

playback

India's only recording, duplicating & studio Magazine.

Micro Sound
Technology Article

Modern
Music
Magazine



Revolutionary

T	H	E				
D	I	G	I	T	A	L
B	I	N				

Replacement!

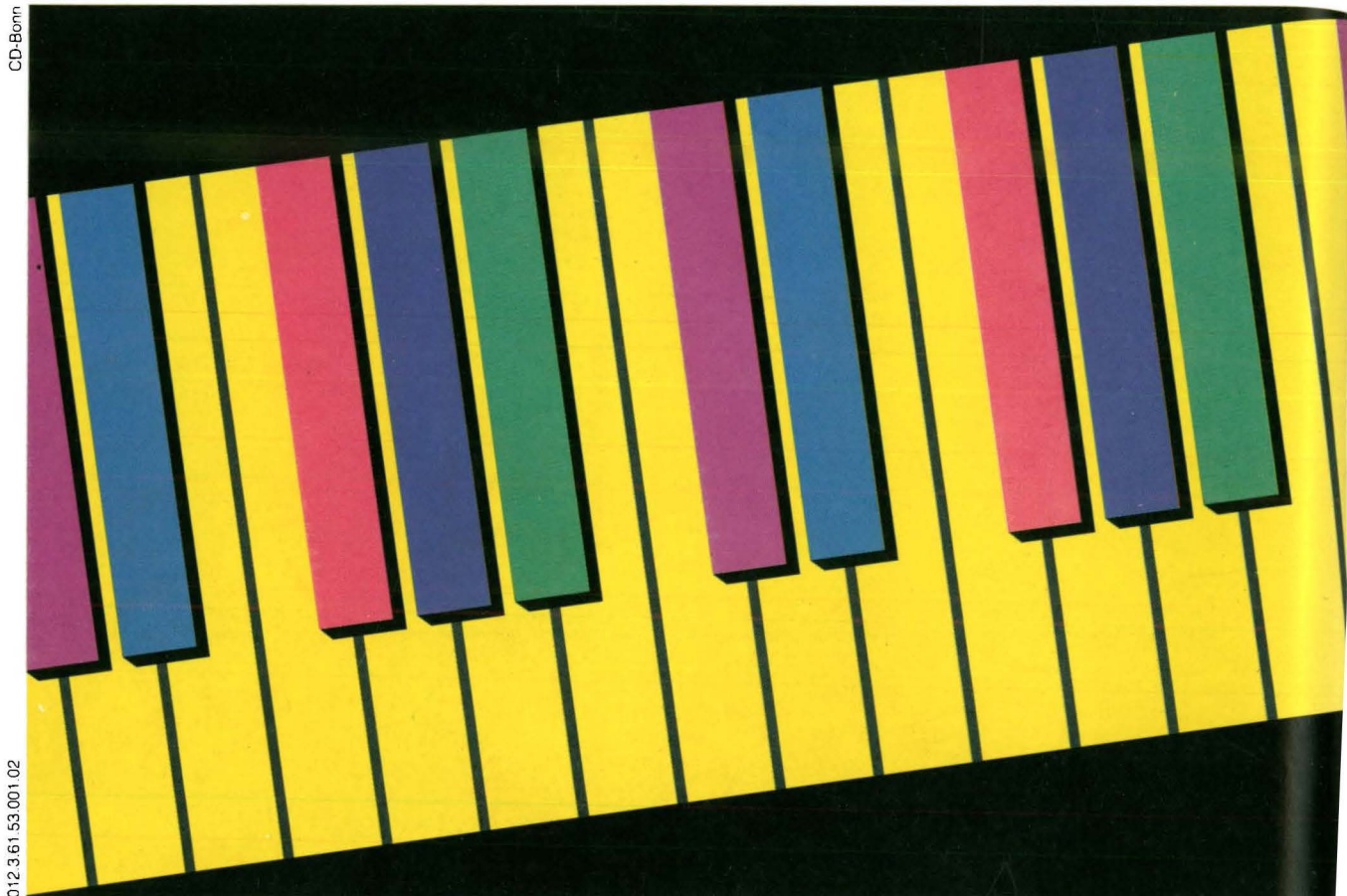
24
Equipments
featured

A Dream Merchant's Labour of Love



tips on how to manage your
studio better:
Cabling Technologies

IN CD-PRODUCTION WE PLAY ALL SCORES



LEYBOLD – Your single source for full-line CD-Production



For many years we at LEYBOLD have set the international tone in CD-metallizing. Now, our compact CD-replication line represents a new milestone in simplicity, short cycle time and minimum floor space requirement. Whether you need a partner in CD-mastering, replication, or simply metallizing, we are at hand to provide advice or assistance. But not only for CDs.

Our worldwide after-sales service supports superior quality equipment for compact disks, laser disks, mini disks...

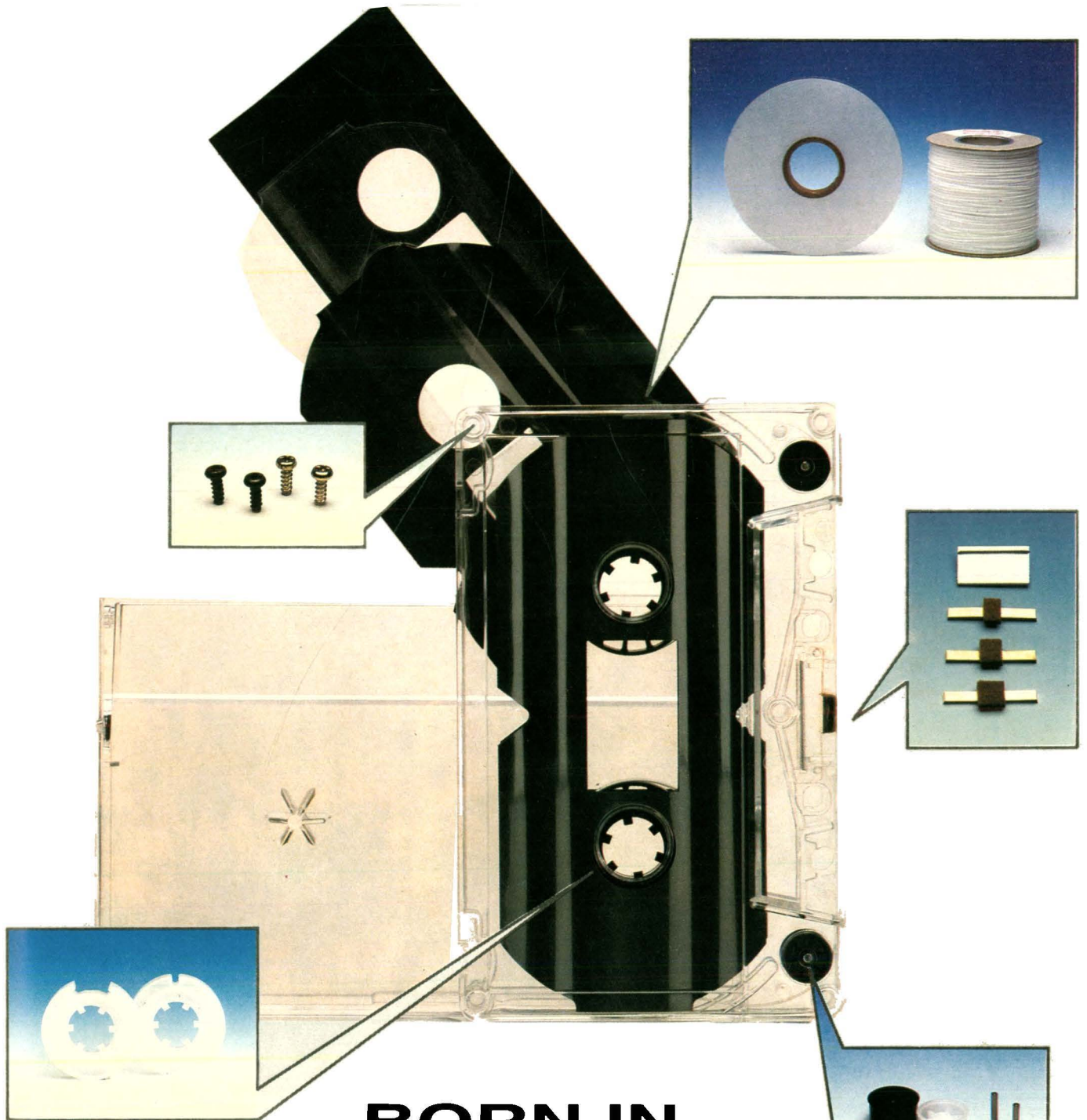
LEYBOLD AG

Wilhelm-Rohn-Strasse 25, D-6450 Hanau 1

For India please contact:

INNOVATIVE VACUUM TECHNOLOGY
V.S. Khandekar Road, Vile Parle (East), Bombay 400 057
Phone: 0091-22-834 9602 · Fax: 0091-22-836 2004
Tlx: 081-1179 321 dura in





BORN IN BENELUX

BENELUX RECOGNIZED AS

ONE OF THE LEADING CASSETTE COMPONENTS MANUFACTURERS IN ASIA.

We provide the highest quality in terms of precise specifications, service, commitment and price that no other vendor can match and compete with. We ensure you can enjoy a profitable deal since our QC monitors each step of the production process to guarantee the most consistent quality available. Don't waste your valuable sourcing time!

CONTACT US TODAY AND LET US PROVE IT.

Audio C-O & Video V-O are also available.

BENELUX
Precision Engineered Products

BENELUX MANUFACTURING LIMITED

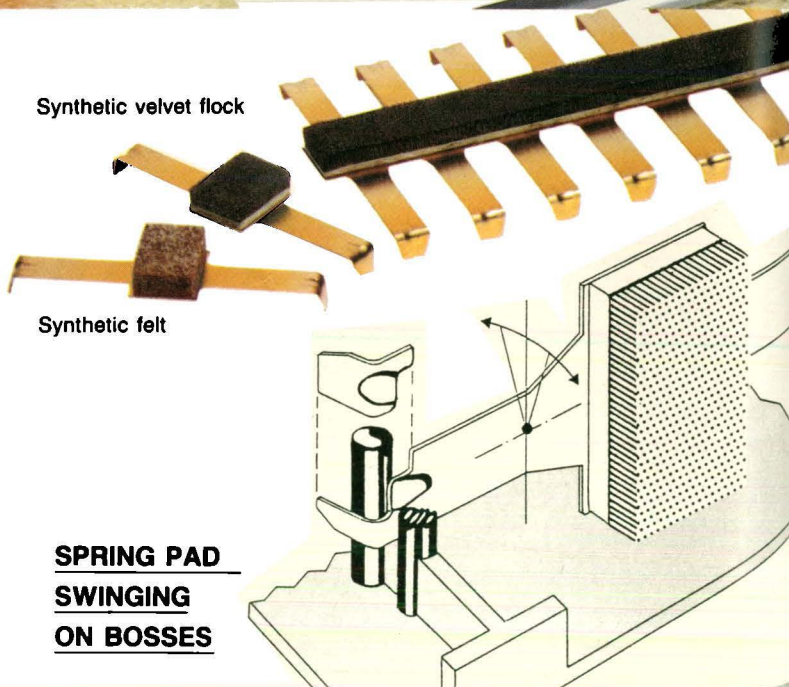
RESEARCH, TECHNOLOGY & AUTOMATION



Research, Technology, Automation
is the philosophy of ATB's production.

in audiocassette components,
the strict application of
this Standard, has allowed ATB
to obtain qualified products
ideally suited to fulfill:

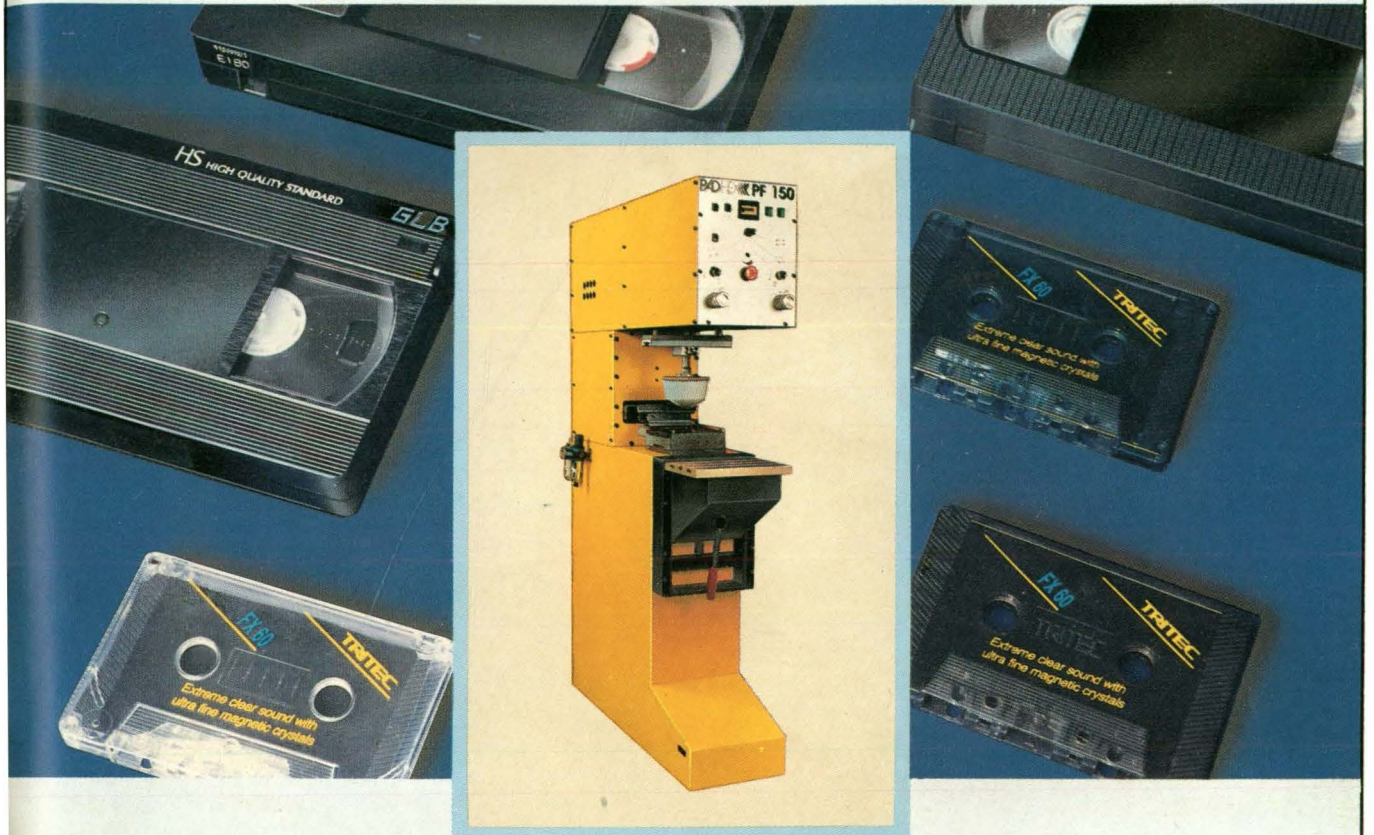
- Automatic Assembling Technology
- Manual Assembling Process



Audio & Video Cassette Components

A.T.B. SpA
20030 Senago - Milano (Italy)
Via Palmiro Togliatti, 30
Tel. +39-(0) 2/9989976/7/8
T.Fax +39-(0) 2/9986718
TLX 334457 ATIBIX I

**We'll fast forward it to you.
You play back the profits.**



PADFLEX PAD PRINTER PF 150

For perfect printing on Video and Audio Cassettes.

The Padflex Pad Printer is India's first 100% indigenous machine of its kind. Its print quality is comparable to any imported machine - at less than half the cost !

Also available:
The Padflex Pad Printer PF 200,
and The Mini Model PF 80
for superb printing on any surface.

Salient features

- Automatic operation
- Adjustable blade angle
- Electronic controls - needs just one operator
- Totally reliable. No problem of service or spare parts
- Multi programmable circuit

For further information on the PadFlex range please contact:



Marketed by : **CHIKA LIMITED** (Machinery Division)
Bhupati Chambers, 13 Mathew Road, Bombay 400 004
Phone: 3633456/3631457-58
Telex: 011-75562/75534 DYCO IN Fax: 3632857/3632142
BRANCHES: Tel.-Ahmedabad 401666/Calcutta 279747
New Delhi 732508/Madras 475724



Manufactured by :
B/21, Minerva Industrial Estate,
Off Purushottam Kheraj Road,
Mulund (West), Bombay 400 080

For that international impression

Tel: Off: (022) 5617228
Tlx: 011-6897 DBS IN, 011-6566 DBS IN,
Fax: 022-287-2640 Attention: Mr. S.M. Gala



... You need quality audio tapes and cassettes, produced to perfection.

At General magnetics, we share your concern for excellence. So, we continue to upgrade our capability by investing in state-of-the-art technology, using industrial robots and fully automated assembly lines. Through research and development, we are able to further enhance the quality of our products and to meet various needs and specifications.

Our range of products include:

- C-Zero cassette with good azimuth
- Audio Magnetic Pancake
- Blank cassette including OEM (Any Length)
- All type of cassette and CD boxes
- Compact Disc

We also provide audio duplicating, labelling and packing services.

General Magnetics... Your sound business partner!



GENERAL MAGNETICS
LIMITED

CONTENTS

Editorial:	6
News: Webel Mediatronics Ltd. ... Vishwa gets knocked out ... Naveen Videos... Venus Soundtracks ... News-Imports ... News-Exhibitions-Broadcast India 93 ... Broadcasting Cable & Satellite India 93 Kapco-A story of sound success ... Sorex Stereo Sound installs Electro Sound 9000 Loopbin in Madras ... Louis Banks launches Endzone Records with Crescendo ... BPPL Duplication 3 Electro-sound loopbins ... Gautam Sarkar's Atlantis Music ... Mega Video Digital Studio ... Venice set up by Western Outdoor ... Technical Marvel of H.M.L. ... Ampex appoints TASS as service agents ... AV Tech represents C M T Red Cat Audio Executive Talent ... AKG acquires Majority stake in Indian affiliates ... CD India Ltd. ... International Tape Association ... Lyrec launches advanced Frida for '93 ... Venus' Film Rights Acquired ... Digi-design Pro-tools at AVA Audio ... Personal Computer adapter for D. R. & Playback ... Napolcan 16 Track studio at Juhu ... Budget cuts import Duty at 85% plus CVD ... SSL's Screen Sound for STAR TV ... Soundtracks latest Jade ... Master Tape Book from APRS ... Saki Magnetic launches customer service ... India can export to Poland ... Fuji Intl. introduces Gauss Replacement Pinch Roller ... Mega Sales for Tips with Subhash Ghai's Kuh, Kuh, Kuh ... Sagarika Expands Duplication ...	8
Exhibitions & Seminars:	98
Shares:	39
Cabling Techniques: Tips on how to manage your studio better from Daman Sood:	40
Sanket Gemini 32	42
MIDI by Kenneth D'Souza	49
Audio Duplication: Tapematic's Static Audio Master or The Digital Bin: Revolutionary Replacement !	58
Advertisers Index:	59
Equipment: OD & ME MK IV ... Klark Teknik DN 800 ... Toolex Alpha ... Versadyne Slave ... Videonics Video Titler ... AKG - dbx 165 A ... Leybold Singulus II ... Sony DVE DFS-500P ... Leader Model 5100 ... Symetrix - 421 AGC leveler Aphex Big Bottom ... Genelec 1038 ... Dolby Spectral Processor ... Meyer Sound HD 2 ... Audio Technica AT 4033 ... Eclipse Getris Images ... T.C. Electronic M 5000 ... Roland RSP - 550 ... Tascam DA-88 ... Vistek: Frame Synchroniser ... Lexicon 20:20 AD ... Woelke Heads ... LDJ Magnetic Measuring Equipment 9000 ... Soundcraft Folio ...	64
Musicassette Manufacturing: Unstinting efforts for International quality	82
Duplication Technology: The Electro Sound Series 9000 Tape Duplication System by David Santwan	85
Studio: A Dream Merchant's Labour of Love - The Golden Chariot by Ajit Menon	93
Classifieds:	100

SUBSCRIPTION

Act Now

playback

▶▶ AND FAST FORWARD

Fill up the coupon right away so you do not regret later.

Playback & Fast Forward

Sangeeta Apartments, Bldg. 6-C Flat No.5,
Ground Floor, Behind Lido Cinema,
Juhu Road, Santacruz (W),
Bombay-400 054.
Tel: 6464560. Fax: 99 (22) 4930154

Please find enclosed my Cheque/Draft/M.O./Cash for Rs.200/- for 12 issues of Playback.

No. _____ Date _____

Tick the right Box

- | | |
|--|---------------------------------------|
| <input type="checkbox"/> Audio Studio | <input type="checkbox"/> Video Studio |
| <input type="checkbox"/> Music Company | <input type="checkbox"/> Technicians |
| <input type="checkbox"/> Dealer | <input type="checkbox"/> Artiste |
| <input type="checkbox"/> Others | |

Name _____
Address _____

City _____

Pin Code

A NOTE FROM THE EDITOR

No eye on the future

Imagination is needed to succeed in the music business. A lot of risk taking too. A lot of marketing too. Then I wonder, at the lack of imagination, the lack of initiative to take risk, the lack of faith in imagination with regard to the Compact Disc.

Why is the Indian industry fighting shy of promoting the compact disc? Is it the lack of faith in themselves? Are they scared of the economics? If so they have their economics all wrong. Take it from me.

I feel that the music industry should systematically launch an onslaught on the market and promote the compact disc with it all its might. We have to bring to the future into today.

The industry now should not pay any more attention to tape. It belongs to the past. I do not want to hear the refrain "In India the cassette will last many many years". Why in India? Why do we accept our country to be backward? Shame on us all.

India should be inventing the media of the future. Create such an environment. We have a culture when the concept of 'Shuddh' that is pure, or the best, is important. So the public will love to pay up. But first go out of the way to make the CD available. There will be a revolution much more. Much much more.

The mini-disc is about to storm the market, And laser-vision discs, with Karaoke, which is ideal for India's film industry software. What are we all waiting for?

Is any one reading? OK I'll go ahead. In this edit I am taking a honest look at the entire industry. The entire scene is quite sad. In exports after the govt has offered such heavy duty drawbacks, nothing has happened. Why? I think its the same attitude that is responsible for ignoring the CD. Blaming the mess for the mess. A good reason for not taking a progressive moral action.

Take a good at the share prices of corporate companies belonging to our industry. Millions of dollors have been sent out by us for the tape coating plants and its a crying shame, nothing has come out of it. I mean Hong Kong has been paid so many dollors, who is exporting night and day and here suddenly either the company is auctioned or not heard of or the tape is so bad etc; We only reconcile ourselves by praising ourselves. For nothing. The share prices are going to be featured always. How do you like that. Its also to encourage more companies to go corporate and show off good results. Am I assuming too much?

I keep publishing this magazine with renewed enthusiasm. In the hope of bringing a certain dynamism and excitement to the industry. To create a media which can be utilized by everyone to progress and disseminate ideas. Always I hope the companies in this industry will not take a selfish and narrow view and go out of their way to participate. But it looks like I am the only idealist and dreamer. But rest assured I shall continue, from strength to strength.

Anil Chopra

Contributing to Playback

We invite readers and members of the industry to contribute their views and thoughts. If you would like to write for PLAYBACK please contact the Editor to discuss your idea.

You may also send in your article in typed manuscripts for acceptance.

Subscriptions

India, Pakistan, Bangladesh, Nepal, Bhutan, Sri Lanka, Burma Rs.200 (or equivalent) for 12 issues. Foreign subscribers worldwide US \$ 55.

playback

▶ AND FAST FORWARD

March/April 1993
Volume 5 Number 7
R.N. No. 43889/86

PUBLISHERS

Romi Vohra
Anil Chopra

EDITORIAL

Editor: Anil Chopra
Executive Editor: Anuradha Chopra
Assistant Editor: P.V. Rao
Designer: Nandu Pankar
Secretary: Sandra Thomas
Production: Sujit
DTP Computer: Peter Pereira
Regular Contributors:
Daman Sood, Ajit Menon, David Santwan,
Raja Chauhan, Kenneth D'Souza
A.M. Padmanabhan

CIRCULATION

Circulation Manager:
Peter Pereira
Playback & Fastforward
P.B.16164, B.G. Kher Marg, Bombay-400006

Editorial & Advertising Offices:

Playback & Fastforward
Sangeeta Apartment, 6-C/5, Ground Floor,
Juhu Road, Santacruz (W), Bombay-400054.
Tel: 022-6464560. Fax: 022 4930154.

Delhi Business Manager:

Urvashi Sethi
C-356, Defence Colony
New Delhi-110 024
Tel: 4626988, 616704.

Calcutta Correspondent:

Mohini Singh
DC 4, Flat # 7, Golf Green, Calcutta-700045.

South Business Manager:

P.V. Rao
Kadambari Apartments 1st Floor, No.2,
Tikkile Road, Vijayawada-520 010, A.P.
Tel: 477500.

Edited Published and Printed by
Anil Chopra at: Reproduction 207, Shah &
Nahar Industrial Estate, A-2, 2nd Floor,
Lower Parel, Bombay - 400 013.

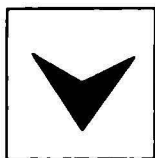
The magazine is available on a rigidly controlled requested basis, only to qualified personnel.

Job Work Duplication

on

- **OTARI**® : Spool to cassette duplicators
cassette to cassette duplicators
- **SONY** : Sony high speed duplicators 16 : 1

- # Complete recording and cellophane packaging of upto 10,000 cassettes a day.
- # Inhouse mastering facility.
- # 100% qc on professional hi-fi decks.
- # Inhouse C-O manufacturing of upto 15,000 a day.
- # Currently doing job work duplication for most reputed companies in Northern India.
- # Complete recorded cassettes also available.



NITISH KHANNA

VIBRATIONS

H-86 Lajpat Nagar - I
New Delhi - 110024

Phone (O) : 91-11-6847777, 6840101

Webel Mediatronics Ltd to supply Energy Conservation Systems to AIR

Webel Mediatronics Limited has received orders from All India Radio to supply Energy Conservation Systems to 12 High Power Transmitters.

Energy Conservation is achieved by dynamically suppressing the carrier frequency level based on continuous monitoring of the level of the information signal. This results in significant savings in power consumption of the transmitter.

The basic design has been proven at All India Radio (R & D) laboratory. Subsequently, selection of Webel Media-

tronics Limited by AIR (R & D) for commercialisation of this product ushers in a diversified line of the Company's programme.

Webel Mediatronics Limited is engaged in manufacturing professional electronics products for Studios of Doordarshan and AIR for last 12 years. It has supplied Audio Mixing Consoles to more than 50 Doordarshan Kendras and hundreds of amplifiers to All India Radio stations.

The Company is also engaged in turn-key supply of Audio & Video Studio equipment.

Lata Mangeshkar's concert tour to the Middle East

Lata Mangeshkar toured the Middle East in which she participated in 4 shows in Abu Dhabi, Dubai and Muscat. She was accompanied by co-singer S. P. Balasubrahmanyam, Md. Aziz, Compt. Harish Bhimani and a team of top-musicians of the industry led by Conductor Anil Mohile. The response to ticket sales has been overwhelming. Lata Mangeshkar is visiting the Middle East after a gap of 4 years.

Leslie D'Souza - new A & R genius of MIL

Here goes,

"Way back in June 1992 when we released **KHALED's** self-titled album in India, I had predicted that he would become a household name (refer my letter dated June 15, 1992 introducing **KHALED**.)"

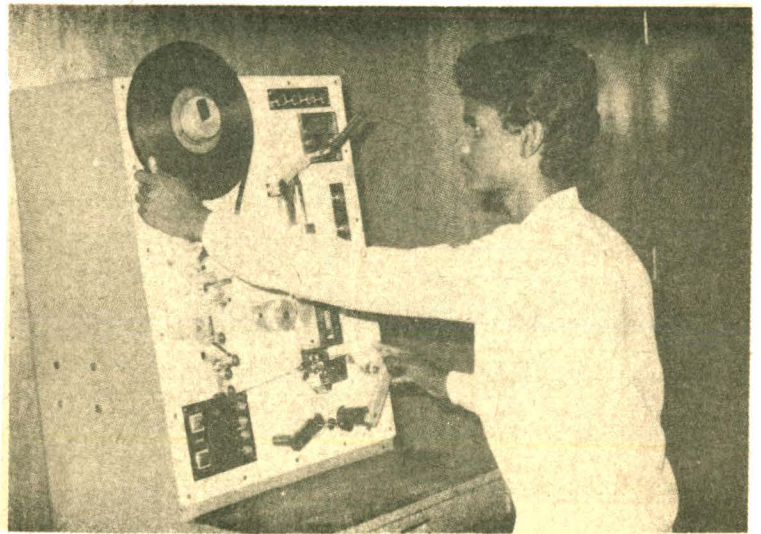
"Today, the prophecy has come true with this album touching sales figure of nearly **50,000 music cassettes** in a short span of **3 months**. Had it not been with the help and support of **MTV ASIA** this phenomenon, probably would not have happened." - Leslie's letter of September 12 to Playback.

Khaled meanwhile has exceeded sales of 2,00,000 CX and the Hindi Khaled launched recently has sold 59,000 CX in the 1st month. The Hindi Khaled has further boosted sales of the original, and the original is boosting sales of the Hindi, and on and on it shall be!!!

Other products over 1,00,000 CX sold are Elton John and Dire Straits.

**SEND NEWS
BY FAX
91 (22) 4931054**

Naveen Videos, Vijayawada



Naveen Video (Recording Unit)

Naveen Videos, a new video recording unit, fitted with latest recording equipment and components, was established in Vijayawada, Andhra Pradesh by Mr. Atluri Durga Prasad who has vast technical know-how in various fields pertaining to video recording and marketing.

The unit is equipped with Sony/VP 7040 U-matic player, a set of 60 Videocon V200E V.C.R's, 2 semi-automatic tape loaders manufactured by Krishna Enterprises, Delhi, Protek brand Master Remote Commander and 6 amplifiers. These equipments enable the unit to record simultaneously 60 video cassettes.

Mr. Prasad, the chief architect of this unit,

alongwith his partners, Mr. A. Anjaneyulu and Mr. Ch. Gopichand is determined to make a breakthrough with his skill and marketing strategy to meet the keen competition in the video market.

Naveen Videos is getting support from their own label, Swetha Videos as well as from the regular job-work patronised by their counterparts in Hyderabad.

**NAVEEN VIDEOS
Chintavari Street,
Arundelpet,
Vijayawada 520 002
Tel: 75277/431939**

Delhi Talent Report Vishwa gets knocked out

Prasun Mukherjee has undergone rigorous training in Music from renowned Institutes and Musicians, accomplishing personal academic and professional achievements. He is presently undertaking a detailed Research Study in the field of Indian Music on "Music Therapy" and "Music Heritage of India".



Prasun Mukherjee

His qualifications include (1) a Bachelor's Degree in Performing Arts (B.P.A) in Vocal Music, (5 years) from the national reputed Institute, Shri Ram Bhartiya Kala Kendra (affiliated to Kharaiagarh University, Madhya Pradesh) and (2) 'Rabindra Sangeet' from 'Geeta Vitai' where he obtained first position.

He has undergone 8 years training in Vocal Music (Light and Classical), under the guidance of Shrimati Krishna Das Gupta (reputed vocalist) and further rigorous training in vocal music (light and classical) under the guidance of Late Nasir Ahmed Khan of Delhi (reputed vocalist). He is presently undertaking light and classical music from Mrs. Anita Roy of Delhi Gharana.

Mr. Mukherjee's professional experience has been rich and yet diverse in its variety. He has been a music consultant to different music companies, offering advise for execution of projects and a cultural Programme Adviser for different cultural organisations. He is the vocal artist of A.I.R., Door Darshan, Films Division of India and vocal artist and music composer of NCERT and CIET. Prior to this, he was Head of Department of Music of the Mother's International School, New Delhi and worked as Manager (Artists and Repertoire) and Administrator for Northern and Eastern Region of Super Cassettes Industries, the premier reputed Music Company of India. He has also worked with reputed Cassette company as Director (Artist and Recording) as well as been a vocal music teacher for light

Continued on page 99

Mr G B Nayyar, entered the music industry with all the weaknesses of the show biz world. Lots and lots of uncalled for publicity. As of now with almost nothing selling, most people have taken it for granted that the company is out of the market totally. Quite a few of the staff are looking for jobs elsewhere.

Its easy to buy up film music rights not worth the spelling of the film title. Also very easy to give full page ads in screen, screaming your name, but the name of the game is a hit. And for that, well, we agree you need a little bit of luck; and a lot of 'Kidney'.

Bad advice apart from taking his luck for granted is the main cause. Further

comes to mind the classic shakespeare saying -overvaulting ambition which overleaps itself and falls on the other side. **Public Money?**

Rajendra Penta, tape coating plant, was first put up with public money, who were duped, like the Pantape plant earlier, Rajendra Penta was bought by Vishwa, who also picked up public money. Now, we do not know if, to buy the defunct Rajendra Penta plant, Vishwa utilized its own funds or the public's money.

Playback will report on this story. However, since buying over Rajendra Penta, nothing has come out of it. No spectacular entry with good tape etc:- News is on that side too, there is a fiasco.

Venus Soundtracks



L to R : Champak Jain, Ganesh Jain, Mithun Chakravathy, Ratan Jain, Shraavan & Prem Chopra

In the last couple of months around 10 soundtracks have been released. Yet, Suresh Grover's Balmaa/Nadeem Shraavan, is the one moving the fastest. Among the recent soundtracks Rakesh Roshans King Uncle/Rajesh Roshan, and Dilip Kankaria's Kundan/Bappi Lahiri is of medium response. N. Chandra's Yugandhar/L.P. did not make it.

Anil Ganguly's Dil Ki Baazi/Ram

Laxman and K.C. Bokadia's Insaniyat Ka Devta/Anand Milind, also did not fare well.

Latest Soundtracks released include Anuj Sharma's Koyal/Bhoopi-Ratan, Iqbal Durani's Dharti Putra/Nadeem Shraavan, Sharukh Sultan's Salaami/Nadeem Shraavan, K.C. Bokadia's Dil Hai Betaab/Laxmi Pyare. Dharti Putra is hopeful.

IPC Circular No. 10/92-97

Govt Lists Pro-Audio Video Equipment

To Avoid Confusion with Consumer Electronic Products under Negative List

Angshu Kumar Das (G.M. Mktg & Tech) NVL, informs Playback, finally the much awaited clarification regarding import of professional grade Audio Video Studio equipments has come in the form of a notification IPC circular no.10/92-97.

This indeed is a good news for all users who were very keen to import and could not wait for lengthy procedures for I & B clearance and import licence. All you now require is a Importers/Exporters code number and the proforma invoice which you can take to your bankers and open L/C directly. There is no need for you to look for an alternative rupee payment 'operator' in India. What effectively it means is that from now onwards for the items listed in the circular you will be able to import directly from the manufacturers, which means that you would be getting absolutely original high reliable, totally quality controlled checked equipments with free warranty and all support from NVL for Sony Corporation, products, and likewise from other authorised agents like Prosound, AV Tech, Hytech Corporation, PACE, Orange Pale, Cinecita, Photophone, Katonix, Pentacom, Hosi Wadia, etc.

Annexure to IPC Circular No. 10/92-97 Dated the 6th August, 1992

List of Professional Grade Audio/Video Studio Equipment

1. Professional video tape recorders (solid state or otherwise) and accessories, 3/4" or 1" U-matic, Betacam (and professional cameras/camcorders of Betacam).
2. Editing controls for video tape recorders.
3. Limiting amplifiers, Video distribution amplifiers, stabilizing amplifiers.
4. Professional monitors for studio use (of resolution above 800 lines).
5. Head set intercom equipment for studio use.
6. Computerised editing systems controlling more than three video editing machines.
7. Wireless microphones.
8. Wave form monitors/VECTORSCOPE
9. Digital video effects equipment/video mixer.
10. 3-D Computer Graphics.
11. 2-D Computer Graphics with Accessories.
12. Video Matting Machine.
13. Date Recorders.
14. Colour correctors.
15. Digital Reverbatorers.
16. Digital Layering Machine.
17. Paint box (electronic).
18. Video typewriter.

19. Video duplicating system with master and slave control but without 1/2" recorder.
20. Professional Broadcast Amplifier.
21. Heavy duty tape recorders.
22. Ultraportable tape recorders.
23. Audio mixing consoles.
24. Graphic equaliser.
25. Synthesised receivers.
26. Stereo encoders.
27. Stereo decoders.
28. Time Code Reader/Generator.
29. (a) 3/4" U-matic and 1" video cassette/tape.
(b) 1/2" Video cassettes suitable to work with Betacam/Betacam SP / M.II type VCR.
30. Sub-systems of the above equipment viz. power supplies, feeder cables, duplexers, modulators, demodulators, combiners, equalizers, power amplifier.

NVL offers Sony U-Matic and Betacam Tapes

Naresh Dhawan, General Manager - Marketing informs Playback, NVL is now legitimately importing and marketing SONY U-MATIC and Betacam tapes in India, which shall be available ex-stock very soon against rupee payment.

NVL will discuss your requirements for tapes at your convenience. Contact them, for any further information or clarification.

NEW VIDEO LIMITED
X-7, Okhla Industrial Area
Phase - II, New Delhi-110 020
Phones: 6830972, 630912,
6447572, 6439172, 6460592.

IPC CIRCULAR NO. 10 /92-97

No. IPC/3/8/85 (Vol.II)/
 Government of India
 Ministry of Commerce

Office of the Chief Controller of Imports & Exports
 Udyog Bhawan

Dated New Delhi, the 5th AUGUST, 1992

To

All LICENSING AUTHORITIES
 (By Name)

ALL CUSTOMS AUTHORITIES
 (By Name)

Subject: Professional grade audio/video studio equipment.

Sir,

According to the Export and Import Policy, 1992-97, Consumer electronic goods, equipment and systems, howsoever described, and consumer telecommunication equipment are in the Negative List of Imports and are importable only with a licence. These entries being general in nature, professional grade audio/video studio equipment are at time considered to be consumer items and thus importable only with a licence.

2. The matter has been considered in consultation with the technical authorities and the Ministries/Departments concerned and the view has been taken that professional grade audio/video studio equipment should not be treated as consumer goods and, therefore, there should be no restriction on import of these items. A list of professional grade audio/video studio equipment has also been prepared in order to obviate any difficulty in import of these items. The list of these items is given in the Annexure.

3. Accordingly, authorised dealers of foreign exchange and Customs authorities are advised to note that import of Professional grade audio/video studio equipment as given in the annexed list can be imported freely and without a license.

(R.K. DHAWAN)

Encl: As above

JOINT CHIEF CONTROLLER OF IMPORTS & EXPORTS

Copy to:-

1. Deptt. of Electronics (Shri K. Roy Paul, Joint Secretary)
2. Director General of Technical Development (Shri K.K. Taneja, DDG)
3. Office of the Development Commissioner (SSI). (Shri A.K. Basak, I.A.).
4. Ministry of Commerce (Shri Ashok Jha, J.S.)
5. Reserve Bank of India
 (Exchange Control Deptt.), Bombay.

(R.K. DHAWAN)

JOINT CHIEF CONTROLLER OF IMPORTS & EXPORTS

World Trade Centre, Bombay Oct. 29-31 1993

Broadcast India '93 Exhibition & Symposium

SHOW CROSSES 10,000 TRADE VISITORS

The third consecutive yearly and the most popular event of the broadcast industry, in India is once again on schedule.

Broadcast India '93 Exhibition & Symposium covers TV, Radio, Video, Audio, Cable, Satellite, Film, Computer Graphics and Associated Electronics.

India, can never be satisfied with just being the largest film producing country in the world.

The caged potential of its Broadcast industry has been unleashed due to the radical changes brought about by the relaxed Government policies, in respect of reduction in custom duties for the technological and hardware imports, and hence

India is bound to become one of the biggest markets for the broadcast equipment.

The biggest democracy in the world - 900 Million have set their eyes upwards, on the invasion from the SKY, by the multi-tide of the STAR and other satellite channels. This has created a big boom in the Production and Post-Production facilities. With rapidly increasing cable networks and the mushrooming of the Dish Antennas all over the horizon, has graduated India as one of the best markets for Broadcast Systems.

The Broadcast India shows have enjoyed the support of the following Indian and International companies:

SONY CORPORATION, JAPAN
 QUANTEL, UK
 AMBEKAS VIDEO SYSTEMS, UK
 IKEGAMI, JAPAN
 GRASS VALLEY GROUP, USA
 TEKTRONIX USA
 PANTHER GmbH
 CEL BROADCAST UK
 LEADER CORPORATION OF JAPAN
 GETRIS IMAGES, FRANCE
 PINNACLE SYSTEMS INC, USA
 MANAGEMENT GRAPHICS, USA
 MAGNEFAX, USA
 RCS-RADIOCOMPUTING SERVICES INC, USA
 RTI RESEARCH TECHNOLOGY, UK
 AUDIO PRECISION, USA
 ORTEL CORPORATION, USA
 VDICOMP, USA
 DA-LITE SCREEN COMPANY INC., USA
 ELECTRO SOUND, USA
 GAUSS, USA
 OTARI SINGAPORE PTE LTD
 LEITCH VIDEO INTERNATIONAL INC., CANADA
 MATROX, CANADA
 LYREC OF DENMARK
 SACHTLER AG, GERMANY
 SOUNDCRAFT, UK
 DOLBY LABS, UK
 LEXICON, USA
 AKG ACOUSTICS LIMITED, AUSTRIA/INDIA
 GCEL, INDIA
 BHARAT ELECTRONIC LIMITED, INDIA
 PLAYBACK, INDIA
 PRO SOUND, INDIA
 R & S ELECTRONICS, INDIA
 TAPEMATIC, ITALY
 XACA, INDIA
 CINE PRODUCTS, USA
 VIDEOBOOM, INDIA
 SCREEN WORLD PUBLICATIONS, INDIA
 SAICOM STUDIO SYSTEMS, BROADCASTING PUBLISHING, AUSTRALIA

Pragati Maidan, New Delhi Oct. 25-28 1993

Broadcasting Cable & Satellite India '93

The Broadcasting network in India is one of the largest in the world. Radio broadcast, and television reach 96% and 80% respectively of the 880 million population. More than 50,000 cable TV distribution networks are also expanding with additional satellite TV signals being beamed from AsiaSat (Star, BBC & ZEE TV), ATN, ARABSAT and CNN networks to the Indian sub-continent. The Government of India plans to lease transmission time in the terrestrial network to non-Governmental producers/broadcasters. With all these developments, the market for production equipment in audio and video is estimated to be approximately US \$ 2 billion in the next five years. India is the world's largest producer of films, and can also become the largest producer of video programmes.

150 exhibitors from India, Europe, United States, Asia and Australia are expected to exhibit their products and services over an area of 2,500 nett square meters. In conjunction with the exhibition, a 3 day technical conference will focus on trends in broadcasting, hardware and software, emerging technologies, and non-governmental broadcasting. Also an exclusive one day workshop will be organised on "satellite and cable

technology".

Broadcasting, Cable & Satellite India '93 exhibition and conference is being co-organised by Exhibitions India and Broadcast Engineering Society (India).

Broadcast Engineering Society (India) [BES (I)] is a professional body with members from broadcast organisations, industries, scientists and engineers associated with software & hardware of broadcasting, both from India and overseas. The society is affiliated to the Society of Broadcast Engineers (SBE), U.S.A., and organises workshops, seminars, symposiums and exhibitions relating to broadcasting and CATV systems.

Exhibition Description:

Biennial International exhibition and conference on radio and television broadcasting, satellite and cable distribution systems, professional sound, film and video exhibits and related services.

Supported By

All India Radio, Doordarshan

Statistical Data

Current Space Charges

Raw : USD 290/SQM

Turnkey : USD 390/SQM

Continued on page 98

Broadcast Equipments India Pvt. Ltd Starts Delhi Operation

B.E.I has begun its operation in a 1500 sq feet office cum showroom in Nehru Enclave New Delhi. According to Mr. Tandon the sales manager B.E.I wants to become a complete source for all professional & broadcast equipments and accessories for all the professional video users throughout the country.

B.E.I. had participated in the Broadcast India '92 Exhibition which was held in Bombay and have received a tremendous amount of enquiries for a variety of products mainly VTR's, Camera's Videotapes and spare parts and B.E.I. is fulfilling the demands of the customer.

Mr. Tandon further adds that B.E.I.'s basic philosophy is to provide quality products and excellent service with competitive prices. B.E.I. has already received a large shipment of U-matic and Betacam SP tapes and were expecting 3/4" U-matic SP equipments at the time of going to press.

B.E.I. is also talking to large multinational companies in this field for the exclusive distributorship in the country and is soon likely to be one.

For the customers in Bombay B.E.I. has already appointed a resident manager in Bombay. B.E.I. soon plans to open full fledged offices in Bombay, Madras and Calcutta.

For more details on the company and services rendered please contact

Mr. R.H. Tandon
Broadcast Equipments (I) Pvt.Ltd.
R-8, Suite S-4, Nehru Enclave,
New Delhi 110 019
Phone 644 5313 Fax: 91-11-6445313
Mr. Anil Mirchandani
Phone: 6234307 (Bombay)

Audio Samplers

HMV released audio samplers of Pamela Chopra's Aaina/Dilip & Samir Sen; Rajendra Kumar's Phool/Anand & Milind; Pranlal Mehta's Muskurahat/Ram Laxman.

38,000 CX per day

KAPCO - A story of sound success

KAPCO are pioneers in setting up the first Sound Recording Studio in New Delhi. The Studio was started in the year 1969 by Mr. K.K. Kapoor, a qualified Sound Recording Engineer from St. Xaviers Technical Institute, Bombay. The Studio was equipped with old Magnicorders and Ferrograph recorders, a self assembled mixer and four microphones. Being the first Studio in Northern India, it was busy for almost 20 hours a day for recording of radio spots/jingles, sponsored programmes and audio visual presentations etc.

It was in 1974 that Sunil Kapoor, Mr. K.K. Kapoor's son qualified in Sound Recording & Sound Engineering from the Film & Television Institute of India, Pune, and joined Kapco Sound Studio. Kapco decided to import the complete range of studio equipment to manufacture pre-recorded audio cassettes. A new Ampex Console, Ampex Mixer, Ferrograph Series-7 recorders and R.C.A. Microphones, along with "Viewlex" cassette to cassette duplicators were imported in the year 1975. In the meanwhile, Anil Kapoor younger son of Mr. K.K. Kapoor graduated in Marketing & Management and joined the 'Kapco team'. In addition to radio programmes, sixty five titles of folk, instrumental & classical music recorded at Kapco Sound Studio were released on recorded audio cassettes. Some titles like Punjabi Folk Songs, sung by Kuldeep Manak and Surinder Shinda were a super-duper hit. Hot selling music was pirated in the market and Kapco decided to diversify into the manufacture of Gramophone Records.

