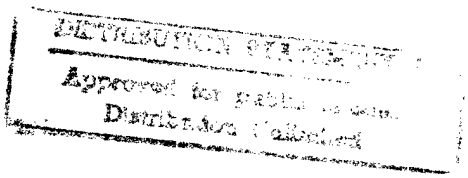
JPRS 81893

30 September 1982

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 241



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CONTENTS

WEST EUROPE

BRIEFS

TUNISIAN SATELLITE STATION--Tokyo, 14 Aug, KYODO--Kokusai Denshin Denwa Co., the government-affiliated international telephone and telegram operator, said it has received a yen 100 million (dollar 0.38 million) consultation contract for a ground station for satellite communications from the Tunisian Government. The ground station, with a 30-meter-diameter antenna will be constructed west of Tunis with low interest funds partly provided by the Japanese Government. KDD said the consultation will be carried out between early 1983 and October, 1985. [Text] [Tokyo KYODO in English 0403 GMT 14 Aug 82 OW]

CSO: 5500/2342

BRIEFS

SRI LANKAN LINK WITH INDIAN STD SYSTEM SOON--MADRAS, Thursday--Sri Lankan cities would soon be linked with India through Subscriber Trunk Dialling (STD) system according to Mr. V. S. Mani, General Manager, Telecommunications Project, South Indian region. Mr. Mani told a press conference here that in the Indian side all related works had been completed. Sri Lanka, however, would require some more time, he said. [Colombo DAILY NEWS in English 20 Aug 82 p 1]

CSO: 5500/5910

BRIEFS

EXPANSION OF RADIO, TV NETWORK--The government has earmarked over 240 million taka for implementation of 19 projects in the mass communication sector during the current fiscal year. The annual development program for 1982-83 envisages construction of a 100-kilowatt medium transmission center at Bogra, expanding the radio network in the northern region. Of the 19 projects, 5 are expected to be completed by December. These are development of Rampura television center, establishment of a television relay station at Sakchura, completion of the history of liberation war, expansion of film studio laboratories, and establishment of a television substation. The implementation of the program relating to the television will expand the television network throughout the country. [Text] [Dacca Domestic Service in Englsh 0145 GMT 13 Aug 82 BK]

'TANJUG'-BSS' AGREEMENT--A news exchange agreement between Bangladesh Sangbad Sangstha and Yugoslav News Agency Tanjug was signed in Dacca on Wednesday, reports BSS. The General Manager and Chief Editor of BSS Mr Abul Hashem and Editor of Tanjug Mr Predrag Stamenkovic, who was here during the visit of Yugoslav Presidency Member Mr Radovan Vlajkovic, signed the agreement at the BSS office. The agreement, signed after expiry of an earlier one, would be effective for one year and liable for automatic renewal unless one of the two parties desires termination of it with one-month notice. The two national news agencies first signed the agreement on exchange programme in 1975. [Text] [Dacca THE BANGLADESH TIMES in English 19 Aug 82 p 8]

CSO: 5500/7227

FIRST FORMAL COLOR TELECAST ON INDEPENDENCE DAY

Madras THE HINDU in English 16 Aug 82 p 1

[Text] New Delhi, Aug 15--Six hundred villages in Andhra Pradesh, Orissa and Maharashtra were put on the television map today with the introduction of telecast through Insat.

The Prime Minister, Mrs Indira Gandhi, made a special reference to this while addressing the nation from the ramparts of the Red Fort on the occasion of the 36th Independence Day.

Live telecast of the day's celebrations in Delhi marked the first formal colour transmission in the country. These were telecast by Doordarshan over the microwave and the satellite all over the country.

Reception in Travandrum: Thanks to the enterprise of the public sector Kerala State Electronics Corporation (Keltron), viewers in Trivandrum could watch the Delhi celebrations. Though they could watch the Prime Minister unfurl the tricolour, they could not hear her address. According to a Keltron spokesman, the voice was inaudible because of a problem in recording.

The celebrations were watched in colour by a fortunate few in Madras and Bangalore.

Mr K. Kunhikrishnan, Deputy Director (Programmes), Madras, Doordarshan Kendra, said that barring a few minor interruptions the transmission was a success.

He said that though the Madras station was not equipped for colour telecast, this was made possible by certain modifications in the transmitter, carried out by technical personnel.

Well Received in Madras: The colour telecast was received clearly at Madras through the microwave link via Bombay. An official of the Doordarshan Kendra here said the reception was "good and generally trouble-free." A few viewers at the Indian Institute of Technology, Guindy, and at Besant Nagar had reported good reception, he said. (writes our Madras staff reporter).

