



Newsletter

Vol.3, No.6

Nov - Dec 1994

FROM PRESIDENTS' DESK

At the conclusion of the year 1994, we may recall with a feeling of satisfaction the successful conduct of several important activities. Apart from the Annual Technical Convention and the Mid-Term Symposium which were held at Delhi & Calcutta respectively, two major International Conferences on 'Emerging Opto-electronics Technologies' and 'Personal Wireless Communications' were also co-sponsored by the IETE at Bangalore in July-Aug 94. In addition, a Seminar on 'Electronic Industry - The Challenge of Globalisation' was conducted at Delhi in March 1994. The recommendations of this Seminar are now under consideration by the Dept of Electronics. Our increased interaction with other Industry Associations has also led to a better all-round appreciation of our views at the decision-making levels of the Government.



We hope to maintain our earlier pattern of activities during the year 1995 also. In keeping with this aim, several important activities have been planned for the first quarter of the year, in addition to the regular technical activities which are conducted by the various Centres of the Institution from time to time: (i) A Tutorial on **Interconnect Issues in Telecom Sector** to be held on 17 Feb 95 at IETE HQs. The new telecom policy and its implementation guidelines on the provision of telecom services by the private sector have opened up several opportunities for entrepreneurs interested in the provision of these services. This tutorial will address the interconnect issues of DoT and private networks for a better understanding of the related technical and operational aspects. (ii) Satellite Television Education Programme (STEP) for Polytechnic teachers to be organised by the IETE from 20 Mar to 25 Mar 95. This is a pilot programme funded by the World Bank. This programme will be organised through C-DETS (Centre for Distance Education Through Satellite) which is being set up by the IETE making use of the latest satellite-based teaching techniques. (iii) 26th Mid-Term Symposium on **Microwaves and Millimeter Waves - Recent Trends** to be held at Dehradun from 8 to 9 Apr 95. This Mid-Term Symposium will be organised at Defence Electronics Applications Laboratory, Dehradun. I am sure IETE members will participate actively in these activities of the Institution.

May I also utilise the columns of this Newsletter to extend my greetings and good wishes for a happy New Year to all members and staff of the IETE.

S.V.S. Chowdhry

Brig SVS Chowdhry
President

NEWS FROM HEAD QUARTERS

Tutorial on Interconnect issues in Telecom Sector - 17 Feb '95 at HQ IETE

A one day tutorial on **Interconnect issues in Telecom Sector** will be organised on 17th Feb '95 at Delton Hall, IETE Head Quarter. The National Telecom Policy, 1994 provides for the rapid expansion of telecommunication services, bringing in competition, entry of private sector, introduction of new technologies and expansion of value-added services. In order to ensure the systematic and speedy implementation of the National Telecom Policy-1994, guidelines have also been laid down by Govt. of India in respect of provision of basic services by the private sector. The above referred policy from Govt. of India is meant to provide telephone services to larger number of people which, with Government resources alone, is not possible. It is expected that Govt. of India will very soon issue tender document to select the private operators for 18 telecom circles. A large number of entrepreneurs from India and service providers all over the world, financial institution as well as top telecom manufacturers in the world are showing very keen interest in the proposal for setting up private investment in basic and value added services. The above network would be in addition to DOT's network which will continue to grow at the planned rate or even faster. The issue of inter-connection between DOT's network and private network is very complex. The tutorial aims to serve the information needs of an entrepreneur in this area.

The tutorial will cover

- (i) Presentation of typical existing telecom network covering the total architecture from village to the state HQ & the inter-connect points to nation network.
- (ii) Structure of national long distance network including redundancy features.
- (iii) Interconnect issues, technical

requirements, principles of revenue sharing/ access charge payment.

- (iv) Quality of service requirements.
- (v) Available technology for local loops in urban & rural areas.
- (vi) Presentation of a model for a circle and cost estimate.