It was in 1980 that Kapco started a Private Limited Company and acquired an industrial plot in Parwanoo, situated on the Kalka-Simla highway in Himachal Pradesh. The entire machinery was imported from Toolex Alpha (Sweden), Neuman disc-cutting lathe (Germany), Revox recorders, noise gates, compressor-limiters, equaliser and M.C.I. preview machines (USA). The factory building was ready in the year 1982, machinery was installed and production of Gramophone Records commenced in March, 1983. Kapco started manufacturing Gramophone Records for several reputed music companies of South India, Bombay and Delhi on job-work basis. Kapco achieved tremendous success in this field and was transformed into a Limited Company in the year 1988.

It was in 1990, that the company decided to revive manufacturing of Recorded Audio Cassettes of international quality and procured Lyrec Bin-Loop cassette duplicators with dolby

HX-Pro from Denmark and commenced production of recorded audio cassettes in the year 1991.

With Kapco's several years of experience and expertise in the audio field and its acquiring of the best cassette duplication equipment, orders for recorded audio cassettes were flooded and the plant was working 24 hours a day, producing 15000 cassettes everyday. Since this manufacturing capacity was not enough, Kapco decided to import another set of Lyrec twin slaves and Tachos-90 fully automatic loaders and also upgrade its duplication speed from 80:1 to 100:1, sometimes in November, 1992. Presently Kapco is equipped to manufacture 38000 audio cassettes everyday, maintaining a very high standard of recording quality. Mr. Sunil Kapoor is the Executive Director/Technical Director of the company, Mr. Anil Kapoor is the Marketing Director looking after liaison & customer services and the company is prospering under the expert management of Mr. K.K. Kapoor, Managing Director of the company. **KAPCO NEVER COMPROMISES ON QUALITY.**

FUTURE PLANS: Kapco has purchased an industrial plot of about 2000 Sq. metres in Surajpur-B, Distt. Ghaziabad (U.P.) which is about 32 Km. from New Delhi. Kapco has an ambitious expansion programme to construct the most modern fully airconditioned factory at Surajpur-B and shift its manufacturing activities from Parwanoo in the next 2-3 years time.

NVL offers 20% on Sony DFS 500 P

Angshu Kumar Das, General Mgr, Marketing and Technical, NVL, New Delhi, is pushing the latest Sony DVE - DFS - 500P with a offer of 20% from Sony's list price in India on Package A - DFS-500P (including its BKDF optional boards) plus 1. Any three VTRs of the PVW-2600P, PVW-2650P, PVW-2800P. plus 2. One BVS-3000 Series switcher (BVS-3100P, BVS-3200P, BVS-3200CP) and its BKS accessories. plus 3. One BVE-910 and its BKE optional boards.

A discount of 15% is offered on a smaller package.

THE FILM . . . THE MUSIC . . .

SUBHASH GHAI & TIPS

BRING YOU IRRESISTIBLE
MUSIC PAR EXCELLENCE.

KHALINAYAK

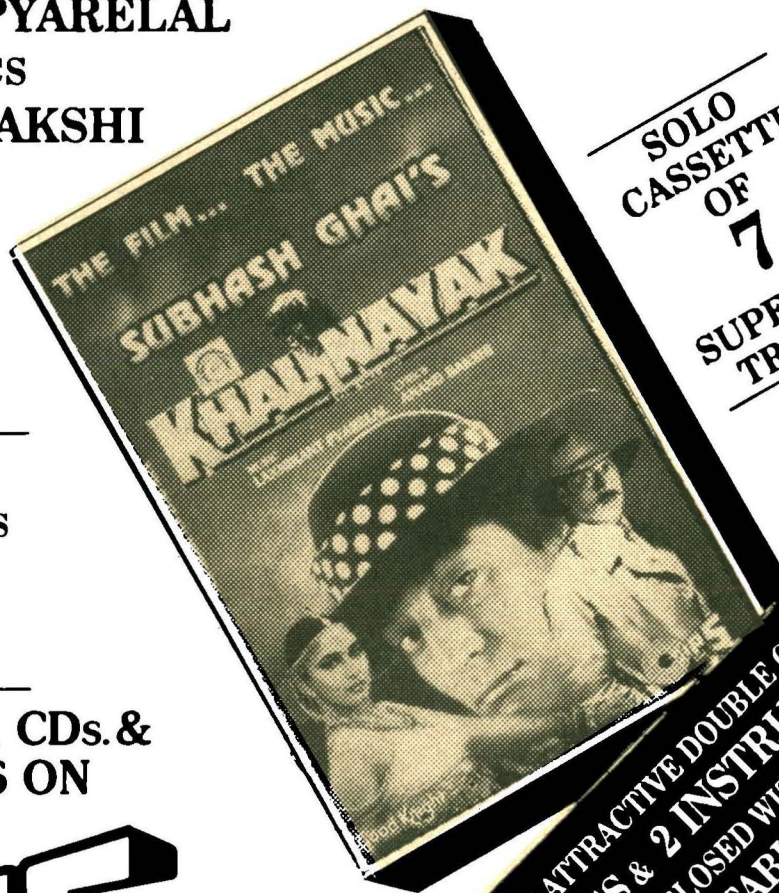
THE VILLAIN

MUSIC

LAXMIKANT-PYARELAL

LYRICS

ANAND BAKSHI



SOLO
CASSETTE
OF
7
SUPER HIT
TRACKS

TIPS
CASSETTES,
CDS & RECORDS
AVAILABLE
AT ALL
LEADING
MUSIC SHOPS

CASSETTES, CDs. &
RECORDS ON



THE ORIGINAL MUSIC

ALSO AVAILABLE ATTRACTIVE DOUBLE CASSETTE PACK
WITH 10 SONGS & 2 INSTRUMENTALS
ENCLOSED WITH
A BEAUTIFUL TABLE CALENDER
WITH YOUR FAVOURITE
STAR PHOTOS FOR
ONLY RS.100/-
(INCLUSIVE OF TAXES)

Nitish Khanna's Vibrations in Delhi

What type of job work do you do?

Right from scratch to finish. That is assembly, recording and packaging. Our clients include HMV, Weston, Lara, Sun cassettes, Catrack and smaller companies from Punjab. CMC and Georgy Music Co. are also our clients. We have had an enquiry from Music India Ltd. and Tips which we have yet to follow up on. We have 100% qc. For mastering, we have 3 head professional decks and our own C-O manufacturing capability with a capacity of 50,000 C-O per day.

What is the configuration of your duplication studio?

There are bark of Otari cassette to cassette & Otari 1/4" spool to cassette. There are also Sony 1:16 CCP cassette duplicators which are probably the only ones in India. In all we have a capacity of 12,000 cassettes daily.

Any expansion plans?

We are currently negotiating with Otari over the latest loopbin system (which not only has better recording but a better turnout as well).

How long have you been involved in this field?

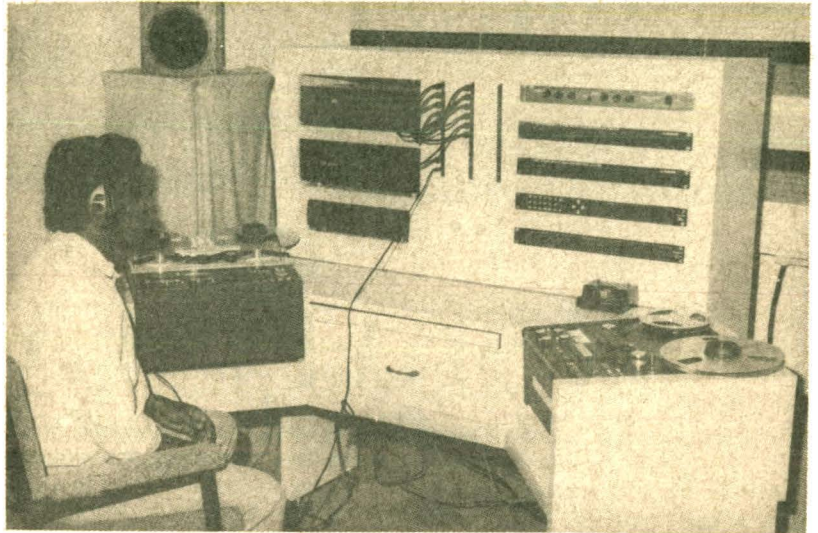
For about 3 years now. I did my chartered accountancy and then joined Weston (as in made C-O for them).

Sumita Vasudeva, Playback Delhi's Representative checks out a CCP duplication unit in Delhi.

Gramco secures injunction

Gramco went to court to restrain, it seems, versions of SCI, from being recorded, and market of Hari Om Sharans Premanjali and Pushpanjali, or "from giving any effect or further effect in any way to their purported proposal to make records". The Calcutta High Court has passed the injunction in favour of Gramco. Similar order has been secured for 'Someone Somewhere'.

Sorex Stereo Sound installs Electro Sound 9000 loopbin in Madras



Semi Automatic Loaders Division

P.V. Rao, Assistant Editor South, Playback visited the latest loopbin unit in South India - Sorex Stereo Sound.

Sorex Stereo Sound is a sister company of Coney Electronics, famous for their blank audio cassettes, walkman head phones, tape players and other audio components.

Sorex has been established in the same premises as the Coney factory, located in a beautiful locale overlooking a wonderful landscape with a serene and idyllic atmosphere. Sorex have ordered Electro Sound's latest high tech 9000 series loop bin, with two twin slaves with a capacity of about 18,000 recorded cassettes per day. They have plans to accelerate the production upto 30,000 cassettes per day.

Sorex's facility includes Electro Sound 1850 C-O Loaders, with pad printing and full packaging services.

Mastering: With probably some of the

finest mastering equipment including TC Electronics 1128 digitally controlled equalizer and spectrum analyser, Drawmer, and Aphex Processors, Noise Filter, compressors. Excellent, highly accurate monitoring system including the Genelec 1031A, Nearfield monitors and Sennheiser HD 520 head phones. The spool tape recorders are Otari MX50 and MTR 15. The mastering engineer is Manohar with 8 years experience and a Diploma in Sound Engineering.

Sorex is managed by Mr. Gopal Pardasani and Mr. Lalchandani who are very conscious of high quality in their manufacturing process.

For further details please contact:

Coney Electronics Pvt. Ltd.
Plot No.156, Developed Estate,
Perungudi, Madras 600096
Tel: 4925908, 4925068, 4925160
Fax: 91-44-4925053

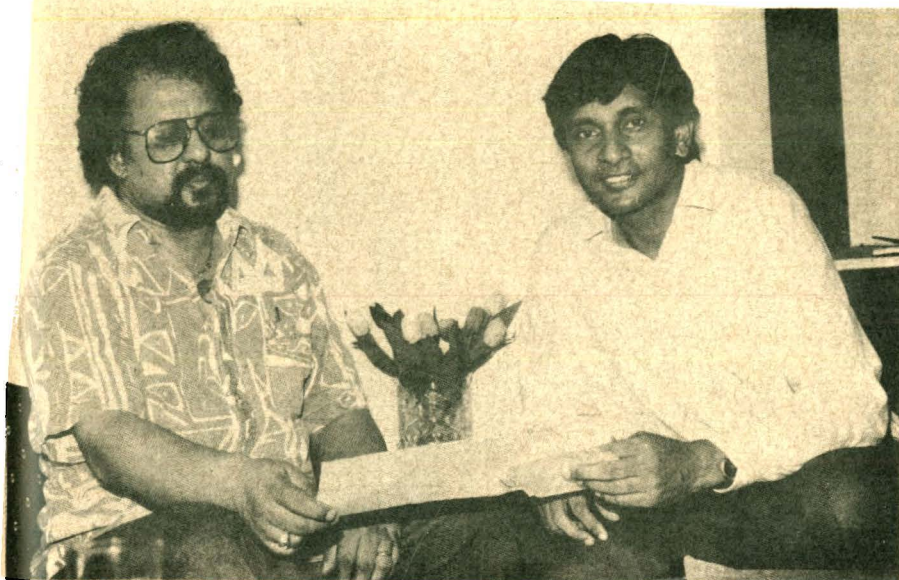
Tips - Star & Style 'Heer - Ranjha' costume - Dress Contest

All the customer has to do was to buy the audio cassette of 'Heer - Ranjha' in which an enclosed form informed the purchaser to go to the nearest photo studio and get himself/herself clicked in the attire of a 'Heer' or 'Ranjha', as the case may be.

On the basis of the photos, 5 'Heers' and 5 'Ranjhas' were selected and asked to report to the Tips Cassettes Office for an interview and acting test by producer/director Harmesh Malhotra.

The same evening all the winners were invited to the premiere of 'Heer Ranjha' which was sponsored by Grandcard at the Gaiety Theatre, Bombay.

Louis Banks launches Endzone Records with Crescendo



Louis Banks & Suresh Thomas (President - Crescendo)

Louis Banks, the renowned Jazz Maestro, has tied up with Crescendo to launch his own music label called Endzone Records.

Louis has held the Endzone project close to his chest for quite some time, waiting for an opportune moment to launch.

At a chance meeting with Suresh Thomas, President of Crescendo, Louis decided to licence Endzone's recordings to Crescendo for marketing and distribution all over the country.

Possibly tired of having dealt with the so called major recording companies, Louis feels that a young and dynamic organisation like Crescendo would be the right partner to promote Jazz repertoire. Besides, both Louis and Suresh share a common interest in promoting local talent and intend working on several pop projects jointly in the near future.

The first two Endzone-Crescendo releases are scheduled to be released simul-

taneously. The first album is an all original Jazz Fusion album by Louis Banks himself and is entitled 'The Call of the Mermaid'. The second product is a Main Stream Jazz Vocal album by none other than Pam Crain. With a combination of standards and originals (composed by Pam & Louis), 'Straight from the heart' promises to be a connoisseur's delight.

Says Anil Prabhu, Sales Manager of Crescendo, "I am confident that Louis' albums will do very well all over the country particularly since it has been several years since he has had a release. These are the kind of albums we enjoy selling".

This is the first part of the "Music Magic" series compiled and presented by Endzone Records and Crescendo to bring Jazz to the people. This team firmly believes that Jazz is world music. It is the only music that will transcend all barriers and become a universal musical language. The beauty and magic of Jazz, which is a soulful blending of exotic rhythms and harmony with melody, an everchanging probing and searching into the mysteries of sound and textures, a constant fresh reading of familiar melody and related and unrelated harmonies. Jazz is personal expression - it is musical enlightenment - it is transcendental meditation - it is Nirvana.

Tips increases prices

Bombay and Delhi market well impressed with the recent hike in the price to wholesales of all Tips soundtracks.

Bombay from Rs.16.50 to 17.25

Delhi from Rs.16.10 to 16.75

SONY Music PAN Music PAN Studio

R V Pandit's CBS, will gradually evolve into only PAN. As and when the deadline expires, the CBS name will cease. All Sony Music catalogue will be released in India under PAN Music.

R.V. Pandit has also set up a state-of-the-art digital studio in the Transmission House complex at Andheri. Full story next issue.

BPPL Duplication 3 ElectroSound Loopbins

Business Press Pvt. Ltd., the other operations of R. V. Pandit at Transmission House, Marol, Bombay City, has recently set-up 2 more ElectroSound loopbins and 17 slaves all at 64:1 speed. Plus King loaders, all fully automatic.

C-O loading capacity is in excess of duplication capacity, earlier one loopbin and six slaves were in operation. A 60 tone AC plant on top of Transmission House ensures more than adequate air-conditioning. CBS and PAN digital studio and also the publishing arm of CBS, which publishes many magazines and directories, are all accommodated in Transmission House, belonging exclusively to Business Press Pvt. Ltd.

The approx. 50,000 CX per day capacity is to be utilized for job work too and most probably Gramco intends to utilize this fantastic infrastructure. Full automatic packaging facilities are established.

The mastering section has been modernized with imported 1/2 inch recorder and 1/4 inch playback from USA and TASCAM mixer and JBC monitoring.

Another note from dear Leslie

Dear Friends,

This is to announce my resignation from Music India with effect from today. I will be setting up a business of my own, which is relevant to the function that was being done at Music India, but with a little difference, where I will also be in the business of manufacture of quality plastic related materials like CO's, Cassette Covers, and Compact Disc Jewel Boxes. This is being done with the active support of Music India, to improve the quality of the musicassettes, which is currently being marketed in the country.

I will get in touch with you as and when my Produce is ready for it's inaugural launch.

Warm regards

Leslie D'souza

Tapematic Exhibition in Bombay

Mr. Colombo and Mr. Bruno attended an Exclusive Exhibition organised by Tapematic and Hosi Wadia, the Indian representative, held at the Russian Business Information Centre, rented out by Hosi Wadia, due to its location in the center of town.

The Dupcentre and Audio & Video loaders were on display. The Dupcentre and has a horizontal bin and incorporates 2 slaves in one composite and compact unit. "The design benefit in a horizontal bin is less or no weight on the bottom loops as in a conventional bin" explained Hosi Wadia.

ARX looks for Indian Distributor

Colin Park, Director, Product Development ARX Systems, Australia, is keen to have an Indian distributor, who will not only represent ARX in India, but be also willing to import small quantities initially and offer the ARX range ex-stock. Please see the advertisement in this issue.

Gautam Sarkar's Atlantis Music



L to R : Gautam Sarkar, Partho Ghosh, Sallil Chaudhary, Gauri Ghosh

Gautam Sarkar, from HMV, to CBS, to Calcutta, where his career in the music industry enthused him to create his own distribution firm. It had to be sooner than later, and Atlantis music has matured into a music label.

Atlantis Music being the first professional music management company in India was founded in 1989 as a C & F for Magnasound/Bremen Music and Music Today in Eastern India.

Besides this, Atlantis Music has a licensing arrangement with a major Tagore label in Calcutta called Soundwing and

have developed their own label specializing in Tagore and Hindustani Classical repertoire consisting of Nikhil Banerjee, Amir Khan, Bahadur Khan, Bade Gulam Ali, Munawar Ali, Samta Prasad, DV Paluskar, Vinayak Rao, Shobha Gurtu.

It has recently made a licensing arrangement with Magnasound to market their classical repertoire world-wide.

Atlantis Music
New Cinema Bldg., 171, A & B Lenin Sarani, Calcutta-700 013
Phone: (033) 260842
Fax: 91-33-285855



Extreme Left : Colin Park

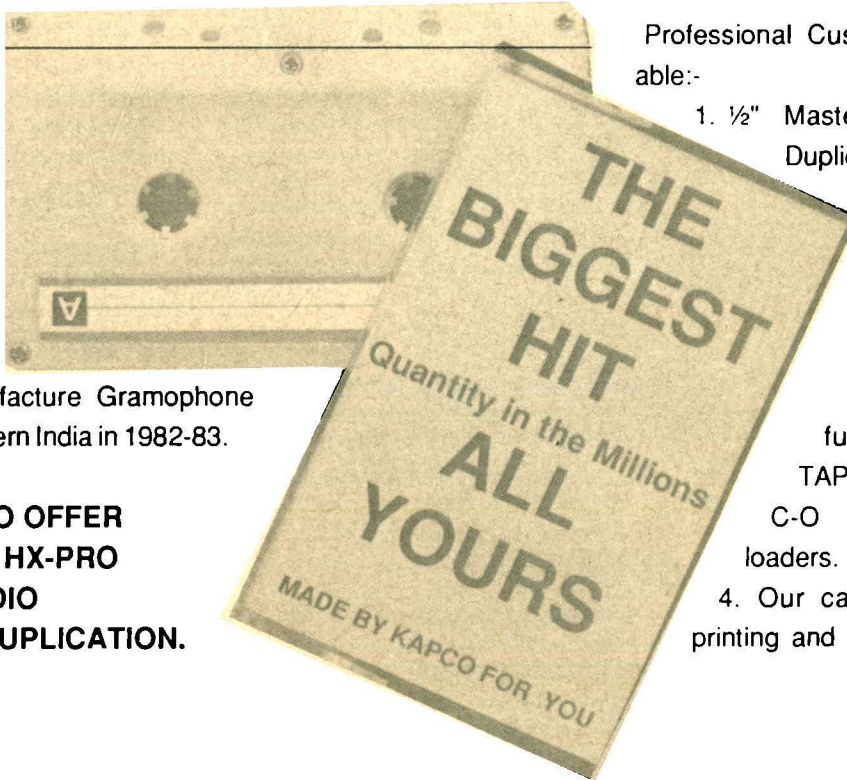
OWN A LOOP-BIN DUPLICATION UNIT WITHOUT SPENDING A SINGLE RUPEE

WHY SETTLE FOR LESS ??

KAPCO

- First to have a Sound Recording Studio in Delhi in 1969-70.
- First to manufacture Audio Recorded Cassettes in 1974-75.
- First to manufacture Gramophone Records in Northern India in 1982-83.

**NOW, FIRST TO OFFER
1 : 100 DOLBY HX-PRO
LOOP-BIN AUDIO
CASSETTES DUPLICATION.**



Professional Custom Service available:-

1. ½" Mastering for Loop-bin Duplication.
2. 100 : 1 DOLBY H X - P R O Microprocess Audiocassettes duplication.
3. Computerised fully automatic TAPEMATIC & TACHOS C-O loaders.
4. Our cassette pad/screen printing and BOPP film service

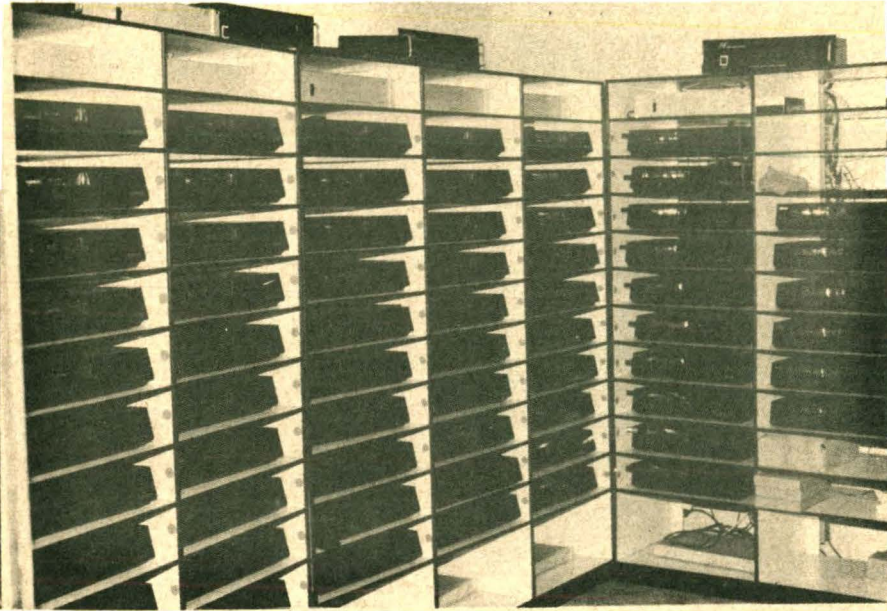
EXPERIENCE & EXPERTISE TOGETHER

KAPCO INTERNATIONAL LIMITED
5 B, Shankar Market, Connaught Circus,
New Delhi - 110 001.
Phone : 3313260
Fax : (011) 3313718 TLX: 031-61864 KAPIN



Quality Service Price

Audio Port, Vijayawada



Bank of VCR's

Audio Port, a sister concern of the well-known audio recording company, Leo Audio Video (P) Ltd., was set in Vijayawada, Andhra Pradesh in 1991 by one of the partners of Leo. Mr. Potluri Ramakrishna, the backbone of these two enterprise is worth the praise for his venture in establishing this unit just at a time when business in this field appeared to be in a downward trend. He was supported by Late Akula Niranjana Rao of Kiran Videos, Vijayawada.

This unit is equipped with a Sony U-matic player and 80 Onida VCR's. The banks of

VCRs are operated by a remote commander, and QC is carried out on a sequential tester. The unit has also 2 semi-automatic tape loaders designed and manufactured by Krishna Enterprises, Delhi for loading the empty cassette shells with required length tape of desired quality and amplifiers and accessories made by New Video Ltd.

Audio Port
Alluri Sitharama Raju Road,
Ayyappa Nagar, Vijayawada 520002.
Tel: 53525 Fax: 0886-67665

DCT to be pushed AMPEX sales with AV Tech for Bombay

Fatabhoy and Rajendra Shah, both senior management at Photophone have left the company and started AV Tech, a partnership firm. Both Fatabhoy and Shah were handling AMPEX at Photophone.

AMPEX has now given the sales agency to AV Tech, established by these two entrepreneurs.

Recently Piercy Cu and Steven Wong from AMPEX Hong Kong were in Bombay.

The emphasis by AV Tech is on the latest DCT system. DCT is a digital component post-production system from AMPEX. It includes a new tape drive, new tape cartridges, new computerised edit controllers, ADO digital special effects and interconnect equipment.

Photophone continues to represent AMPEX in New Delhi. So to speak to Doordarshan and Govt. of India, who regularly imports AMPEX U-matic cassettes for stock & sale via ET & T.

Telugu Soundtracks 20 lakhs?

The gambling factor is now involved in Telugu soundtracks. Playbacks' P.V. Rao, based in Vijayawada reports, the music biz is unhealthy right now, with huge payments for a regional repertoire with sales no where near the great-extent point.

Rashtriya Sahara

Mega Video Digital Studio

Raja Chauhan informed playback of this multi crore video infrastructure being masterminded by him, at Goregaon, Bombay for Sahara a publishing media group from Rajasthan.

The unit is being put up with an eye on the requirements of Zee TV, ATN, DD, Channel 4 UK Television, the world over.

EQUIPMENT:

Sony Hi-band suites - 3 Nos:

These three suites will have Edit Decision List (EDL) facility for cut to cut editing of not good/okay shots.

BTS Betacam SP, 2 nos:

One for cut to cut editing, the other with ABC roll facility and on line pinnacle.

Pinnacle: Pinnacle prism with DEVIator and with computer graphics, also of pinnacle.

Incidentally pinnacle is one of the worlds best digital effects company based in the USA, which belongs to an Indian - Ashok Chopra.

BTS LDK 91 Cameras 2 Nos:

With camcorder for ENG application, each camera will have an independent sound section with wireless and shotgun mikes.

Audio Studio for Post Production - Audio for Video:

Complete studer mixer and recording machines. Raja Chauhan explained, referring to his opting for Analogue instead of digital. "It is easy to buy a digital setup but very difficult to have the environment. Of course there shall be digital signal processors etc". The Sahara Project will involve imports of Audio Video equipment worth nearly US \$ 2 million.

**THE
 MASTER TAPE
 BOOK
 AVAILABLE
 FROM
 PLAYBACK**

Send Payment by CQ/DD/ M.O.
 Rs.900/- to
PLAYBACK & FASTFORWARD
 Sangeeta Apartments
 Bldg. 6/C, Flat No.5, Ground Floor,
 Juhu Road, Santacruz (W)
 Bombay - 54
 Tel: 6464560

Ruby Cassettes Madras

Launched by Mansoor Ali Khan, a villain, in Tamil movies. First album 'Chicki Chan Chicku Chicku'. Navin Daswani releases pleasing melodies" with Khusboo, at launch.



Navin & Khusboo : 'Chicki Chan Chicku Chicku'

Navin Daswani

This entrepreneur talent lies in converting ordinary people into entrepreneurs. Making them identify with his goals and also not surprisingly making them invest in his ambitions and goals.

A close friend of the entire industry right from Gulshan Kumar to Anil Chopra and Pradeep Ghatani to Paramveer Singh, to every last personality in Madras right upto Ludhiana.

He started out "Humbly" as a rich mans son in the service department of Philips and Bush.

Then his own South Indian Lable Gectanjali which has many releases in devotional and classical. Thereafter Super Audio for marketing and Compact Disc trading, as also music releases.

Since a year and a half Super Recording Company where Navin has exploited all his talents in setting up a LOOPBIN duplicating unit on job work to the south music industry.

Not to forget Super music an exclusive classical catalogue.

**Playback the pro and audio
industry media Tel : 6464560**

Getris Images' Studio Venice set up by Western Outdoor

It is a virtual Pandora's Box - opening up graphic capabilities never before possible in India. Studio Venice, the new, state-of-the-art paint and animation device, launched by WOA has been manufactured in France by GETRIS IMAGS.

Studio Venice adds to the existing 3D animation facilities available at WOA, building extensively on them. The new functions offered are

Rotoscoping:

High speed rotoscoping is now possible - graphic on live video, graphic on graphic, or live video on live video. Even the combination of 2D, 3D and live video now becomes the quickest, easiest thing to do. Deadlines can now be set in terms of days ... even hours.

Animation/ Metamorphosis:

Real time animation of upto 5 minutes is now a reality. Black and White cells can be input into

the system, coloured in with airbrush, animated in real-time. What you see is what you get! No more waiting to expose cells frame-by-frame. No more running the final edited master to see what your animation is going to look like! Real time metamorphosis between video sources is also easily accomplished and fine tuning of the final look is just as easily achieved.

Paintbox :

The heart of Studio Venice is a full function, powerful paintbox complete with 32-bit colour and a full key channel. Touching up live video-complete shots, fine tuning pack shots etc. is now easily achieved.

Compositing:

The unique feature of Studio Venice is the ability to work with 5 layers (of video or graphics or any combination of the two), simultaneously, all in one pass. This is an incredible feature especially while layering different elements onto pre-shot



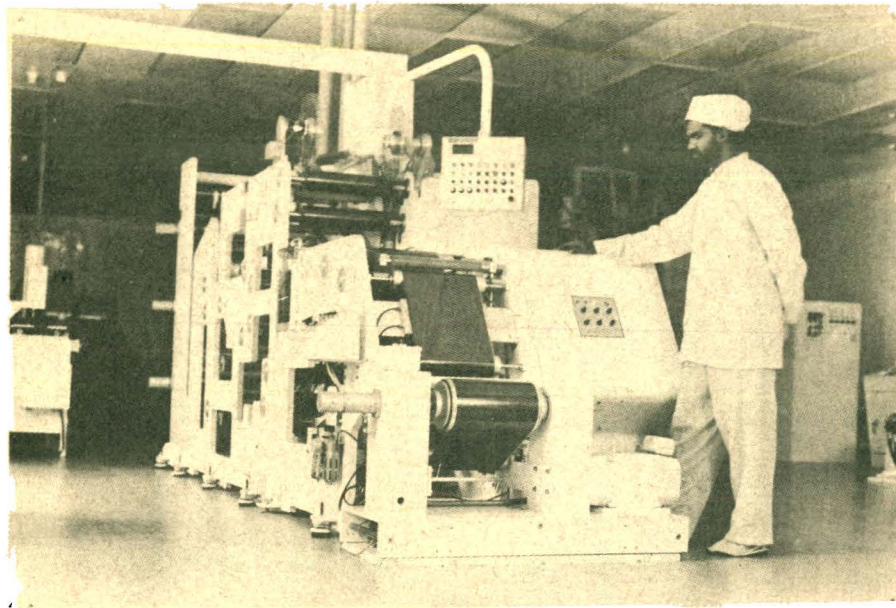
video.

Real Time Video Storage:

For the first time in India all work routed through Studio Venice gets stored in the system's internal D1 ramstore, in real-time. So, for the first time, one can work with live video on a real-time basis. No more working frame-by-frame! And all processing is D1 component Digital, so the processed video output is identical to the Betacam source material, even after 20 generations!

Venice will be installed in WOA Videographics Division by Avitech Enterprises and will be used in conjunction with the component suite and the 3-D animation system from Pinnacle. According to Pankaj Khandpur, Creative Director, Venice will allow them to do rotoscoping, animation and compositing and will insure them high-quality and top-of-the-line productions.

Technical Marvel of H.M.L.



Hindustan Magnetics Corporation, HML, in collaboration with CM Magnetics Corporation, USA, has set up a sophisticated tape coating plant, at Kazipally Industrial area, Medak, 35 kms from Hyderabad. The total worth of the project is Rs.26 crores. The plant is situated on a 9 acres quadrangle plot amidst lush greenery.

Srinivas Koneru, the promoter has tied-up HML with APEDC, Andhra Pradesh Electronics Development Corporation.

Chromium Dioxide Du Pont, has licenced technology for Chromium Dioxide tapes, the first time in India. CM Magnetics hopes to buy back 75% of both audio and video production.

HMV will soon launch blank video cassettes, as well as blank audio. C-O and V-O loading equipment is already installed.

Plans are to enter the U-Matic and floppy discs market in the near future.

The coating line is installed with high sophisticated machinery incorporating pressurised sand mills, programmable C.R.I.

& C.C.I which play a vital role in mixing up of chemical, binders, and oxides and feeding the slurry of cent per cent consistency to the coating head. The multi-purpose coating machine incorporates the latest flotation type of dryer with automatic Turret systems with on-line thickness gauge.

Precision controlled calenders, slitters-winding of tape into pancakes from Jumbos - are of the latest technology.

1. Besides, the unit is well equipped with laboratory facilities like, wet-lab, Chemical Electronics lab.

2. The entire manufacturing area is centrally air-conditioned and cleanliness is well maintained.

Kazipally, unfortunately, though an ideal location, is still not well connected to Hyderabad with proper roads, and telecommunication does not exist. The Andhra Pradesh Govt. must look into this urgently.

P.V. Rao

Anup Jalota's 20 volume Ramayana for Venus

After Jai Jai Hanuman by Anup Jalota, Venus and Anup have planned a 20 volume Sampurna Ramayana music by Triveni-Bhavani, and lyrics by Pandit Kiran Mishra.

Other basic releases in the past few months include

Jai Santoshi Maa

Non stop Bhoj Puri

Hritu Hirwa

Jai Jai Hanuman - Devotional Anup Jalota

Chori Rajasthan Ki - Folk

Balam Thari Chundri - Rajasthani

Eshaas

Hanso Aur Hansao - Mimicry

Saptasur Majhe - Bhavgeet

Sat Naam Sukhdai - Devotional

Parchaiyan - Ghazals releasing soon.

Illayaraja teams up Madhu Bangarappa's Aakash Audio - Studio set up

Madhu Bangarappa has definite ambitions on the music industry. He has already set up his recording studio in Bangalore. AVM's Telugu film 'Aa Adakku Okkati' will appear on the Aakash label. Leo Audio video are the distributors for Andhra Pradesh.

Illayaraja's future soundtracks will appear on Aakash. This would mean a good share of the Tamil market.

The studio is set up with a Otari 8 track recorder and TAC/AMEK mixer. Orange Pale of Madras has taken care of the designing and acoustics.

International Broadcast '93 Jakarta, Indonesia

PT Multi Media Promo is organizing the 2nd International Broadcast '93, at Jakarta, Indonesia.

Those wishing to attend or get details can write to:

PT Multi Media Promo

Jl. Garuda Raya 80-B, Jakarta 10620

Ph. 4204300-4201954-4202859

Fax. 4201151

Ampex appoints TASS as service agents

TASS, are well known service engineers in Bombay. Headed by Mr. Nair, an authority in Video Technology, earlier the technical chief of NVL, the Sony agents.

Almost all U-matic and Betacam, which are 90% Sony, are serviced by TASS (Televideo Audio Systems Services Pvt Ltd). Otherwise as Mr. Narsikar says "We service anything and everything".

Mr. Nair has developed international class products. Like remote commander,

sequential monitor QC, audio video dist. Amps. video patch panels plus some interfaces.

Ampex has appointed TASS as authorised service agents. In India are installed quite a few Ampex Betacam VCR's, most CVR35, CVR65, CVR75 models. Also few units of ADO 1000 DVE, vista DVE, then Ampex TBC's and remote controller for all kinds of VCR's will be serviced.

Red Cat Audio

A hoarding blitz by Mr Aggarwal of Red Cat Audio, has been unleashed in Bombay. Throughout the city, Opera House, Juhu, Bandra, numerous hoarding of a cat's face and music notations. Not a single hoarding mentions a single album, or artiste, or a particular kind of music. Only image building.

Ghar Ki Izzat/Amar Utpal, is the first big release. Other soundtracks include composers like Usha Khanna, Anand Milind, Ram Laxman, Babul Bose, & Rachna Payal.

Radio advertising has started on Vividh Bharati, with a distinctive meow of a real cat. Mr Aggarwal has experience earlier in the video rights business.

Concorde & Oriental controversy

Concorde apparently did not pay Oriental, the duplication charges, for the job work done.

Fausto D'Costa, who earlier worked in Oriental told Playback, he discovered a letter signed by Biswanath Chatterjee, chief of Concorde, giving the rights to certain albums, in case the payment was not made by a deadline. Then he convinced the management of Oriental to go ahead.

Subhash Banerjee, the distributor of Concorde, in New Delhi, is screaming mad. He says "The price level of Concorde has been f.... My whole marketing is ruined. Cassettes in the thousands have been dumped in Lajpat Rai market, at ridiculously low prices. If money was recoverable then by now Oriental must have recovered ten or fifteen times more."

Yash Chopra's 'Daar' with HMV

Yash Chopra has Shiv Hari once again in Daar. Maine Pyar Kiya has been translated in English by Hema Sardesai. Samir Date & Hema sing in the English version 'When Love Calls'. Damini, and Aaina film titles and Mohabbat by Bhupinder/Mitalce are the other fresh releases.

AV Tech represents

Cine Media Technologies Switzerland

Cine Media Technologies S.A., a company founded in the spring of 1992, is committed to meeting an increasing demand by customers: to integrate digital audio techniques with the time-proven technologies used until present.

This birth is the fruit of the encounter of the Concepts, (Research, Engineering) Sales, After-Sales Service and Quality Control divisions of the Swiss company PERFECTONE S.S. and the Franco-German group ZENON, active on the professional audiovisual scene.

The integration of digital audio techniques in the world of today's communications industries necessitates the formulation of global concepts which Cine Media Technologies, thanks to the expertise of its multiple services is capable of offering. The large tissue of relations woven with others enterprises, all active in the professional audiovisual field that the company has built enabled it to develop a synergy which highlights each partner's specificities.

Company Activities

We offer a wide range of services which include the following:

- * Consultancy, sales and after-sales of digital recording equipment.
- * Studio design, from basic system design to full studio complex design including internal architectural acoustics.
- * Studio installations.
- * Product design. From a one-off specially to full production.
- * After-sales and support/consultancy of Perfectone equipment.

We are suppliers of some very respected names in the industry, these include:

- * Audio Follow: Digital recording equipment.

Presenting the DDO (Direct-to-Disk-Optical) which is a dedicated PC-based audio digital recorder, using either a removable and erasable Magnetic Optical Disk and/or a hard disk, with real-time data compression using WB48SBC or Musicam format.

The DDO is available in two versions:

Broadcast and Post-production.

- * Lafont Audio Labs: Customised Prestige French consoles manufacturer.
- * Soundcraft: Highly competitive UK mixing consoles.
- * Pyral: Audio Tapes.
- * Aesd; Zenon: Complete range of active loudspeakers.
- * Lindos: Audio Analysers.
- * Syncode: Video preread, subtitling, rythmo band.
- * Invertomatic: SUPS (Synchronisable Uninterrupted Power Supply) Small power plant synchronisable to: Video signal, External clock, XTAL which assures a constant and stable flow of power to your mains-connected equipment.
- * Perforated tape Recorders, Dubbers, and Projectors manufacturers.

Company References

Here is a list of a few clients serviced in India

Evershine Builders	Bombay
Pooja Computerised Studio	Madras
Prasad Film Lab	Madras, Hyderabad, Bangalore
Shakti Films	Bombay
Sujathas Dubbing	
Preview Theatres	Madras

Massive Expansion

T-Series goes for Gauss & Tapematic

In a massive expansion programme Supercassette has ordered 20 Gauss slaves. These slaves will run at 96:1 speed. Two Gauss loopbins have also been ordered. These are the latest models incorporating all the improved features.

The Tapematic order is for 10 C-O loaders. By far the largest single order placed for duplication equipment by an Indian company.

Gulshan Kumar plans to increase the production capacity to 800,000 cassettes a day. The emphasis, in keeping with the advancement in the industry, is on top quality, with the most expensive production line.

Executive Talent



Shiv L. Dolwani A. Shekhar G. Mohan M. Sitharamalah N. Mohammed

Shiv L. Dolwani hails from Manila, Philippines. In 1984 he established the "Saragam" label. In 1985 he joined Madras Recording Company. Saragam has to its credit recording of devotionals in Sanskrit, Kannada, Telugu and Malayalam.

Dolwani has expanded his music operations to Singapore, Malaysia and U.K. Madras Recording Company has till date 310 titles with 50 more due for release.

Dolwani has also launched a new label Hareram and Sansui brand blank cassettes.

A. Shekhar, G. Mohan, M. Sitharamaiah and Noor Mohammed launched Surya Recording Company in Vijayawada two and a half years ago.

Since then Surya Recording has definitely established itself. The label has released 180 titles, 'SITHARAMAIAH GAARI

MANAVARAALU', 'KSHANA KSHANA' 'GHARAANA MOGUDU', ALLARI MOGUDU', 'BRAHMA' have been the top sellers in Andhra Pradesh.

The four entrepreneurs have stuck it out in the music business novel marketing scheme. The company has been promoted strongly through advertising and publicity ideas within Telugu films and showmanship parties. Also to their credit goes the decision to ensure for Surya a quality image for their cassettes. This at a high cost, from Bombay, from prestigious duplication units like Jet Speed.

Where these four entrepreneurs have shown their business acumen is in financing the music operations. They have been able to involve financially the distribution network and that requires talent.

P.V. Rao

Aakash Audio's glittering function



T. Subbaram Reddy launching 'President Gaari Pellam'

Aakash audio got out an elegant audio cassette release function held at Bhaskar Palace Hotel, Hyderabad on 20th October for the Telugu film 'President Gaari Pellam'. This function was organised by Madhu Bangarappa.

The highlights of the function were Hero Nagarjuna, producer Doraiswamy Raju and M.M. Keervani. The function was presided by F.D.C. Chairman M.S. Reddy. T. Subbaram Reddy was Chief Guest and the veteran character actor Gummadri also graced the occasion.

Mr. K.S. Rama Rao of Creative Commercial took over the supervision of the entire function. A large number of Telugu film-land luminaries like D.Rama Naidu, Ram Gopal Verma, K Jagdish Prasad and many others, participated in the function.

Writer, actor Thanikella Bharani was the compare. The show finally came to an end, with his vote thanks.

tic duct and D.Rama Naidu's Anari/Anand-Milind has been released.

With the release of the movie J.P. Dutta's Kshatriya, the sales picked up substantially.

Hanif Samir's Dil Hi To Hai and Sajid Nadiadwala's Waqt Hamara Hai have had some movement.

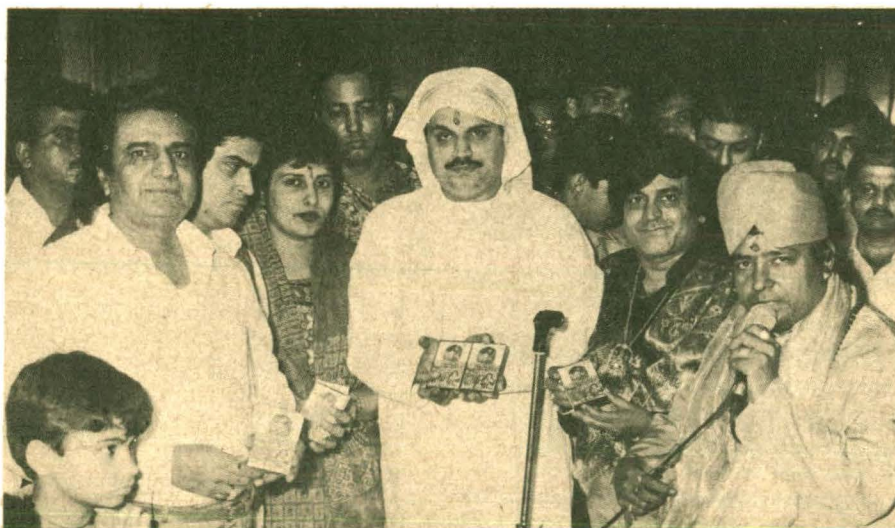
Suneel Darshans Lootere did not scrape through.

Earlier apart from Heer Ranjah, which did sell a little, the others like Ek Ladka Ek Ladki; Apradhi; Geet; Pyar Ka Taaranaa; Saatwan Aasman; all did not catch the attention of the masses and the market.

Continued on page 99

Tips get the hit

Sanam lifts market



At 'Mata Ka Jagran' by Narendra Chanchal at Leela Kempinski, 'Jai Kara Sheranwali Ka' (Hindi) 'Dar Malya Jee De Chalna' (Punjabi) L to R: Surendra Kohli, Kumar Taurani, Mrs Taurani, Shyam Lakhani, Ramesh Taurani, Narendra Chanchal and the Pandit.

The depressed market scenario with the absence of a hit among soundtracks, was at last overcome with Hanif Samir's

Sanam, Anand Milind did the trick with a sublime number 'Ankhon Mien Neende' & 'Kasam Se Kasam', a rhythmic roman-

AKG acquires Majority stake in Indian affiliate



L to R: Mr. S. Rajagopalan, Mr. W. Schuessel, Mr. Helmut Gunst

AKG Acoustics (India) Ltd. announces 30% rise in sales, 63% in Earnings.

As of September, 1992, AKG Vienna holds a 51% interest in its affiliate AKG Acoustics (India) whose stock is traded at the Indian stock exchanges.

The joint venture was established in late 1988 together with an Indian partner. Indian legislation at the time allowed AKG to hold only 39%.

The company makes and markets telecommunications products as well as microphones, headphones, headsets, and accessories primarily for the Indian market but also for AKG's international distribution network.

Already in its first year, the company made a profit and quickly became a lead-

ing supplier of audio transducers. Since late 1989, the company has been traded at major Indian stock exchanges.

"AKG of India" currently has 190 employees on its payroll (as of August, 1992). Sales in fiscal 1991/92 was 67.139 million rupees, 30% up from the previous year figure,

with a net profit of 1.958 million rupees which amounts to a 300% increase over the previous year (Rs.650,000). The operating income increased by 63%.

During the first five months of the current business year, sales increased by 250% over last year.

The company is following a successful policy of filling gaps in the Indian market and one particularly fast-moving product line is Karaoke microphones. Sound systems is another profit center.

In 1992, AKG of India was appointed general representative for India by Brahler, a leading manufacturer worldwide of conference systems, and already received a major order from an Indian conference center (Vigyan Bhavan)

Versadyne 1500 Series Selling very well

In the USA, Maxi Cassette Productions, California, and Alpha Records, Fort Lauderdale have added slaves to the 1500 series set up.

Recorded Media Services, Hawaii, has doubled capacity with additional slaves. Asuncion, Paraguay has increased the number of slaves for the Versadyne 1500 series system.

Versadyne also offers 1/4" loopbin and have introduced a remarkably cost-effective slave. (see Equipment this issue).

