

6-ply natural maple Ludwigs because they give me more resonance, more tone and more volume than others.”

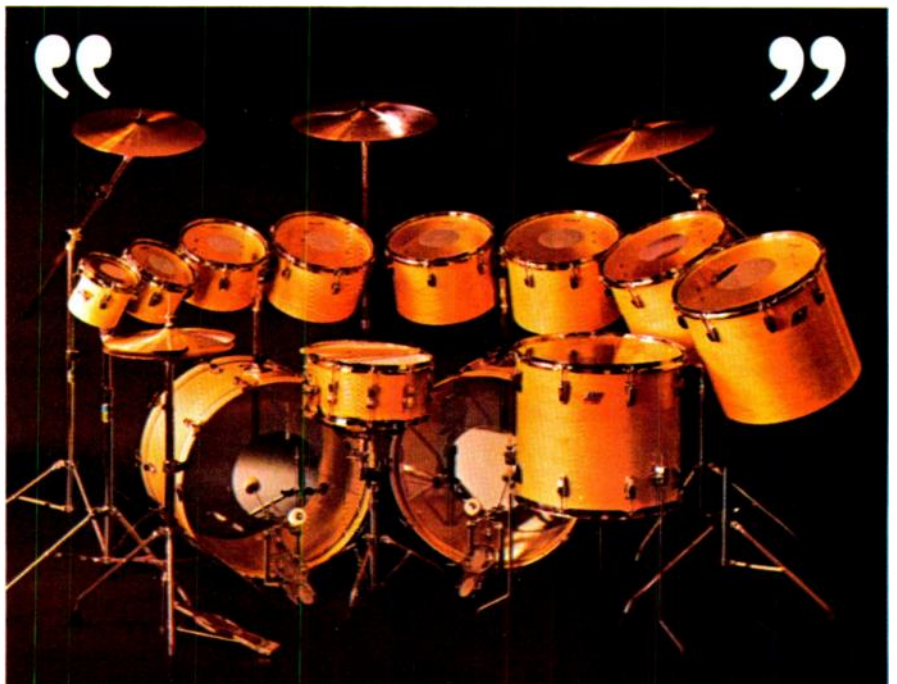
What does the future hold for a talent like Carmine Appice?

“Well, I'd like to bring the drums out front. You know, like Gene Krupa. Have my own band, own albums, own solos. In fact, I'm working on an album. It's sort of rock-jazz, half instrumental half vocal.

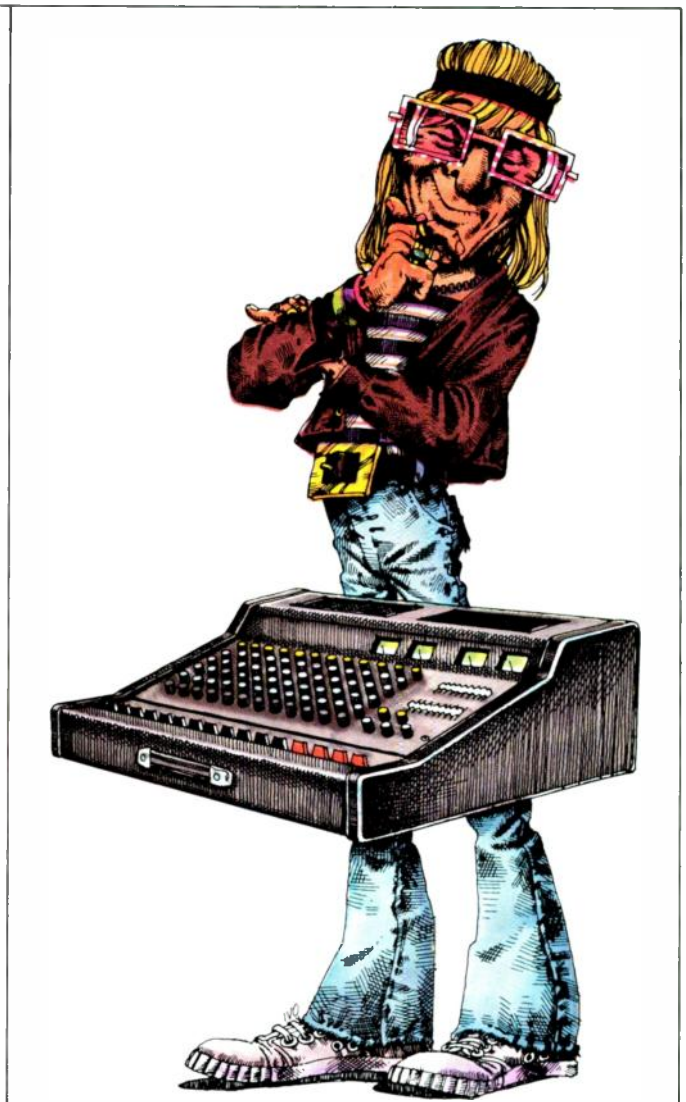
“And, yes, I still tune my drums by playing 'In The Mood' on the front toms. Get them just right, and you can play 'In The Mood' on any three.”

You wanted to know how to become the Carmine Appice of your block. So now you know. See you first thing in the morning at your Ludwig dealer.

**LUDWIG®**



# THE LONG AND THE SHORT OF SOUND REINFORCEMENT.



You know about the long part. Separate components can keep your hands full, what with the extra help and time needed to get your sound reinforcement act together.

Now for the short part. The Yamaha EM-200 and EM-300 stereo output integrated mixers. They leave you free to concentrate on the creativity of your job, not the mechanics of it.

You get the mixer, power amplifier, 9-band graphic

equalizer, echo and reverb control **all in one unit**—great flexibility with options to expand and enlarge.

The EM-200 and EM-300 are ideal for small to medium size reinforcement applications, wherever you need a precisely placed, superbly clean and well-defined sound

from a compact source that is easy to set up and operate.

The EM-200 has eight input channels and 120-watt speaker output. The EM-300 has 12 input channels and 200-watt speaker output. For increased flexibility, both the EM-200 and EM-300 have hi and lo impe-

dance monitor output levels (+4dB into 10K ohms, and 0dB into 600 ohms). Additionally, eight patch points allow you to connect accessories directly to the mixer's power amp for dramatically lower noise levels.

The EM-200 and EM-300 give you the short-cut to reinforcement that won't short-change the quality of your sound. They're convenient to set up, operate and locate... at your Yamaha dealer now.

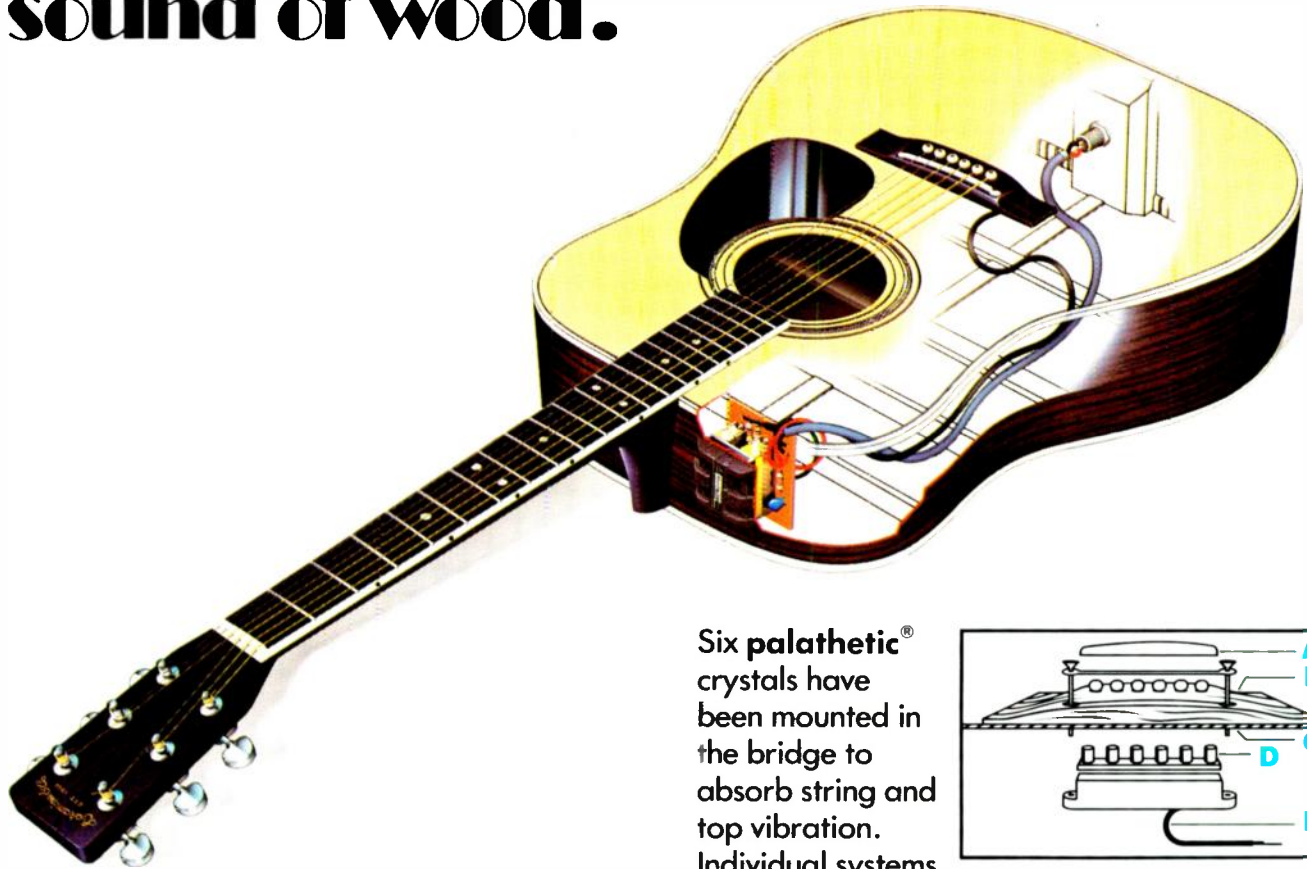


 **YAMAHA**

P.O. Box 6600, Buena Park, CA 90622



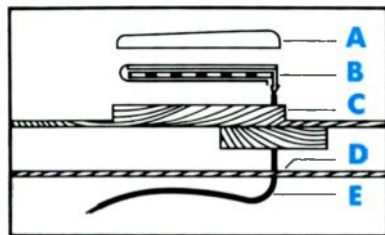
# TAKAMINE amplifies the natural sound of wood.



For more than a decade, Takamine has created acoustically exacting instruments. The finest woods are carefully crafted into guitars which produce a pure, rich sound. The classic model features a cedar top and fan bracing pattern, while the steel stringed models employ a spruce top and X bracing pattern. Both designs project resounding highs, clear mid-range and full lows.

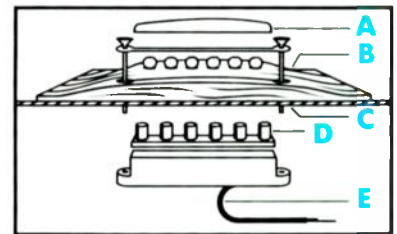
Now for the first time Takamine offers seven outstanding acoustic/electric models with a built-in palathetic® pickup system. This new design fully transmits the wood sound box's unique responsiveness and overall tone quality. Unlike other pickups that color a

guitar's sound with their own properties, the palathetic® system projects true guitar tone.



**Classic Model** A. Saddle;  
B. Palathetic® Crystals; C. Bridge;  
D. Guitar Top; E. Pickup Wire

Six palathetic® crystals have been mounted in the bridge to absorb string and top vibration. Individual systems for classic and steel stringed models bring out the special nature of each type.



**Steel String Model** A. Saddle;  
B. Bridge; C. Guitar Top;  
D. Palathetic® Crystals;  
E. Pickup Wire

Active electronics complete Takamine's palathetic® pickup system. Featured is an FET preamplifier, a well-shielded, low noise, quality device designed to maintain the integrity of natural guitar sound. Gain and equalization slide controls are smooth and accurate. Located in the side wall near the neck, they are low profile and easily accessible. A fully-shielded, 1/4-inch standard guitar jack reduces hum and needs no adapter to be tied to your amplifier.

The Takamine acoustic/electric offers you perfect amplification of the natural sound of wood. Visit your authorized Takamine dealer soon.

Play and hear the electrifying acoustic.

*Takamine*

ACOUSTIC-ELECTRIC

Send for a full-color brochure: Takamine, P.O. Box 529, Bloomfield, CT 06002.

**ROTO SOUND**  
music strings®

The all-round sound



Sole Manufacturers James How Industries Limited, 20 Upland Road, Bexley Heath, Kent, England DA7 4NR  
Sole USA Importers: C. Meisel Co., Inc., 2332 Morris Avenue, Union, NJ. Tel: 07083 201 688 8500



# Finally, full-range compacts that deliver

concert reinforcement SPLs with frequency linearity comparable to the finest studio monitors. Our new MK series compact systems sound great in any near-field application, and we optimize driver selection from among the world's best to meet your needs for portable PA; stage, keyboard or instrument monitor; or disco use.

The MK compact systems survive the long-term rigors of the road with their 18 ply-per-inch genuine hardwood structure, scuff and water resistant exterior, extruded edge rails with roadie type corners, large recessed handles and latching tour cover.

For complete information and dealer list on the MK compact systems, call or write us for the "works".

**Eastern Acoustic Works, Inc.**

59 Fountain Street, Box 111, Framingham, Massachusetts 01701/(617) 620-1478

Circle 727 on Reader Service Card

**A NEW VOICE  
IS HEARD.**

**THE AUDY  
SERIES 2000  
MIXING CONSOLE**

**AUDY  
INSTRUMENTS**

35 Congress Street, Sheland Industrial Park  
Salem, MA 01970  
(617) 744-5320

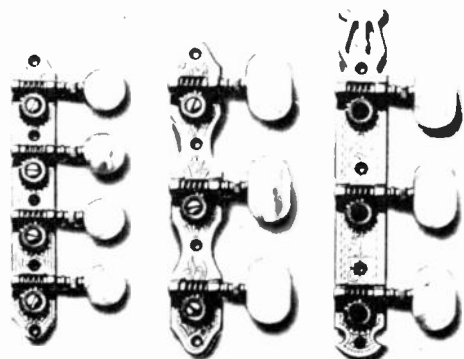
Circle 810 on Reader Service Card

**Schaller**

## machine heads

How can you tell a high-quality machine head? Look at what brand machine head the leading guitar manufacturers are using on their top line guitars. We're sure you will find that Schaller makes them.

The Schaller reputation has been built on creative engineering, closer tolerance, care in handling, better buffing, and a high-quality chrome finish that is a good reflection of our name.



Schaller Electronic Pfinzingstrasse 2, 8501 Feucht, West Germany

Circle 704 on Reader Service Card



# LAURENCE JUBER

**Taking off  
with Wings**



**W**hen Laurence Juber joined his first full-time band, it wasn't quite the desperate bid for stardom with a few mates, which usually marks one's entry into the musical arena. To begin with, he'd been a professional musician for seven years, and secondly, the band he joined was Paul McCartney's Wings.

You might well be thinking "Laurence who?", and it's true to say the name wouldn't mean anything to the average pop fan. So why would Paul McCartney, who presumably could have his pick of the world's top musicians, choose someone virtually unknown? The answer becomes obvious when you look at Laurence's career and musical background. His credentials are just about the best you will ever see from someone who has made playing the guitar his chosen profession. Aged 25, Laurence has an impressive seven years of session work behind him, encompassing every style and situation.

He has worked on albums by such diverse talents as Cleo Laine, Shirley Bassey and Cerrone, also playing guitar on the soundtracks for several British TV serials. He has worked in a variety of London shows like *Jesus Christ Superstar* and was also the featured guitarist on the soundtrack of *The Spy Who Loved Me*. Add to this a spell with the British National Youth Jazz Orchestra and a Bachelor of Music from London University and you begin to see why Paul asked him to join Wings.

Talking with Laurence, you soon become aware of his highly professional attitude to his work and his music. His perfectionist attitude must have been apparent from an early age because by the age of 13, when he got his first electric guitar, his dreams weren't of being a pop star.

"Right from that age I was determined to be a session musician," he recalls. "I didn't know what it involved, but I had this image of being a session man from the outset. I knew that that was a sort of peak of mastering the instrument, and I really wanted to do that."

The next few years were spent playing in a variety of local groups during which

**Paul McCartney's  
new guitarist  
talks to David  
Lawrenson about  
sessions and success**

time he became interested in jazz. Basically, he was still learning by copying from records but then his musical career took another step forward: "When I was about 16, I started classical guitar because I needed Grade 5 on something in order to take A-level music, which I wanted to do. I did classical guitar because we happened to have a classical guitar teacher at our school.

"By the time I'd finished school, I'd done Grade 8 and wanted to go on to University, even then there was the pressure not to be foremost a musician, but just to have it as a hobby, an "insecure profession" and all that. I was dedicated to making it a profession but I got sidetracked and ended up applying to do all kinds of things at University, but I never got in.

"So I took a year off after school and worked doing dance band gigs and getting bands together. I was using a Strat at this time, which was my first really good guitar, and a Watkins Dominator amp which was great. I was also doing a gig in an Irish ballroom a few nights a week and that was the first time I actually started reading on electric guitar. I had been doing all the classical stuff and discovered that it was much easier reading electric guitar parts.

"I then applied to do music at Goldsmiths College in London. I was doing a BMs degree, which was basically musicology. There is a certain amount of heavy ear training, a certain amount of harmony and things like writing string quartets in the style of Mozart, but the main direction of the course was studying periods of music. The first thing we had to do was study a lot of music from about 1600 right up to the present day. That gave me a broad historical perspective which has been really useful because it has enabled me to compare things, then and now, and just make connections. After that I had the opportunity to specialize a bit more.

"I had also been playing some lute, which I studied and found really fascinating because it really tied in nicely with the sort of interest I had in people like Jerome Kern and Cole Porter. I studied a lot of that and really got into the Beatles' music from a technical point of view.

"Then, in my last year, I did a lot of stuff on the history of instruments, which was fascinating again, origins of the guitar and technique. In fact, I almost didn't do my final year because I was playing in a West End show. I was doing a lot of gigs like *Jesus Christ Superstar* and *Hair*, but the main one I did was *Let My People Come*."

Incredible as it may seem, Laurence also managed to fit in a spell with the British National Youth Jazz Orchestra, as well as a variety of dance band gigs and a few solo stints. Upon finishing college, the phone started ringing and his career as a session musician began. Unfortunately, after a promising start, including playing on a Cleo Laine album which George Martin produced, things did not really take off. He was doing basic sessions and jingles, but suffered a setback when many of his guitars were ripped off.

After a brief spell in Los Angeles, during which he did hardly any playing but gained much experience, Laurence returned to London and immediately his fortunes changed. He began to get work on TV shows and films in addition to the run-of-the-mill session and album work. It was on the *David Essex Show* that Laurence met Denny Laine, through an inspired guitar solo on "Go Now." The subsequent audition and recruitment to Wings came at just the right time, according to Laurence.

"I'd not been interested in a permanent band up to then, because I was very much concerned with getting some kind of security in what I was doing. I needed to do the work so I could buy guitars and get my musicianship together. I was very much into that aspect of it at the time, although I used to have jams with friends and do jazz things. I love live playing, but I went through a period where I did very little because I was too busy doing sessions.

"I couldn't really afford not to do the sessions because I was trying to get established. I did want to join a group and Wings was really the first one I was asked to join, which was great. I came to the basement of the office in Soho Square for an audition and we just had a jam. We didn't play any Wings' tunes, it was just a jam with the rest of the band, doing blues things and old rock & roll tunes. I didn't go for the audition desperately hoping I'd get the job, but it was all fairly relaxed, it wasn't an audition atmosphere. We all had fun, and a couple of days later they asked me if I wanted to play with them."

Although Laurence has been with Wings for a year, everything has been a bit low profile because there has been no new Wings product featuring him and the other new member, Steve Holly. However, with the release of the new Wings album *Back To The Egg*, the spotlight is bound to fall more on him.

**W**hen talking about the album, Laurence was able to offer an insight into working with one of pop music's living legends: "Paul obviously has a very powerful musical personality, but he's very prepared to listen to someone else's viewpoint, so there's space to contribute your own thing. If you don't happen to come up with the goods – and everyone has a day or a tune when they can't find the right thing to play – then he'll suggest something because he knows what he wants.

"Sometimes, you can come up with something that's maybe better than what he thought of, or take what he's got and put your own thing into it. So, either he'll suggest something to do or if you're on the right track he'll say, 'Try missing out these few notes' or else he'll do it himself. I'm quite happy to sit back and listen to him play guitar because I love his guitar playing. So there's lots of scope for all different things within the band because Paul and Denny are great on both piano and guitar.

"What they have got over me is that experience of playing on the road and having been involved in the music business for so long. ►►

# on tour with PETER GABRIEL



AVAILABLE THROUGH RANDALL DEALERS WORLD WIDE.

## *Randall*

**RANDALL INSTRUMENTS, INC.**  
1132 DURYEA, IRVINE, CALIF. 92705  
P.O. BOX 10936, SANTA ANA, CALIF. 92711

Both have been involved in music for about as long as I've been playing and I've just come through a completely different direction. Paul's got all this experience which just comes right out into the open in the studio, and there are times when I just sit back and learn."

So what about playing with McCartney the bass guitarist? "I love his bass playing because of the way he plays tunes. There are very few bass players who have that kind of ability to play tunes with the fundamental notes of the chords. Not being terribly sophisticated about it, but a melody will just come out. Some of the stuff on the album is quite raw, very upfront high energy, but there's still a kind of melodic aspect to it."

Laurence is convinced that joining Wings has improved his playing, allowing him much more freedom than the rigid technical approach which is often demanded of session players. Despite his intense musical background, he is aware that good guitar playing doesn't simply mean reading all the dots correctly.

"Joining Wings has given me the opportunity to relax and not have such a tight hold on the guitar playing aspect and allowed me to develop as a person, which I think has improved my playing much more than sitting down and doing a lot of practice. I could have used the time just to get more technical, but technique is meaningless. I think it's what comes out of your heart that counts."

As you would expect, Laurence has quite a range of guitars, but doesn't count himself among rock's great guitar collectors. His "tools of the trade" all have specific functions and are not merely *objets d'art*.

"I have two main guitars. The first is a '63 Strat with Schecter electronics, which is very nice. The Schecter is an assembly you buy and each pickup has two different sounds. It's a coil tap thing so you get an old Fender sound, then you switch it over and it sounds boosted — not quite a humbucking sound, but more powerful. I've compared it with a couple of late Fifties Strats and it's exactly the same sound. The other main guitar I use is a Les Paul which is about six years old. I've put Schecter electronics on that and it's amazing because it's got the push/pull things on all the pots, in and out of phase, series, parallel, single and double-coil. It's more simple than it sounds and it's a really nice guitar. I'll probably use that and the Strat on stage.

"I've got a '58 Gibson 335, one of the dot inlay ones, which is great. I'm not sure about using it live. I find the tunings a bit unstable but I love the sound. They're great studio guitars for certain things — a lovely lead guitar. This one has the original PAFs and they're so raunchy, much better than the new humbuckers. I've also got a '59 Les Paul Junior that's rather nice, and I might have that around for using as a slide guitar.

"I have a Yamaha SG2000 which I think I'll maybe use as a backup. It's a very good guitar, wonderfully made, but the neck's a bit chunky. I also find the pickups are too powerful, they distort too much. I like my sound to be on the clean side. I think the Yamaha is

probably the best-made guitar of them all."

Laurence has three main acoustics — a Martin D28, a Guild F50 and an Ovation Adamas. As far as effects units go, he uses an MXR flanger and a volume pedal, but that's about it preferring a pure guitar sound. For amplification he's got a Music Man and a Hiwatt, but has a new Mesa Boogie on order which he's been really impressed with.

Being a full-time member of Wings, Laurence doesn't do a great deal of session work anymore, one reason being because he wouldn't like to deprive another musician of his livelihood. He is aware of the difficulties that a young musician can have when trying to break into the hard world of sessions.

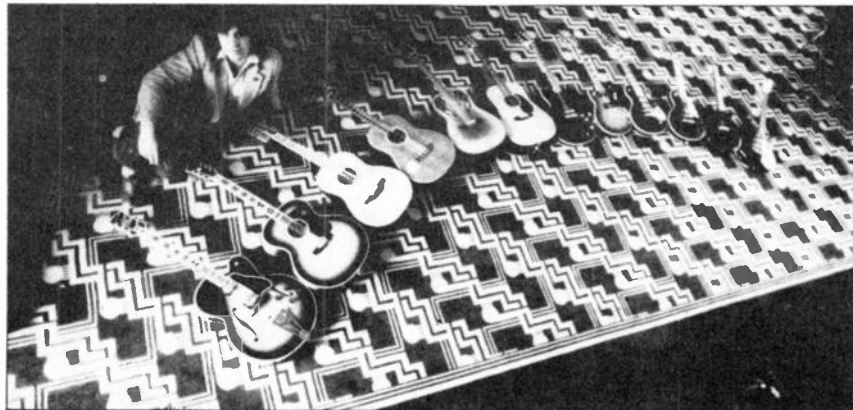
There are no easy ways to become a session player, although Laurence offers some pointers as to the necessary requirements: "It all depends on what kind of sessions you want to do. Even the reading aspect of it isn't terribly important providing you can read a chord sheet. You are more likely to get in on the 'bread and butter' side if you read the dots, but having good sounds, being reliable, turning up on time, having a nice attitude, all those things are important because it's a job like any other.

"Also, you've got to be creative, you've got to be able to come up with a lick if somebody needs one. There's a whole aspect of sessions which has nothing to do with reading at all, it's down to being creative and having the right sounds. Sometimes, you can get loads of sessions through having an effects unit that no one else has! You've got to be well-equipped, and well-equipped means technically, on the level of guitars, your attitude, transport, all the different things. You've got to have the right attitude because you can't turn up on a TV set playing for Vera Lynn with a 100 watt Marshall — it just doesn't go."

Right now, Laurence is enjoying life as a band member and looking forward to going out on the road, which will be something of a new experience for him. "I would like to go on the road, I think everybody would. We're planning to do some rehearsing, whether that rehearsing will be just for fun or whether it'll be to do some gigs I don't know.

"I'd like to think we'll do some gigs. If we don't, then we'll do something else interesting. I feel ready to handle it somehow. I might feel differently when we've been out on the road for a while, but I feel ready for it." 

---



# Carry a tune.



**KORG**

**The Korg GT-6 Guitar Tuner.**

Combine accuracy and speed with portability and affordability and you've got the Korg GT-6 Guitar Tuner.

There's no guesswork involved. Just turn the large easy-to-read selector to the desired note, play the string, and the illuminated meter will tell you when you've achieved perfect pitch.

To tune acoustic instruments, simply position the GT-6's sensitive built-in microphone near the soundhole. For electric instruments, patch the GT-6 between your guitar or bass and your amp (using the built-in input and output jacks) and you can listen while you tune. The GT-6 also features built-in calibration and battery check switches.

Korg wants to help all string musicians, electric or acoustic, to carry a tune. By taking the GT-6 wherever you go!

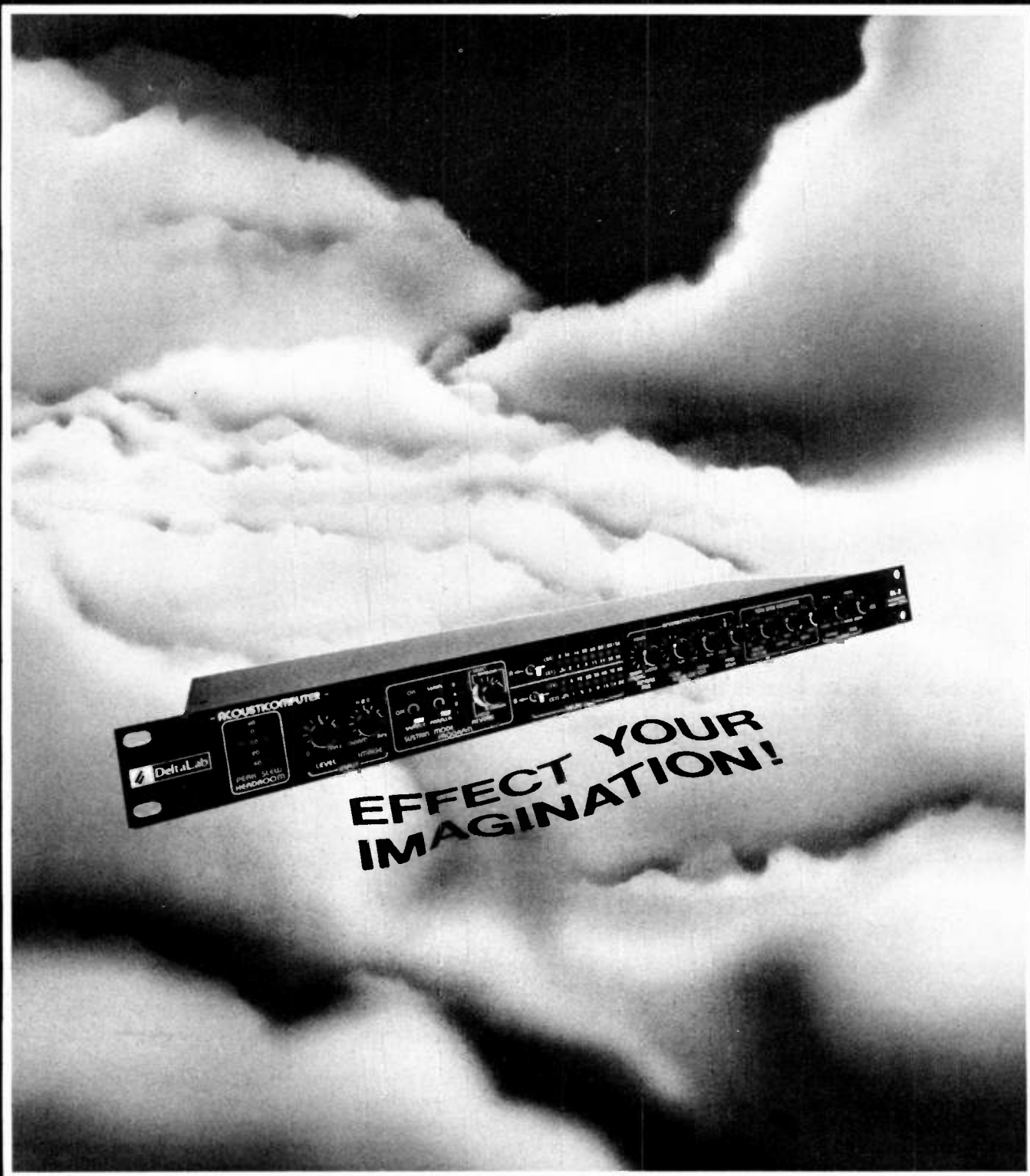
Unicord Division of Gulf & Western Manufacturing Company, Dept. D-W6, 75 Frost Street, Westbury, NY 11590

#### **Korg WT-10 Tuner.**

*For complete orchestral tuning (including electronic keyboards). Features audible electronic tone (three octave sound range); built-in mic/speaker system (for silent/comparative ear tuning); input/output plug (for direct electric tuning or amplification of standard pitch for large groups); three-way power (AC/DC adapter and batteries included); leatherette carrying case.*







## ACOUSTICOMPUTER™... a true stereo special effects processor

For further information call or write Phil Markham at DeltaLab Research, Inc.,  
27 Industrial Avenue, Chelmsford, MA 01824,  
Tel. (617) 256-9034.