The authorities were now awaiting detailed feedback from selected viewers in the city. However, the authorities have a problem in assessing the quality of reception as there are only a few persons having colour sets.

The audience research unit of the Kendra would shortly start analysing the feedback reports, he said.

A few dealers in the city who had a colour set for demonstration said customers watching the morning programme were impressed by the clarity and reproduction of colours.

CSO: 5500/7221

CALCUTTA-MADRAS TELEPRINTER LINK OPENS 12 AUGUST

Calcutta THE STATESMAN in English 13 Aug 82 p 3

[Text] The first-ever teleprinter link between Calcutta and the Store and Forward Telegraph System (SFT system) at Madras and Hyderabad was commissioned by Mr S.K. Ghose, Secretary, Ministry of Communications at the Central Telegraph Office in Calcutta on Thursday, Mr Ghose, also inaugurated the renovated instrument hall at the CTO.

Speaking at the meeting, Mr Ghose said that efforts were being made to upgrade the CTO. With the renovation of the instrument hall, people could now expect higher output and efficiency in telecommunication services from Calcutta. Disclosing that the CTO building would be renovated in phases, he said that the noise level inside the building was very high and could justifiably stand in the way of efficient working.

The meeting having been organized inside the building, most of what Mr Ghose and other speakers said was drowned in the clatter of teleprinter and telex machines.

Mr Ghose admitted that the Communications Ministry was aware of the inadequacy of the telegraph services in the country. The people were entitled to more facilities in telecommunication services for the money they were paying, he said.

Mr H.N. Mukherjee, General Manager, Tele-communications, West Bengal Circle, explained that the SFT system commissioned at the CTO was based on modern micro-processor and computer technology. The system is capable of speeding up despatches to a considerable extent. If any line connected with the system is interrupted the system "stores" the message in its memory and "forwards" it as soon as the line is restored with the same speed and accuracy. The system has also an in-built facility for first transmitting higher priority telegrams automatically, he said.

CSO: 5500/7219

PROBLEMS OF TELECOMMUNICATION MODERNIZATION NOTED

Bombay THE TIMES OF INDIA in English 18 Aug 82 pp 1, 13

[Article by Jairam Ramesh]

[Text]

NEW DELHI:

THE first running of the Indian telecommunications sweepstakes is over and the French company Cit-Alcatel has emerged the winner Eight entries are already in for the second running which, however, will not be held for at least another year.

Before we examine whether Alcatel was a worthy winner or not, it should be stressed right away that the problems that plague our telephone system will not vanish as a result of the transition from crossbar to electronic switching technology.

On a national average, about 30 faults are reported per 100 telephones, of which less than 2 are attributable to deficiencies in the exchanges where electro-mechanical technology is used. Over 90 per cent of the faults in the Indian network are due to the poor quality of indigenously manufactured telephone sets and shoddy maintenance of the cable transmission medium.

The transition is being made not because crossbar in inefficient but because electronic switching is cheaper and permits large production volumes (the optimal size of a crossbar factory is around 200,000 lines, while for an electronic switching equipment factory it is 500,000 lines).

Hence, amidst all the expectations from electronics, let us not overlook the tremendous scope for improvements in telephone set and cable maintenance. New technologies are being developed in these areas also but we have yet to take note of them. For example, we are going in for a new factory (that too in Gonda which is at the edge of nowhere) to produce 1 million telephone sets using rotary dials, when we should be manufacturing push button phones that do not involve any moving parts. Similarly cables can be embedded in PVC pipes to minimise damage to them or they can be maintained in a duct of compressed air which makes fault detection easier and quicker. Unfortunately, these are not on the priority list.

Having said this, the question naturally arises, does the Alcatel choice make any sense? No definitive answer can be given. Alcatel's E 10 B is by no means the most advanced or up to date system. Nor is it fully digital. It is, what is called a hybrid system. The difference between the two can be illustrated with the help of a simple example. Imagine a group of 1,000 subscribers. Theoretically, 1,000 channels or junctions have to be provided in the exchange to handle all their calls. But the probability of all 1,000 calling at the same time is very low. Hence, the actual number of channels provided is much less.

In the Alcatel system, 60 junctions are provided for 1,000 subscribers which, based on probability calculations from operating data, is deemed sufficient (this means that 60 subscribers can get the dial tone at the same time). In technical jargon, this process by which 1,000 subscriber lines are converted to 60 channels is called concentration. (A useful analogy is a reduction gear).

As the human voice leave the telephone set it travels in analogue form as electrical waves. In a hybrid system like Alcatel's the conversion from analogue waves to digital pulses is done after the concentration stage while in a fully digital system the conversion is done on each subscriber line before the concentration. Hybrid, contrary to some belief, does not involve

moving parts; it is also computer-controlled.