Jet Speed creates Jet Sound with Gauss

The first plant of the Rolls Royce of duplicators namely Gauss from the USA was installed at a new unit in Goregaon Bombay. The two front runners in the quality job work duplication have formed a new company Jet Sound. The 96:1 standard 2420 series Gauss loopbin with optional speeds of 64:1 128:1 has been installed. Matching Gauss slaves, five of them and three Otari fully automatic mode 1500, make the unit truly complete and effective "we have updated our equipment for one esteemed clients. This new unit unaguably offers absolutely the best quality in India Market".

Jet Speed continues to operate with the Otari line as it is unaffected and busy as ever with faithful clients.

Issue of Rs.675 lacs equity shares Compact Disc India Ltd Indias First CD Plant in April 1993

The prospectus of CD India Ltd highlights commercial production to commence from April 1993. The promoter is Delhi based Suresh Kumar. A 100% EOU Project allows a company to sell 25% production in India.

Technical collaboration is with NETSTAL/First Light Technology, distributors of NETSTAL in USA. The com-

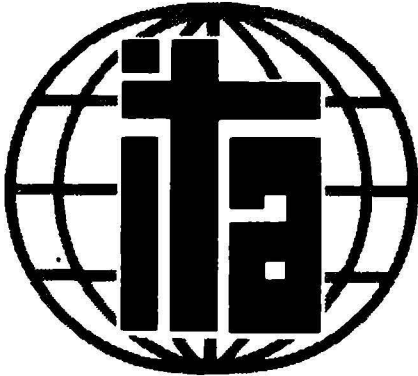
pany proposes to install the Uniline model. Also First Light Tech., USA will participate with equity of Rs.150 lacs. Delta Disc Ltd, UK has apparently signed MOU for by back, with export commitment deposit of Rs.50 lacs. The shares will be listed at Ahmedabad, Bombay, Delhi and Ludhiana stock exchanges.

Continued on page 99

Digital Audio Research wins British Design Award

The SoundStation digital audio production system from Digital Audio Research has won the prestigious British Design Award, the UK's highest accolade for excellence in product design and manufacture. DAR's SoundStation is the only hard-disk multichannel editor ever to be chosen for this honour.

International Tape Association - ITA



All tape coating plants and C-O manufacturers, in the future shall get in touch with the International Tape Association - ITA.

For more than 20 years, ITA has provided vital information and educational services throughout the magnetic and optical media industries. By promoting a greater awareness of marketing, mer-

chandising, and technical developments, the association serves all areas of audio, video and data industries.

Today, ITA membership includes more than 450 companies based around the world, including magnetic and optical media manufacturers, raw material suppliers, process equipment manufacturers, rights holders to video programs, recording and playback equipment manufacturers, and audio and video duplicators.

Indian companies, who presently lack technical information, should become members and get access to the latest developments.

Just write to ITA and become a member, there is no problem. Remove all mind blocks and be assured that just because you belong to India, you may not be able to become a member. Indian companies have to behave and think International, to be able to improve quality and export.

Divya Shakti on Tips Sterling marches on

Ajay Acharya belied all the news reports in the filmi press on the Sterling struggle for survival, after the exist of erstwhile partner Ashok Khatri, and the Mangeshkars.

Ajay and Prakash, themselves, with all their Savvy and experience will manage to come up trumps.

Divya Shakti says Ajay "was quite good. No wonders were created."

On Tips also offering the Soundtracks as a combination with their own soundtracks, Ajay told Playback. "This was done with a view to combat piracy. As pirates release a good soundtrack, with those of other companies. Keeping that in mind Tips was contracted Divya Shakti on a royalty basis. The experiment was quite successful."

Lotus Magnetics

Lotus Magnetics informs Playback that they have recently Imported from U.S.A. World class High-speed State of the Art Telex-Audio Cassette Duplicators. They have both Reel to cassette and cassette to cassette recording facility. This system claims of technical gains in frequency response, distortion, cross talk specifications.

"Our Duplicating unit is fully Air-conditioned and Dust free so that we may achieve zero defect recordings. We have excellent mastering facility for both 1/4 inch Reel and cassette. The source of music can be of any format. The cassette and the tape are chosen very meticulously so that our esteemed customers are fully satisfied. We have a production capacity of 10,000 cassette a day. We also have screen printing/cellophane wrapping as additional services, if you so desire. Our rates are very competitive and we can deliver promptly" emphasises Arvind Ghosh Director.

Lotus Magnetics Pvt. Ltd.
724, 10th Main, 9th Cross,
Indiranagar II Stage,
Bangalore - 560 038.
Tel: 570751 Fax:91-812-580101(Ref 102)

Lyrec launches advanced Frida for 1993

Much attention has been given to the ergonomic layout and design of the controls, with clean and functional looks that contribute to ease of use. The new version of Frida has three new Led indicators on the front panel.

Other new features incorporated into the new enhanced version of Frida include:

- A new improved audio amplifier
- RS232 interface allows full access for computer interfacing, including access to tape timer information and locate points
- Audio ground and safety split capability
- Timer reset function
- Tapes marker system allowing the user to set up to 50 markers for locating at a later time
- Self test system with automatic test mode

Lyrec has also developed software that allows the user to store and retrieve useful information. These new software functions include:

- Time counter that gives total elapsed time in play/record mode
- Trip counter

- Three fader start operating sequences
- Timer upload retrieves timer value when powering up
- Two audio muting settings
- Single or double key drop in/out
- Automatic re-start after power failure
- Auto stop at zero
- Programmable key functions

Weighing only 12½ kilos and just 8cm high, the 3-speed Frida will accommodate spools up to 30.4 cm (12") without external adaptors, and features servo-controlled wind. It can be powered from the mains of a 24V adaptor and a new accessory allows the machine to run from a 24V DC source with automatic click and wow free change over between mains and DC source.

Five albums for Charity

H M Mahesh of Sangeeta, Madras has recorded 5 albums in their studio. Profits from those five albums will go to the CM's temple renovation fund. The singers have sung free. M. Balamurali Krishna, P Susheela, S Janaki, Bombay sisters and V Srinivas.

Falcon sets up

Otari DP 4050 dup unit

Falcon Movies and Melodies Pvt Ltd has been set up by Raman Kumar. Playback has been informed that "Otari DP 4050 in cassette duplicators with Otari winding and loading machines with pad printing and packing, all under one roof in dust free atmosphere. Spool to cassette facility available (DP-4050 OM).

Raman Kumar also owns Swar Sudha, 93 Palika Bazar, Connaught Place, New Delhi - 110001.

Electro Sound Series 9000 installed at Texla Plastics in Ludhiana

Texla Plastics & Metals Pvt. Ltd. in Ludhiana have bought an Electro Sound 9000 with two slaves. They are using Concept Design Model 9000 fully automatic loader.

In a fully equipped spacious factory in Sahnewal Dist. just outside Ludhiana, they are intent in producing high grade pre-recorded cassettes. Mr Kawaljit Singh is the Managing Director.

Playback shifts to Juhu
(Sangeeta Apt., 6/C, Flat 5, Juhu Road, Santacruz (W), Bombay-54)

Saki Magnetics develops technical breakthrough on Duplicator Heads

Saki Magnetics is incorporating a newly developed precision shield in all its ferrite duplicator recording heads without raising prices for this technology breakthrough, announced Dick Drake, president.

The new shield using beryllium copper replaces a shield made only with copper on all ferrite magnetic recording heads. The beryllium copper shield extends head life and substantially increases time between head relapping.

The beryllium copper shield now standard in all ferrite slave heads manufactured by Saki Magnetics, was initially developed for Capitol Records-EMI Canada Ltd., Toronto. It was successfully

Venus' Film Rights Acquired



L to R: Champak Jain, Ganesh Jain, Abbas, Saharukh Khan, Son of Jain, Kajol, Shilpa Shetty, Thomas Xavier, Ratan Jain, Mustak & Guest.

Venus by its judicious selection of film soundtracks, has remained in a strong position in the filmi music market. Latest acquisitions include Anuj Sharma's Jawab/Annu Malik, Mahrookh Mirza & Qadir Shaikh's Ishq Mein Jeena Ishq Mein Marna/Shyam Surinder, Deepak Ramsays/Lalkaar/L.P., Rajkumar Kohli's Aulad Ke Dushman/Shyam Surinder, Dinesh Patel's Sajaan Ki Bahon Mein/

Nadecm Shraavan. Other acquisitions include Baazigar, Aag Aur Toofan, Lashkara, Dilwale, Raajkumar, Bulund, Kaali Topi Laal Rimal, Gudia, Pehchaan, Milan, Singer, Yudh Shank, Kala Pani, Aadmi Khilona Hai, Kranti-Kshetra. Sangdil Sanam, Khilona, Aatish, Chhalia, Jay Vikranta, R.S. Enterprises - Production No. 1, Mamta.

APRS '93 International Exhibition

Association of Professional Recording Services (APRS), Europe's leading exhibition for the professional audio and sound recording industry, will be held from Wednesday to Friday, 23rd to 25th June, 1993 at Olympia 2, London.

The theme of the exhibition is "The One Show": the one show which combines products, systems and services for recording, sound broadcasting, post-production and Sound reinforcement from virtually all world's suppliers to the European market and which enjoys the support of visitors from within and outside Europe.

tested at Capitol in Canada, which led to its introduction worldwide.

"After careful evaluation we concluded that ferrite heads using beryllium copper shields extended head life significantly over heads with standard copper shields," Dan Middleton, manager of technical development of Capitol Records-EMI Canada, said. "The new shields give us longer wear and extended relapping time of the heads from 300 hours to about 1,000 hours.

"The Saki heads with the beryllium copper shields are trouble-free and give consistent performance, both mechanically and electrically, and are the most

Continued on page 99

Digi-design Pro-tools at AVA AUDIO

Lokandwala Complex in the north of Bombay known for its posh residences and illustrious residents is not the sort of place where you would expect to find an Audio recording studio, least of all one using some of the most advanced digital audio recording/ editing systems.

AVA Audio at No 66 Greenway, Lokandwala Complex jointly owned by Vinod Vora, Amit Biswas and Ashok Shukla. Three men from diverse backgrounds Vinod a printer, Amit an ex merchant navy man who is into computers and Ashok who is probably a living legend in the music industry as a recording engineer who has worked with almost all the major directors and singers to have graced the film industry for the last 2 decades. Three men who have combined their unique talents to give shape to this pioneering project.

AVA Audio is a two room facility which consists of a control room and an adjoining recording area. Both the rooms are almost identical in size and treatment. There is a section 2½ feet from floor level made up with wooden slats spaced ½ inch apart behind which is an absorbent layer of glass wool. Above this is a section of rectangular foam cushion material attached to the walls and covered with a tastefully decored cream colour fabric. Interspersed between the foam are trapezoidal shaped wooden sections which are meant to function as diffusers. The remaining part of the walls are covered with perforated boards of various perforation percentages. The ceiling is also treated acoustically by having a layer of glass wool fronted by an alternating array of 2x2 ft perforated boards and wood panels along the full ceiling area. The studio is evenly and brightly lit by lighting fixtures which are sunk into the wooden section of the ceiling. The studio is relatively very quiet even with the AC plant running. When queried on the overall acoustic performance of the studio "Considering the small size it's just great" says Ashok sitting at the helm of the Soundcraft Delta DLX 16/4/2 mixing desk. "I have been able to multitrack violins here and the sound was incredible, my monitors the Genelec 1031A's are so realistic and correct in their imaging that I feel the barrier wall between studio and control room with the double glass window just does not exist. It's as if we are all in the same room" he continues "we brought in Ram of Prosound here and took acoustic measurements when we are in an early stage of construction. This enabled us to incorporate his suggestions into our plans, and that move has worked very well".



Ashok Sukla at the controls. Seen just to his right the Digidesign monitor, Genelec speakers, Soundcraft Delta mixer, & Sony U-Matic recorder.

The heart of AVA is the digital audio recording/editing system by Digidesign called Pro-Tools. This is a Macintosh II system computer based digital audio production system, that integrates the 3 most important recording technologies of today

Digital Audio, Mix Automation and MIDI.

Pro-Tools allow the user to record, edit, mix and master professional recordings in a single system.

The hardware involved is the Audio Card™ a DSP card which plugs into the Mac. The Audio Interface a high fidelity I/O device which passes audio signals in and out of the system, 4 analog or 2 digital channels are available.

Pro-Deck a recording and mixing software

Pro-Edit which is a graphic editing software

Pro-Deck and Pro-Edit

though separate programs are complimentary and inter-dependent, forming the two necessary halves of the Pro-tools system. Any change made in one is reflected in the other.

"Graphic Digital non-destructive random accesses editing is the major area of application for Pro-Tools, states Ashok, "by non destructive editing I mean the ability to access any part of a recorded program: You can cut, paste, move, copy, duplicate, crossfade and slip tracks any number of times without affecting the original source since you are only working with a map of the original audio or a MIDI data". It is the power of editing that has drawn Dev Benegal of Tropicfilm a film maker who insists on the highest of quality. Dev is currently post producing a documentary which he has shot for BBC at AVA using sync soundtracks he has recorded on Dat. Dev was using this as an opportunity to check out the studio and find out first hand if he encountered any sync problems when he went from film to video and back again. At the time of writing everything seems to have gone on well and Dev is looking forward to using AVA Audio for his forthcoming feature film, 'English August' which will be finally mixed in London and will be the first Indian film to be released in Dolby Stereo format.

Apart from the Mac, and Pro-tools the other equipment available includes a JC Cooper CS-10 control station, Mark of the Unicom Video Time Piece synchronizer, Pro-Store 1 gigabyte hard disk, Apple CD150 CD ROM. A Lexicon PCM-70 digital effects processor and BSS-402 4 channel comp/lim is patched into the Soundcraft board along with a Sony Dat DTC 57 BS.

The impressive Korg o1/W Prox Music work station and Vision sequence software, make up powerful and truly versatile tools in the hands of the true professionals.

AJIT MENON

*THE PLACE WHERE YOU HAVE THE
RIGHT BRANDS, AT THE RIGHT
PRICES AND AFTER SALES SERVICE
BY THE BEST ENGINEERS IN THE
LAND.*

AUTHORISED DEALERS FOR:

AMEK/TAC

MIXING CONSOLES

Drawmer

PROCESSORS

WESTLAKE AUDIO

SPEAKERS

OTARI.

TAPE RECORDERS MIXERS & DUPLICATING SYSTEMS

**OTARI LOOPBIN AND DP 4050 C223 SPARE PARTS
AVAILABLE EX-STOCK AT REASONABLE PRICES**

PACE
PRO-AUDIO CONSULTANTS AND ENGINEERS
2, 'KRISHNA', ST. ANTHONYS ROAD,
NEAR KALINA JUNCTION
SANTACRUZ (EAST), BOMBAY-400 098
PHONE (022) 6150397, (0212) 668567 FAX (022) 6119614.

Personal Computer adapter for AVS in USA Digital Recording & Playback

A Madras based company Indchem Research & Development Laboratory has designed and developed a digital stereo record and playback 16 bit CD quality, adapter for the Personal Computer. The product is tried and tested and genuinely provides problem free operation.

Pro-Media Technologies Inc. USA is presently marketing the adapter for US \$ 800, worldwide.

Description

The Audio R/P Adapter provides hi-fidelity true 16-bit CD quality stereorecord and playback capability.

Application

Professional quality digital studio recording from line or Mic input

Multimedia business presentations
Interactive training
Authoring systems

Software

User friendly software interface is provided.

16 bit linear PCM/8bit A law or MU law / 4bit ADPCM selectable by the user

The software driver allows an application program to record upto 48 KHz and play back the recorded files

Real Time Industry standard DVI-ADPCM of compression (4:1) / decompression upto 48KHz stereo

On board TMS320C25 DSP for user downloadable programs

Soundblaster, Win 3.1 compatibility

AVS Broadcast, manufacturer of standards converters and video post production equipment, has expanded its sales and marketing operations in the US by opening AVS Managing Director and Tom Canavan, General Manager of A.F. Associates in New Jersey, AVS's exclusive US representative in the US since 1982.

For further information, contact:

David Beanland

AVS Broadcast

Tel: +44 81 391 5678

Fax: +44 81 391 5409

Richard Lunniss

AVS Broadcast Inc

Tel: +1 201 784 2288

Fax: +1 201 784 3860

Tom Canavan

A.F. Associates

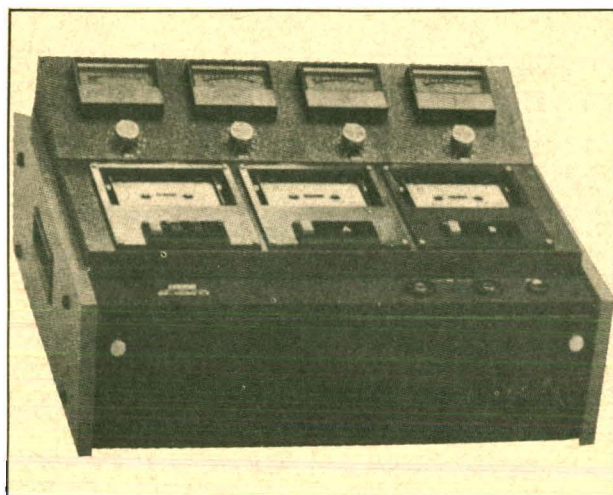
Tel: +1 201 767 1200

Fax: +1 201 784 8637

**PLAYBACK : Sangeeta Apts., Bldg. 6/C Flat No.5, Ground Floor,
Juhu Road, Santacruz (W), Bombay-54. Tel:6464560**

ADVERTISEMENT

Cassette to Cassette Duplication Services



In New Delhi, there is only one professional duplicator since 1979. Amicron magneticcs is one of the pioneers of cassette technology in India.

We have are own mastering facility and are in a position to organise your requirements of genuine quality raw material.

For a **SOUND** footing in Delhi market. Visit us for your market needs of other professional services.

Amicron Magnetics: 45, Rani Jhansi Road, New Delhi-110 055. Tel: 7514043.

JET SPEED - WORLD CLASS

**FROM OTARI
TO GAUSS WE
DO IT ALL FOR
YOU**



**We thank our above esteemed clients for their continued
support & patronage
Duplication Services**



JET-SPEED AUDIO

**50, Pravasi Industrial Estate, 2nd Floor, Off Aarey Road, Goregaon (East), Bombay-400 063.
Tel: 8884746/897362/897435**

'Napolean' 16 Track Studio at Juhu

IN the plush Bombay suburb locality of Juhu, just a stone throw away from the famous beach yet another studio has opened its doors. Napolean Recording Centre situated inside a palm filled area called the unity compound was originally a cottage. The beautiful potted plant garden and picket fence still remain giving the place a homely ambience. The only give away that it is indeed a studio is the huge double sound trap door that beckons us.

Napolean is owned by Clement D'cunha, a well known figure in Bombay recording circles and is named fondly after his second offspring (No French connection).

"I don't play a single musical instrument yet music runs in my veins" says the jovial Clement smiling broadly.

"Dear Studio in Mahalakshmi which was inaugurated in March '86 was my first studio, the response to that has been so overwhelming that I find it difficult to accommodate new talent there. Often they could not pay the rates and were looking for a high studio cost-effective alternative. This was the motivation behind the opening of Napolean. Further with

this faculty at my disposal I could also use it and give my individual attention to my own in-house productions". Talking of his own production Clement already has some hits in the

market under such quaint names like Hot, Hot, Hot, Danger instrumental and the under production Commando. Add to this the fact that he is producing his own Konkani film,



Ajit Gupte at the Fostex A16 and A24 at Napolean

ADVERTISEMENT



Sound reinforcement systems
the world trusts.

AKG sound reinforcement systems

- Mixer amplifiers • Boosters • Mixers • Echo units • Microphones • Reflex horns • Driver units
- Loudspeaker enclosures • Mic stands & accessories • Wireless microphones • dbx Graphic equalizer
- dbx Compressor limiter

AKG's international brands

- dbx • Orban • Quedsted • BSS • Turbosound • Precision Devices



AKG QUALITY - WORLD RENOWNED.

AKG Acoustics (India) Limited

AN AFFILIATE OF AKG AKUSTISCHE U. KINO-GERATE GMBH. VIENNA, AUSTRIA

playing the villain in a Hindi movie and over seeing the building of a U-matic Video dubbing and editing suite gives one a glimpse of this multi-faceted character and the driving force behind Napoleon Recording Centre.

The entrance to the studio is into the main recording area which is 22x15 ft adjoining to that is a 15x12 ft control room and a 7x7 ft vocal booth, with separate sound track doors and double glass windows ensuring reasonable levels off acoustic separation. The control room is spacious, brightly lit and fully carpeted in blue. The ceiling is sloping and is half of wood and the other half of perforated hard board, backed by a 2 inch filling of glasswool. "It helps break up and attenuate standing waves" says Clement. "The walls have 2 1/2 feet skirting of wood paneling arranged in uneven shapes and this acts as low frequency absorbers. The rest of the walls are covered by perforated acoustic tiles with various degrees of perforation behind which is a layer of glasswool. The walls are painted in beautiful pastel green and white decor".

The centre piece of the control room is two Fostex mixing consoles linked in parallel and running into either a MSR 16 or TSR 8, multi-track machines.

The hall with beautiful off white and green design is similar to the control room except for the two movable castor mounted wooden partitions. The vocal booth is fairly large and has a red carpeted floor which compliments the

wooden skirting.

One of the major ongoing project, according to Clement is 'HAZZARD'. The two man Rock act of Jimmy Hammers and Jack Van Ryek. "My boys are working hard and late nights on this project", he says proudly and goes on. "Our Rock album project is going to be sure hit. My engineer Ajith Gupte has been getting some exciting electric guitar sounds by mixing two Marshall stacks. One of them is placed in the hall and the other in the vocal room. SM 57 and C 1000 mics were used". "Initially I started the studio with a JBL 4425 monitors powered by a Sansui amp, the combination was not found satisfactory and the monitors were changed to the present ones of the JBL 4412 fired through Ampcon Microtech 601 power amp. We also added extra absorbers behind and above the engineers position to bring down the LF boost and to even out the overall control room acoustics, and it is yielding good results" relates Clement. Jimmy Hammers certainly agrees after having spent six hundred and eighty-two working hours in this studio the HAZZARD duo is very excited about the whole project. "We like the equipment and most of all the helpful staff pipes in Jack. Apart from Hazzard, Kumar Shanu, Suresh Wadkar Sudesh Bhosale and Sadhana are other names who have recorded here.

The equipment is looked after by Mr. Yogesh Bhatt, the maintenance engineer who is a

regular visitor to the studio and personally sees that the clients are happy with the results. Talking to one of the clients Mr. Randhir Bhel, Associate Director A/V dept, Hindustan Thomson Associates who was waiting with Meenakshi Seshadri to dub their latest consumer product ad he explains "I have worked in the best studios in India and expect the best quality in terms of equipment and engineering abilities to fully utilise their capabilities and translate it into a creative product. There seems to be no dearth of equipment or talent at Napoleon. The impressive list of outboard equipment available include Yamaha SPX 900, Roland REV5, ART Multiverb, Lexicon LXP-5, DBX compressors. A wide choice of professional microphones including Neumann, AKG C 414, C 1000, Shure Beta 58, SM57 and Beyer Dynamic is also available. Mastering is on a 1/4" open reel Otari Mx5056 or Aiwa DAT machine.

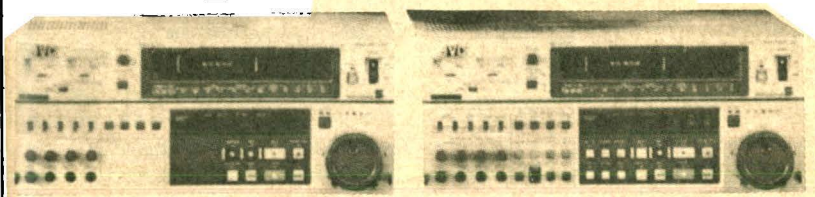
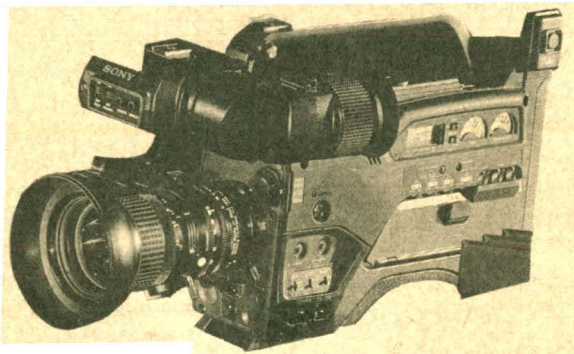
With the studio steadily gaining popularity and becoming a well known name, Clement has signed a royalty contract with Suresh Thomas, President of Crescendo Music to bring up new talent with the facilities of his studio.

So watch out folks for before long you will find that the Napoleon Studio with its well specified set up will certainly be on a par with good Indian commercial studios.

Ajit Menon & Maria L'coste.

ADVERTISEMENT

BROADCAST EQUIPMENTS (INDIA) PVT. LTD.



BUY FROM STOCK

- U-MATIC AND BETACAMP SP VIDEO TAPES.
- CHARACTER GENERATORS.
- BATTERIES
- U-MATIC VTR'S
- SEG'S

SPECIAL ORDERS ACCEPTED FOR PARTS/ACCESSORIES, ETC.

WE WANT TO BE YOUR ONLY SOURCE FOR ALL YOUR PROFESSIONAL BROADCAST VIDEO NEEDS.

FOR PRICES & FURTHER DETAILS CALL OR WRITE TO.

B.E.I. PVT LTD.

SUITE S-4, R-8, NEHRU ENCLAVE, NEW DELHI - 110019.

PHONE/FAX : 011-6445313.

IN BOMBAY CALL : ANIL MIRCHANDANI : 6234307.

Budget Cuts Import Duty at 85% plus CVD

When importing under project import, the duty applicable is 25%. Down from 50% earlier. This is inclusive of Basic plus Aux plus Addl.

This will make all loopbin and mega studio projects imported this year, cheaper and less burdensome than before.

The duty on cassette to cassette duplicators, and other studio equipment not covered under project import Exemption Notification No. 59/88 will be cheaper by 25% only, after the Budget. Earlier the duty was, Basic 65% plus 45% Auxiliary, totaling 110%. Now it is a total of 85%. (That is basic plus Aux.). On 85% the CVD or additional duty will be applied, which is approx. 28.75%. Total duty effect would be approx. 140% (including clearing and other charges) on the CIF price.

Under the Exemption Notification of 59/88, listed below, in the earlier tariff, instead of Basic 65% duty only 50% was applicable, a 15% reduction. Now the net duty payable under exemption category is 80%. That is inclusive of basic + aux + CVD. Cheaper by nearly 60%. A lot of difference, but under the circumstances, nothing to get excited about as the exemption notification list is quite a redundant one. (see news item in this respect elsewhere in this issue)

[Inserted by 113/20.03.90]

(vii) T.V. Broadcast/Studio equipments namely,-

1. TV Transmitters and accessories
2. Antennae system and accessories.
3. Transposers and translators.
4. TV Relay receivers.
5. Microwave links.
6. Telecine equipment and accessories.
7. Professional video cameras and accessories
8. Camera control unit, Battery pack, Tripod/Dolly.
9. Professional video tape recorders and accessories
10. Digital time base corrector (DTBC)
11. Editing controls for video tape recorders
12. TV/Radio coverage mobile vans without chassis/vehicular parts.
13. Frame synchronisers

14. Video and audio switcher.
15. Limiting amplifiers, Video distribution amplifiers, Stabilizing amplifiers.
16. Character generator
17. Professional monitors for studio use
18. View finders.
19. Zoom lenses.
20. Microphones
21. Headset intercom equipment.
22. Computerised editing systems controlling more than three video editing machines
23. Video computer graphic system.
24. Video animation equipment.
25. Teleprompters.
26. Time code generator and reader
27. Vision mixer (5-6 channels) capable of being used with computer edit system.
28. Telop camera.
29. Digital video library system.
30. Video jack systems
31. Wireless microphones.
32. Waveform monitors and vector scope
33. Pattern generator.
34. Video and vector scope.
35. Lux meter, Color temperature meter, Dummy plumbicon tubes.
36. High ampere hour nickel rechargeable batteries.
37. Multicore, Multifunctional cables for video use.
38. Paint box (Electronic).
39. Digital video effects equipment/video mixer.
40. Chroma keyer.
41. Wipe extender.
42. Synchronous Generator.
43. Video typewriter.
44. Video duplicating system with master and slave control but without 1/2" recorder.
45. Slide scanners
46. Professional compact disc players
47. Programme amplifiers
- [48. Sub-systems of the above equipments, viz., antennas, power supplies, feeder cables, duplexers, modulators, de-modulators, combiners, equalizers, power amplifier.] [Inserted by 113/20.03.90]

(viii) Sound broadcast equipments, namely,-

1. Broadcast transmitters and accessories.

2. Antennae system and accessories.
3. Microphones.
4. Console tape recorders.
5. Heavy duty tape recorders.
6. Ultraportable tape recorders.
7. Professional turn tables.
8. Audio mixing consoles.
9. Graphic equaliser.
10. Reverbration generator.
11. Limiting amplifiers, Distribution amplifiers, Stabilising amplifiers.
12. Microwave links.
13. Synthesised receivers.
14. Communication receivers.
15. Rebroadcast receivers.
- [16. Stereo encoders
17. Stereo decoders
18. Sub-systems of the above equipments, viz., antennas, power supplies, feeder cables, duplexers, modulators, de-modulators, combiners, equalizers power amplifier.].

Clarifications needed in Import Policy

The exemption notification was passed in 1988. The products relating to Broadcasting, and audio and video studios were inserted in 1990. The custom authorities, go exactly 'by the book'. This is against the spirit of the execution notification. The government clearly wanted, all studio equipment, meant for professional use to be applied low duty. But, if the item imported does not match, word for word, the list, then, the importer has to pay the full duty. A case in point is 'Reverberation Unit'. Now of the modern signal processors are so called. They may be termed 'Effects processor', or 'Midi verb' so it will not be allowed the exemption, however small.

Also, naturally, as technology programmes and when market so demands such equipment offers other functions. too. Again the custom authorities raise objections.

The classification list, both for the exempted items and professional equipment recently clarified (see news item GOVT. LISTS PRO AUDIO VIDEO EQUIPMENT, in this issue) is totally adequate, and falls for most of the requirements of the industry.

Any, brochure classifying as the product as 'Professional' or Semi-Professional', should be allowed. And the exemption too should be applicable. The Custom officer should not have a chance to pose the stupid question "Ghar pe nahin chalega kya".

SSL's Screen Sound for STAR TV



SSL's ScreenSound new audio post-production facility at STAR TV

Hong Kong is home to one of the most sophisticated satellite broadcasting installations in Asia. STAR (Satellite Television Asia Region) TV broadcasts 5 television channels - including the BBC-World Service and MTV - via the AsiaSat 1 satellite.

SSL Screen Sound was chosen for the station's new audio post-production facility because of its flexibility, ease-of-use

and proven upgrade path. Adam Pinch, Sound Supervisor, explains: "We looked at other hard-disk editing systems, but felt that ScreenSound met our needs far better. After having used it operationally now for six months or so, I can say that we made the right decision."

With five different channels and transmission in two standards, STAR TV

has chosen an all-digital system of internal signal coding to take full advantage of the digital processing of its signal converters.

"The bottom line is that the channel producers prefer working in our in-house audio suite rather than going to any of the outside Hong Kong sound facilities. That says it all".

ARX Systems relocate Singapore office

ARX Systems have relocated their South East Asian sales and marketing office to a larger showroom premises.

This will enable them to demonstrate the complete range of ARX Electronics namely, their Concert and Stage Monitor Loudspeaker Systems feels Gaston Goossens, the head of sales and marketing for South East Asia.

The entire range of noisegates, compressor/limiters, parametric EQ, 30 band graphic equalisers and the DI-6s mixer/splitter, as also the Power Max range of loudspeakers will be available. The ARX range is highly recommended for India, due to its cost-effectiveness.

ARX Marketing can be located at:

**24 New Industrial Road,
#04-01 Pei Fu Building,
Singapore 1953**

Phone and Fax 65-289 2849

Pager # 803-7543

Electro Sound 9000 popular in Asia

Sinhung Jen Heng Magnetic Tape Company in Beijing, China; and Top Line, Onpa Audio & Video and Krung Thai, all in Bangkok, Thailand, have purchased dual-slave Series 9000 systems and equipment.

"Sales of Series 9000 duplicating systems have surged internationally since their recent introduction because these systems are cost-effective, quality equipment providing greater duplicating capacity in smaller manufacturing areas," Williams said.

Aftab Electronics Loopbin project

A sister concern of Aftab music who launched the S Series table. In the MIDC Electronic Zone the Factory building is duly constructed. Plans are to setup a loopbin unit. The factory building is bang opp. Vijayta Audio World.

Hashmi has already looked at the Sanket loopbin. Though satisfied with the quality the final selection is yet to be made.

New From DAR...SoundStation Delta High-End Digital Audio Production with Low-End pricing

Digital Audio Research introduces SoundStation Delta, a new low-cost four channel model of its award-winning SoundStation digital audio production system. Delta was engineered expressly

for budget conscious TV and radio broadcast, CD and post facilities, to provide the affordable solution for fully professional digital audio production with no compromise in quality and operational speed.

Lyrec Opens Technical Centre In Russia

Lyrec Manufacturing in conjunction with Melodiya, Moscow have completed the necessary arrangements to open a technical centre at the Melodiya headquarters following an agreement signed earlier this year between the two companies.

The official opening of the Melodiya-Lyrec Technical Centre took place on the 2nd December 1992. To mark the event, Lyrec hosted an international meeting at the centre with the managers from its technical centres throughout the world.

The Melodiya-Lyrec Technical Centre carries a full range of Lyrec tape duplicating and loading equipment for the audio cassette industry as well as the Lyrec range of tape recorders for broadcasters. The location houses a parts and service department as part of Lyrec's continuing commitment to its customers.

"Our working relationship with Melodiya

has existed for almost 15 years. We are very happy to be part of an agreement that enables Lyrec to open a facility in partnership with Melodiya and we look forward to maintaining and developing this long established association," commented Orjan Svedberg, Managing Director of the Lyrec group of companies.

Lyrec is well established in the professional magnetic tape industry and committed to this industry's needs. The company has manufacturing sites in Denmark and Italy and sells its equipment worldwide. Major products are high speed tape duplication equipment, master recorders, quality control equipment as well as FRED and FRIDA.

The Melodiya-Lyrec Technical Centre is located at: Tverskoy Boulevard 24, 103 009 Moscow.

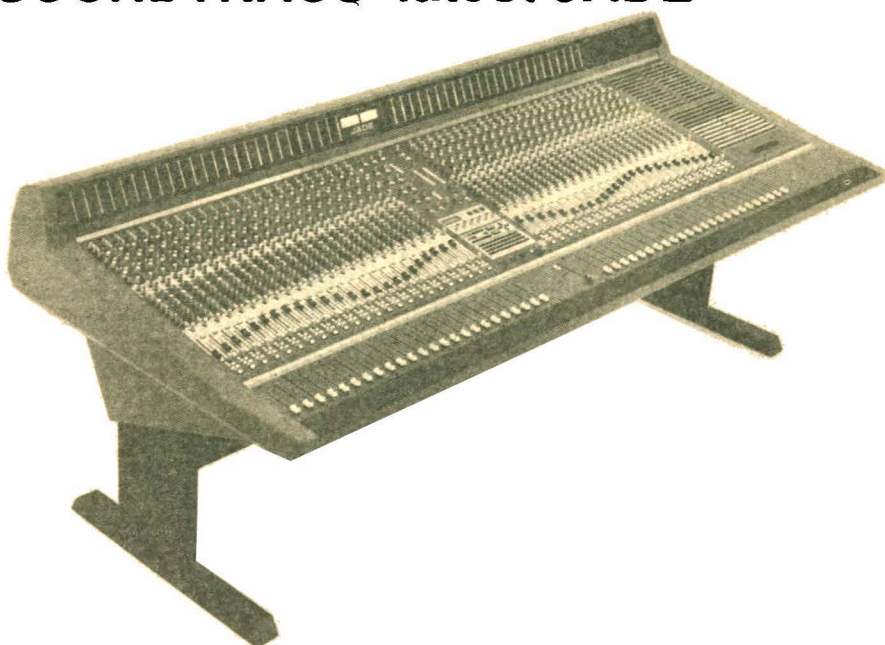
**Contact: Mr. E. Betskov
Tel: 010 7 095 229 97 92**

AVS Graphics to market **SOUNDTRACS** latest **JADE** Character Generators

AVS's (Avesco) character generator division is transferred to a new company, AVS Graphics Limited. Ideas Unlimited, the designers of Floating Point and Manuscript have taken majority share holding in AVS Graphics Ltd.

Glyn Powell-Evans, Ideas Unlimited said that for the last two years they were working on an innovative new product range complimentary to FloatingPoint and Manuscript and this new company would give the focus these products deserve.

AVS Graphics Ltd is based in Farnham, Surrey and commenced trading on Oct 1, '92.



AVS Graphics introduces Manuscript 500

AVS Graphics has introduced a powerful new version of the popular Manuscript character generator.

Manuscript 500 increases operating speed and adds more productivity enhancing features to this widely acclaimed broadcast CG. It provides new power for advanced functions such as 601 digital operation, networking and Frame Grab with cut & paste and retouching.

AVS Graphics has integrated manufacturing efficiencies into the Manuscript 500, from experience gained from selling hundreds of Manuscripts world-wide. The new cost-effective 500 is available in three models, all of which are upgradeable to meet customer's needs.

AVS Graphics is led by Managing Director, Jeremy Bancroft, supported by Sales & Marketing's Bridget Fletcher and Product Specialist, Derek Western. Chris Parfitt has joined the company from Aston to head up the Customer Support Division. The Co's design arm is headed by Glyn Powell-Evans and Ian Fleicher, Co-Partners of Ideas Unlimited, the original developers of both Manuscript and FloatingPoint.

Soundtracs JADE fully automated Production Console

Under the expert guidance of Soundtracs new Technical Manager, Peter Jostins, System Designer John Stadius, and major investment in the Department, Soundtracs are proud to announce the launch of JADE.

Combining the finest audio quality with DSP multiprocessor technology, the JADE represents a major advance in music production, providing dual inputs on every module each with fader and mute automation, EQ and dynamic gate processors on every channel.

Audio features include the unique FdB* parametric equaliser which overcomes the problems of non-linearity in music and the car and provides precise control of all frequencies in the audio band, from the sparkling high frequencies down to sub sonics. In addition, all monitors have a 2 band equaliser and can share the FdB equaliser with the channels. All inputs, outputs and busses are balanced to minimize hum and RFI interference and all

circuits have extended bandwidth electronics to ensure phase distortion is kept to a minimum and signal coherence and integrity is maintained.

The console can be fitted with a comprehensive TT patchbay, or a metal TT patchbay for more demanding applications. Also available

are stereo modules, dual line input modules and balancing transformers on all inputs and outputs.

The JADE console is available in a number of permutations and frame sizes from twenty-four channels without patchbay or automation up to forty eight channels complete with automation, gates, patchbay and pre-wired for 48 tracks.

The new console was launched at AES San Francisco, 1-4 October 1992.

For further information: Todd Wells - Managing Director, Soundtracs - on (+44) (0) 81 399 3392 or fax (+44) (0) 81 399 6821.

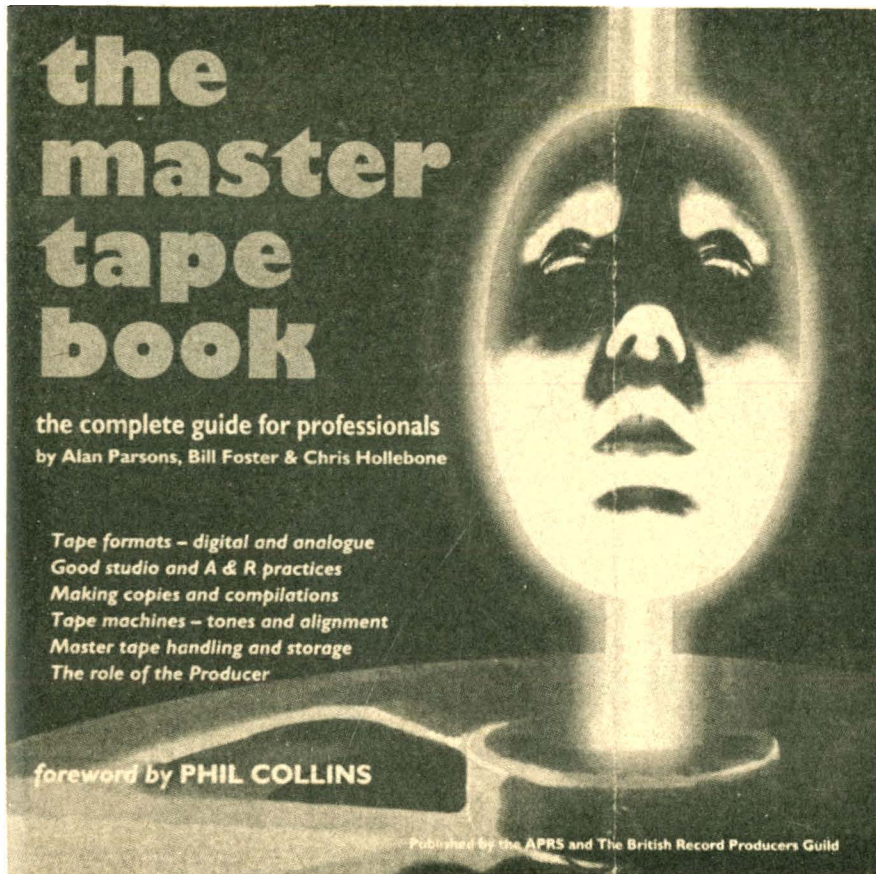
Electro Sound sells in Turkey, Israel

Plaksan in Istanbul, Turkey, and New Sound Cassette in Jerusalem, Israel, have purchased high-speed cassette duplicating equipment manufactured by Electro Sound, announced Jim Williams, president of Electro Sound.

Both Plaksan and New Sound Cassette have acquired Electro sound equipment to expand their duplicating operations.

**Soundtracs
are
keenly
looking out
for a distributor/ agent in
India.
Kindly Contact:
Todd Wells Managing Director**

Master Tape Book From APRS



A unique publication by music industry experts, 'The Master Tape Book', is now available from the APRS and The British Record Producers Guild.

The new book, a definitive guide to the creation and management of audio master tapes, is complete with photographs, illustrations and cartoons; it is easy to read yet deeply authoritative - as might be expected from authors Alan Parsons, Bill Foster and Chris Hollebone expected to become an essential reference for A & R depts., studio engineers, record producers, post production facilities, CD and cassette duplications, recording artists and management and anyone with a career interest in sound recording. Published by the Association of Professional Recording Services and the British Record Producers Guild, the book is available by post (price pound15, plus 2 for postage and packing) from the APRS, 2 Windsor Square, Silver Street, Reading, Berks RG1 2TH, UK.

The Master Tape Book includes sections on

- * good studio (and A & R) practice
- * tape formats, digital and analogue
- * tones and alignment
- * making copies and clones
- * master tape handling and storage
- * the role of the producer and A & R.

The importance of care in tape labelling and tape box marking is stressed throughout - and underlined in the Foreword by Phil Collins.

The last section of THE MASTERTAPE BOOK contains an invaluable checklist by which producers and record companies can keep tight control of their recording projects; this checklist is also available separately from the APRS at no charge (but please send SAE with request). A glossary, useful also for beginners to the subject, and an index complete this original and long-needed publication.

For More Information please contact APRS, 2 Windsor Square, Silver Street, Reading, Berks. Telephone: 0734 756218. Fax: 0734 756216.

Punjab Biggies

Nine Punjabi music regional companies have emerged with the biggest stakes in Punjab Market. Parveen Trehan from Chandigarh has not sent us the addresses of these companies. Maybe in the next issue Playback readers will be provided complete details.

Ankit

Catrack

CTC

Peritone

Texla

Fine Tone

MPI

CMC

Payal

The above companies have formed an 'Anti Piracy Front' and conducted raids at Batenda and Jalandhar. Apparently the sale of pirated cassettes is the highest in Punjab.

Gurdas Mann

Gaurav Trehan has recorded Gurdas Maan again at Madhuhwani Studio in Bombay. Earlier he released Gurdas Mann's Mata Ki Bhenen on the Catrack label.

**SEND NEWS
BY FAX
91 (22) 4931054**

Gauss in Dubai

Gauss has sold high-speed cassette duplicating systems to Vanilla Music in Dubai owned by Indians.

**Contact: B.L. Kanikraj
Manager, Marketing and Business Development**

P.O. Box 50206, Dubai, UAE.

Tel: (+9714) 241314

Fax: (+9714) 244055 for business. United Arab Emirates, and Music House in Bangkok, Thailand, announced Jim Williams, president of Gauss.

Both companies are entering the duplicating industry for the first time and have purchased Gauss Series 2400 duplicating systems.

Saki Magnetics launches customer service 'Relapping' program

Saki Magnetics, the largest manufacturer of magnetic recording heads in the world, is launching an international customer service program to "relap"—polish—magnetic recording heads, announced Richard Drake, president.

The program includes audio record and master playback heads for high-speed and in-cassette duplicators as well as heads for broadcast and recording studios. In addition, the program includes audio heads for video 1-inch recorders (Sony BVM and Ampex VPR series) used in post-production studios, and heads for Magnasync and voice-loggers.

Saki Magnetics is including any size, any format, any material and any head manufactured by any manufacturer in its precision polishing relapping program, according to Trevor Boyer, sales and marketing director.

The program—by phone appointment—includes a one-day turnaround delivery service at no premium charge to customers in the U.S. and a "quick service" at no premium charge to international customers.

As part of its customer service program, Saki offers a professional maintenance and

modification services for audio heads and bass plate assemblies of any size, material, format or manufacture.

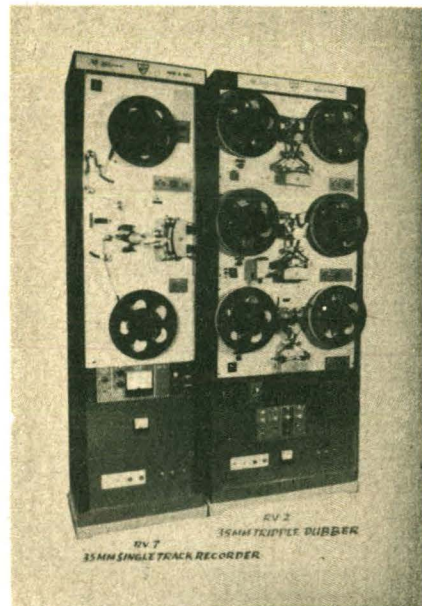
Each head assembly will be inspected by Saki's quality control department free. Technicians will measure performance and confirm what services are needed. If the job is not serviceable, Saki will notify you and return the product without charge, according to Boyer.

