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# ***JPRS Report***

## **Telecommunications**

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## TELECOMMUNICATIONS

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## BRIEFS

ECOWAS TO FINANCE TELECOM PROJECT--Bissau, 6 Jun (ANG/PANA)--Guinea-Bissau's international communications are going to be improved very soon through a telecommunications project financed by ECOWAS for a total amount of \$4 million it was announced Friday by Jorge Rendell, head of technical services at Guinea-Bissau's posts and telecommunications department. He stressed that this project will allow for the direct link between Cacheu (northern region of Guinea-Bissau) and Ziguinchor (southern region of Senegal) through a 120-channel radio system and the "installation of solar panels at Cacheu and Canchungo. [quotation mark as received] Construction works will be carried out by a French firm as part of French technical assistance and cooperation with countries of the ECOWAS. [Text] [Dakar PANA in French 1035 GMT 6 Jun 87 AB] /6662

CSO: 5500/51

ZIMBABWE

SUB-SAHARAN AFRICA

BRIEFS

ZIMBABWE, ETHIOPIA OAU SATELLITE PLANNED--Harare June 7 SAPA--The Organization of African Unity (OAU) is working on a plan to have a satellite for the continent, Zimbabwe's minister of information, posts and telecommunications, Mr Nathan Shamuyarira, said today. He said Zimbabwe and Ethiopia were the major participants in the sponsoring of the project, which was expected to end within the next five years, if everything went well. [Text] [Johannesburg SAPA in English 1919 GMT 7 Jun 87 MB] /6662

CSO: 5500/51

## CRTC'S BUREAU SEES FREE TRADE DANGER TO BROADCASTING

Toronto THE GLOBE AND MAIL in English 5 May 87 p B6

[Article by Harvey Enchin]

[Text] Canadian broadcasting may be endangered by a free-trade agreement with the United States, the top bureaucrat with the federal regulatory body for communications says.

André Bureau, chairman of the Canadian Radio-Television and Telecommunications Commission, told reporters that free trade could alter Canada's broadcasting system radically and even strip the industry of its profitability.

Although Mr. Bureau serves political masters eager to reach a free-trade agreement, he said the CRTC's mandate to preserve the distinct nature of Canadian broadcasting behooves him to warn of the dangers such a deal poses.

Two measures designed to protect Canadian broadcasting are particularly in jeopardy: Bill C-58, which disallows the cost of advertising on U.S. border stations by Canadian companies as a tax deductible business expense; and simultaneous substitution, which replaces U.S. stations on cable with Canadian ones when both are showing the same program.

The Caplan-Sauvageau Task Force on Broadcasting Policy, which presented its report late last year, determined that these measures provide the industry with revenue of roughly \$90-million a year. Mr. Bureau estimated the value of Bill C-58 alone at up to \$60-million a year. If the Government trades that away, he said, "it would wipe out most of the profitability of

English-language television stations in Canada."

He noted that simultaneous substitution represents 35 per cent of the programming of some small cable systems that would "just drop into the red" if the protection were removed.

After a speech to the Canadian Cable Television Association, Mr. Bureau said broadcasters must be vigilant to prevent becoming mere affiliates of U.S. networks as a result of any free-trade accord.

He acknowledged that the economic impact on broadcasting might be considered marginal when compared with lumber, textiles or auto parts, but he argued that its cultural importance outweighs the economic significance.

He said he is concerned that the United States does not understand Canada's preoccupation with cultural sovereignty. "They don't see us as a different entity."

Mr. Bureau told cable-television executives that they should ensure that subscribers to basic service are not forced to pay for unwanted specialty channels.

The problem is becoming critical as more such channels request mandatory distribution as part of basic service. In its latest call for applications, the CRTC has received 36 proposals for new specialty services, including channels for news, children's and youth, religious, ethnic, health, sports, music and general programming, plus shows from Europe through TV5.



## DETAILS ON LOCAL TELECOMMUNICATIONS FIRMS GIVEN

## Tricom Systems

Hong Kong HONGKONG STANDARD in English 18 May 87 p 18

[Text] TRICOM Systems Limited was founded in 1982 in response to the deregulation of Hongkong's telecommunications market as a system house specialising in the design and implementation of telecommunication systems.

The Hongkong based company has a staff of 170, half of which are technical experts and professional marketers who are highly skilled in sophisticated electronics technology. Many of these, including the company president, were once affiliated with other major manufacturers of telecommunications.

Shortly after the company was established, Tricom became the distributor for Mitel, a major Canadian telecommunications manufacturer, now a subsidiary of British Telecom and primarily engaged in the promotion, distribution and servicing of PABXs in Hongkong and the People's Republic of China.

In 1983, a family of distributed digital switching systems from Redcom Laboratories of USA was added to satisfy special operational telephony requirements.

In 1985, the Omega-Phone range of Electronic Key Telephone Systems (EKTS) was added to serve general business sectors.

In 1986, the Mobira Cellular Phone was launched to serve the mobile population.

Today, the company is in a position to offer a complete range of switching

systems, business telephones, mobile telephones and related services.

The company is privately owned and financially sound. It is responsive to Hongkong's dynamic marketplace and will continue to develop a strong market share. Tricom has established retail outlets in Hongkong and technical centres in the PRC.

As a percentage of gross sales, Tricom spends the majority of its capital on internal training, service facilities, spares, and customer support.

Human resources are obviously the most valuable asset at Tricom. The management puts great emphasis on its human resources sector — its development, motivation, and performance.

Entrepreneurship also plays an important role in the organisation which provides an environment for creativity to better serve the telecommunications industry.

To date, Tricom has installed and maintained over 1500 systems for utilities, government, and business enterprises in Hongkong and the PRC.

In Hongkong, Tricom's first endeavour involved establishing a strong market position locally. It has succeeded in building a professional sales, marketing, engineering and technical support team over the last several years.

Tricom managed to capture a substantial market share by offering quality equipment and better services. Capturing an increasing share of the market has demonstrated that Tricom

is gaining acceptance by the general public as a viable alternative to the major telephone companies in the territory.

Tricom looks at the PRC market on a long term basis. With a service-oriented approach, the company established technical centres in cooperation with local organisations in order to protect their installations. The process has been painfully slow, but the company now enjoys a good reputation and the future looks bright. At the start of 1986, Tricom established technical support centres in major strategic locations including Beijing, Nanjing, Shanghai, Guilin, and Shekou (Shenzhen).

Tricom offers a number of sophisticated electronic equipment. Mitel, a major PABX manufacturer from Canada and a subsidiary of British Telecom, enjoys the advantages of an in-house, world-class semiconductor capability which develops ISO-CMOS integrated circuits and thick-film hybrids. Mitel was designed with the Integrated Services Digital Network (ISDN) in mind.

The Redcom Modular Switching Unit is a family of distributed digital switching systems from USA. It is a precision built, compact, high performance stored program controlled digital telephone switching system of advanced design suitable for a wide range of applications. It is cost effective for small systems without sacrificing expansion possibilities.

The Omega-Phone incorporates a whole range of electronic key telephone systems with full business features with up to 24 trunks and 64 extensions manufactured by Iwatsu of Japan. Iwatsu is an industry veteran in business telephone systems, occupying over 30 percent of the Japanese market and 20 percent of the Hong-

kong market. It is stylishly and efficiently designed to meet specifications of modern business office applications.

The Mobira Nokia mobile system phone offers you a full range of advanced design, quality and stylish mobile telephones, with full options and accessories. A new concept in user convenience — the Mobira system approach — enables the handsets and control units to be placed in the optimum position for maximum safety when driving. Not being restricted to vehicle use only, the Morira Phone can be taken with you wherever you go.

Mobira is supplying both AMPS and TACS standard mobile telephones. AMPS is connected to the Hutchison Network. TACS is connected to the CSL Network. As the PRC is adapting the TACS standard, it is expected that the sales from TACS standard will grow much faster in the near future.

Tricom has also signed an agreement to distribute ITT Fascimile at the end of 1986 in an effort to diversify its products. ITT FAX offers full features with simplicity and reliability in operation. Coupled with Tricom's marketing and service expertise, it is catching on to a substantial market share.

Tricom opened its first retail shop at the Asian Computer Plaza in 1984 in an attempt to broaden their products by offering novelty and designer telephone sets for both the local and international markets. Since then Tricom has increased its retail outlets to four.

Over the years, the company's offerings have been accepted as high-quality, cost-effective, and feature-rich systems. Tricom is being chosen not just for quality products, but also for being reliable in terms of delivery, installation, and maintenance services.

Hong Kong HONGKONG STANDARD in English 18 May 87 p 19

[Text]

CSL, a wholly-owned subsidiary of Hongkong Telephone, continues to market new integrated communications systems to enhance efficiency at reduced costs.

UNITACS (Unified Total Access Communications System) is the mobile radio telephone system operated by CSL. It is the most advanced system of its kind available anywhere in the world.

UNITACS is based on the Total Access Communications System, a cellular mobile radio telephone system already in use in the United Kingdom, Ireland, Bahrain and Kuwait. It will also be introduced to China and Macau. Meanwhile, France, India and Japan are evaluating the system. TACS has in fact been accepted as the international standard.

UNITACS provides excellent territory-wide coverage because the UNITACS network is constructed in such a way as to ensure that the user will never be far from a cell base transmitter site. The area to be covered is divided into a number of cells. In Hongkong, the network is now made up of thirty-five main cells, the majority of which are divided into three mini-cells providing a total of some one hundred transceivers.

Each cell is served by a radio station which covers the area up to and into that of the adjacent cell. The heart of the system is the Mobile Switching Centre which connects all calls to and from a mobile radio telephone. The advanced computerised switching and sensing system will automatically change channels as the mobile radio telephone user moves from one mini-cell to another with no interruption.

The network can be visualised as a honeycomb of hexagonal cells. The diameter of each indi-

vidual coverage cell for Hongkong is as small as 1.5 kilometres, making them the smallest cells in use in the world today. Not only are the cells in Hongkong the smallest in the world, but the mobile radio phone transmitter is also able to reduce or increase its respective output power depending on the distance of the phone from the base station. This ensures a consistent and optimum speech quality whilst at the same time minimising battery consumption.

This new and unique mobile radio telephone network adopted by CSL will certainly bring a new level of sophistication to mobile radio telephone services. Users of CSL's UNITACS will enjoy an unprecedented degree of convenience and freedom in mobile communications, as they will be able to use their telephone instruments not only in Hongkong but also in other TACS countries, including the Guangdong Province and Macau towards the end of 1987.

With its high-quality, territory-wide coverage and compatibility with the Pearl River Delta and Macau system, the CSL UNITACS mobile radio telephone system places CSL firmly as one of the leaders of mobile radio telephone services in Hongkong.

Hongkong's mobile telephone service reached a new milestone when Mr Zheng Hua, Vice Director, Xinhua News Agency (Hongkong Branch); Mr Huang Lian Mao, Deputy Director, Guangdong Posts and Telecommunications Bureau; Mr F L Walker, OBE, Director, Cable & Wireless (Far East & Pacific Region); Mr Hugh Ardley, ISO, JP, Postmaster General; Hon David K P Li, JP, Chairman, Hongkong Telephone and Mr B

L Kennedy, Managing Director, CSL, officiated at a switch-on ceremony marking the official launch of CSL's UNITACS.

UNITACS offers data communications capability for users which means executives can input, update their records and stock inventory by linking their computers with their mobile telephones. This will be particularly beneficial to one-man business operations that need a mobile office.

UNITACS mobile radio telephones come in various designs and features to meet different requirements. The UNISERIES of instruments, UNITACS 18, UNITACS 28, UNITACS 38, UNITACS 68 and UNITACS 78 are small enough to be held in the hand while being used and can be carried in a briefcase, handbag or even a pocket.

UNITACS 128 embraces the benefits of an in-car telephone and a portable telephone in one single compact unit. For people who want to stay in touch while travelling in a car, there is the car-mounted UNITACS 328.

CSL's hand-held telephone units also provide standard features such as call forwarding, no answer transfer, call waiting, three party conference, call hold and others. Moreover, the UNITACS voice recognition system provides users with the option of dialling, recalling or cancelling a call by making a voice command, which replaces the normal keypad function, thus making the call totally hand-free. This will help to ensure safe driving for automobile users.

With its excellent territory-wide coverage and compatibility with Guangdong Province and Macau, the CSL UNITACS mobile telephone system places CSL firmly as one of the leaders of mobile telephone services in Hongkong.

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CSO: 5550/0160

## DECISION ON ALLOWING COMPETITIVE NETWORKS WEIGHED

Hong Kong HONGKONG STANDARD in English 7 May 87 p 2

[Article by Shirley Hui]

[Text]

THE Executive Council will soon be asked to consider whether Hongkong should allow competitive telecommunications networks, a well-placed Government source said yesterday.

This is a major policy decision that will shape the local telecommunications scene in the years to come, the official said.

The cable television licence might go to tender late this year once this decision is reached, but it is unlikely that the service can start within the year, said the official, who asked not to be named.

He said the Government plans to make the decision step by step.

Exco will probably be asked to give some "indications in principle" first.

The Government will then "do a few additional things" before going back to Exco again for a final decision, the official said.

It was announced two months ago that the Government is reviewing its telecommunications policy.

The review, which mainly concerns whether Hongkong should have more than one telecommunications network, was sparked by cable television proposals.

The official said yesterday the Government had only intended to invite cable television proposals from the start.