If only voice transmission is needed, then this distinction is not all that important. But if additional services are to be provided like electronic answering services, videotex (a marriage of the television screen and the telephone line), high-speed facsimile, electronic mail, text management and data switching and transmission (useful for businesses), then fully digital systems are essential. It is a moot point whether the country needs all these services at this stage.

The other problem with the E 10 system is that it is optimised for large exchanges of a size greater than 20,000 lines. As the number of lines serviced decreases, the cost per line increases. Seventy per cent of the exchanges in India are around 5,000 lines in size; another 25 per cent is around 2,000 lines in size and only about 5 per cent is over 10,000 lines in size. No doubt, we need to review whether the average size of an exchange should increase (fewer exchanges provide both technical and management advantages). But given the existing size distribution, the Alcatel system will prove costly, money-wise.

As opposed to this, is the fact that the E 10 is well-proven. The first version has 2 million lines in operation and the second version, the B series that will be manufactured in the country, about 3 lakh lines. Telecommunications Consultants (TCIL) a public-sector consultancy company already has operating experience with the E 10 B in North Yemen.

WELL-PROVEN

The other two well-proven digital systems are that of Ericsson, a Swedish company, and Nippon Electric (NEC) of Japan, that each have over 400,000 lines in operation. But Ericsson was not interested in the Indian market (after it lost the Rs. 70-crore contract for the Rae Bareili crossbar factory last year) and wanted to concentrate its selling effort in Brazil, Nigeria and Saudi Arabia. Thus, if proveness was the criteria, then either Alcatel or NEC would have been the natural favourites. What tilted the balance in favour of Alcatel is now well-known — an offer of soft loans and grants made by the French government, as part of a broader technological package that included the Mirage and enriched uranium. NEC could not get the Japanese government to back it wholeheartedly since there are atleast three other Japanese companies in the field, Alcatel on the other hand is a national project. It is because of this that the French government can be expected to ensure that the system does function as promised, for a failure in India could very well finish off Alcatel.

The real objection to Alcatel lies in the fact that it circumvented the entire tender process. It did not respond, as all other telecommunication companies except Ericsson have done, to a global tender floated by the Indian government almost two years back. It entered the scene only after Mrs. Gandhi's trip to Paris in November, 1981. The decision to give Alcatel the contract was taken without any knowledge of the prices being quoted by other companies. This information was available with the P and T and they could have been asked to conduct a crash examination of the price bids. Unfortunately, they were under strict instructions not to do so thereby reducing India's bargaining position with the French. Alternatively, we could have postponed a decision and asked each of the manufacturers to provide with lines for testing in the country. This would have cost us at most Rs. 100 crores but it is a sure bet that many of these companies would gladly have provided the lines free or at least at reduced rates. This way we could have known how each system performed under Indian conditions.

TENDER EVALUATION

But here again, a different interpretation is possible. Tender evaluation can be taken anywhere up to two years and even more. (At present only three officers in the P and T department have been put on the task of evaluating eight technical and price bids for the second factory.) Alcatel's manoeuvring at the highest political levels has expedited a decision. (It put its proposal on December, 1981 and by April everything was more (or less finalised) and thereby has saved at least two to three years. P and T engineers are also happy that there is little room for their being harassed and victimised in future, since they did not take the decision on their own but just put forward the pros and cons of the case.

All things considered, Alcatel was not a bad choice. But now it is up to us to ensure that the transfer of technology is complete. There is a strong move to locate the manufacturing unit at Gonda in U.P. This will be disastrous and put back the project by atleast three to four years. The whole point of tying up with the French was to save time and have a system ready quickly. This will be defeated if the factory is located in Gonda which has no infrastructure worth the name. The right location is Bangalore, where full use can be made of existing facilities at ITI and where there will be about 4500 workers available readily when ITI phases out stronger production in 1985-86.

What about the second factory? Eight companies have submitted bids. ITI, Nippon Electric (NEC), General Electric (GEC) of the U.K.,

GTE, Siemens, Philipps, Hitachi and Fujitsu. None of these companies meet the criteria for provenness (5000 lines in operation) as stipulated by the P and T. One criteria is now being reviewed and it is almost certain that bids from all the eight will be entertained. But the tender evaluation will not be complete till end—1983 and unless any of these companies does an Alcatel and brings government-to-government pressure to bear, it is a safe bet that the second factory will not be on stream before 1985-86. Possible locations are Chandigarh, Nasik and Gandhinagar, all of which could, without much difficulty, support an undertaking of such sophistication and magnitude. All these eight companies are offering full digital systems and since a decision has been taken not to put all eggs in one basket, it is certain that Alcatel's hybrid will be the first and last.