Upon authorization, Saki will complete all services and reship within 24 hours. In-house, mil-spec machine shop provides custom base plate modifications and mountings and head edge slotting. Mounting and mil-spec digital imaging alignment is free.

"Our staff of technicians, quality control, maintenance and design engineers are dedicated professionals who bring more than 125 years of combined experience to their disciplines," Boyer said. "No other company in the industry offers such technical experience."

Saki Magnetics is a subsidiary of TDK Electronics, of Tokyo, Japan, and is the world's largest manufacturer of ferrite magnetic recording heads.

Roman Electronic Madras



35 mm Single Track Recorder

Roman Electronic Madras offers a full range of 35mm magnetic singletrack and multitrack recorders/reproducers.

These machines can be used for Rock-n-Roll dubbing, recording, transfer and mixing purpose. Remote bias punching unit is also offered.

These machines incorporate synchronous motors. The triple dubber (see photo) is interlocked and incorporate 6 torque motors. Apart from 35mm recorders Roman Electronics is also manufacturing bulk eraser, demagnetizer and multi purpose Amps. and accessories for film recording.

Roman Electronic Service
No.334, Arcot Road,
Kodambakkam, Madras - 600 024
Ph : 422747

USE OUR FAX
91 (22) 4931054



Smt. P. Susheela receives Gold Disc from "Makkal Kalaignar Shri Jaishankar for "Ulavum Thendral"

WOA - on line

Western Outdoor studio have launched their own quarterly news letter on WOA activities.

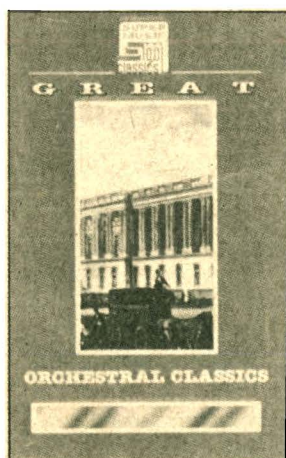
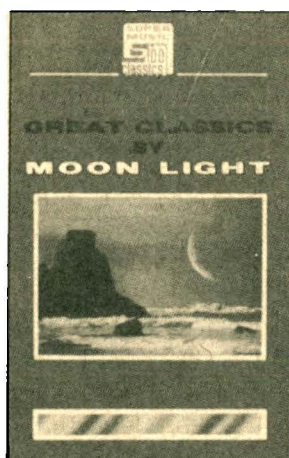
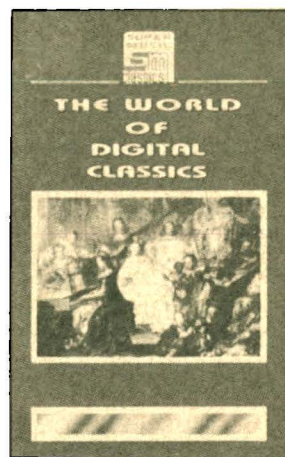
Auvi Pte Ltd, S'pore distributes ARX Systems

ARX Systems, Australia, the manufacturers of Professional Audio Electronic and Loudspeaker Products have appointed Auvi Pte. Ltd. as their distributor for the Singapore Professional Audio market.

Auvi Pte Ltd are a well established distributor of Professional Audio products. They are also distributors for Teac, Tascam and Canare.

Auvi Pte. Ltd can be contacted on:
Tel: 65-283 2544 Fax : 65-289 5963

THE BEST OF WESTERN CLASSICAL



EXCLUSIVE LICENCEES TO THE WORLD FAMOUS
"NAXOS"

BOASTING OVER 3,000 WESTERN CLASSICAL TITLES



SUPER MUSIC CO.,

17, Raheja Complex, 834, Mount Road, Madras - 600 002. PHONE : 835188 FAX : 830249

SUPER MUSIC CO. DISTRIBUTORS: TAMIL NADU : United Music, 2, 8th West Cross Street, Shenoy Nagar, Madras - 600 030. Tel: 613630; KARNATAKA : Super Audio, D. Rangayya Complex, B.V.K. Iyenger Road, Bangalore - 560 002. Tel: 237665; ANDHRA PRADESH : Sandilya Marketing, 5-4-670 Mysore Cafe Lane, Nampally Station Road, Hyderabad - 500 001. Tel : 45891; WEST BENGAL & North Eastern States : Atlantis Music, New Cinema Building, 171 A & B Lenin Sarani, Calcutta - 700 013. Tel : 260842; MAHARASHTRA, GOA & GUJARAT : Crescendo Music & Marketing, 26-A Nutan Nagar, Turner Road, (Near Bandra Stn.) Bandra (W), Bombay - 400 050. Tel : 6400250; KERALA : Super Audio, 17, Raheja Complex, 834 Anna Salai, Madras - 600 002. Tel : 835177

India can export to Poland

In the last couple of years Poland has been purchasing a lot of loop bin systems. The demand for C-0's is definitely great. As per reports with Playback, demand is being met from Turkey, and Israel and also Hong Kong. However India can also export, with the possibility of fetching good prices. Playback takes pleasure to offer the following addresses to its valued readers. These addresses are most valuable, as all of them are potential importers. Other potential importers are, naturally the buyers of Gauss systems above. One can contact Gauss, who has advertised in this issue, for list of loopbin plants all across Europe, who could be contacted for C-0 exports.

BRAWO

ul. Nowogrodzka 21
00-511 Warszawa, Poland
Mr Wronski
Tel: + 22 211570, Fax: + 22 6357018
Tlx: 816892

GAMBIT Ltd

Glogowska 163
60 120 Poznan, Poland
Mr Z. Strazalkowski
Tel: + 61 661626 Fax: + 61 660932
Tlx: 413688 GAMBI PL

ELBO sp. Z o.o.

ul. Moniuszki 10/54
00-009 Warszawa, Poland
Mr K. Wozniak/Mr B. Borysiuk
Tel: + 22 340980 Fax:
Tlx: 817406 ELBO PL

INCO VERITAS

ul. Bobrowiecka 1
00-728 Warszawa, Poland
Mr G. Nagrowski
Tel: + 22 416231 Fax:
Tlx: 817318 BIUP PL

VITON

ul. Wiertnicza 124
02-952 Warszawa-Wilanow, Poland
Mr A. Laskowski
Tel: + 22 642 8485/8446
Fax: + 22 642 8444
Tlx: 812201 SPROK PL

POLSKIE NAGRANIA

6 Goleszowska Str.
01-249 Warszawa, Poland
Mr J. Popko
Tel: + 22 374315 Fax: + 22 373735
Tlx: 817831 FONAG PL

POLTON RECORDS

ul. Lustrzana 20
01-350 Warszawa, Poland
Mr K. Slonina
Tel: + 22 360190 Fax: + 22 360190
Tlx: 825905 POLTO PL

STEBO

31-859 Krakow
Os. Kosciuszkowskie 4c, Poland
Mr Stefan Sasorski
Tel: + 12 483650 Fax: + 12 471546
Tlx: 326384 STEBO PL

TONPRESS

Krajowa Agencja Wydawnicza
Wilza 46, Srebrna 16
00-679 Warszawa, Poland
Mr M. Proniewicz
Tel: + 22 202662/202623 Fax:
Tlx: 813487 KAW PL

Poland and Austria favour Gauss

Gauss has taken a strong marketing position in Poland by selling high-speed cassette duplicating systems to four leading music companies.

Gambit Ltd. in Poznan, P.Z. Stebo in Kratkow, Imex in Warsaw, and Brawo Audio Cassette in Warsaw all have acquired equipment to expand their music duplicating operations.

"As Europe erases political borders and as trade barriers between East and West are eliminated, we see these signs as an excellent opportunity for music companies in Poland to expand music cassette duplicating in a democratized Europe," Jim Williams, president of Gauss, said.

"The economy in Poland, gaining strength, points to a strong market for entertainment products and we can certainly expect music cassettes to be in the forefront of any consumer spending surge," Williams said.

Gauss has sold high-speed cassette duplicating systems and equipment to Koch Digitaldisk in Tyrol, Austria, and Focus on the Family in Colorado Springs, Colorado, announced Jim Williams, president of Gauss.

Both Koch Digitaldisk and Focus on the Family have purchased equipment to expand their duplicating operations.

Lyrec 'Fred' & 'Frida' popular

Fred and Frida are popular worldwide with broadcasters. The BBC World Service has bought two Freds and two Fridas for their departments around the country.

Sveriges Riksradio AB (Swedish National Broadcasting) has added 20 Fred editing machines and 3 Frida recorders to its equipment. URAB (Swedish Educational Broadcasting) has ordered 8 Frida recorders for regional reporters.

Danish Broadcasting Corporation, too, has bought 23 Freds, bringing their total of Freds to 112.

The BRTN, the broadcaster of the Flemish community in Belgium, has bought 11 Lyrec Frida portable tape recorders as they find among other many /it ideal for outside broadcasts.

Fujii International Introduces Gauss Replacement Pinch-Rollers

Fujii International has introduced replacement pinch-rollers for high-speed cassette duplicating systems and equipment, announced Mort Fujii, president of Fujii International.

The newly-designed pinch-rollers for Gauss Series 1200 and Series 2400 master bins and slaves have longer life—35 to 40%—and are lower priced than Gauss replacement rollers, according to Fujii.

"The material used in the new pinch-rollers is more stable and retains its hard-

ness, unlike the Gauss rollers," Fujii said, "and the rollers allow more consistency in maintaining proper tape tension."

Other features include pinch-rollers that are less susceptible to changes caused by cleaning material and are more resistive to oxide build-up on the surface of the rollers.

The pinch-rollers are being marketed worldwide.

SHARES

In this news column share prices of those Public Ltd. Companies who have relevance to the music and Audio Video Industry will be listed.

As can be seen from the following share prices firstly there are very few listings and mostly the shares are quite in a bad way.

Garware Poly	144
Peico	147.50
JK Straw Products	150
(JK magnetics)	
AKG Acoustics	65
BPL Electronics	50
BPL Sanyo	46.25
BPL Sanyotech	65
Cosmo Films	42
Forward Electronics	11.25
GV Films	21
Herdillia Chemicals	92.50
Herdillia Oxide	26.25
Hitasu Magnetics	18
Ind Magnetics Ltd.	15
Monica Electronics	65
Murugappa Electronics	10
Nahone Electronics	15
Nova Electronics	43.75
Onida Saka	22.50
Onida Sawak	27.50
Photophone	15
Pantape Magnetics Ltd.	8
Videocon VCR	38.75
Vishwa Electronics	18
Columbia Electronics	28
Daulat Electronics	14
Indian Magnetics	14
Compact Disc India Ltd.	
Solidaire	65
Gramophone Ltd. (HMV)	18
Prakash Industries	34
Zee Tele Film	-
Music India Ltd.	-
CBS Gramophone	
Records & Tapes (I) Ltd.	-
Concord Records Ltd.	-
HML	-

As per Economic Times Sunday
20th Feb '93

Sagarika expands Duplication capacity

One of the earliest professional duplication units in Bombay, was set up by Mr Das. Already a decade old in experience. Recently installed is the Lyrec ½" loopbin and 2 twin slaves and 3 C-O loaders.

Capacity now is 40,000 cassettes per day with full packaging facility

The latest loopbin is 100:1 with Dolby HX-Pro, and the loaders are fully automatic.

Mastering

The major improvement is in this area. The ½" master recorder is the best in the world with a studer A820 MR. A brand new Revox C-274 - 4 track 1/4", is also installed as the master recorder for the Asona loopbins. Monitoring is on BOSE speakers.

Playback met Mr Das on completion of the enhanced capacity. "Pressure on my earlier capacity is the main reason for doubling the capacity production. I was not able to make anyone of my customers happy. Would you still remain with those customers or add on? "I'll first try to

satisfy my existing customers completely with full emphasis on completely, Mr Das does by far make the maximum effort to offer the most professional service. "We have the required experience to handle repertoire, to handle a catalogue of 5,000 titles, which is tremendously important for music companies. We have learnt to keep to release schedule. To, give service so that they do not have to have unnecessary inventors. We maintain even inlay cards!". The prestigious clients include music India exclusively, HMV, Magnasound, Tips etc.

Mr. Das affirm "mine will be the best unit in the country because I have the best people" referring to his team most of whom have been with him this last decade.

Presently Sagarika is constructing 2 factory buildings on a 1500 meter plot at the MIDC Electronic Zone outside New Bombay. By Diwali the entire plant & equipment will be installed in the new complex.

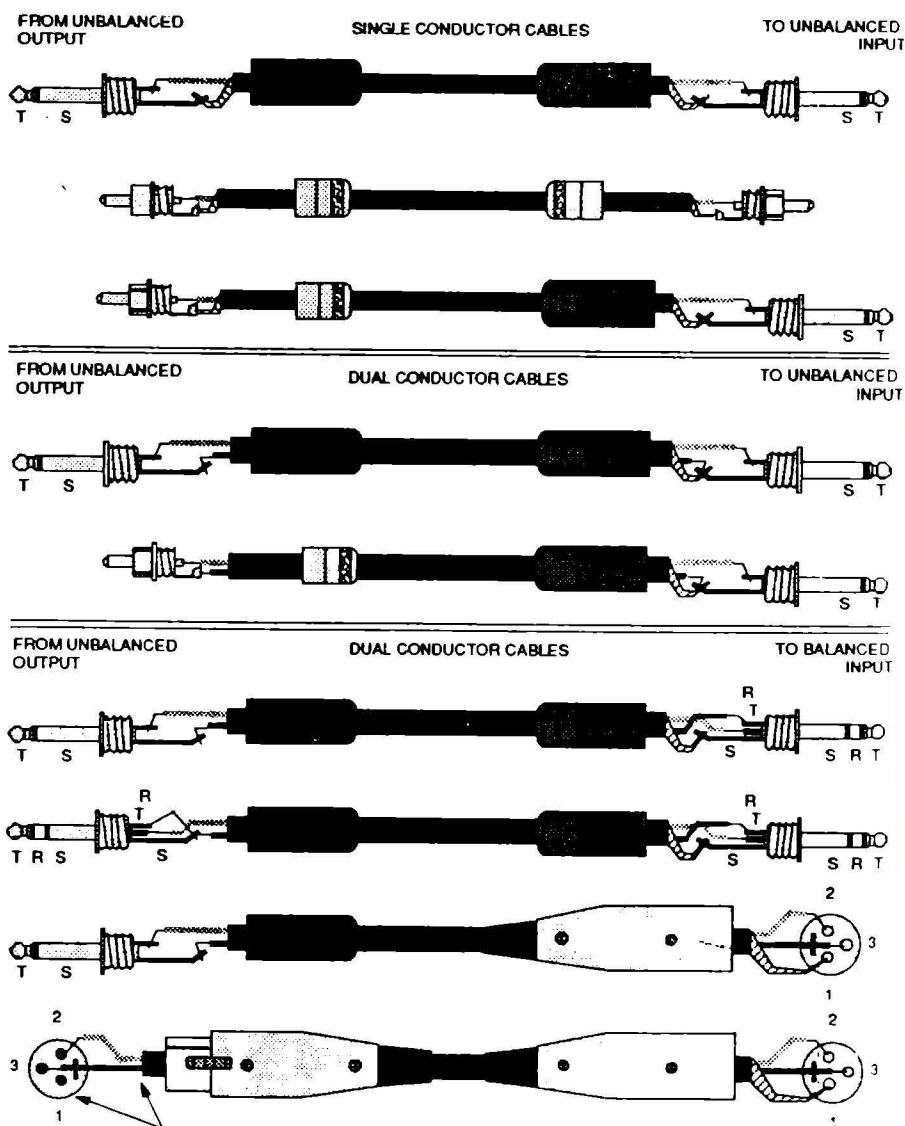
Venus acquired 'Khalnayak' for India and overseas
Venus has acquired Subhash Ghai's prestigious venture 'Khalnayak' for India Video and overseas.
It is the first time, a music company, has acquired video rights of a major film.



L to R: Milton Gelfand & Perry Jambor (Audiomatic), David Santwan & Jim Williams (Gauss/Electrosound) and Richard Watts (dBm)

Tips on how to manage your Studio ^{better} from Daman Sood

In today's working environment the audio engineer meets the circuits which are named Balanced lines and Unbalanced lines. Most professional studios equipment have balanced inputs and outputs whereas all semi-professional equipment are unbalanced input and outputs. Any audio chain or signal requires at least two wires. In an unbalanced line, the outer conductor (called SHIELD) is also one of the audio signal wires. Whereas in a balanced line, the shield does not carry audio signals. Therefore the balanced line has three wires including shield. In a true balanced line, the audio signal level is balanced between the two audio wires and the shield. The primary advantage of a balanced line is that it is much less likely to pick up external electronic noises (hum, buzzing, static, radio interference etc.) than an unbalanced line. Dual conductor shielded cables are primarily used for balanced circuits, although they may be used to good advantage where a balanced output is driving an unbalanced input. These days audio engineers are expected to use balanced mixer outputs to unbalanced input of effect gadgets on compressor limiter or may be a recorder. The hot selling Alexis ADAT Digital recorder has unbalanced outputs, even YAMAHA top of the line Multi-



For mic cables, connect the shield to Pin 1 at both ends of the cable.. For line-level signal cables, cut the shield here as illustrated.

Figure 1: Single and dual conductor cables for use with unbalanced sources

effect processor SPX-1000 has unbalanced inputs and outputs. So in these situations when we connect these gears we get hum caused by ground problems. Here are some of the tips for those who scratch their head or bite their fingers to solve the hum and the buzz in system.

When the unbalanced outputs are driving unbalanced inputs, avoid using dual conductor shielded cables because they can exhibit twice the specified capacitance in such a hookup, and this may cause a significant loss of high frequency and transient information. This is very much true when the length of cables are very long especially in Sound Reinforcement in outdoor concerts. There are a few microphone cables made by Audio Technica of Japan that utilize four center conductors, connected in pairs, to perform essentially the same function as a dual-conductor cable. but with greater immunity to electromagnetic noise. Some single conductor shielded cables appear to be similar to the coaxial cable used for TV antenna or radio signals but there is a major difference. Co-axial cable for RF use generally has solid center conductors or only a few strands of heavier wire, and the cable capacitance differs significantly from that of audio cable. The coaxial also tends to be less flexible. In other words NEVER USE RF cable for audio signals. In dual conductor cables, the inner pair of conductors is usually colour coded either black and red or black and white. If black and red, by convention, the red wire should be the hot or high side of the pair. If black and white, the situation is not always clear.

Many people prefer to make the white the hot side. It really makes no difference at all, so long as the cable is wired with consistent polarity between the connectors at both ends.

The figure printed on the sides (Fig.1) is a good reference whenever you have to connect unbalanced and balanced lines of equipment in any situations. XLR connector are generally used in balanced lines whereas RCA phono or pin Jack phono are

used for unbalanced lines. In Fig.2 stereo phono jacks are used for balanced lines also which is very rare to find. The advantage of XLR connector over others are that they are self locking and by accident the cable cannot be pulled out which is very easy with phone type connectors.

Next: Alignment of the tape recorders

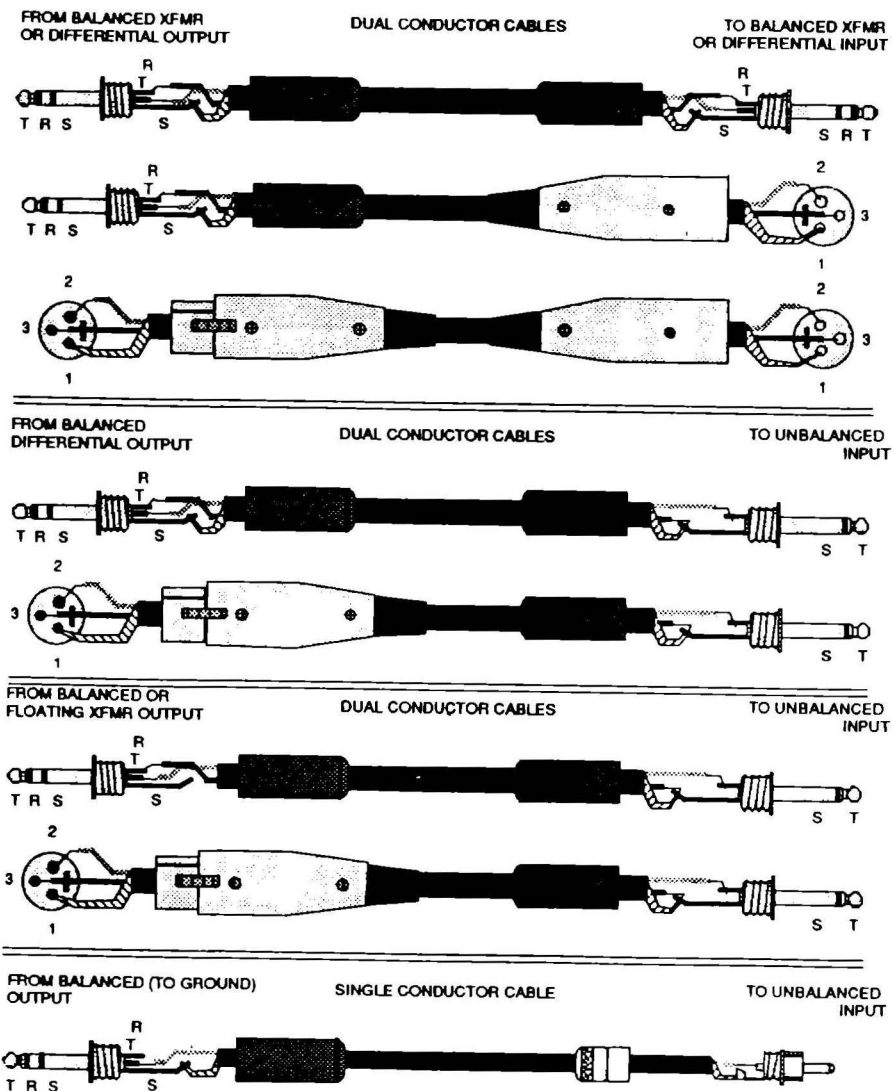


Figure 2 : Single and dual conductor cables for use with transformer or differentially balanced sources

SANKET GEMINI 32 LOOPBIN

Reasonable price and a good market response has quickly established the first successful Indian effort

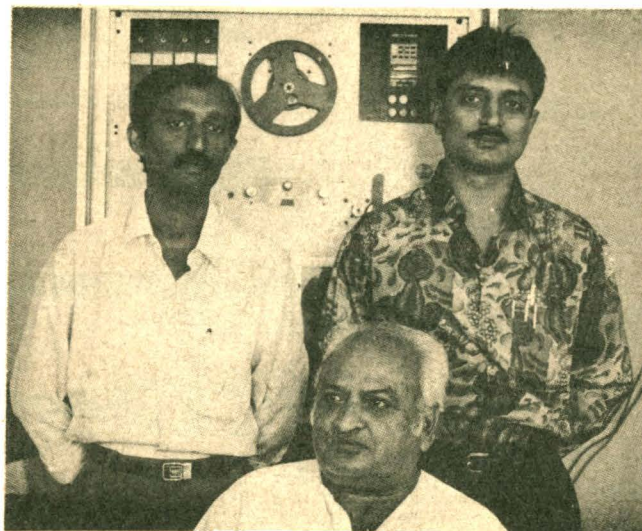
Sanket Electroplast has begun the delivery of its Gemini 32 loopbin. "our continued efforts and commitment to improve made it possible to introduce the Gemina 32, a 1/4 inch master playback. This latest addition is fully compatible with the existing Sanket twin-slaves" declared Shri Labh Shankar. Already the response has been fantastic. More or less, like the Asona in appearance, the loopbin and slaves have been developed with an independent thinking by Labh Shankar and Vinay Thakar. The father and son team have been in the duplication business since 1976. Labh Shankar has also had a stint at the Sony production floors in Japan.

Right from the beginning the approach was not to try and have features similar to other loopbins from the USA, Japan, or Europe. But to make sure that their loopbin overcame real time problems actually faced by maintenance and production staff.

The end aim was just one. A complaint-free, easy operation (without too many technicalities and ifs and buts) easy maintenance, machine.

"To be frank, everyone will agree, it is not at all difficult to design a perfect record or reproduce amplifier, which will perform. There is not much technology in this area that is not mastered and executed, in India or elsewhere. The real problems in manufacturing a loopbin in India is only the other com-

ponents. Sourcing such components and tooling. Well, we have got to the bottom of these two aspects and our design and engineering in these respects is what we guarantee and are proud of" affirms Vinay Thakar.



The Pioneering Team (L to R: Shallesh, Vinay & Labha Shankar seated

To ensure quality the heads used are standard SAKI heads, made in the USA, which are used on the Lyrec loopbin as well.

The motor used is a brushless DC Servo direct drive high torque motor, from West Germany. "A radical approach in the design of the tape transport and incorporating the latest micro-processor technology to control all functions made it possible to achieve higher duplication ratios and improved overall sound quality allowing the modern cassette manufacturer to increase his output and cost effectiveness. Each motor is tested fully before installation. This is the heart, this is where the action is, and this is perfect" Vinay emphasizes convincingly.

Novel feature

A dual frequency cue-tone oscillator and test signal connector are located on

the record and reproduce amplifier. This allows one process to be omitted when assembling the master tape. Once the transparent area crosses the head automatically the cue tone is generated.

You can save your tape on pancake, and so many extra unwanted cassettes by setting the number of copies required on the pre set counter.

Another important angle is the first cut that is wasted, while commencing recording. Here, the loopbin sends the signal to start the slaves, at the beginning of the programme. Sometimes, the pancakes snaps, not to worry, just respool, and it

will only start at the beginning of the programme.

These are the actual problems faced and experience taught the Thakar's, to do something in these matters. Matters which help.

Other features include a tape cleaner assembly, which necessitates head cleaning after a longer duration.

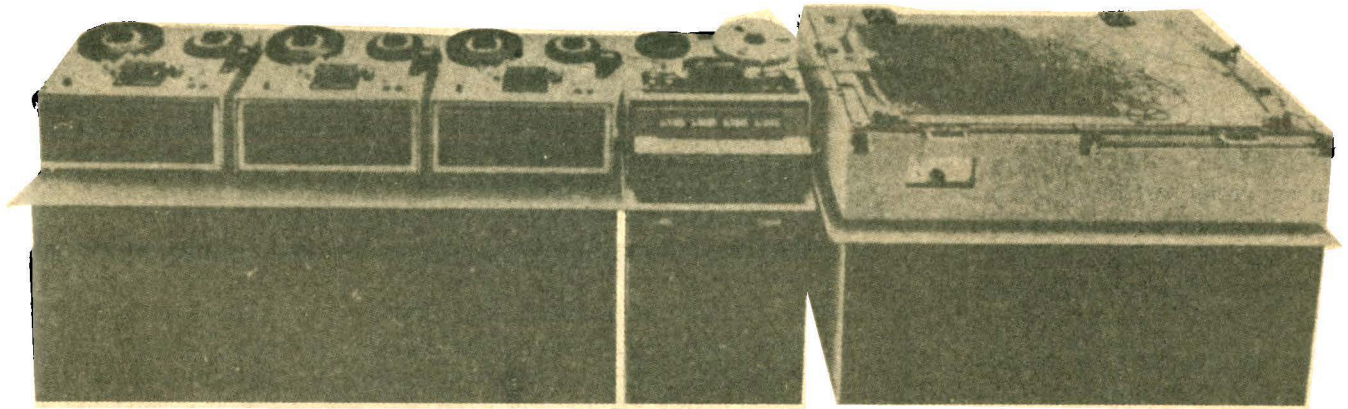
Without Vacuum:

Gemini 32 does not incorporate air pressure, vacuum or excessive tape tension in order to assure the mechanical stability of the master tape and to overcome the adverse effects of "air failing" (adequate tape to head contact). The low tape tension and overall gentle tape handling reduces head wear and master damage, not to mention the simplicity and stability of the entire system.

An adjustable power regulator maintains a safe electrical current through-

JOB WORK DUPLICATION

**NOW AVAILABLE IN MADRAS
ON OTARI 1010 "LOOPBIN"**



**THE ONLY AND BIGGEST JOB WORK
"LOOPBIN" UNIT IN THE SOUTH**

EXPLOIT THE HIGH PROFIT SOUTH MARKET



SUPER RECORDING CO. PVT. LTD

713, ANNA SALAI
MADRAS 600002 INDIA
Tel : 884404 Fax : 881800

out the-system.

Satisfied Customers

Vijay Gallani, of Japan Metallic, who has a slitting operation for magnetic tapes, as well as printing leader tape, a service provided to almost all loopbin units, has finally opted for Sanket. Into job work duplication in a big way already, Vijay was getting work done at Oriental, among other units. Vijay says "I have thoroughly checked the performance of Sanket and ordered one loopbin and four slaves for my Delhi based unit".

Janak Patel of Surmandir, Anand, Gujarat says "I am using Otari DP 90 since the last one year and I find the Sanket quality good enough, to increase my capacity. I intend to take out the same production on both loopbins". Janak Patel has ordered one loopbin and five slaves.

Chotubhai of Audio Channels is already using Sanket loopbin and four slaves since last 6 months and, and" am very much happy with the recording and after sales service."

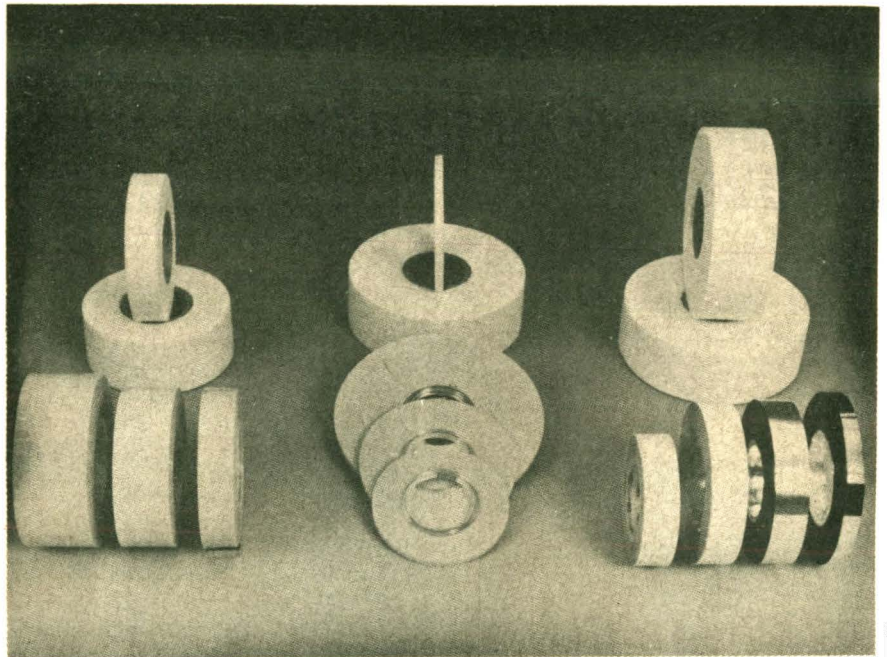
Gathani group based in Calcutta and Bombay have ordered a loopbin for their Madras unit. Royal Cassettes, Bombay, Mr Ahuja, plans to order a system for Bombay.

Vinay feels that given the reputation in the market place the quarter-inch format is no less than the half-inch. "Sagarika in Bombay, Super-recording in Madras, both jobbers, who enjoy the best reputation have quarter-inch loopbins. One is a Otari and the other Asona. Even Lyrec offers quarter-inch, which is with the Master Recording in Madras. For that matter Versadyne, an American manufacturer, just announced a quarter-inch loopbin. And for your information given the economics of this business, no wonder, the quarter inch is selling well in USA too".

PLAYBACK

Sangeeta Apts., Bldg 6/C Flat
No. 5, Ground Floor, Juhu
Road, Santacruz (W),
Bombay-400 054.
Tel: 646 4560.

THIS IS IT !



ADTEC's industry-approved Splicing-Tapes for Audio and Video Cassettes are developed and produced by experts with decades of experience and practice in the Audio resp. Video Industry. The wide-range-programm of products offers a selection for virtually every imaginable types of equipment, and a maximum of efficiency with rolls of up to 100 m (330 ft) length.

The unique siliconized Audio Splicing Tape type. "S" offers an unsurpassed smooth and even unrolling, and reduces missplices to a minimum. This type is now available also in the extended length of 75 m (200 ft).

For quality and efficiency control, both Audio and Video Splicing Tapes are being offered in number-printed version.



ADTEC Audio Video
Produkte GmbH.

Papenstrasse 41 Tel:040/2 50 10 55
2000 Hamburg 76 Fax:040/255 65 31
Germany Tlx:2163 490 ekg d

Exclusive Agents for India

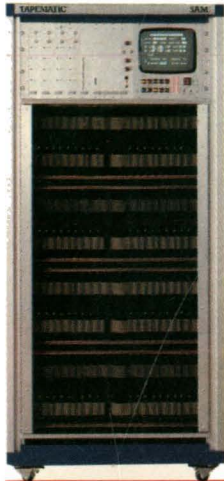
Envoy

ENVOY MARKETING & DISTRIBUTORS

P.B. No. 6160, B.G. Kher Marg,
Bombay-400 006. Tel: 3621833.

Tapematic.

The logical choice for the audio and video industry.
For quality and reliability stands proud.

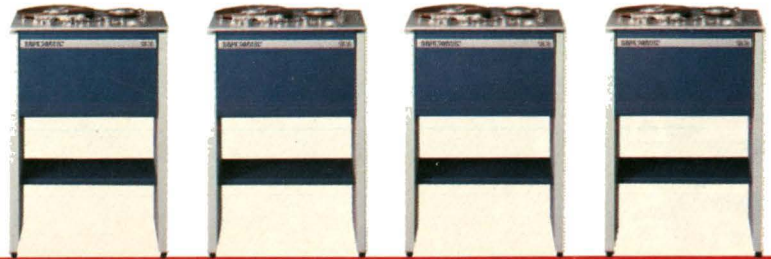


SAM DUE

Static Audio Master.
Employing double memory
for zero downtime
at programme change.
True 16 bit memory.

5128 Slave

With unique capstan control.



2002 Audio loader.

The new CL version
offers the latest in technology
and it's also compatible
with the Digital Compact Cassette.

3003 Video loading system.

More than just a loader.
It's a fully automated system.

TAPEMATIC[®]

**Audio/Video loading
and duplication systems.**

Via Vimercate 32
20060 Ornago / Milan / Italy
Tel. + 39 (0) 39 / 6010145
Fax + 39 (0) 39 / 6010558
Telex 340233 Tapemi I

TAPEMATIC[®] USA

5422 Carrier Drive
Suite 300
Orlando, Florida 32819, USA
Tel. (407) 354 1310
Fax (407) 363 7699

M. G. PLASTICS HOUSE OF QUALITY AUDIO

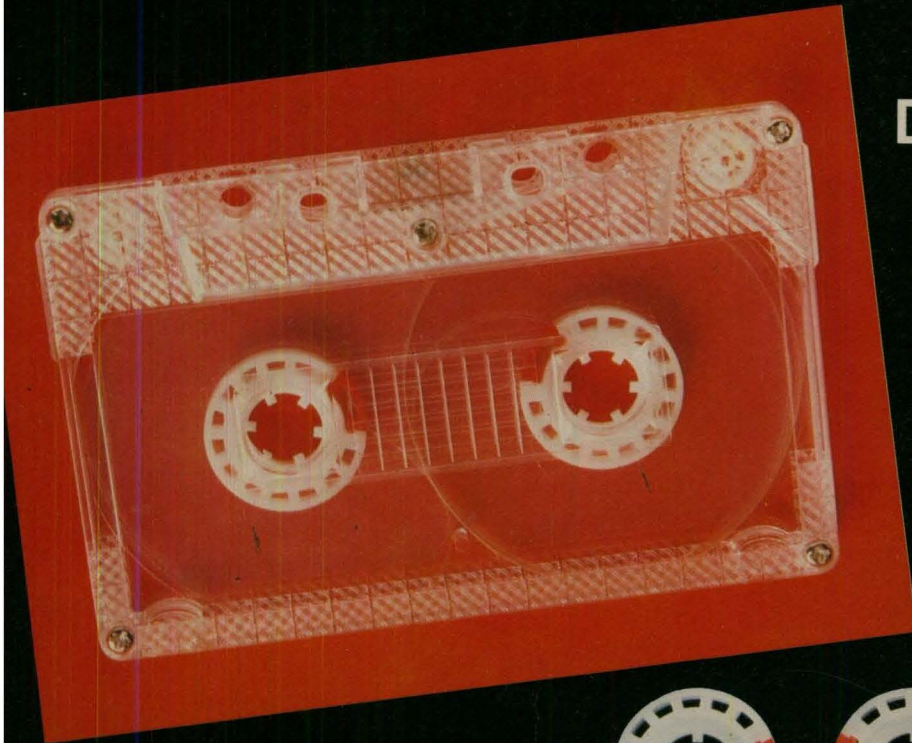
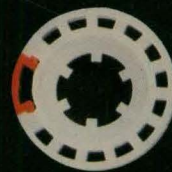
(SHELL, HUBS, ROLLER, STANDARD & SLIM I.C. COVER)

(SHELL, HUBS, ROLLER)

and

**ZERO
DEFECT**

C.Os



Manufactured Under Strict Quality Control Measures

Our reputation rests on quality M.G. Plastics, 31, Sona Udyog Estate, Parsi Panchayat Road, Andheri (E),
Bombay-400 069. Tel: 835 1309, 837 2574. Fax: 91-22-6268844

Our reputation rests on quality M. G. Plastics, 31, Sona Udyog Estate, Parsi Panchayat Road, Andheri (East), Bombay-400 069. Tel.: 6351309, 6372574



The Ultimate Choice
Tape Duplicating Systems
For The 1990's ...

High Speed / Chrome & Ferric

Easy To Use / Simple To Maintain

Highest Standards Of Performance

American Quality / Proven Reliability

Complete Turnkey Installations

Versadyne

*... when you care enough
to sound the very best.*

504-D Vandell Way, Campbell, CA 95008
(408) 379-0900 FAX: (408) 379-0902 TLX: 28-8826

Cinecita Comoptronics Industries Pvt Ltd.
1076, Off. Dr. E. Moses Road, Worli, Bombay - 400 018 Tel: 492 9132/4945365
Telex: 11-71198 CITA IN. Fax: (91) 22-4937440 alternate (91) 22-4927264

THE

M

 ORDERN
 IDI
 USIC
 AGIC

By Kenneth D'Souza

Kenneth D'Souza, Composer and Lyricist, with a difference. Today, a one man production team. Graduating from India, a original album with his compositions and lyrics, today Kenneth is churning out English albums like 'Merry Christmas', 'Non Stop Music for Dance' aimed at the 'masses', and selling excellently. Venus has him on contract, and virtually into production all the time.

Kenneth works with all the local talent active in Bombay. Since the creative inputs into those albums are his own, Kenneth works out of his own studio. He has laid it out all on his own to suit his needs. Which means being able to produce all the music on the keyboards, synthesizers, and other electronic musical instruments, all by himself. Naturally, being a "one man production team" Kenneth has mastered the MIDI solution. He now offers his valuable lights to Playback readers.

With a view to attract aspiring young musicians, and technicians to MIDI, Kenneth has written this article aimed at the response and reaction of the uninitiated to MIDI. To allay the fears of those who have been confused at the first instance.

Kenneth feels that given a tight Budget and with quality yet being a high priority there is no other option than MIDI.

Two years ago, I was introduced to MIDI.... Hello! I'm not sure I like you!!! and that's how most of us would react and still do. Musicians lived within their cosy, comfortable environs of playing their instruments either on stage or in a studio, while Music Producers, Composers, Song-Writers, Music Arrangers, and even Sound Engineers sat at their instruments or desks and peacefully went about their jobs undisturbed by MIDI and its ... Channel-Controller-Maps, Omni Mode, Mono Mode, Local on/off, Bytes and Data dumps ... terminology that's not only intimidating and frightening but so alien to that celestial fairyland of Music.

Personally I'm still dealing with problems in MIDI-land, and have yet to discover many of the secret hidden delights that MIDI so reluctantly but slowly reveals. Yet I have come far enough with the help of MIDI, producing 4 albums and a Musical and enjoying every bit of the experience.

The childlike excitement and joy of slowly discovering new possibilities while considerably enhancing the Musical and production quality of each successive project is deeply satisfying. Now if MIDI allows all this and helps in keeping within your assigned budgets if not reducing them, then ... Hey! we've got something here, and that's what I call the "MODERN-MIDI-MUSIC-MAGIC".

So for the absolute new-comers, those sitting on the fence, or for those who burnt their fingers once and would like another go, here is the MIDI story as simple and as non-technical as possible. (For those who already belong to the exclusive MIDI club... party...party...party... enjoy the ride

you MID-i-diots.)

For the virginal know-nots MIDI is MUSICAL INSTRUMENT DIGITAL INTERFACE. Now MIDI is another complex four-letter word and needs further definition and explanation.

M - Musical

Firstly MIDI is Musical in the sense that its application is almost 95% of the time connected with Music and yes, it helps in the making of Music. A large body of Music coming to us from the West namely, Rap, Disco, Rock, Pop, rhythm & Blues and some of the new styles like Hip-Hop, House and may be even Rai (Khaleed - Didi) is produced with the help of MIDI. To those who think otherwise Music produced with the aid of Computers or Sequencers is Musical and these tools along with MIDI have to a great extent helped in the shaping of much of today's contemporary Pop and Dance Music.

Exotic and Rare sounds from around the world, out of this world sound-effects, Ethnic sounds, Layers of Rich and lush sound textures generated from today's Synthesizers and Samplers, are all easily and cheaply accessible. Unimaginable combinations of these and other orchestral, synthetic and acoustic instruments all heard, sometimes on one song, are now possible because of MIDI. So Musical it definitely is.

I - Instrument

So far as Instrument goes, that's where a re-definition is needed. Though MIDI began with Musical Instruments specifically the Keyboard Synthesizer, it has now sprouted up on a host of other Audio and Studio related equipment like Signal-Processors, Studio Mixers, other Studio

Audio Essentials from

QUADCOMP FOUR CHANNEL COMPRESSOR/LIMITER



Features:

- Four Independent Compressor/Limiters
- Balanced Inputs and Outputs
- Gain Reduction LED metering
- Stereo Link switches for accurate tracking
- 'Auto-Soft' compression for optimum performance
- 'Industry Standard' controls
- Sidechain Insert points
- Security cover available

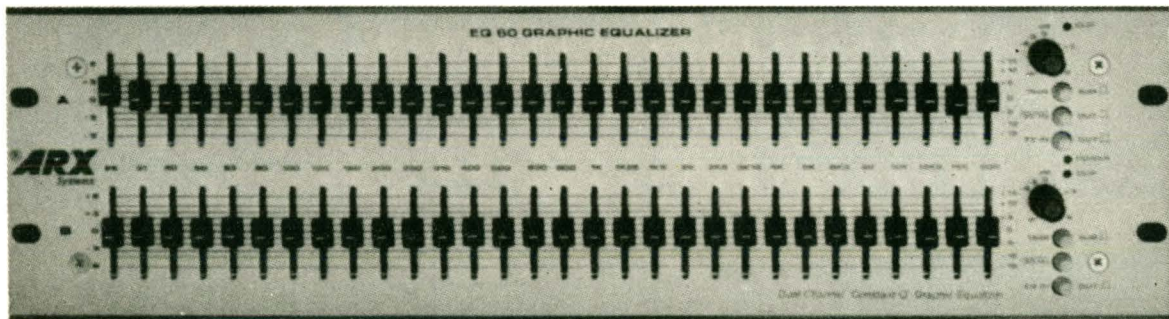
SIXGATE SIX CHANNEL NOISE GATE



Features:

- Unique High Density design puts maximum number of gates in minimum rack space
- Six independent noise gates in a single package
- Balanced Inputs and Outputs
- Fast, low noise circuitry
- Sidechain/Key Input points on each gate
- 'Industry Standard' controls
- Hardwire Bypass switch on each gate
- Security cover available

EQ60 DUAL CHANNEL GRAPHIC EQUALIZER



Features:

- 30 maximum throw, well damped, centre grounding, premium quality sliders per channel
- Ultra low noise 'Constant Q' circuitry
- Balanced Inputs and Outputs with both XLR and Jack connectors
- Switchable 6dB or 15 dB cut and boost
- Switchable High Pass filter
- Audio Ground lift switch on rear
- Hardwire Bypass switch
- Attractive brushed aluminium front panel
- Security cover available

All ARX products are designed to have intuitive, 'user friendly' layouts for ease of use. Their 'Industry Standard' controls mean that you can start using them straight out of the box, without having to learn a whole new way of doing things. Couple this with their innovative design and precision electronics, and you have a complete range of Pro Audio equipment designed to give superlative performance on any audio environment.

For more details, please contact:



24 New Industrial Road, #04-02,
Pei Fu Bldg, Singapore 1953
Phone or Fax [65] 289 2849

Peripherals, Dedicated Sequencers, Computers and data storage devices (with the exception of ATARI all other Computers require a special MIDI interface) Now with so much of gear boasting MIDI the possibilities in the music field have become mind-boggling, requiring very scientific and technical abilities. Therefore it is very important to maintain a reasonable balance between the Musical and Technical. So in MIDI land keep sight of the Music, always.

D - DIGITAL

Digital is really the least important so far as learning about MIDI and your everyday dealing with it. It is enough to say that "Digital" is the language, MIDI devices use to communicate with each other. However, it is relevant to say that it is in this area of communication that MIDI is known to have some minor deficiencies, the most common and the one you are most likely to face is MIDI delay. This problem is minimised or solved with a MIDI Patch bay/Terminal or a MIDI Thru box/Splitter.

I - INTERFACE

Lastly Interface, relates to the Hardware i.e. the MIDI ports IN, OUT and THRU (Fig.1 a) found on a piece of equipment claiming to be MIDI address-

THRU it is possible to connect an endless number of Synthesizers, Modules, Drum machines etc., it doesn't work because of problems like MIDI delay (discussed earlier) and the chances of MIDI Information getting weak and garbled along the way. Therefore, with the help of the MIDI THRU it is safe to operate upto 2 or Maximum 3 instruments connected to one Master Controlling Instrument (Fig. 1 b) Sequencer or Computer. Another part of the Interfacing Hardware are the cables used to connect or interface various MIDI equipment with each other. MIDI requires a 5-pin DIN connector on both ends out of which only 3 pins are used. (Some manufacturers are known to short the remaining 2 pins and this sometimes caused problems in MIDI land)

HOW IT WORKS

In order to gain a sufficient working knowledge of MIDI, it is necessary to state here, (for what strange reason I don't know) that MIDI has been most extensively and thoroughly developed for KEYBOARD Synthesizers or Samplers. Therefore, we will try to understand MIDI from the view point of a keyboard Synthesizer. Unfortunately there are no short-cuts in learning MIDI for instant gratification, as the various complexities and concepts

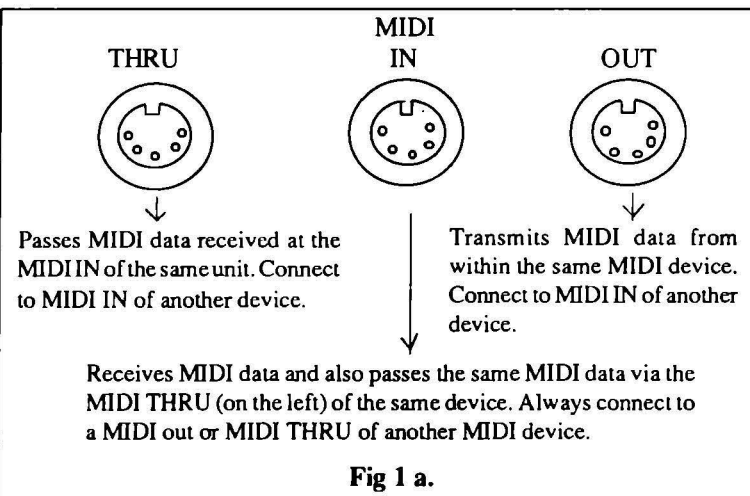


Fig 1 a.

able.