But two major cable TV contenders — the Cable Television Hongkong (CTHK) and Hutchison CableVision (HCV) — made it clear that they want more than just cable TV.

Both plan to invest \$2 to \$3 billion in developing state-of-the-art "broadband" telecommunications networks.

Such networks — which allow interactive services through the use of fibre optical cables — are meant to carry other innovative telecommunications services such as home banking and home shopping as well, the official said.

If CTHK — formed by the Hongkong Telephone Company (Telco) and partners — gets the go-ahead, the existing telephone network will be upgraded to carry television signals, he said.

But if HCV — formed by Hutchison Whampoa and British Telecom — was given the nod, a new network will be built to carry cable TV as well as other telecommunications services outside Telco's franchise.

And HCV has indicated to the Government it hopes Telco's monopoly will be stripped when its franchise expires in 1995, the official said.

At present, only the "public switched voice communication" — that is, the public telephone service — is operated under a franchised monopoly by Telco, he explained.

The other telecommunications services, such as mobile telephone and radio paging, are all competitive.

The network — which carries all local telecommunications services now and is operated by Telco — is a "de facto monopoly" only, he said.

## BBC GIVEN LICENSE FOR TUEN MUN RELAY STATION

Hong Kong HONGKONG STANDARD in English 15 May 87 p 2

[Article by Aruna Kulatunge]

[Text] THE \$100 million British Broadcasting Corporation's relay station in Tuen Mun will start beaming programmes in Mandarin, English and Japanese, to China and the rest of the Northeast Asia, in September.

The Executive Council on Wednesday officially granted the licence, ending five years of planning for the corporation.

A government spokesman yesterday said the licence was granted before the target transmission date to enable the BBC to start beaming test transmissions as soon as possible.

The tests will be done under the supervision of the Hongkong Telecommunications Authority to ensure there is no interference to any other telecommunications service or apparatus operating in or outside Hongkong.

A government source said the terminology simply means "Hongkong will take all necessary precautions to see that the Beeb will not interfere with China's airwaves."

The Beeb, as the BBC is affectionately known, has had extensive talks with the Chinese authorities about the station and its future, particularly about what types of programmes will be transmitted, and what will happen to the transmitters after 1997.

In addition to China, the powerful two 250 kilowatt transmitters and the five 72-metre high masts can also reach Japan, Korea and possibly the Soviet Union.

According to provisional programming plans submitted to the Government, about 50 percent of the programmes will be standard BBC World Service programmes in English, 30 percent specially produced Mandarin and Cantonese programmes, 10 percent Japanese, and the rest English language training programmes.

While certain new programmes would be introduced with longer transmission hours, *The Standard* has learnt the relay station will essentially replace the present BBC station in Singapore.

"The Tuen Mun station would have a much bigger range than the Singapore station and we would be able to reach deep into China and possibly the southeastern parts of Soviet Russia," said a BBC official, who did not want to be named.

While an estimated 120 million people worldwide listen to the BBC external service, no accurate audience figures are available from China.

But the BBC's *Follow Me* English language training programme, with host Kathy Flower, is said to be China's most popular English language programme.

The new station is located south of Lau Fau Shan at Tsang Tsui, facing Deep Bay.

It's already a landmark for the illegal immigrants seeking riches in Hongkong, with its strong and beckoning security lights.

Most of the land developed for the station, under an agreement with the Hongkong Government, belonged to the Heung Yee Kuk and about 17 families were relocated before construction began in early 1985.

POLICY ON SATELLITE USE COMES UNDER DISCUSSION

Hong Kong SOUTH CHINA MORNING POST in English 1 Jun 87 p 4

[Article by Peter Robinson]

[Text]

CABLE TV licence applicant, Hongkong Satellite, believes that under existing international agreements it could go ahead with satellite transmissions to Hongkong without contravening the Cable and Wireless monopoly.

The Government is believed to have widened its review of the internal telecommunications scene in Hongkong to cover the issue of satellites since these will play a central role in providing programs for cable television.

HK Satellite's new chairman, Mr Matt Nilson, previously worked for Intelsat, the international satellite organisation which provides satellite transmissions to Hongkong.

Cable and Wireless is the Intelsat signatory here and has exclusive rights to these transmissions.

However, Mr Nilson said: "The signatories to Intelsat

cover the public switched system and have agreed that other private leased line systems are allowed if someone else wants to put a satellite up there.

"This is happening in many other parts of the world, even in the most conservative countries such as Japan.

"The overall question is what is the most beneficial for the people of Hongkong. Bearing that in mind it is difficult to see what case there is for Cable and Wireless and Hongkong Telephone to maintain their monopolies."

He claimed that HK Satellite would offer cheaper satellite rates than Cable and Wireless has in its monopoly position, encouraging more television transmissions to Hongkong, offering greater program choice.

At present services such as the Ted Turner Cable News network in the US would have no alternative to using Intelsat for Hongkong.

Mr Nilson believes there

was scope for compromise on the issue of who got a cable television licence here, among the three main contenders - his own company, the Hongkong Telephone consortium and Hutchison Telephone.

He said: "Of the three we are a neutral competitor with no vested interest in telecommunications here at the moment and could be the catalyst for competition. The Government could provide three cable TV licences in a geographic split or all three could contribute equally to the creation of one system, providing different services with perhaps eight channels each."

If Hongkong Satellite does not get a licence it would still be interested in providing the various channels with satellite transmissions.

The company is also interested in providing hotels with the service and says it would have spare capacity for other leased line telecommunications services.

/13104  
CSO: 5550/0162

HONG KONG

EAST ASIA

BRIEFS

GOVERNMENT INFORMATION SERVICE--The Government Information Services' new Teleprinter Network became operational yesterday providing high-speed information services to more than 60 media outlets. The system was designed and installed by the Hong Kong Telephone Co Ltd with advice from the Postmaster General's Office. It provides direct input of English and Chinese texts and the simultaneous transmission of news items at 100 English and 20 Chinese characters per second. It also establishes a path for direct computer links between the GISD and newspaper computer typesetting systems and overseas news outlets. Representatives from more than 60 media outlets were invited to the inauguration ceremony, which was jointly officiated by the director of the Government Information Services, Mrs Irene Yau, and Mr Mike Gale, the managing director of HK Telephone, at Beaconsfield House. [Text] [Hong Kong HONGKONG STANDARD in English 4 Jun 87 p 6] /13104

CS0: 5550/0163

JAPAN

EAST ASIA

JAPAN'S NAKASONE HINTS AT TELECOMMUNICATIONS CONSORTIA

OW050117 Tokyo KYODO in English 0047 GMT 5 Jun 87

[Text] Tokyo, June 5 KYODO -- Japan will allow two consortia to advance into the international telecommunications market if their merger talks fail, Prime Minister Yasuhiro Nakasone has hinted.

Nakasone dropped the hint during a meeting with journalists from economic summit member countries Thursday, officials said.

"If a merger of the two clearly becomes an impossibility, we will accept their applications," the officials quoted Nakasone as saying.

The premier added that the Posts and Telecommunications Ministry's Advisory Council will screen the applications in a fair and transparent manner.

International Telecom Japan (ITJ) and International Digital Communications (IDC) are slated to launch international telecommunications operations in Japan, ending the market monopoly so far enjoyed by Kokusai Denshin Denwa Co. (KDD).

Posts and Telecommunications Ministry officials and business leaders have encouraged the two consortia to merge to avoid excessive competition.

Cable and Wireless of Britain and Pacific Telesis of the United States have 20 percent and 10 percent equity shares, respectively, in IDC, which plans to construct a transpacific undersea cable.

The issue is being closely followed by Japan's trading partners, who are getting impatient with a lack of access to the Japanese markets in international telecommunications and other services and products.

The summit meeting of leaders of Japan, the U.S., Canada, Britain, West Germany, France and Italy is in Venice June 8-10.

/9738  
CSO: 5560/090



ARGENTINA

LATIN AMERICA

BRIEFS

SATELLITE GROUND STATION--President Raul Alfonsin has decided to construct a ground station for the INMARSAT [International Maritime Satellite Organization] satellite system so that communications can be established with ships navigating the South Atlantic. [Text] [Buenos Aires Domestic Service in Spanish 1600 GMT 14 May 87 PY] /9738

CSO: 5500/2041

PAY-TV SITUATION CLOUDY; INDIGENOUS CHANNEL URGED

Prime Minister's Comment

Bridgetown SUNDAY SUN in English 26 Apr 87 p 1

[Article by Reudon Eversley]

[Text]

PRIME MINISTER ERROL BARROW has called for the setting up of an indigenous Caribbean television news service, to provide an alternative to the foreign material dominating regional T.V screens.

And he feels the locally-based Caribbean News Agency (CANA) is best suited to undertake the project, for which he has pledged the Barbados Government's full support, including efforts to find funding.

Barrow threw out the challenge yesterday at CANA's annual general meeting at the Grand Barbados Hotel. He also urged the agency to consider launching a specialised information service.

"My contention is that CANA cannot

restrict itself to radio programmes and dissemination of news for the print media. CANA has to get into something like CNN and ITN," he said.

"They have to get into it, otherwise you are going to find that you are submerged under the avalanche of television networks that are coming out from North America, and that is what I want to say."

Barrow, in a witty feature address to the regional media executives, said the Caribbean faced "a very serious problem" of cultural penetration, resulting mainly from the advent of satellite television over the last five years.

Barrow said while CANA had achieved a free flow of news in the region in its 11-year existence, the goal of information exchanges in specialised areas among Caribbean countries, was still to be fully realised.

Indecision on Pay TV

Bridgetown SUNDAY SUN in English 26 Apr 87 p 1

[Text]

THE PICTURE still remains cloudy over when Barbadians will start viewing the long-promised STV (Subscription Television) service of the Caribbean Broadcasting Corporation (CBC).

Top-level staff have declared that at present "no sense of

urgency" is being displayed over the project.

Around the middle of last month, CBC said it would start marketing the two additional channels to be made available through STV within days.

But it has been revealed that, to date, no marketing programme has been started

have to await CBC's solving the problem of "addressability".

This, it was explained, involves the ability to switch a subscriber's receiving system on or off without having to enter the home, a facility CBC still has to perfect.

Another factor influencing STV's transmission date was the training process for staff.

because CBC still does not know which parts of the island will be able to pick up STV while it is being phased in.

As a result, it would be unwise to try to sell the service to an area only to discover that area would not be receiving STV transmission until much later.

It was noted that STV's becoming operational would also

### Suspension of Reporter

Bridgetown SUNDAY SUN in English 26 Apr 87 p 1

[Text]

THE FATE of a Caribbean Broadcasting Corporation (CBC) reporter now hangs in the balance over a story he wrote concerning the long delayed Subscription Television (STV).

It has been confirmed that radio reporter Peter Thorne was placed on "indefinite suspension" with half pay last Friday.

The story, which was never broadcast, reportedly quoted a top-level government official as saying Government was "actively considering" scrapping plans to introduce two new TV channels.

Thorne met with Barbados Workers Union officials last Friday and is expected to have another meeting this week with CBC officials and the union.

/9274

CSO: 5540/102

## BRIEFS

TELECOMMUNICATIONS LOAN--Prime Minister Esquivel has asked the House of Representatives to approve a loan of BZE \$24 million (US \$12 million) to upgrade the telecommunications system and to purchase Cable and Wireless. The House was also asked at its sitting last Friday in Belmopan, to agree to wipe off debts owed to Government by the Belize Telecommunication Authority BTA. The loan which is to be provided to Government by the Barclays Bank of Canada will further increase Belize's external Debt by an additional \$24 million bringing it to a high of \$232 million. With the loan government intends to purchase expansion and modernization equipment from TELECOMS of Canada for BTA. A company has been formed to take over Cable & Wireless as well as BTA. "For the time being" Government will be owning 51 percent of this company and will be selling to certain private shareholders 49 percent. Mr. Esquivel has suggested that he intends eventually to sell out the entire operations.  
[Text] [Belize City THE BELIZE TIMES in English 31 May 87 p 1] /13104

CSO: 5540/106

## NEW FINANCIAL ARRANGEMENT FOR TELECOMMUNICATIONS FIELD

Kingston THE DAILY GLEANER in English 19 May 87 pp 1, 3

[Text] In a move to expand the island's tele-communications network, a new company, Tele-communications of Jamaica Limited, has been incorporated for holding the shares of the Jamaica Telephone Company (JTC) and Jamaica International Tele-communications Limited (Jamintel).

While both Jamintel and JTC will continue to operate as separate entities, Prime Minister Edward Seaga said at yesterday's Jamaica House signing ceremony, that it would now be easier to finance the expansion of Jamaica's tele-communications network.

The holding company will have 80% ownership by Jamaicans or Jamaican interests.

Cable and Wireless Ltd., of the United Kingdom, which has been associated with Jamaica's tele-communications development for a number of years and which holds 49% of share in Jamintel, will make a cash payment of US\$20 million (J\$110 million) for a 20% slice of Tele-communications of Jamaica Limited.

Tele-communications of Jamaica Limited will make it easier for administrative organization on a sectoral basis, Mr Seaga said.

The Telephone Company plans to put in 4,000 new lines this year but Mr Seaga said it would require 8,000 new lines annually for several years to catch up with the backlog and meet present needs. A new exchange is also planned for Montego Bay to facilitate expansion in Tourism and Manufacture.

Mr Seaga welcomed Cable and Wireless into the partnership, saying this was only a restructuring of their present arrangement.