MODERNISATION

Selection of the system to be manufactured in the country is only part of the process of modernisation. There are a number of other things that need to be done.

Let us take the component sector first. Electronic switching entails the development of highly sophisticated component base covering integrated circuits, semi-conductors, relays, connectors, printed circuit board (PCBS), testing components and computer peripherals. Out of a total cost of an electronic line of about Rs. 3,000 per line, the value of components alone would amount to about Rs. 1,000 per line. Along with components, raw materials of the highest quality and considerable amount of spares wil be required. Can we handle all this?

There will, if things go as they have been in the past, no problem as far as resistors, capacitors, transistors, diodes and PCBS are concerned. The main constraint will be the availability of integrated circuits (especially, hybrids and microprocessors) and computer peripherals. The level of investment proposed for the development of ICS is miniscule. In an area characterised by rapid technical change and capital-intensive operations in process control and tooling, India has invested Rs. 20 crores in the semi-conductor complex near Chandigarh and signed a deal for a one-shot import of technology. A much bolder and bigger thrust of nothing less than Rs. 100 crores is required in this area along with the inevitable and urgent requirement for tie-ups with Japanese and American companies to keep abreast of latest advances. Perhaps, the best strategy would be to buy up a company in California as the Japanese and South Koreans have done to have a direct 'hot line' to technological developments. The same is true for computer peripherals. Initially both ICS and the peripherals will need to be imported. At the current unit prices of Rs. 40 and Rs. 75 per line for the two items, respectively, the foreign exchange costs of components and raw materials works out to Rs. 80 crores over the five-year gestation span of an electronic switching factory.

VAST GAP

Today there is a vast gap between licensed and installed capacity for ICS. Against a licensed capacity of 4.4 million numbers, the installed capacity is only around 0.5 million numbers. The projected demand for 1983-84 is for about 9.6 million numbers. For professional grade electronic components there has been little demand in the Indian market, resulting in low volumes of production and little new investments to keep up with the changing technology. The introduction of electronic switching could give a considerable boost to the component manufacturers. Moreover, since process lines for meeting the requirements of all types of components, for the consumer, defence and industrial sectors need to be established in order to provide the volumes necessary for a competitive and economically viable component base.

An important prerequisite for the production of high precision and reliable professional grade components is the presence of standardisation, toolroom and testing facilities. It is precisely the lack of such facilities that has resulted in a low demand. The need for a sophisticated and technically dynamic component base cannot be over-emphasised.

The management of electronic switching networks will require a totally different bureaucratic ethic than that prevails now. Only a separate full-fledged, telecommunications authority that is interested more in promotion rather than merely in regulation having full and direct responsibility over all facets of research, development, engineering and production of raw materials, equipment and assembly will be able to generate and sustain the momentum necessary to deal with the complexities of an electronic-crossbar network.

SWITCHING STRATEGY

It is time for a complete review of the role of ITI in the contest of the new electronic switching strategy. The Sondhi committee had recommended that selected telecommunications equipment be taken up for production in the private or joint sector. These include electronic pax, pabx, electronic telex exchanges and installation and maintenance instruments (a large number of which are currently being imported). France has two fully competitive suppliers of electronic equipment injecting an element of competition within the ambit of state regulation. New professionally managed corporations need to be established to make a success of electronic switching manufacture. Considering the problems that a company like Air-India has had holding on to systems and computer professionals, it is difficult to believe that a government undertaking run under the aegis of the ministry of communications will be able to attract and retain the research and engineering talent necessary.

India's major drawback in the telecommunications sector is not obsolete know-how but inferior production technology and little or no capability for system planning. While our R and D efforts have kept pace with the best in the world (even in switching Indian engineers have designed an analogue system that foreign companies want to buy) and Indian software capabilities are being recognised internally, we are lagging severely behind in manufacturing system and operations. In switching equipment, the investment required for the development of a new system all the way up to the prototype stage is typically 20 per cent of the total outlay, product and production engineering taking up the remaining 80 per cent. Engineering, hardware design and testing are the areas where we are at a total disadvantage and heavily dependent on multinationals.

CSO: 5500/7222

POSTFLIGHT REVIEW CONCLUSIONS ON INSAT-1A TOLD

Madras THE HINDU in English 13 Aug 82 p 6

[Text]

NEW DELHI, Aug. 12.

While space scientists are trying to increase time availabklity of S band transponder, beset with thermal constraints following non-deployment of the solar sail in the INSAT-IA, a new problem has been encountered in the direct reception of the meteorological data from the spacecraft at the Delhi earth station owing to the recurrence of the power drop-out in the VHRR (very high resolution radiometer) transmitter.