Registration Fee for the tutorial is **Rs. 3000/-** payable by D/D or Cheque drawn in favour of Secretary, IETE, New Delhi

SMAR '95

An International Conference on 'India Focus on Radio Frequency Spectrum Management and Regulation (SMAR '95) sponsored by the IETE, IEEE (India Council) and CII will take place on April 11-12, 1995 at Hotel Hyatt Regency, New Delhi. The two day conference will provide a forum for sharing ideas with experts from all over the world on the subject of frequency spectrum management. Some of the topics that will be covered at the conference are :

Spectrum Management (Technical Session)

1. Overview of the frequency spectrum management (International/National Scene)
2. Spectrum for wireless Access for Basic Telephony. (Urban/Rural)
3. Spectrum for wireless Value Added Services.
4. Spectrum for Long Distance (Trunk Services)
5. Spectrum for PCS (Terrestrial & Satellite).
6. Spectrum for Amateur Radio, Scientific and Industrial application.
7. Frequency Spectrum and National Security.
8. Frequency Allocation Plans.
9. Approach to national Frequency Co-ordination Procedures.
10. National Database on Spectrum Users and Access Providers.
11. Spectrum Monitoring.

Regulatory Issues

1. Treatment of existing users : Public

vs Private

2. Relationship between new service providers with existing ones.
3. Spectrum Allocation, Allotment & Assignment policy. Terrestrial, Satellite and Local area : Fixed & mobile Services
4. Assessment of Economic Value of Spectrum
5. Requirement of International Compatibility.
6. Enforcing compliance with national regulations.

Course on Agri Electronics by IETE-CASET

The IETE-CASET conducted an Executive Course on **Agri-Electronics - A Tool for Agricultural Systems Management** during November 6-9, 1994 at Hyderabad. The papers read were received from organisations like CSIO, Chandigarh, JNKVV, Jabalpur, CFTRI, Mysore, ICRISAT, Hyderabad, CASAM, Pune etc. The faculty for the Executive course were from JNKVV, Jabalpur, CASAM, Pune, NCL-Pune, and Andhra Pradesh Agricultural University.

At the end of the Seminar a Panel Discussion was held with the Chairmen of the various Technical Sessions participating. As a result, a number of recommendations have emerged. These have been sent to the Secretary, Department of Science and Technology, Department of Electronics, Department of Agriculture (Government of India) and Principal Secretary, Agriculture, Government of Andhra Pradesh.

IETE Students' Journal

The IETE Students' Journal enjoys a wide readership among the Student community as a useful forum for disseminating information to the students in an effective manner. Special issues on topics of importance are also brought out from time to time. At a recent meeting of the publication committee, a decision was taken to increase the honorarium to contributors to Rs 500/- per article to attract a wider spectrum of authors to contribute on topics of interest to students. Papers are invited.

'Exhibition on Electronics in National Development'

The IETE participated actively in 'Electronics in National Development' Exhibition '94 organised by DOE on behalf of Jawahar Lal Nehru Memorial Trust at Teen Murti Bhawan from 14-28 Nov '94. The Exhibition was inaugurated by Prime Minister Shri P V Narasimha Rao. Main participants were various Schools, Govt Departments, Public & Private Sectors and Publishers. Mrs Sonia Gandhi showed keen interest in the exhibits during her visit and spent some of her valuable time in the IETE stall.

Exhibits of IETE were divided in three main segments. The first segment consisted of Electronic & Telecommunication working models developed by students of Bangalore, Hyderabad & Madras under the Summer School in Electronics (SUSIE) scheme funded by Deptt of Electronics. They endeavoured to explain to the visitors, especially youngsters, the principles behind the various Electronic and Telecommunication devices used either in the daily life or, for specific requirements eg Electronic Warfare.

The second segment consisted of Microprocessor based models developed by students of IETE, Delhi which gave a glimpse of the miracles being performed help of microprocessors in day to day activities.

The third segment was devoted to the IETE programme of 'Distance Education Through Satellite'. The exhibits 'ranged from equipment used in the interactive classroom sessions for teleteaching, playback of the recordings of the previously conducted lessons and other related items. This programme has already helped a large number of IETE students in understanding the fundamental subjects of electronic engineering discipline.