The Minister of Public Utilities and Transport, Hon Pearnel Charles, said the conclusion of this deal must be regarded as a real revolution in the telecommunications system in Jamaica, particularly as Jamintel has received approval for its high-speed data transmission project - Teleport.

Mr Tom Chellew, Chief Executive Officer of Cable and Wireless, said there was need for change and noted that this agreement was laying the foundation for change in an orderly fashion. He told the Prime Minister how privatization

of his company over the last six years had been undertaken by the Government of Mrs Margaret Thatcher so that now only one share is held by the British Government.

Formation of the holding company was first disclosed by Mr Seaga during the 1987-88 Budget presentation.

Jamintel was formed in 1971 with 51% Government ownership: it controls most areas of Jamaica's international communications including cablegram services and telex calls.

The JTC, one of the five largest companies in Jamaica, had local telegraph services, originally handled by the Post Office, added to its list of services last year.

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CSO: 5540/103

## CABLE TV SYSTEM'S STATUS, FUTURE PLANS REVIEWED

Castries THE VOICE in English 13 May 87 p 3

[Text]

CABLE and Wireless' television service, Cablevision, is going great guns in the north of the Island.

The system was inaugurated in February and since then connections to the homes of subscribers have been in effect in Reduit and Gros Islet. Company teams are now connecting homes in the Bonne Terre, Cas en Bas and Cap Estate areas.

According to Keats Compton, Cable and Wireless' Commercial Manager, the Sans Soucis-La Clery area and the Morne will be the other communities to be connected next.

Cablevision is currently offering its subscribers a choice of seven satellite Channels: (Black Entertainment Television (BET) featuring Black-oriented movies, entertainment and sports; Cable News Network (CNN) with international news; ESPN — sports; Financial News Network (FNN); CBN Cable Network — Family Christian entertainment; Video Hits One (VH-1) with video music and The discovery Channel with family entertainment, all on a 24 hours a day basis.

In addition, subscribers are also receiving local channels like HTS and DBS, as well as CBC-TV in Barbados, plus eight FM radio channels originating from the U.S.

The seven TV channels being relayed by satellite constitute the basic service which Cablevision is offering to subscribers at a monthly fee of \$40.

Compton told THE VOICE yesterday that outside of Gros Islet town, public response to the service has been good. "This is so especially in the Reduit Park area where we achieved so far a 50 percent penetration during the time we were there," Compton said.

He said he expected it would take about a year for the Company to complete connecting potential subscribers in the Castries area, before moving to other parts of the island. But Compton emphasised that a decision on the next district to be introduced to the service would depend on the technology that was available there.

Compton said that high quality and reliability were among the major hallmarks of the service.

He disclosed that Cable and Wireless had approached HTS with an offer to carry their programming on Cablevision free of charge as a local channel providing that HTS withdrew from satellite reception and re-broadcasting. But the offer had not yet been taken up.

HTS (Helen Television System) is a local company which has been relaying local and American satellite programmes. Additionally, the Company has been operating a pay service hooking up paid subscribers to four satellite Channels: USA Network, Cinemax, HBO and ESPN.

Compton revealed that in the near future broadcasters of unauthorised material could find themselves in difficulty with their subscribers arising out of possible legal action by U.S. based distributors.

Cablevision, he added, had signed contracts with all the channels it was relaying and was actively negotiating with others to offer subscribers as wide a range of programming as possible.

Responding to what some people see as a deficiency in what Cablevision is offering, Compton said: "We are negotiating with some U.S. distributors who provide movies. Most of the distributors of movie channels do not hold the distribution rights for the Caribbean as opposed to Continental United States."

He said Cablevision will be constantly reviewing its programming to ensure customer satisfaction. To achieve this, the Company would be installing other dishes (it currently functions with one) to monitor the satellites.

Compton said that under the terms of the system's licence the current charge of \$40 for the basic service would remain in force for the next two years. However, if Cablevision introduced other premium channels there would have to be an increase in rates. But he emphasised that these new channels would be optional to the public, adding: "One of the guiding principles of Cablevision is to offer the public a good service for as low a charge as possible, a charge that would be within the range of everyone. We are looking for volume and so our rates cannot be exhorbitant."

Compton said Cablevision had so far not encountered any major technical problems in its system. He said the Company was involved in the re-training of some of its staff to manage the TV operations.

/13104

CSO: 5540/107



## WORLD BANK APPROVES LOAN FOR TELEPHONE EXPANSION

Calcutta THE STATESMAN in English 17 May 87 p 12

[Text] WASHINGTON, May 16. — The World Bank has approved a \$345 million loan to India for a project to expand and upgrade telephone and telex networks in four major cities and the long-distance links between them, reports PTI.

The ambitious \$2.05-million project will be carried out in Bombay, Delhi, Madras and Calcutta. Among them the four cities contain about 34% of the country's direct exchange telephone lines.

The project represents some 40% of the five-year investment programme of the Department of Telecommunications and the Mahanagar Telephone Nigam Limited, a public corporation that operates the Bombay and Delhi networks.

The project will help finance the installation of new digital transmission and switching facilities to increase the telephone exchange capacity in the four cities, ground station networks for domestic satellites will be modernized and expanded, according to the project particulars set out in a World Bank Press release.

A management system for long-distance networks will be

established to locate, bypass or eliminate communications bottlenecks. A network adapted to the transmission of computer data will be set up among the four cities as well as other major cities and industrial areas. Automated facilities will be installed for detailed billing of long-distance calls.

With support from the United Nations Development Programme, the project will provide a scheme to upgrade five DOT regional training centres. Consultants to assist in institutional improvements in DOT and in the design of the data transmission network will be provided.

The project is expected to relieve telecommunications congestion in key cities and assist in their development. It is also expected to generate substantial profits, which may be used to cross-subsidize other important parts of the network, the World Bank release noted.

In addition to the bank loan, other financing will be provided by the Government, DOT and MTNL (\$1.64 billion), the Overseas Export Credit Fund of Japan (\$60 million), and UNDP (\$2.5 million). The World Bank loan is for 20 years.

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CSO: 5550/0157

## TELECOMMUNICATIONS TASK FORCE SUBMITS RECOMMENDATIONS

Bombay THE TIMES OF INDIA in English 16 May 87 p 21

[Text] **T**HE government has been urged to take up within a set time - frame (mostly by mid-1988) a Rs. 1,660-crore plan modernising the rural telecom network.

A task force of the department of telecommunications, charged with formulating the recommendations, acknowledges that the rural service will have to be subsidised, but build-up of telecom infrastructure is imperative.

Rural subscribers mainly need easy accessibility of telephones and reliability in trunk services, much of which is confined to nearby towns.

The appointment of the task force of experts and senior officials was in pursuance of the accent on telecom mission by the Prime Minister.

The approximate cost of implementing the recommendations is assessed at: equipment and materials (exchange batteries, motor cycles, generators, A.V. Rs. line materials, underground cables, or carrier systems) for upgrading the network to a standard level about Rs. 500 crores.

Nearly Rs. 160 crores (approximately) for housing the existing rural exchanges in departmental buildings, separate provision of which can perhaps be made in the eighth plan; and introduction of new technology as long-term measures (radio links, electronic rural exchange, etc) about Rs. 1000 crores.

Problems of the rural network include: life-expired exchange equipment continuing in operation, non-availability of spares, lack of technicians and linesmen, absence of proper revenue record, prolonged and frequent breakdown of power supply and poor customer relations.

The task force has recommended a crash programme for replacement of expired equipment and installing of only electronic switching after 1990. By the end of the century, the entire network will have to be electronic.

**RECOMMENDATIONS**

The other recommendations are: the exchange maintenance groups should be reviewed and formed in all circles by March 1988 and sanction for additional justified staff be given by:

Recharging of the batteries should be periodically carried out by the junior engineer (group exchanges) with a portable generator (one KVA);

If the specific gravity and voltage of the exchange battery goes down below the accepted levels due to prolonged power supply interruptions and recharging of the battery is not possible, the in charge of the exchange can shut down and inform the subscribers about temporary closure of the telephone services.

However, to meet any emergency for communication, the contact from the affected exchange with the parent exchange can be established through a magneto instrument which is already prescribed for each exchange;

A repair centre for telephone instruments should be established at each sub-divisional headquarter by December 1987;

Open-wire lines limited to 20 kms in the normal course and a maximum of 30 kms in special individual cases, keeping in view the transmission losses;

For ensuring reliable and improved rural telephone service, the induction of new technology concepts such as integrated digital network (IDN) schemes should be planned for the future;

The field staff in rural areas be upgraded in capability and periodical customer oriented training courses arranged; and

A suggestion-cum-complaint box should be provided at each telephone exchange for the use of the public and it should be attended daily by the in charge of the exchange for arranging suitable actions.

## SEMINAR DISCUSSES INFORMATION TECHNOLOGY, PLANS

New Delhi PATRIOT in English 12 May 87 p 3

[Text] A network of computers would connect all parts of the country as an effective information system by the end of this year, said additional secretary in the Department of Electronics Dr N Seshagiri.

Dr Seshagiri was speaking at a two-day seminar on "Public Response to Introduction of New Technology in India-Indian experience, Current Problems and Future Strategy", organised by the National Institute of Science, Technology and Development Studies in the Capital on Tuesday.

Focussing mainly on information technology, the seminar discussed various aspects of attitudinal changes required in the society. Because of emergence of new technological changes in fields like microelectronics, biotechnologies and microtechnologies, there are fears and 'concerns' about loss of jobs, accentuation of disparities, health and safety, environment and social behaviour. The seminar is meant to discuss various issues related to this.

Dr Seshagiri said four super computers would be installed at Delhi, Poona, Bhubaneswar and Hyderabad. Twentyfive super minicomputers costing one crore each would be installed in each State capital in the secretariats. Then the district headquarters also would be connected by computers for a quick information channel, he said.

Stressing the importance of computers, Dr Seshagiri emphasised on the working environment and institutional change. He said 2000 officers had been trained by National Infor-

mation Centre (NIC) in 1986 and this year, there number would be 4,000. He stressed on the teachers' training course by NIT as a chain reaction concept for training others.

**Other sectors:** Dr Seshagiri said in other sectors like banking, railways, airlines and public sector undertakings, computerisation was essential for higher efficiency and productivity. All the departments and the sections of the departments would be covered slowly. Even a clerk must be trained in the field, he emphasised.

Dr Seshagiri said the Fourth Pay Commission did not favour a special cadre for computer trained personnel. The computer culture should percolate down and a time might come when one had to decide whether to use paper or not. This would increase performance, reduce corruption and enhance participation of employees, he said.

Mr G T Pais from Indian Airlines said the belief that computerisation reduced employment potential was not correct. Rather more educated and trained manpower was required to augment the information system. This manpower would be positive in terms of initiative, imagination and human relationship, he said.

Giving the keynote address, scientific adviser to the Prime Minister and Planning Commission member Prof M G K Menon urged the scientists to take science to the grassroot level which would help people improve their living conditions. Dr Vasant Gowariker presided over the function.

## ITI TO MANUFACTURE MAIN AUTOMATIC EXCHANGE LINES

New Delhi PATRIOT in English 4 May 87 p 9

[Text] The Department of Telecommunications (DOT) has given the green signal to the Indian Telephone Industries (ITI) to go ahead with the manufacture of main automatic exchange lines (MAT-3) using the indigenously developed Centre for Development of Telematic (C-DOT) technology.

C-DOT executive director G B Meemamsi told UNI that the Department had sought 100,000 lines of which the ITI-C-DoT collaboration would turn out 20,000 lines by March next year. Fifty per cent of the order placed by the DOT was for the rural automatic exchange (RAX) of C-DOT, which has been successfully tested at the historical town of Kittur, a remote area in northern Karnataka.

The DOT, for the first time, had given such a major order as the C-DOT technology was under the final appraisal stage.

The task, oriented C-DOT which successfully developed technology to manufacture private automatic branch exchange (PABX) and transferred it to industries was now in the final phase of the testing of 512 line MAX in its laboratories. Two such modules would be field tested at the Delhi Cantonment Telephone Exchange and the Ulsoor exchange here before the installation of major digital exchanges on C-DOT Technology by the middle of this year.

Mr Meemamsi said work was already on at a brisk pace for the 4000-line Ulsoor exchange and that a 5000-line Delhi cantonment exchange 1,000 line configuration would be tested at Ulsoor exchange in July next.

In order to expedite the work on the ITI digital exchange unit here, C-DOT had secured some of the machineries and component that had been already imported for other PABX manufacturers, who were yet to start their works, he said.

He said the indigenous component for the MAX would be 50 per cent in the first year. Subsequently during the second and third years it would be increased to 70 and 90 per cent respectively.

He said the C-DOT had made it clear to the Government that the second technology for the manufacture of MAX lines would be only the C-DOT technology which had proved the capability to provide the state-of-art technology instead of old technology offered by the foreign companies.

A 500,000 line unit of the C-DOT technology would cost only Rs 30 crore as against Rs 120 crore for the electronic switching system of Cit Alcatel of Italy, which had collaborated with the ITI for the first digital exchange of the country set up at Mankapur in Uttar Pradesh, he said.