According to official sources, the anomaly in VHRR transmitter, experienced prior to June 16, recurred from August 4. The cause is under investigation. From August 9, the VHRR pictures are being received at the master control facility at Hassan and transmitted via INSAT to the meteorological data utilisation centre through Delhi earth station, which is the approved contingency mode.

Soundness of basic design: An official review of the present status of INSAT system and utilisation says that the post-flight review of INSAT-IA has reaffirmed the soundness of the basic design of the spacecraft.

The performance of the communications, data relay and VHRR sub-systems of the spacecraft has been generally satisfactory and the thermal constraints resulting from non-deployment of the solar sail has affected the S band TV transponder operatio in terms of length of continuous operation and obtaining of full earth scan images every half hour as originally envisaged. Steps are under way to increase the S band transponder time availability by another half hour to one hour for radio networking and televison.

In the present unplanned configuration of spacecraft with the solar sail undeployed and the resulting thermal constraints, the scenario that has been established is: (A) operation of all the 12 C X C (6/4 GHZ) telecommunication transponder channels all the time (except during eclipse twice a year when as per original specification only four transponders are to operate): operation of the data relay transponder (DRT) all the time: (C) round-the-clock three hourly full earth-scan meteorological (VHRR) imaging as requested by IMD, in addition to special observations as and when required: and (D) one channel S-band high-power transponder operation continuously for 2-1/2 hours in the morning (anytime from 6 a.m. to 2 p.m.) and 2-1/2 hours in the evening (from 6 p.m. to 10 p.m.)

Modifications: In the light of the investigation into the non-deployment of the solar sail in INSAT-IA, modifications are being made to the deployment mechanism in INSAT-IB, due for launch in early 1983. When this is launched, the space segment of INSAT-1 is expected to fully stabilise, in terms of removal of constraints and restoration of full service capabilities.

Steps are being taken to develop and implement a strategy to ensure minimisation of the time during which, after launch of the INSAT-IB, the space-swgment does not have two fully operational satellites.

Referring to telecom ground segment, the review says that the equipment for phase-I of radio networkino and TV uplinks to the satellite from P and T's Delhi earth station (DES), batch-produced by ISRO, has successfully undergone acceptance testing and despatched to the site. These uplinks are expected to become operational by early September, as planned.

New earth stations: As of July 31, 14 telecommunications earth stations have been made operational with the INSAT-IA spacecraft. According to the current plans and progress, three more earth stations will be added to the operational INSAT-IA network by August 15 and six more by the end of August taking the total to 23 fixed earth stations. The remaining five earth stations are expected to be in commercial operation progressively during September.

As of July 31, long-distance telecommunications circuits via INSAT-IA, have been

made operational on 19 routes. By August 15 additional circuits on Delhi-Bombay-Delhi-Calcutta, Calcutta-Bombay, Delhi-Shillong, Calcutta-Shillong and remote stations at Leh, Aizwal and Kavaratti are expected to be commissioned.

The main station at Madras and associated remote area stations, operating since 1980 with leased capacity from INTELSAT, are scheduled to change over progressively to INSAT-IA network by August 20.

Briefly, by August 15 about 150 circuits are expected to be in commercial operation via INSAT-IA and the number of circuits in commercial operation by the end of August 1982 is estimated at 300. The first year target of 1400 circuits is expected to be reached before 1982 end.

Teething troubles: The slippages in early realisation of the first year's target of INSAT-IA telecom circuit utilisation are attributed to teething troubles such as antenna auto-track equipment, uninterrupted power supply (UPS) units, single channel per carrier (SCPC) models used for remote area communications, etc., apart from the complexity of introducing a new transmission medium in a working network comprising of many types of switching systems.

As regards meteorological ground-segment and utilisation, the review says the cloud imageries from INSAT-IA are received round the clock every three hours in addition to special observations, as and when required. The Meteorological Department is using cloud imageries to infer fluctuations in the intensity of monsoon rainfall and for locating the centres of meteorological disturbances, such as, trophical cyclones.

Wind movement: Scientists at the Meteorological Department are familiarising themselves with techniques for deriving upper wind velocities by using cloud elements as tracers. The satellite cloud imageries will be used to derive information on the direction and speed of movement of cloud elements over different parts of the Indian Ocean, the Arabian Sea and the Bay of Bengal and the land mass of India.

By this means, the direction and speed of movement of upper winds over India will be obtained. The technique is expected to be operational by August end to make cloud imageries available in realtime to other meteorological units for their more localised functions. 20 secondary data utilisation centres (SDUCS) will be established progressively at various places. The equipment for almost all SDUCS is ready. The first two SDUCS are expected to be in operation at Bombay and Madras by August end.