Updation of IETE-Salora Library

IETE gratefully acknowledges a further donation of Rs 3 lakhs from Shri S R Jiwaraika of Salora International Ltd for

the updation of IETE-SALORA Library. The updation will include the following :-

- (a) Automation of library.
- (b) Connecting library on DELNET Network.
- (c) New additions to the textbooks/reference books as per the revised AMIETE syllabus
- (d) A section on Consumer Electronics books.
- (e) Separate reading area for Corporate Members.
- (f) A reprographic section.
- (h) A video library.

The updation is expected to be completed in six months time.

NEWS FROM LOCAL CENTRES

Ahmedabad

- A technical lecture on Principles of Colour Television by Shri Ravi Saksena was held on 11 Sep 94. This was largely attended by Students and IETE members and was very informative in contents.

Delhi

- A lecture on **Modern Trends in Radar Technology** by Air Cmde M Natarajan, Chief System Engineer, RCPO was organised on 9th Dec 94.
- A Lecture by Mr K J Ralls, M D, GEC Alstom, T & D, Power Electronic Systems Ltd on **The Growth of Power Electronics in Electrical Power Transmission** on Dec 19, 1994 was co-sponsored by IEE & IEEE, Delhi Section.
- A six week course on Windows and DBMS commenced on Dec 26th 1994.

Hyderabad

- A Seminar on **The latest Trends in Instrumentation** was organised jointly with Instrument Society of India, and Indian Nuclear Society on 27 Nov 94. Dr P Rama Rao, Secretary, Dept of Science & Technology, Govt of India was the Chief Guest. Shri K K Sinha, Vice-Chairman, INS(H) & CE, NFC gave the welcome address. Dr E V R Rao, Chairman, ISOI (H) & Director (T) (Rtd), ECIL read a paper on the theme of the Seminar. Prof E S Rajagopal, President, ISOI & Director, NPL gave the Presidential address. Prof M Malla Reddy, Vice Chancellor, Osmania Univ, and Vice Chairman, INS (H) released the Souvenir during the occasion. Dr C Rao Kasarabada, Vice Chairman, INS(H) & CMD, ECIL delivered the Key Note address and Shri S Narayana, Chairman, IETE(H) & Scientist, NGRI gave the vote of thanks.

- Dr N Seshagiri, Special Secretary to the Govt of India & Director General, NIC, Planning Commission, delivered the M Madan Mohan Endowment Lecture 1994 on 03 Dec 94 in Mekaster Auditorium, IETE Hyderabad Centre. He spoke on **NICNET-National Info Highway Towards the Evolution of a Global Intelligent Network**. Shri TH Chowdary, Director, Centre for Telecommunications Management and Studies presided over the function.

- A seminar on Electronics for Agriculture and Food Technology was conducted during 6-7 Nov 1994 at Hyderabad.

Jabalpur

The following office bearers have taken charge :

Shri A K Shrivastava	Chairman
Shri P K Jain	Hony Secretary
Shri G S Nagaich	Hony Treasurer

Lucknow

A Two-day Seminar on "National Telecom Policy & its Impact" was organised by IETE Lucknow Centre, in the Taj Mahal Hotel, Lucknow on 10-11 Dec 94. His Excellency the Governor of UP, Shri Moti

Lal Vora, was the Chief Guest. Shri M G Kulkarni, Member, Telecom Commission delivered the Key Note address. A Souvenir was also released by the Chief Guest during the occasion. Shri T V Sivakumaran, CGM, UP Telecom Circle gave an introduction to the Seminar, and Shri Brijendra Sahay, Chief Secretary, UP delivered the Presidential address. Shri R K Singh, Hony Secretary, gave the vote of thanks.

Pilani

Technical Tour to M/s SAMTEL India Ltd, Bhiwani and M/s Maruti Udyog Ltd, Gurgaon on Dec 3, 1994.