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CSO: 5550/0150

DIGITAL PABX SYSTEM BASED ON INDIGENOUS KNOWHOW

Madras THE HINDU in English 6 May 87 p 17

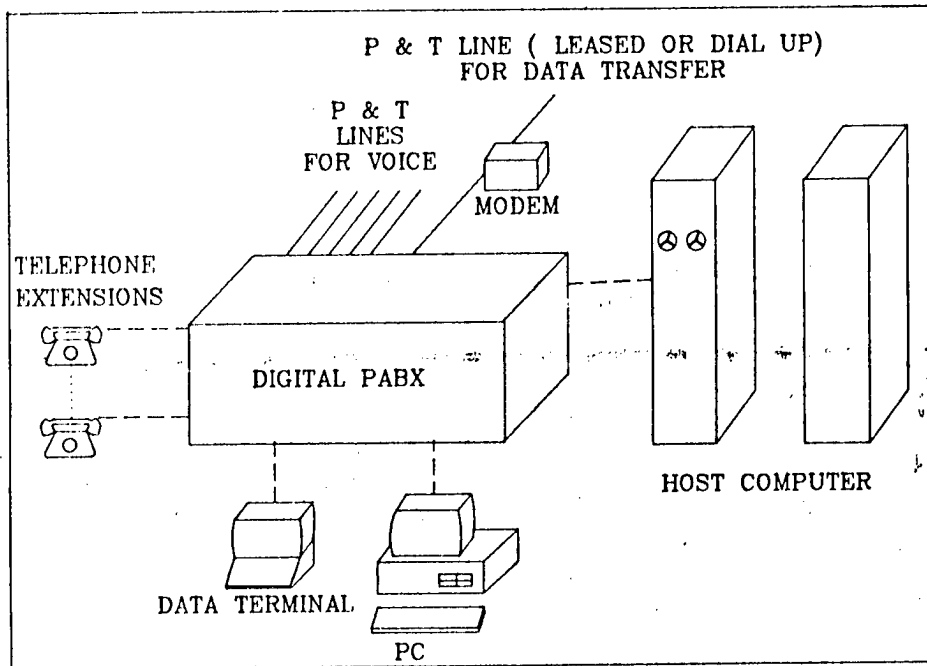
[Text] The Centre for the Development of Telematics (C-DOT) has developed from scratch the technology for digital PABX systems which cost much less than imported systems. Among the companies licensed to use this technology are Bharat Heavy Electricals, Indian Telephone Industries, Hindustan Brown Boveri and Indchem Electronics.

The PABX system manufactured by Indchem using this technology was launched last December, with a demonstration at the IEEE's convention and exhibition held in Madras. For the demonstration, the company had four temporary lines from the P & T, which were accessed

by 12 stalls. All the stalls were thus directly linked to the city lines.

The C-DOT has designed a modular system, using a microprocessor with the system having a high degree of hardware and software flexibility and scope for future enhancement. The C-DOT has laid emphasis on the use of indigenous components, like the 65CO2 microprocessor to be made by the public sector Semiconductor Complex Limited. Only memory devices, codec chips and relays have to be imported at present.

The PABX system has been designed for Indian conditions and so does not need an air-con-



ditioned atmosphere. It has built-in redundancy and a battery back-up. There is also a self-check programme which will monitor and indicate malfunctioning of the system.

It is a non-blocking system which means all extension users will always get a dial tone. The system can have up to 88 extensions with conference facility or 96 extensions without conference facility and accommodates up to 16 P & T lines. The functions are controlled by different PCB cards—control cards, extension line cards, trunk cards, conference cards and data interface cards. The control cards are duplicated to give hot-standby. The basic technology used is Pulse Code Modulation/Time Division Multiplexing which is a CCITT accepted standard.

Indchem Electronics Limited, a Madras-based high-tech group with the required infrastructure and R & D facilities to absorb the C-DOT technology for producing quality products, is the first licensee to have offered a full system to the C-DOT for validation and it expects commercial deliveries to commence from May 1987.

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CSO: 5550/0152

## PROBLEMS IN DEVELOPING PROTOTYPE EXCHANGES NOTED

Madras THE HINDU in English 14 May 87 p 8

[Article by R. Ramachandran]

[Text]

**W**ILL C-Dot deliver the prototypes of 4000 and 5000-port (line) large exchanges by the end of 1987 as targeted? "Certainly. There should be no problem at all. Everything is going according to schedule," says Mr. Sam G. Pitroda, the brain and the motive force behind the Centre for Development of Telematics (C-DOT) and Adviser to this autonomous body created on August 25, 1984, to develop in three years time a family of digital switching systems (DSS) to suit Indian conditions. The family will include Private Automatic Branch Exchange (PABX), Rural Exchange (RAX), Main Exchange (MAX) and Trunk Exchange (TAX) for a variety of configurations ranging from 128 to 40,000 ports(P) with a commonality in components, hardware, software, packaging, special features, maintenance, etc.

Mr. Pitroda's confident tone is in evidence. The claim is that the commercial production of the 128-P PABX systems—first in the family—has already taken off, the 128-P RAX having performed very well in its field trials in Kittur, Karnataka, since July 1986, is soon to go into regular production. And the first 512-P exchange (for rural and semi-urban applications) is scheduled to go on field trials at the Delhi Cantonment exchange in July '87. But there is no sign of the confidence exuded by Mr. Pitroda and his enthusiastic band of young engineers being backed by will and commitment on the part of the Government to see this indigenous effort succeed if what is currently happening on the PABX front is any indication.

Despite the fact that a national mission on telecommunications has been launched there is yet no clear policy guideline aimed at achieving the goals of the mission. 'The Government should invest towards building a national network based on indigenous technology, and not pockets of small networks,' says Mr. Pitroda. 'There is a widely prevalent misconception that if we have

taken one year for a 128-P system, a 512-P system would take four years, and so on. What people don't realise is that our entire strategy, right from the start, is geared towards 16,000-P main exchanges and PABX and RAX are merely offshoots of our approach and, therefore, there is no reason why we should not deliver,' he adds. With the 512-P exchange, which is to serve as the Base Module (BM) for MAX, rearing to go the Government should be clearing the passage for procuring capital equipment and parts for the manufacture of BMs and MAXs right now and manufacturers should not find themselves caught in bureaucratic hurdles, feels Mr. Pitroda, but this is not happening. Import of telecom technology continues at all levels supported by the argument that the country's immediate demands are far greater than C-DOT could possibly meet. This not only leads to diversification of technology, and its attendant problems of standardisation, interfaces, spares, maintenance, etc., but also acts as a barrier to the indigenous efforts.

These are already evident at the PABX level. Three foreign firms—Jeumont-Schneider of France, OKI of Japan and GTE of Belgium—have technology tie-ups with different (over 20) Indian companies for the manufacture and marketing of PABX systems in competition with the C-DOT technology. While there are encouraging trends among Indian manufacturers to opt for the C-DOT technology—two of the current list of 50 companies dropped the foreign tie-up to take up C-DOT's technology—there are ominous signs at the customer end. Few have come forward to place orders with the various manufacturers for the indigenous product. And there are others who have floated tenders in a manner that appears deliberately designed to suit the foreign products.

The C-DOT system is one which, after accommodating for 16 P&T lines and 16-P

tone generator, can support upto 88 or 96 extensions depending on whether conferencing facility (8-P) is incorporated or not. It is a non-blocking exchange as it is based on the Pulse Code Modulation(PCM)/Time Division Multiplexing(TDM) technique in the sense that all the extensions are open all the time to receive the dial tone. (This is usually an economically difficult proposition in analog—as opposed to digital—systems based on space division multiplexing). The C-DOT PABX system has been designed so that it can be configured with a maximum of two 128-P modules with a link-line so that it can serve up to double the number of lines in a single one (and in a non-blocking mode).

Designed with six basic card (unit with mounted electronic circuitry) types and assembly-oriented with components from local ancillary industries—about 56 C-DOT approved component vendor network has been established to support the indigenous development and this in itself is a success story—the manufacturing cost has been made substantially lower compared to imported technology and, therefore, the cost per line also works out much cheaper for the customer. It is estimated to be around Rs. 3000 per line which is believed to be less than half the cost in an imported equipment. Apart from these claims, there is one more, namely that the C-DOT equipment is capable of working in a non-airconditioned environment, normally up to 35 deg. C and for short durations up to 45 deg. C with humidity up to 95 per cent, which no imported equipment can boast of. (Some hold the view that some of these claims are still to be established).

Since the technology transferred by the C-DOT (and not transplanted, as C-DOT makes it a point to emphasise) to the Indian companies is the same the competition among them will only be in terms of after-sales service and maintenance, the performance being identical. Currently only some coder-decoder chips and relays are being imported (which are also being canalised through ET&T) and hence there are no attendant problems of availability of spares. A large volume of sales of the C-DOT PABX will also give the much needed boost to the Semiconductor Complex Limited(SCL) as the basic signal processor in it is based on the SCL produce, the Rockwell 6502 microprocessor.

In spite of all these advantages there is a curious tendency that is noticeable if one looks at the tenders that have been floated. It seems as if all these customers—which include government departments and public sector undertakings like the DRDO, NTPC and even Mahanagar Telephone Nigam Limited—have suddenly woken up to the realities of the digital marvel and are in dire

need of 350-P, 500-P, 1000-P and other odd requirements which can only be met by the collaborators of foreign firms. 'It is very easy to word a tender so that you buy what you have already decided to buy,' says Mr. Pitroda. The multinationals that are in the run have been at this game for long and have produced over the years systems that cater to a wide range of line capacities. It

should be pointed out here that, first, there are hardly any private exchange requirements in the country that go beyond 200 lines and, secondly, if it is true that C-DOT's own 512-P system is just round the corner, all these customers could easily wait until this larger exchange gets produced indigenously. Yet the Government has not been able to issue suitable guidelines to its own departments for the implementation of C-DOT's systems for their requirements.

Some of the tender documents have also reportedly asked for capabilities which do not make any sense in the present Indian context. Direct In-Dialling(DID), Hot Line, Wide Area Networking(WAN), Integrated Services Digital Network (ISDN) and other such buzzwords are being used to rule out manufacturers of indigenous equipment. Supporters of the indigenous system say that certain facts need to be pointed out here. First, the main exchanges of the P&T do not support DID, that is to reach the extension from an outside line without the intervention of an operator, and so even if some imported technology does offer this it is of no use. Secondly, provision of hot line too requires the support of the main exchange and if an establishment has a hot line provided by the P&T already, then the PABX automatically incorporates it. Thirdly, even if some new to-be-commissioned Alcatel E-10B/S exchanges have this feature DID requires a straightforward software development—a few man-hours, as one C-DOT engineer put it—and can be easily implemented. Fourthly, WAN too requires access to dedicated lines (for effective use) or a Packet Switched Data Network (to link cities, say) aided by satellite transmission, etc., which is still at an experimental stage in the country and it will be long before it becomes available to anyone who asks for it. Fifthly, things like ISDN are still in the realm of concept even in many advanced countries and when such a thing becomes a reality here C-DOT would have definitely attained the capability to suit anybody's requirements.

But as of today the encouragement which C-DOT requires by way of market potential does not appear to be easily forthcoming and that could become the crucial factor for its success.

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CSO: 5550/0155



## ACCORD ON RECEPTION OF DATA FROM FRENCH SATELLITE

Madras THE HINDU in English 5 May 87 p 4

## [Text]

An agreement for the reception of data from the French remote sensing satellite, Spot, was signed in Bangalore today, between the National Remote Sensing Agency (NRSA) of the Department of Space and the French company, Spot Image.

An outcome of the memorandum of understanding between the Indian Space Research Organisation (ISRO) and the French National Space Agency (CNES), signed in May 1985, the present agreement will enable reception of data from Spot at the Shadnagar station, NRSA.

The agreement also provides for processing of the satellite data and distribution of the processed imagery to user agencies in India, it was stated.

An ISRO-Dos Proessh note said the Spot earth observation satellite was launched by CNES on February 22, 1986. World-wide distribution of the Spot data rests with Spot Image. The satellite has cameras on board, which can either provide multispectral images of the earth's surface with a resolution of 20m or panchromatic images with a resolution of 10m. The cameras also have side-looking capability that can be used to get more frequent coverages of a given area in order to obtain terrain height information. These capabilities have been found to be useful by various Indian users for application in agriculture, land use, cartography, geology, hydrology, forestry and urban area mapping. Technical trials for data reception have been successfully carried out and routine operations of reception, processing and distribution will commence shortly.

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CSO: 5550/0151

## PROBLEMS WITH PROPOSED OPTICAL FIBER UNIT EXAMINED

Bombay THE TIMES OF INDIA in English 11 May 87 p 15

[Text] **T**HE selection of the foreign collaborator for a high-technology optical fibre project, long turned into a plaything of decision-makers, has been questioned by experts.

NKT of Denmark has been selected as the technical collaborator by the public sector Hindustan Cables Limited and the Indian Telephone Industries who signed the agreement this week.

The government decided to ignore the recommendation of the department of electronics and the agreed view expressed by the former chief executives of the two public sector companies.

With the change in the chief executives of the two companies, those in the government favouring NKT were able to have their way ignoring the bids by British and Japanese companies.

While technical evaluation had involved the two companies and other related departments, some official in the external affairs ministry for some odd reasons developed interest in the technology selection opposing the British company, STC's offer. The external affairs ministry was represented by a joint secretary who curiously even attended official meetings where technical findings were discussed. The views of two persons close to the centre of power are reported to be working as promoters of the Danish firm.

The signing of the agreement by the two companies does not necessarily bring the project nearer implementation since the agreement would have to be formally approved by the government which will have before it conflict-

ing views. Since the project costs have been revived, many other formalities have to be gone through again.