Six stations networked: About radio networking ground-segment and utilisation, the review says as of July 31, six stations namely, Ahmedabad, Hyderabad, Srinagar, Bhopal, Gauhati and Trivandrum in that order were networked. Imphal and Jaipur were brought into the network after August 1. By August 15, Kohima and Cuttack are expected to be covered.

In Phase-I of the scheme, whose implementation is expected to be completed this month, 13 radio stations are to be directly serviced by INSAT-I. In this initial phase, the uplink capability is limited to Delhi. In phase-II of the scheme, implementation of which is scheduled to begin in late 1982 and completed by 1983 end about 90 radio stations will be brought into the INSAT-I radio networking scheme.

The supply of regular 5-channel radio networking (RN) terminals is expected to begin in October-November in a phased manner. In phase-II, the uplink capability from Delhi is to be enhanced to 5-programme channels and single-channel uplink capabilities at Calcutta, Bombay and Madras are to be established.

The review says that the S-band transponder operating time limitation, has severely constrained the operation of radio networking scheme. However, this constraint is expected to be eliminated in the second half of 1983 with the launch of INSAT-IB.

I—day functions: About television ground segment and utilisation, the review says the TV utilisation will begin on August 15 with a telecast of Independence Day functions. The function as well as the national programmes will be telecast using microwave links from Delhi to Mussourie, Bombay, Pune, Bangalore, Madras, Jullundur, Amritsar, Srinagar, Lucknow, Kanpur and Calcutta. Direct reception sets (DRS) and INSAT-I will be used to feed TV transmitters.

Some of the other points highlighted in the official review have been covered in the article published in these columns on August 4, 1982.

CSO: 5500/7218

MINISTRY EXPLAINS TELEVISION TRANSMITTER IMPORT

Madras THE HINDU in English 20 Aug 82 p 9

[Text]

NEW DELHI, Aug. 19.

Most State capitals will be covered by television transmission by the time the Asian Games are held in November. This will be the result of the latest decision to install low-power transmitters at 20 centres in the next three months.

The names of these centres are yet to be announced. Since the decision, according to an official version, was taken because of the demand of the State Governments for coverage of the Asian Games in their areas, most of the capitals, not covered by television till now, will have transmission facilities. The only uncovered capital in the South is Trivandrum which is likely to benefit by this scheme.

The low-power transmitters have a limited range — around 100 sq. km. — in which television signals picked up from Insat will be relayed.

The Information and Broadcasting Ministry today confirmed that these 20 transmitters would be imported from the U.S. and that the order had been placed with Microdyne Corporation. The Ministry explained the circumstances that led to the import of these transmitters and said that scientists and officials were a party to the final decision.

It agreed that Indian scientists and technologists were capable of manufacturing the transmitters and the fibre-glass antennae, but argued that no ready-made system could be available in the country in the short time before the Asiad.

"Since there was a persistent request from the States in the remote areas to make Asiad coverage available to them, it was decided to import 20 systems, at a cost of nearly Rs. 5 lakhs a system in foreign exchange", the Ministry said.

This was how the Ministry elaborated its point: "At the recent conference of State Information Ministers, there was a unanimous demand for providing coverage of the Asian Games in all the States. The Ministry had, therefore, an opportunity to review the matter. Simultaneously, we had an opportunity to see the performance of a system where a low-power transmitter of 100 watts could be set up covering an area of about 100 sq. kms., at a cost of Rs. 15 lakhs.

"These systems have successfully worked in the U.S. and Mexico. The foreign exchange component is about Rs. 5 lakhs. These systems were available as ready-made turn-key systems during the limited time before Asiad. They could be set up, particularly in remote areas, such as the north-east States, Andamans and the border areas in Rajasthan, Jammu, Himachal Pradesh and U.P. The Government agreed to allow the Information and Broadcasting Ministry to import these sets".

The Ministry denied that scientists and bureaucrats were over-ruled at any stage.

CSO: 5500/7225

TELECOM PROJECTS FOR 1982-1985 ENUMERATED

Madras THE HINDU in English 20 Aug 82 p 9

[Text]

MADRAS, Aug. 19.

The Union Communications Ministry will spend about Rs. 120 crores in the next three years (1982-85) on the telecommunications network in the southern region, comprising the four States and Pondicherry.

Mr. A. V. S. Mani, General Manager, Telecom Projects (Southern Circle), told newsmen that the expansion programme would not only be massive, but also usher in the electronic age in telephones.

The programme envisaged adding 1.5 lakh telephone lines, at a cost of Rs. 35.3 crores. Of these, 21,000 lines would be by electronic switching equipment which was being imported. A pilot exchange would be set up at Kurnool and later at Karur, Gulbarga, Raichur, Salem and Cuddalore.