DeltaLab Research, Inc. 27 Industrial Ave., Chelmsford, MA 01824

Available at Quality Dealers

Circle 797 on Reader Service Card

World Radio History

**M**ANY musicians, particularly drummers, will know the name Jeff Porcaro. He has appeared on scores of albums in recent years, including those by Boz Scaggs, Steely Dan and Russ Ballard. When he was only 18, he was playing top gigs with Sonny and Cher. Now, at 24, with an enviable track record, he is the drummer with Toto, a relatively new band who scored a giant hit with *Hold The Line* from their recently released debut album *Toto*.

The band is made up of musicians who, although they have all worked on the road with many name acts, are better known for their session work. *Toto* is: David Patch (keyboards), David Hungate (bass), Steve Lukather (guitar), Bobby Kimball (lead vocals), Jeff and his brother Steve Porcaro (keyboards). They are adamant that the group is not just a money-making opportunity to cash in on their individual reputations. However, they have had a lot of flak from rock critics. Bands made up of former session-eers have, in the past, suffered from their own instrumental ability. It's all too easy to fall into the trap of being too eager to show off their musical prowess and end up either overplaying or sounding clinical. To their credit, *Toto* has managed to avoid all this. They have yet to set foot on a British stage but their album indicates a good future for a band who can combine energetic rock with thoughtful, melodic ballads. Jeff Porcaro paid a fleeting visit to the UK recently and our London correspondent caught up with him.

Jeff has been "messing around with drums" since he was four. He took lessons for three years when he was seven and learned to read and, as his father was a drummer, it was drums, drums, drums throughout his childhood.

His sight-reading abilities obviously helped Jeff make a name for himself in session work, although he doesn't need to call on it much these days, as *Toto* is his main concern.

"I'll tell you, a lot of guys go to school and they sit there and learn to read, sight-read and then super sight-read. If Zappa, say, called me to do a session and he had everything written out, and he'd want me to get it down by the third take, I'd be in trouble, because that's really complicated stuff when you're going from a bar of 4/4, to a bar of 7/8 to a bar of 13/20. I don't have my sight-reading down that well. You need to sit at home and read all day to be able to do that and I don't have any drums at my home.

"I did very well for my age. A lot of guys use their ears. Like, I listen closely to what's going on and I can anticipate a phrase about eight bars ahead. I can see that phrase like reading a word. You interpret that, depending on whether it's a horn

# JEFF PORCARO

## Toeing the TOTO line

by Eamonn Percival



figure or whatever. You just use your ears to see how to approach the music."

Sessions are a thing of the past for Jeff and the rest of the band, although he is scheduled to do some tracks on the next Steely Dan album.

"I'll be doing some stuff with Steely in a couple of weeks but, apart from that, there just isn't time to do sessions. I haven't done one for about eight months because there's so much happening with the band. The band has always been our dream and it's our number one consideration. There may be some time in the future when we have time off that we might be able to do guest appearances on certain albums, but there really is no time now."

Toto has come in for more than their fair share of criticism so far. Their music has been described as "the soft-rock version of Foreigner" and the players as "slick and cynical studio musicians." When I mention this to Jeff, he got a bit heated. It's obviously a little below the belt to him.

"They're short-sighted people who don't know us and who expect 35-year old guys to walk in to be interviewed. We've been in studios for three years,

we happened to live at home and it was work, you know? We didn't want to rush into anything. We'd played together in high school and in garage bands. It's a case of us thinking we were being smart and holding back until the time was right and until we had the experience under our belts — nobody was going to pull wool over our eyes as far as record companies are concerned.

"The point is we worked in studios but we all realized it was just a temporary thing until we got a certain amount of experience. We've all played on stage with other bands as well, jumping around all over the place, and now we've come out of the studio. People think we've been in studios for 15 years and expect us to come out on stage wearing headphones and sitting in chairs.

"The thing that bothers me is that these journalists should have done their homework and maybe contacted the record companies. They've seen the album notes and they might not have liked a particular album we were on, but if they'd seen the wide variety of albums we've played on . . . Steely Dan doesn't hire asshole lazy studio musicians. Our guitar player played with Cheap Trick, and these guys

don't hire turkey studio musicians. If the critics had done their homework and called the record producer, they'd have found out that we were the most radical studio musicians that ever entered LA, and the youngest. We're not typical studio musicians in any sense of the word."

Jeff is currently playing a new Ludwig custom kit with Power-Toms. These are maple shells which have been extended for extra power and depth.

"The bass drum and tom-toms all have extended shells," he explains, "they're a new line that Ludwig has brought out. The sizes are 8", 10", 12", 13", 16", 18" with a 22" bass drum and the depth is the same on all of them. They're all 16" deep which is normally the depth of a floor tom. It's a good sound. I use bottom heads on all of them so with the air pressure going from the top head all the way down to the bottom you get that real 'dwoom' sound. It's a real wide open sound".

Jeff agrees that it's not really fashionable for rock drummers to use both heads. Many players like a dead, dull sound from the tom-toms and bass drum.

"I've never been partial to that sound. I've always liked getting more of a note out of my drums. Real live, you know?"

Jeff uses Zildjian cymbals throughout, with the exception of the hi-hats which are Paiste. The sizes are three 18", two 19", 22" and 20" plus a pair of 14" hi-hat cymbals.

He doesn't use any one kit for sessions, although a Ludwig maple kit was used 80 percent of the time. He has 11 kits and over 50 different snare drums stored in a warehouse, ready for selection and setting up depending on the style of music he's going to play. Why 50 snare drums?

"I change snare drums a lot. There's a couple of metal shell drums there, but the majority of them are wood shells. I have this guy who fixes my drums up for me. He takes my studio sets and packs the lugs with cotton so there's no ringy overtones. He strips the drums completely and, instead of using screws, he puts Allen screws in so they keep everything real tight. He also veneers the inside of the shells. He takes all my snare drums and puts Gretsch hoops on because they're better hoops. They're a molded hoop instead of a piece of sheet metal that's been bent round. Half of the drums have the old original Radio King lugs, I have some with brand new Gretsch hoops, some have Gretsch lugs with old Slingerland hoops, they're all different."



# Albums

## The Knack

### Ry Cooder

#### The Knack

*Get The Knack (Capitol)*

A trendy young band from Los Angeles with an album and a single — “My Sharona” — already racing up the charts, the Knack has lifted some of the better stylistic impulses of mid-Sixties Brit-Rock to form a faultless pop construction that, except for a few gem-like moments, ultimately sinks into a small sea of non-specific California rock & roll.

Bands like Blondie, Rockpile and the Rumour also incorporate basic attitudes from the Sixties without the sense of dogged pursuit exhibited by the Knack. Carnaby Street gear, Vox AC-30 amps, spare four-piece rock & roll filtered through a thin, mid-rangey production sound courtesy of Mike Chapman (half of the legendary Chinn & Chapman production duo responsible for Blondie, the Sweet and other powerpop notables) — I mean, these guys are really pressing. Not to mention the Beatles harmonies, chiming 12-string guitars and a vague feeling that many of the melodies/chord progressions are back for an encore performance.

Admittedly, “My Sharona” is pure hit material with classic guitar hook worth its weight in gold and a cooing, stutter vocal moving things along with just the right sense of urgency. But on most of *Get The Knack*, rhythm guitarist and vocalist Doug Fieger (he co-wrote most of the songs with lead guitarist Berton Averre) seems to be *playing at* being a rock & roll singer, his coy, too-cute vocals defusing the hot-blooded “teen lust” angst coursing through “My Sharona,” “Good Girls Don’t,” and “That’s What The Little Girls Do.” The musicianship is crisp and efficient, notably Averre’s smart guitar work and Bruce Gary’s drumming, but the impact of each song recedes too quickly from memory. “My Sharona” is the only tune with any real presence or staying power, and it is good enough to keep the Knack in the

Ry Cooder



The Knack

category of “promising newcomer,” while the rest of the LP leaves you hoping for a whole lot more. Get the originals.

**J. C. Costa**

*Produced by Mike Chapman.*

*Recorded by Peter Coleman and Dave Tickee.*

#### Ry Cooder

*Bob 'Til You Drop (Warner Bros.)*

*Bob 'Til You Drop* is the first album in popular release to be entirely recorded by the new digital recording process (recently developed by the 3M company in conjunction with the BBC) — probably a mixed blessing for Ry Cooder, a musician who has created the kind of music worth retaining for reasons which easily transcend the technological processes used to put it on a vinyl disc.

This recording system, which encodes and stores audio signals as digital information without the deterioration inherent in conventional “analog” recording, does make for a brighter, more spacious sound; which is *swell* except that the swirl of techno-babble accompanying the LP’s release might well obscure the emotional impact of the music. Cooder has embraced some excellent rhythm & blues and gospel material with a rare sense of warmth and intelligence combined. His electric bottleneck playing (with all of the ringing sonorities implicit in his vintage, turquoise Fender Strat rendered intact) is so good it hurts.

Aided by L.A. stalwarts like David Lindley, Jim Keltner, Milt Holland and Tim Drummond, Cooder attacks fine, old tunes like “Look At Granny Run,” “Go Home, Girl,” and “Don’t You Mess Up A Good Thing” with renewed vigor, a wry sense of humor and fresh arrangements that belie his ill-deserved rep as Warner Bros. resident musical antiquarian. The JJ Cale-ish “Down In Hollywood” succeeds largely on the strength of his perfectly down-played vocal which parodies the “bad Hollywood dude” stance behind the lyrics.

“The Very Thing That Makes You Rich” and the rousing finale “I Can’t Win” showcase an intimate gospel chorus remarkable for its fervor and subtlety. Besides accurately capturing the ambience of the room sound and dramatizing certain peaks in the recording, the digital system puts you right up next to Cooder’s guitar and, as Ry puts in the promotional material accompanying the LP, you can hear that “finger-chord skin sound, that brushy feel.” In fact, the small and delicate nuances that are an integral part of Cooder’s approach to the guitar are immediately distinguishable on *Bob 'Til You Drop*. In short, a masterful modern recording of classic American music.

**J. C. Costa**

*Produced by Ry Cooder.*

*Recorded by Lee Herschberg.*

#### Steve Hackett

*Spectral Mornings (Chrysalis)*

First impressions aren’t terribly accurate when dealing with progressive/art rock and Steve

Hackett's new album, *Spectral Mornings*, is a good example of this. His last album, the brilliant *Please Don't Touch*, was one of the best kept secrets of 1978 but, unfortunately, his newest effort doesn't fulfill the promise of the former.

As on his previous works, Hackett displays a great deal of depth and guitar playing skill. There are, to be sure, some frivolous moments on the record, but Steve is one of the few people who is not afraid to experiment — a refreshing change from most of the drivel being released under the guise of "new" music.

Everything in the album is done with great care. He knows sound. He and co-producer John Acocet achieve a very clean recorded sound and Steve's acoustic guitar always maintains a crisp clarity which he juxtaposes nicely with his amplified instruments.

Singer Pete Hicks' vocals are adequate and well thought out. The weakest areas on the record, however, are the lyrics and the drumming. Drummer John Shearer just keeps the basic beat and even when given a solo on "Clocks" he delivers an echoplexed bass drum roll with unimaginative top kit accents. Fortunately, it doesn't last long.

The high points come in "Everyday" (featuring hot guitar licks, pleasant harmonies and an infectious good feeling), "The Virgin And The Gypsy," "Clocks," the title tune and "The Red Flowers Of Tachai" on which one can almost smell the flower blossoms. Hackett has always excelled at painting sound pictures.

"Spectral Mornings" concludes Side II with one of Steve's slow-building, melancholy themes that is undeniable and eventually overwhelming.

Overall, *Spectral Mornings* is a good album, although it is not nearly commercial enough to break Hackett into the upper reaches of the charts. It's unfortunate because Hackett's kind of talent should be encouraged. Hopefully, Chrysalis will continue to support his artistic endeavours despite his lack of chart success.

**Susan Alexander**

*Produced by Steve Hackett and John Acocet.*

*Recorded at Phonogram Studios, Hilvershum, Holland.*

## Keith Jarrett

*Eyes Of The Heart (ECM)*

It's a bit unprecedented, but then again so is Keith Jarrett. When I was treated to a constant drone from the stereo, I thought I may be in for something new in packaging: electronic silence. But it was merely the impetuous Mr. Jarrett leaving a side of the two record set blank; he only had enough music for three sides, not four. Oh well, put the three in order and you don't miss the blank side at all.

Jarrett, as usual when not soloing, has amassed a considerable quartet which includes Dewey Redman on sax, Paul Motian on percussion and Charlie Haden on bass. The title track opens with a very percussive Motian laying down a combined sound of bells and cabasa-like instruments, deli-

vering an Arabic feel which results in a mood that obviously Dewey Redman finds agreeable as he enters with a long piece that floats in and out of Motian's work, growing full and dwindling to a thinness that intrigues while being pervasive and genuine. A lurking Morocco, full of side streets and secret desires waits to be revealed as the piece develops, conspicuously without Jarrett.

Through the mood of night, Jarrett enters with a characteristic fullness that enhances the sharpness of Redman's reed work; Motian's terse cymbal work accents the depth of Jarrett's piano. The tempos are barely discernible, being relegated to an inward pulse felt by the musicians as they improvise within an unspoken context, the pulse is coherent only in the continuing feel and continuity that comes out of the composition.

Jarrett's left hand technique displays the incredible dexterity that allows for a heavy bass line which he can delicately or percussively work his melodic lines over. Motian builds the urgency of the piece with a staccato work on the drums that speeds Jarrett's keyboard work into a rush for completion. The title composition is continued on Side II with a much more melodic and tempered pace. It grows out of the context of the earlier piece but at times becomes melodious which allows Jarrett to link together runs that reveal both spontaneity and insight.

Although Sides I and II were recorded live, they have a studio feel to them, whereas Side III "Encore (a-b-c)" has the excitement of a live sound and mix. This is a powerful side full of frantic Redman and a strong rhythm section with Motian and Haden, the mix puts Jarrett in the rear as he winds about the composition filling in and combining with the rhythmic passion set up by the rest of the quartet. The piece winds down, easing out of its up-tempo into a slower, more conventional vein that allows Jarrett a quiet, almost sentimental solo.

With a quartet such as this it's difficult to find something wrong, the compositions and music isn't perceived that way. As a series of moods and textural pieces, the work is successful, with Jarrett not necessarily a front man, but a musician who works well within the scheme of things.

**Bill Stephen**

*Concert Recording, May 1976, Theater am Kornmarkt, Bergen, Austria.*

*Produced by Manfred Eicher*

---

**Steve Hackett**

---

**Keith Jarrett**

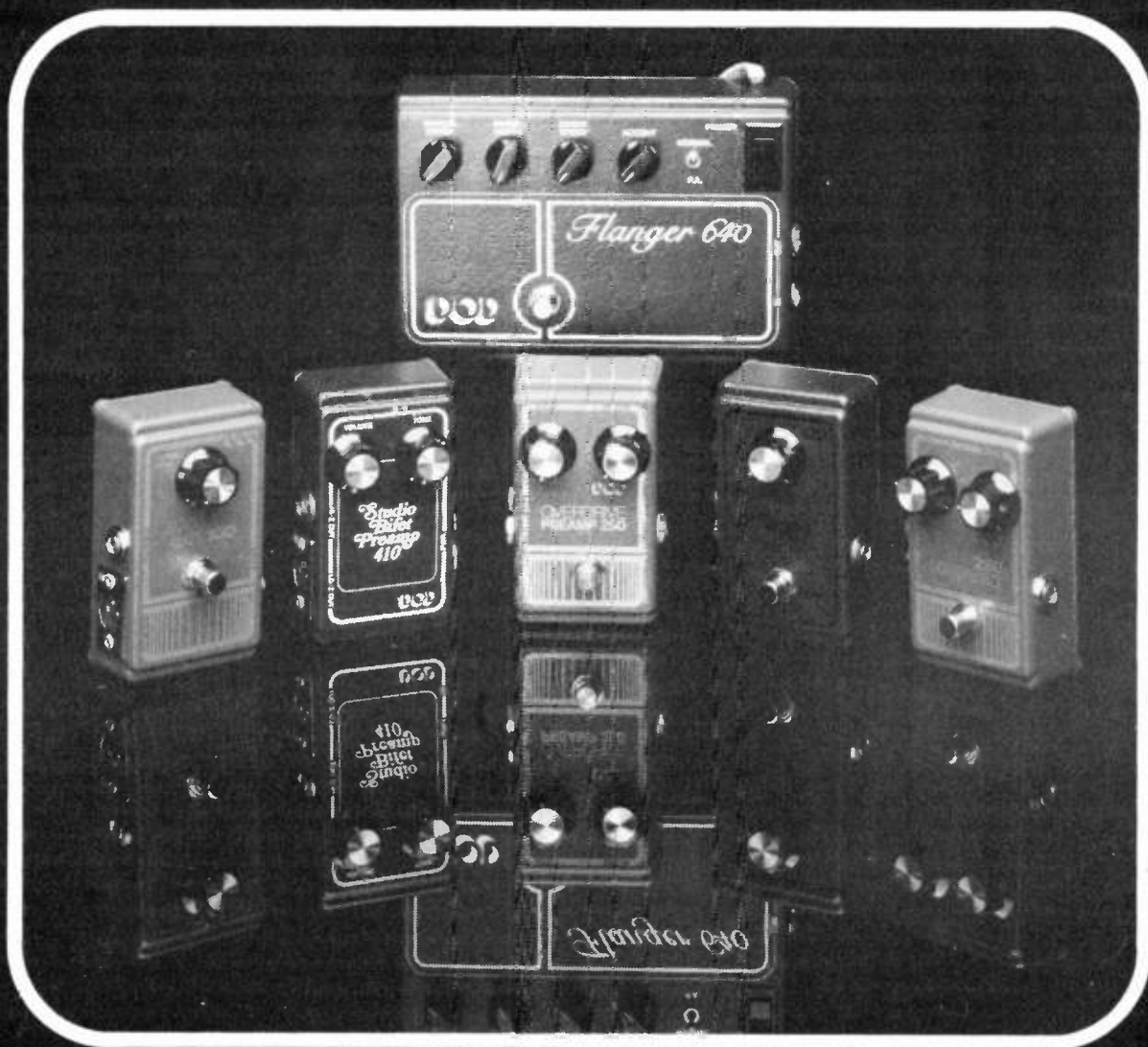
---

Steve Hackett



# Take Your Pick

*Whichever DOD product you choose you'll find consistent high quality design and materials.*



**W**hen we design a product we keep the musician in mind all the way. We demand a product that is functionally superior and to ensure that it will stay that way we use rugged name-brand components such as CTS, Carling Switch, National Semiconductor, Texas Instrument, Switchcraft, etc. We also

feature solid Die-cast Zinc and Aluminum cases and FR-4, G-10 Glass epoxy circuit board. All our products are hand assembled and individually tested by qualified technicians and have a full one-year warranty on parts and labor.

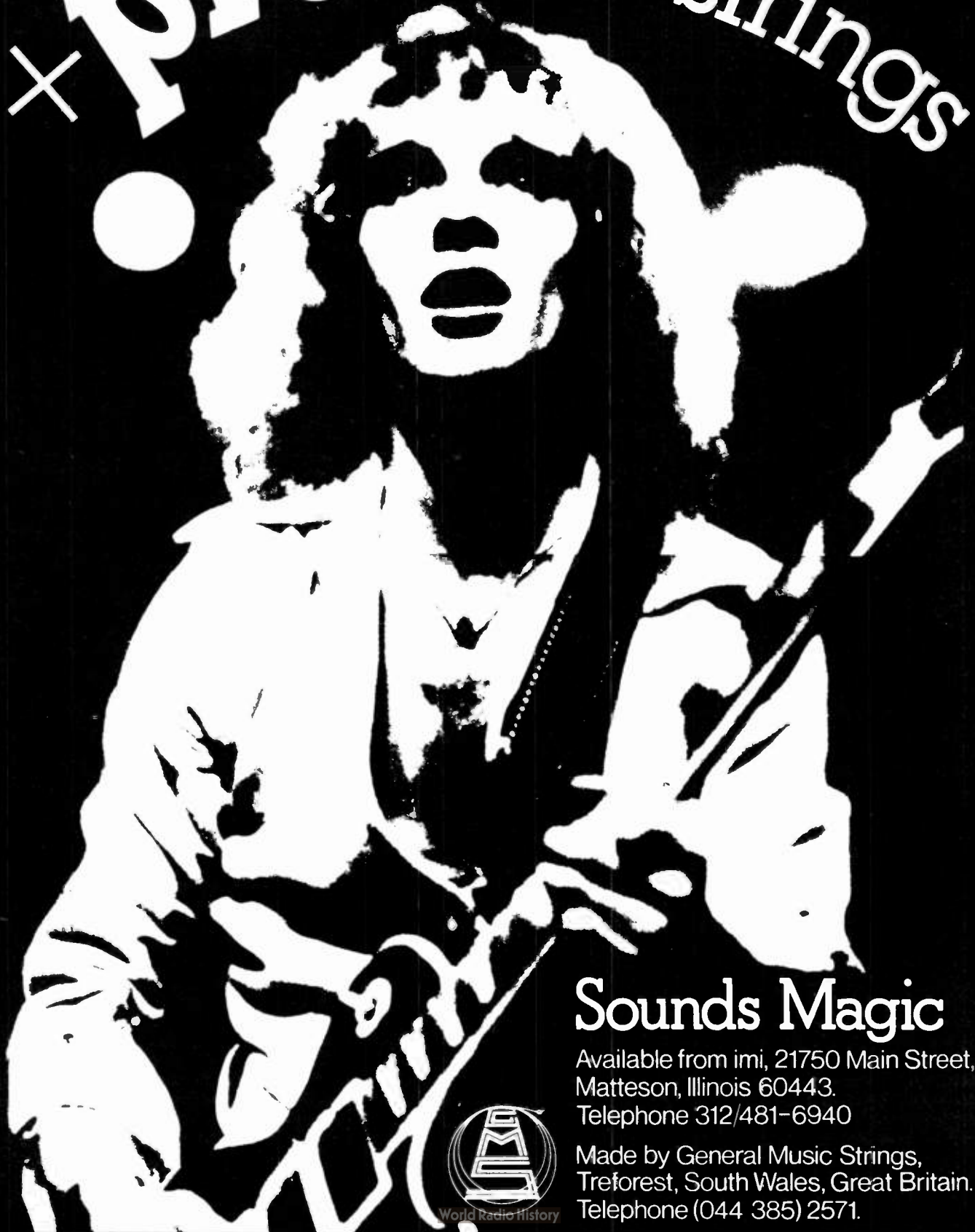
For further information write or call:



Electronics Company, 2895 South West Temple  
Salt Lake City, Utah 84115, (801) 485-8534

Circle 756 on Reader Service Card

PETER FRAMPTON  
**picato** strings



## Sounds Magic

Available from imi, 21750 Main Street,  
Matteson, Illinois 60443.

Telephone 312/481-6940

Made by General Music Strings,  
Treforest, South Wales, Great Britain.

Telephone (044 385) 2571.



World Radio History

# On the Road

## ROCK & ROLL TAKES TO THE SKIES Airlines and the Flight Case Phenomenon

Rock & roll and airplanes. Two modern American industries who would seem to have several interests in common but, until the latter half of the Seventies, have often failed to see eye-to-eye on a host of issues – not the least of which is the airlines' handling of priceless musical equipment like sides of beef. The shape of thing circa 1979 confirms rock & roll's – formally an outlaw breed it there ever was one – “legitimate” standing in the mainstream of American business, and the airlines have been slowly coming around in terms of cooperation and flexibility vis a vis harried road crew chiefs and musicians who regard their “axe” as a member of the immediate family.

When discussing airlines and the handling of musical instruments, several points must be made at the outset. Contrary to popular belief, most bands on the road “truck” their equipment and fly themselves – it's cheaper, plus there's a greatly increased “control” factor for handling gear or protecting against its theft or loss. On those rare occasions when they do fly equipment “en masse,” road crews are often permitted access to cargo handling areas at the airport in order to pack their own equipment (right side up) into the massive freight containers used by the airlines. Carrying individual instruments (guitars, basses, amps – “manageable” equipment) on flights as regular or “excess baggage” – cheaper than air freight, but the airlines are getting a lot stricter about the distinctions between air freight and excess baggage with exacting dimensions as the determining factor – enters into a loosely-structured “gray area” where the rules of the game often change depending on who the player is.

So you want to take your guitar with you on that next cross-country flight. What are your options? The deluxe route, usually reserved for the wealthy owners of highly-figured '59 Les Paul ‘Standards’ or one-of-a-kind pre-war Martin D-45s, is to buy a seat for the full fare and have your

instrument right alongside to keep you company during the trip. Both American and United Airlines offer a deal where you can get a seat for 50% of the full fare on regular flights, but this is *not* a standard practice on most airlines. Occasionally, if it's the right kind of plane, and there aren't too many passengers on your flight, and the flight attendants are in an expansive mood, they'll let you carry a guitar (basses are often too long) on the plane as on-board luggage.

But if you want to inhale the full reality of life as a travelling musician, or if you have a professional gambler's instincts for a good crap-shoot, then you should check your guitar through as regular luggage and pray for divine providence. I've seen musicians come back from a European tour – airlines are worse over there! – with tough fiberglass form-fit cases that looked like they'd been through a demolition derby. And it's not that baggage handlers intentionally destroy musical instruments, they simply view them as just another “piece” with no special distinctions attached. Stencilled signs like “This Side Up” and “Fragile” pass in front of the weary baggage man's glazed expression like ships in the night – for all the attention they get, they might as well be written in Sanskrit. One of my favourite parts of flying with a guitar as luggage is walking into the baggage claim area after the flight just in time to see it hurtling head-first down the baggage chute onto the carousel, and the dull drunch of the “impacted” guitar is mercifully drowned out by my anguished screams.

In fact, any working musician can tell you endless horror stories about unplanned modifications done to their instruments by airline baggage handlers, although *most* of the damage is actually done by fork lifts punching their way through a stack of freighted equipment. Arguments aside, the bottom line is that musical instruments as luggage equals too many unknown quantities, especially with the standard-issue “shaped” cases that come with new gear. All of which explains the

existence and continuing demand for the newer “Flight Cases” which have rapidly become a standard feature in the new lexicon of rock 'n roll.

It must be understood that flight cases were created out of the specific needs of professional musicians on the road and that they are expensive, if necessary, tools-of-the-trade for those who have a lot of money tied up in equipment. First developed in the sixties they are usually made from plywood (in varying degrees of thickness and quality according to cost) covered with thick slabs of ABS plastic (a heavy-grade industrial plastic) or and reinforced with Formica and steel or aluminium corners, handles and fixtures. The interior of the cases is lined with an infinite variety of foam compounds (polyurethane, polyester, ethafoam) cut to the exact size of the instrument. As you will see in the description of individual company product lines that follows, cases are made for guitars, basses, amplifiers, wardrobe, make-up, keyboards, drums, sound reinforcement gear and just about anything else the musician might want to take along with him, up to and including a special chain-saw case designed for Joe Walsh (he likes to saw up hotel rooms – A&S Cases dutifully made the case for him), “survival kit” cases (liquor, etc) and a case made for Boston designed to hold an entire mobile recording studio!

The following is a straight-ahead evaluation of what's being offered by the major flight case companies. Logistics prohibits any comparative studies or testing, and the extensive price lists are not included for reasons of space – and so you won't have a coronary when you see how high they can get. There is also a rather nebulous standard for this industry supplied by the American Transport Association (standards designed to insure safe transport of delicate equipment) and certain companies claim to meet or exceed A.T.A. standards – at this point, with no strict Federal testing regulations or controls, I've decided to treat this as another advertising claim.



**Anvil Cases**

Anvil Cases Inc., one of the first and largest companies in the case business whose client or "artist" list stretches on forever, offers a variety of colorful and massive looking cases for musical instruments, amplifiers, sound-reinforcement, amp racks, keyboards, percussion and wardrobe. Made from "top-grade" laminated plywood covered with either ABS plastic, aluminium or fiberglass, Anvil cases feature punched-steel recessed latch assemblies with spring-loaded twist-action latches, recessed spring loaded handles and steel ball-corners. Their three basic lines include the A.T.A. (top-of-the-line), the Forge (light-weight fiberglass sidewalls instead of laminated plywood) and the Fibre (chemically-treated fiber material impregnated with a special water-resistant coating) designs - offering the consumer a wide variety of prices and specific options for the practical applications of these cases.

**A&S Cases**

The A&S Case Company Inc. designs and manufactures flight or "travel" cases for musical instruments, photographic equipment and electronic gear. Their product is divided into two case

lines - the more sturdy and "heavy-duty" A&S "Flight and Road Cases" and the lighter duty "Lite-Flite Cases."

The "Flight and Road Case" line is constructed from ABS plastic in seven optional colors laminated to plywood of varying ( $\frac{1}{4}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ ") thicknesses with heavy duty steel edge braces, steel corners, recessed latches, recessed handles, a heavy-duty tongue and groove valence, a heavy-duty 1 1/2" aluminium angle molding and polyester or ethafoam lining for cushioning.

The "Lite-Flite" cases are constructed from ABS plastic laminated to fiber and feature light duty steel corners and edge braces, "high-quality" luggage handles and latches, a "custom-designed" tongue and groove valence, aluminium angle molding and a polyester foam lining for cushioning. The interior of A&S cases also feature velvet plush, cut and stitched to the shape of the particular instrument, fitted over the foam bed which is contoured. All guitar cases include a

large accessory compartment. A&S also offers an extensive line of replacement parts/accessories for their cases.

**Bigfoot Cases**

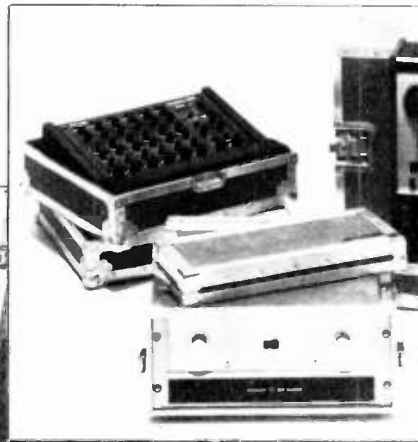
George Sheppard, founder of Bigfoot Cases and Crafts Inc., uses aluminium exteriors exclusively for his cases because he feels they give him "the strongest protection available on the market today" while still holding down his prices to an "affordable level." Bigfoot offers a complete line of cases for musical instruments, sound, lighting, custom uses, photographic and briefcases. With refreshing candor, Sheppard also claims that "his cases are not indestructible, but you sure have to work at it in order to damage his to the point where it can't be used again."

All of the Bigfoot cases feature the previously-mentioned aluminium exterior, heavy-duty recessed steel hardware and no sharp edges. There is no extra charge for custom designs.