Besides the delay, escalation of project costs, inappropriate choice of technology and a distorted locational policy have combined to adversely affect the viability of the project envisaged a decade ago.

HCL has a new cable factory and research and development infrastructure in Hyderabad but it has been compelled to locate the project in the constituency of Mr Amitabh Bachchan in Allahabad. HCL will make the optical fibre and cable and ITI is to make line equipment.

The project cost approved was Rs. 28 crores but now the revised estimates place it at Rs. 55 crores and for this a fresh sanction would have to be taken by HCL and ITI. The decision to locate the factory in Allahabad instead of Hyderabad will cost the public sector companies about Rs. 10 crores.

It is feared that the costs may go up further. The public investment board's sanction will be sought after taking into account the escalation that has already been computed.

Questions related to rival offers by the British and Japanese companies for technical collaboration will thus come up again. In fact, even as the two companies were being told to sign up with NKT, which was being considered by experts to be less attractive to the British and Japanese companies, some complaints of NKT cable supplies being defective cropped up in Denmark itself.

Following this, an Indian official delegation was rushed abroad for getting certain clarifications. These officials were apparently satisfied that the nature of complaints that came up in the telephone system using NKT cables did not warrant any rethinking.

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CSO: 5550/0153

## INDIAN FIRM PRODUCES MINIATURIZED PICTURE TUBES

New Delhi PATRIOT in English 3 May 87 p 9

[Text]

The Government has permitted industrial units both from the small scale as well as the organised sector, who have been approved for manufacture of black & white TV sets, to manufacture 12 cms B&W TV sets now.

An announcement to this effect was made by the Department of Electronics, on Friday. Those who have already been approved for the manufacture of the B&W sets will not need any fresh approval or industrial licence for these but can do so under the existing TV policy.

The new policy announcement has been made following the establishment of a manufacturing base for 12 cms B&W TV picture tubes in the country.

Recently BEL has launched its miniature picture tubes with the presentation of the first one to Weston Electronics which has placed an order for 50,000 tubes of this range. BEL is the first company in the country to develop indigenously and manufacture the 11.5 cm miniature TV tube (B&W).

The new announcement obviates the need for Weston and other manufacturers of B&W TVs to seek a licence for making the miniature TVs.

The policy announcement said that fresh proposals from industrial units for the manufacture of these sets would also be considered on merit.

The announcement however bans import of B&W picture tubes of this range for the manufacture of the TV sets.

## BRIEFS

**BOMBAY-DELHI LINK**--New Delhi, 14 May (UNI)--The Mahanagar Telephone Nigam Limited (MTNL) will lay a 2,500-km underground cable duct between Delhi and Bombay at an investment of Rs. 250 crores. MTNL managing director Mr M. P. Shukla, said here today that with the completion of the duct by 1992, the two cities will be "relieved of the burden of digging for the next 25 years." The underground duct system involves setting up of PVC pipes in concrete for safe positioning of cables. Addressing a meeting of the confederation of engineering industry (northern region), Mr Shukla said MTNL had a budget of Rs. 1,633 crores for the next three years and it has listed three thrust areas for development. The thrust areas are rehabilitation of obsolete systems, expansion and development of human resources. Mr Shukla said a policy decision had been taken to replace old exchanges in Bombay and Delhi only with digital exchanges. In Delhi, during the current year the '56,' '51' and '32' exchanges will be closed down and 1,34,000 lines replaced by 1990. The rehabilitation and expansion programmes will be greatly facilitated with the introduction of the underground duct system because the gestation period for projects will be reduced from 18 months at present to six months, he said. MTNL has already ordered nearly 300,000 push button telephones to replace antiquated instruments still in use in the two cities. The expansion programme envisages addition of 600,000 telephones in the next three years. Another 5,000 public call offices (PCOS) will be added to the existing 5,000 in Delhi by 1990. They will be based on the latest magnetic tape technology. [Excerpt] [Bombay THE TIMES OF INDIA in English 15 May 87 p 4] /9274

**DELHI TELETIX PLANS**--New Delhi, 6 May (UNI)--The Mahanagar Telephone Nigam Ltd, will introduce in the capital "cellular mobile radio" (CMR) by December this year and teletex service between Delhi and Bombay by March 1989. Stating this at a joint meeting of the Punjab and Haryana Chamber of Commerce and Industry (PHDCCI) and the Federation of Indian Exports Organisation, (FIEO), the MTNL managing director, Mr M. P. Shukla, said action has been taken to provide cellular mobile radio telephone and radio-paging in Bombay. The target date for introduction of these two services is March 1988. Videotex service and electronic mail service are planned for introduction by March 1990, he added. Mr Shukla said that MTNL has decided to go in for leasing to the tune of about Rs. 400 crores in the next three years. [Text] [Bombay THE TIMES OF INDIA in English 7 May 87 p 7] /9274

DELHI-KATHMANDU STD--Kathmandu, 8 May (PTI)--Delhi and Kathmandu have now been connected by the subscriber trunk dialling (STD) system, it was officially announced here today. This facility can later be used for calling Calcutta from Kathmandu too, the announcement said. [Text] [Calcutta THE TELEGRAPH in English 9 May 87 p 5] /9274

TELECOM POLICY REVISION--New Delhi, 5 May--All long-distance public telephones shall work for a minimum of eight hours, according to the latest revision of the telecom policy, the Minister of State for Communications, Mr Santosh Mohan Dev, informed the Lok Sabha today. He also told Mr A. P. Sethi during question hour that under the new policy it had been decided to provide a telephone within five km of every village in the next few years. For this purpose, he said, it was planned to provide a public telephone on a fully subsidised basis, at one principal village in every inhabited geographical area bounded by a hexagon of five km sides. Replying to a supplementary, the Minister said the Government was liberalising the policy for extending telephone facilities in the country. Under it, smaller telephone exchanges were being allowed to be manufactured. But, at present, it was not possible to provide telephones in rural areas. Mr Santosh Mohan Dev said for private telephone connections, a small telephone exchange of nine lines or 25 lines could be opened at a place if there was a demand of five and 10 connections and revenue was 35 percent and 40 percent respectively of the anticipated annual recurring expenditure. Similarly 50 lines or 100 lines capacity exchange could be opened if the demand at a place was for 23 and 46 telephone connections respectively and revenue was 60 percent and 70 percent respectively of the annual recurring expenditure. The Minister said that for the opening of nine, 25, 50 and 100-line exchanges, the condition for minimum revenue had been removed. The following are points from other answers given in either House. [Text] [Madras THE HINDU in English 6 May 87 p 6] /9274

PUNJABI NEWS AGENCY--A Punjabi news agency, PUNJABI SAMACHAR SEWA, was launched in Delhi on Saturday, reports UNI. Inaugurating the news agency, Punjab Finance Minister Balwant Singh said it would help development of the Punjabi as envisaged in the Punjab accord and also the dissemination of correct information about the state. Describing it as a "revolutionary step", Mr Balwant Singh said the State Government will provide all possible financial help to the agency. Speaking on the occasion, Mr Raj Gill, president of the Punjabi Samachar Sewa Society, which has floated the news agency, said it would help introduce modern techniques of news coverage and conveyance. It would also provide background material in English throughout the country. Mr Gill said the society had approached the Union Communications Ministry for supply of Punjabi teleprinters. [Excerpt] [Delhi PATRIOT in English 10 May 87 p 2 BK] /9274

SOUNDING ROCKET EXPERIMENTS--Madras, 4 May--A RH-560 Sounding Rocket was launched successfully on Monday at 10-10 a.m. from Sriharikota Range, 16 km from here, according to an official press release. The scientific experiments were conducted jointly by scientists from PTS, West Germany; PRL, Ahmedabad; and ISRO during the nine-minute flight of the rocket, which reached a maximum altitude of about 300 km. The data telemetered to ground station is being analysed by the scientists. The experiment included study of daytime reference ionosphere up to 300 km altitude, electron temperature and density in equatorial 'F' region and the correlation between them, and irregularities due to neutral turbulence in the 'D' region. [Text] [Madras THE HINDU in English 5 May 87 p 3] /9274

## MOSCOW TV CARRIES TELEBRIDGE WITH U.S.

LD170234 [Editorial Report] Moscow Television Service in Russian at 1425 GMT on 16 May carries a 45-minute recording of a telebridge between Moscow and the United States, entitled "Breaking out of the Vicious Circle." Soviet participants are Academician Georgiy Arbatov in Moscow and Academician Sagdeyev in Los Angeles. U.S. participants are Ted Hesburgh, program presenter and rector of Notre Dame University; Admiral Noel Gayler, retired, former commander of the U.S. Pacific Fleet; and astronomer Professor Carl Sagan. All participants speak in English with superimposed Russian translation. No date is given for the telebridge.

Arbatov, speaking in Russian, opens the program and introduces all the participants. He then refers to a television debate that was relayed approximately 2 years ago: It was shown by the U.S. Turner Broadcasting System after an U.S. film on the consequences of nuclear war and on nuclear winter. Today's broadcast was shown in the United States after the showing of a Soviet film which viewers obviously know, "Letters From a Dead Man." Why is it that the Turner Broadcasting System decided to show that film? It was shown three times, the film and a debate, during February? It was the system's response to ABC's showing of the low-grade anti-Soviet lampoon series "Amerika," about which viewers already know quite a bit. As we can see, there are many Americans who did not only protest--very many protested against the showing of the film, which sows hatred, mistrust, and enmity--but who also attempted to do something to oppose the fabrications, the slander and the lies with subjects which might dispell the poisonous mist of mistrust, mutual suspicion, and hatred.

"The U.S. participants in the debate requested that the Soviet side focus its attention on that which unites the two peoples, the two nations, without over-emphasizing contradictions, and to refrain, as far as possible from criticizing the other side and the other government. That is what we attempted to do, because, at the end of the day, the quest for common ground, the quest for that on which agreements can be based, on which future relations can be based, and on which survival can be based--for all the things on which survival can be based, is not just a matter for television debates which promote a correct understanding of politics."

Hesburgh begins the debate by talking about the film "Letters from a Dead Man" and refers back to the previous television discussion, stressing there is a need for greater trust between East and West, Adm Gayler makes suggestions for achieving arms reduction, including a nonfirst-use agreement. He asks Sagdeyev for his views on improving relations between the USSR and the United States.

Sagdeyev replies, referring to the scientist portrayed in the film "Letters From a Dead Man" and says: "I am proud that many of my colleagues--scientists living today--very fortunately, are aware of the threat posed by the nuclear arms race. I think that the more we scientists meet each other, the more questions we discuss, the more we exchange knowledge and experience, the better chances we will have surviving in this world."

Professor Sagan responds, speaking about the terrible danger of nuclear weapons.

Hesburgh asks Arbatov:

"Georgiy, you are very highly informed. Do you think that we are really facing a unique opportunity for Soviet people and Americans to discuss problems of mutual interest more openly and frankly? It goes without saying that it is not in our common interests to blow each other up, but it is in our interests to get rid of that with which we could destroy each other."

Arbatov replies: "Tremendous changes have taken place over the past 2 years around the world, particularly in the Soviet Union. I would say that my country assesses its past fairly maturely and we are looking to the future with greater confidence. Many problems have accumulated in our country, and we are now tackling them.

"Let us get back to the topic of our debate: The admiral spoke of specific steps which have to be undertaken in order to curb the nuclear arms race. Any changes must take place first of all in people's minds, and that is why we talk of the need for new thinking. Mikhail Sergeyevich Gorbachev appealed for this as far back as his first foreign trip in the capacity of CPSU Central Committee general secretary, to Paris in October 1985. On that occasion he said that it is characteristic of human consciousness to lag behind a rapidly-changing reality. We realize this, just as we realize that we also have to bring our thinking--including foreign policy and military-political thinking--in line with changed reality. Such changes are taking place in our thinking.

"The main thing here is the concept of security. Our foreign policy program proceeds from the fact that in today's world it is impossible to ensure one's security at the expense of others, or to their detriment. Security can only be attained together, or else we shall live together in danger. Also, security is not a military or technical problem, but a political one. It can only be solved by political means, that is, above all through reducing armaments, widening mutual understanding, and dialogue.

"I believe that it is the duty of the present generation to perform a historic task, that of changing the whole course of international politics. We can no longer allow states to behave as they have behaved for thousands of years. I refer to wars, the build-up of military forces, attempts to coerce and hold in subjection other countries, and so on. Mankind must cast off these traditions under threat of a collective death sentence. Proceeding from such an understanding, we have begun to restructure our foreign policy and diplomacy. I believe that there is a good chance of steps toward disarmament. We await the United States response, and, as was stressed by Mikhail Gorbachev, a negative answer will not do. We believe in the common sense of the U.S. people. We believe that the instinct of self-preservation will suggest to the United States a way out of the nuclear blind alley. I believe that the principal demand of today is, above all, the radical reduction of nuclear armaments, and after that, other steps to halt the arms race."

Hesburgh notes scepticism about the sweeping arms cut proposals raised by Reykjavik on the part of NATO leaders. Adm Gayler says a Soviet-U.S. commission should be set up "to work out plans for a general settlement of the nuclear problem which exists between the two countries." He notes the problem of nuclear proliferation. Hesburgh adds there would be no winners in a nuclear war.

Sagdeyev replies by saying that if the principal political goal is defined as the search for a way out of nuclear confrontation, scientists can work together and great breakthroughs will be achieved. He calls on scientists and politicians to work together. Sagan urges for a ban on nuclear testing, noting that "Star Wars" is not technically feasible and is dangerous.