The manual exchanges at Kumbakonam, Sivakasi, Thanjavur, Nizamabad, Bijapur, Eluru and Tellicherry would be converted into auto crossbar ones. At the end of the current plan period, electronic switching equipment for trunk auto exchanges would be installed at Tiruchi (2,000 lines), Trichur (1,000 lines), Quilon (1,000 lines), Visakhapatnam (2,000 lines) and Mangalore (1,000 lines) at a cost of Rs. 7 crores.

The highlight in the current year would be the opening of public call offices in remote villages linked to the base station by VHF. The equipment for the Multi Access Rural Radio (MARR) would be imported from Japan. The first station would be at Nanguneri (Tirunelveli district of Tamil Nadu) to link 13 villages at a cost of Rs. 15 lakhs.

During 1981-82, 26,500 lines at a cost of Rs.3.60 crores had been installed in the southern region. Thirty STD routes were added during the year.

In the current financial year, an additional capacity of 30,600 lines, costing about Rs. 4 crores, would be created. Microwave schemes, costing Rs. 18.6 crores, had covered a route length of 2,045 km. Ultra high frequency schemes for a route length of 1,865 km, costing Rs. 9 crores, and expanding the coaxial network by 1,382 km at a cost of Rs. 8.35 crores would be completed.

CSO: 5500/7225

PLAN TO MEET RURAL TELEPHONE NEEDS TOLD

New Delhi PATRIOT in English 20 Aug 82 p 5

[Text]

MADRAS, Aug 19 (UNI) — The Posts and Telegraph Department has embarked upon a scheme using the latest technology of radio communication to meet the communication needs of rural areas.

Under this scheme, called the multi-access rural radio (MARR) system telephone facilities would be made available in remote villages with the help of imported equipment, Mr A V S Mani, general manager, Telecom Projects, Southern Region, told newsmen here yesterday.

The scheme would be inaugurated at Nanguneri in Tirunelveli district of Tamilnadu which, would provide public call facilities in 13 neighbouring villages.

The Nanguneri project, costing Rs 15 lakh, would be completed in December and nine more such projects would be taken up in Tamilnadu, Kerala and Andhra Pradesh, he added.

Mr Mani said the scheme would use switching and radio equipment with an omni-directional antenna installed at base station. Remote villages around this station would be connected with it by means of very high frequency links. Public call offices would be opened in the villages, connecting them to the base station.

Mr Mani said Rs 150 crore had been allocated for telecommunication facilities in rural areas in the South during the current Plan period.

CSO: 5500/7226

PLANS FOR USE OF IMPORTED EXCHANGES TOLD

New Delhi PATRIOT in English 20 Aug 82 p 5

[Text]

INDIA has placed orders for the import of nine electronic telephone exchanges with Japan, reports PTI.

These exchanges, each of 10,000-line capacity, will be installed at Tis Hazari, Idgah, Nehru Place and Karol Bagh in New Delhi, at Cooperage, Mazgaon and Bandra in Bombay, at Nungambakkam in Madras and at Calcutta Bhavan in the eastern metropolis.

All these exchanges are likely to be commissioned in 1984-85.

Apart from this, an additional order of 85,000 local exchange lines is under process and is likely to be placed with Fujitsu Limited of Japan which is supplying the electronic exchanges.

The decision to introduce electronic exchanges progressively has been taken with a view to improving and modernising the telephone services, as a first step, in metropolitan cities and large towns where the demand for telephones is very high.

At present the Posts and Telegraphs Department is having electro-mechanical type of exchanges in its network. The progressive replacement of the electronic exchanges has to be done after considering the financial implications so that only those exchanges on the verge of completion of their service life are replaced in the first instance.

The main advantages of electronic exchange technology over the electro-mechanical (crossbar) technology has been proved in several developed and developing countries, according to an official press release.

The advantages listed are better reliability and performance of exchanges, reduced capital cost trends for exchange equipment, substantially reduced capital costs for exchange building as less space is required and reduction in overall telecom network cost that could be attained with the electronic exchange technology.

The electronic exchanges would also provide better facilities for the management of network, have shorter gestation period for exchange projects compared to electro-mechanical equipment and provide extra facilities that could be made available to subscribers like abbreviated dialling, push-button dialling, in-coming call transfer, conference call and call waiting.