**Calzone Cases**

Founded by Joe Calzone, a former drummer, four years ago, the Calzone Case Co. came to be because Calzone was "fed up with the ridiculous price of cases." Teaming up with Tom Mackno, a keyboard player, and his father (who had a sheet metal business), Calzone set about creating a case that would surpass the competition in terms of sturdiness and reliability and still be reasonably priced.

Their extensive line of cases (they will also custom build a case for any purpose) are made from Luan plywood ("furniture grade" plywood without knots, finished on both sides) bonded to a Formica surface with a water-based adhesive. Calzone claims that Formica is the best material because it doesn't bubble and it has the best heat-resistant qualities. These cases also feature the "exclusive" Calzone double "angle" (double channel) pinned and riveted from the inside to avoid rivet "fall-out." Longer rivets are used throughout the construction of Calzone cases so that they all run from metal-wood-metal, creating a much more permanent bond. This unique "double angle" system allows one builder to knock the wood into the channel freeing the second man,

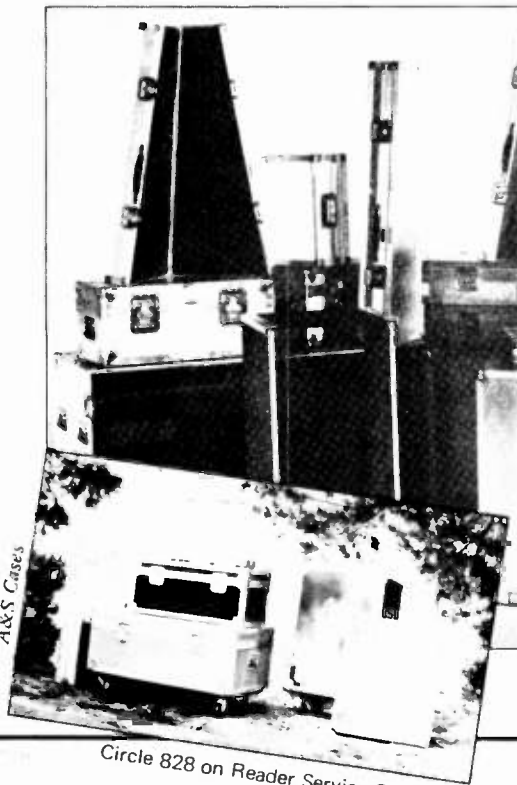


Anvil Cases Circle 830 on Reader Service Card



Circle 829 on Reader Service Card

Bigfoot Cases



A&S Cases

Circle 828 on Reader Service Card



# Music by Matrix. Sound by Bose.

Matrix. Warner Bros. recording artists. A hard-driving fusion group with lots of brass, percussion and electronics. And all 32 channels, including a wide variety of mics, pickups, and line feeds, are amplified by Bose 1800 power amps and Model 802 loudspeakers.

Matrix. A group with talent and taste. "A band that cannot fail," says the LA Times.

Matrix chooses Bose for all their needs. Main PA, electric bass, synthesizers, acoustic and electric piano, and all stage monitors.

Why?

Because with Bose, Matrix

sounds like what they really are. Trumpets sound like trumpets. A flute sounds like a flute. Even the drums

sound live, not canned. The sound is clear. Clean. Natural.

And the modular nature of their Bose system gives Matrix the versatility and flexibility of performing virtually anywhere. From clubs, auditoriums and gyms to outdoor festivals with audiences of 10,000 people.

If you're interested in a system that sounds like the band that's using it, check out Bose.

**BOSE**<sup>®</sup>

Bose for Pros

Stage courtesy Berklee Performance Center.  
Model 802 patent rights issued and pending.

Bose Corporation Dept. RW  
100 The Mountain Rd.  
Framingham, MA 01701

Please send me a copy of the Bose Professional Products Catalog and a complete dealer list.

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Tel. (     ) \_\_\_\_\_

# On the Road

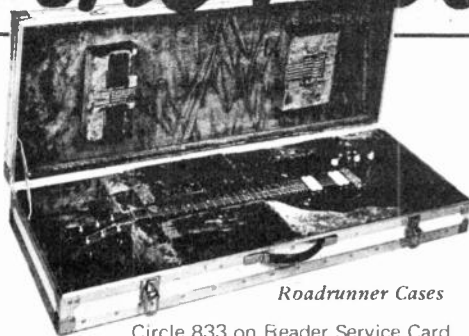
who usually has to hold the case during this stage, to do other work — which equals less cost for labor and less expensive prices for the cases. Interiors are lined with polyester or ethafoam.

## Roadrunner Cases

Manufactured by Cases Inc., Roadrunner cases feature several unique construction features and materials that immediately set them apart. Basic components include ¼" A-C grade plywood which is laminated to a sheet of polyester-reinforced fiberglass. Roadrunner has opted for the more expensive fiberglass over ABS plastic or Formica because the coefficient of expansion and contraction of fiberglass is the closer to that of plywood, which "insures" a tight bond in lamination under all weather conditions. This avoids *bubbling* due to prolonged exposure under hot sunlight and hairline *cracking* which can result from extreme cold.

The top, bottom and four sides of the case are cut on a tilt arbor saw. The six pieces are then glued and stapled every half inch with ¼" cement coated staples. This provides a glue line seal where wood meets wood, a natural moisture barrier. 1¼" tempered aluminium edging is secured to all exterior edges by steel rivets driven under high compression every three inches.

One *continuous* piece of valance is used in both the lid and the bottom —



Roadrunner Cases

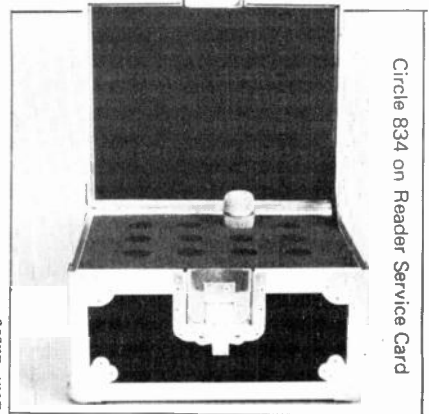
Circle 833 on Reader Service Card

theoretically making for a stronger case with better moisture barrier properties. The unbroken "integrity" of the valance is maintained by using the Sessions (NB: The Sessions Co. in Connecticut makes close to 90% of the hardware for all case companies) spring-loaded "clench" latch which supposedly meets APA specs for Category I — the most *rigid* ATA specification.

Once the valance is mounted on the corners, the clamps are installed using machine-driven steel rivets. Pop (aluminium) rivets are avoided. The interiors are lined with various kinds of foam and other materials. Like other companies, Roadrunner offers cases for just about everything you'd want to take on the road.

## Star Cases

Star Case Manufacturing Co. Inc. also offers a full line of flight cases, with special emphasis on a dazzling variety of 19" "rack mountable" equipment cases — increasingly in



Star Cases

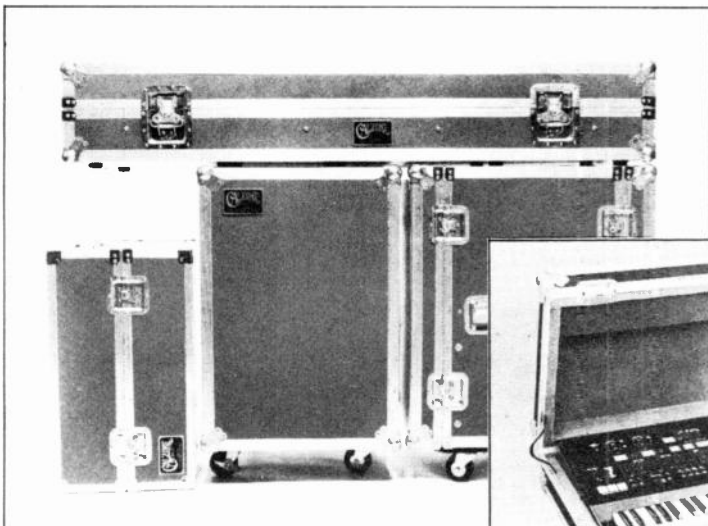
Circle 834 on Reader Service Card

demand for the safe transportation of delicate recording and sound reinforcement electronic gear. Their cases are constructed with an inch of polyester, two pounds of charcoal foam lining on "top grade" ¼" plywood shell with an additional 1/16" of industrial plastic as extra outside protection. Other "special" features offered by Star Case include: corrosion free, anodized interlocking corner extrusions; an extra deep valance; zinc-plated, rust-resistant continuous hinges, heavy duty recessed catches and spring-loaded retractable handles; zinc plated steel corners and shoulder clamps and foam linings. Like other manufacturers, Star Case will custom design a case for just about *anything*.

## Viking Cases

Viking Cases makes a point of stressing the fact that they are a "quality-oriented company manufacturing its cases on an individual basis rather than mass production." A little bumpy grammatically, but you get the point. The fact that makes Viking cases on more of an individual, "custom-order" basis presupposes that they will make them for just about any application on the road.

Special features provided by Viking include: specially extruded heavy-duty edges doubly impacted into the plywood with an added bonus of the "rivet-less" look, nickel-plated steel hardware and steel rivets, a heavy-duty tongue and groove valance which is extruded to their specifications. All of the interior surfaces are finished in charcoal foam. The basic construction materials for the case are ¼" plywood laminated to ABS plastic available in black, brown, red, blue and white, and stucco aluminium can be had for an additional 10 percent.



Calzone Cases

Circle 831 on Reader Service Card



Viking Cases

Circle 832 on Reader Service Card

**GOT A PROBLEM?  
GET THE  
"SESCOM SOLUTION"**

SESCOM PRODUCTS ARE MADE FOR YOU, THE MUSICIAN, TO IMPROVE YOUR SOUND IN LIVE PERFORMANCES OR RECORDING SESSIONS.

OUR LINE OF DIRECT BOXES, MIC-SPLITTERS, MICROPHONE TRANSFORMERS, AUDIO CABLES, CABLE TESTER, AND AUDIO ACCESSORIES IS AVAILABLE THROUGH YOUR NEAREST MUSIC STORE. GO IN AND ASK FOR SESCO PRODUCTS, UP UNTIL NOW ONLY AVAILABLE TO THE SOUND PROFESSIONAL.

ASK FOR A DEMONSTRATION AND HEAR THE DIFFERENCE!




**SESCOM, INC.**  
Musical Products Division  
1111 Las Vegas Blvd. North  
Las Vegas, NV 89101 U.S.A.

Circle 788 on Reader Service Card

**IF YOU'RE SERIOUS ABOUT DRUMMING, DON'T MISS A SINGLE ISSUE OF**

**MODERN DRUMMER**



Subscribe today! One year only \$9.95  
Published bi-monthly.

MODERN DRUMMER  
1000 Clifton Ave.  
Dept RW- Clifton, N J. 07013

Check or M.O. enclosed.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

MD READERS' POLL RESULTS

Circle 840 on Reader Service Card

**MIKE STAND MONITOR**

Don't strain to hear yourself any longer. Monitors are more effective off the floor and closer to your ear. Hear the Real You! Clear, Clean, Undistorted! Monitor fits on standard mike stand and aims up at your ear. Adjustable volume control. 2 full-range speakers. 35-15,000 Hz. Double jacks to string several together for every member of the group. Durable tolexed cabinet is compact and portable. Inconspicuous on stage — only 63/4" high.

Everyone who has trouble hearing themselves **MUST** have a Dove. Pick one up at your favorite music store before your next performance. Sugg. list price — \$119.00



**GILCO Electronics, Inc.**  
Dept. GP-1, 6310 Marlboro Pike  
District Heights, Maryland 20028.

Send me **FREE** information only.  
Send me book "How to make \$3,000 more this year playing music, plus **FREE** information.  
Here is my check, money order for \$3.00.

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

**GILCO**

Circle 703 on Reader Service Card

# A 60 WATT PIGNOSE??!!\*



After designing the legendary Pignose practice amp, we couldn't get much better so we had to get bigger. The result is the new 30/60 guitar amp which is small enough for practice, big enough for gigs and smooth enough for recording.

The 30/60 puts out 30 watts(RMS) through a heavy-duty, 12 inch speaker and gives an incredible range of tonal colours thanks to three band equalization. The master volume control enables the player to go from a detailed clean sound to smooth distortion while retaining all the warmth of a "tube-type" amplifier.

A unique feature is an effects send and return system which eliminates most of the noise generated by using these units. There are compensated inputs for the matching of different impedances with a line allowing direct injection into studio board, PA mixer or power amp.

With a Pignose 30/60 you have an amp for all players and all places.



Pignose Industries,  
9000 Sunset Blvd.,  
#820, Los Angeles,  
Ca. 90069 213-550-8705.

\*PEAK POWER

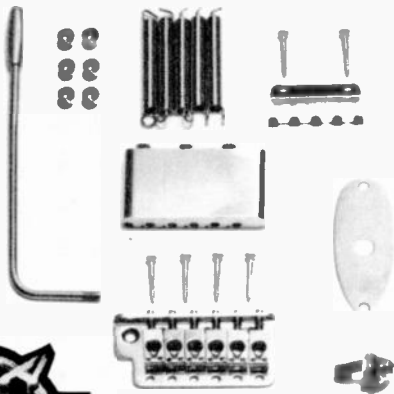
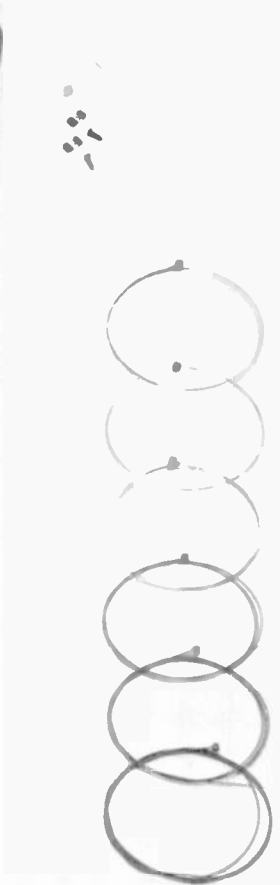
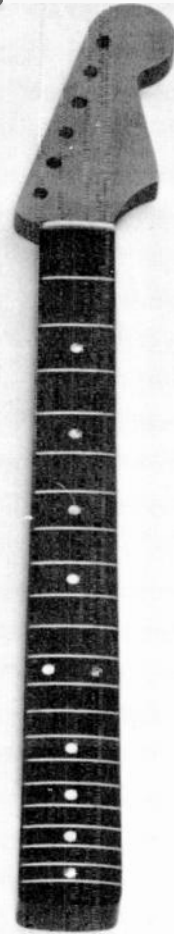
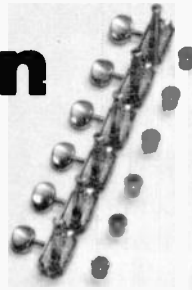


Circle 725 on Reader Service Card

# Build Your Own Guitar!

Have you ever wanted a chance to set up a guitar your own way, even before the factory does? Well, wait no longer. Complete guitar kits are now available from Mighty Mite. Each kit contains every part necessary to make a complete custom guitar, right down to the strings. Thousands of combinations to choose from and all are equipped with those great Mighty Mite pickups and hardware. Be an individual. Build your guitar your own way.

Contact your dealer or write for details.



4809 Calle Alto, Camarillo, CA 93010 • (805) 482-9815 • Cable Address: Mighty Mite  
Send \$1.00 for our color catalog and parts list.

# Building a Solid Guitar

Part 8: by Stephen Delft

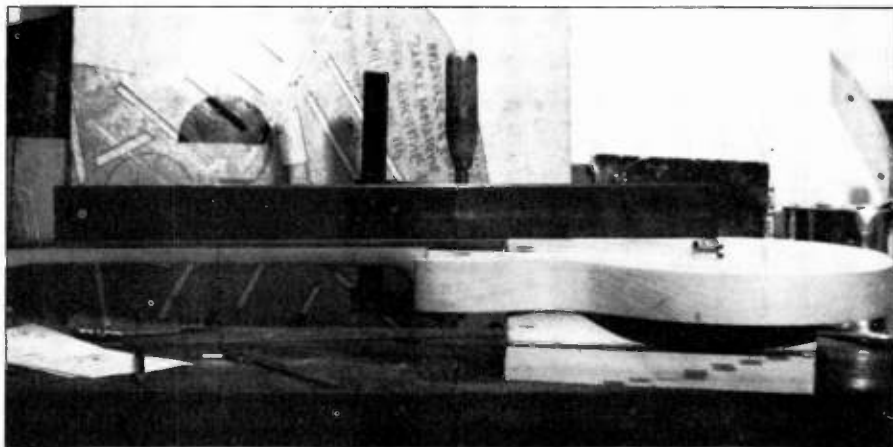
## Fitting neck to body and setting neck angle.

For this month's work, you will need two tools which you may not have. The first is a good paring chisel about 1½ inch or 38mm wide. The flat side must be really flat, so that there is no need or temptation to sharpen a slight bevel on the "flat" side in order to achieve a sharp cutting edge. I believe some of the Stanley chisels are supplied with a precision – ground flat face, which will save you the tedious job of lapping the "flat" face of a new chisel until it touches the sharpening stone all over its width and length.

The second tool you will need is a small adjustable square similar to the one shown in the photograph. The blade is marked off like a ruler and can be slid sideways in the stock and locked in position as a combined square and depth gauge. There are much better versions of this tool made for engineers and fancier ones including adjustable angles. Neither is necessary for this job and in fact I find the simpler form of this tool easier to use. It is of no importance if the ruler part is only available calibrated in inches: I don't trust the markings anyway. Set the rule so that it projects from the stock by 35mm. If you have used an electric router to cut out most of the neck socket, you will still need this tool to check the sides and corners.

Clamp the body onto the bench with the socket facing you and, with the help of the square and a razor sharp chisel, trim the sides, bottom and end of the socket (in that order) to the dimensions on the plan. Take particular care that the sides are cut at right-angles to the front of the body. If they are not, the neck may fit on the body inaccurately. If in doubt about cutting the sides vertically, get someone to compare the angle of the chisel with the upright blade of the square placed nearby. Take a first series of cuts which deliberately leave the bottom of the sides closer together than at the top. Then take off shavings checking with the square until the sides are vertical.

If you suspect the neck tenon may be slightly undersize, check it for a



Setting neck angle with straightedge

fit before the socket is opened out to its full width. It is better to cut a narrower socket than to have a loose neck-joint.

A properly sharpened chisel of good quality will easily take off shavings like the ones in the photograph. In harder wood, take off much thinner shavings and spend a little longer on the job. You may need a lot of pressure on the chisel handle, hence the need to clamp the work firmly. If you work on an unstable or irregular surface, there is a danger of the work splintering or turning over, allowing the chisel to remove some part of your body that you would rather have kept. (Half a finger for instance.) Particularly treacherous are non-slip rubber mats on workbenches. They are useful for sanding operations, but dangerous if left permanently on the work surface: I still have the scars to prove it!

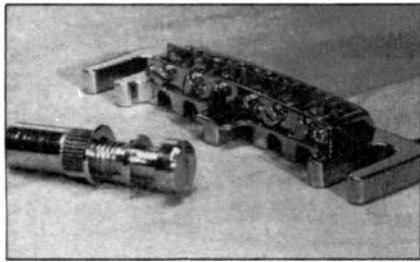
You may find it useful to set the blade of the square initially to 34mm for roughing out the bottom of the socket, and then repeat the whole operation, reset to 35mm. The advantage of cutting all the complicated angles on the neck tenon is that the socket, which is all internal cutting, has a simple and regular shape.

With a little careful trimming of the sides of the SOCKET, it should now be possible to fit the neck and body together. There is no merit in a joint so tight that you need screw clamps to force the two parts together. All you are really doing is stretching the socket, with the risk of splitting the back joint. A smooth sliding fit is ideal, and occasional gaps of up to ½mm are acceptable for a glued joint of this size. If parts of the socket are a good fit, and

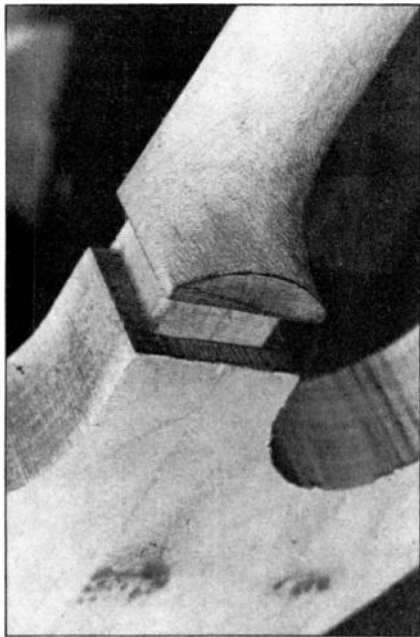


Adjustable square

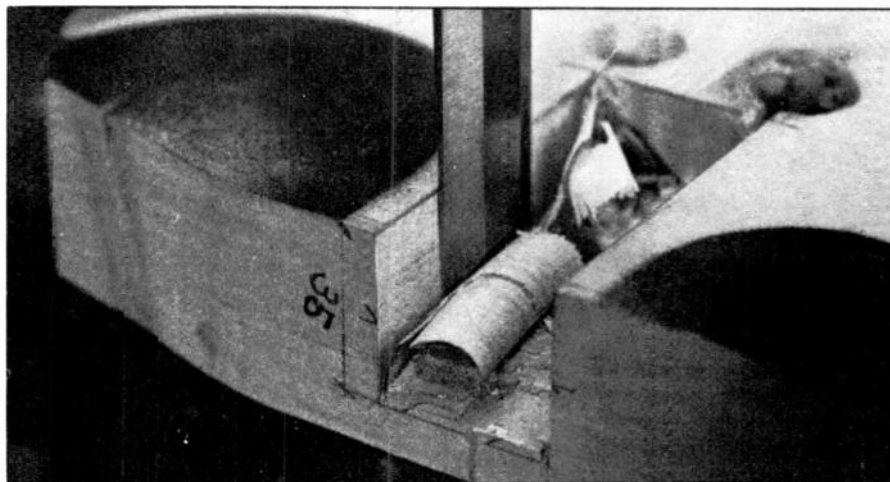
other parts are too big, as long as the neck fits in straight, and the gaps are not more than ½mm, leave it alone. Don't "tidy up" the socket so none of it fits properly. If you really have big gaps, remember that, in this sort of application, Beetle gapfilling adhesive (or a very thick 2 part Urea – Formaldehyde glue, meant for big or irregular gaps when bonding wood), or a slow-setting epoxy will easily fill a 2mm gap. It is not an ideal situation, but you may feel it is better than making a new body or neck from scratch. A wide parallel gap (for instance from bad marking out) may be partly filled with a neat slip of veneer, as long as the slip is marked to show which way round it fits. and is separately glued both sides



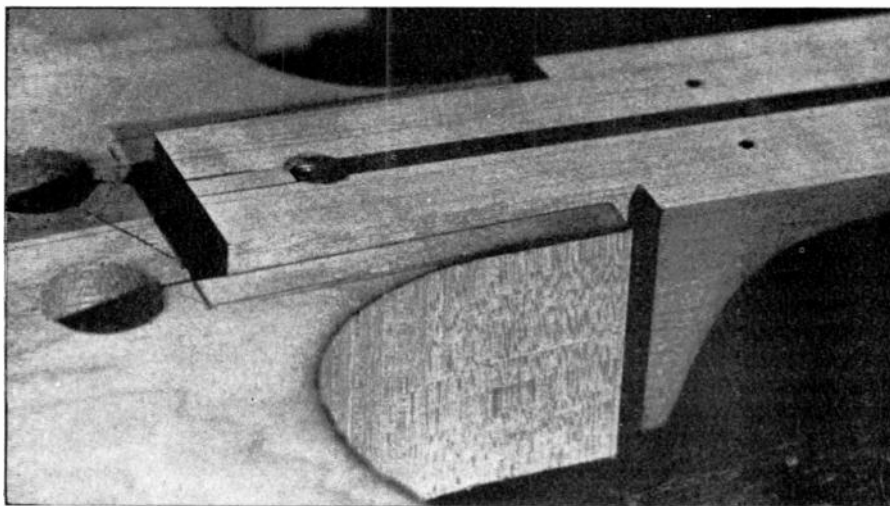
"Goodfoot" bridge and one pillar



Half-fitted neck joint



Paring side of socket



Finished joint (pulled apart)

when the neck is finally glued on.

Fit the neck into the body socket. The end part of the fingerboard should project above the body by a little more than the size of the wedges shown on the plan. Draw around the end of the fingerboard and around the heel of the neck to show where they meet the body. Cut out the remainder of the body except the end of the neck socket with suitable shaped blocks and 3-0 and 5-0 paper. You should be able to find smooth, straight-sided bottles or cans which will fit various parts of the cutaways. Pick each one a little smaller and wrap it with one layer of thin felt, under the abrasive paper. A wooden rolling pin also makes a good backing block for tight curves. Sand just outside the lines (by 1/2mm) where the body is the same width as the fingerboard, to allow a margin in case the neck shifts slightly when it is glued

on.

The open end of the neck socket needs to be trimmed at right-angles to the front and to the center line, as accurately as you can. This can be a problem, as you have only three sides of a square and the middle cut out. I clamp the body upright in a vice, and file the open end of the joint until it fits a little piece of 1/4 inch thick clear acrylic without rocking. From time to time I hold the perspex in place and check *this* against the front and center-line, with a carpenter's square and a plastic drawing square.

#### Neck alignment

The range of action adjustment possible on most guitar bridges is quite limited, and unless the neck is set on the body at exactly the right angle, you may have a guitar with an action higher or lower than you would like it. This angle is adjusted by filling or

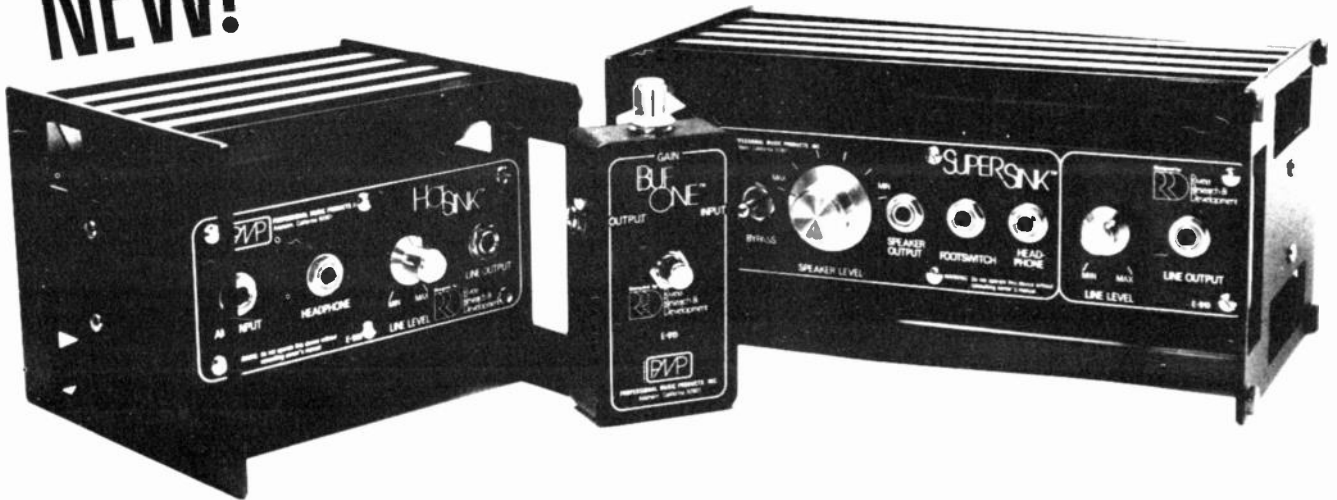
scraping small amounts off the underside of the neck tenon, where it fits the bottom of the socket. However accurately you have cut the neck joint, it is almost inevitable that a little adjustment will be necessary. As any change in neck angle will also require an adjustment to the neck heel and/or the end of the socket, it is easier to deal with the two adjustments separately.

Set the neck angle by trimming the neck tenon only (not the socket) while there is a gap of about 1/2 to 1mm around the outside of the joint between neck and body. In other words, slide the neck out slightly away from the body, so that only the bottom and sides of the neck tenon touch the bottom and sides of the socket.

The exact setting of the neck angle will depend on the minimum height of your bridge. These instructions are for the recommended bridge. You will

# NEW!

## 3 Products You Don't Own! (... but could really use.)



### SuperSink™

The first foot-switchable power attenuator in a safe and sensible package. These units are built to the most demanding specs and include variable speaker output, variable headphone output, and separately controlled variable line output that will feed everything from tape decks to consoles and power amps.

With SuperSink™, you can get your amp's "wide open" sound at levels you can live with—live or on tape. No batteries or AC power required. Suggested list: \$129.95.

### HotSink™

The economical version of SuperSink™ is both a speaker load box and a multi-function direct box.

By plugging HotSink™ into your speaker output, you can run directly into an inexpensive home cassette recorder, tape deck, mixing console, P.A. System, studio board, guitar amp, power amp, or even effects pedals.

With HotSink's™ variable level control you can get the distortion of running your amp "full out," or your regular clean sound—perfect for recording or stagework. And with the headphone output you can practice (or tune up on stage) in private. No batteries or AC power required. Suggested list: \$69.95

Both SuperSink™ and HotSink™ contribute no distortion of their own.

### Buf One™

Every amplified instrument needs one! This is the first buffer amplifier available. Buf One™ brings back the high frequencies lost when using weak pick-ups, effects pedals, or long cables.

Buf One™ also contains a built-in power booster you can kick in anytime you want—up to 30 db of gain!

With Buf One™, amplified acoustic guitars have more highs, better signal-to-noise ratio (less feedback), and enough gain to drive effects pedals or 150 feet of cable. Electric guitars, keyboards, and microphones using Buf One™ simply must be heard to be believed. Suggested list: \$59.95

Only the combined resources of *Professional Music Products, Inc.* and the advanced technology of *Rivera Research and Development* could create the superior standard of engineering excellence in this exciting new product line. Join the many studio pros and stars already using *Rivera* custom designed products—and accept NO imitations.

Available at better music dealers worldwide.

Write for free catalog.



PROFESSIONAL MUSIC PRODUCTS, INC.

1114 North Gilbert Street

Anaheim CA 92801

714-778-1121



**Building better musicians through education and technology.**



need a straightedge about 600mm to 1 meter long, fastened to a small block of wood so that it will stand on edge without falling over: the bottom of the block of wood must be exactly level with the bottom of the straightedge.

Refer to the body plan and mark the approximate position of the bridge on the front of the body. These bridges are supported by two pillars in two sockets fitted to the body. Both the pillars and the sockets have flanges which prevent the bridge being lowered right onto the body. They vary a bit, but the average total thickness with the recommended bridge is about 2.5mm. Find a scrap of clear plastic of this thickness, and tape the bridge down onto the body, on this spacer, in roughly the right place.