Hesburgh then describes a project--the organization of a program of research into the problems of maintaining peace--in which three young Russians, three Chinese, and three Americans will participate.

Sagan then talks about how cuts in levels of weapons would reduce the level of hatred, and Hesburgh agrees that there should be a cut and a test ban.

Sagan then asks Sagdeyev about the Soviet position on on-site inspections to verify a treaty on halting nuclear weapons tests, or reducing nuclear weapons to a minimum, and to what extent the USSR is prepared to admit foreigners to verify compliance.

Sagdeyev says: "We have already had positive experience in working with a group of U.S. seismologists. Last summer we began an interesting experiment, when U.S. seismic equipment was installed in Central Asia not far from our test site. It was very important to conduct these experiments, because even without tests taking place--our moratorium was still in force--scientists gathered a large quantity of seismic data.

Hesburgh then dwells on the good international causes that could benefit from funds freed from arms spending. He also says he feels that by working



together, difficult problems can be solved. Arbatov agrees, saying he does not want to be a pessimist "despite the fact that we have not yet achieved impressive results, new agreements and so on." He hopes that over the years everyone has learned much, including from the lessons of Chernobyl and Challenger.

He adds: "We now know that there are decisions we cannot entrust to computers, even the best computers. Many issues must be resolved by democratic means, by means of open debate. It is necessary to create conditions under which fateful decisions do not have to be made in haste, in 2 or 3 minutes, decisions upon which the destiny of mankind will depend. The fact that people have already started talking about a nuclear-free world as a realistic prospect gives one ground for hope. One can already start to imagine how to achieve it."

Sagdeyev also hopes the past few years have not been in vain, and that both sides are moving on toward more impressive joint space research projects. Both Adm Gayler and Sagan echo these sentiments, and then the telebridge concludes.

/6662

CSO: 5500/1050

SOVIET UNION

RL, RFE TASKED WITH ANTIRESTRUCTURING PROPAGANDA

PMO41521 Moscow IZVESTIYA in Russian 22 May 87 Morning Edition p 5

[Article by A. Alekseyev and V. Valentinov: "New Recipes in the Old Kitchen, or How Radio Liberty and Radio Free Europe Are Struggling Against Restructuring in the USSR"]

[Text] The process of restructuring of our society and the expansion of democracy and openness are provoking active interest abroad, leaving almost no one indifferent. Restructuring gladdens our friends, who see it as yet another manifestation of the stability and dynamism of the Soviet system. But there are also circles abroad which are observing what is happening with feelings of ill-concealed hatred, bitterness, or else even simply dread.

Radio Liberty [RL] and Radio Free Europe [RFE] also display a kind of interest in what is currently happening in the Soviet Union. These radio stations were created by the CIA and operate with U.S. intelligence money. And U.S. intelligence, as they say, calls the propaganda tune.

Recently new notes have sounded in the activity of these radio stations -- connected very directly with events in the Soviet Union. The force of action can be judged by the force of resistance -- this law is not only true in physics. The radio stations' U.S. bosses realized that the restructuring under way in the Soviet Union is primarily a restructuring of thinking and a change in people's awareness. Tremendous changes have also occurred in the activity of the USSR's mass media, and their material has become much more pointed, interesting, and effective. Even the West is noting the new approach in our country to negative phenomena and the desire to investigate them thoroughly and draw the necessary conclusions for the future.

People at CIA headquarters in Langley and even in the highest echelons of the U.S. Administration are seriously alarmed by this. USIA Director C. Wick, one of the chief ideologists of U.S. right-wing circles, recently stated in one of his speeches: "Moscow has now captured the world's attention. The spirit of the Free World, its contemporary life, and its prospects of future security are in jeopardy." M. Forbes, chairman of the Council for International Radio Broadcasting and direct boss of RL/RFE, recently made an appeal in the U.S. Congress to neutralize the effect of the restructuring on world public opinion and to try to sow doubt among Soviet people as to the realism of our plans. He said: "Virtually every day we read in the newspapers about the staggering changes in the Soviet Union. Enough!" He resolutely demanded that RL show "skill in imposing its own interpretation of events," and in conclusion he began persistently to ask Congress to increase appropriations for RL/RFE activity in 1988.

Representatives of the CIA, the State Department, and USIA have demanded that the RL/RFE leadership make serious changes in the character and forms of their broadcasts to the USSR and reorient them to take account of the changes that are occurring in the Soviet Union. Otherwise the radio stations' activity, they believe, will be absolutely ineffectual.

Now the very words "restructuring" and "openness" are causing dismay at RL/RFE -- and no wonder: They raze to the ground the hackneyed allegations about the "closed nature" of Soviet society. [paragraph continues]

The radio stations' leadership believes that restructuring must be combated, since it is the instrument designed to lend powerful impetus to the ongoing development of the whole of the Soviet system, its economy, and its sociopolitical structure and to make the ideals of socialism even more attractive throughout the world.

So how has RL decided to combat restructuring? All those masters of disinformation realize that it is futile to attack restructuring "in general." For this reason, their leading thesis is that restructuring in the USSR is "limited" and "inconsistent" in nature, and indeed that Soviet people in general cannot do the most important thing: create an efficient economy, on the Western model, of course, without changing their social system. To this end they try to appeal to those people who for one reason or another do not like the restructuring -- bureaucrats, bribe-takers, those who like to live well at the state's expense, slackers, and their ilk -- and try to excite and arouse dissatisfaction in them.

Of course, the radio station believes that it is now impossible for the RL/RFE correspondents and analysts to vie with the Soviet mass media in operational efficiency in throwing light on the USSR's internal life. For this reason they comment on the reports of our press, radio, and television, trying to "prove" that "socialism is discredited and that the CPSU's authority among the people is decreasing." RL has its own approach to events such as, for example, the accident at the Chernobyl AES, which it said proves the "USSR's incredible backwardness in the sphere of nuclear technology." It never occurs to the radio saboteurs that the Communist Party's strength and high prestige among Soviet people lie precisely in truth, in the healthy spirit of criticism, in the sober appraisal of what has been achieved, and in the ability to admit errors and draw the correct conclusions from them.

Recently CIA consultants specializing in social psychology recommended to the RL/RFE leadership that they plan their programs in a much more varied fashion and pay maximum attention to aiming radio broadcasts at specific national, age, religious, and professional groups of listeners, and primarily at young people -- the aim being to awaken and cultivate the seeds of spiritual aridity in our young people. By trying to show in their broadcasts that "youth is always in opposition to the older generation," they cherish the hope of enlisting our new generation in their own reserves.

The West, harboring open disdain for other nations and ethnic groups, feels particularly vividly what a tremendous achievement the real friendship among the peoples of the Soviet Union is. Even the RL/RFE leaders are forced to admit that "there is, unfortunately, no organized nationalist movement in the USSR capable of further development." For this reason, according to CIA instructions, one of the most important RL/RFE tasks is to increase the number of broadcasts in the languages of the USSR's peoples, to help provoke anti-Russian sentiments among the other nations and

ethnic groups, and to this end special attention must be paid to the Soviet Union's Central Asian and Baltic regions. Restructuring is seen as a danger to "national traditions." What do they mean by "traditions"? Corruption, a money-grubbing attitude, and other negative phenomena, which our people are resolutely combating at the present time.

It is not superfluous to recall that none other than one of the founders of the CIA, A. Dulles, called for the active use of nationalism to undermine the Soviet Union. Any slackening of attention to international education plays right into the hands of socialism's enemies. Recent events in Kazakhstan attest to this.

The U.S. special services' instructions to the RL/RFE state: "Communism is not concerned about a person's inner world. It aims to level down the human personality and make the individual simply an executor of somebody else's will. Therefore talk about God falls on beneficial ground around here." Not only RL/RFE, but also VOA and the BBC are stepping up their work to propagandize the ideas of "the struggle for freedom of religion in the USSR." Moreover these radio stations' broadcasts are propagating with increasing frequency not only traditional beliefs but also various kinds of sects fashionable in the West which preach neomysticism, and also extreme anticommunist religious groupings.

Such is the kitchen of disinformation.

An equals sign has never been placed in the USSR between ideological struggle and psychological warfare. We are in favor of honest ideological competition, which promotes the growth of mutual understanding among peoples. The West has departed from this open struggle, putting its trust in ideological sabotage and psychological warfare operations. The aim? It was clearly expounded by former CIA Director R. Helms: "We have always striven to stimulate the evolution of the peoples of communist countries and to inculcate in them our way of life." No more and no less.

/9738

CSO: 5500/1048

FORMER RADIO LIBERTY EDITOR TUMANOV INTERVIEWED

PM191115 Moscow LITERATURNAYA GAZETA in Russian 13 May 87 p 14

[Interview with O. A. Tumanov, ex-chief editor of Radio Liberty's Russian Service, by Mikhail Maksimov under the rubric "Interview with a Competent Person": "No Change in Oettingerstrasse"; first paragraph is LITERATURNAYA GAZETA introduction]

[Text] On 1 May, the day of international solidarity of the working people, former citizens of Poland, Hungary, Czechoslovakia, and Bulgaria usually gather in a local cafe in Munich to mark another anniversary of Radio "Free Europe." We have decided not to ignore this portentous event either and to mark it, albeit with some delay, by interviewing a man who knows the subject inside out, so to speak. I am referring to Oleg Aleksandrovich Tumanov, ex-chief editor of the Radio "Liberty" Russian Service. He kindly agreed to come to the editorial office of LITERATURNAYA GAZETA, which published a report of his press conference on his return home exactly a year ago.

[Maksimov] So, a year has passed since you left house no 67 on Oettingerstrasse in Munich, but I hope you still remember it well?

[Tumanov] You may be sure, such things are never forgotten.

[Maksimov] Tell me, is it a mere coincidence that both these events fall on the same day?

[Tumanov] How can I explain it... Basically, one of the main tasks pursued with the creation of Radio "Free Europe" was to deal a blow to the countries of the socialist community, a well-aimed blow designed to split the community. At that time--I am talking about the fifties--there were many different subversive organizations. Radio "Free Europe" was set up for the same purpose. It did not broadcast to the Soviet Union but focused solely on the other socialist countries. Its main task--to drive a wedge between these countries--is reflected in the organization of the radio station itself where the Polish, Czech, Slovak, and other editorial offices operate in isolation. No provision is made for contacts or cooperation among them. To give you an example, the Polish editorial office may be harboring a grudge against the Czechs, for instance. Meanwhile, the Czechs will be making the same sort of claims about the Poles. This isolation is also clearly in evidence at the

aforementioned cafe. The Poles site by themselves, and so do the Czechs, or the Bulgarians. There are no contacts with the Russian colony, it is inadvisable... And so the aims of Radio "Free Europe" are diametrically opposed to the international solidarity of the working people, and this also applies to Radio "Liberty."

[Maksimov] What is the main thrust of the Radio "Free Europe" broadcasts today? Have the processes which are taking place in the socialist countries affected the station's activities?

[Tumanov] The thrust of the broadcasts depends on the specific processes which are taking place in these countries. The Polish service is at present the biggest in size, followed by the Czechs and Slovaks, and then probably the Hungarians. At the time, Radio "Free Europe" played a significant role in triggering the Hungarian, and subsequently the Czechoslovak, and finally the Polish events. It is possible to say that this took the form of overt interference--all kinds of leaflets were printed at the radio station and dropped in these countries, especially in the case of Hungary. Now an effort is made to cover up such matters, but at that time it was done openly. Do you recall the balloons which were released in the direction of Hungary... Or the mobile radio stations during the Czechoslovak crisis... Or the questioning of refugees and their use in broadcasts... To put it in a nutshell, the nature of the activity of these radio stations does not change no matter what is happening in the relevant countries, be it good or bad. Even if something significant happens, you will still be able to hear in the broadcasts: "People should beware of believing what they are being promised today... Time will pass and everything will be back to normal." Therefore I would like to emphasize once again that any processes that are taking place or will take place in the socialist countries or the Soviet Union will have no effect on the essence or form of the two radio stations' broadcasts. Absolutely none. There are certain principles which remain practically unchanged since the radio stations were set up.

I know that on Saturdays conferences are held which bring together the chief editors of all the services. And each of them gives an account of the past week as it were; he describes what was at the focus of attention. I recall how the leadership of the Polish service amazed people by its knowledge of what would happen in the week ahead... They would say that on such and such a day such and such a leaflet or appeal would be issued. All this merely indicated that both the leaflets and the appeals were fabricated at the radio station rather than in Poland and were subsequently illegally infiltrated into the country. Radio "Free Europe" played a sinister role in the dramatization of the Polish events.

[Maksimov] No matter what you say, I believe that Western propaganda nonetheless has to take account of the events which are taking place in our country, for instance,...

[Tumanov] Yes, I have noticed that VOA and the BBC have somewhat changed the tone of their broadcasts. But let us not forget that these are state or

quasistate stations and they will have received some kind of new instructions. Yet at Radios "Liberty" and "Free Europe" there has been no change. There they are still singing the same old tune: History has taught us that major changes are followed by a period of trouble... That is all they need to say to mislead people... There is an enormous information and research department which is on the lookout for trouble. It receives newspapers from various Soviet republics. You and I, for instance, read LITERATURNAYA GAZETA, PRAVDA, or IZVESTIYA. There we come across various critical articles. Now take a hundred newspapers and cut out all the negative materials and put them altogether and you will have the right picture...