The MIDI IN receives MIDI messages, the MIDI OUT transmits MIDI messages and the MIDI THRU Port is only used to pass on whatever MIDI information is received via the MIDI IN of the same piece of equipment.

Theoretically, with the help of the MIDI

of MIDI require atleast a basic understanding. THE MIDI STANDARD All the Manufacturers of MIDI equipment have agreed to standardise the working and operation of MIDI so that their MIDI devices are compatible and can exchange information with each other. This is known as the MIDI STANDARD.

SYSTEM EXCLUSIVE

Other MIDI information that can't be standardised (like the tone settings of a particular synthesizer) are known as SYS-

TEM EXCLUSIVE i.e. information exclusive to that MIDI device.

A part of the MIDI STANDARD is the language used for MIDI equipment to communicate with each other. All kinds of Musical events (like pressing a key on a Keyboard Synthesizer or turning of the pitch bender) are given a status Code along with some value (i.e the note which was played F# or A and with what velocity it was played) which is passed down the MIDI cable. Every note is coded in a special manner. Everytime you play a note a NOTE ON command is sent out to the instrument that should produce the sound. This makes that particular note play with a particular velocity until a corresponding NOTE OFF command is received by that instrument. If no NOTE OFF command ever shows up then the note will sound forever. This kind of sustaining note is one of the common problems of MIDI. Therefore every NOTE ON has to be matched with a NOTE OFF command. So with the help of MIDI a lot of musical events can be transmitted from one instrument to another. Among these are the notes and their velocity, keyboard pressure, pitch bend, programme change (switching to another programme, patch or tone on another instrument) and Modulation.

CONTROLLERS:

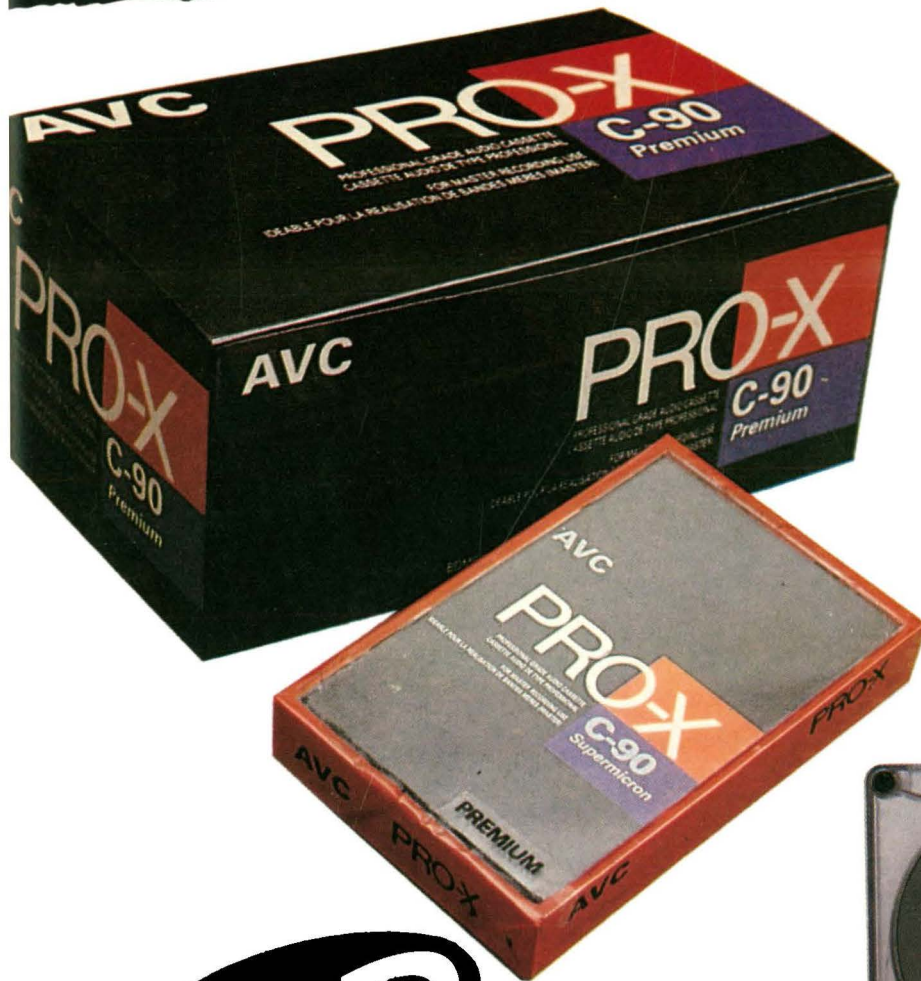
Another part of the MIDI Standard is Controllers. Everything that you can use to articulate a note of music played (except velocity, pressure and pitch bend) are known as CONTROLLERS. A list of Controllers with their respective Controller Numbers have been agreed upon as MIDI STANDARD.

Although the range of this control number list is from 01 to 95 certain sequencers and other devices have a range of upto 123.

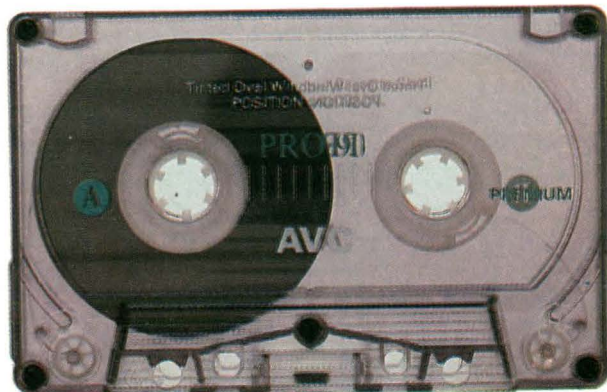
All the remaining numbers other than mentioned in the list have no "approved" accepted function as yet. They are there to provide flexibility and accommodate future MIDI Standards.

MIDI CHANNELS

Another very important part of the MIDI Standard are the MIDI channels. This very important and slightly difficult con-



**No Jamming.
No Vibration.
No Distortion**



Ideal for recording **CD**

AVC PRO-X[®]

BLANK AUDIO CASSETTES

RANGE OF PRODUCTS

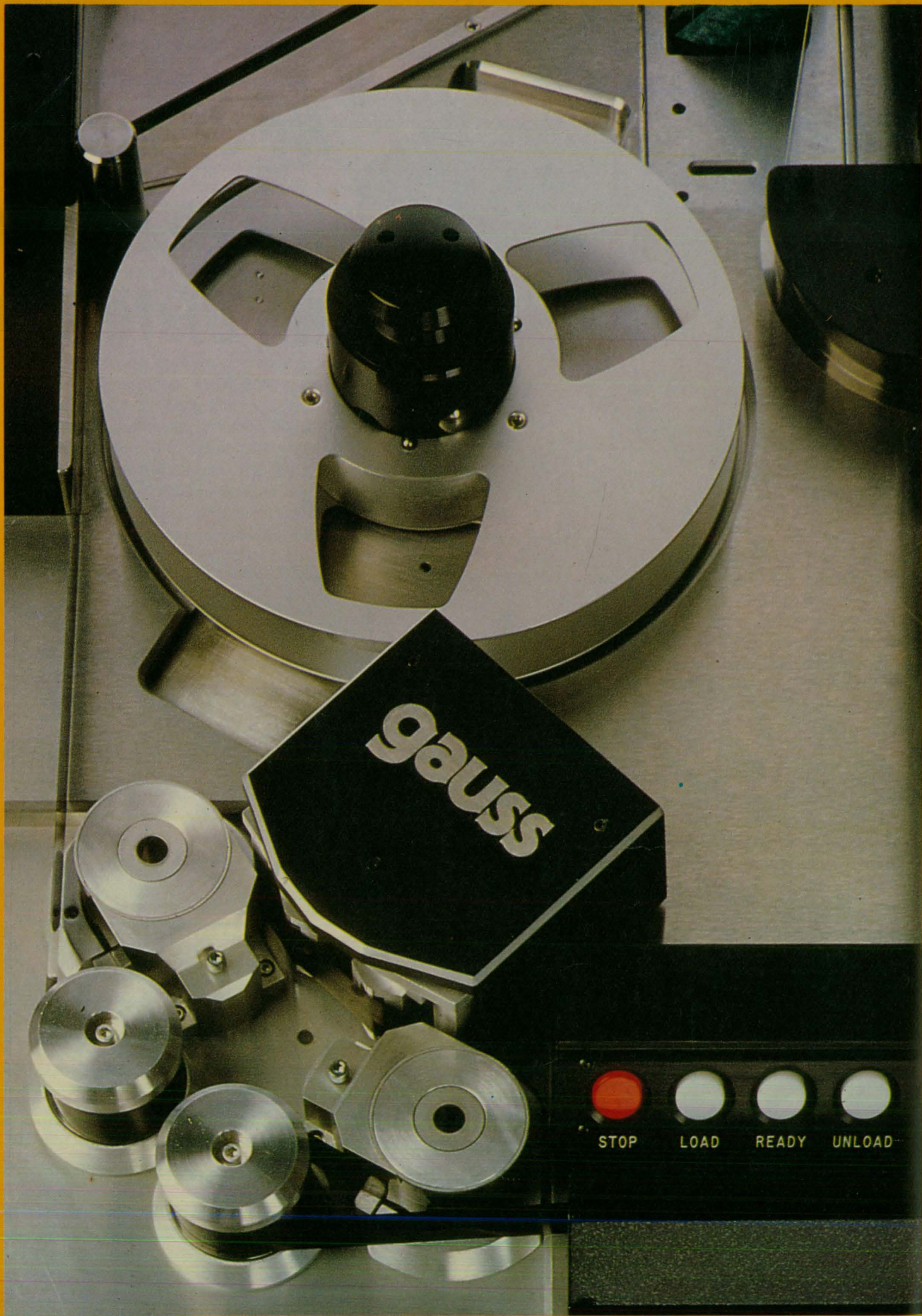
- STANDARD AUDIO HEAD CLEANING CASSETTE
- PREMIUM AUDIO HEAD CLEANING LIQUID
- PREMIUM AUDIO HEAD CLEANING KIT
- AUDIO HEAD DEMAGNETISER
- AUDIO CASSETTE ERASER
- COLOURED T.V. TUBE DEGAUSSER

NEW PRODUCTS

- C-90 STANDARD
- C-60 COBALT (IN AN EXTRA SLIM COVER)
- C-90 COBALT (IN AN EXTRA SLIM COVER)

FOR TRADE ENQUIRIES & TRADE CONTACT

AVC CORPORATION
52-D JYOTI ESTATE, (CHOTANI BLDG.) PROCTOR ROAD, BOMBAY - 400007 INDIA.



gauss



STOP



LOAD



READY



UNLOAD

I have one

gauss

Setting the standards

Gauss. A MARK IV Company. 9130 Glenoaks Boulevard, Sun Valley, California 91352. Phone (213) 875-1900
Telex: 194989 Fax: (818) 767-4479. In India: Orange Pale, Professional Audio, 203 TTK Road, Alwarpet,
Madras 600 018. Fax / Phone: 91-44- 456913

OTARI®



- OTARI'S SPACIOUS AND ELEGANT OFFICE BUILDING IN SINGAPORE
- SPECIAL WING EXCLUSIVELY FOR TRAINING ENGINEERS FOR TECHNICAL SUPPORT
- FIRST ENGINEER FROM 'PACE' HAS RECEIVED EXTENSIVE TRAINING ON ALL OTARI MACHINES THREE MORE ENGINEERS TO BE TRAINED IN NEAR FUTURE
- FURTHER OTARI'S JAPANESE ENGINEERS WILL ALSO VISIT INDIA REGULARLY TO CHECK ON CONDITION OF MACHINES
- 'PACE' HAVE ALREADY STARTED STOCKING AND SUPPLYING CRITICAL SPARES AND ALSO OFFER COMPLETE CONSULTANCY FOR SETTING UP DUPLICATING PLANTS

FOR QUALITY * FOR RELIABILITY * FOR VALUE FOR YOUR MONEY
FOR TECHNOLOGY YOU CAN TRUST * THE ONLY PROVEN
CHOICE IN INDIA * OTARI

TECHNOLOGY YOU CAN TRUST

OTARI®

FOR FURTHER ENQUIRIES CONTACT AUTHORISED SERVICE CENTRE

OTARI SINGAPORE PTE. LTD.

40 MacTaggart Road Singapore 1336
Tel: 284 7211 Telex: RS 36935 OTARI
Sales & Admin. Dept. Fax : 284 4727
Spare Parts & Service Fax : 284 1847

PRO-AUDIO CONSULTANTS & ENGINEERS

2, 'Krishna' St. Anthony's Road, Near Kalina Junction, Santacruz (E), Bombay 400 098
Tel: (+91-22) 615 0397 Tel: Res: (+91-22) 649 2715 Fax: (+91-22) 611 9614

MIDI

Number	Controller	Number	Controller.
1	Modulation Wheel	66	Sostenuto Pedal
2	Breath Controller	70	Patch Selects
4	Foot pedal controller	92	Tremolo
6	Data entry slider	93	Chorus
7	Volume	94	Celeste
65	Sustain Pedal	95	Phaser

cept of MIDI channels may take time to understand, but it is worth the effort to enjoy the full potential of MIDI.

All the MIDI information discussed earlier like NOTE ON/OFF, Pitch-bends or Controllers are always sent or trans-

mitted via one of the 16 channels that the MIDI standard has established so far. Musically, the MIDI channel system is designed to direct different parts of your MUSIC to different instruments. For example: you can have a Flute melody on MIDI Channel 3, Piano chords on MIDI Channel 5, Bass line on MIDI Channel 7 and Drums on MIDI Channel 10. Feels a

lot similar to a Multitrack tape recorder. Though conceptually similar, there are a lot of advantages and plus points in favour of MIDI, as you will see when we get to discussing "Sequencing" and MIDI Recording later.

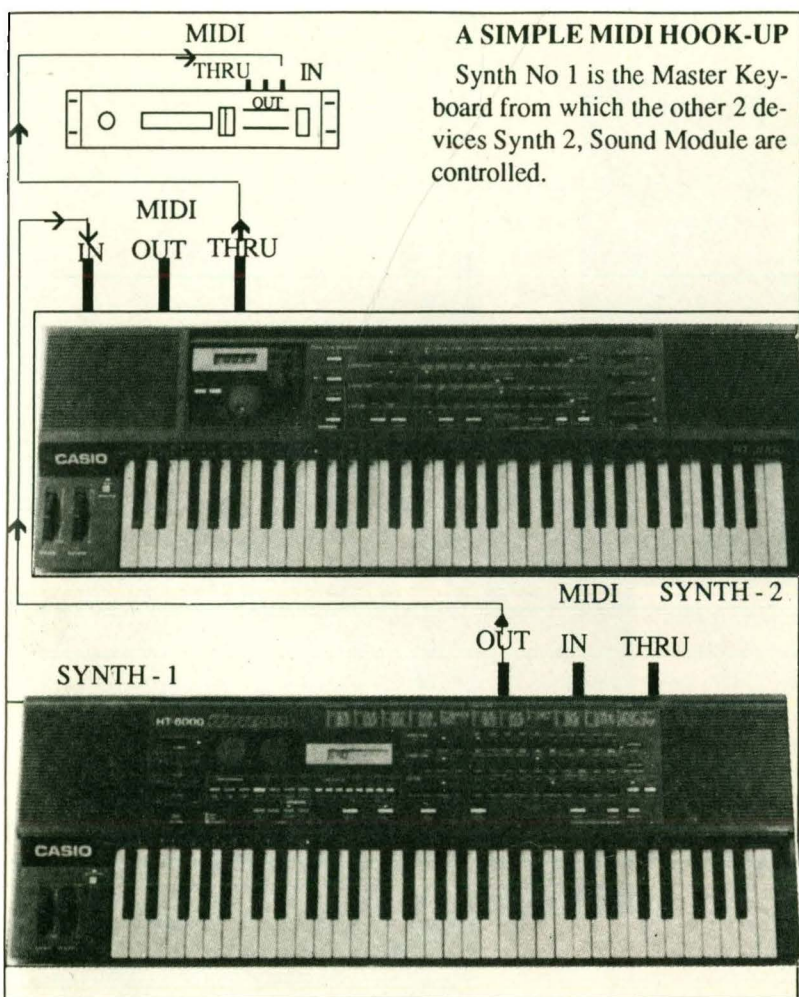


Fig. 1b
mitted via one of the 16 channels that the MIDI standard has established so far.

Musically, the MIDI channel system is designed to direct different parts of your MUSIC to different instruments. For example: you can have a Flute melody on MIDI Channel 3, Piano chords on MIDI Channel 5, Bass line on MIDI Channel 7 and Drums on MIDI Channel 10. Feels a

or not.

Just like TV, You have all the different stations coming down into your antenna, and you decide by pressing buttons on the TV which channel you want to look at. All others are ignored.

Each single note that comes out of a MIDI device incorporates a MIDI-Channel number, If you set your synth to MIDI-

channel 1, all the notes coming out will have MIDI-channel 1 as part of their values. Sometimes you can make an instrument send on two or more channels, and many synthesizers and samplers can receive information on several MIDI-channels at the same time, and direct them to different sounds. If they have this ability, you say that they are multiimbral.

MIDI MODES

This is yet another part of the MIDI STANDARD. If an instrument is set to receive on all MIDI-channels, you say that it is in Omni mode. If it is set to receive on one MIDI channel only, you say that it is in Poly mode. If it receives on many different MIDI-channels but only monophonically (one note at a time) on each of them, it is set to Mono mode. And lastly, if it can receive polyphonically on several MIDI-channels it is set to .. well, there is no real official name of this, but it is usually called Multi mode. Most MIDI-equipment can be set to one of these modes from the outside, via MIDI.

OTHER MIDI CODES

Other parts of the MIDI specification are not sent on any particular MIDI-channel. These messages therefore affect all units in a system, regardless of what MIDI-channel they are set to. Such information is MIDI-clock, that for example make two drum machines play in sync, Song Position Pointer which tells MIDI devices where in a song they are, commands for Start, Stop, Continue and so on.

Each Note (or other event) has its MIDI-Channel coded into it and it is the receiving unit that determines if it is to play the note

Another part of the MIDI specification is System Exclusive. This is used for information that can't be standardized, like the settings of a synthesizer. Each registered MIDI manufacturer has an ID code. When a System Exclusive followed by this ID-number is sent out, any information in any format can follow. This allows each manufacturer to transmit and receive information that only relates to that brand or model. It is mainly used for dumping presets and reprogramming synthesizers via MIDI.

MIDI IMPLEMENTATION CHARTS

Exactly how much of the MIDI Standard that is implemented in an instrument can be found on a MIDI Implementation Chart that usually is included in the instruments' or devices' Operation Manual.

DUPLICATING SUCCESS

with Lyrec products today . . .

& tomorrow



For succesful duplication solutions, perhaps you should take a closer look at Lyrec.

We supply full line systems and take pride in giving top quality support.



LYREC MANUFACTURING A/S
Box 123, (Mileparken 22), DK-2740 Skovlunde, Denmark
Tel +45 44 53 25 22 · Fax +45 44 53 53 35 · Tlx 37568 Lyrec dk

LYREC SINGAPORE PTE. LTD.
Globe Magnetic Sciences Pte. Ltd
514 Chai Chee Lane 06-16
Bedok Industrial Estate, 1646 Singapore
Tel: +654497700 · Fax: +654453339 · Telex 08736963

LYREC TECHNICAL SERVICES INDIA
D-64, 3rd floor, North Bombay Society, Juhu Road, Juhu, Bombay 400 049
Tel: +91 22 614 4080 · Fax: +91 22 611 5153



THE MOST RELIABLE GULF CONNECTION

FOR

LICENSING - PUBLISHING - DISTRIBUTION DUPLICATION - PROMOTION - MARKETING

VANILLA MUSIC OF DUBAI

MANUFACTURE

Vanilla Music is the only legitimate and professional Audio Cassette duplicating plant in the United Arab Emirates. The plant is managed by experienced professionals from the Music Industry, producing high quality music cassettes to international standards.

SERVICE

Vanilla Music offers the most comprehensive service in Audio Cassette Duplication. Mastering - High speed, loop-bin duplication. Multi-colour, on-body printing. Automated packing. Full inlay print service at a competitive price. Servicing Gulf and International Licensees.

DISTRIBUTION

Distribution at it's best. Vanilla Music is currently the leading stockist of Compact Discs and Music Cassettes and the exclusive distributor of independent labels in the Gulf region, offering excellent service, customer satisfaction, competitive price and complete Gulf coverage.

MARKETING

Vanilla Music provides unrivalled marketing expertise and market place intelligence. Backed by a professional marketing team.

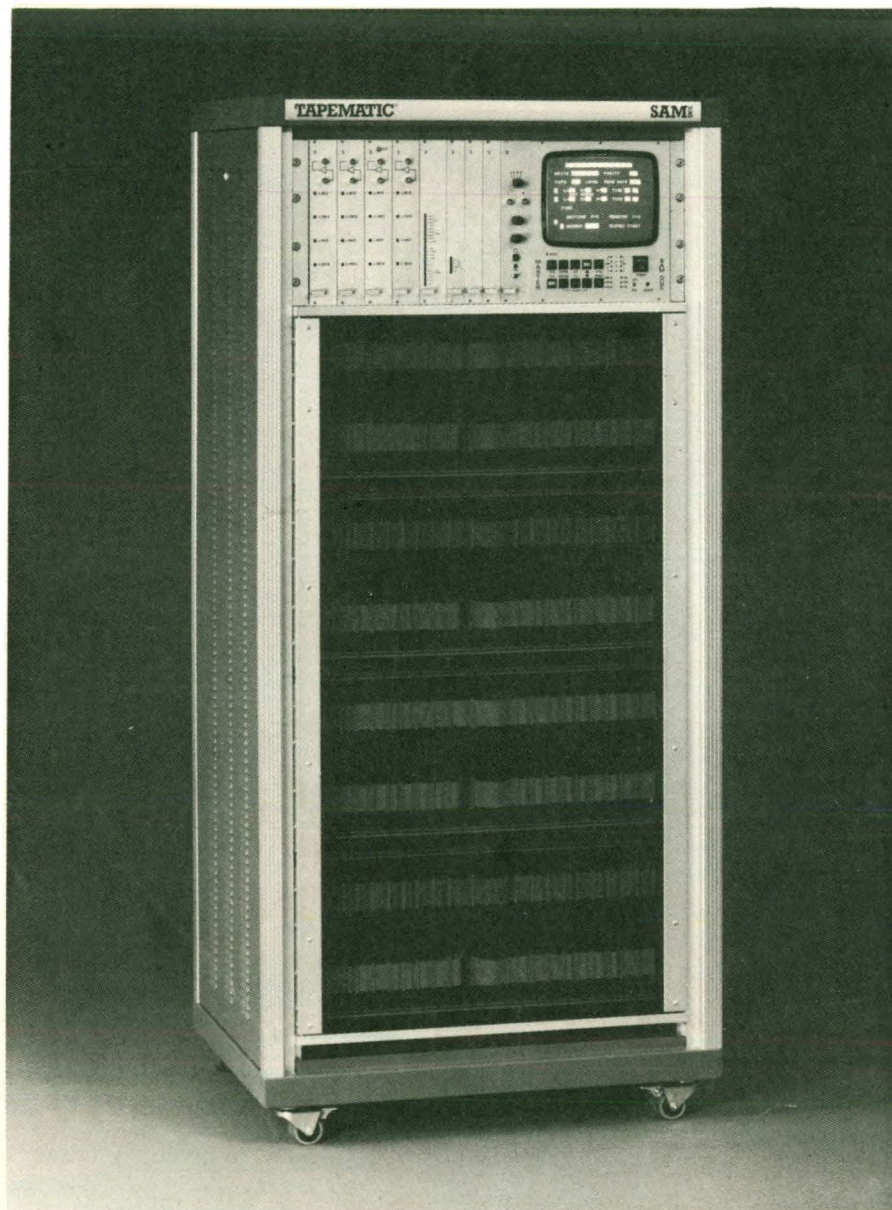


CONTACT: **VANILLA MUSIC**

P.O. BOX 50206 DUBAI UAE. Tel: (+9714) 824314 - Fax: (+9714) 824055

The Revolutionery Loopbin Replacement!

Tapematic's Static Audio Master or The Digital Bin



Static Audio Master (SAM)

Since its birth over 25 years ago, the biggest single problem in high speed audio duplication has always been the loopbin master, and its associated master tape. During the sixties and early seventies the duplication ratio increased from 4:1 to 32:1, allowing a higher output production from each slave unit, with the master tape being recorded at 7 1/2

ips.

The first 64:1 duplicators reduced the master tape speed by half to 3 3/4 ips and with it the maximum possible quality obtainable from the master. Later loopbins were designed to accept the 7 1/2 ips master tape, by functioning at a speed of 480 ips to arrive at the 64:1 ratio.

But this brought about new problems such

as tape to head contact, azimuth, tracking, image shift, kissing and oxide build up, not to mention the rapid destruction of master tapes.

To overcome these inherent problems a new approach was necessary.

The road was very long and full of obstacles, but the results can be heard and appreciated by everyone.

To understand just one reason why cassettes duplicated from a Static Master, sound like they do, it is necessary to go back to basics.

The music cassettes production process generally begins with two stereo programmes recorded in an analogue form at a tape speed of 15 ips. They are then copied onto another tape called the "Master", which is generally 1/2" with four tracks, two for programme A and two for programme B, the latter recorded in the opposite direction. This operation has to be carried out with the greatest of care, to ensure that the end of programme A coincides with the start of programme B, so that the final cassette has the minimum blank listening time.

This master in the form of a loop is made to run at a multiple of the recorded speed ($7 \frac{1}{2}$ ips \times 64 = 480 ips), while the slave runs at a speed which is an equivalent multiple of the nominal speed ($1 \frac{7}{8}$ ips \times 64 = 120 ips). In analogue recording the signal recorded on tape has two types of background noise. One type is continuous throughout the recording, and is the well-known noise = N, and the other is present only with the signal and is much more difficult to measure, and is known as DC noise = DCN. The first N forms on the tape as soon as the bias is present. It is constant and audible, and can be measured during the pauses and every time there is no sound.

The second DCN represents the measure of discontinuity and the difference between individual magnetic particles of the tape.

This noise is more difficult to hear, but "dirties" the sound.

And as it is determined by the static distribution of the magnetic particles, it proportionally increases as the recording track decreases.

This DCN noise also appears in the recording of music cassettes, although to a slightly smaller extent, due to the smaller size of the magnetic particles made necessary by the speed of the tape.

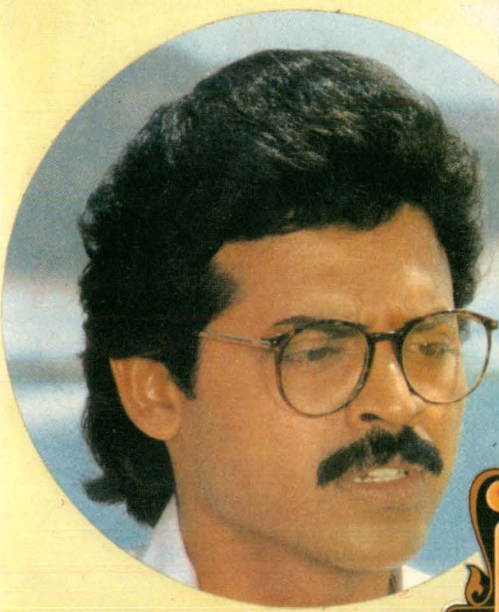
The possibility to obtain music cassettes

ADVERTISERS INDEX

Advertisers	Page No.	Advertisers	Page No.
ATB Italy	2	Screen World Bombay	63
ARX Australia	49	Super Music Madras	37
ADTEC Germany	48	Super Recording Madras	43
AVC Bombay	51	Tapematic Italy	45
Benelux Hong Kong	1	Tips Bombay	13
Chika Ltd. Bombay	3	Vanilla Music Dubai	57
Coney Madras	74	Venus Bombay	27
Exhibition India Delhi	71	Versadyne USA	47
Gauss USA	52 & 53	Vibrations Delhi	7
General Magnetics Singapore	4	Vijayta Bombay	101
HML Madras	65	Amicron Magnetics Delhi	28
Jet Speed Bombay	29	AKG Delhi	30
JSA Bombay	104	Broadcast equipments Delhi	31
Kapco Delhi	17	Electromag Bombay	79
Leader Delhi	Back Cover	Neutrik	61
Leybold Germany	Inside Front Cover	Rita Pad Delhi	62
Lyrec Denmark	56	Surya Madras	59
M. G. Plastics	46		
Meltrack Madras	68		
Otari Singapore	103		
OD & ME USA	104		
Pro Audio & Light Asia Hong Kong	54		
Prosound Bombay	97		
Rajes Art Bombay	81		
Sagarika Bombay	60		
Sanket Bombay	Inside Back Cover		
Saicom Bombay	91		

Advertisement Rates

	US \$	Rs.
Full Page Colour	500	9,000
Half Page Colour	315	5,625
Quarter Page	190	3,375
Column	240	4,275
Black & White		
Full Page		5,200
Half Page		3,250
Quarter Page		1,950
Column		2,470



Our **SURYA RECORDING COMPANY** glitters and dazzles in the horizon of azure sky of Audio world.

In 1992

Out of 105 Telugu feature films released, only 16 are hit's out of these hits, Our Surya bagged the Unique credit of releasing audio cassettes of 12 films which have both artistic as well as good musical values.

Our **SURYA** is advancing a step further to embark on our plan to produce Two feature films in Telugu in 1993 under the direction of noted Directors.

Surya Symbolizes sunny excellence



సూర్యరకాండ్

కె.రాఘవేంద్రరావు, కె.వి.నిశ్చలారాయణ



PRODUCED & MARKETING BY

Surya RECORDING COMPANY LTD.

VIJAYAWADA-2. ☎ 68121

HYDERABAD-44. ☎ 661624

MADRAS-17. ☎ 883555





We have the Best Machines and The Best Team for Audio Cassette Duplication **Sagarika** - Pioneers & Professionals



At Sagarika we believe in the philosophy of being No.1. Speak of quality or quantity.

Services we offer:

■ Recording in 1/2" - 100:1 Lyrec - (Denmark) Duplicating System with Dolby HX Pro.

■ Submastering in worlds best professional Tape Recorder - Studer A 820 MR at 3 3/4" P/S for quality as

good as 7 1/2" P/S.

■ Loading in highly sophisticated fully automatic Cassette Loader which takes care of jamming, length error and other C-O defects.

■ We print label informations on your cassette in-house.

■ We can deliver any quantity at shortest period to keep up with your release date.

■ The cassettes delivered by us are ready for the ultimate consumer.

Sagarika - the pioneer of Audio Cassette Duplication Industry. Come to Sagarika for valuable advice on your duplication problems. The best professional team will provide the ideal solutions.

Duplication Services. The Best



Sagarika

DIGITAL MASTER

$\sqrt{\text{original}^2 + \text{Master}^2 + \text{cassette}^2}$ dB 45.6

maintaining all the dynamics the cassette tape allows.

This explains why sound loaded directly from digital sources gives a far better quality of audio on the cassette.

If DC Noise is not calculated, but only Noise, as is normally the case, the calculation becomes:

Original N = dB -64.5

Master tape N = dB -64

Cassette N = dB -56

$\sqrt{N \text{ original}^2 + N \text{ Master}^2}$ = dB -61.23

$\sqrt{N \text{ original}^2 + N \text{ Master}^2 + N \text{ cassette}^2}$ =
dB -54.8

with an apparent loss of only 1.2 dB.

This value does not account for the fact that when the Static Master is loaded from a digital source the sound on the cassette is much clearer.

Another important consideration is that all analogue recordings are affected to a certain extent by wow and flutter due to the inevitable mechanical imperfections in the tape hubs, the elasticity of the tape itself, the variations in the tape surface friction etc.

Especially when these are periodic, and they always are, they give rise to at least two side bands alongside each frequency.

These side bands, which are not harmonic

with the respective frequencies, help to "dirty" the sound, although it is not possible to measure them, as it is not possible to know at all times how many frequencies, fundamental and harmonic, are present in the recorded sound. However a cautious guess is that they constitute an average of approximately 3 dB, even if the total wow and flutter is less than 1%.

This defect is completely absent from the Static Master which, as previously mentioned, has no moving parts and no wow and flutter.

However the Static Master also offers very significant practical advantages when compared to the traditional loop.

The original programmes, can be loaded either at normal speed (1x) or at a multiple of it, up to a maximum of 32x, and the two programmes can be loaded simultaneously. For example, two programmes each lasting 30 minutes can be loaded in 56 seconds, using factor 32x and it is not important which direction a programme is loaded in.

It is possible to listen to the programmes being loaded at any moment at nominal speed (1x). This allows for any kind of monitoring, including quality control, of the programmes being processed.

The alignment of the two programmes (coinciding the end of programme A with the beginning of programme B) is also carried out automatically.

The cue-tone is also automatically generated at the required frequency and level. Its

music cassette tape position with respect to the programmes can also be fixed as one wishes, which means that the loading machine stops and cuts at the desired point.

A digital system has to have precisely determined sound levels, so that the peaks do not exceed the limits of the system.

The normal VUM instruments are not good enough for this, because of their inertia and the fact that their indication only takes into account the RMS value. This normally means that it is necessary to leave a margin of at least 14 dB between the indicative level of the VUM and the saturation levels of the system.

This margin diminishes the signal/noise ratio (S/N) and it is not normally known whether it is in fact occupied by the signal peaks or whether instead the nature of the signal would have made it possible to increase the level.

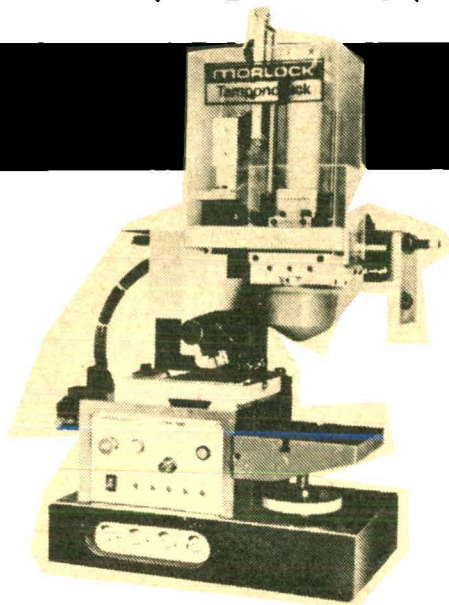
The Static Master automatically monitors the level during programme loading and gives a warning in the case of excessive ripple, also indicating how much the level must be reduced in order not to exceed the system capacity.

All the slave controls are automatically transmitted by SAM which positions them at the required speed factor, fixes equalizing, starts them, counts production has been completed.

The system has been designed to be able to duplicate cassettes up to C120 with any speed factor, up to 128x.

**WHY DO
WESTON, SUPER CASSETTES, TEXLA, KAPCO,
SUPREME, FALCON, ARORA ENTERPRISES
AUDIO FINE, BAPU, BILLBIRD, GANTHARVA
AND OTHERS
USE OUR PAD PRINTING SYSTEMS ?**

**BECAUSE ONLY WE OFFER TOTAL RELIABILITY AND
PERFORMANCE IN AUDIO CASSETTE PRINTING.**



**RITA PAD PRINTING SYSTEMS
WITH THE TECHNICAL EXCELLENCE OF
MORLOCK TAMPONDRUK SYSTEME, GERMANY**

Machines that print high resolution images. Machines that print in full colour on any irregular shape. Machines that give to you a solution for all your Pad printing problems. Machines that have a fantastic versatility to meet your every need. MTM Machines that integrate into different printing systems.

The MTM 100/150 Pad Printing Machines with German know-how, guaranteed to give you fail proof quality, which increases your production and cuts down on labour cost.

**RITA
PAD
Printing-Systems**

RITA PAD PRINTING SYSTEMS

E-42/3, Okhla Industrial Area Phase-II, New Delhi-110020. INDIA.

Tel.: 6474644, 6444320 Fax : 6444320. Tlx.: 75209, 75393

14TH YEAR OF PUBLICATION

1980-1993

YEAR BOOKS MAY COME

YEAR BOOKS MAY GO

ONLY SCREEN WORLD

ANNUALS

GO ON FOREVER !

**NOW ON
SALE**

Buy your
copy
today,
tomorrow
may be
too late

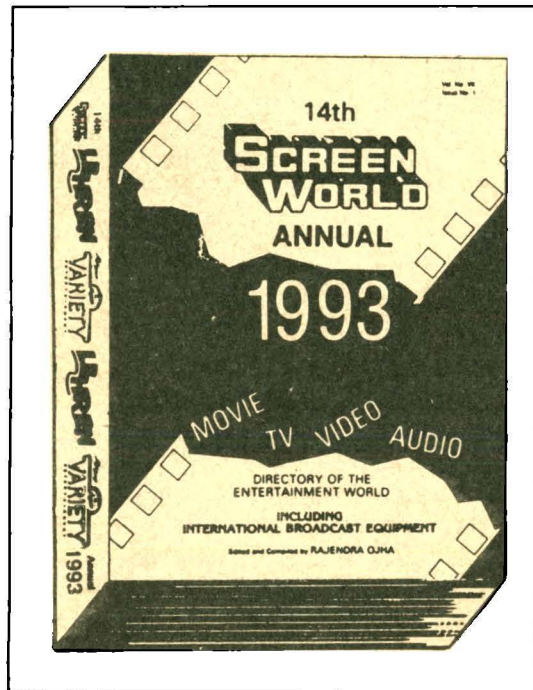
THE LATEST

14TH

**SCREEN WORLD
ANNUAL**

1993

Revised and up-to-date with the correct addresses and telephone numbers of each and every person and concern in the entertainment world, details of shooting facilities for production and post-production and an informative new section - INTERNATIONAL BROADCAST EQUIPMENT



Remember :

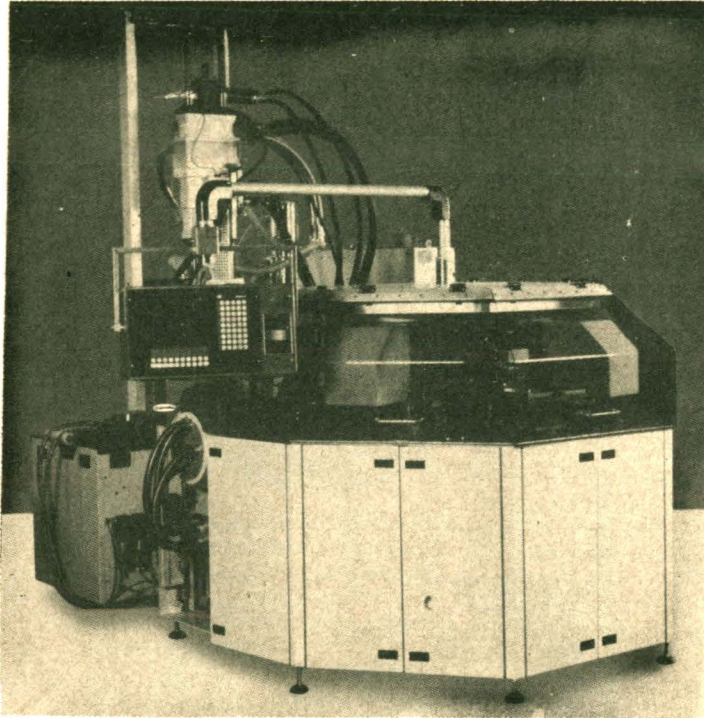
Only Screen World Annuals provide readers with all the latest developments and information including the ever changing Bombay Telephone Numbers.

Edited and Compiled by
RAJENDRA OJHA

*Price Rs. 450/- +
Postage Rs.20/-*

Screen World Publication: Prakash Photo Studio, 295,
NC Kelkar Road, Dadar, Bombay - 400 028. Phone : 806 2244, 805 2758

ODME - The Monoliner MK IV



ODME, the inventor of the Monoliner, introduces the fourth generation of Monoliners, the Monoliner MK IV. Of course, this Monoliner MK IV retains all advantages of the Monoliner concept, but this new generation is distinguished from previous Monoliners by several features. The Monoliner MK IV introduces such key aspects as; single central handling system, a very efficient and reliable handling of all processes, user-friendliness, compact size and shape and quick-change slide moulds.

The Monoliner MK IV has all the advantages of the Monoliner, such as a faultless operation in a normally clean office environment and a reduction of personnel. However, in addition to these advantages, the Monoliner MK IV has some special features.

The heart of the Monoliner MK IV is a cam-driven central handling system, which ensures a high level of dependability. The central handling system accurately transports the CD's trough the various process modules. The Monoliner MK IV is, namely, built-up of different modules. Each module handles a part of the CD-production process. All of these individual modules can be quickly and easy disassembled, which makes servicing of the Monoliner MK IV very simple. Thus, good maintenance of the machine is very easy for every customer.

Another important feature of the Monoliner MK IV is its compactness. The Monoliner MK IV, including a vertical injection moulding system, covers a total floorspace of 110

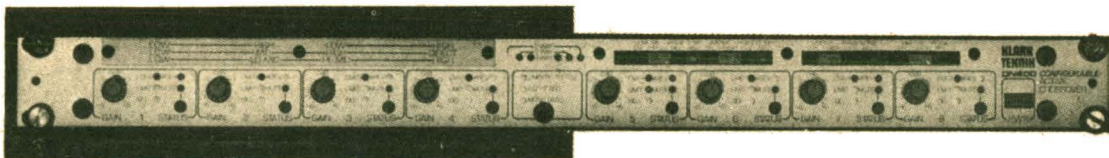
sq.ft. (10 m²).

The compactness of this Monoliner depends, of course, on the type of injection moulding machine that you use. Equally important is the rapid-action slide mould in combination with the print exchange. With this device, a title exchange can be accomplished within a matter of seconds. Thus, the production of small series is just as efficient as the production of large series. This is a big contrast to previous CD- replication systems, where it took almost fifteen minutes to change the title and printing label.

All of these special features make ODME's innovation revolutionary. ODME's product range, however, includes much more than the revolutionary Monoline technique. ODME handles all stages of optical data carriers: process for optical data carriers: pre-mastering, mastering, electroforming, replication, printing, packaging and quality control. So every aspect of CD-manufacturing is covered by ODME, a company that is just as multiform as its Monoliner MK IV.

For more information: **Hans Walters Marketing Communications** Tel: (+013) 0(40) -465555 Fax: (+013) 0(40) -465050

KLARK - TEKNIK DN-800



The latest addition to the well known Klark-Teknik range of processors is the DN-800 configurable active cross over.

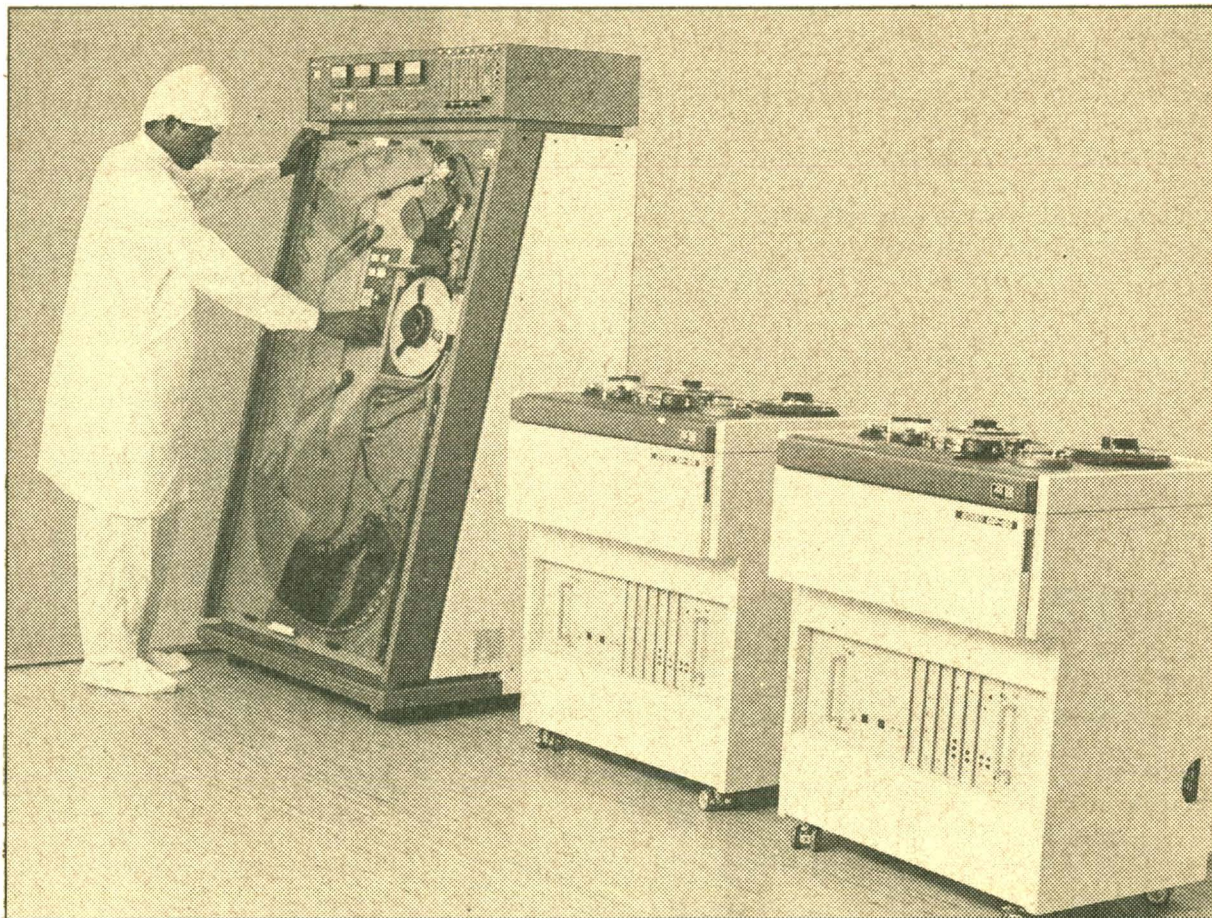
The DN-800 is a 1 U unit with modular eight frequency bands with four inputs and eight outputs, configurable stereo 4 way, stereo 3 way or 4 input 2

way. Separate plug in frequency cards provide for 12, 18, or 24 dB/oct slopes, plus the standard response curves.