Now I must come to the first bit of mathematics involved so far. I am going to assume that the final fingerboard will measure 5mm thick at the edges including the height of the finished frets. This is a reasonable minimum. If yours is up to 1mm thicker, there should be no problem. These are finished thicknesses, and the fingerboard is probably 7 or 8mm thick at the moment. Using a small plane and a straightedge, remove any obvious lumps from the top surface and make it more or less flat. This does not require great precision, and no attempt should be made to produce a finished surface or to remove more wood than is absolutely necessary. The fingerboard should be roughly the same thickness all over, and have no irregularities from the saw which would confuse the setting of the straightedge. You may have already planed the fingerboard to this standard before it was glued on, but I usually do this job at this stage. It can even be done successfully with a piece of sharp 60 grit sanding belt stretched and glued over a long *straight* piece of hard wood.

Clamp the neck into the body socket with a slight gap around the heel as described. Set up the straightedge along one side of the fingerboard close to the edge, so that one end hangs just above the 1st or 6th string saddle on the bridge. If it rests on the bridge, you must shave some off the bottom of the neck tenon at the *heel* end to tilt the neck back and raise the straightedge over the bridge. If the straightedge is considerably above the bridge, you must shave off some from the bottom of the neck tenon at the *other* end, nearest to the bridge and pickups. On each side of the fingerboard and bridge, the straightedge should clear the end string saddle (top or bottom E) by **ONE MILLIMETER LESS THAN THE DIFFERENCE BETWEEN YOUR PRESENT FINGERBOARD THICKNESS AND THE ASSUMED 5mm. FINISHED SIZE.** (This setting *includes* an allowance

for fret heights as described earlier).

To avoid the possibility of a convex back to the neck tenon, and a "rocking" joint, make the center of the tenon back hollow over its middle-third by *very little*: ½mm is rather more than necessary. I usually check from time to time with a ruler against the face of the joint, held up to the light. Holding the ruler diagonally from corner to corner each way, it should not rock, and it should be JUST possible to see a hairsbreadth of light under the ruler in the center. If you get a rocking joint and you can't see why, first look for dust or shavings in the joint, and then place a piece of new carbon paper (face upwards) in the socket, before clamping up the joint. It will usually mark the high spots on the neck tenon, but think carefully about what it is showing you before you go cutting away the smudges. There are usually at least two places where you could trim a joint to fit, and only one is the right one.

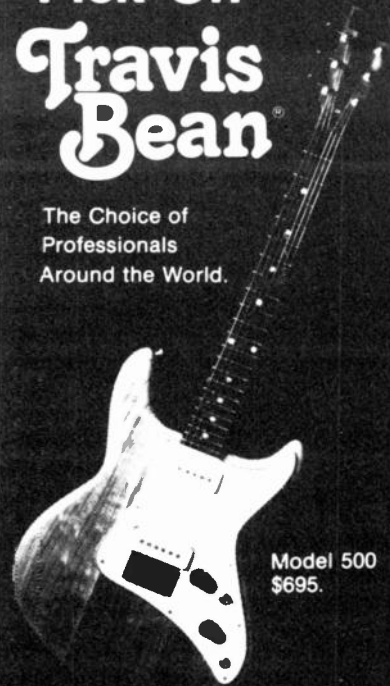
You should remember that small adjustments to the neck joint will make large changes to the neck angle. Take off very small shavings one at a time, and check before going further. If, while fitting the neck, you bring the fingerboard closer to the front of the body than is shown on the plan, don't worry. The only critical alignment is the distance of the straightedge above the bridge. I have deliberately left enough fingerboard clearance above the body to allow for many attempts at setting the neck angle. Whatever space is left, is filled in later with two small wedges. If you run out of clearance, you could plane about 1mm from the body, but this should not be necessary. The wedges under the end of the fingerboard are for support and appearance: they take no part in setting the angle between neck and body.

When the angle is right, check that the socket is level right into the inner back corners, and that the back of the neck tenon does not have an untrimmed lump just before the heel. Then slide the neck fully into place, trimming the joining faces of the heel and/or the body end until the visible outer part of the joint also fits. As long as you keep the neck tenon firmly on the bottom of the socket, trimming the heel or body to a nice fit is not going to change the neck angle. If your workmanship is not so perfect, re-check the neck angle after the heel is fitted, just to make sure. As neither bridges nor pickups are fitted, it does not matter if you need to re-cut the joint slightly and lose a millimeter from the end of the body. The bridge positions will later be measured from the fingerboard, not from the end of the body.

Do not glue the neck on yet, there are wiring holes to drill. See plan and next month's article.

# Professionals Pick On Travis Bean®

The Choice of  
Professionals  
Around the World.



Model 500  
\$695.

Other Fine Guitars & Bases  
from \$995.

"The best damn  
production guitars  
and basses  
in the world".

*George Garcia*

# Travis Bean®

Travis Bean, Inc.  
11671 Sheldon Street  
Sun Valley, CA 91352  
USA  
Toll Free 800/423-2811  
In California 213/768-2900



# Canary

*The no compromise 12/2*



## THE 12 CHANNEL STEREO STUDIO SERIES CONSOLE

Features include:— 4 Band Quasi Parametric Equalisation, Peak Programme LED Indicators, PFL and Stereo Headphone Monitoring, XLR's on all inputs, 4 Band Master Equalisation, Balanced Transformer Inputs and many more features you would expect of CANARY ENGINEERING.

Manufactured by  
**CANARY MIXING DESKS LTD**, 17 West Hill, Wandsworth SW18, London, England. Telephone 01-870 7722  
Distributed by  
**UMI INC.**, 1340 South Main, Street 200, PO Box 443 Grapevine, Texas 76051, USA.

*Silver-Eagle Designs*

The World's Finest Guitar Straps  
for the CREATIVE MUSICIAN!

Innovative, Contemporary &  
Earthy Strap Designs For:  
• Electric & Acoustic Guitar  
• Electric Bass • Banjos  
• Dulcimer  
• Resonaphonic Guitar



Just feel  
one on and  
See.

A Silver-Eagle Strap  
is a Strap that will  
be used for a Life Time!

Ask For These Brand Names  
at Your Music Dealer!

Send \$1.25 for Full-Color  
8-page catalog & receive  
FREE Silver-Eagle Sticker!



14850 Oxnard St.  
Van Nuys, Calif 91411  
(213) 786-8696

We Also Have  
18" x 24" Color Posters  
Men's & Ladies T-Shirts  
©1979 Silver-Eagle Designs, Inc.

Circle 724 on Reader Service Card

# GALLI® STRINGS



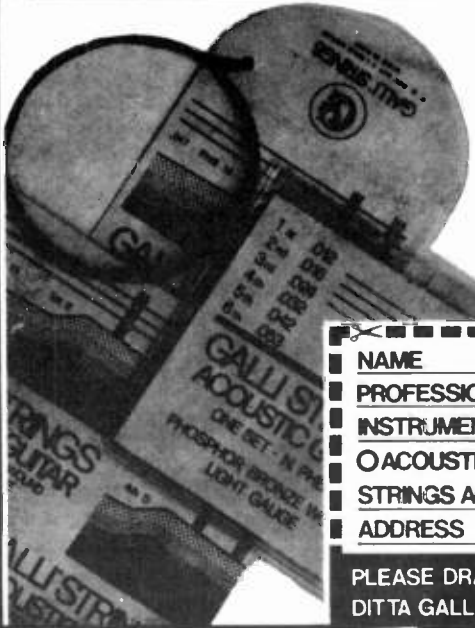
Mid Round  
Electric Bass Strings

Art.	SELECT GAUGES	DIAMETERS					
		1	2	3	4	5	6
N. PHB 10	Extra light	010	014	023	030	039	047
N. PHB 20	Light	012	016	024	032	042	053
N. PHB 30	Medium	013	017	026	035	045	056

## PHOSPHOROUS BRONZE STRINGS

Strings in phosphorous bronze produce a brilliant and lively sound and a better harmony. These strings have surpassed other types because each winding of phosphorous bronze wire is subject to a special treatment. We have found that this special treatment gives the strings a better flexibility and an excellent durability. It is a fact, phosphorous bronze strings, wound with other alloys last longer.

Here it is! the string you have been looking for for years, studied and perfected by Galli technicians to give your guitar a revolutionary sound. Take our word, the Galli PHB is the string for tomorrow. Remember that our experience in the field of guitars is always at your service.



NAME \_\_\_\_\_ SURNAME \_\_\_\_\_

PROFESSIONIST  AMATEUR  PUPIL

INSTRUMENT YOU USE AND MARK \_\_\_\_\_

ACOUSTIC Guitar     Classic Guitar     Bass Guitar     Electric Guitar     12 String Guitar

STRINGS ACTUALLY USED \_\_\_\_\_

ADDRESS \_\_\_\_\_

PLEASE DRAW UP THE CARD SO THAT WE CAN SEND YOU SAMPLES OF OUR STRINGS.  
DITTA GALLI P.O. BOX, 2177 A.D. 80143 NAPLES (ITALY) Tel. (081) 7590029 · 7596760 · TELEX: GALLI · 73227

# Understanding Synthesizers

PART 7 BY TONY HORSMAN

## Introduction

Last month I explained how the continuous oscillations produced by the synthesizer's audio-oscillators (VCOs) are split up into discrete notes by the voltage-controlled amplifier (VCA). This is a very important concept, so I am going to go over this point again before describing the VCA and ADSR module (envelope generator) in more detail.

Have a look at Fig. 1 and imagine that no key is depressed on the synthesizer keyboard. The VCO is oscillating and its voltage waveform is reaching the audio input of the VCA. The keyboard gate pulse is not present, so the output of the ADSR module is zero. Because this output is controlling the VCA gain, the VCA is effectively switched off and prevents the VCO's signal from reaching the power amplifier. Now, suppose a key was pressed down, then released. The keyboard voltage would change immediately to its new value and stay there (held by the keyboard memory). The keyboard would also produce a keyboard gate pulse which would stay "high" only as long as the key was depressed. This pulse would "trigger" the ADSR module, producing the ADSR waveform (shown in Fig. 1) once only. This waveform would increase the gain (amplification: see Part 6) of the VCA, and the VCO's signal would reach the power amplifier and speaker as long as the key was held down. So by their combined efforts the keyboard gate pulse, the ADSR module and the VCA would produce a discrete "note" from the continuous train of oscillations generated by the VCO.

## Dynamics

You might well be wondering why we need an ADSR module at all. If the keyboard gate pulse was fed direct to the control voltage input of the VCA, wouldn't that have the same effect? The answer is yes, it certainly would work, but it wouldn't sound too good. Every note would start very suddenly (with an audible "click"), because the keyboard gate pulse takes virtually no time at all (perhaps 1 millionth of a second — or 1 microsecond) to go from zero to its high level. While the key was held down, the VCA gain would be constant (the loudness of the note would not change) then very suddenly, when the key was released, the note would stop.

In reality, no note just suddenly starts and then stops dead. Within the duration of a note played on any acoustic instrument a

number of "phases" can be identified, and the loudness (and actually the tone quality) of the note varies throughout the phases. "Dynamics" is a general term used to describe variations in loudness, either over long time intervals (such as the duration of a composition) or short time intervals (such as the duration of one note). The ADSR module produces these short-term dynamics by generating a voltage waveform which varies in amplitude while a key is depressed (see Fig. 1), continuously altering the gain of the VCA as it does so.

## AR Module

The bare minimum of control over note dynamics is provided by a module known as an "AR module" (AR stands for Attack-Release) and although it is not as versatile as the ADSR module described below, it acts as a useful introduction to the latter.

In an AR module two *times* are under the player's control. Have a look at Fig. 2 which shows the voltage waveform produced at the AR module's output. The first is the attack time which determines how long the waveform takes to reach its highest value. Having reached a maximum (say 10 volts as shown), the voltage does not change until the key is released. The second time interval which is under the player's control is the release time, which is the time it takes the waveform to fall to zero after the key is

released. In terms of the "phases" referred to earlier, this waveform has an "attack phase," a "sustain phase" (within which the AR module produces a fixed voltage) and a "release phase." In practical terms, the attack and release phases may be anything from 1/1000th second (1 millisecond) to 10 seconds long, depending on the settings of the "A" and "R" sliders on the synthesizer front panel.

Fig. 3 shows various AR waveforms which might be used in synthesizing instrumental sounds. Note that if a key is released *before* the end of the attack phase, the AR waveforms does not reach its peak value.

## ADSR Module

Whereas an AR waveform has three phases, the ADSR module generates a waveform with four phases (Attack-Decay-Sustain-Release), and in addition provides manual control over the voltage which will be maintained as long as the key is held down.

The ADSR waveform is shown in Fig. 4. The new phase is called the "decay phase" which follows immediately after the attack phase, and the new "S" control, active in the sustain phase, is called the sustain level (see Fig. 4). It is very important to realize that the "A", "D" and "R" sliders control *times* (the durations of the attack, decay and release phases) but that the "S"

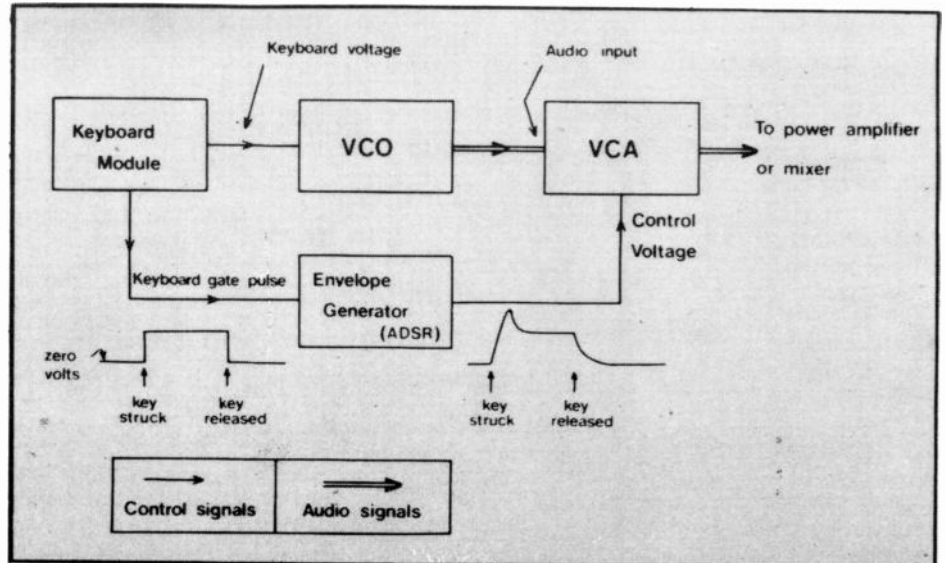


Fig. 1 A basic synthesizer. Every time a note is struck on the keyboard, the keyboard gate pulse triggers the ADSR module (envelope generator) which in turn produces an output which smoothly increases then decreases the gain of the VCA.

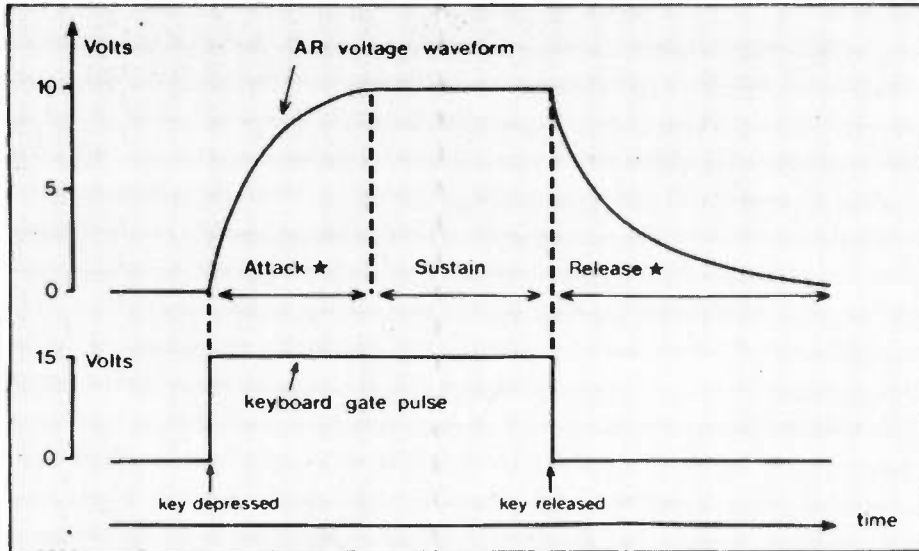


Fig. 2 Voltage waveform produced by an AR module showing the attack, sustain and release phases. The attack and release times (\*) can be varied.

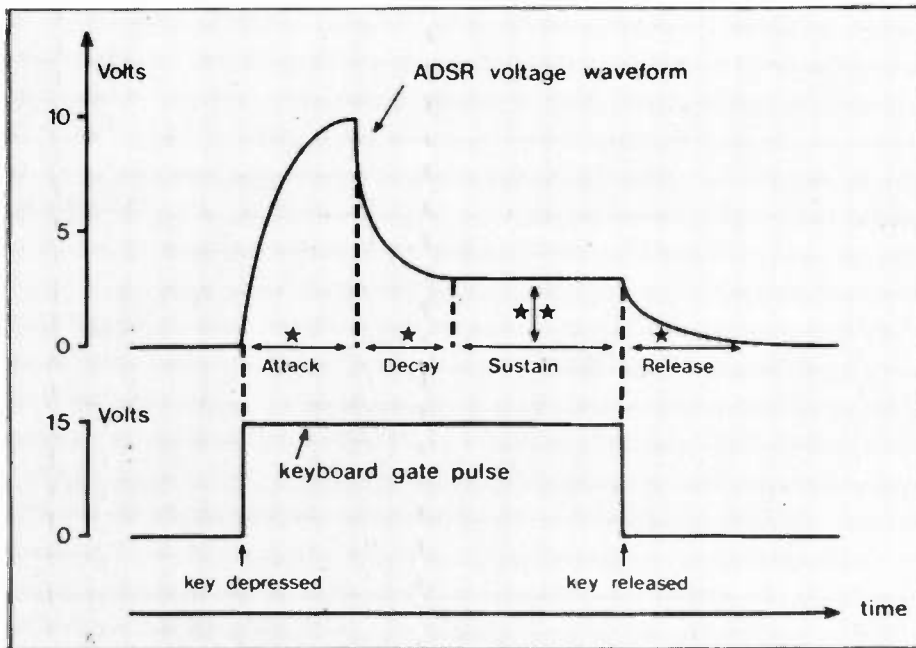


Fig. 4 Voltage waveform produced by an ADSR module showing the attack, decay, sustain and release phases. The attack, decay and release times (\*) and the sustain level (\*\*\*) can be varied.

slider controls the *voltage level* during the sustain phase (the duration of the sustain phase of course varies from note to note).

At first all this may seem confusing, particularly so because the usual design of ADSR sliders produces a misleading pattern which bears little resemblance to the resulting ADSR waveform. However, the sounds synthesized by an ADSR/VCA combination are much more interesting and varied than those produced by an AR/VCA combination. One of the main reasons for this lies in the ability of the ADSR modules to

produce a "spike" during its attack and decay phases (see Fig. 5) before it settles to its sustain level. This feature enables percussive sounds to be generated and also (when used with the filter) enables "attack transients" to be generated if the attack and decay times are very short. These very fast changes in loudness and sound quality which occur at the start of a note are extremely important in determining the perceived sound quality even during a long sustain phase. We remember what happens at the start of a sound and attach great importance

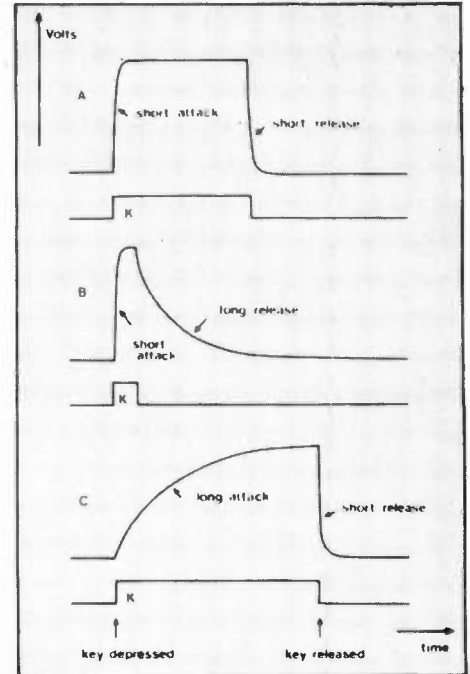


Fig. 3 Examples of AR waveforms with keyboard gate pulses (K). (a) Short attack and release times: produces a rather dry sound, like an electronic organ (without reverberation). (b) Short attack and long release times: tapping the keys so that the sustain phase is short produces pleasant sounds which die away slowly. (c) Long attack and short release times: produces an unusual effects, the sound taking a long time to grow to its maximum loudness, then suddenly disappearing.

to the attack transients, even though the attack and decay phases may together represent only a very small fraction of the total duration of the sound.

### VCA Module

You are already familiar with the general idea of how a voltage-controlled amplifier works: the higher the control voltage the greater the amplification (or gain) of the amplifier. In Part 4, I showed a diagram in which the frequency of a VCA was related to the control voltage — usually for each 1 volt step in control voltage the pitch of the oscillator moves one octave. In the same way it is possible to show how the VCA gain changes with its control voltage, as in Fig. 6. For the particular VCA illustrated there, the VCA amplification increases by about 0.1 for each 1 volt increase in control voltage.

The control voltage which reaches the heart of the VCA module is actually the sum of control voltages from a number of possible sources, analogous to the control voltage mixing shown for the VCO in Part 5. Fig. 7 illustrates this idea with control voltages coming from the ADSR module, LFO and a ▶▶

Resynate your trumpet Resynate your violin Resynate your voice Resynate your drums Resynate your synthesizer

Resynate your trumpet Resynate your violin Resynate your voice Resynate your drums Resynate your synthesizer

Resynate your guitar Resynate your sax Resynate your Rhodes Resynate your flute

# Resynate YOUR ACT

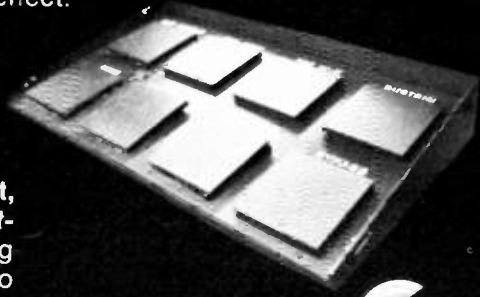


Your music is special and you want to play it like no one else. You've searched for a special sound but all those effects pedals get in the way of your playing. You want an instrument that responds to your hands and the expression you've worked so hard to perfect. An instrument that lets you create sounds that defy traditional definitions. An instrument that lets you select a sound and shape that sound any way your mood dictates. That instrument is the Resynator™.

**The Resynator™ is the one and only** instrument controlled synthesizer - with microcomputers to analyze *what* note you're playing and *how* you're playing it. The Resynator™ constructs a sound and shape totally dependent on these analyzed parameters. With it, you can create any effect.

- It can sound like acoustical instruments.
- It can sound like a synthesizer.
- It can produce new sounds.

Expand the range of these sounds with your foot, using the Resynator's remarkable *Lite-Touch Footpads™* and *Vari-Pads™*. All this sound creating potential is under the direct control of your two hands and one foot.



When you're through, the Resynator packs up to become one compact, lightweight briefcase. The Resynator™ is musical excitement. So Resynate your act with the Resynator™ from Musico.

**MUSICO**  
Advanced computer technology utilized by musicians for musicians, closing the gap between science and sound.  
1225 N. Meridian St.  
Indianapolis, Indiana 46204  
Phone: (317) 635-4801

© 1979 MUSICO

Resynate your guitar Resynate your sax Resynate your Rhodes Resynate your flute

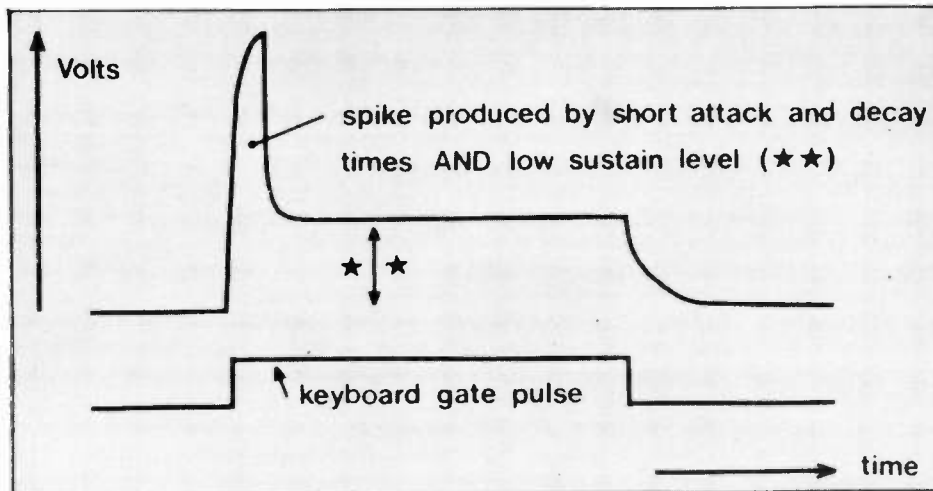


Fig. 5 ADSR waveform with short attack and decay times and low sustain level, used for synthesizing percussive sounds.

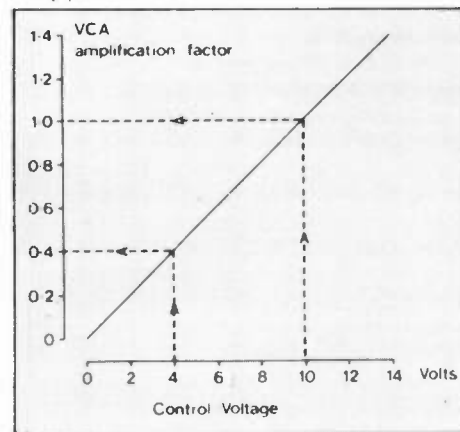


Fig. 6 Graph showing how the amplification of a VCA varies with control voltage. When the control voltage is 10 volts the gain (amplification factor) of this VCA is one (i.e. the output amplitude equals the input amplitude). At lower voltages the gain is proportionally less: e.g. if the control voltage is 4 volts, the output is only four tenths (0.4) of the input.

slider called "Hold" or "Initial Gain." The slider (amplitude control) between the ADSR and the VCA simply controls the overall amplitude of the ADSR waveform, and effectively acts as a synthesizer volume control. The Hold or Initial Gain slider presents an adjustable voltage which again is added to the ADSR waveform. With this control at any position other than zero, the VCA always lets some audio signal through; the VCA waveform is never completely blocked and all notes are held indefinitely.

The slider between the LFO and the VCA alters the amount of LFO waveform added to the ADSR waveform for the production of the tremolo effect (see Part 2). In synthesizers with only one VCA and without a ring modulator, adding the LFO's output to the ADSR waveform is the only way tremolo can be produced. However, tremolo is much better produced using two VCAs in series (one after the other) or using the ring modulator as I will be describing later in the series.

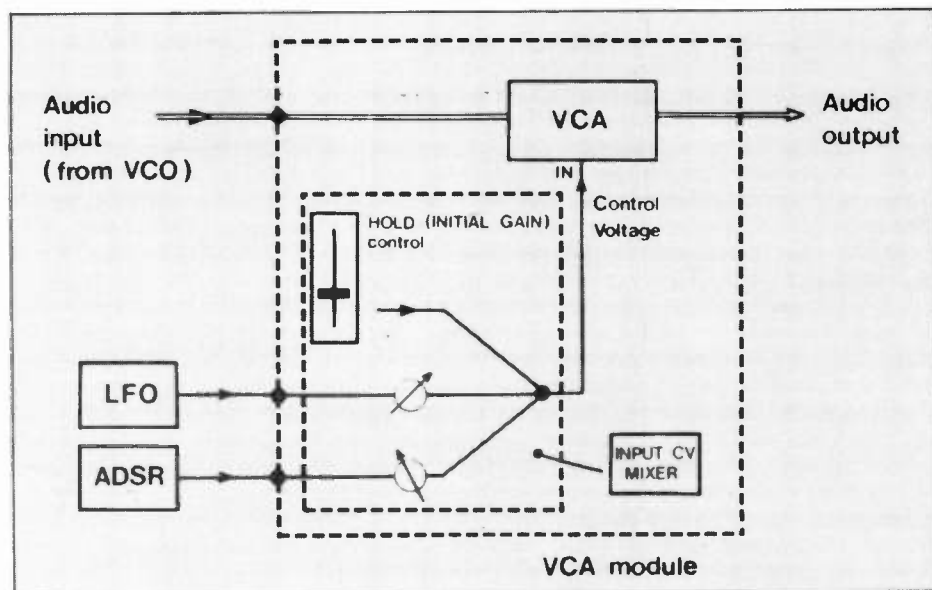


Fig. 7 Schematic diagram of a VCA module showing the control voltage mixer receiving inputs from the ADSR and LFO modules via amplitude controls and from the HOLD or INITIAL GAIN control

#### LFO trigger for the ADSR module

There is an effect well known to organists as "repeat percussion" in which a rapid series of discrete notes of the same pitch is produced as long as a key is held down. The effect is used for imitating, for example, strummed mandolin, banjo, xylophone and marimba sounds. At first sight it might seem that adding the sawtooth or square wave outputs of the LFO to the ADSR waveform (in the VCA's control voltage mixer) would produce this repeating effect. However with a little thought you will realize that even when the ADSR's waveform had decayed to zero, the LFO's waveform would periodically cause the VCA to pass on the VCO's signal — the train of notes would never stop.

The way synthesizer designers have got round this problem is fairly simple: They provide a switch which routes the square waveform of the LFO to the input of the ADSR module (instead of the keyboard gate pulse). Every time the LFO waveform

goes from zero to its maximum (see Fig. 8), the ADSR is triggered. There is one proviso, which is that repeated triggering is allowed only when the keyboard gate pulse is present — i.e. when a key is depressed. From the player's point of view, while a key is held down a repeated chain of notes is produced with a repetition rate governed by the LFO frequency control. In this situation, the ADSR controls determine the characteristics of every note in the chain, so some care is needed in setting up the ADSR. If the LFO is set at a relatively high frequency (say 10 Hz) and the attack time is long, the results will be disappointing, if not inaudible!

Next month I will be introducing the voltage-controlled filter (VCF) and showing how the ADSR waveform can be used to vary the tone quality during a note as well as the amplitude.

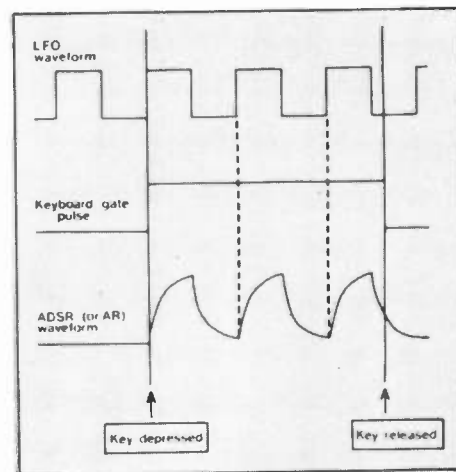


Fig. 8 Production of repeated notes by using the LFO's square waveform to trigger the ADSR module. The repeated triggering only occurs when the keyboard gate pulse is present i.e. a key is depressed.

# WE'RE "THE OTHER GUYS" — TRY US

You won't be satisfied with your present case supplier when you do.