[Maksimov] Nonetheless, let us try to imagine these people's reaction to the situation which is now developing in our society. Plant directors, heads of institutes, and so forth are currently being elected in the USSR. How will they respond to this, how will they treat this subject?

[Tumanov] They will say that indeed the possibility of elections at various plants and factories has emerged this year... Then they will mention the law "On Individual Labor Activity." Subsequently they will try to link all this with the NEP [Lenin's New Economic Policy] and argue that, now as then, it is, so to speak, the only solution for the country. They will undoubtedly describe obstacles constraining individual initiative. And they will reach the conclusion that it will all come to nothing. And the speaker will make the same sort of claims about the electivity of directors. So what, three men have been proposed for one post. But who are these three men? Ivanov, Sidorov, and Petrov--but they all come from the same mold. There is little difference between them. Thus, I must say it again, everything that is happening will be mentioned in a way--there is no sense in suppressing it since it is being reported in the press and on radio and television... But this will be done at the beginning of the commentary and everything else will be painted black just like in the past, even the more distant past, and if they make a forecast for the future, it will be on the lines of: Do not expect anything good. This is the essence of the work of Radio "Liberty" and Radio "Free Europe." Otherwise they would be redundant.

[Maksimov] It is generally known that Radio "Liberty" and Radio "Free Europe" are branches of the CIA and the NATO special services. What form do their intelligence activities take?

[Tumanov] First, the tune is called, that is to say the programs are ordered by Langley and military intelligence, at whose expense the stations were established... But that is only the tip of the iceberg. A great deal of information gathering goes on at both stations. I have already mentioned their research centers, the questioning of tourists, emigres, and people who come out on all kind of business. Subsequently files are compiled and special bulletins are published quite officially. Subscriptions can be taken out for them. They are used by many universities and various institutes. But... In addition, there is covert research, the results of which go to a narrow circle of people at both radio stations. These are reports on meetings with specific people. They are studied in Washington.

I am able to report that at Radio "Liberty" there is a "samizdat archive," a research department, and a "red archive." These three subdepartments of the service between them literally scour the whole of the press. Furthermore the "samizdat" literature is quite often produced at Radio "Liberty" itself and then passed on to some correspondent or other who takes it to Moscow and pretends that he received it from someone there. After all, "samizdat" authors are frequently fictitious, people do not sign that kind of material. You will agree that this is one form of subversive activity. And the special services take part in devising such forms of activity.

There is also an audience research department. At one time it was at the radio station itself. Now it is in Paris on boulevard St Germain No 193. It has many subdepartments and correspondents in various countries. What do they do? They meet... people who interest them--tourists, people on business trips... Every such "correspondent" has a special questionnaire. It contains questions which he will ask. Maybe at the first meeting, maybe at the next, but he will ask them. The answers are then summed up. That is to say a detailed report is compiled...

[Maksimov] Who works in the "audience research department"? Is it emigres?

[Tumanov] No. Those working in Paris are mainly Americans. They may be of Russian, Polish, or Hungarian origin, but they were born abroad. That is to say, emigres are practically barred from the "center" where all the information comes together. They are clearly not trusted with such responsible work.

[Maksimov] Where do the radio stations recruit staff today? After all, the flow of emigres has considerably subsided.

[Tumanov] Well, what shall I say... In principle, the staff of the Polish section was increased in connection with the events in Poland. At that time a certain number of people left the country. There were journalists among them. They now form the nucleus of the section.

Where else can one recruit? Well in Israel, for one thing. It is also possible to poach from another radio station, although this is frowned upon. But sometimes people do come from the BBC, from VOA. There is a specific budget for specific categories of staff. A certain circle of people is always "hanging around" the station. They write, their work is sampled. People are chosen from among them. Lately they have begun to focus on the children of emigres who were born over there, who have a degree in Slavonic studies, who speak Russian. It is harder to work with them because they are not familiar with Soviet reality. In the past this was never done on principle. Therefore it is possible to speak of a "crisis of the genre"... Formerly they relied entirely on people who had come directly from the Soviet Union, while now in certain sections (not the most important ones yet) there are people who have no contact with Soviet reality.



[Maksimov] What is the pay like at these radio stations?

[Tumanov] They pay what ever each individual traitor is worth to the CIA.

[Maksimov] According to press reports, the not unknown V. Maksimov recently inspected Radio "Liberty" and Radio "Free Europe" and gave many recommendations about how they should work in the new conditions. What can you say on this subject?

[Tumanov] As is known, V. Maksimov edits KONTINENT, allegedly published by the Springer concern. This does not entirely correspond to the truth, since most of the money is provided by the CIA. Primarily. V. Maksimov is constantly calling at the station... He takes part in broadcasts. And he is paid for it. He gives a 4-minute talk and they pay him DM250... But it is not just a matter of money. He would like to lay his hands on the Russian editorial office of Radio "Liberty." That is his ambition! This was the cause of loud quarrels bordering on fisticuffs... In Paris they were afraid even to receive him; they were so aware of direct pressure. How does he do it? By means of open letters to President Reagan who, people say, listens to him. I am convinced that he will achieve something, he may get the post of editor, or perhaps head of the Paris office. Therefore if he has visited the radio station it could be described as an inspection tour.

[Maksimov] Now a personal question: What is Oleg Tumanov doing now? How does he live, how does he feel?

[Tumanov] A year has passed... I have been settling in. And looking around, looking, and looking again. I have traveled a little around the country, visiting Leningrad and Tallin. At the moment I am getting ready to visit relatives near Vyazma. And I am working on a book. About Radio "Liberty," mainly about the people. I want to show them in action, tell who is who. My second book will probably be fiction. I am thinking about writing a novel about emigres. I do not know how it will turn out...

/9599

CSO: 5500/1047

SOVIET UNION

BRIEFS

NIGERIAN AGENCY PROTOCOL--Protocols to an agreement between TASS and the News Agency of Nigeria (NAN) signed in Lagos provide for the regular exchange of journalists between the two agencies and assistance for the Nigerian side in the form of training of technical personnel in the USSR. [TASS report under the rubric "Official Reports"] [Text] [Moscow IZVESTIYA in Russian 21 May 87 Morning Edition p 4 PM] /9738

CSO: 5500/1048

## BRIEFS

FAEROE ISLANDS' GROUND STATION--The first satellite station on the Faeroes for public telecommunications with Denmark and foreign countries will be dedicated on 16 June. The station, which is located in Husareyn, gives the Faeroes a communications system which is independent of the present sea cable connection with the Shetland Islands, stated the Postal and Telegraph Authority. The installation cost 25 million kroner. The Danish Government is paying 15 million of this, while the Faeroes will cover the rest. [Text]  
[Copenhagen BERLINGKSE TIDENDE in Danish 13 Jun 87 p 2] /6662

CSO: 5500/2524

## TV-SAT APPROVED, ARIANESPACE LAUNCH LIKELY

Duesseldorf HANDELSBLATT in German 2 Apr 84 p 4

[Article by "olb": "Cabinet Gives the Green Light for TV-SAT 2"]

[Text] Bonn, 1 Apr--The Federal Cabinet has agreed to the development of the broadcasting satellite TV-SAT, upon the recommendation of Federal Minister for Posts and Telecommunications Christian Schwarz-Schilling. The Postal Administration Council had already given its consent on 27 March 1987.

The federal postal minister will grant the definitive order for TV-SAT 2 on 3 April 1987, in order to avoid any further delays, which would lead only to considerable price increases. TV-SAT 2 is to be delivered over in January 1989.

After the cabinet session, minister Schwarz-Schilling explained that because of the very economical system design (relinquishment of the original reserve satellite on the ground, reproducing the first satellite without changes), it has proved possible to lower the costs to the postal administration for the overall system from more than DM 1.1 billion to DM 870 million.

In this connection he announced that a stopping of the project just with a view to the cooperative effort with France and because of the chances for German industry was out of the question. Besides, in such a case an amount of about DM 310 million would have to be written off. On the future costs, he stressed: "Profitability calculations in connection with the determination of fee rates to cover costs have shown that any promising offering for rental fees per channel must be oriented to the market price."

Schwarz-Schilling stressed that beyond the field of satellite technology itself, the system is giving positive economic and employment stimulants to the industrial fields of "receiving equipment and terminal devices" in particular. With the new transmission methods--D2 MAC for television and digital stereo sound for radio--the German TV-SAT system is taking on a pilot function, which because of the currently still existing developmental lead is giving German industry the chance to gain back market shares in the area of entertainment electronics.

The federal postal minister seemed confident: "With a second generation of satellites that will be needed from the middle of the 1990's on, we are assuming that by decreasing the transmitting power the capacity can be raised to 10 or 15 channels, and thus the costs per channel can be reduced considerably. With that, in the long term it will be possible to operate direct-beam broadcasting satellites in such a way that the costs are covered."

In order to be able to launch the TV-SAT 2 as soon as possible after its completion, the Posts and Telecommunications Administration has already entered upon preparations for reserving a launch vehicle. The minister explained that developments in booster rockets in recent years have made it clear that a one-sided dependence on a single launching option is extremely hazardous.

#### Arianespace Remains Main Partner

Therefore the plan is to ask for bids within the framework of an international competition--with Arianespace also participating--for the launch of TV-SAT 2. However, in the future as well Arianespace--with which launching contracts for TV-SAT 1 and for the DFS Kopernikus 1 and 2 have already been concluded--will remain the main partner. The final acceptance decision will also have to take into account political considerations in addition to the availability in good time of the launch vehicles and the technical-commercial terms.

Schwarz-Schilling announced that in an upcoming fact-finding visit to China he will also visit the Chinese space center. In this connection he did not rule out the possibility that under certain circumstances, an improved version of the Chinese launch vehicle "Long March 2-4L" may also come into consideration for the launching of TV-SAT 2. Moreover, he said, the sounding out of alternative launching options has shown that booster rockets suitable for a 1989 launch are available both in the United States (Titan III, and with reservations also Atlas-Centaur) and also in the USSR (Proton).

12114

CSO: 5500/2510

REPORT ON SEL RESTRUCTURING, PRODUCTS, DEVELOPMENTS

President Lohr: Balance, Restructuring

Duesseldorf HANDELSBLATT in German 12 May 87 p 19

[Article by "gh": "Sustained Increase in Earnings After 'Large-scale Restructuring'"]

[Text] Esslingen, 11 May--"After very difficult and costly years of restructuring," Standard Elektrik Lorenz AG (SEL) has now achieved a profitability that will continue on in the years to come.

This is the assessment by Dr Helmuth Lohr, the president of Standard Elektrik Lorenz AG, of the situation of this firm at the beginning of its cooperative arrangement with its new partner, Alcatel, under the leadership of the new principal shareholder, the French Compagnie Generale d'Electricite (CGE), Paris.

The SEL, whose business strategy has concentrated on top-class technological achievements in recent years, he said, is viewed by him as the "second great pillar," along with the French Alcatel, of the "greatest European alliance in communications technology," which has arisen from bringing together the telecommunications divisions of ITT and CGE. As the second largest firm of this association, SEL will "assume an influential role and will decisively help shape the future of Alcatel," it is said in the annual report.

According to this report, the Stuttgart SEL Group has strengthened its position in communications technology by way of further successes with its digital message switching system, "System 12," has continued its "strategy of innovation on the basis of digitalization" in entertainment electronics, and has achieved above-average growth rates in some areas of component manufacturing such as automobile speakers and component motors.

But above all, as Lohr stated to journalists in Esslingen, restructuring and modernizing of production and the corresponding adjustment of the personnel and cost structure have been carried forward further. In 1986 this led to a considerable--and as Lohr expects, a sustained--improvement in earnings (see Table).

## SEL Group/SEL AG

<u>Millions of DM</u>	<u>1985</u>	<u>1986</u>
Sales, Group	5,049	5,275
Change in %	+12.4	+4.5
Export share, %	28.4	28.7
Sales, AG	4,597	4,823
Order inflow, Group	5,512	5,517
Order backlog	3,272	3,514
Work force, Group at end of year	33,385	32,496
Total outflow, Group	5,293	5,382
of this, in %		
Personnel costs	38.5	39.9
Material costs	44.2	42.9
Gross cash flow, AG <sup>1)</sup>	315.85	364
in % of sales	6.8	7.5
Earnings per share, DM <sup>2)</sup>	15.31	18.62
Dividend per share, DM		
Outside shareholders	10.50	10.50
Stock-exchange rate, high/low	372/313	482/283
Total capital expenditures, AG	223	250
Capital expenditures on physical assets, AG	210	204
in % of sales	4.6	4.3
Self-financing ratio, % <sup>3)</sup>	91	94
Capital and reserves	638	659
of which, capital stock	384	384
Balance-sheet total	2,513	2,508
Equity ratio, %	25.4	26.3
Debt ratio <sup>4)</sup>	3.4	3.0

Explanations: 1) Year's published earnings + taxes on income, profit, and net worth + depreciation + allocation to pension reserve + extraordinary items; 2) According to data from management; 3) Gross cash flow/taxes on income, profit, and net worth and dividend in % of total capital expenditures; 3) Value-adjusted; 4) Total indebtedness to gross cash flow

According to Lohr, in 1986 the expenditure for research and development was again about 11 percent of sales, and moreover a large amount of money was again invested in qualifying the employees for their changed job roles and tasks. With the restructuring of production, the manpower has also been decreased to some extent.