Trivandrum

The centre has shifted to the following premises: TC-11/1953 Plamood, Trivandrum-695004

Vijayawada

As a part of contact programme for student members, a Video show was conducted on 29 Nov 94 at the Auditorium of KES Polytechnic for Women. The theme was "Electronics: Active Devices, Silicon Controlled Rectifier, Uni Junction Transistor."

Visakhapatnam

The new office bearers elected are :
 Shri W V Ramana Chairman
 Shri R P Naidu Hony Secretary
 Shri P V Ramana Rao Hony Treasurer

PERSONALIA



Dr B D Pradhan received his BTech (Hons) degree in Electronics and Electrical Communications Engineering from the Indian Institute of Technology, Kharagpur. Thereafter, he obtained his MS from University of Kansas and PhD from University of Pennsylvania, USA, in Electrical Engineering. Dr Pradhan is a Senior Member of the IEEE and has

contributed a number of papers in national and international journals. He has also received a number of awards.

Dr Pradhan was appointed the Executive Director of the Centre for Development of Telematics (C-DOT) in 1990. He directs the organisation consisting of over 1000 professionals engaged in the development of urban and rural digital switching and transmission system.

Prior to the C-DOT assignment, Dr Pradhan was the General Manager (Electronics) at the Tata Electric Companies, Bombay. Here, he supervised over 350 professional working in the areas of Radar data processing and display systems, rugged computers, power plant training simulators, ATC training simulators etc. During the 18 years he spent in Tata Electric, he had also worked in other areas such as power line carrier communication system, telemetry and telecontrol, industrial electronics etc. He also worked in the US for a period of 7 years in the area of realtime data acquisition systems.

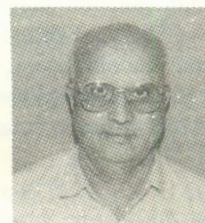
DISTINCTIONS

Dr Raj Reddy, Dean of School of Computer Science at Carnegie Mellon University, USA and a Fellow of IETE has been chosen for this year's A M Turing Award of the Association for Computing Machinery (ACM), one of the oldest and biggest international educational and scientific organisation in computing. He shares the computing community's top award with Dr Edward Feigenbaum, Chief Scientist of the US Air Force. They are being honoured for pioneering the design and construction of large scale artificial intelligence systems, and demonstrating the practical importance and the potential commercial impact of the technology.

The A M Turing award is given annually for technical achievements which are deemed by a jury of leading professionals to be of lasting and significant importance to the computing community. It is accompanied by a prize of US dollars 25,000 contributed by AT&T. This year's award is to be presented at the Computer Science

Conference of ACM scheduled to be held in Nashville, Tennessee, in March 1995.

While Dr Reddy is renowned for his work on speech recognition as well as robotics and human-computer interaction. Dr Feigenbaum is best known for his work in knowledge engineering and expert systems, two important areas of artificial intelligence application.



Dr Bulusu L Deekshatulu, Fellow IETE and a Council Members IETE has been elected as fellow IETE (USA) for technical leader-

ship in the development of remote sensing and image processing technologies and their successful implementation in natural resource utilization in India, with effect from 1 Jan 1995

FORTHCOMING EVENTS

(i) **ERTL Course Highlight** - The Centre for Electronic Interconnection Technology at ERTL(N) is the premier institute of its kind in the country. CEIT offers different courses to suit the individual needs of electronic manufacturing industry. The curriculum of the courses are being regularly updated keeping in view the changes in the technology. Each participants is given adequate hands on practice during the course. In 1995, there will be a series of courses on Reliable Soldering Practices and Solderless Interconnections, Machine soldering Techniques, Surface Mount Technology and Repair & Rework of Printed and wiring assemblies Interested industries may contact: The Director, Electronics Regional Test Lab (North) S-Block, Okhla Indl. Area, Phase-II, New Delhi.