## WE TRY HARDER!

PHONE: 1-800-421-2666

Roadrunner cases are tougher. Made to tougher standards from design to delivery. Ask any of our customers!

Brochures and price-list available on request.

Roadrunner Cases,  
1745 W. 134th St.  
Gardena, CA 90249  
(213) 770-44444.



Circle 722 on Reader Service Card

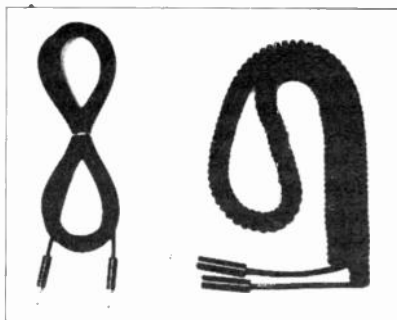
## ALTERNATIVES FOR THE MUSIC INDUSTRY

"CONQUEROR" MULTI-CABLES



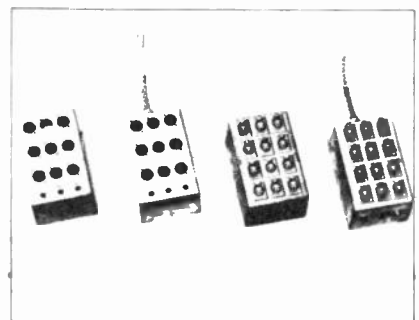
AVAILABLE IN 9, 12, 15, 19 & 27 PAIRS. FEATURING BELDEN CABLE & SWITCHCRAFT PLUGS.

"SILENCER" GUITAR CABLES



FEATURING BELDEN CABLE WITH AN INTERNAL NOISE REDUCING TAPE, A TOUGH FLEXIBLE NEOPRENE JACKET, CUSTOM BUILT BRASS MILITARY PLUGS WITH A DIAMOND SHAPED TIP & A 2 YEAR GUARANTEE.

STAGE BOXES 4 WAYS



FOR THE DO-IT-YOURSELF MULTI-CABLE BUILDER.

**"The entire line of Conquest sound audio products is available at music dealers from coast to coast"**

**Conquest Sound Co.** 15524 S.70th CT. ORLAND PK. IL. 60462 312-429-1770

Circle 729 on Reader Service Card



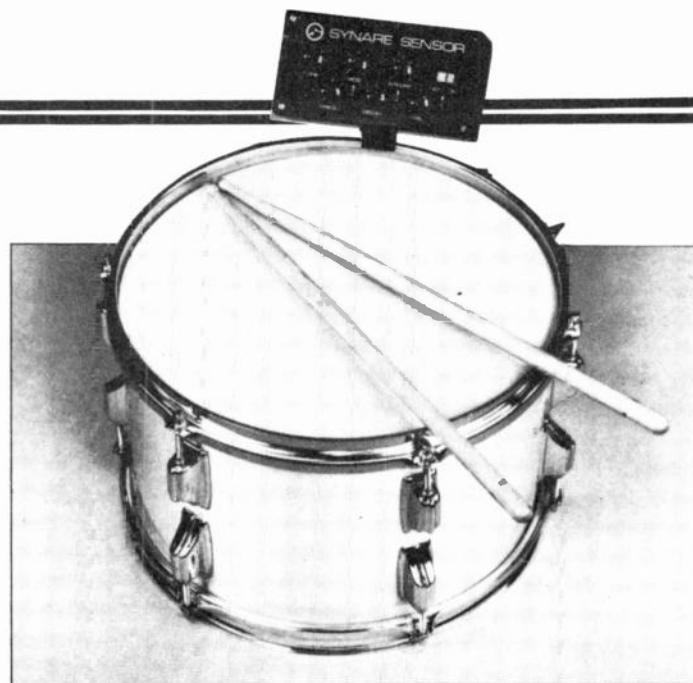
# New Products

## Synare Sensor Percussion Synthesizer

Star Instruments Inc. has recently developed the Synare Sensor, a compact, reasonably priced percussion synthesizer which can be mounted on the rim of any drum. The device picks up the vibrations of the hit through the rim and translates them into a variety of

"popular" synthesizer sounds. The sensor does not actually touch the drum head — it is mounted out of the way opposite the drummer so the standard drum sound is not affected.

The Sensor uses a nine volt battery for operation and can be plugged into any instrument, home hi-fi amp or PA system. An optional foot pedal controls the on/off operation of all Sensors in use.



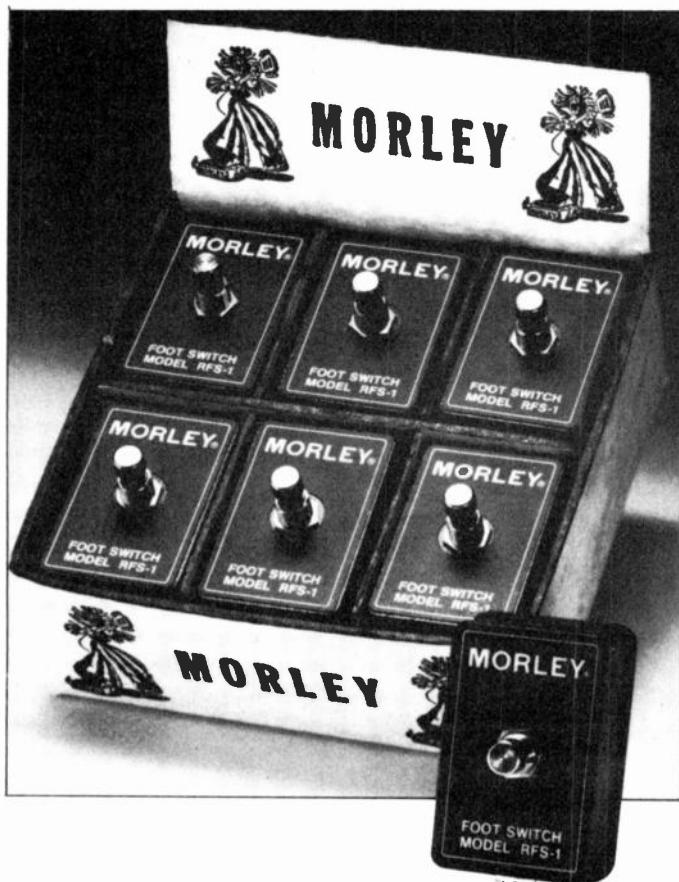
Circle 877 on Reader Service Card

## A Switch in Morley

Yet another addition to the already impressive range of Morley effects units comes in the shape of a remote control footswitch. This RFS enables the performer to plug in any kind of electronic instrument and switch it on and off wherever is most convenient for the player.

The unit is built to the

usually high Morley standards, and is housed in a solid one-piece, heavy gauge casting which weighs over half a pound. Non-skid corner anchors stop the RFS moving around on stage and a major innovation is the use of a jack to replace built-in cords which is one of the major causes of footswitch wear.

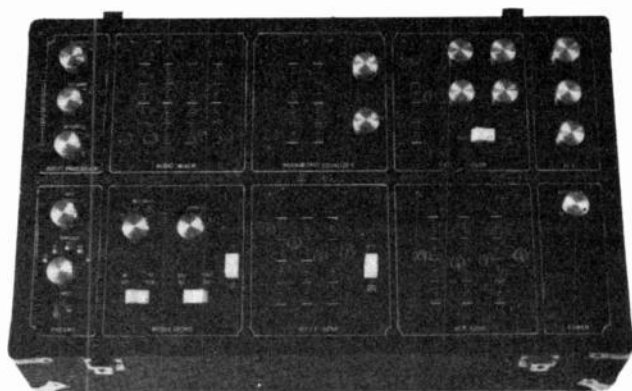


Circle 878 on Reader Service Card

## The Nebula Guitar Synthesizer

From BCD Technology Inc. comes the new Nebula guitar synthesizer, a low cost, highly flexible unit that uses the output signal from any instrument, microphone or pre-recorded source instead of self-contained voltage controlled oscillators. Guitarists no longer have to "bow to the whims" of a pitch-to-voltage converter and drummers can get the rull range of

synthesized sounds while playing their own drums. Some of the main features include "rapid triggering" (the synth will follow the player no matter how many notes per minute), no hexaphonic pickup required, just plug it right in, the Nebula can be used with any wireless system and it features a dual pedal that really works!



Circle 876 on Reader Service Card

## Valdez Guitars

The Valdez Guitar Shop (7420 Sunset Blvd., Hollywood CA 90046) has been doing custom repair work for musicians like Daryl Hall, Rick Derringer, Jan Akkerman, Davey Johnstone, Roger McGuinn, Steve Stills, Elliot Randall and Van Morrison — they specialize in acoustic instrument repairwork but will also work on electrics — over the years and, more

recently, they've been building a deluxe line of custom made classical and flamenco guitars for customers like Jim Stafford, Daryl Hall (mandolins), Akkerman and . . . Charo! They are expensive — prices start at \$1,800 and go up from there — but every indication is that they are well worth it. Something to consider for your Christmas shopping list?

Circle 879 on Reader Service Card



The no excuse synthesizer  
from Sequential Circuits.

For a demo record send \$1 to: 1172G Aster Avenue, Sunnyvale, CA 94086 • (408) 296-3116

Circle 741 on Reader Service Card

# First name in first bands.



When you're putting that first band together, the best place to start is with the Hondo sound. We specialize in equipment for the musician who's just getting going, understanding not only what he'll want from an instrument today, but tomorrow too.

There's one more thing we understand about the "first time out". Costs. You not only need equipment with the right sound, but you've got to be able to afford it. You'll find Hondo prices, without doubt, make our instruments the best value, dollar for dollar, on the market.

Go with #1 for your first band.  
Hondo.

**HONDO INSTRUMENTS** (from left to right, above)

**Model HD-910AB**

Brass Bridge, Brass Pickup Mounting Rings, 2 DiMarzio Special Design Humbuckers, New Antique Brown Finish.

**Model HD-740B**

This popular Hondo model is available in 7 different finishes, with Set-in or Bolt-on Neck, Single or Double Cutaway, 2 DiMarzio Pickups.



HD-850AB

**Model HD-999AB**

New, Basic Performance Guitar with 2 DiMarzio Special Design Humbuckers, Single Cutaway, Fast Slim Neck.

**Model HD-850AB**

Brass Bridge, single P-Bass style DiMarzio Special Design Pickup, Maple Neck.

**Model H-1100B**

Hondo's Professional Model Strat, True Vintage Construction and Playability Features.

**Texas TA-50 Amplifiers**

These Texas amps feature 50W RMS, 1-12" High Performance Speaker, Master Volume, Reverb, Overdrive Sensitivity Controls.



HD-999AB/TA-50



**INTERNATIONAL  
MUSIC CORPORATION**

Dept. G, P.O. Box 2344, Fort Worth, Texas 76113

# Fender introduces two dynamite guitars.

Fender® introduces two totally new instruments — the Lead I and Lead II Rock 'n Roll Guitars.

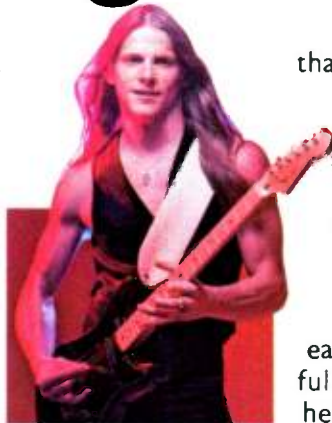
For starters, the Lead I and Lead II look rock 'n roll. We reshaped the body for easier playing and restyled the head to match.

**Hot stuff.** Simply put, what we've done on the *inside* may just help these

new Fenders blow out any other guitar on the market.

The Lead I arms you with a more highly explosive humbucking sound than anything around.

The Lead II brings



STEVE MORSE OF DIXIE DREGS

that legendary Fender sound to a white heat.

All this is the result of super hot-rodded pickups, totally new circuitry and switching capabilities that open up an unduplicated range of sounds.

**Full-scale Fenders.** On each guitar, we've coupled a full-scale 25½-inch neck to a heavier ash body for perfect feel and balance. Not that we set out to add weight to these guitars — but because increased mass and density are the logical coefficients of Lead I's and Lead II's functions.



**Our lyrics can't do justice to your music.**

Nothing we say will come close to what you can play with a Lead I or Lead II Rock 'n Roll Guitar.

So we strongly suggest you play a note, a chord or your favorite solo on one at your authorized Fender dealer.

We think you'll agree: These could be the ultimate rock 'n roll instruments.

And while the sound may be almost too hot to handle, you can definitely handle the price.

**The Lead I & Lead II Rock 'n Roll Guitars from**

**Fender®**  
MADE IN U.S.A.



# color



the small stone phase shifter is a rich palette of colors for all the feelings your music can be—from urgent, vibrant shades to gently rolling, meditative hues. that's why it's the world's most popular electronic musical accessory.

**electro-harmonix 27 west 23rd street n.y., n.y. 10010 212-741-1770**

# The ARP for the studio.



Studio facilities courtesy of Intermedia Sound, Boston, MA.

# The ARP for the stage.



In the latest *Billboard*\* survey, U.S. recording studios reported that they prefer ARP synthesizers over any others. By a 2 to 1 margin.

Not surprisingly, most of the ARP synthesizers used in professional recording studios are ARP 2600s. No other variable synthesizer offers so much versatility for the producer, engineer and recording artist. Whether the application is overdubbing or post-production processing, the ARP 2600 is the one synthesizer that the pros find hard to live without.

Synthesizer lead lines are a snap with the 2600, evoking any mood desired from funk to fantasy. The 2600 string patch is the most popular string sound in professional circles. And of course, there are 2600 brass, woodwind, and percussion sounds for every occasion, not to mention hundreds of electronic sound effects that can turn a studio into a space station.

If you've been in recording for a few years, you know the ARP 2600 for what it is: *the* studio synthesizer.

If you don't know the 2600, see one now at a selected ARP 2600 dealer. Because an ARP 2600 doesn't belong in a music store. It belongs on tape.

The first musicians to use the ARP 2600 on stage were people like Peter Townshend, Stevie Wonder, and Edgar Winter.

As the sound got around, quite a number of fine musicians went up on stage with 2600s. People like George Duke and Ian Underwood, *Chicago's* Robert Lamm, Herbie Hancock, Tim Weisberg, *The Tubes'* Michael Cotton, *Genesis'* Tony Banks and, of course, Joe Zawinul of *Weather Report*.

No other lead line synthesizer in music surpasses the 2600, considered to be the most flexible, open-ended synthesizer in the world. No other variable synthesizer gives you so many musical options, so much control over the subtleties of sound.

A recently redesigned live performance keyboard offers you two-note capability, pitch bending, delayed vibrato, portamento, interval latching, and speed control of the low frequency oscillator. The console offers a choice of either pre-wired internal connections or patch cord override for a myriad of combinations.

If you've been performing with a synthesizer for a few years, you know the ARP 2600 for what it is: *the* ultimate live performance lead line synthesizer.

If you don't know the 2600, see one now at a selected ARP 2600 dealer. Because an ARP 2600 doesn't belong in a music store. It belongs on stage.

\* (Source: *Billboard's International Recording Equipment and Studio Directory 1978-79*)



For the names of selected ARP 2600 dealers, write:  
ARP Instruments, Inc.,  
45 Hartwell Avenue,  
Lexington, Massachusetts 02173.  
Or call: (617) 861-6000.  
©1979 ARP Instruments, Inc.

Circle 774 on Reader Service Card



## ONE GOOD THING LEADS TO ANOTHER!



Three years ago, we introduced the StingRay Bass. It is a worldwide success story in which we take just pride. Such internationally famous artists as Joel Di Bartolo with Doc Severinson on the Tonight Show, Freebo with Bonnie Raitt, Patrick Djivas of P.F.M. in Italy, Louis Johnson of Brothers Johnson, Carol Kaye, writer, publisher and recording artist, Niels-Henning Orsted Pedersen of Denmark, Carl Radle with Eric Clapton and countless others have become enthusiastic users of the StingRay Bass.

With such prominent acceptance we could have easily been tempted to leave well enough alone, to sit back and bask in the sunshine of success. But it cannot be. One good thing leads to another. The crisp, tightly defined sound of the StingRay has now been incorporated into a sister model, the Sabre.

If you have not yet joined the ranks of the growing number of Music Man converts, make a trip to your Music Man dealer. Try both models. We can help contribute a whole new dimension to your sound. MUSIC MAN, INC., 1338 State College Parkway, Anaheim, California 92803.



**MUSIC MAN, INC.**

P.O. Box 4589 ■ Anaheim, CA 92803 ■ (714) 956-9220 ■ Telex 692-397

World Radio History  
Circle 780 on Reader Service Card

Donk **John Deacon** Helmutt Hattler  
'ma **Jim Rodford** John Paul Jones  
erry **Percy Jones** Colin Hodgkinson  
ask **Stanley Clarke** .....

## .....**CAN TELL THE DIFFERENCE**

BECAUSE THEY ALL USE SUPERWOUND SIX-O-SIX ROUND-WOUND GUITAR STRINGS FOR THEIR BIG GUITAR SOUND. THESE STRINGS ARE AVAILABLE WITH FIXED BALLEND TO SUIT FENDER PRECISION AND JAZZ BASS, RICKENBACKER 4001, WAL PRO BASS AND THE MUSIC MAN STINGRAY. FOR OTHER BASS GUITARS USE OUR PATENTED ADJUSTABLE 'BALL AND CONE' FIXING.



**SUPERWOUND**  
THE UNIQUE MUSIC STRING



# ROCK'N ROLL FOR EVER...

TWO YEARS ON!  
OUR SUCCESS HAS COME  
THROUGH OUR CLIENTS' TRUST.  
THANK YOU!



ROCK-POP-  
INTERNATIONAL,  
EXPERIENCED  
SESSION MUSICIANS  
ARRANGED - CONCEPT  
PROJECTS WELCOMED -  
ENGLISH/GERMAN  
STUDIO CREW -  
2 x 24 TRACK STUDIOS -  
VARIABLE ACCOUSTICS -

'ROUND THE CLOCK  
WORKING -  
HOT MEALS  
ALWAYS AVAILABLE!

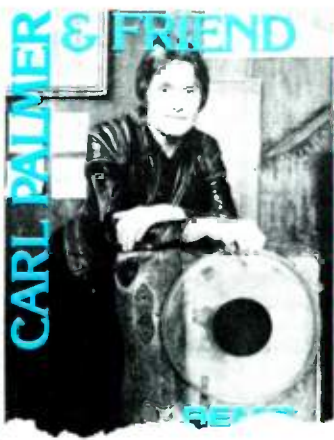
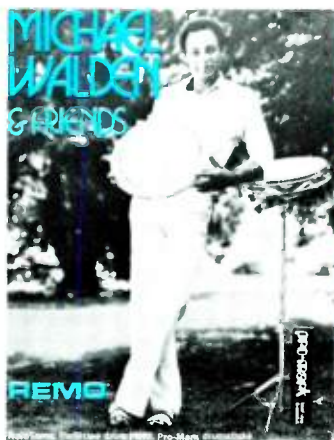
**hot  
one**

HOTLINE  
STUDIOS GMBH

NORDENDSTRASSE 30  
6000 FRANKFURT/W. GERM.

☎ 0611 · 55 65 66 (99) TELEX: 414073 rock d

Circle 773 on Reader Service Card



## REMO and FRIENDS

Thanks to these superstars for choosing and *using* our percussion products . . . and to the thousands of friends the world over who have made Remo the most asked-for name in drum heads!

**REMO** USA  
*We help you sound better!*

Remo, Inc. 12804 Raymer St., North Hollywood, CA 91605

Send \$2.00 for set of six posters, 9" x 12", as shown.



Circle 722 on Reader Service Card



CHET  
ATKINS  
IN  
CONCERT

# The Country Gentleman

A legend in its own time

This is the guitar for the serious musician. Designed and played by Chet Atkins, the Country Gentleman has been welcomed in concert halls throughout the world and has gained the distinction accorded to only those who set the standard for others to follow.

And no wonder. Feature for feature you just can't buy a better guitar. The Country Gentleman is equipped with newly designed 8K-Ohm filtertron humbucking pickups, easy flip mini switches, Grover machine heads, an intonation-true 25½" scale, and patented Gretsch geared truss rod.

There's more, much more. To touch the living legend, see your nearest Gretsch Dealer.

For further information, write to Gretsch, Dept. B, 1801 Gilbert Ave., Cincinnati, Ohio 45202.

**GRETSCH**   
MUSICAL INSTRUMENT MAKERS

# Speakercheck

Whereas the 18" loudspeaker was once supreme as the bass instrument reproducer, recent years have seen a swing away from 18s to 15" units. There is little doubt that a properly loaded 15" speaker can give a really good account of itself as a bass instrument reproducer — with the added advantage of being able to handle a certain amount of the middle register as well — and deliver a more crisp sound than did the 18" unit on its own. But for pure fundamental reproduction of bass, open E strings and all that, in a simple infinite baffle enclosure without the complexities of horn loading etc., the 18 is still king.

As the market for the 18" unit fell away, so too did the incentive for manufacturers to include such an animal in the catalog and, therefore, there are only a few available on the market. For this reason, we have decided to include "standard" and "special" category products in a single review for this particular report. We will not expect a similar performance from a less expensive unit as from a top professional product and will therefore comment accordingly when making the final comparisons.

A new enclosure was constructed for our 18" tests, this time of 130 ltrs. It was again an infinite baffle design with a quick-release clamp arrangement

on the front to permit the rapid change-over of units, and was lagged with an 80mm thickness of fiberglass wool. Changing these units over — especially the Fane Crescendo with its massive magnet assembly — proved to be a little more demanding than was the case with the 12" and 15" units.

During these tests we ran into a problem that we had expected to encounter earlier. We have been powering the loudspeakers from an HII TPA-100D power amplifier after laboratory testing its own frequency response and distortion characteristics. It is interesting to note that this amplifier is perfectly linear over a frequency range that well exceeds the range of human hearing and that it will deliver sine wave power of up to 180 watts into an 8 ohm load and up to 250 watts into 4 ohms before clipping. Just as a safety precaution, we monitor amplifier output signal on an oscilloscope to ensure that no signal clipping occurs. When we tested the high power 15" units we expected to run out of amplifier power. In the event, distortion figures started to rise significantly at 150 watts in each case so the problem did not arise. However, in the case of the present tests on 18" units, we have found loudspeakers with distortion as low as 1.5% at full rated power of 150 watts and it would normally be our policy to run these at

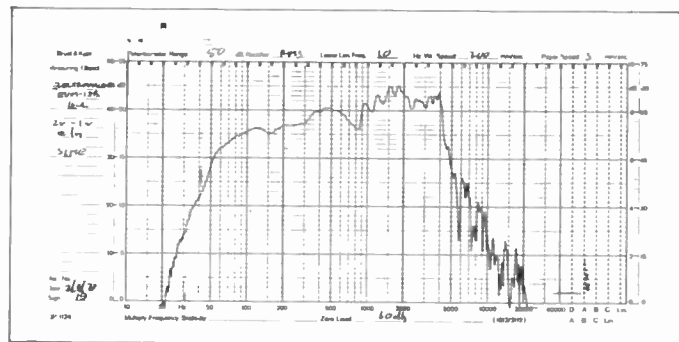
a 50% increase in power. If this continued to show low distortion, a re-test at 100% increase would be made. Therefore, in the case of the JBL K151, and RCF L18P/100A, we must content ourselves with a statement to the effect that the units are conservatively rated, as the amplifier used would be incapable of powering these loudspeakers at such power levels.

One final point that should be kept in mind when considering the results of these tests. It will be seen from the tables that some of these loudspeakers are showing frequency responses right up to 10KHz, and while this is nice to have for some punch to the bass instrument sound, it is to be expected that the spread of this mid and high frequency signal will be very restricted from a cone of this diameter. Our measurements are done on the main forward axis of the loudspeaker and therefore we include this upper register response in our measurement, but it is unlikely that any useful energy at these frequencies will be audible at more than say 20° off the main axis — either upward, downward or side-to-side. It is far better to use an 18" unit for its intended purpose as a gutsy bass reproducer and to use an additional horn for the punch to ensure a good distribution of the mids and highs.

Ken Dibble

## Electro-Voice EVM-18B

Parameter	Manufacturer's rating	Test result
Power	100w cont. sin.	Confirmed at 100w RMS sine wave
Distortion	Not stated	1.5% @ 100w as above
Sensitivity	54dB EIA	101dB @ 1w @ 1m averaged between 400Hz and 4kHz
Resonance	40Hz ± 10%	65Hz in 130ltr 1B encl.
Impedance	4 ohms nom.	3.5 ohm-17.5 ohm
Useful freq. response	Not stated	45Hz-5.5kHz @ -20dB. See graph



This is yet another fine product from this American manufacturer. The chassis is an enlarged version of the design used for the EVM-12 and EVM-15 units featured in previous reviews, and apart from its superb finish and presentation, it is of adequate strength and proportions for a unit of this size.

From a performance aspect it is faultless. It confirmed the maker's

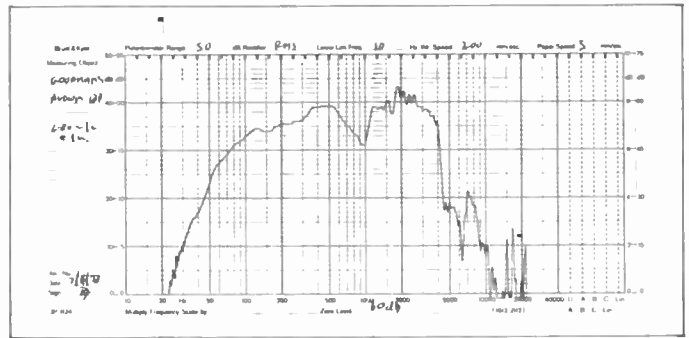
100w power rating at a distortion figure of a mere 1.5%, and on a re-test at 150w distortion was still below 2%. The sensitivity of 101dB is very good indeed and a respectable frequency response curve was obtained. A very nice product, in every way confirming this maker's prestigious reputation. The unit was delivered with a useful installation leaflet and mounting hardware including a gasket set for front mounting.

# Speakercheck

## Goodmans Audiom 18P

Parameter	Manufacturer's rating	Test result
Power	100w to DIN45:573	Confirmed at 100w RMS sine wave
Distortion	Not stated	3% @ 100w — See text below
Sensitivity	96dB @ 0.6w @ 1m	98dB @ 1w @ 1m averaged between 300Hz and 3kHz
Resonance	45Hz	85Hz in 130ltr IB encl.
Impedance	8 ohms nom.	8.5 ohm-27.5 ohm
Useful freq. response	Graph given	50Hz-4.5kHz @ -20dB. See graph

Substantial, generously ribbed, four-spoke cast alloy chassis, of adequate strength and rigidity and nicely finished. Very rigid, deep, parabolic cone, fairly heavy, with rubberized paper front suspension and linen center dome. This unit is suitable for front or conventional mounting, although gaskets are only fitted for the latter. Termination is by the usual solder tags, but some thought has obviously been given to the anchorage of the feed wires to prevent fracture through fatigue or shorting in that an intermediate anchorage to the rear suspension diaphragm is provided and that insulating sleeving is fitted. It is this sort of attention to detail at the design stage that can often extend the life expectancy of a loudspeaker several fold — and often at very little additional cost. A pressed magnet cover is fitted and it looks as though



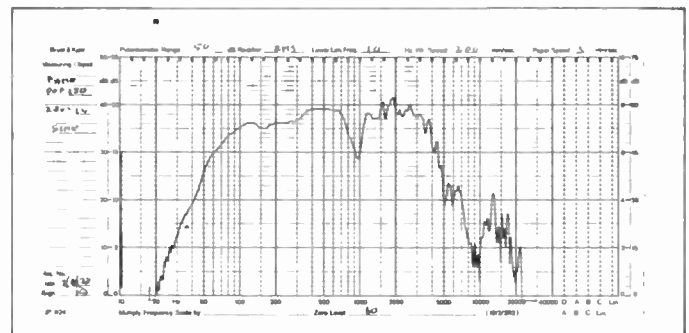
this might be somewhat larger than the actual magnet fitted underneath, although we did not dismantle the unit to verify this.

As the table shows, the unit performed well. It is not particularly sensitive but neither is it deficient in this respect. The distortion is pleasingly low at just 3% but we did not attempt any uprating as a very large peak of second harmonic content was evident in the region of the resonant frequency, and although we do not take this into account in assessing our distortion figures, any increase in this peak would probably have resulted in damage to the unit. Another very nice loudspeaker from this British manufacturer.

## Fane Pop 150

Parameter	Manufacturer's rating	Test result
Power	150w	Confirmed at 150w RMS sine wave
Distortion	Not stated	4% @ 150w as above
Sensitivity	Not stated	97dB @ 1w @ 1m averaged between 300Hz and 4kHz
Resonance	55Hz	80Hz in 130ltr IB encl.
Impedance	8 ohms	8 ohm-33 ohm estimated
Useful freq. response	20Hz-5kHz	40Hz-6.5kHz @ -20dB. See graph

This loudspeaker is built on the same chassis as the Crescendo 18A also included in this review but in this instance, due to the considerably lighter magnet assembly fitted, it is quite adequate for the purpose and is, in fact, a nicely finished unit. Suitable for conventional mounting only due to the continuance of the beveled edge right to the outer circumference of the chassis. A smooth, curved, medium-weight cone is fitted with doped paper front suspension and an unusual foam front gasket. This is another of these freak units with a linen dust cover painted silver to simulate a metallic center dome — just who do the



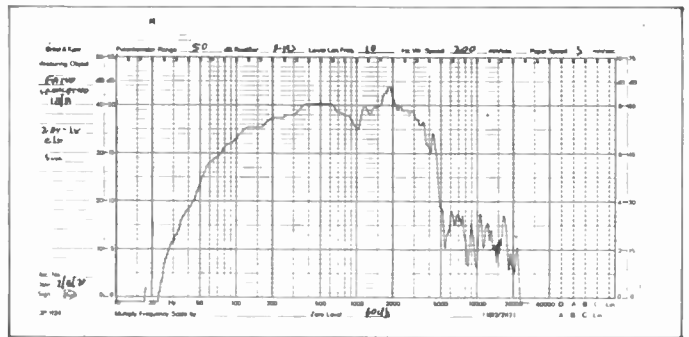
makers think they are kidding with this sort of nonsense?

Performance-wise, this is a rather nice product. The sensitivity is good for a lower price bracket loudspeaker, the distortion is commendably low at 4% and the frequency response is good, despite the fact that the maker's ridiculous claim of a 20Hz LF response is not complied with by a whole octave (not that Fane are alone in this respect). The performance of this unit, along with that of the Goodmans 18P, goes to show that it is not necessary to pay a fortune for a good quality bass instrument or showground loudspeaker.