The orientation towards top-class products of engineering is in keeping with the modernization of development and production. Computer-aided Design and Computer-aided Manufacturing are accompanied by the digitalization of the products. The lion's share of the capital expenditures, which at DM 234 million in the Group in 1986 did not quite reach those of the previous year (DM 250 million), was applied to the development and production of new trend-setting products, says Lohr. In 1987, capital expenditures are supposed to come to 4.5 percent of sales. With a prediction of DM 5.5 billion in sales for the Group in 1987 (after DM 5.2 billion in 1986), this would be again about DM 250 million. The work force in the Group is to be further decreased by about 700 people, to 31,800 employees. To be sure, in the first quarter of 1987 downward tendencies have been seen--as Lohr says, largely because of the dollar exchange rate--which have led to a decline in the total sales of the SEL Group by 1.7 percent with respect to the comparable period of the previous year. He says that the order inflow has declined by about 12.5 percent, but it has always been above the sales, and the large order backlog as well as the acceptance of SEL products that can be inferred from this justify an optimistic outlook for the future.

With the transfer of SEL from the ITT association into the new Alcatel Group, the organization of SEL is to be streamlined. Its divisions are to be made into "self-operating, flexible overall business units"; thus SEL will change over from a functional structure more to a divisional structure. The four divisions of communications technology, office communication, entertainment electronics, and components, under the management of Dr Gerhard Zeidler, Werner Brendel, Dr Ludwig Orth, and--newly--Dr H. Lindner, are to be directly responsible for their respective division's development and production.

It is noteworthy that the strong increase in earnings in 1986 has been achieved even though two of the divisions apparently have had losses in their markets as a result of keen international competition and price reductions. Although the annual report states that in office communication the result has improved, nevertheless--as was said in amplification upon replying to an inquiry--it has "moved in the direction of the break-even point." Accordingly, the office communication sector possibly has not detracted from the total earnings to the same degree that it did in the previous business year.

In entertainment electronics, the earnings have apparently worsened. In contrast to earlier times--when Orth, the executive in charge of this division, was in the habit of emphatically pointing out that his SEL division was in the black, contrary to its competitors--in 1986 the question of whether a gain or loss was noted is answered only evasively. We have already reported in detail about developments in both divisions (HANDELSBLATT of 27 February and 19 March)

The year's published earnings of the SEL is stated to be DM 94.7 million (DM 76.8 million the previous year). As in the previous year, DM 15.0 million are placed in the reserves before determining this figure. The outside shareholders are again being paid a 21-percent dividend on the DM 54 million of capital stock in their hands. The roughly DM 330 million of capital stock



in the hands of the principal shareholder (for 1986, still ITT) is to likewise receive a 21-percent dividend (after receiving 15 percent for 1985). The stockholders' general meeting will take place on 3 July.

Lohr still considers an increase in capital stock to be necessary for the "insufficiently capitalized" SEL, and he expects such a step in the near future. But so long as the privatization of the CGE is going on via the international stock markets, an increase in capital stock of the SEL is not yet opportune, he says.

#### Mobile Phone Market Competition

Duesseldorf HANDELSBLATT in German 12 May 87 p 1

[Article by "gh": "Is a Solution for Europe in Sight?"]

[Text] Esslingen, 11 May--In the controversy about the future European mobile phone system, a solution is looming on the horizon. This was announced by Dr Gerhard Zeidler, the manager in Standard Elektrik Lorenz AG in charge of communications technology, at the SEL's press conference on its balance sheet.

At a recent conference of the European postal administrations, the broad-spectrum system developed by the German-French consortium of SEL, AEG, ATR Alcatel-Thomson-Radio-Telephone, SAT, and (associated) Italtel for areas of concentrated population with a high communication density was rejected by the majority of the participants in favor of a narrow-band technology, which however is technically not optimal, in the opinion of Zeidler.

Now those involved in the consortium have been able to offer a conception, says Zeidler, that transfers important aspects of the broad-spectrum technology over to the narrow-band concept. It is thought in the consortium that thereby a basis for a unified pan-European mobile phone system has been created.

12114

CSO: 5500/2510

## DGT PLANS NEW INTERCITY FIBER OPTIC NETWORK, PART OF ISDN

Paris ELECTRONIQUE ACTUALITES in French 20 Mar 87 pp 1, 10

Article by D. Levy

Excerpts France is no longer to be Europe's "poor relation" in fiber optic communications. The DGT General Telecommunications Directorate has finally decided to commit itself to a fiber optic equipment program to modernize and extend its intercity network. On 19 March, while opening the first intercity fiber optic link between Le Mans and La Fleche, DGT director Roulet made public the master plan which provides for completion, by the year 2000, of a 16,900 to 21,000 km optic fiber communications net. A three-year 1988-1990 program has already been adopted calling for the ordering of 2,400 km of cable, or approximately 50,000 km of single-strand optic fiber, with each cable comprising some 20 fibers. The Le Mans to La Fleche link, with a capacity of 4 x 140 megabits, was completed by Alcatel, the public Telecommunications Company, Lyons Cables, and Lyons Optic Transmissions.

The DGT master plan provides for an intercity fiber optics network 16,900 to 21,000 km long. The Le Mans-La Fleche link is the first section of the Paris-Nantes artery included in the 1988-1990 program. These first 3 years of the program, which call for the laying of 2,400 km of optic fiber cable, representing orders for nearly 50,000 km of single-strand fibers, will see the completion of several high-density traffic axes: Paris-Strasbourg and Paris-Lyons in 1988; Lyons-Marseilles and Paris-Nantes in 1989; and Paris-Lille in 1990. Priority was given to those arteries because they will connect with international routes: the Paris-Strasbourg cable will link through Karlsruhe with lines to the FRG; the Paris-Nantes segment will connect with undersea cables to the United States; the Lyons-Marseilles segment with undersea cables to Corsica and the Middle East; and the Paris-Lille segment will link with lines to Brussels.

In laying down the broad lines of this program, "which will unfold over a period exceeding 15 years," M. Roulet particularly emphasized that "all the new requirements for our infrastructure will be met through optics." He then stressed the advantages of optic fiber, especially in terms of higher

transmission quality owing to better interference immunity, and to the reduced number of repeaters (one every 30 km compared to one every 2 km for coaxial cables), which reduces the probability of breakdowns and increases the reliability and availability of links. Finally, M. Roulet put forward the attractiveness of optic fibers in support of future services, particularly the integrated services digital network with its very high transmission capacity (now 500 megabits per second and soon to reach several gigabits per second).

M. Roulet observed, however, that intercity connections are not the only ones to be concerned with the use of optic fibers. He recalled that this technology is also used for urban, undersea, and specialized broad band links. Thus since 1980 nearly 3,700 km of cable, representing 79,989 km of optic fibers, have been ordered for urban networks within large French cities, especially from Lyons Cables, SAT, Silec, Acome, Treficable, and Foptica. Among undersea links to be established following the experimental Juan-les-Pins-Cagnes and Antibes-Port Grimaud connections, the Marseilles-Ajaccio optic cable will be the first French commercial link with a 280 megabit per second capacity. Finally, some 100 video connections have been established on optic media.

In terms of pure distribution, the advantage of serving large subscribers (high output data transmission, image transmission, and private automatic branch exchanges served by digital connections) was stressed. But distribution extending to the whole body of subscribers, as implied for 1G cabled networks to serve as support for the future broad band integrated services digital network, no longer seem indispensable.

6145  
CSO: 5500/2496

## D2 MAC SIGNALS TESTED OVER SATELLITE, OPTICAL FIBER, MICROWAVE

Paris ELECTRONIQUE ACTUALITES in French 20 Mar 87 p 8

/Text/ On the occasion of French Communications Week, opened 10 March by Prime Minister Jacques Chirac, the head of government was presented with a European "first" by Posts and Telecommunications Minister Jacques Longuet. The "first" in question was the direct retransmission from Rennes of television images coded in D2 MAC packets, via a Telecom 1 communications satellite. The General Telecommunications Directorate (DGT) now considers D2 MAC packet transmission by satellite, optical fiber, and microwave to be routine.

Longuet expressed the determination that his telecommunications satellite is capable of transmitting images conforming to the future European standard, and that they can be received by antennas 1 m in diameter. By means of this symbolic technical accomplishment, the minister means to emphasize that there is no longer any clear demarcation between telecommunications and direct transmission satellites. He declared that DGT and TDF satellites should first be complementary rather than competitive, in order to offer early possibilities for numerous and high-quality relays, with 6 repeaters for Telecom 1 and 5 for TDF. That prospect would allow France to take its place in the market, particularly in Europe. It will be necessary, however, to reconcile a system with market realities, for if TDF offers its services exclusively there would be a considerable risk of traffic evasion, and if DGT shows too much aggressiveness in this new opening it would risk putting all or part of the TDF program again in jeopardy.

Longuet was anxious to take an active part in broadening "access to pictures." That market should no longer be considered from the viewpoint of leisure only, but as part of a real sector of activity. He wishes its development to be based on economic realities: on the customer and his ability to pay for services. Competition in any form should result in higher quality and lowered prices for subscribers.

## Optical Fiber Television

Via its two orbiting satellites, Telecom 1A and 1B, launched respectively in 1984 and 1985 (Telecom 1C should be orbited before year's end), Telecommunications now transmits on 3 television channels and airs 11 FM radio programs. This movement of images is complemented by home delivery to the subscriber, for DGT is prime contractor for the first local videocommunications networks. It has already signed a dozen final cable agreements, and is committed to a Fr10 billion investment program over the next 3 years. This cable program will permit the city of Rennes, in particular, to be equipped with the first optical fiber television network. By the mid 1990's it will make possible reception of high-resolution marked by a pixel density on the screen four times greater than in present pictures. Transmission will be from second generation Telecom 2 satellites with transmitters twice as powerful as the present ones.

The operational directorate for television in Brittany is proceeding with the installation of 5,000 km of optical fibers which will permit 90,000 dwellings to be connected to the system. Total investment for this cable network will reach Fr600 million or Fr8,500 per subscriber [as published].

### DGT Testing Television Signal Coded in D2 MAC

Present television standards divide Europe among the Secam, the French, and the PAL systems. The D2 MAC standard, a composite signal for transmission or broadcasting of television programs to the 625-line standard, will provide compatibility and better quality.

Its principle rests, as we recall, on temporal multiplexing of signals utilized, luminous intensity of image (luminance), color (chrominance), and digitally coded sounds. The sound capacity adopted includes four elementary tracks of high quality which can be combined on demand. The quantity of information bits transmitted with the D2 MAC standard does not exceed that of a conventional Secam or PAL signal, particularly as regards the standard of the transmitted image (format, sharpness, number of lines).

The only appreciable improvement offered the viewer, apart from multiple sounds, is reduction of intermodulation phenomena between signals in terms of luminance, chrominance, and sounds.

DGT conducted an initial experimental transmission of a television signal coded in D2 MAC from a Telecom 1 satellite in November 1985. The signal, sent out from an antenna 3.5 m in diameter, was relayed via the satellite to a 1 m parabola. A signal/noise ratio of 50 dB was measured, and the rate of error on the sound tracks was less than  $10^{-8}$ , which ensures reception with no perceptible deterioration.

Tests carried out in November 1986 on an Intelsat satellite showed that a D2 MAC signal could also be transmitted by those satellites. Finally, in

February 1987, a test similar to that of November 1985 was conducted between Rennes and Issy-les-Moulineaux. The signal, relayed by Telecom 1, was received by means of an antenna 75 cm in diameter.

Commercial applications have also been perfected from the Pleumeur-Bodou ground station, via Telecom 1, on routes to Stockholm, Eindhoven, and Munich.

Those various achievements have made it possible to verify that there is no particular technical problem involved in carrying television signals in D2 MAC packets on image carrier media of telecommunications networks.

6145

CSO: 5500/2496

ITALY

WEST EUROPE

ITALCABLE USE OF DEC VAX EQUIPMENT FOR TELEX

Milan TRASMISSIONE DATI E TELECOMUNICAZIONI in Italian Dec 86 p 53

[Excerpt from article by M. Malcangi: "Telecommunications at the SMAU '86", titled 'The Italcable-Digital system for automatic management of telex lines is also available on all VAX systems']

[Excerpt] Milan, 5 August 1986--Italcable and Digital Equipment announce the availability of the ItalDec product for the automatic management of telex lines on all systems of the VAX family, from MicroVax to VAX8800. The new product will be previewed at the SMAU'86 at the Digital stand.

The ItalDec software was already available on personal computers of the Professional series. With the new software package ItalDec VAX/T1x, the first joint project Italcable-Digital--started by the 1984 accord between the two companies--has now been completed. ItalDec VAX/T1x was produced by the software development sector of Italcable with the collaboration of specialists from Digital. The software permits users of a VAX/VMS system to access telex services from their own desk. Each user can, in fact, create and update a text archival file from which he can select messages to send out, manage a telex numbers file and list of addressees for ease of data insertion and transmission, and archive messages received.

ItalDec VAX/T1x manages from two to eight telex lines and a number of users which varies according to the capabilities of the system on which it is installed (from MicroVAX to VAX8800).

ItalDec VAX/T1x permits automatic distribution of the received telex messages to recipients within an organization, as recognized by the recipient name.

ItalDec VAX/T1x is extremely simple to use and can be operated by any user, even inexperienced, after a few hours training.

ItalDec VAX/T1x also allows each user to:

- have always access to the Guide function;
- choose text or messages directly or by index;
- use an index and a mailing list for message transmission;
- send a message at a later time;
- receive confirmation of transmission;
- use three priority levels for message transmission.

13120

CSO: 8028/4139

END

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