Each output of the DN-800 has a phase reverse gain and mute control.

MUSIC NEWS Attention : Recording Companies

We offer you world class recording of your music on our tape.



Using Binloop Equipment from world leaders OTARI, Hindustan Magnetics Ltd. (HML), an international joint venture with world leaders, Du Pont De Nemours of U.S.A. offer you first time, the finest, super clarity, highest quality, recording facilities.

State-of-the-art, totally dust free, fully automated-untouched by hand, in the language of your choice. HML are also the proud manufacturers of TRITEC

audio cassettes, using both conventional ferric oxide technology as well as the highly futuristic Chromium Dioxide technology invented by Du Pont. (Double the clarity of ordinary tapes.)

So bring the musical giants of the silver screen to life! In international style! So rich and so clear! For a public hungry for quality sound. Pre-recorded by HML only! We add technology to talent! Contact:


HINDUSTAN MAGNETICS LIMITED

HML-We make your music come ALIVE!

TOOLEX ALPHA Optical Disc Plating System

Plating Vat: The unique construction of the Plating Vat with adjustable cathode shaft in conjunction with other parameters gives a superior thickness tolerance - better than ± 4 μm . The turn over of solution of the vat is 40 times/hour. The top cover lids are power operated. The cathode drive motor is of DC type and can be regulated 0-80 RPM.

Electrical Control: All electrical equipment not absolutely needed inside the clean room are located on the back of the plating unit and designed for easy service and maintenance.

Tank-Pump-Filter Unit All surfaces which are in contact with the chemical solutions are made out of polypropylene and titanium. The circulation pump is of immersion type. Filter cartridges in the dual filter system are easily changed. Automatic pH-regulation. Automatic temperature control through the use of titanium cooling lines and Teflon lined heating elements are standard.

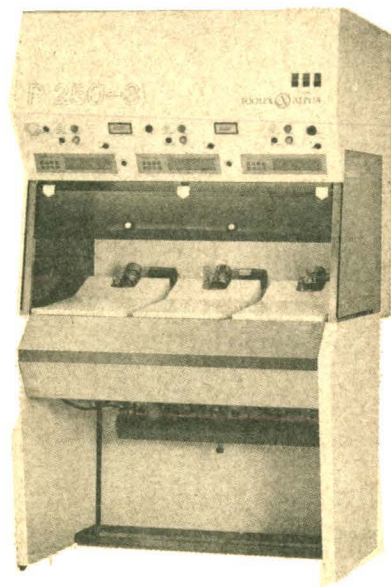
Over-Head Controls

- Following functions are placed on the over-head panel.
- Program selector (TAG)
- Bath temperature read out
- pH value read out
- Cathode motor selector manual/automatic
- Air filter fan speed regulator
- Top cover lid switch (up/down)
- Rectifier switches
- Emergency stop button

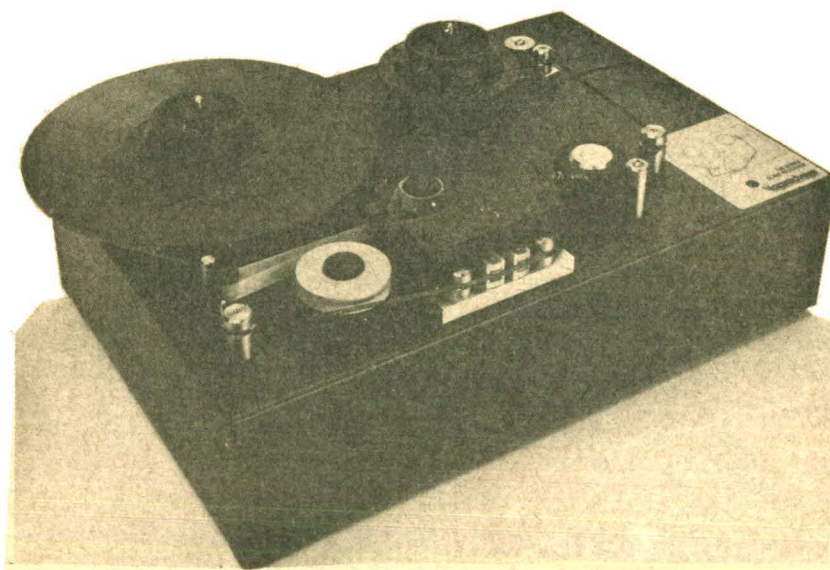
Liquid Control

Instrument for

- Temperature setting
- Temperature read out
- pH setting
- pH read out
- Flow read out
- Pump operation indicators
- Day and night switch
- Electrochemical cleaning (dammy plating) read out and setting



New, Low-Cost Duplicator Slave from VERSADYNE



CAMPBELL, CA - Versadyne International has introduced a new, low-cost slave recorder designed for use with the company's 1000 Series binloop master unit. Geared for simplicity and durability, the 600 Series slave offers "no frills" quality for budget-oriented duplicators who do not require the more extensive features found on the 1000 Series slave.

Despite its modest price, the 600 Series slave does not compromise the Versadyne commitment to reliability and full music-quality reproduction. Features offered on the 600 Series slave include Saki ferrite record heads, motorized tape wiper, and packer arm. The solid-state circuitry for switching on the capstan motor is located on a small PC board near the motor, providing quick access in the unlikely event servicing is required. Holdback tensioning for the supply hub is easily regulated by an adjustable clutch tension control located on the outside of the cabinet. Both top plate and cabinet are constructed from heavy-gauge steel to assure tape

path stability and long term durability. Tape speed is fixed at 60 ips for 32:1 duplication.

Because the 600 Series slave is housed in a compact and lightweight (35 lb) table-top cabinet, a system incorporating these units may be expanded, reconfigured, or relocated to a different facility with relative ease.

Professional user net price for the 600 Series slave is \$3950. A basic starter system incorporating a 1000 Series 1/4" master and two 600 Series slaves is priced at only \$24,950.

For more information, contact **Bob Kratt** at Versadyne International, 504-D Vandell Way, Campbell, CA 95008; telephone (408) 379-0900 or fax (408) 379-0902.

VIDEONICS Video Titlemaker Model TM-1

Amazing Resolution. Surpasses S-VHS/Hi8 resolution for ultra-smooth letters.

A Million Colors! Mix any color in the spectrum or choose patterns for titles, backgrounds, outlines, and borders!

48 Font and Size Combinations. Enhance fonts with drop shadows, outlines, several grades of bold, and more. Superimpose titles over video or color screens.

Scroll and Crawl. Each with 8 speed settings.

Special Effects. Use any of 20 effects-at any of 8 speeds-to fade or wipe between title screens.

Easy-to-use Full Keyboard. With special and international characters such as Ü, ñ, etc.

8000 Character Memory Arrange and store titles on hundreds of pages. Battery backup secures your work.

VIDEONICS

1370 Dell Ave., Campbell, CA 95008-6604 USA

Tel: 408-866-8300 Fax: 408-866-4859

AKG dbx - 165A



The latest offering from dBx is the 165A compressor/limiter featuring overeasy compression and RMS detector system pioneering the idea of true power summing for stereo tracking without waveform cancellation.

The 165A features the dBx VCA with nearly 140dB of decibel linear low distortion dynamic range. Apart from normal use in the studio the 165A is ideal for driving long lines from FOH mixers to the stage. The expanded scale analog metering provide engineers with a new look at what is really going on with their signal - information the usually flew by V.U. meters undetected.

In auto mode compressor attack and release time are determined by program material dynamics. In manual mode user

variable attack and release allows the 165A to be used as an ultra fast or slow RMS detecting limiter the compression ratio can be varied from 1:1 to ∞:1.

A separate detector input which enables an outboard processor to control the compression and gating and a 24 dBu input/output capability combine to make the 165A a versatile piece of equipment.

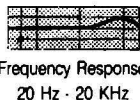
All dbx products are available in India on Rupee payment through

**AKG Acoustics (India) Ltd.
7th floor, H T House,
18/20 K.G. Marg,
New Delhi - 110001**



Japan also makes similar cassettes

Meltrack, India's largest selling audio cassette is a product of genuine Japanese technology.



Meltrack Cobalt DR-C is manufactured in a totally dust-free, sophisticated plant.



With a special Cobalt Oxide formulation. Which delivers flawless reproduction of music.

Plus, Meltrack has high tensile polyester film and completely balanced shells. Which ensure that your music is free from annoying distortions.



More important, Meltrack offers a warranty for immediate replacement*, should your Meltrack cassette ever give trouble.



And better still, you don't have to pay for Meltrack in Yen.

Meltrack. The best thing to happen to your system. And ears.



MELTRACK
Audio Cassettes

The Japanese cassette born in India

* Please note that cassettes are often blamed when the fault lies with dirty heads, capstans and pinch rollers. So please ensure that you keep your music system in good working condition. The Meltrack Audio Head Cleaner could come in handy.

Leybold launches "SINGULUS II"



Leybold launches a new sputtering system for CD's. Since its introduction less than 3 years ago and with over 200 installations, the productivity, reliability and compactness of the SINGULUS 130 has yet to be surpassed. But Leybold takes the next step by introducing the SINGULUS II; which is faster, smaller and with an even better price performance ratio.

- * Cycle time of 2.5 seconds (1,400 discs per hour)
- * One control cabinet and a floor space requirement of 0.60m x 0.55m.
- * Even fewer moving parts than the SINGULUS 130.

Contact :

LEYBOLD AG
 Coating Technologies Division
 Wilhelm-Rohn-Strasse 25
 P.O.B. 1555
 D-6450 Hanau 1.

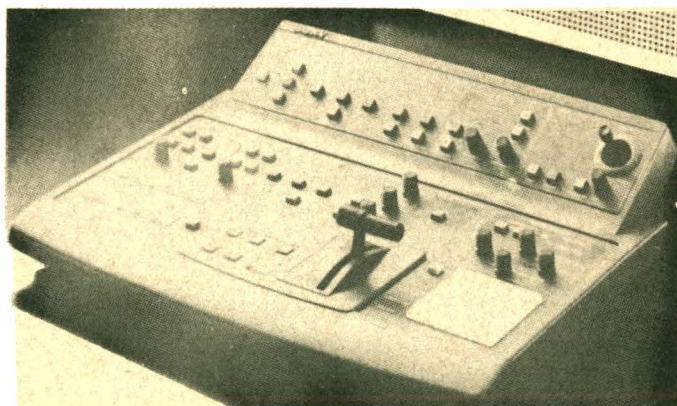
Sony DVE - DFS-500P

Principally the DFS-500P is a combination of four-input-switcher and digital effects system. Each input is given three connectors; Y/C (S-connector), **composite analog** (co-axial), and **component analog** (12-pin), and any signals can be fed to the four primary inputs in any combination. In other words, a mixture of Y/C, composite and component inputs can be processed simultaneously. The DFS-500P is equipped with **two frame synchronizers**, one each with the Fore Ground and Back Ground. Thus, non-synchronized signals such as direct outputs from VO U-matic and EVO Hi-8 recorders can be used for A/B roll editing without the need for external TBCs. The program output is also provided with the same three connectors, making it easy to be connected with any kind of VTR.

The signal processing is digital component with the sampling frequencies of Y : 908 fH and R-Y/B-Y : 1/4 (908 fH). The sampling frequency of Y signal is almost the same as the D-1 format, and that of the colour difference components is around half of D-1's. This assures the maximum picture quality of effects for a machine of this price range.

The DFS-500P is provided with all basic switcher functions so that it can be used as a live switcher as well as a production switcher to be used in an editing system. The effects transition can be executed from the Fore Ground to Back Ground and vice-versa by the manual fader lever control or in the auto transition mode. The manual fader gives you the freedom to carry out digital effects at a desirable speed and also to stop the motion in the middle of the transition. Independent matte generators can produce any colours as you like with variable controls of hue, gain and luminance. We hope now it is fully understood that the DFS-500P works as a four-input-switcher perfectly.

In addition, the built-in digital effects count more than three hundred including **non-linear effects** such as **page turn** and **sphere**. **Defocus** is also a standard feature of the DFS-500P which adds a flavour to the picture. The reverse function makes an effect happen both ways. For example, a picture can fly off the frame, and, with the reverse function, it can come back from outside to inside of the frame. The user **programmable function** memorizes size, position and axis of an



effect at several points and runs it smoothly along the trajectory. With the optional board, the BKDF-501P, fitted, more sophisticated effects of **lighting, trail** and **drop shadow** become possible. These effects can be fully adjusted by using the positioner.

For the use as a stand-alone switcher, the optional **Down Stream Keyer**, the BKDF-502P enables titling and such title can be processed with various effects the DFS-500P can offer.

In addition to the above functions, the DFS-500P has the following interface capabilities with Sony editors and the BVS-3000 switchers.

- 1: One-to-One Editing with the RM-450CE
- 2: A/B Roll Editing with the BVE-910
- 3: A/B Roll Editing with the BVE-910/BVS-3000

For further details contact:

New Video Limited
 X-7, Okhla Industrial Area Phase - II, New Delhi-110020
 Phones: 6830972, 630912, 6447572, 6439172

LEADER Component/HD Waveform Monitor Model 5100

Simultaneously Observed Component Signal and Composite Signal

The Waveform Monitor Model 5100 lets Users monitor the level and phase of an analog component video signal or the level of a composite video signal. This monitor can be used with analog component signals (525/60, 625/50), and HDTV signals (1125/60). You can monitor the waveform of a signal, vector of an analog component signal, and bowtie or timing of an analog component signal in the measurement mode. Moreover, you can measure signal levels in the cursor mode.

* Bowtie signal: USP 4,829,366 is used with permission of Tektronix.

Features

Can monitor an HDTV signal (1125/60), NTSC composite signal, or component signal (525/60, 625/50).

Having the HDTV, NTSC and PAL systems automatic discrimination function.

Can measure the delayed difference and gain difference of an analog component signal through bowtie measurement.

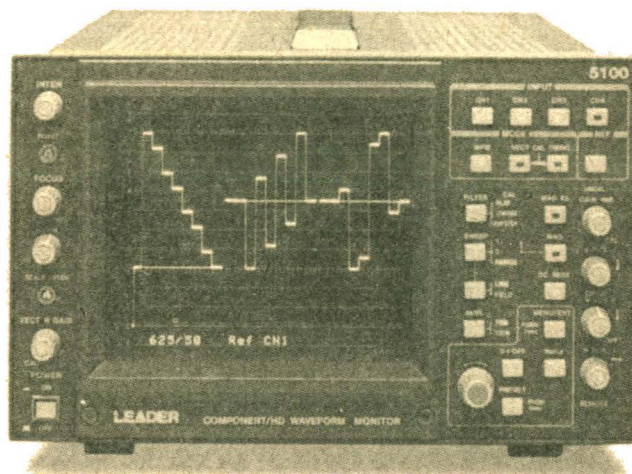
Having the HDTV, NTSC, and PAL systems automatic discriminating function.

Can easily measure a color difference signal using the vector display of an analog component signal.

Since the monitor simultaneously displays input signals from four channels, you can monitor component and composite signals at the same time, you can also use the monitor to observe composite signals input through the four channels.

Signal levels can be measured in cursor mode.

High-intensity, high-resolution CRT.



AC power range of 90 to 250V.

The monitor also operates on DC power (11 to 20V).

Preset programs can be remotely controlled.

For details contact:

LEADER + ARORA electronic center
N-122, Greater Kailash - I, New Delhi-110048 (INDIA)
Tel: 6411133, 6424159, 6433256.
Telex: 031-70148 Fax: 011-646-5297.

SYMETRIX 421 AGC Leveler



The 421 AGC-Leveler patches into your console path, setting the target output level causes signals below to be automatically boosted and signals above to be smoothly held back.

The 421 can also be used for brick wall limiting and downward expansion with Auto threshold. A set speech curve eg and parallel I/O metering are the other features.

The 421 finds use in dialogue and effects leveling in post

production, vocal or music dubs, etc.

For further details contact:

SYMETRIX
4211 24th Avenue West,
Seattle WA USA
Tel: 206.282.2555, 1.800.288.8855
Fax: 206.283.5504

ENVOY

Venus offers a mosaic of melodies to match your moods

<p>VENUS RECORDS & TAPES PRESENTS TESS MIRZA FILMS PVT LTD.</p>  <p>Music Nadeem-Shravan</p>	<p>DINESH PATEL'S</p>  <p>Music Nadeem-Shravan</p>	<p>LAWRENCE D'SOUZA S R FILMS PRESENTS</p>  <p>Music Nadeem-Shravan</p>
<p>KUSHAL FILMS</p>  <p>Music Anu Malik</p>	<p>Records, Cassettes & Compact Discs available at all leading music shops</p>	<p>AVINASH PRODUCTIONS</p>  <p>Music Laxmikant Pyarelal</p>
<p>K.C. SHARMA & BASANT LAL PRESENTS SHANTKETAN ASSOCIATES</p>  <p>Music Bhoopi-Ratan</p>	<p>SHREE DURGA LAXMI ENTERPRISES '91 PRESENTS JAWAHARLAL BAFNA'S</p>  <p>Music Dilip sen-Sameer Sen</p>	<p>CHIRAGDEEP INTERNATIONAL PAHLAJ NIHALANI'S</p>  <p>Music Bappi-Lahiri</p>

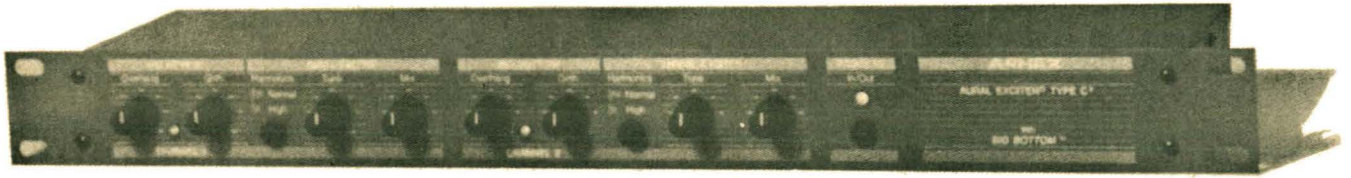
VENUS RECORDS & TAPES PVT. LTD.

"Shiv Sagar", Corner of A.B. Nair Road, Opp. Chand Society, Juhu, Bombay-400 049
Phone: 628 8220 • 628 8986 ■ Cable: MUSICTAPE ■ Fax: (9122) 620 5314



THE MARK OF GREAT MUSIC
Play safe, Buy VENUS

APHEX Aural Exciter Type C₂ with Big Bottom Model 104



The newest version of the Aphex Aural Exciter, the Type C₂, offers yet further improvements on the Aural Exciter circuitry making it quieter, more musical, and easier to set up and use. It also features Big Bottom, a new circuit which will revolutionize processing of low frequencies the same way the Aural Exciter did for high frequencies.

The Aural Exciter circuit splits the signal into two paths. One path goes to the output unmodified and the other path goes through an Exciter circuit and then is mixed back into the unmodified signal. The Exciter circuit is comprised of a high pass filter and a harmonics generator. The output of the Exciter Circuit has frequency dependent phase shift and amplitude dependent harmonics. The output of the Exciter Circuit is typically mixed into the unmodified signal 10 to 20dB lower in level. Even though this added information is such low level, the

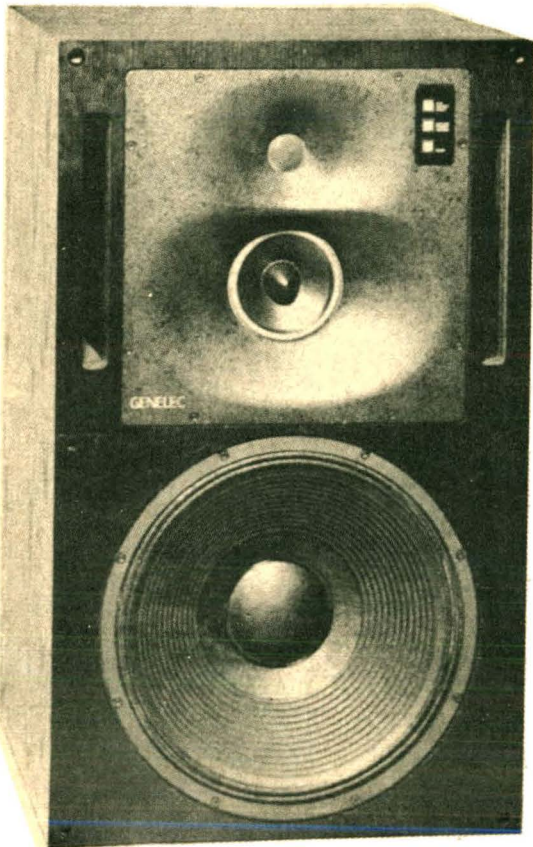
perception is a dramatic increase in mid and high frequencies.

Big Bottom increases the "perception" of low frequencies without substantially increasing the peak output level. It does this by dynamically contouring the bass response dependent upon program bass content, including the peak waveform envelope. The bass response contour takes on a complex range of shapes which include both peaking and dipping in the 20Hz to 120Hz range. In this way, the bass "persistence" is increased without significantly increasing the maximum peak level. The bass frequency response is dynamically optimized to isolate and enhance the lowest bass frequencies to give them a deeper "feeling".

Contact: PROSOUND

Tel: (022) 6269147 Fax: (022) 6269691 Telex: 011 76893

GENELEC 1038A Active Monitoring System



The Genelec 1038A is a three-way active monitoring system including drivers, amplifiers and active cross-overs. Designed as a main monitor for moderate sized control rooms this system is also ideal for broadcast monitoring, video post production suites, CD mastering and project studios. The 1038A is designed to perform well both as a free-standing monitoring and as flush mounted into control room wall.

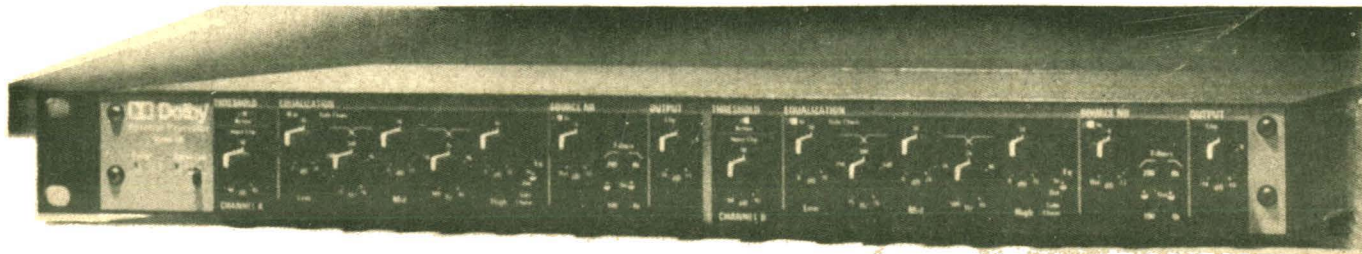
The Directivity Control Waveguide (DCW) Technology used provides excellent stereo imaging and frequency balance even in difficult acoustic environments. The fast, low distortion amplifiers are capable of driving the stereo system to peak output levels in excess of 124 dB SPL at 2 m with program signals. Versatile crossover controls allow for precise matching of the speaker system to different acoustic conditions. The system can be used both in vertical and horizontal orientation by simply rotating the DCW unit.

The bass frequencies are reproduced by an 15" (385 mm) bass driver loaded with a 110 liters vented box. The -3dB point is 33 Hz and the low frequency response extends down to 29 Hz (-6dB).

The midrange frequencies are reproduced with a very carefully in-house designed 5" (120 mm) direct radiating driver loaded with a proprietary DCW. The high frequency driver is a 1" metal dome. The uniform dispersion control and precise imaging at both MF and HF is achieved with the revolutionary DCW Technology pioneered by Genelec.

Contact: PRO-SOUND, 24-4, 1st Floor Ghanshyam Industrial Estate, V.D. Road, Andheri (West), Bombay-400 058.

Dolby Spectral Processor



In a radical break with tradition, Dolby Laboratories have announced the introduction of a new professional dynamic equalizer, the Spectral Processor. Unlike any previous form of EQ, the new 1U-high, two-channel unit makes it possible for recording engineers and sound mixers to raise low-level signals. Recording, mixing, mastering and post-production applications range from adding a subtle touch of presence to a vocal track, to sweetening a final stereo mix.

The Spectral Processor is like a magnifying glass for sonic details. You can emphasise ambience, lift harmonics, and bring out subtleties without squashing transients, increasing overall track level, or disturbing the sense of the music's natural dynamics.

The Spectral Processor works by passing loud signals untouched through a main signal path, while soft sounds are

boosted in a side-chain that incorporates a unique low-level Spectral Amplifier. The signals from the main path and the side-chain are then added together. Only the real harmonics of the source material are amplified - if and when the user wishes.

The Spectral Processor's crossover frequencies are user-adjustable, from 75 Hz to kHz between the low and mid bands, and from 500 Hz to 8 kHz between the mid and high bands. The threshold below which the detail is boosted is also adjustable with the aid of an LED meter. This combination makes it possible to concentrate the processing on those portions of the spectrum where it is needed.

MEYER SOUND HD-2 Mid-field audio monitor



In the tradition of their earlier near field monitor HD-1, Meyer Sounds HD-2 Mid Field Audio Monitor delivers the uncompromising performance from a larger mid-field configuration.

Expanding on the proven advantages of point-source operation and calibrated response the HD-2 delivers deep low frequencies and powerful peak pressure. Its unique new driver design offers low distortion and the compound flare horn provides extremely smooth directivity.

The built in active cross over, and dual amplifiers provide for consistency, reliability and power. For all this reasons the HD-2 is likely to become a favourite for mid field monitoring.

Contact : MEYER SOUND Laboratories, Inc.

2832 San Pablo Avenue

Berkeley, CA 94702

(510) 486 - 1166

Fax: (510) 486-8356

International
Standards of
Sound &
Spectrum..

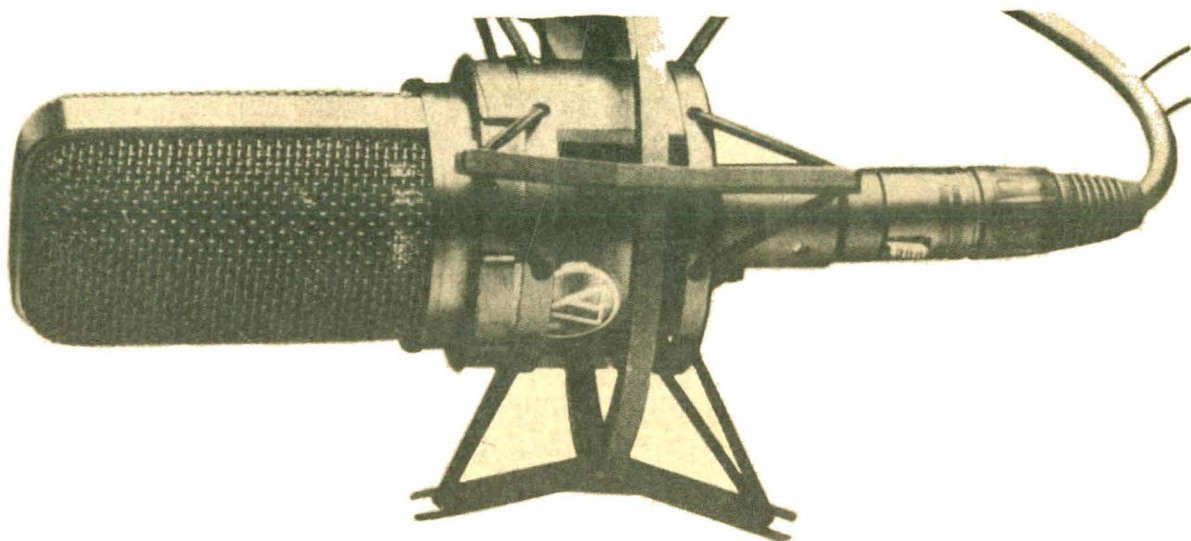
AUDIO & VIDEO CASSETTES



CONEY

H.O. & FACTORY, MADRAS: 4925908 4925068 4925160 4925166 FAX.... 91-44-4925053,
TELEX. BRANCHES... 041-21027 BANGALORE: 234008 COCHIN. 367045 VJAYAWADA. 67323.

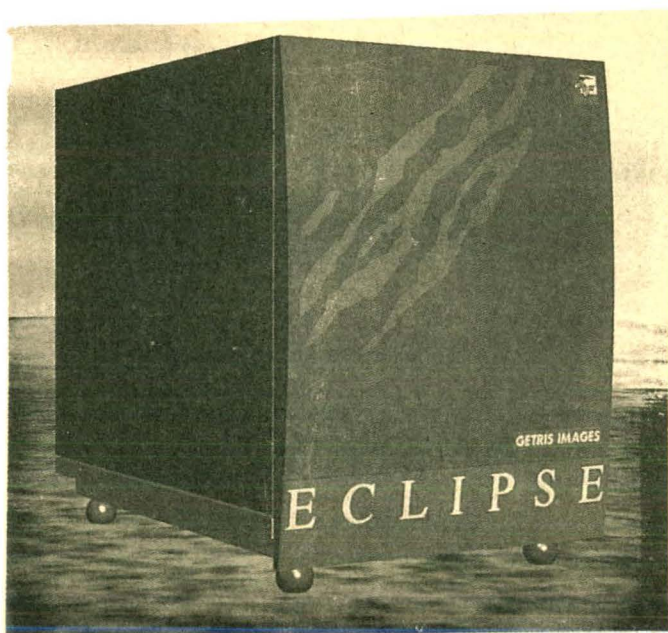
AUDIO TECHNICA AT 4033



The AT 4033 is a direct coupled floating element cardoid condenser microphone designed primarily for studio work, vocals and voice-overs. Using a transformerless design the AT 4033 establishes a direct coupled path from the condenser element to the mic output to maintain accurate reproduction of delicate transients. The AT 4033 combines low noise output with high SPL handling capacity with a clean low end and flat freq response from 30 hz to 20 Khz.

AUDIO-TECHNICA
Technica House,
Royal London Industrial Estate,
Old Lane, LEEDS LS11 8AG
Tel: 0532771441
Fa: 0532 704836

ECLIPSE the cost effective Digital Paint and Animation Station

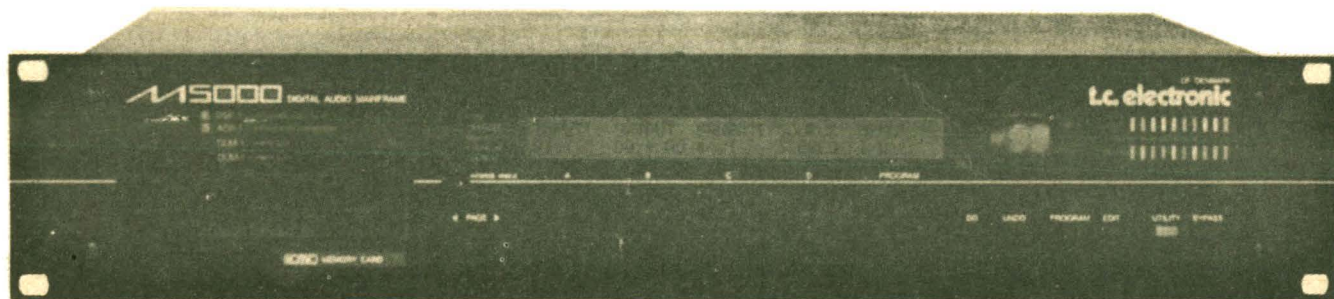


Eclipse from Getris Images is a fully paint and animation station priced and configured to meet the needs of broadcasters, post facilities and graphics houses who operate under tight deadline and budgetary constraints.

In its basic configuration, Eclipse features a graphics palette with two layers, plus a video live layer, fully integrated Betacam control, a 300 Mbyte hard disk, a magneto-optical disk and a digitizer with cordless pressure stylus. Like all Getris Images' systems, Eclipse can be expanded to incorporate an animation module, two supplementary layers and macro-command painting functions. It can also be upgraded to a fully digital option providing digital input/output and digital control of VTRs or disk recorders.

Eclipse features multi-layering capability, transparency, and real time animation in a modular structure allowing for future system expansion. It is supported by Avitech Enterprises in Bombay, and provides all the reliability Getris Images users have come to appreciate.

TC ELECTRONIC M 5000



TC Electronics of Denmark bring the M 5000 Digital Audio Maintframe a user upgradable effects processor with modular 18 bit resolution 64X over sampled A/D and 20 bit 8X oversampler D/A which provides superior phase and group delay linearity and can be upgraded in the future with technology advancement.

An interesting range of sounds are possible with the high dynamic range and freq. response which are the hallmarks of TC products. True stereo algorithm will transform into natural sounding reverb, and rooms decay to silence. The DARC (Digital Audio Reverb Compressor) DSP boosts the M 5000 past

normal limits of performance in giving up to 600 early reflection/sec.

All system files on the M 5000 and factory presets are written directly to ROM via 3.5 inch floppy disk drive, eliminating the need to change EPROM's. You can take backups of actual data on disks, a PC, as well as receive software updates by mail or modern and burn it directly in to the unit non-volatile memory without removing the M 5000 from its rack. Truly user upgradable.

Roland RS 550 P

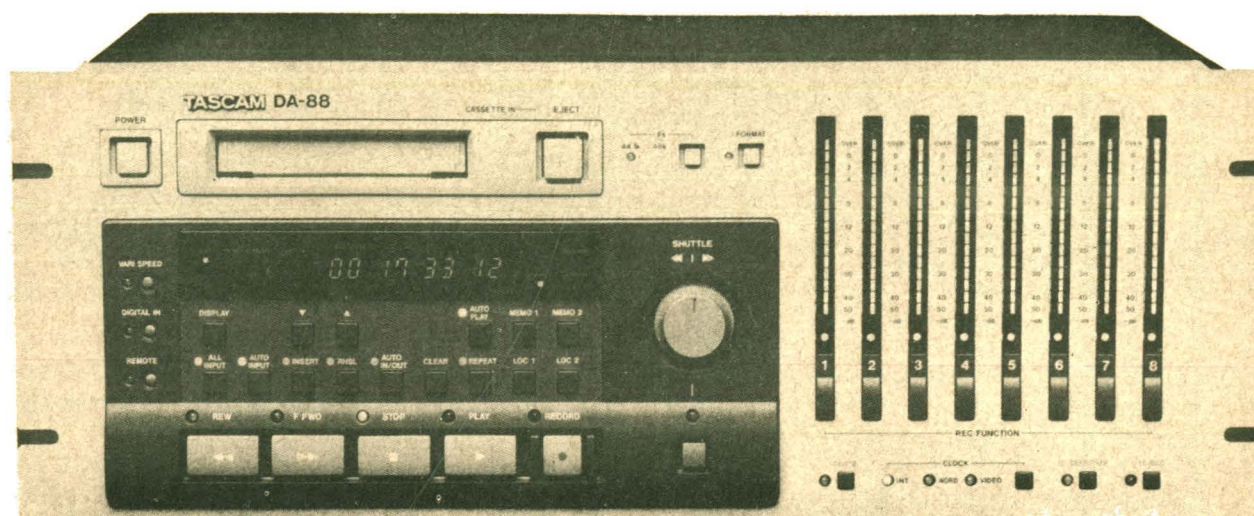


A mono stereo multilap delay featuring up to eight independent delay lines with a maximum 2.7 sec delay. A tempo delay mode with a tap counter button. Stereo flange, Ambience vocoder, rotary speaker effect, chorus. A stereo pitch shift with separate settings for Left and Right channels are some of the 30 odd algorithms in the latest Roland RSP-550 Effects Processor.

Stereo inputs and outputs plus a 95 dB dynamic range, a freq

response of 15 kHz to 21 kHz, THD of 0.02%. Add to this the RSP-550 ability to communicate with remote controller using MIDI to simultaneously control up to 4 parameters make the Roland RSP-550 a versatile tool for the recording Engineer.

TASCAM DA-88



The AES show in San Francisco saw Tascam launch their new digital multitrack recorder. The DA-88 looks every inch a professional product, and indeed, was designed for the professional market, but attractive pricing will certainly attract private and project studio owners as well as video post facilities.

Based around Tascam's own rotary head transport system running Hi-8 8mm video cassettes, the machine records at both 44.1kHz and 48kHz sampling rates, with a running time of 100 minutes of eight-track recording from a 90 minute video cassette at 48kHz, though longer recording times are possible using the sample rate of 44.1kHz. Varispeed is permitted over the range $\pm 6\%$.

The use of 16-bit, Delta-Sigma, 64X oversampling A/D converters and 18-bit linear D/A converters with 8X oversampling, provide the same high level of audio performance as the highly acclaimed DA-30 DAT machine. Both -10dBV unbalanced and +4dBu balanced audio inputs are provided as standard, with word sync inputs and outputs for synchronisation to other digital units. Multiple units can be slaved, to a maximum of 16 units with transport control from a single machine. This enables systems of up to 128 tracks to be configured simply by plugging in link cables. The sophisticated RC-848 provides control for up to six machines (48 tracks) in addition to functioning as a 99 point autolocator and providing a means to control external analogue tape

machines or VTRs via industry standard parallel and serial ports. Tascam's Accessory 1 and 2 ports are also fitted, Accessory 1 being a standard, parallel control configuration for interfacing non-Tascam machines to the system.

Because of the relatively low tape speeds involved in rotary head digital recording, precise location can be problematic, but Tascam have addressed this point by including a shuttle wheel which may be used to cue in either direction at between one quarter and nine times the normal play speed. A frame jog/shuttle dial is also fitted to the RC-848 remote controller.

An optional chase synchroniser board, the SY-88 provides P2 transport control (ie, from a video editor), time code in and out with an on-board SMPTE generator, video in and out for use with genlock systems and MIDI ports for MMC control.

Further accessories for the machine include the IF-88AE, 8-channel AES digital interface which will interface directly with DAT machines and the IF-88SD, 8-channel SDIF-2 digital interface which facilitates multi-channel data transfer to and from other digital multitrack systems.

VISTEK: Frame Synchronizer V4301

A new 4:2:2 Frame Synchronizer, the V4301, that offers broadcast performance as well as the flexibility to interface with component and composite standards, has been placed on the market by Vistek Electronics.

When used with composite inputs, the output is independent of the input SC/H phase relationship. The single frame delay will minimize problems with audio timing, compared with 8-field composite synchronizers.

The V4301 provides a stable output, even when the input signal is of marginal quality.

The optional remote control panel controls up to six synchronizers.

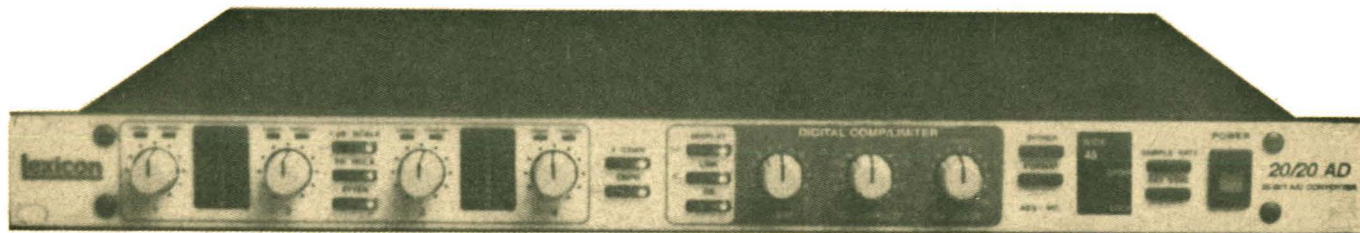
The product is offered in two versions, the V4301 with component input and output, and V4301/P composite model with a PAL VARICOMB decoder and a multi-standard encoder PAL B, G, I, & N and S-VHS format Y/C). Both versions will accept a Y/C input. SECAM input/outputs are also available.

VISTEK ELECTRONICS LIMITED

Unit C, Wessex Road,
Bourne End, Buckinghamshire,
SL8 5DT, England

Tel: 0628 531221 Telex: 846077 Fax: 0628 530980

LEXICON 20/20 AD



The 20/20 AD is a 2-channel, 20-bit Analog-to-Digital converter with a dynamic range of 112 dB. This performance sets a new reference for the next generation of digital audio products. Furthermore, the 20/20 AD can operate as a 4-channel, 18-bit converter with 100 dB of dynamic range.

Whether you are 16-or 20-bit compatible, the new Lexicon 20/20 AD sets a higher standard in digital conversion. Most significantly, if your recorder can only process 16 bits, the 20/20 AD can digitally compress the signal from 20 bits to 16 bits, ensuring that you get the maximum performance out of your digital recorder.

the 20/20 AD also offers several features that help make the 20/20 AD the logical choice for your conversion needs. From convenient multifunction level meters, to a choice of output formats or external sync, the 20/20 AD can improve the audio going into any digital recorder.

For most digital recording equipment, the weak link is its analog-to-digital converter. The Lexicon 20/20 offers the finest performance available, and will improve the performance of existing 16-bits devices, and, thanks to its advanced design, it leads the way into the next generation of digital recording machines.

WOELKE Loopbin/Slave Heads

Woelke, Magnetbandtechnik, of Germany, introduces monocryalline ferrite loopbin and slave heads. These heads allow very high life time.

Basicly different inductance-values are available for bias-frequencies from 1 to 10 MHz. They offer the usual three housing designs and are also prepared to consider special customer requirements.

SLAVE-HEADS

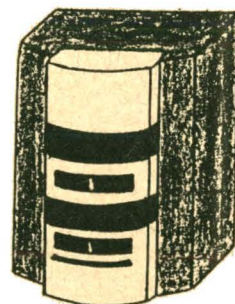
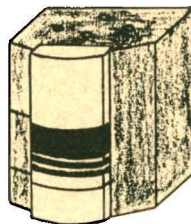
With slave-heads from WOELKE you can write on 0.15" (3.81 mm) P.O. tapes, also CrO₂-tapes, with up to 150 ips maximum speed.

Normally the slave-heads will be produced with different inductances for bias-frequencies from 1 to 10 MHz. Besides the usual three shield case designs WOELKE will take into consideration your special wishes.

MASTER-HEADS

For the high speed reading of 1/2"-master-tapes during the high speed duplicating WOELKE offers special magnetic heads. These so called "loop bin"-master-heads have at will the typical "side-by-side" - or "interlaced" - track configuration.

Referring to gap width, inductivity and to this belonging



resonance response we differ in two types of master-heads. The case height of the magnetic heads is 1 1/8" (28,6 mm).

For further details contact:

Jaksch - Sales Manager

00 -8444-7160

WOELKE Magnetbandtechnik

Woelkestrabe 2-3

D-8069 Schweitenkirchen

Armtsgericht Neuburg a. d. Donau

HRB 49794

Telex : 55573 woema d

Telefax : 08444/7118

LDJ MAGNETIC MEASURING EQUIPMENT

LDJ Inc. manufactures a wide range of magnetic measuring equipment for use in the recording industry.

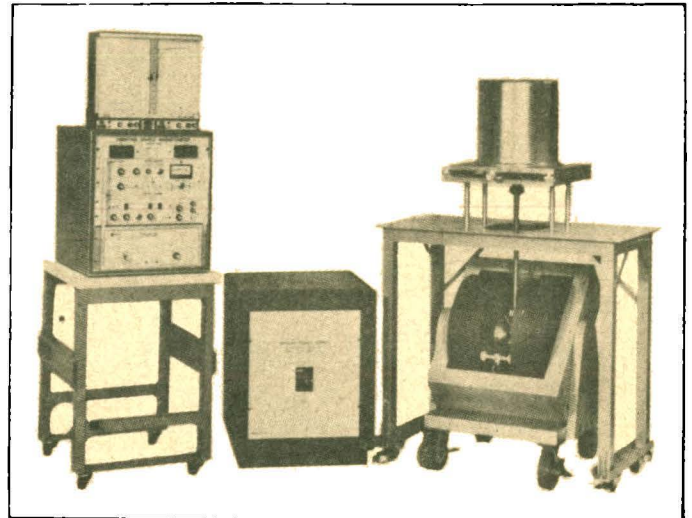
Their equipment accomplishes critical measurements of thinly coated magnetic recording media.

Most LDJ equipment is available in manual or computer controlled versions.

Their range encompasses both ultra-sensitive laboratory equipment and heavy-duty equipment designed to withstand the rigors of a production facility.

Because LDJ Inc.'s equipment is reliable and simple to use many models have become industry standards.

LDJ VSM

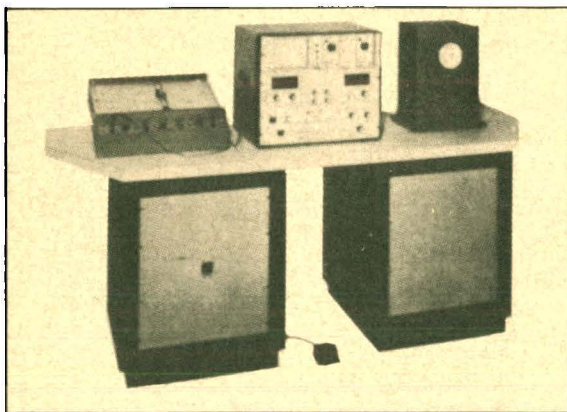


MODEL 9000

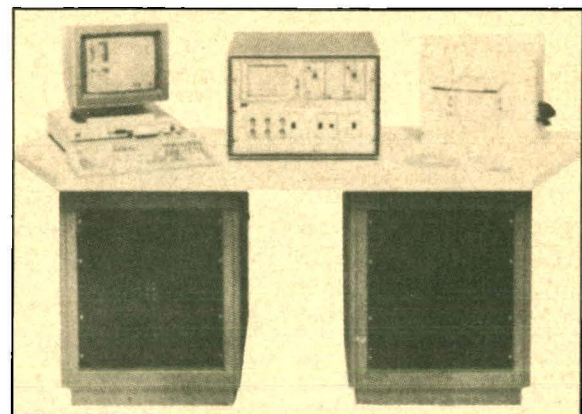
—ADVERTISEMENT—

LDJ MAGNETIC MEASURING EQUIPMENT

LDJ BH METERS



MODEL 7000 A



MODEL 7600 H

LDJ Inc. also manufactures a wide range of magnetizers, demagnetizers, coercimeters, permeameters, and vibrating sample magnetometers.