## Fane Crescendo 18/A

Parameter	Manufacturer's rating	Test result
Power	175w RMS cont.	Not confirmed
Distortion	Not stated	15% @ 175w RMS sine wave
Sensitivity	Not stated	99dB. @ 1w @ 1m averaged between 300Hz and 3kHz
Resonance	45Hz	75Hz in 130ltr IB encl.
Impedance	8 ohms	8.5 ohm-38 ohm estimated
Useful freq. response	30 Hz-5kHz unqualified	45Hz-5.5kHz @ -20dB. See graph

Adequate cast alloy chassis, probably better described as a bell housing with four large holes punched in the side rather than as a spoked basket frame. It is quite unlike the usual Fane chassis we have come to expect, and is not designed for front mounting, nor is it at all practical to adopt any other than the conventional mounting arrangement from the rear of the baffle panel. As the unit was handled during tests, a slight "ringing" of the chassis was noticed and in fact, the whole frame does "ring" at about 500Hz and this could give rise to coloration in use. This loudspeaker is very heavy indeed with a massive magnet assembly and I would question the long-term ability of the chassis to carry such a weight without fracture if subjected to much rough handling. Termination is by the usual solder tags found on most British loudspeakers. A curved, medium-weight cone is fitted with the front suspension consisting of a continuation of the paper cone

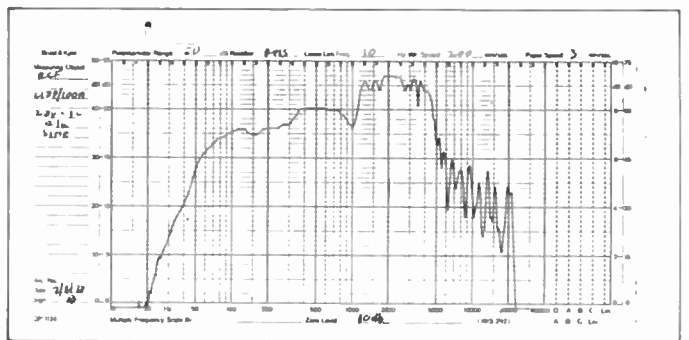


moulding doped with a varnish preparation to reduce fatigue and reduce compliance — this being the usual paper suspension arrangement. A large, vented metallic center dome is fitted.

Under test, the unit showed a reasonable sensitivity and a good frequency response for a unit of this size and type as the results table shows, but unlike other units submitted for test by this maker, an alarmingly high second harmonic content resulted in a totally unacceptable distortion figure of over 15% at the rated 175 watts input power. The only other loudspeaker to exhibit a distortion figure of this magnitude was the Gauss 2841 12" unit. In all other respects, this is not a bad loudspeaker, but from these results, it falls short of the "Pop 150" from the same maker — also included in this review.

## RCF L18P/100A

Parameter	Manufacturer's rating	Test result
Power	150w unspc.	Confirmed at 150w RMS sine wave
Distortion	Not stated	3% @ 150w as above
Sensitivity	Not stated	101dB @ 1w @ 1m averaged between 400Hz and 5kHz
Resonance	40Hz	75Hz in 130ltr IB encl.
Impedance	8 ohms nom.	7 ohm — 12.5 ohm
Useful freq. response	40Hz-7kHz unqualified	50Hz-10kHz @ -20dB. See graph

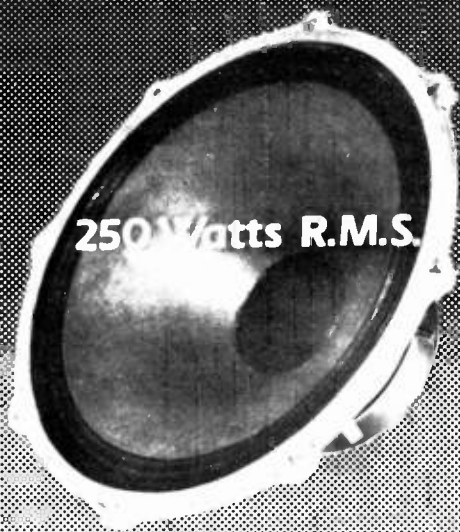


This loudspeaker is built on an excellent cast alloy eight-spoked chassis not unlike that of the 12" and 15" units reviewed previously. It has a really substantial front ring and a deeply flanged back plate that looks as if the chassis were originally intended for a much larger magnet assembly than that fitted to the loudspeaker now under consideration. This is probably an attempt at some form of economy by using a standard chassis casting for all 18" models, even though some — such as the L18P/100A — may look somewhat odd as a result. Even so, the chassis is more than adequate, is well braced, and would certainly be able to carry a much heavier magnet assembly than the one fitted in this instance. Unusually for this maker, a rubberized paper front suspension is used to carry the deep, parabolic, textured cone. The rear suspension is of the usual linen or cambric and a composite

paper dust cover is fitted. Also, this is the first time that I have found an RCF product with anything other than solder tag termination, and in this case, a pair of the American pattern spring release terminals are fitted. Another nicely presented product from this Italian maker.

From a performance aspect, the L18P/100A lived up to the standard we have come to expect, with a high sensitivity figure, equalled only by a handful of all loudspeakers yet tested, a good frequency response and a tightly controlled impedance characteristic. Even on the distortion test — an area where RCF have often fallen a little short — we find a figure well down at just 3%, but restriction on available amplifier power did not permit a meaningful increase sufficient to justify a re-test. A very nice loudspeaker and must be good value at its price.

When the  
**Emphasis**  
 is on  
**Performance**



250 Watts R.M.S.

**ATLAS 18**  
 is the Right Choice

**Richard Allan**

The low distortion and accurate reproduction of low frequencies, even at very high sound levels allows the use of the Atlas 18 as a bass driver in multiple stack P.A. stacks. This ensures high power handling capacity together with extreme reliability and quality of reproduction, even when driven to its limits.

For more details cut the coupon and send to:—  
**Richard Allan Radio Ltd.**  
 Bradford Road, Gomersal, Cleckheaton, West Yorks. England  
 BD19 4AZ. Phone: Cleckheaton (0274) 872442.  
 Grams: Acoustics Bradford. Telex: 51311 Relays—G.

Name \_\_\_\_\_

Address \_\_\_\_\_

AT 18

Circle 881 on Reader Service Card



If you're a  
 musician  
 IM&RW  
 has your  
 number

*Mispillion Recording Company*  
 presents

**SUNDAE SESSIONS**

*The Rhythm Section  
 Anyone Can Play With*

- Three Street Players Sharing Their Experience in Concerts & Night Clubs
- Seven Different Chord Charts Provided For You to Improvise Around
- From Rock & Roll to Disco
- From Southern Rock to Funk
- A Variety of Tunes to Increase Your Self-Confidence When Playing With Other Musicians
- Rehearse When & Wherever You Desire

Priced at Only \$12.95 per Cassette  
 Please Send Check or Money Order to:  
 Mispillion Recording Company  
 18 Dot Street, Milford, Delaware 19963

Yes, I want to rehearse with **Sundae Sessions**. Please send me \_\_\_\_\_ copies of *Sundae Sessions, The Rhythm Section Anyone Can Play With*. Please find enclosed \$12.95 and \$1.25 for postage and handling (\$14.20) for each copy of the tape.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Mastercharge Acct. # \_\_\_\_\_

Visa Acct. # \_\_\_\_\_

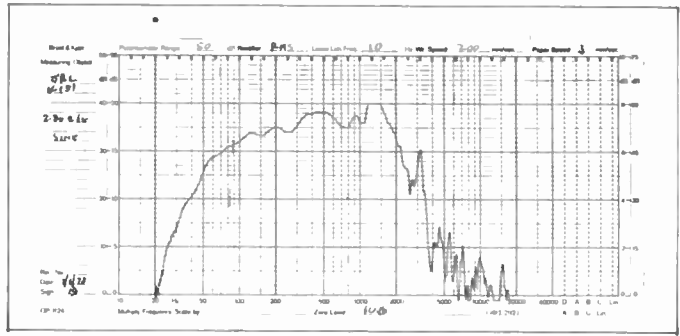
Signature \_\_\_\_\_

Circle 706 on Reader Service Card

# Speakercheck

## JBL K151

Parameter	Manufacturer's rating	Test result
Power	300w cont. prog. 150w cont. RMS	Confirmed at 150w RMS sine wave
Distortion	Not stated	1.5% @ 150w as above
Sensitivity	99dB @ 1w @ 1m	96dB @ 1w @ 1m averaged between 300Hz and 2kHz
Resonance	30Hz free air	55Hz in 130ltr 1B encl.
Impedance	8 ohms nom.	8 ohm-45 ohm estimated
Useful freq. response	35Hz-2kHz unqualified	40Hz-3.5kHz @ -20dB. See graph



This loudspeaker looks and feels the most rugged and substantial unit yet tested. The massive cast alloy chassis employs eight very thick, ribbed spokes to couple the front rim to the rear plate and to ensure constant alignment and rigidity. A massive magnet assembly is fitted, enclosed within a fluted cast iron pot. The whole frame is finished in an unassuming black crackle paint — obviously stoved, giving a very professional aspect. A medium-weight, straight cone is fitted, with doped paper front suspension and a composite paper center dome. The usual rear venting system is employed. A pair of particularly heavy duty spring-release terminals are fitted, but these are mounted very close to the cone, such that the solder-tags to which the feed wires are attached could well puncture the cone under maximum excursion.

The unit performed generally well, but has a disappointingly low sensitivity for a product from this maker — in fact, it is the lowest of

all 18" units tested at just 96db. But this is due to the particularly heavy cone assembly fitted, and is an intentional sacrifice in the interest of improved L.F. response. The distortion figure obtained is, however, in conjunction with the EVM-18B, the lowest yet obtained at full rated power, at just 1.5%. Due to restricted power availability from the measurement amplifier used (see text) we could not try a re-test at a higher power. As the table shows, this was another unit with a very steep rise in voice coil impedance and overshoot the scale of the instrumentation used, necessitating an estimated figure at the high frequency end. To summarize, a very nice unit, but disappointingly low in sensitivity. The usual superb JBL installation manual was included in the delivery, along with a kit of mounting hardware, and the JBL five-year professional products warranty applies.



Like having your own band to practice with anyplace, anytime.  
Recorded by top N.Y. studio musicians.

30 minutes of uninterrupted accompaniment for each selection.

- Update your playing & improve your feel for the latest styles.
- Full rhythm section on all selections.
- A necessity for any serious musician.
- Improves your soloing overnight.

- |                      |                         |                         |
|----------------------|-------------------------|-------------------------|
| 1. Disco Major       | 8. Latin Rock Med.      | 15. Rhythm & Blues Med. |
| 2. Disco Minor       | 9. Latin Disco Major    | 16. Rhythm & Blues Slow |
| 3. Hard Rock Slow    | 10. Latin Disco Minor   | 17. Country Blues Fast  |
| 4. Hard Rock Med.    | 11. Jazz Blues Fast     | 18. Country Blues Med.  |
| 5. Hard Rock Fast    | 12. Jazz Blues Med.     | 19. Country Blues Slow  |
| 6. Jazz Fusion Major | 13. Jazz Blues Slow     | 20. Rock Blues Med.     |
| 7. Jazz Fusion Minor | 14. Rhythm & Blues Fast | 21. Cycle of 5 ths Rock |
|                      |                         | 22. Cycle of 5 ths Jazz |

AVAILABLE IN CASSETTES ONLY

**JAM TAPES \$8.95** each add 75¢ shipping and handling per order

Circle your selections below. Send Check or M.O. to: **Thomas-Ginex Corp. P.O. Box 176, College Point, N.Y. 11356**

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_


or call (212) 446-1000 C.O.D.'s accepted N.Y.S. residents add 8% sales tax

Circle 812 on Reader Service Card

**PROTECTION**

**DURABILITY**

**ECONOMY**



**VIKING CASES**

*Standard and Custom Cases*

**P.O. Box 13457 St. Petersburg, Fla. 33733**  
**4025 7th Terrace So. (813) 823-8810**

Circle 801 on Reader Service Card

# RECORDING WORLD

## San Francisco

A number of major artists have been in Bay area studios working on and finishing major projects. The Record Plant has been hosting **Boz Scaggs** and **Pablo Cruise** for vocal tracks and instrumental overdubbing, as well as ex-Grand Funk Railroaders, **Flint**, are in for CBS . . . **Wally Heider**'s has had CBS' *Shaking' Street*, France's premiere new wave band, finishing up their first album there along with **Jorma Kaukonen** (RCA) and *Earthquake* . . . **David Rubinson**'s *Automatt* is still putting together the soundtrack and soundtrack album for **Francis Ford Coppola**'s war extravaganza, "Apocalypse Now," with owner **David Rubinson** producing, engineering and mixing. **Santana** has been laying down tracks for their next album, while **Van Morrison** has been producing and mixing his latest effort . . . **Fantasy Records**, in Berkeley, has had **Sonny Rollins**, **David Bromberg** and **Bill Summers**, all mixing and producing their next releases for Fantasy Records . . . **Tewkesbury Studios**, is hosting the **Mendocine All-Stars**, with **Johnny Barbata** (ex-Jefferson Starship) producing. **Eddie Money** has been behind the board for the **Runz**, while the **Mutants**, the **Blitz**, the **Readymades** and **Omega**, featuring **Bill and Rennie Slais** (Elvin Bishop Band) have also been hard at work there . . . Meanwhile, at **Different Fur Studios** **Jack Casady**'s group **SVT**, is back, as is **Grateful Dead** drummer and percussionist **Micky Hart**, who is cutting some tracks for "Apocalypse Now." **Chris Franke**, of **Tangerine Dream**, has been working on his first solo album. Gospel star **Walter Hawkins** has been busy with the production work on his wife **Tremayne Hawkins**' first solo album . . . **Commander Cody** checked into **Mill Valley's Tres Virgos Studios** . . . **Capitol Recording** artist, **Maze**, has been working on their latest effort at **Hun Sound**, in **San Rafael**. **Hun Sound** recently opened a separate rehearsal complex, with seven studios, and **Maria Muldaur**, **David Bromberg**, **Stoneground** and **Sammy Hagar** have all been making use of the facilities . . . At **Sonoma Recording Studios**,

**Barry Melton** (**Country Joe and the Fish**) has been working on a solo album, as has ex-Sir **Douglas Quintette**, **Doung Sahn**.

## Los Angeles

Things are moving fast around the LA recording scene with **Herb Albert** producing his own effort at the **A&M Recording Studios**. **Jack Gold** is producing **Johnny Mathis** for **Columbia** at the studios and **Donna Fargo**, **Michael Redd** and **Ray Connors** are also spending time in the booths . . . Out at **Sunset Sound**, **Hall & Oates** are putting it down for **RCA**. Also at the plush studios are **Cheryl Lynn**, **Booker T. Jones**, **Toto** — spending time in the studios as a band for a change — the **Motels** and **Red Rider** . . . **Glen Campbell** is putting in time at **Larabee Studios** with producer **Tom Thacker**. **Curtis Mayfield**, **Juice Newton** are both working on their latest efforts and **Meadowlark Lemon** is cutting a few disco tracks at the studio. Also on hand are the **Simon Orchestra**, **Pussy Foot**, **Linda Dillard** and **Universe** . . . **Harry Nielson** is being produced by none other than the notorious **Robert Altman** over at **Gold Star Recording** and **Neil Young** is mastering a single there. The **Ramones** are still locked into the grip of producer **Phil Spector** . . . **Filmways/Wally Heider** continues to be a tremendously busy studio featuring such giants as **Kenny Loggins**, **John Denver** and **Jerry Lee Lewis**. **Alan Price** is also cutting a disc for **Jet Records** there and **Bobby Vinton**, **Rocky Burnette** and **Freda Payne** are also finding the studios a gracious host. Rumour has it that **Ann Margaret** will also cut a single there possibly produced by **Roger Smith** . . . **Barbra Streisand** is back in the studio using the rooms of **Capitol Recording Studios** for her latest effort. **Eddie Henderson** is doing some mixing there and the **Pages**, **Bob Welch** and **Captain & Tenille** are also coming up with the music . . . At **Cherokee**

**Studios**, **Foreigner** is working on their album for **Atlantic** and **Livingston Taylor** is cutting his latest release for **Epic**. Those die-hard disco fanatics the **Village People** are also laying down the beat at the studios where **George Benson** is helping out on the **Sesame Street** music . . . **Rock & Roll** will never die as long as **Trillion** manage to finish their album out at **Westlake Audio**. **Chuck Mangione** is finishing up his work there and **Doc Severinsen** is putting that manic big band sound down on tape. **George Duke** is also producing himself at the studios for **Epic**.

## New York

Things are rockin' in the New York studios with **Aerosmith** putting down tracks for **CBS** at **Mediasound**. **Britt Ekland** has also chosen the studios to cut her first record and **Dolores Hall**, **Hohn Soleather**, **Pavillion** and **Edgar Winter** round out the talent line-up at the studios . . . Over at the famed **Electric Lady Studios**, **AIDiMeola** is producing his latest effort for **CBS** as is **Earl Klugh** for **United Artists**. Also burning up the studio walls is **Kiss** . . . At **Blue Rock Studios** **Michael Oldfield** is producing himself for **Virgin Records**

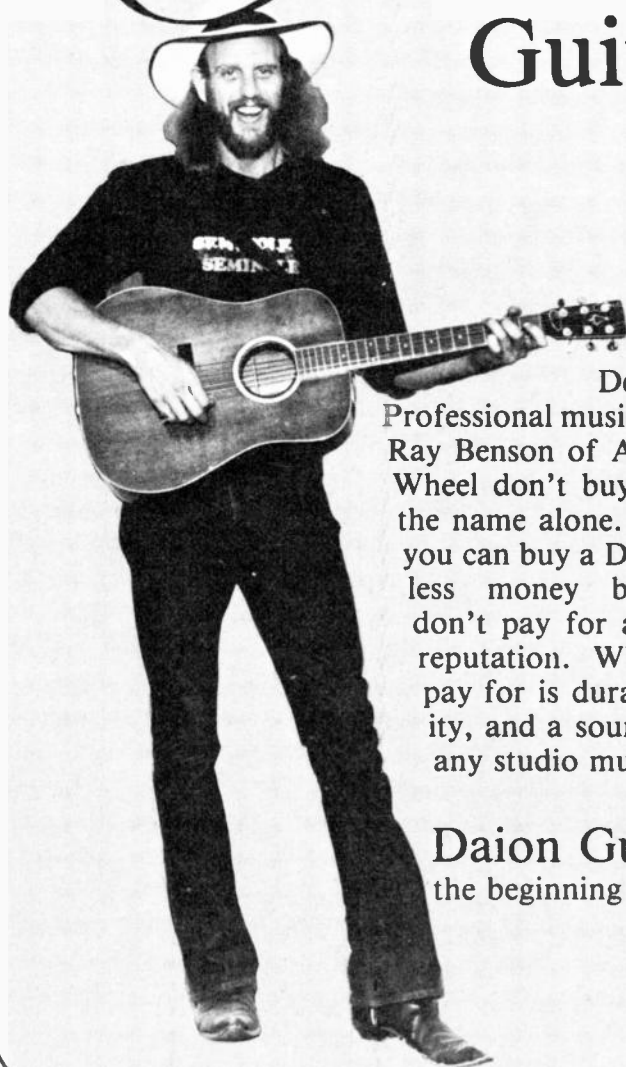


## On The Record



Ray Benson  
and  
Asleep at the Wheel  
play the best...

# DAION Guitars.



Tone.  
Clarity.  
Dependability.  
Professional musicians such as Ray Benson of Asleep at the Wheel don't buy guitars for the name alone. The fact is, you can buy a Daion for a lot less money because you don't pay for an expensive reputation. What you do pay for is durability, quality, and a sound that suits any studio musician.

Daion Guitars...  
the beginning of a classic.

Sound City Music  
Lincoln, NE

Jones-Potts Music Co.  
New Bern, NC

Heart-of-Texas Music  
Austin, TX

Fifth String  
Greenville, SC

Hildebrand  
San Antonio, TX

Heart-of-Texas Music  
Waco, TX

Tuesmith Music  
South Pittsburg, TN

Heart-of-Texas Music  
Temple, TX

Bruce Music Co.  
Ft. Worth, TX

Bruce Music Co.  
Hurst, TX

**mcl, Inc.** P.O. BOX 8053 • WACO, TEXAS 76710 • 817 772-4450

## RECORDING WORLD

and Sun Ra is in for the Sweet Earth label. Also putting in time at the studios is Joe Simon, the Spinners and Inga Rumpf, a German singer . . . The Fifth Dimension is working on overdubs and mixing at Sound Ideas Studios. Marion Brown is cutting a jazz album there and Chris Williams (with Parliament Funkadelic) is working on his first album. Dave "Baby" Cortex, a pop organist, is also working out of the studios.

### NASHVILLE:

It was quite fitting for the first song recorded in the finally-functioning Marty Robbins Studio to be the "Star Spangled Banner." Ken Arledge was the artist on the early July session and the cut is expected to be used extensively at sporting events where audiences will appreciate the national anthem interpreted in the country idiom. Part of studio manager Eddy Fox's job has been serving as tour director as the building served as offices for the Nashville musicians union for years and many nostalgic members are eager to see it as a recording studio. It's something to see!

Mid-summer activity at Woodland Sound has involved Brenda Lee for an MCA-homecoming album, Wood Newton, Gail Davies, and Donna Fargo. Elektra producer Jimmy Bowen is "homesteading in the back room" at Soundstage, with overdubs on Hank Williams Jr., Dennis Wilson, and Mel Tillis. Up front, Mercury's Jerry Kennedy has been polishing up the next Jacky Ward project as well as that label's last Johnny Rodriguez album.

King Floyd has been in at Sound-Shop for Blues City Records and Dr. Hook producer Ron Haffkines has had City Streets in at Sound Lab for a disco project with Jim Cotten, Joe Scaif, and Pat Holt engineering while Skip McQuinn has been producing new Billy Earl McClellan product in the same studio with Jim Cotten and Dave Cherry engineering.

On June 26 producer Larry Butler had an unusual — even for him — experience. He was at Jack Clement Studio when he learned that the Kenny Rogers album he and engineer Billy Sherrill were then mixing had already gone platinum! Not bad. Kenny's band, Bloodline, is featured on eight of the songs, several of which were written by the band and/or Kenny.

# IN NEW YORK = THE AES

On November 2, the Audio Engineering Society will open its 64th fall conference to be held at New York City's Waldorf-Astoria Hotel. The four day convention is expected to host 6,000 visitors and will include product displays from about 165 exhibitors.

Over the past few years there has been a constant increase in the number of international exhibitors and this year the AES expects them to account for 32 percent of the exhibiting companies. The largest percentage of foreign exhibitors come from Britain.

In preparation for the show, the AES has put on an additional 40 booths and will have two floors available for demonstrations. An AES spokesperson noted that visitors will see an increase in the number of digital tape machines and noise reduction systems displayed. For what else is going to be previewed, IM&RW takes a look at what some of the company's have to offer.

## Allen & Heath (Brennel)

The SR 28 console and the well established Syncon will be on show. Also the AIB 8-track package system will be demonstrated using master tapes provided by some of Allen & Heath's more famous customers.

Circle 900 on Reader Service Card

## Ampex Corp

The company will display their ADD-1 Audio Digital Delay system; the MM-1200 Multi-channel audio recorder; the ATR-100 audio recorder; The ATR-700 audio recorder; and the AG-440 audio recorder.

Circle 858 on Reader Service Card

## Anvil Cases

In line with their heavy duty cases, they will be showing sound reinforcement system cases, amp racks and a full line of delicate instrument cases.

Circle 898 on Reader Service Card

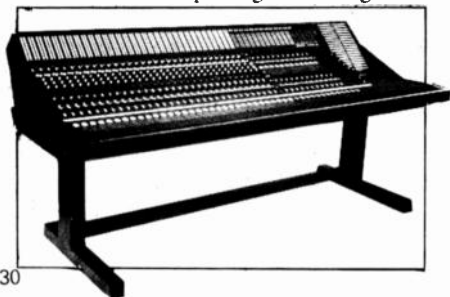
## Ashly Audio, Inc.

At the booth will be a full line of the SC-Series signal processing equipment which consists of a parametric eq, peak limiter compressors, electronic crossovers, musical instruments, preamps and processors.

Circle 897 on Reader Service Card

## Audio & Design Recording

The company will be showing their new Ex-press limiter, as well as the usual full Scamp range offering noise



130

gates, a compressor limiter, Dynamic Noise Filters, Line Amps, three types of equalizer and some effects 'toys', all of which are contained in a 19" rack.

Circle 896 on Reader Service Card

## Audiotronics, Inc.

Mixer enthusiasts will find a lot to look at from this organization as they'll be displaying the 532 automated console and the 110A broadcast production console.

Circle 895 on Reader Service Card

## BGW Systems, Inc.

Electric crossovers, models 10 and 20, will be part of the BGW display as will their line of professional amplifiers. Also on hand will be their hi-fi equipment, including three amps and two preamps.

Circle 894 on Reader Service Card

## Bose Corporation

The Model 802 loud speaker system will be on hand along with the SC-1 speaker cabinet, Model 1800 power amp and the Model PM-2 power mixer. A full line of accessories for the units will also be shown.

Circle 893 on Reader Service Card

## Cetec Audio by Gauss

Speaker fanatics will enjoy looking over the new HF 4000 line of ceramic drivers in 10", 12", 15" and 18" frames. The new speakers will have 300 watts on lead guitar capability and 400 watts for low frequency and bass.

Circle 892 on Reader Service Card

## Cerwin-Vega

In the power amp line the company will have the A-400, A-200 and the A-A-600. Mixers at the booth will include the MX8 (eight channel) and the MX16 (16 channel). The company will also have professional mikes, a disco mixer and a variety of speakers.

Circle 891 on Reader Service Card

## Community Light & Sound

Sound reinforcement equipment for clubs, discos and portable use will be part of the display as will cabinets, mid-bass horns and high frequency horns.

Circle 890 on Reader Service Card

## Crown International, Inc.

Well known for their gear, the company will be showing its usual line of power amps along with the SA2, PS A2 and an FM 1 Tuner.

Circle 889 on Reader Service Card

## DBX, Inc.

In the new products previewed there will be a Model 164 stereo compressor limiter, a Model 501 professional single band dynamic range expander and a Model 505 pro range expander combined with a subharmonic synthesizer. All products will be rack mountable.

Circle 888 on Reader Service Card

## Delta Lab

Always on top of things, the company will show its newest digital time delay, the DL 4, along with a full range of its standard lines.

Circle 887 on Reader Service Card

## Eastern Acoustics Works

A complete range of sound reinforcement products, including the CT system, will be on display. Eastern will also preview the VB vented bass enclosures and a new range of studio monitors.

Circle 886 on Reader Service Card

## Electro-Voice, Inc.

Century studio monitors will be just one of the items on the booth which will have selected models of dynamic and condenser professional mikes along with a few of the omni directional microphones. Also on hand will be the new DH 1506 high performance driver as well as a full line of bass boxes and the XEQ-1 active low-level crossover.

Circle 885 on Reader Service Card

## Furman Sound

The company will have its old standards like the PQ6 stereo parametric eq/preamp and RV1 reverb unit, but will also be previewing the TX4 stereo 3-way crossover.

Circle 857 on Reader Service Card

## Hammond Industries, Inc.

In the Clark-Teknik product line will be the range of graphic eq's, time processors and analog units.

Circle 856 on Reader Service Card

## ITAM

Industrial Tape Application (Manufacturing) have an exceptionally wide and interesting range of tape decks, mixers and ancillary equipment all of which will be displayed at this year's show.

Circle 855 on Reader Service Card



#### **MCI, Inc.**

As always, the MCI booth will catch a lot of attention with its 500 console, 600 console and the JH-16 multi-track along with the JH-10 line. MCI will also be offering up for scrutiny its audio lock synchronizer as well as the accessory line.

Circle 854 on Reader Service Card

#### **Keith Monks (Audio) Ltd.**

On proud display, for the first time in the US, will be the new Domestic Record Cleaning Machine intended for home, radio station, studio and disco use, along with the larger professional model. There will also be a wide range of stands including the new stand Model MT1. Other items being shown include the Phase Tester, Impedance Tester and a range of wireless microphones.

Circle 853 on Reader Service Card

#### **MXR Innovations, Inc.**

The MXR folks will hit the show with the Graphic equalizers, time delay devices and pitch transposer. The newest in the company's line will be previewed, the dynamic expander.

Circle 852 on Reader Service Card

#### **Nasty Cordless**

The line of radio transmitters, which includes the Black, Blue and Combiner cordless mikes, will be at the booth and the company will show its VHF radio transmission system.

Circle 851 on Reader Service Card

#### **Rupert Neve, Inc.**

The newest product from Neve is the 8108-M56 input, 48-track music recording and mixdown console. The company will also display the Lyrec multitrack sound recorders.

Circle 850 on Reader Service Card

#### **Otari Corporation**

The newest from Otari is the 24-track MTR90 mastering machine. Of course, the MX-5050-B original compact professional recorder will be at the show as will the 4- and 8-channel machines.

Circle 849 on Reader Service Card

#### **PA:CE**

This popular British company will have on their stand their usual wide range of top quality sound equipment.

Circle 875 on Reader Service Card

#### **Peavey Electronics**

Previewed will be a line of mixers and a full range of stereo power amplifiers. Part of the booths display also will be the CS 800 and the CS 400 series of eq's and the SP 1 and 2 speaker enclosures.

Circle 874 on Reader Service Card

#### **Quad Eight Electronics**

New to the Quad Eight lines is a digital reverberation system, but it will only be part of the display as the company offers the Coronado 40 input automated console. It will also demonstrate the Compumix 3.

Circle 873 on Reader Service Card

#### **Roland Corporation**

In the studio systems products the 700 modular synthesizer and MC 8 micro-composer will be on hand as well as the Dimension D aural exciter. In the rack products line the company will be featuring the guitar and bass amps, power amps and vocoder.

Circle 872 on Reader Service Card

#### **Scientific Audio Electronics, Inc.**

SAE will be showing its EQ4, a 4-band mono parametric, the P 150 power amp (180 watts) and the AC 2 2-way mono crossover. As part its regular line it will have the P 50 power amp.

Circle 871 on Reader Service Card

#### **Ken Schaeffer Group**

Beaming in from New York, the company will be showing its SVDS full diversity wireless transmission systems for music and vocals. Also on hand will be wireless headsets for studio use, specially modified Eventide products and a few other goodies.

Circle 870 on Reader Service Card

#### **Sescom, Inc.**

The new products designed for recording and sound reinforcement to be previewed will include a 4-channel mike mixer, a 10-band graphic eq, a 3-band parametric eq and a 3-band tone eq. Also on hand will be the stereo/phono preamp and the stereo headphone amps with stage box active DA.

Circle 869 on Reader Service Card

#### **Shure Brothers, Inc.**

On the stand will be featured the SM 81 mikes along with the SC 39 professional phono cartridge for broadcast, recording studios and discos. A full range of speakers and mikes will also be available.

Circle 868 on Reader Service Card

#### **SFW Audio Inc.**

The company will have portable cases for hi-frequency horns among the products on display. It will also have a 10" mid-range speaker and a low-end system compliment as well as hi-frequency horns.

Circle 867 on Reader Service Card

#### **Soundcraft Electronics, Ltd.**

The newest products to the company's range include the 400 consoles for 4 and 8-track and the series 1624 for 8, 16 and 24-track. The series 3B studio console is now available auto-

Circle 866 on Reader Service Card

mation ready. The company also has a few surprises to light up the show.