(ii) **Int. workshop on Telematics** : The workshop will be conducted for 15 days on the subjects - Modern Telematics Techniques & Systems, Switching Systems, Data Networks, Message and Packet Switching, Protocols, LAN, WAN, MAN, ISDN, BISDN, ATM, Switching, Coding EDC & ECC, DSP and its applications, Mobile and Radio Communications, Molecular Electronics

and Chemical Computer Technology, at NERIST, Nirjuli, Arunachal Pradesh from 1-15 June 1995. Registration fee is Rs. 3500/- per participant. The candidate may apply on plain paper with bio-data with registration fee in the form of DD drawn in favour of Workshop on Telematics '95 on any bank in Itanagar/Nirjuli. Late

receipt for application is 10th Feb '95.

On 14 & 15 June, there will be a paper presentation session of contributed and invited papers. Last date for submission of papers on the topics referred to earlier to : 10th Feb '95. Registration fee for seminar is Rs 500/-. Manufacturers may

exhibit their products. Stalls will be available at Rs 1000/- per stall.

For further details contact
Asst Prof C T Bhunia,
Head, Dept of ECE
NERIST, Nirjuli-791109, Arunachal Pradesh

C-DOT PROFILE

C-DOT was established by the Govt of India as a Scientific Society in 1984. In 1989 Telecom Research Centre merged with C-DOT and C-DOT became the premier Telecom Technology Development Centre of India. In 1990 C-DOT becomes a permanent organisation.

Objectives of C-DOT are :

- To undertake the development of the next generation of digital switching systems
- To broaden the family of digital switching systems and to develop and introduce ISDN
- To develop the entire range of transmission technologies including line, radio and satellite systems working towards SDH and personal communications
- To build human resources and to develop an industrial infrastructure for telematics

The C-DOT comprises 1050 professionals today about 80% of these are key telecom professionals

C-DOT Strengths lies in:

- | | |
|--|--|
| <ul style="list-style-type: none"> (i) Pool of trained young engineers (ii) Proven design methodologies (iii) Expertise in various switching & transmission applications (iv) Mass manufacturing support (v) Compilation of scientific and extensive user-friendly documents. | <ul style="list-style-type: none"> (vi) Proven design concepts (vii) State-of-the-art design & testing tools (viii) Proven Technology Transfer methodology (ix) Large installation and customer support experience |
|--|--|

Technologies developed by C-DOT are :

Rural Technologies

- Small capacity Rural Automatic Exchange : 128p & 256p RAX
- Medium capacity Main Automatic Exchange : MAX (1500 lines)
- 10 channel Digital UHF System in 600 MHz band
- Single channel VHF System
- Satellite Based Rural Telegraph Network : SBRTN

Technologies Under Development

Switching

- Extra Large Main Automatic Exchange : MAX-XL
- CCITT #7 Signalling
- ISDN for MAX
- Remote Line Concentrator
- Telecom Management Centre for remote administration & maintenance of exchanges

Urban Technologies

- Large capacity Main Automatic Exchange : MAX-L (20,000 lines,
- Remote Switching Unit: RSU,
- 8 & 34 Mbps Multiplexing Terminals,
- 8 Mbps Optical Line Terminating Equipment
- Satellite systems : 16 Kbps VSAT

Transmission

- SONET (Synchronous Optical Network)
- 60 Mbps TDMA (Time Division Multiple Access)
- TDMA-PMP Radio (Time Division Multiple Access Point-to-multipoint)
- 4 GHz-140 Mbps Digital Microwave System
- 3 x 10 channel 704 Kbps Multiplexer
- 64 Kbps VSAT
- DACCS-(Digital Access Cross Connect Systems)

FORUM

Telecom is one of the critical national services. With increased impetus towards liberalisation and privatisation coupled with avowed objective of greater prosperity to all, there is a need to further streamline the procedures, enhance technology intake and update the network capabilities. World over stress is on instant communication. Spread of worldwide networks, covering varying time zones, requires technology upgrades to facilitate reliable E-Mail, V-Mail Voice, data and Video services. While multi-national organisations are used to highly reliable and state-of-the-art service, even new Indian Entrepreneurs and Managers are no-less eager to reach the world from their work places.