LDJ ELECTRONICS, INC.
2200 STEPHENSON HWY.
TROY, MI 48099-0219
U.S.A.
FAX: (313) 689-2525

ELEKTROMAG DEVICES PVT. LTD.
POST BOX 9141, PRABHADEVI,
BOMBAY-400 025.
FAX: (91-22) 4305358

SOUNDCRAFT Folio

The Folio Portapower™ option facilitates the use of the Folio as a low cost remote location mixer by providing an interface to a battery power source.

Features:

Input voltage 11v 28v DC(2 amp max)

Allows remote location use of 48v Mic's

Input protected against polarity reversal and overvoltage

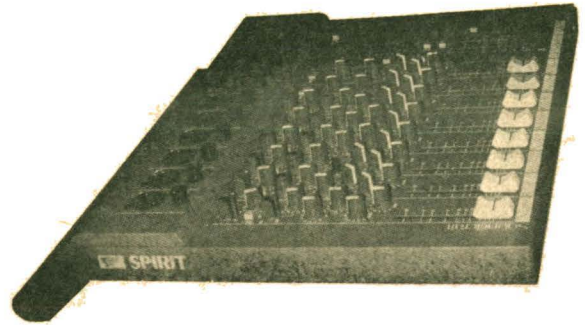
Output short circuit protected by internal thermal cutout(self-resetting)

Input lead-1.5M length-terminated with crocodile clips as standard.

Input connector to unit-4 way XLR allowing user choice of power source input.

(The 4 way XLR is intended to stop users trying to power the mixer off the output off their power amp)

The Folio is a compact 10 to 12 input mixer with a combination of mono and stereo inputs. Two auxiliary sends, a three band mid sweep EQ and a high pass filter is on every mono input. The master section has control room output for monitoring and



a two track return that functions as an additional stereo effect return in live operation. Typical uses are small lounge PA and live DAT recording. The Folio could also be used as a keyboard or sub mixer very easily.

For further details contact:

PRO-SOUND

24-A, 1st Floor, Ghanshyam Industrial Estate

Veera Desai Road, Andheri (West),

Bombay - 400 058.

Phone: (022) 6269147 Fax (022) 6269691 Telex: (011) 76893

G V Films sign 10 year marketing contract IDL to set up OD&ME CD plant in Hyderabad

IDL chemicals, a subsidiary of Nobel Industries, Sweden, has ordered the OD&ME MONOLINE 4 CD plant from Netherlands. It is to be flown into India in March '93. Expectations are the plant will be on stream by Sept '93. The project cost is 21 crore. (\$ 7 million approx)

G V Films has undertaken to ensure IDL will have enough job work or copyrighted material to replicate 50 lakhs or 5 million CDs annually. Also the marketing will be G V Films responsibility.

G V Films is going to the public for Rs 10 crore on a rights basis. Please note G V Films is a Limited company with shares listed.

The population of CD players is around 10 lakhs or 1 million at present. G Venkateswaran discloses that upon learning of the project he contacted IDL and sold the concept entirely. On a 20 crore project, the first years turnover is 10 crore. What better opportunity.

Around 5000 titles can be contracted of

International music. Not to mention the Indian classical and devotional and folk material.

The NRI population is claimed to be around 1.5 crore. This strong base is in itself enough to make the project a sound one.

Prices

Presently a CD is available for Rs 275 India. G V Films plans to offer a CD for Rs 150. The consumer can be offered the CD for Rs 200. At these prices G Venkateswaran feels that even Japanese and South East Asian countries can get job work done in India.

OD&ME from Netherlands have guaranteed after sales service for a period of one year. But in a difficult situation it promises in 48 hours a technical team will fly down to India. In the one year period all spares will be available.

G V Films is well known for the spectacular South Indian films. It also owns theaters. G Venkateswaran feels that if

Music Today an offshoot of India Today can get into the music business, then why not him.

STATEMENT ABOUT THE MAGAZINE PLAYBACK AND FASTFORWARD

Place of Publication :
Playback & Fast Forward
207, Shah and Nahar Ind. Est.,
A-2, 2nd Floor,
Dhanraj Mill Compound,
Lower Parel, Bombay-400 013.

Periodicity of Publication :
Bi-monthly.

Printer/Publisher & Editor :
Anil Chopra
Nationality : Indian
3, Ajanta Building,
L.D. Ruparel Marg,
Bombay-400 006.

Names and Addresses of individual who own
the newspaper & partners or shareholders
holding more than 1% of the total capital :

Repro prints
Mr. Vinod I. Vohra
Mrs. Dilshad Vohra
207, Shah and Nahar Ind. Est.,
A-2, 2nd Floor,
Dhanraj Mill Compound,
Lower Parel, Bombay-400 013.

I, Anil Chopra, hereby declare that the
particulars given are true to the best of
my knowledge and belief.
Dated : June 19th 1991.
Signed by the publisher Anil Chopra.

WE ARE LOOKING FOR PEOPLE WHO SHARE OUR COMMITMENT TO QUALITY

RAJES ART PRINTERS (AUDIO CASSETTE DUPLICATING DIVISION) needs TECHNICAL PERSONNEL

for its high-speed audio cassette duplicating plant in Bombay. We are using state of the art LYREC loopbin and are equipped to provide our customers the entire range of activities under one roof. We do job work for only those who want nothing less than the highest quality in audio cassette recordings.

Under our EXPANSION plans, we require the following personnel immediately :

- **Studio Engineers - Production Supervisors - Maintenance Engineers**
- **Machine Operators - Quality Control Engineers**

The ideal candidates should be able to deliver results without sacrificing quality. Prior experience is essential. We can offer you a rewarding career in a result oriented environment.

Please write with full details of experience, salary (presently drawn and expected) and other details to the following address. All applications will be regarded in the strictest confidence:



VIJAYTA AUDIO WORLD

Unstinting effort for International quality



The digital bin situated in the mastering room. The entire production floor can be seen through the glass partition

Kathuria is a large man in size, in style in everything he does. His reputation too is large. Among all the film recording studios in Bombay, Sunny Super Sound, named after Sunny Deol the star son of Dharmendra, enjoys a flawless reputation. It is Kathuria the sound recordist at Sunny, who has built up Sunnys' reputation. Any recording studio relies on the performance of the sound recordist and not the machines to become a success. It speaks for Kathuria's essential capability as an audio engineer, that Sunny by far is the most successful and sought after film recording studio in Bombay. Just to give an idea of the attitude and the kind of effort, put into setting up India's first digital bin duplication unit, listen to Kathuria on his own admission at the very start of the project "I'm learning. As an Audio Engineer, my spectrum of concern relating to frequencies was from 20 cycles

to 20 kilo cycles. As I was planning this high speed duplication unit which was going to operate at 100 times speed, for the first I had to take into consideration frequencies of 2 mega cycles". So instead of restricting his actions to his experience Kathuria went consulting to learn, all about high speed duplication.

Today undoubtedly he is the master of all aspects of mass production of cassettes, not only the recording side, but the C-O technology, the tape plant layout, material handling, labour response and care, future planning and last but not the least marketing. It was commitment to the music industry as also a sort of family decision including Dharmendra, Sunny and Vivek Gill, the last being the family man on the spot, to not only supply Audio Cassettes but also in the future Compact Discs and DCC cassettes, that the plant was decided to be set up in the MIDC Electronic Zone in New Bombay. The

Factory building of 8,000 sq.ft. built up rests on a 1 acre plot. Future plans will allow upto 45,000 sq.ft. to be built up.

Dharmendra has kept the landscaping operations around the factory building for himself to execute. "Its because of his love for the outdoors and nature" reveals Kathuria. "Also he would do it better than myself or anybody". So that is the deciding factor in all things. What is the best? How can any job be done better? with this attitude in mind all decisions regarding selection of equipment, plant layout design, systems to be incorporated have been decided. And as seen put into action fully.

India's First Digital Bin

Actually Asia's first digital bin excluding Japan. It takes a little bit of vision apart from a lot of money to decide on a digital bin when yet the whole of Europe is yet to adopt this latest development in the world of highspeed tape duplication. It was understood a loopbin, definitely 1/2" would be installed for this project when Kathuria read about the digital bin and decided to investigate further before finally ordering equipment. It being necessary to know firsthand the international level (the best) way of tape duplication, Kathuria visited personally manufacturers in Italy, Denmark, the UK and met experts in Germany and saw for himself various equipment in operation in famous units in Germany, the UK and elsewhere.

Experience since his arrival in Bombay in 1996 technical innovations, overwhelming investments in 'Standard' systems, it was felt that the digital bin will have to be the standard of tomorrow and since the commitment was to the music industry itself for a long time disregarding the cost and immediate profit factors the team decided to invest in quality. Kathuria affirms "In the digital bin there is no question of cross-talk, no azimuth prob-

lem, no question of drop outs or track shifting. We transfer the master from the

with the computer to match the power supply perfectly.

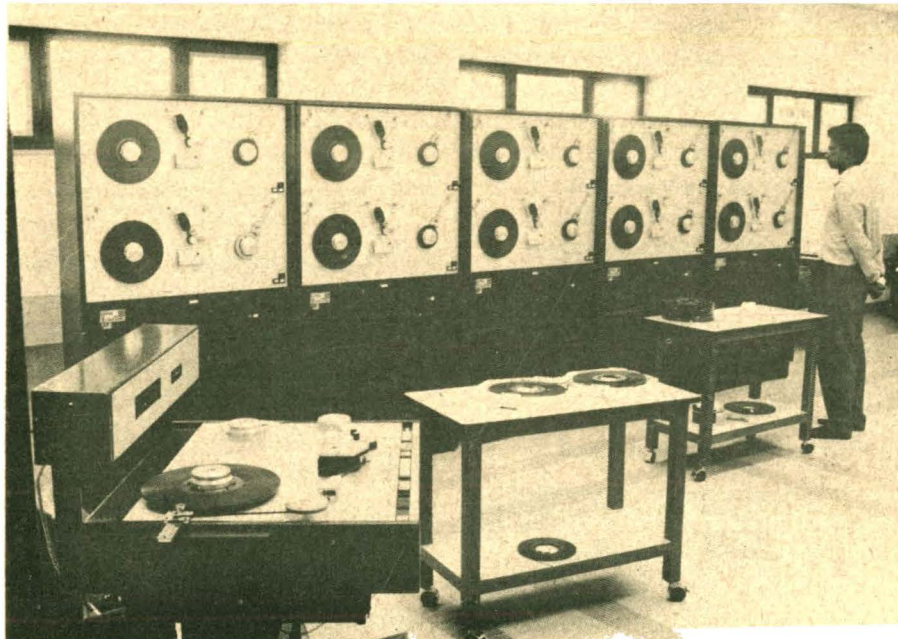
reasons can they record differently.

Computer Network:

All most all equipment has tabulating system. Depending on the programme length each slave recorder tabulates how many cassettes are recorded. So also the C-O loader. So also the digital bin. The same system is being installed for the cassette screen printer and over rapping machine. All these machines will be connected to a computer which will read the production figures and this computer will be connected from New Bombay plant site to head office at Sunny Super Sound at Juhu, Bombay. Kathuria can then check out production flow and bottle necks (the reason for all this trouble) and ensure timely deliveries are made to valued clients. Not to mention the ethos of Vijayta Audio World is all clients are valued and all deliveries have to be timely.

Quality Control:

A pancake Quality Control machine is installed to randomly play back duplicated pancakes. In the basement, we can see the effort at a microlevel to ensure quality. The compressed air from two massive compressors go through a de-



The twin-slaves and in the front the pancake QC machine

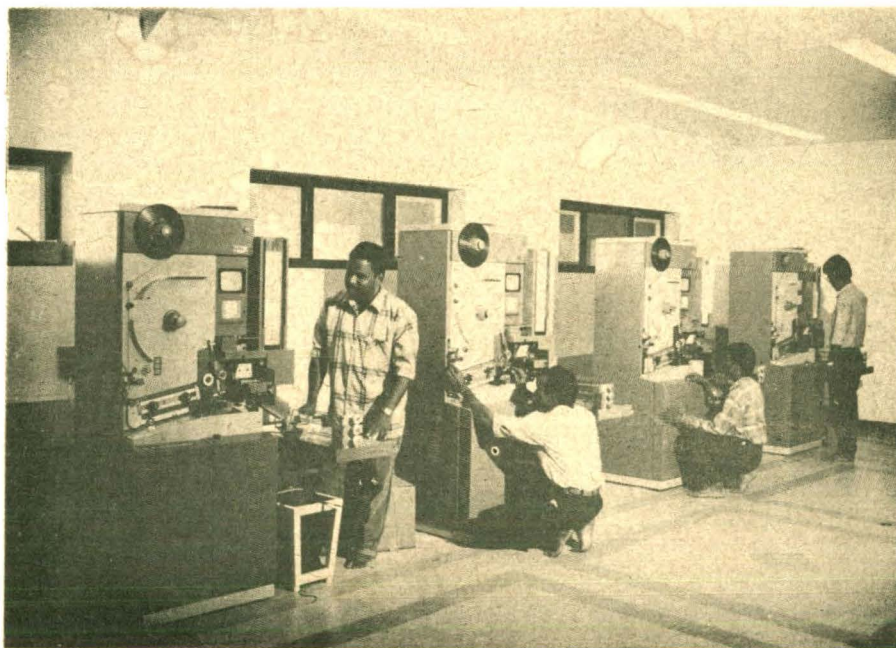
Otari MX55 1/4" spool tape machine onto the Otari DT-7 DAT player. In the process we make connections. Remove noise, arrange the gaps, transfer onto the duplitronics digital bin. Please note reproduction from DAT is flawless. The Duplitronics generates the cue tone at the perfect place ensuring the side A is not cut".

Other mastering equipment installed includes Pulse RS 250 Amp. and RS 100 pre-amp; Tannoy monitoring speakers and a sound craft Delta mixer, a Revox B77.

Quartz Control:

When the equipment is dependent on line frequency there is a danger of variation in speed. Depending on the fluctuation the music could play half the note slow or fast. Being an audio engg. and knowing the sensitivity of Top line music directors, Kathuria saw from the beginning all duplication equip. was Quartz controlled so that the production was not affected. Since the digital bin has the music programme in memory which shall not be erased it is connected to a UPS unit through a computer. The digital bin has a specific programme to interface perfectly

The C-O loaders have the programme length in memory. Any pancake recorded slower or faster due to mechanical reasons will be identified by the C-O loader



The automatic C-O loaders

memory check and shows up 'error' in the screen provided. Since the recording slaves have D-C motors, only for mechanical

humidifier of sizable capacity which ensures compressed air reaching the production floor is dry. Two AC plants are

MUSICCASSETTE MANUFACTURING

installed. One 10 toner and another 6 toner. The shop floor and the mastering room are most adequately airconditioned.

Earthing:

May seem a small matter to make so much of fuss about but a special 40 feet deep earth pit has been constructed. Each equipment in the entire plant has a separate earthing wire leading outside the building which is connected to a bus bar near the earth pit. Then a copper strip connects the bus bar to the earth rod. "This ensures permanently no clicks are transferred and no hum generated in the equipment is caught in an earth loop. Can you imagine if a hum is discovered in the pancake duplicator thousands of cassettes

He knew as a sound recordist he had to take care about the clicks and hum that are recurrent in the recording process and equipment, but when he investigated on the transmission cables required for high speed duplication he came across a lot of "KOI PHARAK NAHIN PENDA" casual, careless attitude. However, coaxial cables were installed connecting all duplication equipment which shall be able to take care of the high frequencies.

Problems:

After actually starting production Kathuria is dismayed at the tape quality and disappointed and fearful of the C-O quality. Jai, HML, and JK tape have been used already. "The tape is good. But all

dark shade of brown "now this surely can be ensured at the tape plant with correct calendaring that whatever loose emulsion is removable is done so before shipping such material out to us". The Agfa and Basf pancakes did not leave any coating on the ribbon.

C-O:

"If the tape is not of the best quality we shall be subject to it and can endeavor to give the best from it. Our clients and public would get that level of a product". But the real danger lies in the C-O. A bad C-O can damage the customers equipment. Jamming, which draws the tape out can damage the capstan and pinch roller. Many C-O's, as was shown, had their screws protruding out. Now when a customer forces such cassettes into his equipment the equipment is sure to be damaged. "Morally this is not right. I haven't seen in my life any deck given for repair coming back fully okay. Once equipment is spoilt there is no charm". From the production angle there are many problems and dangers. "Firstly now each cassette has to be checked by passing the hand over the screw side. This is definitely a hassle and quite unnecessary. Secondly the music business in India is a numbers game as the price of cassettes are very low. Bad C-O's continuously will generate frustration on the shop floor, due to stalling production. Because the C-O loaders many times while pulling the leader out after the record may show error and stop functioning. The supervisor then finds out his worst fears are true there is no leader! Other times the leader gets yanked out from the hub as it is not fixed perfectly. Then again if the leader is not placed flush on the hub and are slightly out of line and protruding above or below while loading into the shell the edges of the tape are scraped damaging the tape and the recording. Even while playing back azimuth alignment will be incorrect, track shifting will result". So all these problems are because of the C-O's I will insist on the German Rocco, or Japanese Sanyo C-O assembling machine.



The automatic cellophane machines

would be recorded already before any effective action" analysis Kathuria.

Self Respect:

Aware of the fact that expensive equipment is being installed is not an end in itself!

Kathuria opines "My shirt is clean but I shall justify my self respect if, only if, my banyan is also clean". Behind all the expensive equipment what is emphasized by this analogy is the working, the functioning should be correct. Therefore all the trouble to see proper earthing. In the Indian style of working infact this is a very good example to emulate.

the brands lack consistency. After adjusting the bias you find the level will change after a couple of boxes. Then though the frequency response is fine there are drop-outs. The analysis is that the tape manufacturers though able to make a good tape are not bothered to see that each lot is like the other. It cannot be that after so much interaction with the duplicators they do not understand that differences cause anguish and trouble to the loopbin operators who have to be continuously wary and adjust bias to get the quality. Also there is a problem of loose emulsion. The cleaning tape on the slaves was quite a

THE ELECTRO SOUND TECHNOLOGY ARTICLE

By David Santwan

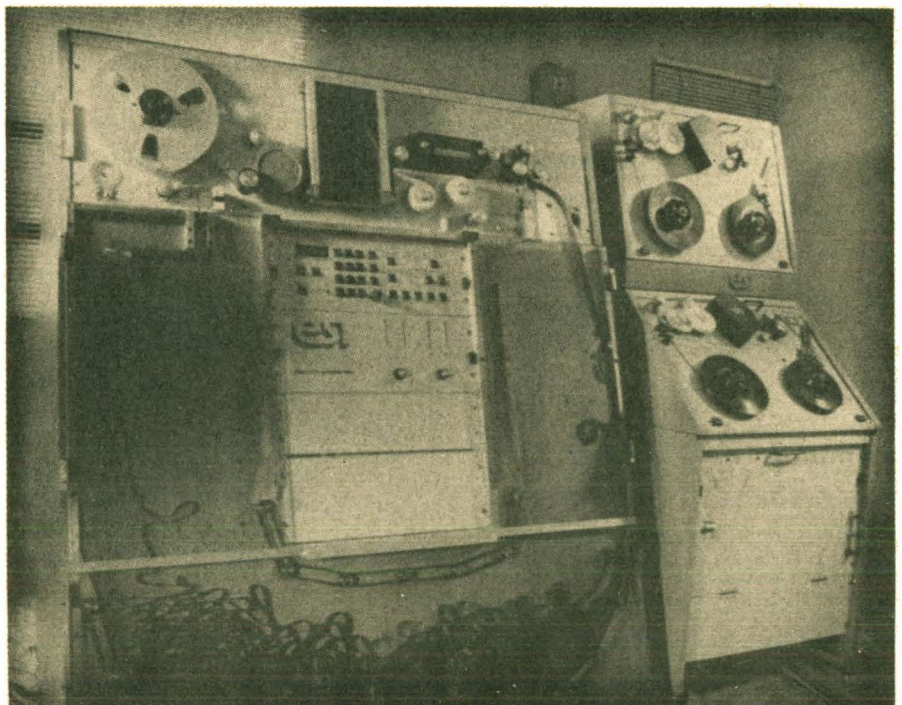
The 9000 series duplicator is the latest from Electro Sound, world renowned for their high quality tape duplicators. Introduced in 1992, the 9000 series uses the very latest in technology, including full microprocessor control of master and slaves, excellent tape handling, full diagnostics, production information and a host of other 'State Of The Art' features. Incredibly, all this has been built into a very competitively priced package.

This article describes some of the advanced features of the system and what it means to the user in day-to-day production.

THE LOOPBIN MASTER REPRODUCER:

The standard practice in high speed duplicators is to make the master tape into an endless loop by splicing the beginning and end of the tape together. This allows the machine to run the program over and over again without the need to rewind, as one would need to on a spool tape recorder. This however, leads to another problem. How do you manage a loop of tape several hundred feet long without it getting all tangled up? The answer is in a clever little invention made at the dawn of tape duplication - popularly known as the loop 'Bin'.

The 'Bin' more or less consists of a box, the depth of which is that of the tape (usually 1/2"). The entire length of the tape is dropped into the 'Bin' in folds. So a large amount of tape can be stored in a



The ES 9000 system. Note the wide bin and conveyor system.

comparatively small area. The tape exits from one side of the box and is fed to the playback heads, and then back to the box on the other (inlet side). The principal function of the 'loop Bin' master then, is to move this tape at high speed over the heads, and reproduce the program from the tape so it can be recorded on the slaves.

Easier said than done! Problem is, as long as the tape is in the 'bin' it's more or less stationary. But as it's drawn out of the bin, it is suddenly accelerated from rest to a tremendously high speed- upto 480 ips (inches per second). As the tape is stored in folds, the *inertia* of the tape causes a continuous tugging or pulsing tension variation in the tape. This tension variation can cause:

- 1) wear of the master tape
- 2) instability in tape to head contact (which is critical - more of this later).

The tape is pulled forward at a constant speed by a rotating shaft driven by a motor. This shaft is called the Capstan and the tape is moved by pinching it between the capstan and a rubber idler wheel known as a 'pinch' roller. The function of this rotating capstan is to pull the tape at a very accurate speed over the heads.

TAPE TO HEAD CONTACT:

This is a critical area in our master reproducer design. It's vitally important that the reproduce head is in firm contact with the tape as it moves. Even a tiny gap between tape and head (less than the order

of the thickness of a human hair) can cause severe degradation in sound quality. This tape to head contact is ensured by maintaining the tape under a constant tension as it passes over the head. Also, it is important that the head is absolutely perpendicular (90 Deg.) to the tape at all times. Normally the head is adjusted to this angle when it is being installed, however small deviations from this angle can occur, as tension variations and the tendency of tape to 'weave' across the heads, affects this angle (Figure 1).

Tension variations in the tape can also cause this effect due to the elasticity of the tape. The tape tends to stretch microscopically as the tension alters, again causing a change in this angle. Since there are two tracks recorded for stereo, a variation in this angle between the two tracks on the tape causes an angular difference between the tracks which is continually varying with tape motion. This effect is particularly obvious at high frequencies when the wavelength of the recorded signal is very small. This type of angular error is referred to as the "phase jitter and a measure of how good the machine is in this respect is its phase stability.

To minimise the problem of tape weave, tape guides, which usually consist of shafts with grooves cut in them to the exact width of the tape are introduced in the tape path to ensure that the tape passes accurately over the heads. The use of guides however has its drawbacks, amongst them are increased tape wear

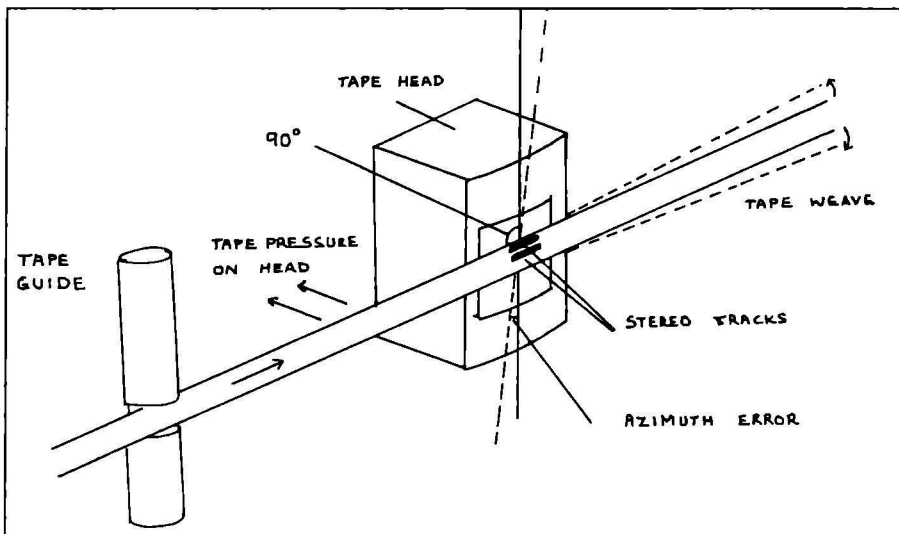


Fig. 1

CORPORATE PROFILE

Among the world's musicassette and tape duplicating companies, it's agreed: Gauss and Electro Sound are the leading manufacturer's in the world of high-speed duplicating systems and equipment.

When the two companies merged after Gauss' parent firm, Mark IV Industries, a New York Stock Exchange traded company, acquired Electro Sound in 1989, it was acknowledged that together Gauss and Electro Sound controlled more than 60% to 65% of the world market in high-speed tape duplication.

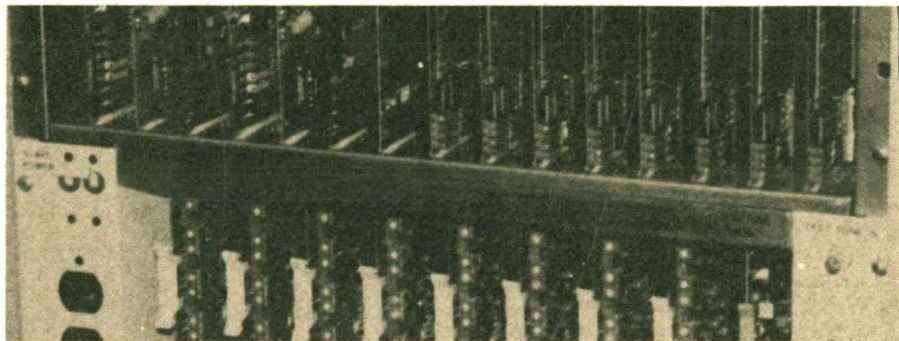
The signals now being emitted by Jim Williams, president of Gauss and Electro Sound, on the future operating goals of the two companies, are becoming stronger. Since combining operations, the companies have increased market share, advanced machine technology, enhanced manufacturing efficiency, and introduced state-of-the-art duplicating systems and test equipment.

The good news, says Williams, is as we have strengthened the two largest manufacturers of duplicating equip-

DUPLICATION TECHNOLOGY

because of friction with the guides, "scrape" noise introduced by the move-

solved the above problems in their master design?



Master Head Assembly with precision rotary guides and adjustable head alignment.

ment of the tape over the guides, errors in the guidance of tape as the guide starts getting worn.

Lets sum up with some commonly used terms for what has been described above.

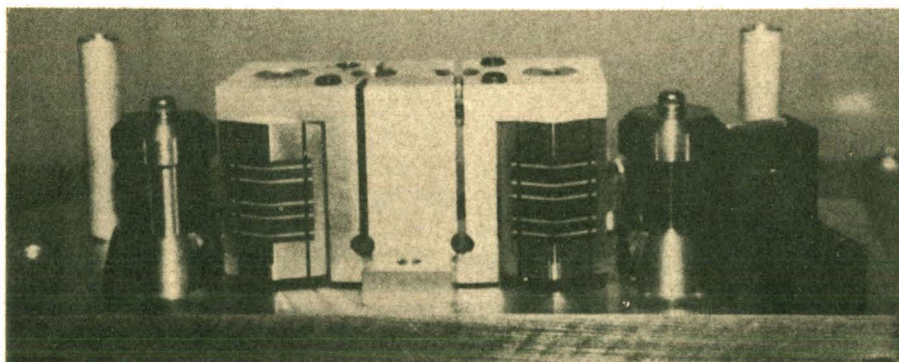
1. Amplitude variation: expressed in decibels is a measure of temporary drop out of signal usually due to loss of tape to head contact (or due to tape imperfections). Depends, to a large extent, on the stability of tape motion over the heads.

2. Azimuth: The angle of the head to the direction of tape travel which should be exactly 90 Deg. Any deviation from this causes a loss of signal especially high frequencies.

3. Phase stability: Usually measured between the two tracks of a stereo pair, and expressed in degrees. Again this depends on the stability of the tape as it passes over the head. This is a very impor-

Lets start with the loop bin. The ES 9100 (that's the master reproducer model number) has a very wide bin with conveyor belts on the upper and lower surfaces. Therefore, when the tape is fed into the bin, its folds are spread over a larger area requiring less dense packing of the tape. The conveyors gently move the tape 'pack' from the right to left, turning it around as it approaches the exit, so that the tape is pulled off the top of the pack with minimum tugging or pulling of the tape. The upper and lower conveyors are driven by a servo controlled motor whose speed can be adjusted from the front panel. Push buttons are provided for fast forward, reverse and stop of the conveyors for ease of operation. This design ensures gentle tape handling and minimises tape wear.

The tape exits from the bin and passes over a vacuum stabilisation guide and



Tape path with rotary guides throughout. Note the vacuum chamber with feed capstan on the left.

tant part of design specification and determines to a large extent the clarity of the sound and stability of the 'stereo image'.

Now, how have the ES 9000 designers

then over *rotary* guides to the vacuum column servo capstan, and then on to a vacuum chamber, which pulls the tape at a very accurate speed, which then drops

ment in the world without missing a beat. The even better news, he adds, is we have developed cutting-edge technology and made it more affordable to more duplicators on a cost-effective basis.

At first glance, nothing could have seemed more natural. Gauss continuing to market the world's most prestigious equipment and Electro Sound continuing to sell the most diversified equipment in the world.

While many competitors struggle for influence in the market and attempt to discover their niche and identity, Williams is unfolding a game plan to bypass competing companies and take Gauss and Electro Sound to higher levels of equipment efficiency, consistency and reliability without sacrificing quality.

Exactly who are Gauss and Electro Sound and what are their credentials?

For almost three decades, Gauss has been synonymous with quality, reliability and service. It is the oldest and largest manufacturer of high-speed cassette duplicating systems in the world and is easily the most recognizable name in the tape duplicating industry.

Widely considered the most advanced equipment in the industry, Gauss duplicating systems have become the standard against which all other duplicators are judged:

Consider the following:

— Gauss was the first com-

DUPLICATION TECHNOLOGY

back into the bin again gently.

The sophistication of this system is in the vacuum column servo which maintains an extremely constant tape tension across the head to minimise all the nasties of phase and amplitude stability mentioned above. It works like this - Air is drawn out of the top of the chamber by a vacuum pump causing atmospheric air pressure to push up a loop of tape into the chamber. The height of this loop in the chamber is monitored by a vacuum sensor which controls the servo electronics that drive the vacuum column capstan motor.

This motor feeds tape into the chamber maintaining a constant loop height inside the chamber. It is this constant air pressure or 'cushioning effect' inside the chamber that irons out any remaining tension variations in the tape. Therefore, the tape running over the heads is extremely stable - one of the reasons for the excellent sound quality of the ES 9100.

All tape guides used in the 9100 are rotary using high precision class VII bearings, minimising the earlier mentioned problems of scrape noise (there is very little friction on a guide that is rotating), minimising tape wear and guide wear.

The capstan motor in the 9100 is a story all its own. The speed of this motor is read by a precision optical tachometer which is referenced to a quartz crystal. This controls the speed of the motor extremely accurately and is not affected by mains supply or load on the motor. The motor drive is purely electronic using hall effect position sensors for armature switching. There are no brushes used in this motor, for high reliability, and very long life. The motor electronics have a capstan 'lock' lamp that lights up when the motor is

running precisely at the correct speed. Should the motor malfunction for any reason, this light will go out and the 9100 computers will shut down the machine, preventing tapes from being duplicated at the wrong speed.

Microprocessors - Two Microprocessors are used in the 9100 - one for transport function, and the other for system logic. With these computers complex control of the functions are possible with minimum hardware. Also all future updates can be easily implemented by software changes (replacing a chip). The computers have numerous features including, full system diagnostics (allowing for easy fault diagnosis), automatic 'learning' of master tape length and slave prestart (there is no need for your operator to remember to enter in this information before loading a new master tape. The machine does this automatically). It tells you tape length in feet or metres, tape time in real time, keeps track of loop count, cue tone delay, cue length and so on. Built in hour meters allow scheduling of head replacement and relapping.

The advanced diagnostics aid your operator in machine operation as warning codes are displayed for various machine conditions. Your service technician will also find maintenance easy on this machine, as it allows each function to operate individually without the need to run a tape.

The 9100 uses precision peak reading LED level meters allowing for accurate reading of tape levels and for long life as compared to mechanical meters. The level control on the 9100 does not control audio signals directly, but through a digitally controlled electronic attenuator for very

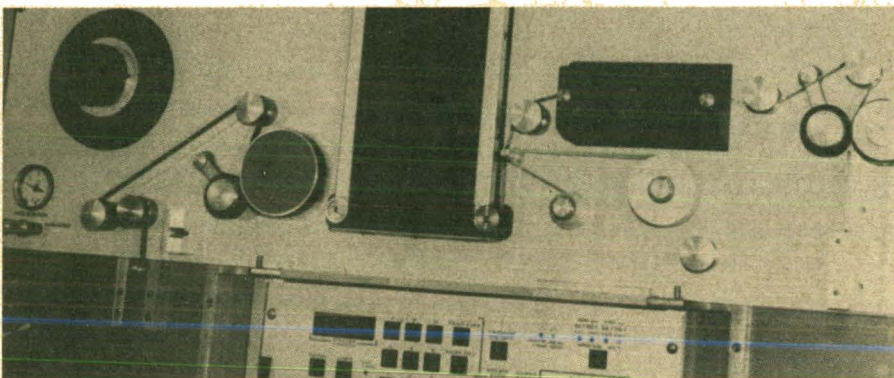
pany in the world to introduce the duplication ratio speed of 32:1 in 1966. And the first company in the world to introduce 64:1 in 1977 and 128:1 in 1981.

— Gauss was the first company in the world to introduce the 10 MHz bias system and the dual capstan system. And the first company in the world to develop and introduce the horizontal bin.

— Gauss was the first company in the world to introduce a system for duplicating metal particle and chromium dioxide tapes, as well as the first microcassette music duplicating system.

In its history, Gauss has introduced only two basic duplicating systems: the Series 1200 in 1966 and the Series 2400 in 1982. The company's philosophy is updating systems and equipment instead of constantly introducing new models. The acquisition of a Gauss system assures a long-term, cost-effective investment.

Since 1966, Gauss has introduced more than 60 new or improved system modifications. Many of these changes were to improve systems and equipment performance, increase productivity, and assure product quality. No other system in the world integrates the



A view of the CPU control panel.

DUPLICATION TECHNOLOGY

precise track to track matching, with no noise or distortion introduced into the signal even after many years of use, as compared to a conventional mechanical audio level control.

The 9100 has four different EQ settings, allowing the operator to set up four different duplication ratios (generally 40:1 to 128:1) and two master speeds.

The 9500 Dual Slave

Like the master reproducer, tape handling and tape path stability of the slave is very important for the same reasons as the master. The Slave transport mechanism has a very difficult task to perform, as it has to handle delicate, narrow width tape, at high speed.

The ES 9500 uses the same high quality servo capstan motor as used in the Master, with precision roller guides used in the

recording process is a high frequency current that is mixed with the audio signal in the head during the recording process. This high frequency current is called "Bias", and it is required to minimize distortion while recording. The amount of bias current that is added to the audio signal is very critical. Too little bias would give rise to too much distortion, and too much bias will reduce the high frequency response. This, of course, is a simplistic way of describing the process, as an optimum bias setting is actually a compromise between a number of different parameters involving both head and tape formulation. (This topic would need an article of its own!). Anyway, the important thing is that the bias setting is very critical, and any drift from this setting over a period of time would drastically affect the recording quality.

Dolby HX Pro is a process involved with the optimal bias setting varied according to the music signal being recorded. This process is often confused with noise reduction which has no connection with this. HX Pro works by reducing the bias current where there is a lot high frequency energy in the music. As the high

frequency music signal also looks like bias to the tape, the total *effective* bias to the head would then be too high, so over biasing the tape.

Dolby HX Pro works by maintaining constant *effective* bias to the head by reducing bias current in the presence of high frequency music signals (If all that sounded confusing, what it means is that you can record a higher level of high frequencies on your cassettes before it distorts!).

The ES 9500 slave has a closed loop servo bias amplifier whose output is extremely stable over time because of the

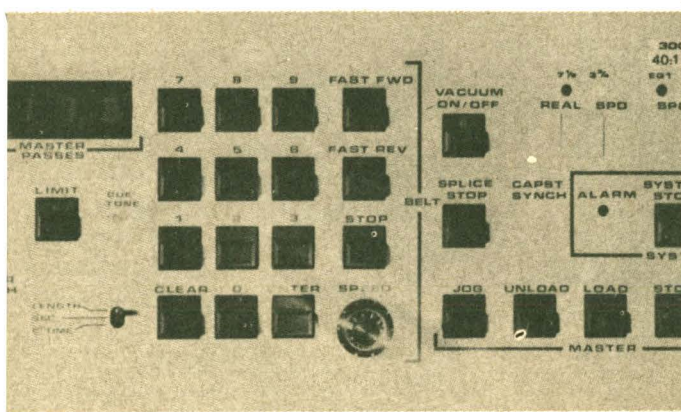
technological advancements, reliability and craftsmanship epitomized by the name Gauss.

If Gauss represented the "biggest and the best," Electro sound was established in the mid-sixties to compete against Gauss as a manufacturer of duplicating systems representing a diversified product line of "good, better, best" equipment.

Electro Sound's first duplicating system, Model 4000, operated at 16:1, and a second generation duplicator, Model 6000, was introduced in 1971 and operated at a 32:1 duplication ratio. The Model 8000 was introduced in 1979, and considered state-of-the-art, operated at 64:1. The company also introduced Model 5000, a 32:1 system developed for small duplicating operations. The company further advanced technology by introducing Model 4800, the first and only completely programmable digitally controlled slave in the world. It is fully compatible with all major duplicating systems.

In 1991, Electro Sound achieved an equipment breakthrough by introducing its Model 9000, a dual slave system featuring new electronics and automatic componentry to make it the most cost-effective duplicating system in the industry.

In addition to penetrating an important cost-conscious market, the Model 9000 meets a growing demand for greater



Slave control and display panel.

tape path.

The reel motors have a constant tension system wherein the motor torque is inversely proportional to the reel hub speed. This ensures constant tape tension irrespective of the tape diameter on the reel (in other words, the tape tension is maintained constant at the beginning and end of a pancake). The hub speeds are measured by an optical tachometer. The slave has two tension selection memories, allowing the operator to switch between different tape types with ease.

BIAS AND DOLBY HX PRO:

One of the parameters that effects the

DUPLICATION TECHNOLOGY

servo action. Bias sense circuits constantly monitor the output current, and flash warning lamps should the current go outside normal limits. The slave's computer automatically shuts down the system should the bias go out of tolerance. The Dolby HX Pro circuits are operable at all duplication ratios, and have anti-saturation and minimum bias set points to prevent malfunction even with difficult or over driven program material. The bias amplifier has more than sufficient output capability to handle all kinds of tape including high bias chromium dioxide tape.

EQUALIZATION:

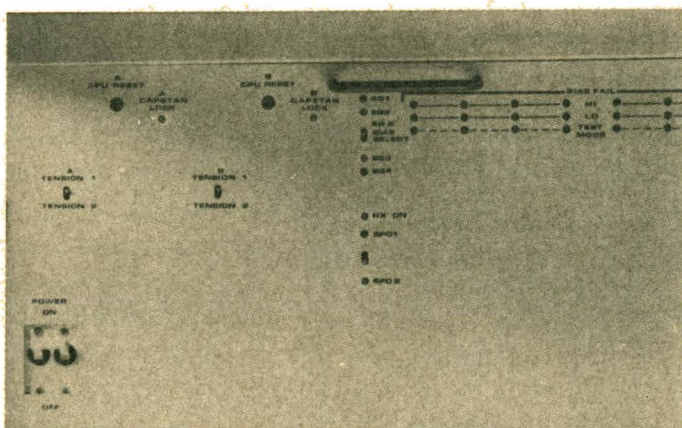
The recording process requires "equalization" i.e. the ability to boost/cut at different frequencies to compensate for

slave's computer looks for a reproduced cue tone from this head and if the cue tone is not received at the proper duration or if it is not received at all, it displays the relevant error message and shuts the slave down. This system has significant benefit in saving pancakes that would otherwise be unnecessarily recorded if there was a problem with the cue tone or if there was incorrect threading of the tape by the operator (and this as we all know happens surprisingly often!).

Computers

Each slave has its own microcomputer that handles all system functions and diagnostics.

The slave's computer displays warning codes for errors or faults in the system and shuts down the slave when necessary. The



Slave card rack. Note the hour meters on the left.

head and tape losses and maintain a flat frequency response. Generally speaking, good flexibility in the eq performance of a record amplifier allows greater flexibility for different tape types.

The record amplifiers used in the 9500 have excellent output capability, with four separate equaliser controls for each preset allowing very good flexibility in setting for different tape types. The user can store up to four separate presets for adjusting for different tape types or duplication ratios.

Cue Tone detection

The 9500 has a unique cue tone detection system which operates with a third head mounted on the head assembly. The

computer also displays the number of completed programs recorded in each pancake. Very useful for production information and control of wastage.

Maintenance:

The 9500 has tilt down transport mechanisms, for the service technician to access both slaves and electronics from the front of the machine. The technician can operate each function of the slave independently through the slave's computer, making fault diagnosis and routine maintenance an easy procedure. All the main PCB's are in a 'plug in' rack for easy replacement of a faulty board when required. Minimum downtime!

manufacturing duplicating capacity in small production areas.

Today, Model 9000 gives Electro Sound for the first time an opportunity of offering the broadest spectrum of performance-proven systems of any company in the world, from the sophisticated high-end to the more cost-effective systems.

In addition to the popular Model 9000, Electro Sound sells Models 4800, 8000 and 5000 as well as a full array of quality test equipment. In addition, it markets Model 1850, a semi-automatic cassette loader.

Looking into the future, Philips' digital compact cassette (DCC) for musicassettes is shaping up as the tape technology of the next century. Gauss and Electro Sound are "partners" with Philips in this DCC revolution. They have signed a license agreement with Philips Electronics N.V. for the full transfer of all technology and know-how related to the duplication process of DCC.

All Gauss and Electro Sound systems and equipment are manufactured in two facilities in Sun Valley, California. A 28,000-square-foot plant houses production and R & D-engineering, with a 9,000-square-foot support facility.

When you order "Gauss" and "Electro Sound" systems, you are buying much more than quality equipment, trusted and well-respected machinery. You are also acquiring accountability.

MOVE IN WHERE THE MONEY IS ...



... BOMBAY the Commercial Capital and the HOLLYWOOD of INDIA invites you to the third consecutive, successful and the most popular event.

BROADCAST INDIA '93

EXHIBITION & SYMPOSIUM

DATES: 29TH TO 31ST OCT '93
VENUE: WORLD TRADE CENTRE, BOMBAY, INDIA

For: **TV-RADIO-VIDEO-AUDIO
CABLE-SATELLITE-FILM
COMPUTER GRAPHICS
& ASSOCIATED ELECTRONICS**

Millions of dollars worth of equipment negotiated and sold.

10,000 TRADE VISITORS ATTEND THE SHOWS

COME — \$HAKE HANDS WITH MONEY
COME — \$HAKE HANDS WITH THE HIGH-TECH INTERNATIONAL TECHNOLOGY.

Organised by

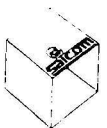
SAICOM TRADE FAIRS AND EXHIBITIONS PVT. LTD.
148, Admiralty House, Near Colaba Bus Station, Bombay 400 005, India.
Phone: (91-22) 215 1396 • Fax: (91-22) 215 1269

—Mail this coupon to the organisers—

Yes, I'm interested to know more about the event

Please send me details on

- Exhibiting at the show
- Presenting Technical Paper at the Symposium
- Attending the Symposium
- Visiting the show



Name: _____

Title/Designation: _____

Company/Profession: _____

Office/Residence Address: _____

City: _____

Post Pin Code: _____ Country: _____

Phone: _____ Fax/Telex: _____

DUPLICATION TECHNOLOGY

Test System:

A high speed duplication system has a number of parameters that need to be adjusted for optimum results, such as equalization, bias, tension, head alignment and so on. Number of these parameters are interdependent making setting up or rather complex and time consuming affair. A duplication system is only as good as it's set up! A point often overlooked.

The ES 9000 system can be interfaced to an extremely sophisticated test system. The Gauss 1100 Test System.

As the duplicating system ages, the heads get worn out and will need replacement or reconditioning. The usual procedure for replacement of head and recalibration of the machine can take an awful lot of time, and is usually not done correctly in the field. Therefore, one finds that the performance of the machine deteriorates after some time as compared to the original factory performance. Also, manufacturers may use differing tape types on the machine. Each tape type has its own optimal parameter settings. The cassette manufacturer usually cannot afford to shut down the machine for a longer period of time to get these adjustments done often. So, after high investment in a sophisticated duplication system, the cassette manufacturer often finds it difficult to keep up his production quality after a

period of time.

Enter the Gauss 1100 System:

The ES 9000 can be fitted up with a reproduce test head with a calibrated dial for Azimuth adjustment. This test head is connected to a computer controlled analyser and test generator. The analyser has the capability for fast accurate analysis of critical parameters, such as frequency response, bias, levels, distortion and so on. Head alignment and machine calibration is fast, easy and accurate with this system. With the test system, the machine can always run at top quality as quality checks can be done very frequently, and maintenance carried out as soon as it is required.

The ES 9000 also allows for automatic quality control check on *every pancake*, automatically injecting complex test tones at the end of every recorded pancake which can then be analysed with the test analyser.

The test system is also used to calibrate the mastering equipment making sure that your entire system from mastering to final cassette is done at top quality.

Electro Sound in their 9000 series system have a very well thought out and well integrated top flight duplication system, which incorporates experience gathered over many years of manufacturing quality duplicating systems.