Circle 865 on Reader Service Card

#### **Studer/Revox America, Inc.**

Among the many things that will adorn the stand will be the TLS 2000-800 synchronizing editing machine. Model B67, A80 RC and A80 VU recorders will also be on display as will a full range of accessories. The A80RQZ cassette pancake quality control machine and A-800 tape machine will be there.

Circle 864 on Reader Service Card

#### **Tangent Systems, Inc.**

Highlighting the Tangent stand will be the 3216 mixing desk with total automation and VC grouping. In its musical products line Tangent will have the "Ax" Series, 32 models (8, 12, 16 and 24 channel units).

Circle 863 on Reader Service Card

#### **TEAC Corp. of America**

The newest product to the TEAC line is the 85-16, a 16-track recorder. Also on display will be the Model 15 Mixer, 5-B mixer, 3-mixer, 1-mixer and the 2A-mixer, as well as various models of recorder reproducers.

Circle 862 on Reader Service Card

#### **Trident**

The company will be displaying their new series 80 console - a 32 into 24 mixer aimed at studios requiring fully professional facilities at an economical price. Being fully modular the console can be easily expanded. It also has the option of automation using the Allison Fadex system. Also on show will be the Flexi-Mix system and the TSM range of consoles.

Circle 861 on Reader Service Card

#### **Unicord**

In L.A. people mobbed the stand for a chance at Korg's VC-10 Vocoder and they'll get the chance to do it again. Also in the Korg line will be the PS-3200 fully polyphonic programmer/synthesizer, the X-911 guitar synth, the Lambda ES-50 polyphonic ensemble and the MS series of monophonic synths.

Circle 860 on Reader Service Card

#### **Wireworks Corp.**

On show will be a complete line of mike cables, including the rubber neoprene hypalone, PVC jacket material, miniature rubber cables, mike cable jumper sets and hard wired mike multi-cables.

Circle 859 on Reader Service Card

#### **Yamaha International Corp.**

The PM 2000 mixing console will be the highlight of the Yamaha booth but a new line of sound reinforcement components will also be on hand along with the regular line of integrated mixers, power amps, speakers, signal processors and effects devices.

Circle 845 on Reader Service Card

**H**otline Studios was conceived and designed as a professional studio which would meet international standards while providing the ideal working conditions for musicians and producers. It's not necessarily a new idea, but it has all the ingredients of a successful plan, and, since the studios recently celebrated its second anniversary, the proof is in the product.

In all, three people are responsible for the studio's concept: Peter Hauke, one of Germany's most prominent producers, put the wealth of his international experience into the layout; designer and musician Norbert Freidl designed the recording "atmosphere"

and looked after the musician's needs; and Wolfgang Auer had the difficult task of getting a recording studio into the first floor of an apartment block. Their collective experience resulted in a place where the artist can feel comfortable and the production can be started on a sound footing.

Of course, designing the studio is only one aspect, and it is important to note that the layout is such to give a perfect atmosphere for recording. All productions are done by teamwork which involves the musicians, the producers and the engineers. The team is fully co-ordinated which means everybody knows what his or her job

is, eliminating the "thumb twiddling." For instance, if there is a malfunction in the room everyone retires to the lounge while the appropriate engineer puts it right. Hotline doesn't believe in producers hanging around nervously hindering repairs.

This professional environment has tempted such top German acts as the Michael Wynn Band, Tony Carey, Supermax, Magic, Nevada, Chi Coltrane and Nektar, to name a few, into Hotline. The quality of their albums testify that the studio hasn't been designed just to make rooms look nice. And the fact that Peter Hauke, who has a reputation of being a perfectionist,



# Hotline Studios

---

## FRANKFURT



often works there, says a lot about the technical equipment.

That Hotline has the best in gear will be evident, but something interesting is the way that they've done certain things to delete some of the nuisances of recording studios. For example, all of the wiring has been installed under a ledge guided along the walls, hence the name "Hotline." This prevents lines from getting mixed and tangled and from lying haphazardly around on the floor. Also, headphone outputs are installed on little trolleys which give you the option of putting coffee or other drinks on it. And the fully air-conditioned studios are equipped with the latest in seating, owing much to the aerospace industry.

The impressive array of technical equipment is overseen by a full complement of engineers: John Lloyd Hughes, Nigel Jopson, Armin Bannach, Mark Holden, David Pringle and studio manager Norbert Friedl (ably assisted by Geoff Hall). Their expertise ensures a good mixdown regardless of what studio they're working in.

Studio One is equipped with a 16/24 track Lyrec tape recorder that features facilities such as remote control, Auto-locator and varispeed, and an Acorn 36 channel mixing-desk which has not less than four foldback groups. In addition,

there are compressors, limiters, expanders and comprehensive equalization units. Here are few examples of the effect-units used: EMT Reverb gold-plate, MXR digital delay, Systech Flanger, Eventide harmonizer, Aphex system, De-Esser, Mutron Stereo phaser and a complete Scamp rack, which is complemented by several echo-units, equalizers and compressors.

Monitor speakers used are the Urei-Time-Align System, JBL and Auroton speakers while brands like Koss, AKG, Sennheiser and Sony are used for headphones. The choice of microphones was selected from the best, a fact which is made clear by names like Neumann, Electro-Voice, Sennheiser, Shure, AKG and Sony. The recording rooms are based on a screened cubicle design and are built using an adjustable baffle-screen system. The ceiling can be adjusted for its acoustic response and the ceiling of the drum room can be lowered by remote control. The entire acoustical design of Studio One takes care of the fact that a natural "live" reverberation is as important as the need for a dead area. For bass cut-off, a separate bass acoustic trap is shortly to be installed. Studio Two differs by having a smaller control-room and using a 24-track Amek mixing desk from Studio One.

In other respects the equipment used is the same and both studios record on stereo tape recorders made by Telefunken, Revox and Ampex.

As with the recording equipment the list of musical instruments is just as impressive. From Roto-toms and the voice-box to the Yamaha Electric Grand CP-70 a large range of instruments can be used: several amplifiers, a Ludwig drum set and several keyboards are permanent items in the studio and if there is a need for a special instrument, "We'll get everything you need - if the customer pays." says Norbert Friedl, "and if the customer wants a singing Australian crocodile - we'll get it!" There are also a lot of studio session musicians available from bagpipe players through to an entire brass section.

The Hotline studio also owns a lounge which boasts a stereo system, color TV and a video-recorder, where you can also have coffee or other drinks and hot meals at any time.

There is a separate room with a phone for the producer under stress, which is at his disposal if he has to do some urgent business. Hotline studios is based in Frankfurt although, considering their international flair, they could as well be in London, L.A. or New York.

**If you know  
a horn player,  
do him a favor—  
—tell him about  
Lyricon!**



Join with groups like: Hall & Oates, Jethro Tull, Steely Dan, Tangerine Dream, The Cars, Tower of Power, Weather Report, Wild Cherry and other top groups worldwide and make the sounds of the 80's happen now!

— write —

**It's time...**

**Computone**

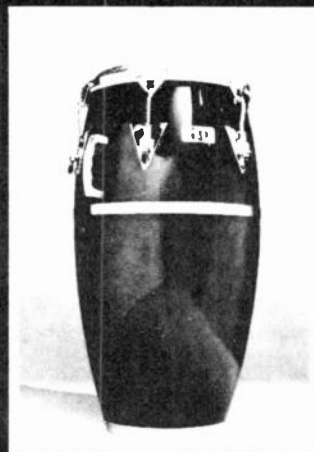
Box 488 G11

Norwell, MA 02061

617-871-2660

Circle 785 on Reader Service Card

Circle 709 on Reader Service Card



**The  
LP CONGA**

Excellence in performance  
our first concern.  
3 sizes does it all.

Send \$1.00 for catalog

**When Everything Counts... Trust the leader®**

**LATIN PERCUSSION INC.**  
PO BOX 88 • DEPT 08 • PALISADES PARK N.J. • 07650

World Radio Hisi Circle 808 on Reader Service Card

133

## Jimmy Iovine From Lennon to Springsteen

Jimmy Iovine (pronounced I-veen), a hyperactive Brooklyn kid now living in a super deluxe apartment on Manhattan's Central Park South, has never been able to survive very well away from his mother's cooking. That's why he pays her a generous amount each month to stock his freezer with homemade veal parmesan and pizza which the two of us are presently gorging ourselves on.

At the same time, we're listening to an extremely impressive three song demo by David Byron (no relation to D.B. of Uriah Heep) which Clive Davis, president of Arista Records, has sent over for Iovine to listen to. Byron, from New Jersey, is a talented songwriter who sings like Elvis Costello if Costello could sing. Having just been signed by Arista, he is a definite artist to watch. And Davis would like Iovine to produce him. The reason? At 26, Jimmy Iovine is one of a handful of legitimately hot "new breed" producers in America.

As it turns out, Iovine has been playing the tape over and over all day and is so knocked out, he's already decided to do the record.

The phone rings as the tape winds down. Jimmy mostly listens, then says, "Can't. Don't have the time." And hangs up.

"Know anybody who wants to make a lot of money?" he asks with a laugh. "The Outlaws are looking for a producer."

He could probably make more money producing the Outlaws than David Byron, I suggest . . .

"Only about \$150,000 more!" he rants.

\$150,000??? Producers make that much these days on medium selling acts?

He nods his head and finishes the last of the pizza. "More," he stresses. "Todd Rundgren made \$1,000,000 producing Meatloaf! That's right," he says as my mouth drops. "A million bucks."

Explaining the mathematics involved, he adds, "most producers get between 2½ and 4 points a record — a point being 1% of retail, or 7.9¢. The average producer deal is usually

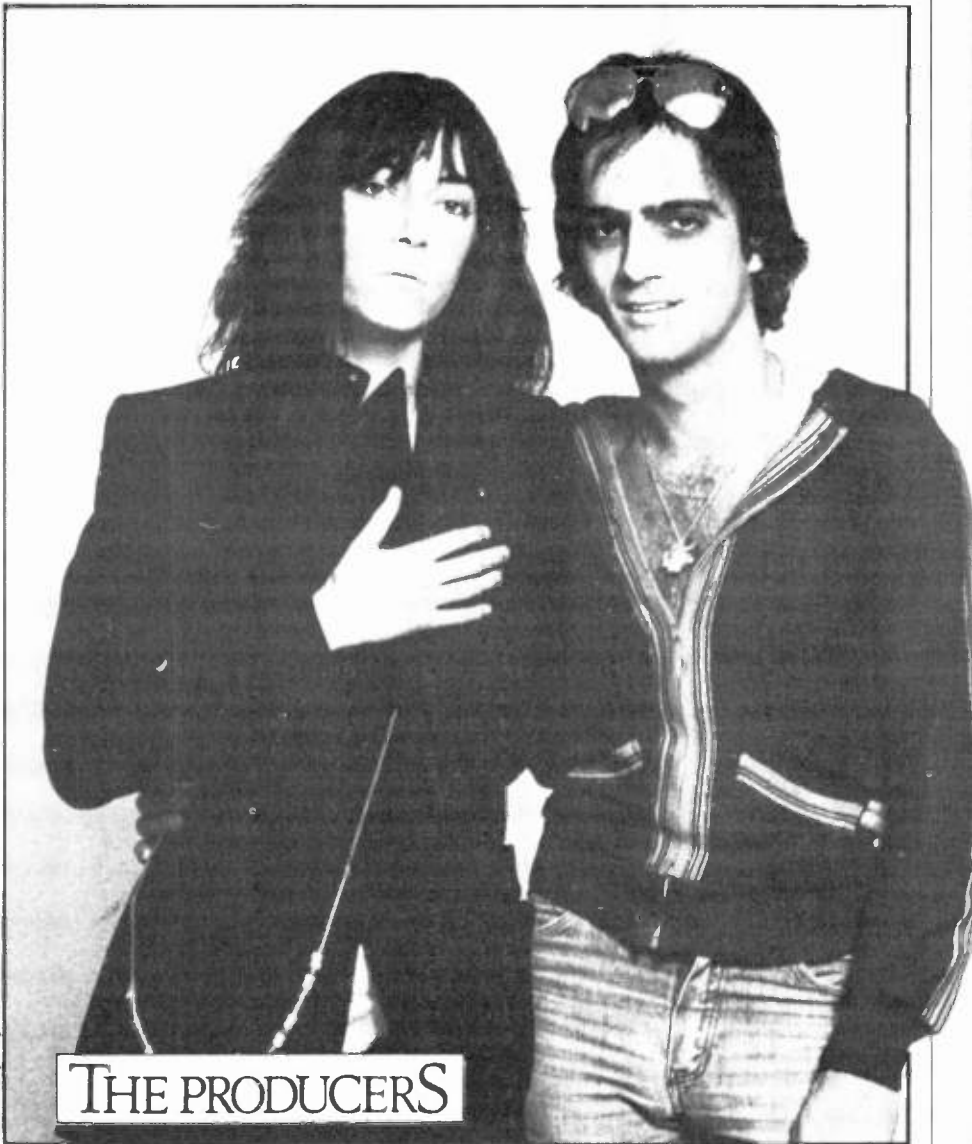


Photo by Lynn Goldsmith.

### THE PRODUCERS

around 21¢ a record and Meatloaf sold five million records. Figure it out. Bob Ezrin just signed a deal to produce Pink Floyd for about a million bucks. They sell around four, five million records.

"Most producers' tendency is to go to an act that sells at least four hundred to six hundred thousand records. The Outlaws are like that and you can make a lot of money. Like if someone offers you Blue Oyster Cult, you go with that because it's a guaranteed

one hundred grand minimum. And if the records takes off and goes platinum or double platinum, the producer can make a half a million dollars." He stops to laugh at himself. "And I'm gonna produce David Byron!"

Referring to the phone call of a few minutes ago, he says, "I think the Outlaws are real good but I can't do them right now. I would pass up a lot of things to do this kid's record. I want to have a big record with a new act. It means a lot to me. To bust a

# RECORDING WORLD

new act gives you a lot of satisfaction. Like Michael Chapman with the Knack right now. That must feel great!"

Jimmy Iovine has had his share of success already – at an especially early age – but most of it has been as a recording engineer. It's only recently that he's been making his mark as a producer. After getting a job as an assistant engineer at the Record Plant Studios in New York, he fell into a mind-boggling first project: working with Phil Spector on what are John Lennon's last two studio albums to this date, *Rock 'N' Roll* and *Walls And Bridges*. Not bad for the old resumé. From there, he went on to engineer for Bruce Springsteen (*Born To Run*, *Darkness On The Edge Of Town*), mix Meatloaf's only hit single, "Two Out Of Three Ain't Bad," and produce Patti Smith's first hit album, *Easter*. Since then he's produced Golden Earring and Mark Farner, and completed most of the production on Tom Petty's third album. Later this year, he'll be producing previously mentioned David Byron in addition to the Motors and Graham Parker. In between all these have been other projects as well. But not surprisingly, he remembers his first session like it was yesterday. Maybe even 20 minutes ago.

"John Lennon's *Rock 'N' Roll* was the first record I ever sat at the control board for," he says, shaking his head at the remembrance. "It was wild. I didn't understand what it was at the time. I was 19. I thought every engineer did that for Phil Spector and John Lennon. I didn't know I was very lucky at the time."

Iovine had gotten a job at the Record Plant as owner Roy Cicala's assistant through Ellie Greenwich, who he had met while in high school. Greenwich had written "Be My Baby," "Chapel of Love," "Da Doo Ron Ron" and others for Phil Spector and Jimmy frequented her apartment listening to tapes she made. Since he wanted to be a producer, the only way he could do it was by starting out as an engineer. His producer influences, he says, are Phil Spector (of course) and Bob Crewe (Four Seasons, Mitch Ryder's "Devil With The Blue Dress On," and the Shangri Las).

Roy Cicala broke him in and one day, Iovine says, Cicala told him, "By

the way, you're gonna work with John Lennon." "I went to California with Lennon and along with Roy and Shelly Yakus we did those two records. I was the only one who could go," he laughs, "because I had no wife. I was 19. My mother packed my bag and I went. It was a gas, a part of my life I'll never forget." Phil Spector is listed as producer for *Rock 'N' Roll* and Lennon for *Walls And Bridges*, but he adds, "It was really John for both records." Immediately following those, Capitol Records released Lennon's *Shaved Fish* LP – a greatest hits package – and for the past four years John Lennon has not ventured into a recording studio. "He's just taking a vacation," Jimmy says, "and I think it's a well-earned one. He deserves it."

Iovine went from Lennon in 1975 directly to Bruce Springsteen, and as far as what he learned concerning the intangibles of rock & roll, he says, "Bruce was the big influence. You learn a lot from him about how music should feel as opposed to how music should sound. Bruce has a very good sense of feel. You can learn that from people – when it feels right. It takes practice. For example, if we were in the studio and I played you six takes in a row, if you're not used to doing it every day, you might say, 'They all feel the same.' But they don't." Bruce, he adds for people who might not know it, is "the best."

Springsteen's *Darkness On The Edge Of Town* is probably the last record Jimmy Iovine will strictly engineer on, unless Lennon decides to go back into the studio or Bruce makes a live record. Following *Darkness*, Jimmy produced Patti Smith's *Easter*, and now says, "I don't want to engineer records any more because you can just go so far. I don't mean financially or career-wise as much as creatively. I like to be part of making the music. It's where I was headed all the time."

Bruce made Jimmy's transition all that easier by writing the song which broke Patti's album wide open. Iovine actually had his eye on the tune after Springsteen made his final selections for *Darkness* and passed on it. "I asked Bruce for a song for Patti," Iovine recalls, "and I figured I could talk her into it. I wanted Patti to do 'Because

The Night' in particular. Bruce didn't want it and I thought it was a hit. Patti liked it and we got lucky."

On *Easter*, which was Patti Smith's third album, Iovine says he "tried to make the arrangements a little more cohesive if possible. Patti's got one thing that all great artists have which is a lot of conviction. She believes. And that's great. That's why I worked with her."

*Easter* going gold for Patti rescued Jimmy from a difficult period. "There was a time after I stopped engineering when the only records I was getting offered to produce were records that I didn't really believe in (Golden Earring, Mark Farner). And I had to live so I did them. I found out later that Atlantic didn't even want a Mark Farner record. After it was released they dropped him. And I fucking died for that record. It takes years off my life when I produce a record. Every record producer will tell you it's a strain. So now, instead of taking whatever comes along, which is the way I was brought up as an engineer, I'm being real careful. I did Tom Petty's record, I'm doing the Motors, I'm doing David Byron who I adore rather than a big band like the Outlaws. And Clive wants me to do Graham Parker which I'm real excited about. Plus, I just signed a production deal with Epic."

Jimmy Iovine's style is a synthesis of ideas picked up from various people he's worked with and came into focus on *Easter*. His records will always sound like rock & roll was meant to sound – spontaneous and hot. Presence is a key word. "Rock & roll should knock you over," he says. "It might sound obvious but I got a thing inside me that feels a certain way when something excites me. And it doesn't sound right until it excites me. That's all I use. I don't use anything else. I sit down and I say, 'It ain't gettin' me off. It ain't right yet.' And when it's right, boy, you know it immediately."

The opening seconds of "Till Victory," from *Easter* are a perfect example. For the first time on a Patti Smith record, the drum sound leaps off the track. "That was my influence," Iovine allows, "but that was there. I didn't play the drums. They played the drums like that. I just brought it ▶▶

The sound of the Mu-tron Phasor II is the favorite of people like Jeff Baxter, Pat Martino, Lee Ritenour, George Duke, Jan Hammer, Jean-Luc Ponty, and Alphonso Johnson.

The reason? Studio-worthy, low noise specs combined with a deep, rich, sweeping sound make the Phasor II the standard by which all other phasors are measured.

You can hear the difference between a Phasor II and any other phasor. Mu-tron's exclusive photo-mod circuitry is far superior to conventional FET circuits that give you

nothing but noise and inherent distortion. The Phasor II contains an expensive custom-made device, called a photo-mod, which works on a sealed optical principle. The result is more than 10 times the dynamic range of conventional phase shifters, plus phasing "notches" that are far deeper and more pronounced.

The controls on the Phasor II are designed to give you dozens of options and total control over your sound in live performance. And it is built to withstand all of the rigors of the road.

See your Mu-tron dealer today for

a closer look at the Phasor II. If you can find a better phasor, buy it.

Mu-tron. Hard-working effects for hard-working professionals.



# The Mu-tron Phasor II. The clean sweep of professionals.



For a free copy of Mu-tron's new catalog and the names of Authorized Mu-tron Dealers in your area, write: Mu-tron Inc., 45 Hartwell Avenue, Lexington, Massachusetts 02173.



# RECORDING WORLD

out in the mix. I just tried to make it more dynamic than her other records.”

The long awaited Tom Petty album which should be out in October following the settlement of a Petty vs. MCA lawsuit is another example of Iovine's craft. After hearing the rough mixes of the songs, one can only hope that this collaboration will continue to work together on future albums. Petty's voice is recorded to perfection, with both power and grace. The band sounds possessed and each track is pushed to its limit without losing any of its subtlety. Petty has even written a song reminiscent to "I Need To Know," his classic from the second album. It is an extraordinary record which hopefully will not be delayed much longer.

Now that Jimmy Iovine has made the rounds as a producer, what kind of studio does he prefer? "The main thing," he says, "is I need it to have a 35 by 40 or 50 foot room. It's the only way for me to get a record to rock these days. Besides the playing, which has gotta be great, I need that ambience of the room, that live sound. In a small room I have a lot of trouble. Although, I made some of my best records in a small room - 'Because The Night,' for example. Also, the monitors have got to be comfortable to me. The Record Plant uses JBL and they're perfect. And I also know what the console does and I know what the speakers sound like so as soon as I hear a playback, I know what it'll sound like on the radio. That's important."

As for specific equipment, "I like the new Neve consoles. At the Record Plant they use EPI which I also like. Lately, though, I've been getting into recording in this big house upstate which I'm going to use for the Motors. It has a remote truck behind it. The Record Plant rents it. They did it for me because I need a big room and they don't have one. The largest room in the city is the Power Station where Bruce is doing his next album."

Concerning new recording techniques, Iovine adds, "This digital thing is going to be hot. I did an interview for *Newsweek* about this (laughs) and it was so confusing what I said to the guy, he didn't print it (more laughter)."

One other thing Jimmy Iovine is concerned with when he makes a record is who his audience is and how they plan on listening to the music. "The music that I really love right now," he offers, "is the dance music they're playing in places like the Mudd Club 'n Hurrahs where nobody sits. Stuff like

the Police, Joe Jackson, the Knack Did you ever see Sly at the Electric Circus? There'd be 1,000 to 2,000 people, everybody dances, and Sly plays. What the fuck is better than that? To me that's what I want to make records for. You can't do that for a lot of acts but you can do it for Bruce, J. Geils. And you can do it for Tom Petty. In fact, I think that Tom

Petty will lead the pack. He's got all the soul that I need. He's got good feel, great songs, a great band and he sings with a tremendous amount of conviction. Tom, to me - along with Bruce - is the ultimate. I'm very lucky to be working with him. And I also think it's great that kids are dancing again to rock & roll. That can only help the music." Steve Weitzman

## STRINGS & ACCESSORIES FROM CF MARTIN

A COMPLETE LINE of Strings and Accessories ranging from banjo strings to electric strings, from capos to picks, tuning machines to bridge pins, guitar polish to drumsticks. All from **THE CF MARTIN ORGANISATION** Nazareth, Pennsylvania. See your favorite dealer.



Circle 720 on Reader Service Card

# CHOOSING A MIXING DESK

by Chris Rogers

What is mixing? Don't automatically assume that you know because no matter how experienced you may be, I think it will prove useful to go over the basic ideas of what mixing consists of. Quite often it's possible to come up with new ideas and ways of approaching the subject which will benefit the final product, the music.

Hopefully, you will have somewhere to record by now, no matter how simple or primitive. The next problem is transferring the music on to tape. If you only intend recording one voice or one instrument in mono you will have no mixing requirements at all. This, of course, may need some form of equalization and correction but that is not really mixing.

Moving just one stage further, but staying with a single instrument or voice, your first experience in mixing will come when you record in stereo. The vast majority of stereo tape recorders, be they reel-to-reel or cassette, have microphone inputs, you will therefore be able to plug your stereo pair direct into to the tape recorder. Microphone placement and microphone techniques are a subject which I will cover in a later article.

With just two microphones feeding a tape recorder you have to achieve a correct balance between the mikes so as to position the sound where you want it in the audible picture. This is a simple and straightforward job of mixing. Quite simply, if you have more of one mike than the other, the image will shift in that direction. By varying the balance between a stereo pair of microphones you have in effect a pan control allowing the sound source to be placed anywhere across the stereo image. This is mixing!

A mixer in its most basic form is a means of combining a number of ingoing signals into one outgoing signal. In fact, the most basic mixer is what is known as a summing amplifier and is a small section of circuitry to be found in a great many devices. It is merely a small amplifier which combines any number of inputs to achieve an output level at the same signal level as the average of all the ingoing signals. Needless to say, a devices such as this would be of little

practical use in mixing audio signals, we therefore need to make our device a little more practical and somewhat more flexible. To this basic summing amplifier we need to add level controls to the inputs and a master control on the output. We then have a device which is capable of combining as many line level signals as we have inputs for, into one output, all of which have variable controls. What we now end up with is a basic line level mixer. If we now provide a second output with a summing amplifier and another set of controls which is connected between each output and all the inputs we can vary the amount of signal which goes to either output. We now have a stereo mixer. The next thing to add to this set up is another set of amplifiers on all the inputs which are capable of amplifying microphone signals up to line levels. At this point, we arrive at a stereo microphone mixer.

What I have described thus far is far from complex but it is a basic mixer which is capable of combining a number of line or microphone inputs to one pair of outputs and as such is capable of performing many simple and straightforward mixing tasks, certainly there are a number of simple mixers built along these lines which are available on the market and which certainly cover a number of basic needs. It must also be borne in mind that no matter how complex a mixing desk may become what I have described is the basis of all mixing desks – bar none. To this basic set up the next thing that would normally be added is some form of equalization, in other words tone controls. At their most basic we normally find a treble and bass control with fixed turnover points. The next move is to make these turnover points variable usually at switched frequencies. This then is quite a flexible equalization system. From here on it is possible to add all types of tone controls from this basic set up you can add parametric mid range which allows variable amounts of lift and cut and a variable frequency turnover point. Another way of doing this is to add perhaps a mid and a presence control which basically means a lower and an upper mid range tone control giving four

tone controls in all. From here I think it can be seen that we are heading towards what is becoming a recognisable mixing desk.

Once we have included a tone control stage we have to ensure that that stage is operating as a suitable signal level so to our basic channel input we add a gain control at the input end of the channel enabling the signal level fed into the equalization stages to be adjusted to a suitable level. At the other end of the input channel we normally fit a fader allowing any proportion of that equalized signal to be fed to the output of the mixer. Also of course we still have a pan pot which allows the output from that channel to be fed to either right or left main outputs in varying degrees. Our mixing desk is now becoming comprehensive and similar to most commercially available desks. Or more to the point it is building into something recognisable as a mixing desk.

At this point we need to know what's going on in our mixing desk, so some form of metering is necessary in order to check that we are not overloading any stage of the desk. In its most simple form there are normally a pair of meters at the output in order to see the kind of output signals which are leaving the desk. Whilst this is a useful addition to our basic mixing set up it does not allow us to know what is going on within the desk. It is therefore necessary to add a few more monitoring functions to our basic metering system. The next and most useful requirement is to add prefade listening controls to each channel. This is usually a button situated above each fader which allows the level of the channel selected to be viewed on the meters prior to the output fader. In this way we can see what the signal level in that particular channel is, in order that we don't overload the circuitry of that channel.

What I have described so far is the basic set up found in most mixing desks which are used on the road by bands and in theatres. To this can be added a great many other functions but these will vary quite considerably from one desk to another.

## Shure

Available from Shure Bros. is a range of mixers which are small, portable, and battery or mains powered. These are mono units but a highly flexible system can be built up for all kinds of applications. The basis of this system is the M67 microphone mixer. This has four input channels high or low impedance, one of which can be switched to line level input. Master gain control is provided alongside a VU meter. Also provided is a headphone monitoring outlet. Input and output terminations are all provided by XLR-type connectors.

To add to this basic mixer there is the M675. This is a master module which provides four inputs two of which are at line level and two which may be switched between line level or magnetic phono level. There is also a flexible monitoring system with level control. This allows cueing with outputs available via the internal speaker, a rear panel jack outlet for use with external speaker and a front panel headphone outlet. This unit will then interface with the M67 previously described.

## H.H.

Three mixers are available from HH, the Stereo 8, Stereo 12 and Stereo 16. As their names suggest, they are eight channel, 12 channel and 16 channel units respectively. The Stereo 8 and 12 are identical apart from the four channel difference. Each channel has four tone controls two of which are for upper and lower mid range the other two covering the extremes of the frequency range at the treble and bass ends. Fold back sends and echo sends are provided for each channel as are pan pots and main faders. The output sections are basically straightforward with a left and right master fader. The monitoring system has headphone outlet with left and righthand levels adjustable separately. Monitor select control allows main output, individual channels (in combination with another control), fold back and echo to be selected offering quite a comprehensive monitor system. Also in this section of the desk is the fold back level control.

The Stereo 16 unit has all the same controls as those previously described for the 8 and 12, but in addition is equipped with a peak programme indicator on each channel to show an overload condition and prefade listen on each channel which is also indicated on a third VU meter.

## Peavey

Peavey have available their MC8 stereo mixing system. This is basically an eight channel desk with four tone controls per channel. The two output channels are labeled sub-A and sub-B. Both have LED metering systems as well as effects return and their own pan pots. In addition to the main faders there are also two extra controls marked line outputs which go to two separate output sockets on the rear panel allowing for separate monitor mix. Finally there is a sum channel. This is the sum of both left and right outputs and again is equipped with the line output facility and LED metering.

Also available is the MR7 mixer. This is virtually identical to the MR8 but is intended for mounting in a 19 inch rack system and has only seven input channels and has rotary controls for each output as opposed to the normally found faders.

## TEAC

TEAC are a company known primarily for tape equipment and hi-fi equipment. They do however

have a vast range of mixing desks and I will only cover a few of them here. The model 2A is a six into four desk. Either mike or line inputs may be selected on each channel with added 10dB mike attenuation. Tone controls comprise of simple treble and bass functions. Each channel maybe routed to any of the four outputs. When a channel is routed to more than one output the pan pot beneath the channel selects then becomes operative. Finally of course there is a master fader for each channel and an overall fader for the main outputs.

The next TEAC machine of interest is the model 3. This is basically similar to the model 2 but has a larger number of facilities and two more channels making eight in all. As well as mike and line inputs, channels five to eight have phono inputs allowing disc material to be mixed also. To the channel functions already mentioned on model 2 there is an added microphone attenuator offering 20 and 40dB of cut, an input selector for mike, phono, or line inputs, and switchable turnover frequencies for both bass and treble controls. Added to the sub-rooting buttons is an additional switch marked D, this provides a direct output from that channel by-passing all the sub-group system. On the right of the model 3 is a sub-mix section with gain and pan pots for all eight channels along with a master. This allows a separate monitor-mix or control room mix to be made available separate to the main mix. ▶▶



HH Stereo 16

TEAC 2A

# “a professional studio recorder with a handle”

**“ReVox new B77 is long on performance and short on Mickey Mouse features.”**

That's what Herb Friedman said about the ReVox B77 in Hi-Fi/Stereo Buyers' Guide.\* If you're a serious audiophile or location recordist, you'll be interested in what Herb has to say.