With growth in the size of organisations and complexity of information, need is being felt for better Information Networks and promptness of services. Major organisations with national and world wide operations also want exclusive networks with flexibility to link up with local and global Public networks. Business, education and research organisations also want reliable databases and consultancy services. These and all others are looking forward to more reliable, efficient and intelligent networks that will facilitate **Virtual Private Network (VPN)**, **Close User Group (CUG)** and **Multi-Media Services**.

What is happening on telecom scene, is also being felt in other sectors like power, water, housing, transport etc. Some of these, particularly the power sector and transport highways, are already undergoing policy change and may soon be come more vibrant with growth oriented policies and programmes. Even Education and recreational services also have to gear up and evolve to meet the new demands. All these have their demands on Telecom also.

Telecom policy on **Value Added Services** (July 1992) and other telecom services (May 1994) had opened the gateway, but much more needs to be done in terms of expansion and technology induction to achieve the desired objectives. Year 1994 has seen a great change. Year 1995 needs to accelerate growth and further evolution. In all this, Quality, efficiency and commitment to values will further aid in growth, reliability and efficiency.

With coming of MNCs and Foreign operators, a change is also taking place in scale of pay and benefits to employees. Employees in MNCs and Foreign companies, with NRI status and overseas experience are likely to get one level of benefit, while Indian counterparts with pure local experience may get another. This compared with pay & benefits in Indian companies, Public units and government organisations will have another level. Thus, a complex paradigm of financial and social levels and attendant values among peer groups is likely to emerge. New Pay commission and policy planners need to address these issues soon.

IETE with seminars and lectures on current and advanced topics has been doing a yeoman service. IETEians with all India presence and awareness of emerging scenarios need to work more towards a balanced and efficient growth.

We are thankful to our members for their response on NCA. Shri S Gopalkrishnan, Pondicherry and Maj Gen P B Deshpande, Pune have even made suggestions for strengthening the case. Forum thanks them all and requests others to send their views. We would put extracts from letters on various issues for the benefit of members in coming issues.

IETE Newsletter on behalf of IETE Council, Hqrs and Fellow members wishes all A Happy & Prosperous New Year.

CDR (DR) H S SHARMA (RETD)
Hony Editor

**ANNOUNCEMENT AND CALL
FOR REGISTRATION**

**26TH MID TERM SYMPOSIUM
on
MICROWAVES AND MILLIMETER WAVES- RECENT TRENDS**

Dates : 8-9 April, 1995

Venue : Defence Electronics Applications Laboratory
Raipur Road, Dehradun - 248 001

Technical Sessions

- Applications
- Demand Patterns - Present and Future
- Technology and Manufacturing Aspects
- Training and Manpower

Other Events

- 22nd Vikram Sarabhai Memorial Lecture
- 10th Lal C Verman Award Lecture
- Panel Discussion
- Valedictory Function

Coverage

Eminent experts in the fields of microwave and millimeter wave from defence, industry and government departments will chair the technical sessions and deliver talks on the following topics.

- | | |
|---------------------------------------|---|
| ● Communication Systems | ● Radar Systems |
| ● Sensors-Imaging and non Imaging | ● Aircraft and Spacecraft Systems |
| ● Devices, Components and Sub-Systems | ● Hybrid and Monolithic Integrated Circuits |
| ● Antenna and Propagation | ● Measurement Techniques |
| ● Computer Aided Design and Modelling | |

A pre-symposium course on Microwave and Millimeter wave Systems and Applications will be conducted for the benefit of scientists and engineers. An Exhibition of products manufactured by reputed companies in related areas will also be held during the symposium. A souvenir will be released on this occasion which will contain a report on major activities of IETE, messages from dignitaries, technical papers, and advertisements from various organisations. Advertisements for inclusion in the Souvenir of the Symposium may be submitted by Jan 31, 1995. Advertisement tariff is given in the registration form.