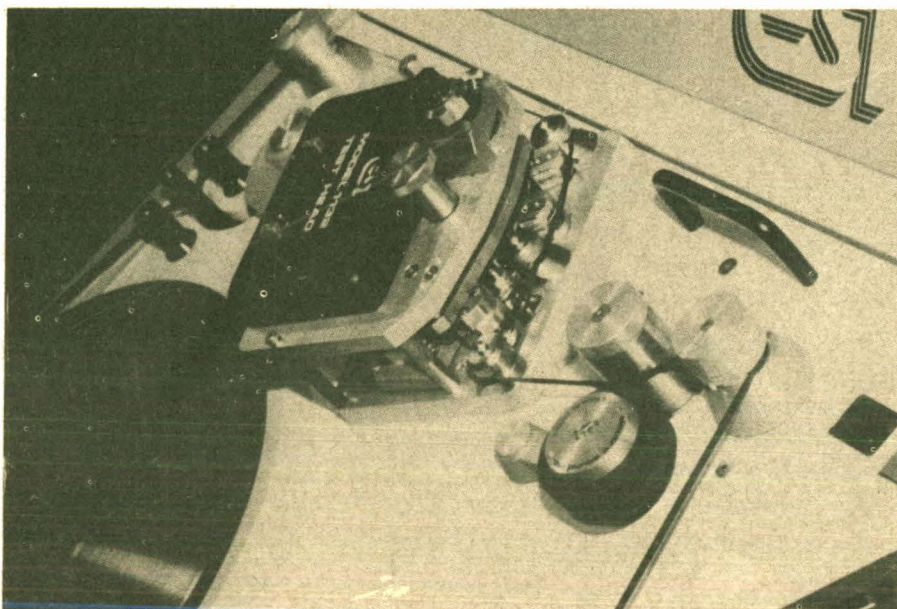


Jim Williams, President, Electro Sound, marketing for value with respect for the product.

We care what happens to Gauss and Electro Sound duplicating equipment both *before* and *after* you buy our systems. Our approach is built on a pledge of combining customer service and marketing and technical support with field technicians and engineering specialists throughout the world.

With years of experience in building duplicating systems, Gauss and Electro Sound are uniquely qualified for the engineering and design, development and manufacturing, and quality control necessary to produce the finest equipment available with today's technology.

In almost three decades, Gauss and Electro Sound have introduced many world standards, including new electronics, new systems, new mechanics, new designs. All utilizing time-proven methods and concepts that further advance existing technology.



Slave head assembly with test head mounted. The vernier calibration knob is at the top

A Dream Merchant's Labour of Love - The Golden Chariot

By Ajit Menon



Raja Chauchan, Satish Gupta, Satin Paudwal and Pradip Routray the recordist team.

Everything about this place is big, larger than life. From the gigantic statue of Lord Krishna that adorns the front lawn, to the huge mixing console which is the biggest in India, and the reputation of the people who own and run it - Gulshan Kumar of T-series. Big is the only word to describe Golden Chariot.

Owned by the legendary Gulshan Kumar, the mention of whose name inspires awe in the minds of hardened industry wallahs who have been witness to many a success story. A man who many believe can actually see into the future like Nostradamus of yore. But unlike Nostradamus who saw disaster and darkness, Gulshan sees gold. He saw opportunity. He saw the common man before him

and decided to bring the commodity entertainment to him cheap. The pioneering man, in the space of a few years reaped rich dividends, and saw the rise of Super Cassettes Ind. Ltd. & T-Series, into what is today a multi-faceted empire and catapulted Gulshan to the enviable position of India's most talked and loved Millionaire.

Super Cassette first foray into recording was the purchase of Sudeep studio at Khar. The studio was completely refurbished and upgraded to 16 track locking two Studer 8 track machines. The work load was overflowing and somewhere in 1989 it was decided to build a complete corporate complex housing most of Super Cassette activities under one roof. This led to the building of the Golden Chariot Complex.

A huge 3 story Pink building set behind the Oshiwara telephone exchange on the main link road.

The basement of the building has been effectively used to house the air conditioning plant from which massive air handling ducts run to various parts of the building. It also holds the power substation, bus panel and voltage stabilizer. "We have to be very careful about the power and try our best to keep it very clean. It is from here that all the sophisticated machines upstairs are fed, and we can ill afford to have any fluctuation. House sync, is also very important" says Raja Chauhan the technical wizard and brain behind the entire project. A product of the FTII, Raja Chauhan has grown in a career that has spanned 22 years, to become the leading consulting and maintenance engineer in the Indian recording industry.

A close confidante of Gulshan Kumar, Chauhan is the man who he turns to for technical advice and rightly so. "I like to keep myself abreast to what's happening in the world of audio and video. Check out the latest trends and learn about technology appropriate for us", states Chauhan who is a respected visitor at Pro-audio shows around the globe. "When Genelec first brought out their near field monitor 1031A and I heard it at a show I was so impressed, that I immediately ordered a pair. We are the first to use Genelec Nearfield monitoring in this country. So will be the case with Dolby SRP which was demonstrated to me by Tony Spath Dolby's Marketing manager. I have realised its potentials and its very high on our shopping list. We also propose to purchase a lot more out-board processors, reverb etc to offer our

STUDIO

engineers and clients the tools for creativity. One has to be concerned about this

the call of the industry was too much to ignore and in late '74 he returned to his



Satin Paudwal, recordist of studio B, in the console room

angle to provide a complete service" says Chauhan, as he pushes open the double door leading into the huge recording area of studio A on the ground floor.

The 66x44x18 ft hall has a wood panel of 4½ ft running on all sides above which is an area covered with fabric backed by 1 inch of foam material. The entire floor area is wood and the overall accent is refreshingly live. On the far side of the hall is a perforated screen used for movie projection behind which are JBL speakers. There is a reasonably sized vocal room adjoining the hall. Double doors and a sound lock lead into the control room where we are joined by Chief recording engineer Satish Gupta, the man who sits at the helm of India's biggest mixing desk, the 52 input 24 group Studer 906A Series which dominate the center of the spacious control room and his assistant Pradeep Routray. Satish and Pradeep are both from the FTII. Satish is from the class of '71 and Pradeep from the '89 batch. "Chauhan and I were in the same batch and we have shared the same room" says Satish who after passing joined R.K. film as an understudy to Alauddin, after a couple of years of freelancing at ad agency work, his career took an abrupt turn when he left the recording industry and joined Hoechst Pharmaceuticals. But

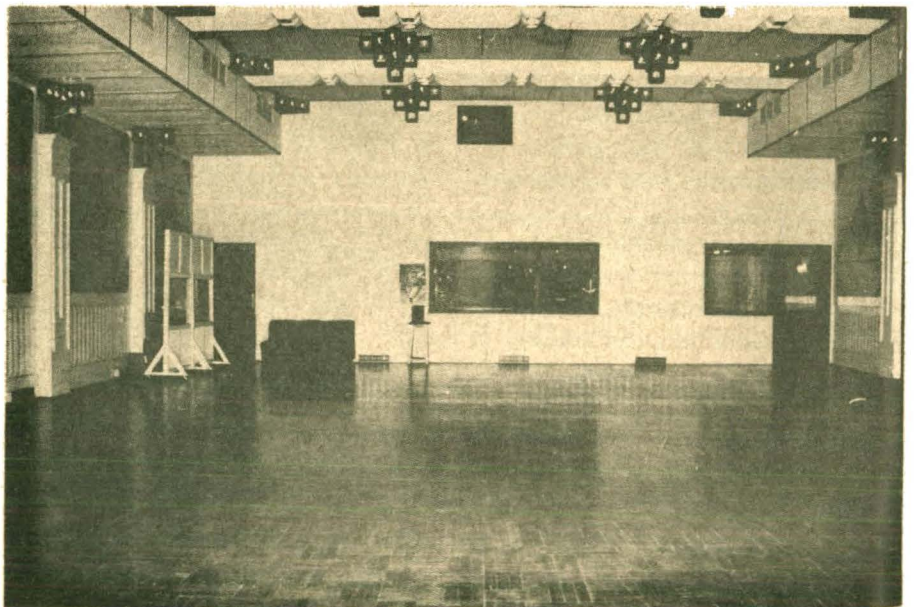
first love and joined Bombay Sound Service under the late S.N. Sharma. During this period he also joined the select group of four engineers to have undergone an extensive course in audio recording from Surrey University London.

In '91 he was invited to join Super Cassettes and welcomed the idea to join hands with his old classmate in setting up the unique project.

"Golden Chariot is a symbol of team effort" states Satish, "We have all been involved in this from day one. From the blue print stage onwards and were consulted on our requirements with regard to equipment, preferences. We knew what we wanted to achieve and have worked as a team to reach that goal. It was not like some other places where the recording engineer is selected on the day of inauguration of the studio" declared Pradeep whose past experience was with the Audiofile at Consortium Concepts.

"Yes it is sad but very true that the recording industry is in a sorry state and this situation is brought about by studio owners who that there is nothing special in a recording engineers job. Today a job as a recordist is the easiest to get in Bombay. Anybody who can push a fader can hope to be a recordist", muses Satish who considers Daman Sood of Western Outdoors as the best engineer in the business today "I strongly feel that only FTII graduates and people with good technical background should be eligible for the chief recordist post in good studios".

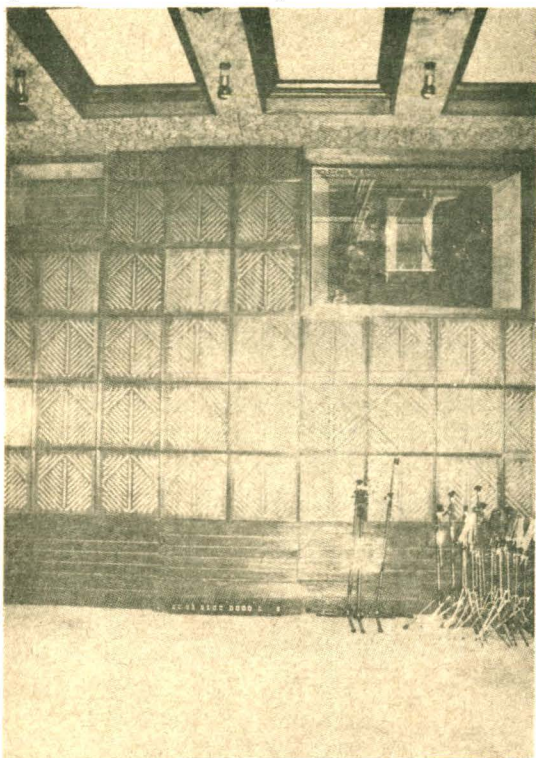
Back at the Golden Chariot canteen on the second floor, adjoining to the office section which handles all the paper work of the Super Cassette organization, lunchtime is a pleasant affair, with the



The massive studio A musicians hall without any column or beam in the 2900 sq. ft. area. At the far end on top is the projection window. Bottom right is the singers booth. Centre, the console window

office and technical staff mingling in good humour. Here we get a chance to

Mastermix automation from Audio Kinetics.



The split-level studio B, by normal Bombay standards still large enough and spacious. Note the console room window positioned at the top right which is accessible from the mezzanine floor. The Magnatech Hi-Speed reversible 636 film projector and 3 nos Dual dubbers and Magnatech 6TR REC/REP 1nos. are also located on the mezzanine floor adjacent to the console room of studio B. The mezzanine floor also accommodates the art department and dark room, where all inlays and posters for T-series and films under production by Super Cassettes are designed.

meet Satin Paudwal who is the engineer of studio B which is also on the ground floor. The Studio B is smaller than Studio A and has the control room on the mezzanine floor over looking the recording floor. We query him on the equipment he replies. "I have a Studer 14 input board which feeds either two Studer A 800 MR III 1" 8 Track which are locked together or two 1/4" Studer 820 machines, Lexicon and Klark Technics effects processors Studer A68 amps and JBL monitors" replies Satin.

In Studio A it is back to work as Satish goes over the 906 console which has 52 inputs / 24 group four discrete outputs capable of LCRS (Left Center Right Surround) film mixing, and stereo master outputs extensive EQ and Aux send/return facility, built in patchbay & plasma metering. The console is equipped with

Pradeep sets up the impressive array of outboard equipment which includes Lexicon 300, Lexicon 1/5 with MRC and dbx compressors (see box for complete list).

A 2" tape is loaded on the Studer A 800 MR III 24 Track which lies alongside a Mitsubishi X-86 digital master. Two way communication is established with the machine room upstairs which houses another array of Studer 800 and 820 1 inch machines alongwith Magnatech 35/16 mm sprocketed Mag recorder/reproducer and everything is set for get another session. Anuradha Paudwal the nightingale is ready to record yet another liltng melody which will find its way to the hearts of millions of her adoring fans.

Anuradha is using the extensive facilities of the studio on a regular basis. And its her striving for quality and a newer dimension to her music that acts a guide to the Chariot philosophy of creating a signature sound and taking the Indian recording industry at par with international standards.

Creativity and technical excellence seem to be the key words. On the third floor of the complex one section will hold a complete video Hi-band and Betacam editing suite. In this complex adequate space is provided for video shooting and arrangements are made on the ceiling for positioning lights. Chauhan and his team have already started work on the erection of a completely new facility to cater for Super Cassettes latest venture, into feature film production. This studio alongwith a preview theater will be used for film re-recording. The theater is configured around a custom built Soundcraft 6000 console ready for Magtrax monitoring and connected to Magnetech. 35/16 mm recorder/reproducer and high speed reversible projector, a computer controlled looping system with monitor panel. "I have designed the studio using the same principles we have used downstairs. That is first consulting the people who are going to use it and how they want to work,

and thus configuring the equipment based on these inputs".

"We will link the 35 mm magnetic recorder to the Studer 24 track as master and slave or vice versa so that we can transfer either way. So also with the video recorders. Through time code, we shall be utilizing the recording done in studio A, or for that matter in studio B, for video and film soundtracks. No degeneration of quality and faster production and editing!" states Chauhan as he continues to open up crate after crate containing equipment of all descriptions. We leave the man to his task and wander outside. The Sun is setting in the western sky the building is bathed in a golden glow. We stop to stare and wonder for a moment.

The Chariot with its riders - the visionary, the nightingale, and the old school chums - will they ride into the sun in a blaze of glory?

Equipment List

Mixing Console - Studer 906A Series. custom 52 input 24 group, 4 discrete LCRS pan film outputs 2 stereo outputs and MASTERMIX automation on channels.

Soundcraft series 6000 configured for Magtrax monitoring

Monitors - JBL 4345. Main studio monitors

Genelec 1031A. nearfield monitor

Effect Processors - Lexicon LXP 1 & LXP 5 with MRC. (MIDI remote control)

Lexicon 42

Klark Teknik DN760

Dynamic Processors - A+D Compex IIM 760 RS, Compex II, DBX 165/166, A+D auto pan scan

Recorders - Studer A800 2" 24 track with remote

Studer A800 MK III 1" 8 track x 2
Studer A820 1/4" 2 track mastering machine x 6

Studer Revox DR 99 MK III

Magnatech 35 mm sprocketed mag 4 & 6 trk recorder/reproducer

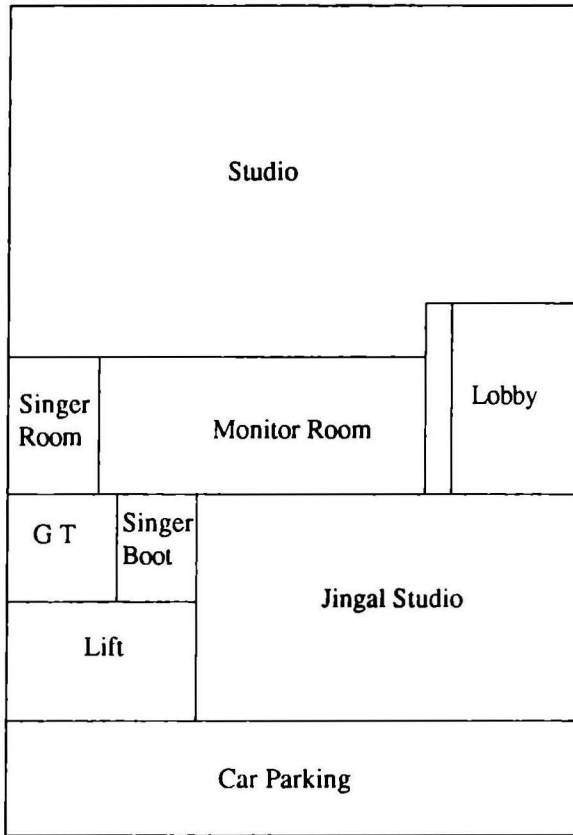
Mitsubishi X 86 2 track digital mastering

Nakamichi Cassette

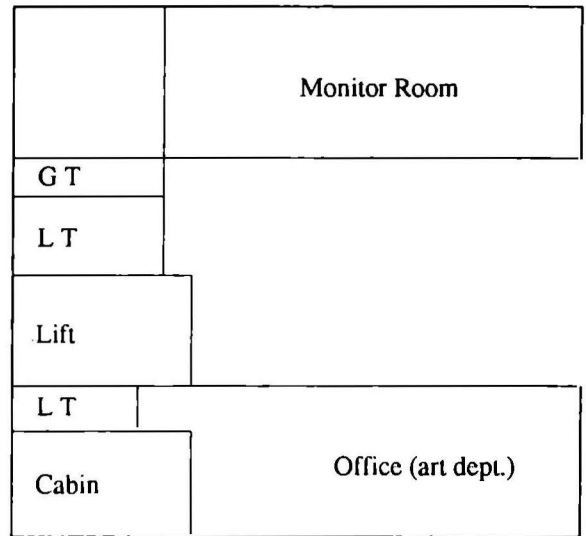
Microphones - Neuman U87 x 11
TLM 170

Beyer Dynamic MC 734 x 2, MC 740 x 8, M 600 x 9, M 88 x 6, M 201 x 4, M 160 ribbon x 5

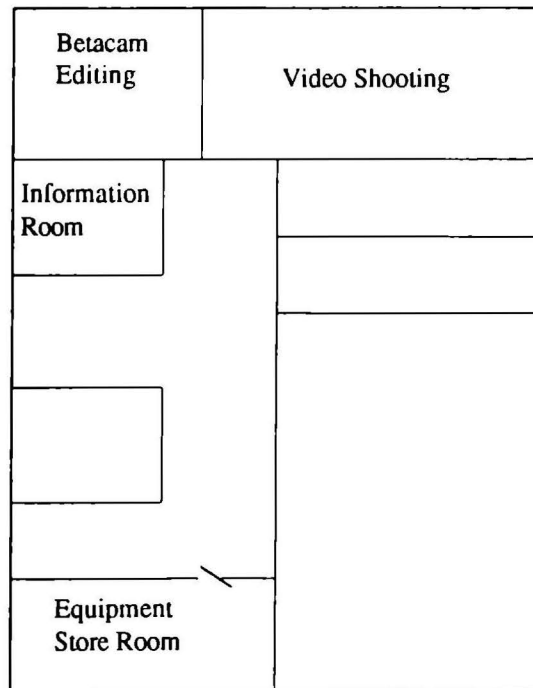
STUDIO



Ground Floor



Mezzanine Floor



Second Floor

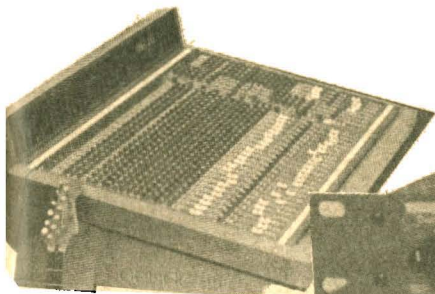
ProSound

STUDIO SYSTEM DESIGN CONSULTANTS

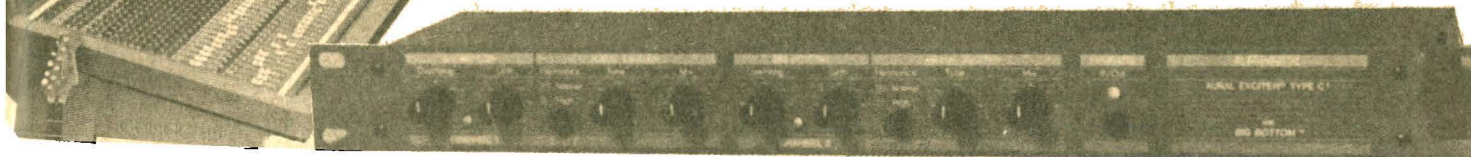
Planing a new studio?

PROSOUND OFFERS SOUND SOLUTIONS

We can solve any problem. Whether it is the acoustical design, of multi-track studios or Dolby film-mixing. We have the industry standard products, know-how, economic and technical services to make your project a success. For example we are the exclusive distributors for the following

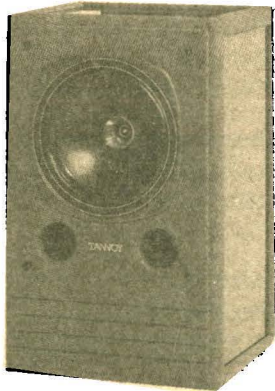


LEXICON 300. *The only digital effects processor with SMPTE time code.*

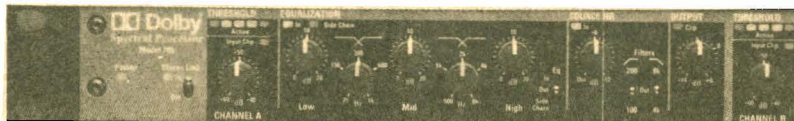


APHEX AURAL EXCITER 104. *With the revolutionary Big Bottom feature.*

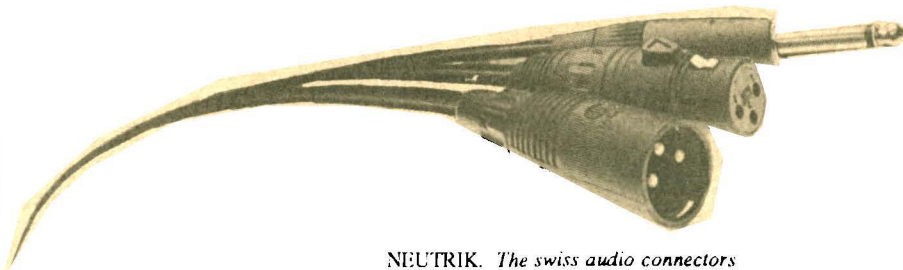
SOUNDCRAFT SAPHYRE. *Flexible, versatile & noise gates in every channel.*



TANNOY MF 8. *For ideal full range studio monitoring speakers.*



DOLBY SPECTRAL PROCESSOR. *The EQ you've always wanted.*



NEUTRIK. *The swiss audio connectors and cables*

PRO-SOUND

24-A, 1st Floor, Ghanshyam Industrial Estate, Veera Desai Road, Andheri (W), Bombay-400 058

Tel: (022) 6269147 Fax: (022) 6269691 Telex: 011 76893



Soundcraft



Continued from page 11

Broadcast India '93

TRALIA
 MEDIA AGESrl MONITOR, ITALY
 RADIO WORLD INTERNATIONAL,
 USA
 TRANSMEDIA PARTNERS, USA
 CINE MAGIC, INDIA
 SAICOM BROADCAST ENGINEER-
 ING, INDIA
 NEUTRIK AG, SWITZERLAND
 M.S.P. ENTERPRISES (MX CON-
 NECTORS) INDIA
 QUIET SOUND UAE
 VIDEO POINT, INDIA
 PENTACOM, INDIA
 SEEM SUBTITLING, NORWAY
 PRINT LINK, INDIA
 ELECTRONIC ARTS, BOMBAY
 CINE MAGIC, INDIA
 AMEK/TAC, UK
 DAXCO PTE LTD, SINGAPORE
 ELEKTOR ELECTRONICS PVT.LTD.,
 INDIA
 MEDIA MOTION TECHNOLOGY
 LTD, UK
 ROBOCOM BUSINESS SYSTEMS P.
 LTD, INDIA
 FAST ELECTRONIC GMBH, GER-
 MANY
 DRAWMER DISTRIBUTION LIM-
 ITED, UK
 MILLER FLUID HEADS, AUSTRALIA
 LEE FILTER LTD, UK
 TECHNOSYSTEMS S.P.A., ITALY
 NEW VIDEO LIMITED, INDIA
 APEX MACHINE COMPANY, USA
 AUDIOMATIC CORPORATION, USA
 AUDIO DEVELOPMENT, USA
 CD CATS, USA
 CONCEPT DESIGN ELECTRONICS &
 MFRG. INC., USA
 LEYBOLD AG, GERMANY
 BIRD ELECTRONIC CORPORATION,
 USA
 BROADCAST ELECTRONICS INC.
 USA
 MIXMASTERS AS, NORWAY
 MILLER FLUID HEADS, AUSTRALIA
 NEUTRIK AG, SWITZERLAND
 STUDER REVOX AG, SWITZERLAND
 PERFECTONE S.A. SWITZERLAND.

The above list is growing every year.
 Ramesh Meer, the organiser of the

Broadcast India shows says "This year the show will be bigger and best of the last two years, as quite a few countries will be having their sponsored pavilions".

Broadcast India shows are sponsored by RAPA (RADIO & TV ADVERTISING PRACTITIONERS' ASSOCIATION OF INDIA LTD.) and APVEO (ASSOCIATIONS OF PROFESSIONAL VIDEO EQUIPMENT OWNERS, INDIA).

These two associations cover all the decision makers in the private sectors of the Broadcast Industry and it's allied sectors. And since Bombay is the real base of the Broadcast Industry - all the roads now lead to it.

Participation Cost

Shell scheme sites: US\$ 300 per square metre.
 Free design sites: US\$ 250 per square metre.
 (Minimum space booking for Free Design Sites: 30 Square metres)

Booking Rates

US\$ 1750

Special Rate of US \$ 1500 for booking before 31st July '93

The rate does not include:

- * Clearing & Forwarding charges, custom duties if any, and transportation charges from Bombay port to the venue of the Exhibition.

- * Re-shipping of unused material back (in case you want it back)

Free Services Included

- * Decoration service with posters and other display material supplied by you

- * The services of a hostess who will distribute your technical and sales promotional material (provided by you) to all visitors

- * Facia Lettering of your company in English, on the kiosk

- * Spotlights on poster and display material

- * Listing in the official exhibition directory

Customs Clearance & Carnet

Equipment and other material for demonstration purpose in the Broadcast India '93 Exhibition & Symposium can be brought under regular ATA CARNET. Carnet to India is allowed from most countries. For participants from countries not having signed the Carnet Treaty with India, the organisers will organise a bond for custom clearance purpose through their respective consulates wherever possible.

Pre-arrangements for speedy clearance of customs is being made by our official agents. To this end, we require all details of your equipment and its costing to reach us not later than 30th September 1993.

Pan Asia Satellite & Cable Television

Hongkong
 March 22-24

Diskon

Tokyo
 April 12-15

NAB '93

Las Vegas, USA
 April 19-22

Montreux TV '93

Montreux, Switzerland
 June 11-15

APRS '93

London
 June 23-25

Repli-Tech

California USA
 June 15-17

Pro Audio & Light Asia '93

Singapore
 July 7-9

Broadcast '93

Hong Kong
 July 8-10

IBC '93

Amsterdam, The Netherlands
 September 16-20

International Broadcast '93

Jakarta
 October 1-5

Broadcast India '93

Bombay
 October 29-31

Broadcasting Cable & Satellite India '93

New Delhi
 October 25-28

AES 95th Convention

New York, USA
 October 31 - November 4

Interbee '93

Japan
 November 9-11

AES 96th Convention

Amsterdam, The Netherlands
 Feb 27 - Mar 2 1994.

Continued from page 9

Delhi Talent

vocal music for Shri Ram Bhartiya Kala Kendra.

The new projects that he is working on are (1) A Documentary Film on Indian Cultural Heritage and (2) A T.V. serial on Music - 'Melody Calling Their Master'.

He has been awarded (1) the prestigious 'Uttam Kumar Award' for Best Singer 1990, (2) Lions Club Award for Best Singer of the year (3) Best Singer award from Mohd. Rafi Memorial Foundation (4) Sargam award for 1st position in All India Music Competition (5) Shobna award for best singer of the year (6) Shobna award for outstanding contribution in Vocal Music (7) Sakha award for Best Singer 1990 (8) Show Maker Award for best outstanding singer (9) Stage promoters Award for Best Singer of the year.

He has been inducted as a associate member and patron of the Mohammed Rafi Memorial Foundation.

List of Cassettes/Records/Compact Discs

The following cassette/records/compact discs have been recorded in Mr Mukherjee's voice by the leading Super Cassettes Industries Ltd:

Cassettes:

- Hits of Hemant Kumar, Vol.1
- Yaaden, Vol.2
- Yaaden, Vol.4
- Hits of Duets of Hemant Kumar, Vol.7
- Legend Glory Bengali Film Hit Songs
- Rabindra Sangeet, Vol.1
- Amar Shilpi Amar Gan (Bengali Hit Songs) (Bengali Film Hit Songs)
- Amar Sangeet, (Bengali) Vol.1,
- Bengali Film Hits

Long Play Records:

- Yaaden, Vol.7
- Yaaden, Vol.2
- Hits of Hemant Kumar

Compact Disc:

- Hits of Hemant Kumar
- Yaaden - Vol.2 & 3

Cassettes recorded by Weston, Sonotone, Reel Time:

- Afsana Pyar Ka (in Bengali) - Weston
- Bengali Folk Songs - Sonotone
- Hemanta Shoroney Bengali Hits Songs by Reel Time
- Living Legend - Hemant Kumar by Reel Time

SUMITA VASUDEVA

SEND NEWS BY FAX

91 (22) 4931054

Mega Sales for Tips with Subhash Ghai's, Kuh Kuh Kuh

Just what the doctor ordered to get the spirits up. The market perked up with this spicy number. Instant response was assumed. And by the looks of it, a super hit is on the cards.

Khal Nayak could establish Tips, in a very 'sound' position. The sales of this soundtrack will very easily cushion the pressure of the string of non-starters the label was burdened with earlier.



L TO R: V.K. Dubey (Vice President -HMV) Jagjit Singh, Mittal & Bhupinder

Continued from page 22

Sanam lifts

Music sales, have to be generated with a hit which is 'created'; As such, of course, the public does have a demand for music; but such a demand is not general, like for other con-

sumer products. The demand is 'created' with 'good music'.

Therefore, a string of Soundtracks which do not click, is bad news for the industry as a whole, leave alone for the company.

A case in point in Yalgaar. The entire market was upset with its dead response.

continued from page 23

India's first CD Plant

Music Rights Acquisition

Suresh Kumar plans to acquire music rights for CDI Ltd. As such there is no indication the company will undertake job work. Delta Disc Ltd has yet not paid the Rs.50 lac deposit. Also while the company had to deploy Rs.450 lacs at the time of Public Issue only Rs.75.90 lacs has been deployed. The plant is to come up at Gurgaon, outside Delhi.

The market response to the issue was not very encouraging in Bombay. However Mr. Mirchandani of CDI Ltd. Bombay said this was due to lack of stationary. And in the rest of the country the response was 'Overwhelming'.

Continued from page 25

Saki Magnetics develops technical

efficient for our Gauss duplicating systems," Middleton said.

"We want very much to pass along this technical advance in the best economic interest of the industry and have no plans to charge customers for this benefit," Drake said. "Our engineers and technical staff improved the fundamental technology in producing shield in our continuing effort to offer superior magnetic recording heads."

Saki Magnetics is preeminent in utilizing specialized materials and processes for manufacturing the highest quality heads.

A subsidiary of TDK Electronics, Tokyo, Saki Magnetics is the world's largest manufacturer of ferrite magnetic recording heads.

CLASSIFIED

Sony-VO-5630

Sony VO 5630 Low Band U-Matic VCR
Sony RM-440 Low Band edit controller
Sony RM 450 High Band edit controller
Sony EC-740 AB Roll 3 VCR edit controller
Sony VTW-800 video typewriter
Sony CMA-8 ACE Camera adaptor
10 Metre & 25 Metre Camera
Extension Cable
National S-VHS VCR AG 7330 & AG 7450
National S-VHS camera WV7 70
Sony M-3 used 3 tube camera going cheap
Sony Betacam BVW 75 VCR
U-Matic spare parts
Custom cleared items available
Contact : Playback Classified
Box 001, P. B. 16164, B. G. Kher Marg,
Bombay-400 006. Tel : 6464560

"We have almost brand new four-cavity cassette shell moulds for sale. Good quality hardened steel moulds precision made to IEC/ITA/JIS standards. Existing design or you own design. Transparent or opaque price range between US\$20,000 - 25,000. Kindly contact:

General Magnetics Limited
625 Lorong 4

Toa Payoh, Singapore 11231

Tel : (65) 2595511 Fax: (65) 2593723

TLX : RS 23252 GENIMAG

WE UNDERTAKE JOB WORK

C-O's cassette, Audio Tape Double hubs winding & Assembling, Sticking Labels & Gilletting on cassettes. Manufacturing of Audio Blank Cassette as per requirements.

Final product from Master Tape to Cassettes as per choice.

Contact: Tel No. 2054132

Mr. Nimkar

Shree Udyog 23 D, Zaobawadi Thakurdwar,
Bombay-400 002.

Spare capacity available for high speed audio duplication. Quick Service and Guaranteed Quality.

Please contact:

Studio Jagmag Art

85, Saifee Jubilee Street, Bombay-400 003.

Tel: 376 3809

Available : TASCAM

TSR 8, Tascam 38, Tascam 2516 16 in 8 out studio mixer, Tascam 1024 16 mono 4 stereo 4 Aux 2 out stage mixer. Contact : Manuel Dias Tel: 6487923

For Sale

King Loaders : M-685 Semi Automatic Audio Cassette Loaders 2 pcs.

Viewlex/Electrosound : Cassette to Cassette 1:15 IPS duplicators (1+6).

Ampex : Six channel Stereo Audio Mixer.

Ferroglyph : Full track 1/4" Tape Recorder.

Graphic Equaliser : Mono, Push button controls.

Contact:

Kapco-International Limited

Flat 5-B, Shankar Market

Connaught Circus, New Delhi-110 001.

Phone: 3313260 Fax: 011-3313718.

Recording Job work on Otari DP 4050 & Sony CCP 13 B. 1/4" open reel to Cassette Master facility available. Duplication with complete packing. On-cassette screen printing undertaken.

Contact: Raju Panchal/Vinod Panchal

Siddhivinayaka Electronics

69/B-Kashinath Dhuru Wadi, G.K. Marg,

Opp. Dawn Mill, Lower Parel, Bombay-400 013

Tel: (O) 4933993 I (R) 4945232

Telex 6120 XL series high speed Audio cassette duplicators available for sale

The following second hand Telex 6120 XL Series Duplicators are available at realistic prices:

a) 2 x Reel to Reel Masters.

b) 3 x Cassette to Cassette, 1 master with 3 slaves

c) 3 x 4 cassette position slaves for adding to item "a" & "b".

This equipment is in good working order and is suitable for anybody wishing to copy:

a) from reel to reel

b) from cassette to cassette

c) from reel to cassette

For full details, please contact:

Graff electronic Machines Ltd

Woodhill Road, Collingham, Newark

Nottingham NG23 7NR

Telephone: 0636 893036 Fax: 0636 893317

Jewe Boxes for Compact Disc available at Super Audio

17, Raheja Complex 834, Annasalai,

Madras-600 002 Tel: 835188

Classified Advertisement Rates: Rs. 5/- Per word, Rs. 75/- Per Column Centimetre with Logo Visual. Payment in Advance.

———— VIJAYTA AUDIO WORLD ————

THE DIGITAL BIN

OFFERS

DIGITAL QUALITY DUPLICATION

At Vijayta, we initiate quality at every step. Our endeavour and effort is to produce cassettes close to the original recording. We believe one must start at the beginning. If you bring us the original recording on a DAT master, our goal is to offer you a pre-recorded cassette sounding just the same.

ALL UNDER ONE ROOF

Mastering

At Vijayta we utilize the worlds latest technology to reproduce your master. Digitally! No tape, whether quarter-inch or half-inch. The Digital memory reproduces your master perfectly each time, a million times. The Digital bin is your only guarantee to reproduce your master like an original. Each cassette is first generation.

Duplication

Qualified engineers who make sure the right tape is being used, also make sure that the tape records to its optimum. Consistent maintenance and our QC pancake checker ensure each cassette is perfectly duplicated. Dolby HX-Pro gives you the extra edge. We can also duplicate chrome tape.

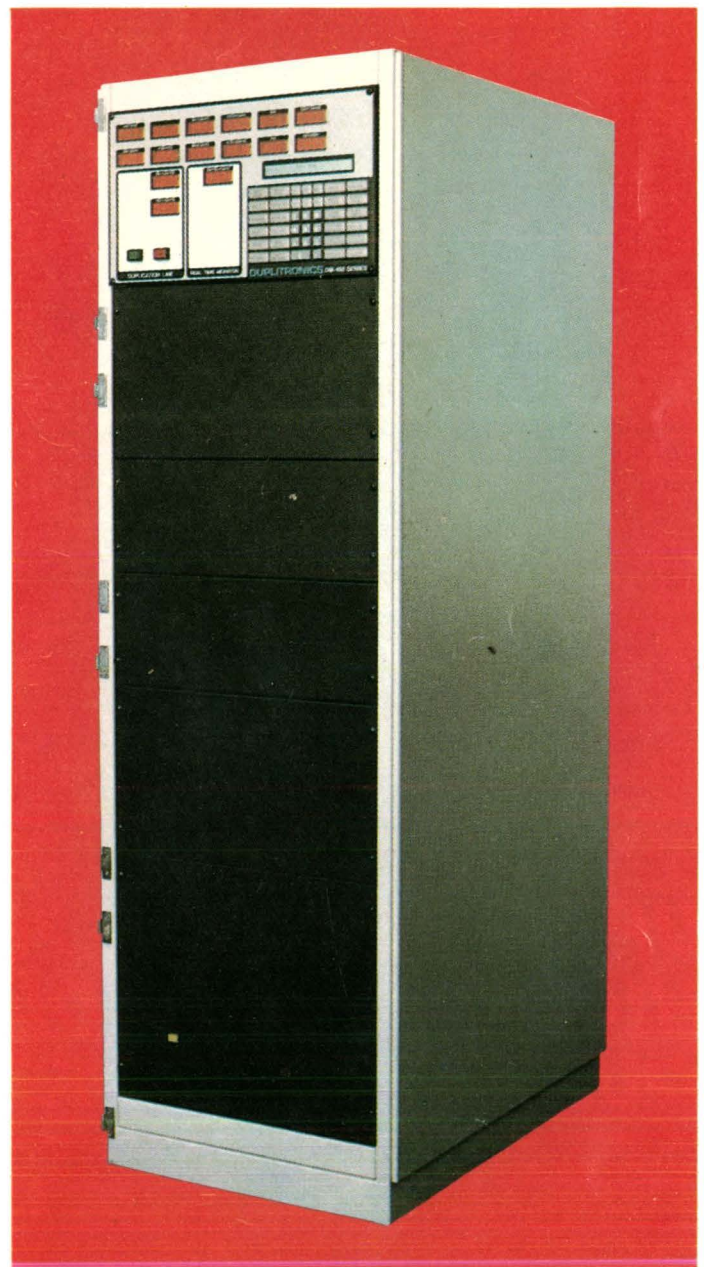
UPTO 40,000 CASSETTES PER DAY.

Cassettes

We also ensure quality C-O's which meet international standards. We take pride in our duplication and see that our good work is perfectly wound in a flawless C-O's.

On-cassette screen printing of your titles is available. Full packaging services are available, automatic cellophaning and special inserts, and in special boxes.

QUALITY - QUANTITY - QUICKLY



VIJAYTA AUDIO WORLD PVT. LTD.

SUNNY VILLA, GANDHIGRAM ROAD,

JUHU, BOMBAY - 400 049.

TEL : 6201267 6201537 6200705 FAX: 022 6208637



OTARI SINGAPORE PTE LTD 40, MACTAGGART ROAD, SINGAPORE 1336
TEL : 2847211 FAX : 284 4727 TLX RS 36935 OTARI



UP TO 128:1 DP-70 SERIES HIGH SPEED AUDIO TAPE DUPLICATING SYSTEM

The Otari DP-75C duplicating slave recorder offers three duplication ratios of 128:1, 80:1 and 64:1 with DC-servo controlled capstan motor and closed loop tension control to ensure stable and high quality duplication.

Partner the slave recorders with the Otari DP-93C Mark II Master Reproducer featuring the renowned slant endless loop-bin system to provide a flexible duplication system capable of superior results using all tape formulations.

Further details & authorised service by

PRO-AUDIO

PRO-AUDIO CONSULTANTS AND ENGINEERS 2 'KRISHNA' ST. ANTHONYS ROAD, NEAR KALINA



Q U E S T F O R T H E E S S E N C E

A sound understanding of fundamentals requires a quest for the essence. Only by avoiding side-issues can one get to the essence of any problem. Compare the Tibetan Monk, on his quest for the essence through physical and spiritual asceticism.

ODME (Optical Disc Manufacturing Equipment) feels related to this type of approach. ODME, too, is on a quest for the most essential approach of its particular line of business: the production of optical storage media systems. This innovative quest has resulted in a range of equipment for pre-

mastering, mastering, electroforming, replication, printing, testing and packaging systems based on a revolutionary concept, featuring as main benefits: saving on labour, reject rate, investment and production time. The ODME concept uniquely integrates all production stages for the manufacture of optical storage media. This concept is characterized by built-in cleanrooms, robotization, central control units, automation, integrated inspection stages and a turn-key approach including all required equipment, consumables, service and training.

Visit ODME at the Pro Audio & Light Asia '92, at the new IMM exhibition center in Singapore, from 8 to 10 July, stand number Q 525.

OD
Optical Disc Manufacturing Equipment
ME

Headoffice: ODME P.O. box 832 5600 AV Eindhoven The Netherlands
Phone: +31 40 465555 Fax: +31 40 465050 Telex: 51652
Region office Asia: ODME Asia 3F no.5 Lane 170 Hsin Yi Road Peitou Taipei, Taiwan R.O.C.
Phone: +886 2 8740786 Fax: +886 2 8740785

SOMETIMES LOOKS ARE NOT DECEPTIVE PREMIUM BLANK CASSETTES PACKAGED IN SLEEK SLIMLINE CASES



C - 90

C - 74

C - 60

JSA

A PRODUCT OF JET SPEED AUDIO

For Trade Enquiries Contact :

Western India: Crescendo Music & Marketing, Melody Salon, Ama House, Colaba, Bombay - 400 005. Tel: 231821.

Northern India: Crescendo Music & Marketing, C/o Oriental Trading Co. No.14/3575, Netaji Subhash Marg, Dariya Ganj, New Delhi - 110 002. Tel: 3279588, 3278849.

Tamil Nadu: Vedhu Electronics 37/1 Wallers Road, 2nd floor, Mataji Complex Mount Road, Madras - 600 002. Tel: 834627.

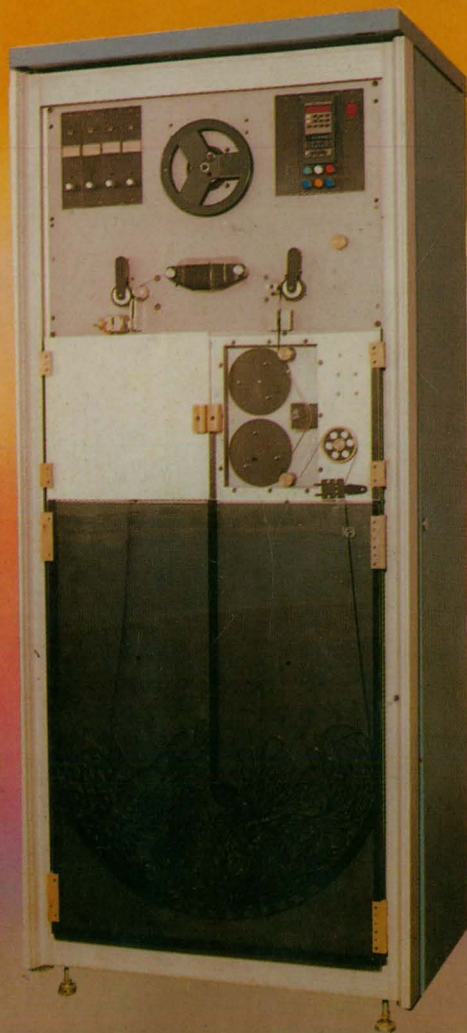
Karnataka: Estrada Marketing, 51 Charles Campbell Road, Coxtown Bangalore - 560 005.

The Sanket Gemini 32. Designed for Production.

Not to show off

Introducing the Gemini 32 loopbin and twin slaves.
Perfect for the Indian arena. Very tough. Very cost
effective. Half & Quarter-inch Master loopbin.

And quality that will stand superior in comparison to
any European brand in the market



Features

1. Exceptionally fast stable tape speed with brushless DC servo direct-drive high torque motors with micro processor Electronic Circuitry.
2. High performance Record/Re-producer amplifiers.
3. Dual frequency cue tone oscillator and test signal connector all located on the record reproduce amplifier (This allows one process to be omitted when assembling the Master Tape).
4. Preset counter for setting the number of copies to be made.
5. Slave start timer to reduce Tape waste.
6. Tape Cleaner assembly which eliminates dust and other contaminants from Master Tape; increases time between head cleanings
7. Saki Ferrite heads for superior durability and performance
8. An adjustable power regulator maintains a safe electrical current throughout the system.



Duplication Services

We offer High quality job work duplication. We will organize the materials like C-O and tape for you. Fully automatic C-O loaders and on-cassette screen printing and automatic cellophane arrangements are available with us in-house.

Ask for video demonstration cassette

Sanket Electro Plast

45-C, Mogra pada, Opp. Colo ball pen, Old Nagardas
Road, Andheri (E) Bombay - 400 069

Tel: (022) 9982581 Fax: (022) 4145001 4271207

Systems Available
With Heads By

SAKI

LEADER

Introducing the latest Line up of PAL Video Test Instruments



Combination Waveform Monitor and Vectorscope
Simultaneous Display of A-B Inputs, AC and DC
Operations.

NEW



VECTOR/WAVEFORM MONITOR
Model 5871/Model 5873 (with no SCH)

Simultaneously Observed Component Signal
and Composite Signal



COMPONENT/HD WAVEFORM MONITOR
Model 5100

PAL component test signal generator to generate
21 component signals and 7 composite signals.
ID character display & calender function.

NEW



COMPONENT TEST SIGNAL GENERATOR Model 425 P

PAL signal generator with GENLOCK function.
ID character display & calender function.

NEW



TEST SIGNAL GENERATOR Model 411 P

2H/2V Display of Video Waveform. Portable Waveform
Monitor with Battery operation
Ultra-compact size Vectorscope for Saving
Studio Space Battery Operation



**MINIATURE WAVEFORM MONITOR &
VECTORSCOPE (PORTABLE)** Model 5867

Portable Waveform Monitor with Battery
operation in outdoor use packing.



uses SONY
NP-1 A Battery

**WAVEFORM MONITOR
(FOR OUTDOOR PURPOSE)** Model 5867

For details write for catalogue.

EXCLUSIVE AGENTS: KRISHAN C ARORA & CO.

SERVICE CENTER: LEADER + ARORA electronic center

Common Address: N-122, Greater Kailash-I New Delhi-110048. INDIA Tel: 641-1133, 642-4159, 643-3256

Telex: 031-70148 Fax: 011-646-5297