In addition to evaluating products for Hi-Fi/Stereo Buyers' Guide, Herb Friedman is Chief Engineer for Tridac Electronic Laboratories and a major New York radio station. As such, he produces taped programming and he knows the real differences between truly professional recorders and others that claim to have “professional features”.

Differences like 18dB record headroom, flat response with no low-frequency “head bumps”, the highest usable dynamic range and the lowest noise of any audiophile recorder. Add to these such features as all-digital-logic-control of tape motion, large meters with LED peak level indication, self-contained tape splicer, and a rugged 37-pound package with a handle and you've got the best recorder in the world.

If you'd like to know what else Herb Friedman thinks about the B77, please circle reader service number or write to us for complete information including a reprint of his article and a list of dealers where you may see and hear the ReVox B77 demonstrated.

Circle 738 on Reader Service Card

## REVOX

Studer ReVox America, Inc., 1819 Broadway, Nashville, Tennessee 37203 (615) 329-9576  
In Canada: Studer ReVox Canada, Ltd.

\* Copyright 1978 Davis Publications, Inc. Quoted from Hi-Fi/Stereo Buyers' Guide, July/August 1978, by permission.

World Radio History





Audy Series 2000

## Allen and Heath

Allen and Heath have been in the business of making mixing desks for many years now and have not only built up a good reputation but quite a comprehensive range. They have available mixing desks from six channel small portable desks all the way up to 48 channel permanent studio installations. Their top of the range studio desks are not a subject for discussion here but their lower cost units certainly are.

Smallest in the range is the mini-mix which is a small six channel system offering quite a wide range of facilities. Equalization for bass, mid, and treble is provided along with a prefade cuemix for fold back or monitoring purposes. This can be used as a prefade listen or solo facility for level setting or monitoring purposes. Main outputs are monitored on two VU meters. Two line level auxiliary inputs are provided and are intended for echo return or other effects and can be also used for linking mixers together, providing a submix from one desk into the main desk.

Moving up in size the next desk of interest is the SD12-2. This is equipped with four band tone controls two of which are mid band. There are normal fold back and echo sends on each channel along with prefade listening send for monitoring purposes.

Finally there are two mixing systems, the SR20, and Modular 3. These two desks are basically similar, but one is intended for permanent studio use while the other is intended for road and stage applications.

## Yamaha

Yamaha is probably the worlds largest manufacturer of musical instruments and associated products. Needless to say, quite a large range of mixing desks are available from this company. The model which I will concentrate on

here is the PM-1000. This is a 16 input, 4 output unit primarily intended for semi-permanent recoding set-ups.

The channel layout is somewhat different to what is normally encountered, but perhaps more logical. Inputs are balanced mic, with the first control being a phase switch, which allows mike's to be reverse phased. This is necessary because not all mikes are wired th same way, a situation which if not easily correctable can cause problems such as defuse stereo image, and loss of bass.

The four master sections have individual level controls for each main channel, plus master gain control and master fader. Following on this is a module which has master gain controls for echo 1 and 2, along with headphone select buttons. These allow outputs 1 to 4 plus cue all of which are duplicated for both left and right. And of course a headphone level control. The final section houses talkback mic. input, level control and talkback initiate button. Along with this is a calibrated oscillator which is switchable at 1kHz, 7kHz and off. The level is pre-set at +4dBm.

## Studiomaster

Studiomaster is a relatively new company compared with some of the names to be found in this section, but in the time that Studiomaster has been on the scene, it has built up a reputation which is to be admired. It's desks are reasonably priced and combine most of the features desirable for road and small studio use.

From the Studiomaster range, I will look at the 12/2/b, the desk which is featured in our PA competition. This, as its title implies, is a 12 input, 2 output desk. Each channel is headed by an overload LED and -30dB attenuation switch, followed by a gain control. Mike inputs are electronically balanced (differential amps). No line level inputs are provided.

Tone controls comprise of a shelving treble at 10kHz, with parametric controls for mid and bass, covering the ranges of 4kHz - 8kHz and 30Hz - 300Hz respectively. Two echo sends and a foldback send are provided. Added to this are pan-pot, fader, and pre-fade - metering button.

## Soundcraft

This is a company which has gained a reputation for producing nothing but the very best in mixing desks. Quality of construction and sonic superiority have always been put first.

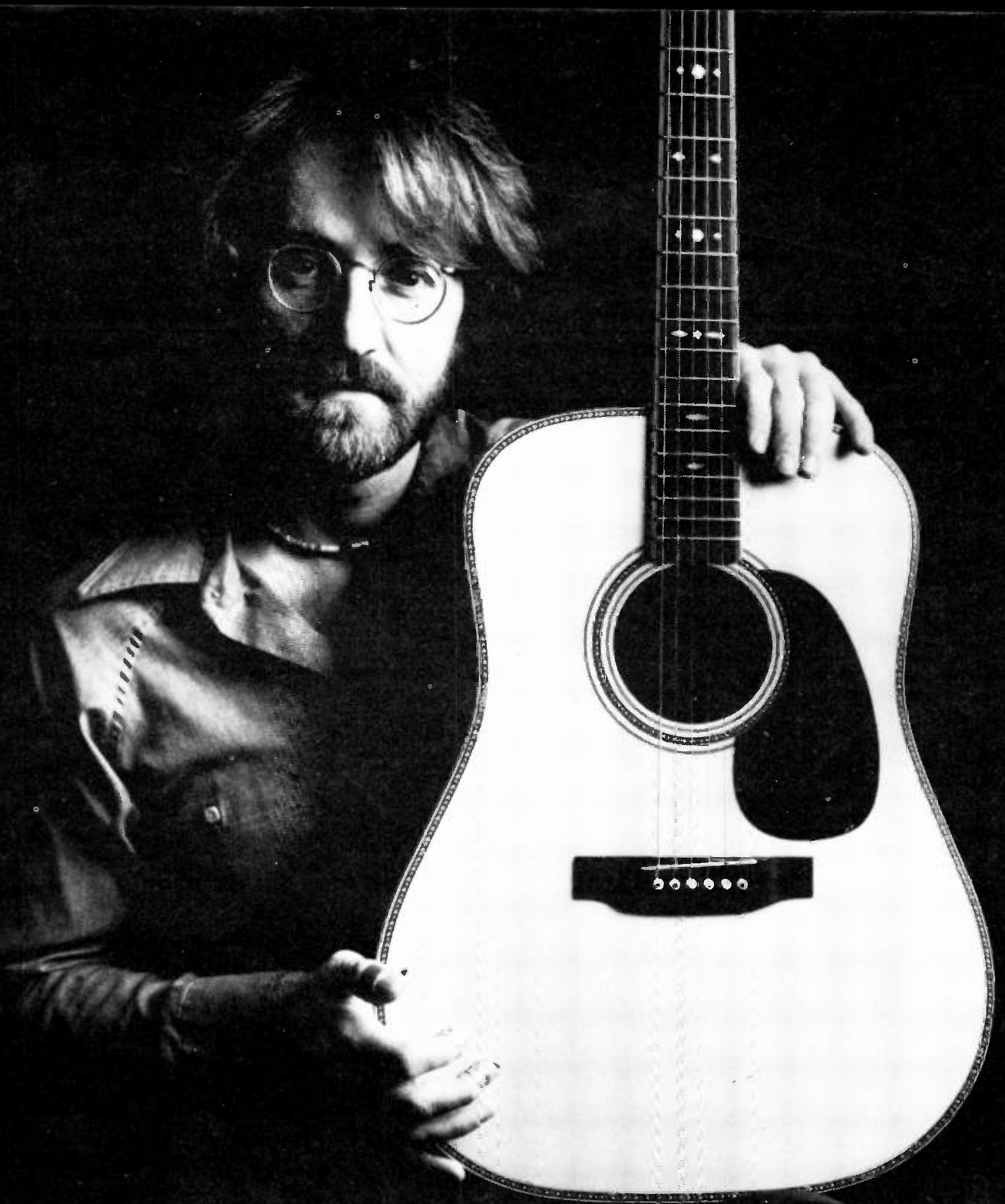
The Series 1s is a fine example of this philosophy. Mike inputs have a variable gain input as would be expected, but this is combined with a high pass filter to remove unwanted sub-sonic rubbish. Conventional shelving bass and treble controls are provided, along with two parametric mid-range controls, covering 130 Hz - 2.5 kHz., and 750 Hz - 15 kHz respectively. E.Q. by-pass switches are provided to enable a comparison between equalized and flat signals.

Two foldback sends are provided post- e.q., but be modified to be pre-e.q. if desired. These are followed by an echo send which is post fade. A very desirable way of arranging things, as it sounds very strange to have the signal level change and the echo remain constant, which is what happens if the send is pre-fade.

## Audy Instruments

Audy Instruments has recently introduced its Series 2000 desks, which are available in either 12 or 16 channel formats, and my be stacked up to 32. The thinking behind these desks is to provide a unit which is comprehensive, compact, and which will allow not only a PA mix in mono, but also a stereo mix for recording.

Each channel is headed in mike/line switch, followed by 10 and 20dB attenuators, allowing 30dB in all, plus 30dB attenuation when the line mode is selected. Overall this gives a range of -10 to -60dB in 10dB steps. Beneath these controls are two LED's, one green, one red. The green indicator comes on at -20dB, and goes off at +5dB, at which point the red indicator comes on. This I consider to be an excellent set up.



## Check out a Washburn.

It was hard to believe. Hand-inlaid herringbone front and back, close-grained solid spruce top, real fine tuners, even shaved top braces like the vintage dreadnoughts... at a price I could easily handle. I looked closely, inside and out. All careful hand work, nicely matched woods. No shortcuts, no compromises. Picked it up and played...

sounded like *twice* the price.

Do yourself a favor. Check out a Washburn.

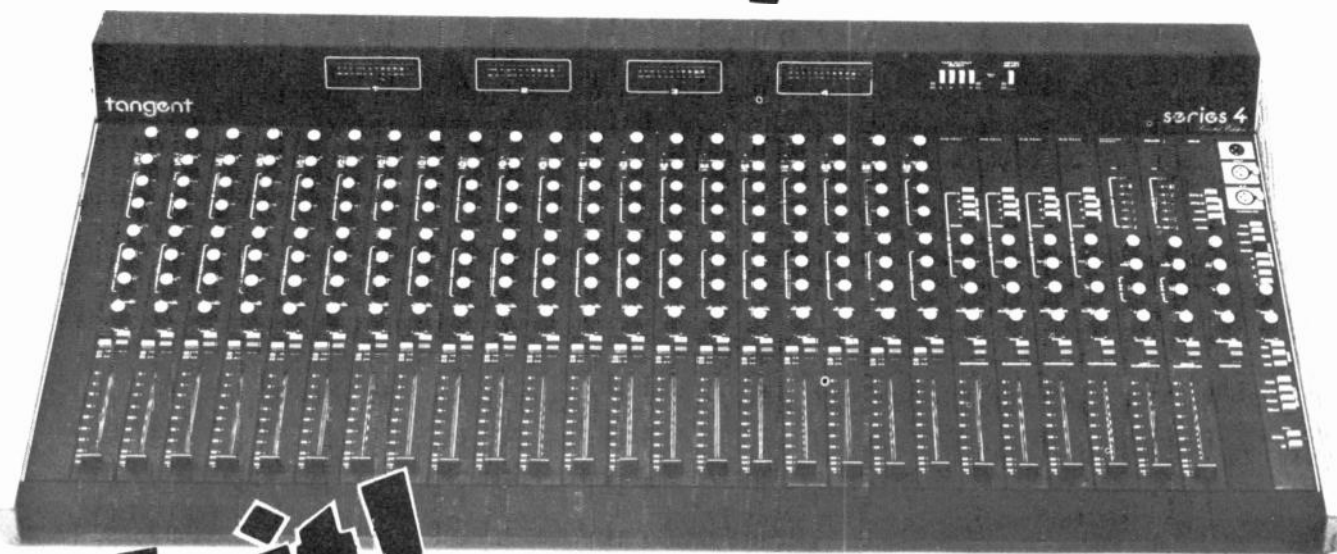
---

**Washburn.**  
Since 1876.

---

Dept. GP 1234 Sherman Ave., Evanston, IL 60202

# About to buy a mixer that's merely stereo?



# Wait!

A simple stereo mixer isn't so simple when you have to control 24 microphones with a fader for each one. To simplify your over-mixed life . . . **Tangent's Series 4**. A Limited Edition four-out mixing console.

## Submaster Mixing is easier.

Group a number of inputs together and control them with a single fader.

For example, seven microphones on a large drum kit is not unusual. It allows a fine-tuned balance among the drums and cymbals. But assume you want to bring up the volume of the entire drum kit. Moving those seven faders at the same time will probably destroy that fine-tuned drum balance. Not to mention the actual physical difficulty of controlling those seven faders, **plus** moving any other control that demands attention!

## One fader controls an entire group.

On the Series 4, you set up your balance among the drums, then control the volume of the entire drum kit from a **single fader!** Your careful balance is kept, and the operation is much easier.

In the same way, you can group all the keyboards, or the backing vocals, or the horns into their own submaster for control: from only one fader for each group. And Tangent's unique "Direct-to-Mains" function keeps submasters from being wasted with one-microphone sources.

## Total flexibility for recording.

Four-track and eight-track recording is very convenient with the submaster flexibility. Extensive switching and monitoring facilities eliminate cumbersome patching during recording sessions.

Series 4 also features Solo, Mute, 100mm faders, total modularity, and three separate send busses. Plus, external power supply, phantom power, and 12-segment LED metering arrays are standard. A Talkback/Communications Module is available, and the optional Reverb is among the smoothest sounding available.

## The Series 4 follows a pure tradition.

Tangent's commitment to sound quality has long been recognized. Our engineers have designed the lowest-noise, lowest-distortion circuits from the leading edge of today's theoretical limits. Combine this quality with Tangent's reputation for durability and ease of operation; you'll discover the finest four-out console on the market.

## Don't Wait!

For complete information on Tangent's new Series 4, call toll-free (800) 854-2003, ext. 851. In California call (800) 522-1500, ext. 851.

The Tangent Series 4 Limited Edition . . .  
for the professional who's ready to move up.

**tangent**  
musical engineering  
2810 South 24th Street / (602) 267-0653  
Phoenix, Arizona 85034

# THE 16/32 Input—8/4/1 Output MIXING CONSOLE

For less than \$5,000

## INPUT SECTION .....

16 Microphone Inputs / 32 Line Inputs  
each including :

- (1.) Variable Gain Preamp
- (2.) Four Position Active Equalization
- (3.) Foldback (Monitor) Buss
- (4.) Effects Intensity Buss
- (5.) Left & Right Pan Control
- (6.) Pre-Fade Listen Select Buss
- (7.) Eight Channel Assignment Busses
- (8.) Professional Slide Fade Controls

## OUTPUT SECTION .....

8 Main Outputs ... each including:

- (1.) Illuminated Large Professional VU-Meters
- (2.) Individual Professional Slide Fader Controls
- (3.) Individual Effects Returns
- (4.) Stereo Left & Right Submix Master Controls
- (5.) High Compression Limiter Circuit with Threshold Level Control, On/Off Switch and LED Indicators

## ADDITIONAL OUTPUT SECTION .....

5. Auxiliary Outputs .....

- (1.) Master Foldback (Monitor) Control
- (2.) Master Effects Control
- (3.) Left Submix Master Control
- (4.) Right Submix Master Control
- (5.) Pre-Fade Listen Master Control

## ADDITIONAL OUTPUT FEATURES .....

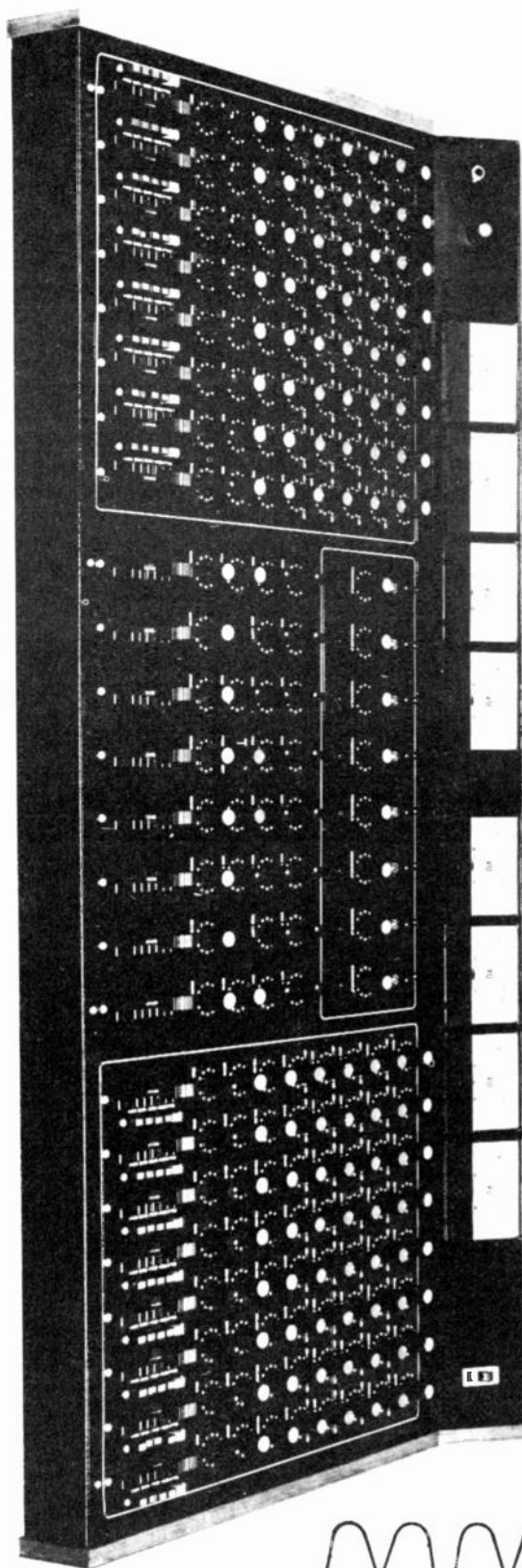
- (1.) Master Headphone Select Rotary Switch (Mix/Foldback/Pre-Fade Listen)
- (2.) Master Headphone Volume Control

## ADDITIONAL FEATURES .....

- (1.) Remix and Mixdown Facilities
- (2.) Switchable Input Routing
- (3.) Talkback Slate Switch and Termination
- (4.) Built-In Pink Noise Generator
- (5.) Color Coded Control Markings
- (6.) Many Additional Optional Features Available On Request

## REAR TERMINATION PANEL .....

- (1.) 16-XLR Type Female Microphone Level Input Connections
- (2.) 32 Phone Jack Line Level Input Connections
- (3.) 16-Hi/Lo Impedance Select Switches
- (4.) 1-Stereo Phone Jack (Ring-Tip-Sleeve) Effects Connection
- (5.) 2-Pre-Fade Listen Output Connections (XLR and Phone Jack)
- (6.) 2-Left Submix Monitor Output Connections (XLR and Phone Jack)
- (7.) 2-Right Submix Monitor Output Connections (XLR and Phone Jack)
- (8.) 2-Foldback (Monitor) Output Connections (XLR and Phone Jack)
- (9.) 16-Main Output Connections (XLR and Phone Jack)



**BRITISH MUSIC IMPORT SERVICES LTD.**

**4 ENGLE STREET, HICKSVILLE, LONG ISLAND 11801 / 516-433-8010**



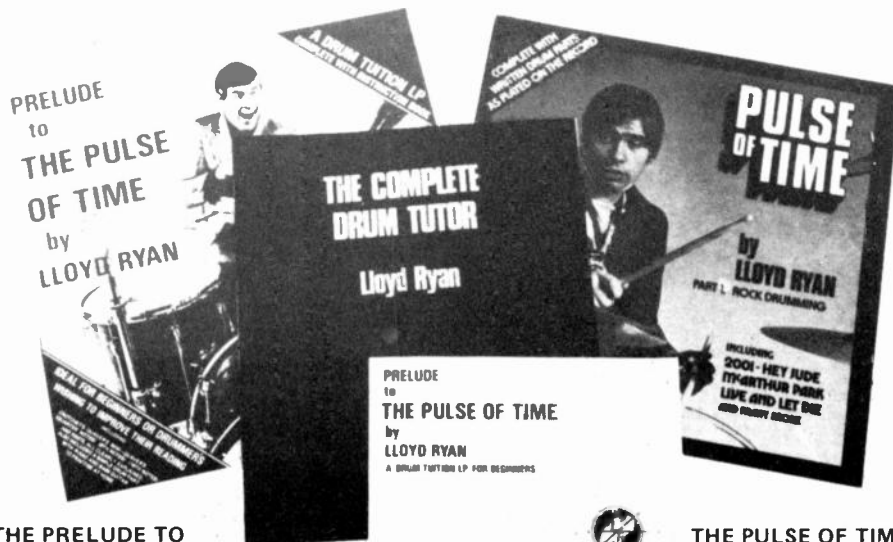
# AD INDEX

A and S Cases	39	Eventide	14	Multivox	9
Acoustic	21	Fretted	142	Mutron	136
Alembic	15	Galli	107	Odyssey	69
Allen and Heath	10	Gibson	31	Official T and B	66
Richard Allen	126	Gilco	100	Ovation	81
Altair	43	GMS	95	Paiste	53
Amerimex	3	Gretsch	122	Peavey	65
Anvil Cases	47	Guild	11	Pignose	100
Aria	77	Gintz	126	Pollard	64
ARP	118	Hammond	26	Pro Music	104
Ashley	146	Hohner	68	Randall	86
Audi Inst	83	Hotlines	121	Remo	121
Audio Marketing	46	James Howe	82	Rhodes	72
Bag End	52	Ibanez	70, 71	Lloyd Rinz	146
Bartolini	13	IMC	115	Road Runner	112
BGW	42	Kharma	19	Roland	67, 73
Biamp	6	KEAS	30	RSD	18
BMIS	144	W. Kintz	48	Sano	17
Bose	98	Latin Percussion	13, 133	Schaller	83
Calzone	20	Ludwig	78, 79	Schecter	83
Canary	106	McCauley	48	Sequential Circuits	114
Carvin	33	E&O Mari	43, 46, 48	Sescom	100
CBS	116, 76	Mari Strings	19	Shure	16
Computone	133	CF Martin	5	Silver Eagle	107
Conquest	112	MCI Inc	129	Slingerland	25
Crumar	32	Mighty Mite	101	Soundcraft	34
D'Andrea	137	Misphillion	126	Star Inst.	60
D'Armond	41	Modern Drummer	100	Studer Revox	140
Delta	89	Morley	49	Superwound	120
DiMarzio	28, 29	Music Aid	64	Tangent	143
DOD	94	Music Co	110	Travis Bean	105
Eastern	83	Music Man	119	Unicord	24, 52, 57, 88
Electro-Harmonix	117			Viking	127
Electro-Voice	12			Woodel	35
Epiphone	74, 75			Yamaha	27, 80

# DRUMMERS

IMPROVE YOUR DRUMMING

LLOYD RYAN'S DRUM TUITION LP'S CAN HELP YOU



## THE PRELUDE TO THE PULSE OF TIME \*

Complete with 16 Page Booklet  
Ideal For The Beginner  
Includes reading and simple drum parts with Bass and Piano accompaniment

PRICE \$8.60 each plus \$1.50 post and packing  
OR \$15.05 for two post free

Instruction manual



## THE PULSE OF TIME ROCK DRUMMING

Part One \*

Includes Drum Charts To HEY JUDE, 2001, LIVE AND LET DIE.  
Ideal For Home Study

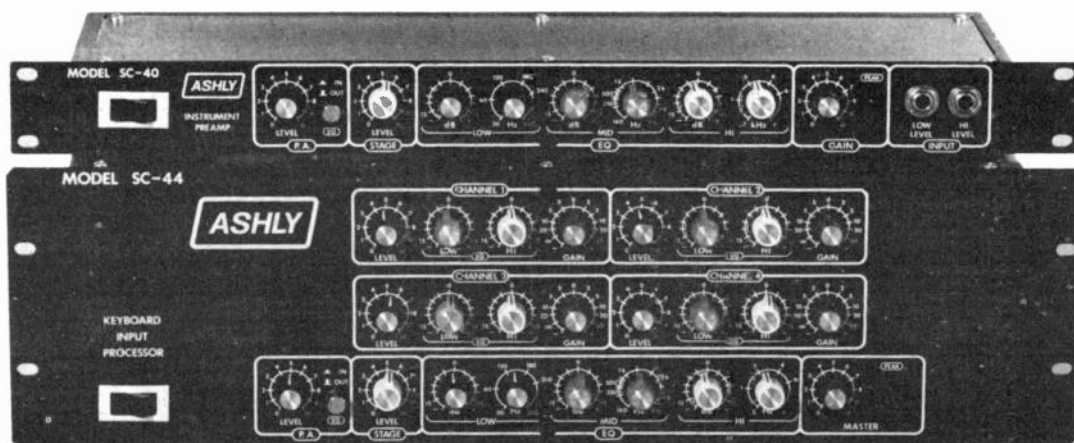
FOR DETAILS WRITE TO

LLOYD RODGER PRODUCTIONS, 349 GARRATT LANE, EARLSFIELD, LONDON, SW18 ENGLAND

\* ENGLISH VERSION

Circle 702 on Reader Service Card

LOOK TO **ASHLY** FOR MODULAR GUITARS AND KEYBOARD SETUPS



SC-40 \$349 LIST

SC-44 \$499 LIST

At Ashly we did our homework on guitar preamps and keyboard mixers. Feature to feature and dollar to dollar absolutely the best value on the market today. Do your homework—shop and compare—then buy Ashly. Professional audio equipment designed and built by people who still care about quality and reliability.

For More Information See Your Ashly Dealer Or

**ASHLY**

Call or Write

Ashly Audio Inc.  
CUSTOMER SERVICE

1099 Jay St. Rochester, N.Y. 14611 (716) 328 9560

ANOTHER

# CRATE

IDEA. THE NEW CRATE II SERIES AMPS.

This new generation of Crate amps pack 60 watts RMS into solid Ponderosa Pine or Elmwood cabinets. Dramatic tone shaping is accomplished with a mid range analyzer which is like a Mid Range Parametric Equalizer. Special Bi-Fet integrated circuit chips give you that fat, rich, driving sound of a tube amp. Other features like an incredible high frequency bright switch (+20 DB boost), a massive external power amp heat sink, and active bass and treble controls make this new Crate II the most versatile and dependable amp in its class.



Massive external heat sink for long transistor life.



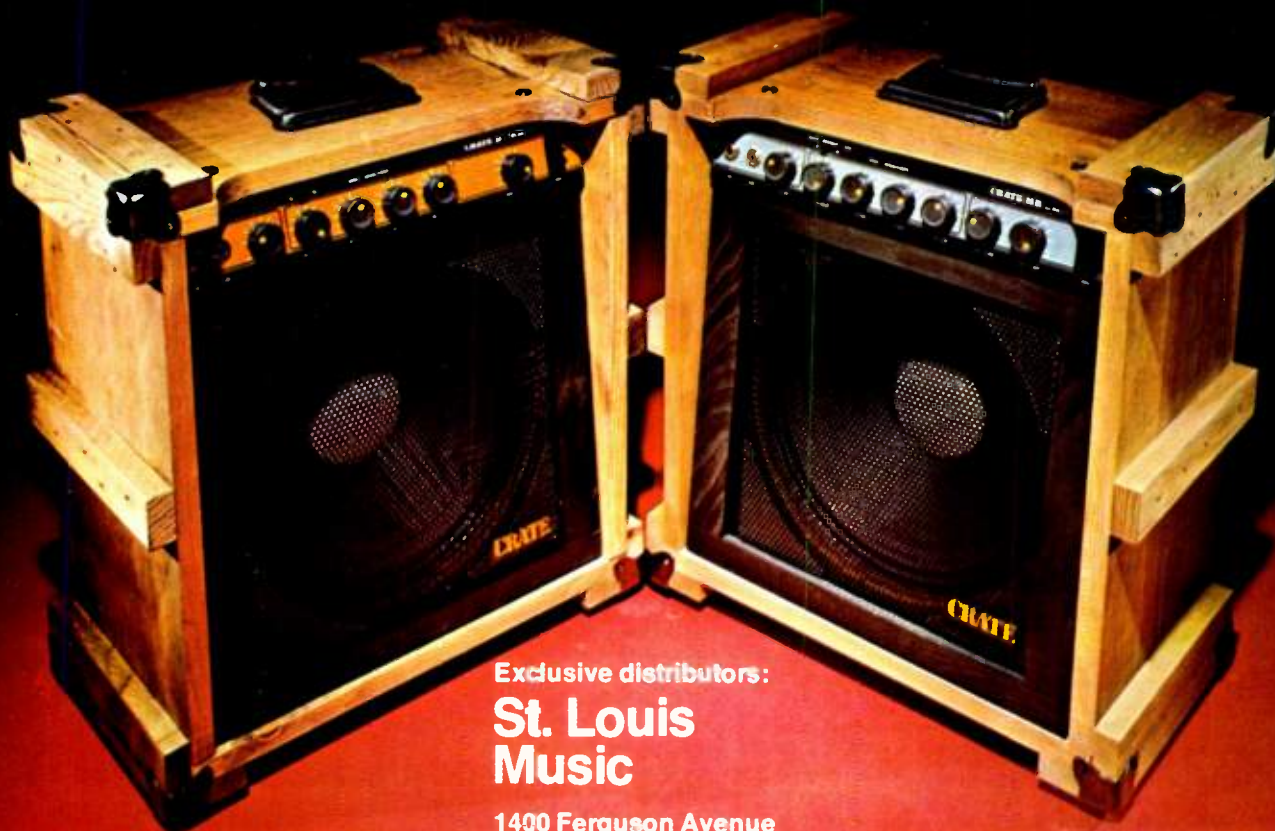
Active mid-range analyzer for dramatic tone shaping.



High frequency bright switch for razor sharp leads.



Bi fet integrated circuits for fat tube type distortion.



Exclusive distributors:

**St. Louis Music**

1400 Ferguson Avenue  
St. Louis, Missouri 63133

Patent applied for.

Circle 792 on Reader Service Card

# Why are you fretting?

S.D. Curlee U.S.A. has a fretless model just right for you.

With Dimarzio P-bass - J-bass pickups, harmonically arranged with S.D. Curlee's own exclusive pickup mounting. All our models come with Grovers, brass hardware and optional active electronics.

Stop fretting - choose from a wide selection of S.D. Curlee fretless models.

**S.D. Curlee**  
U.S.A.

21750 Main Street  
Matteson, Illinois 60443  
Telephone: (312) 481-6940



Standard

Pro-Bass

Butcher

Curbeck

Circle 703 on Reader Service Card  
World Radio History