Registration Fee

IETE Corporate Members	Rs.300/-
IETE Student Members	Rs.150/-
Nominees of IETE's SDMs	Rs.1000/-
Others	Rs.1200/-

Advertisement Rates

Back Cover	Rs.5000/-
2nd and 3rd Cover	Rs.4000/-
Full page	Rs.3000/-
Half page	Rs.2000/-

(For colour Advt Rs 1500 per colour extra. Colour
Advts in full page only)

All correspondence to :

**Hony Secretary
IETE Dehradun Centre
C/o Defence Electronics Applications Laboratory
Raipur Road, Dehradun - 248 001**

New Telephone Numbers of Dehradun Centre : Tele : 0135-687227, 0135-687258 Extn. 4033 , Fax : 0135-687265, Telex : 0585-233, 0585-284

CALENDAR OF EVENTS

Subjects	Dates	Venue	Contact
Tutorial on Interconnect Issues in Telecom Sector	17th, Feb 1995	Delhi	EDP Manager, IETE, 2, Institutional Area, Lodi Road, N Delhi - 110 003
A short term course on Microwave Circuits and Devices (CAD)	20-25, Feb 1995	Hyderabad	Prof V M Pandharipande, Dept of E&CE, Osmania Univ, Hyderabad 500 007
National Conference on Optical Communication (COCOM - 95)	22-24, Feb 1995	Allahabad	Prof KD Dikshit, Chairman, COCOM '95 J K Inst of Applied Physics & Technology, Allahabad- 211 002
98th AES Convention '95	25-28, Feb 1995	Paris France	Jean Claude Thobois, Chairman Pa lais de conges, place de la Porte maillot 2, F-75017 Paris, France
Symposium on Genetic Algorithm	25 March, 1995	Dehradun	Shri L K Marwah Geodata Processing and Interpretation Centre, 9 Kaulagarh Road Dehradun 248 195
National Conference on Emerging trends in Electronic Product Design & Technology	6-8, April 1995	Sas Nagar (Mohali)	Mrs Jasvinder Kaur, Conference Coordinator, CEDT, A-34, Phase VIII Indl Area, Sas Nagar, Mohali-160 059
International Wireless Communications Expo	25-27, April 1995	Las Vegas Nevala, USA	Counselor for Commerical Affairs, US & Foriegn Commercial Service, American Embassy, Shantipath, Chanakyapuri, N Delhi-21
Communications Technology Indonesia '95 & Broadcast Technology Indonesia	26-29 April 1995	Jakarta Indonesia	Mr P P Shastri, Orbit International Trade Fairs, 1127, Midway Premises A S Marathe Marg, Prabhadevi Bombay 400 025
Workshop on Telematics'95	1-15, June 1995	Nirjuli	Shri C T Bhunia, Head, ECE Dept, NERIST, Nirjuli - 791 109 Arunachal Pradesh
19th International Television Symposium and Technical Exhibition	8-13, June 1995	Montreux	Montreux International Television Symposium and Technical Exhibition PO Box 1451, Rue du Theatre 5, 1820 Montreux/Switzerland
ISRAMT '95 - The 5th Intl Symposium on Recent Advances in Microwave Technology	11-16, Sep 1995	Kiev & Black Sea Ukraine	B Rawat, Technical Program, Co-Chair Dept of Elect Engg, Univ of Nevada Reno, Nevada 89557-0153, USA
ITU's Telecom 95 Forum Technology Summit & Strategic Summit	3-11, Oct 1995	Geneva	Prof B S Sonde, Dean, Faculty of Engg, IISc, Bangalore 560012
Broadcast, Cable & Satellite India '95 Exhibition and Conference	25-28, Oct 1995	New Delhi	P S Sundaram, Broadcast Engg Society, Room No.410, Research Dept, AIR & Doordarshan, 14-B Ring Road, IP Estate, New Delhi - 110 002

Edited and Published by Ms TV Sreelatha, Assistant Managing Editor, for The Institution of Electronics and Telecommunication Engineers, 2 Institutional Area Lodi Road, New Delhi 110 003 and printed at the Central Electric Press, A-12/1, Naraina Industrial Area, Phase-I, New Delhi 110 028