CSO: 5500/7226

BRIEFS

NEW EXCHANGES ORDERED--New Delhi, August 19--The government has placed orders with a Japanese firm, Fijitsu, for nine electronic telephone exchanges for use in metropolitan cities. These exchanges of 10,000 lines capacity each are likely to be commissioned in 1984-85. A further stage in the modernisation programme will be the establishment of two factories, probably in Bangalore and Bhubaneswar, to manufacture electronic switching equipment. The first of the two factories will have the French firm, Cit-Alcatel, as collaborators. Global bids for the second one are to be decided in a couple of months. The exchanges to be imported from the Japanese firm will replace those electro-mechanical exchanges whose functional life is about to cease. The new exchanges will be installed in Delhi at Tis Hazari, Idgah, Nehru Place and Karol Bagh. In Bombay, the exchanges will be installed at Cooperage, Mazagaon and Bandra. In Calcutta it will be commissioned at Calcutta Bhavan and in Madras at Nungumbakkam. In addition to these exchanges, an order for 85,000 local exchange lines with the same Japanese firm, Fujitsu, is under process. Electronic exchanges have proven advantages over electro-mechanical in terms of better reliability and performance space requirements and shorter gestation period. [Text] [Bombay THE TIMES OF INDIA in English 20 Aug 82 p 6]

NEW CROSSBAR EXCHANGE--Union Minister for Communications C.M. Stephen inaugurated a new 10,000 line cross-bar exchange in the Capital on Tuesday. The new exchange at Karol Bagh with code of '57' is the 47th automatic exchange in the Union Territory, increasing its telephone capacity to 2,44800 lines. The equipment for the new exchange has been imported from Japan but the equipment for inter working with other telephone exchanges has been supplied by the Indian Telephone Industries. The cost of the new exchange is Rs 10.5 crore. [Text] [New Delhi PATRIOT in English 18 Aug 82 p 10]

INSAT RURAL TELECASTS--New Delhi, August 14 (PTI)--The first phase of the INSAT television service for rural areas starts tomorrow. Nine districts in Andhra Pradesh, Orissa and Maharashtra are being covered in the first phase. INSAT service to three more states Bihar, Gujarat and Uttar Pradesh will be extended in a phased manner by 1984-85, according to an official release here today. Commencing from August 15, about 600 villages in Andhra Pradesh and Orissa will receive a 45-minute educational TV service in the morning and two hours general service in the evening, comprising half-hour-hour of area specific programme and 90 minutes of national programme. The educational service will be telecast from 9 to 9.45 a.m. for Andhra Pradesh and 9.45 to 10.30 a.m. for Orissa. The evening programme will be telecast from 7 to 7.30 p.m. for Orissa and 7.30 to 8 p.m. for Andhra Pradesh. [Text] [Bombay THE TIMES OF INDIA in English 15 Aug 82 p 6]

COLOR BROADCAST VAN--New Delhi, Aug 10--The country took another stride in television technology with the handing over of the first indigenously assembled colour outside broadcast van to Doordarshan by the Union Minister of State for Science and Technology, Mr C.P.N. Singh, here today. Receiving the van on behalf of Doordarshan, Mr Vasant Sathe, Information and Broadcasting Minister, said this would prove India's capability to have the Asian Games here covered in colour. "That was the main imperative," he said. Built at a cost of Rs. 1.75 crores, 40 percent in foreign exchange, the van is the first in the series of four to be built by the State-owned Electronics Trade and Technology Development Corporation Limited. He underscored the need for cheaper TV sets, saying there was no point in transmitting in colour if there were no compatible receivers at the other end. He had been pleading with the Finance Ministry to exempt the picture tube from Customs duty to enable colour TV sets to be sold around Rs. 5000. There would be no loss of revenue on this score if the duty on fully assembled imported sets was charted in foreign exchange, he said. [Excerpts] [Madras THE HINDU in English 11 Aug 82 p 9]

CSO: 5500/7217

BRIEFS

MONITORING STATION FOR INTELSAT--Jakarta, Aug. 25 (ANTARA)--P.T. Indosat (Indonesia Satellite Corporation) has won the International Satellite (Intelsat) tender as reference and monitoring station for its TDMA [time division multiple access] and DSI (digital speech interpolation) project, one of the uses of digital technology in satellite transmission. The public relations chief of the directorate general of post and telecommunications, Dr Jamsuddin Tanuatmaja, has said that in the framework of utilizing the Intelsat satellite to the maximum, Intelsat will be applying the new technology by mid-1984. For the implementation of this Intelsat plan, several earth stations will be needed which will function as reference, monitoring and control stations. For that purpose Intelsat has opened the tender, Jamsuddin added. The value of the contract for 5 years' services is U.S. $1,259,700. Apart from that, Intelsat will also lease for 5 years data and speech channels for the sum of U.S. $180,000 per annum or U.S. $900,000 for 5 years. The total sum in foreign exchange expected to be received by P.T. Indosat from Intelsat for 5 years will be more than U.S. $2 million, Jamsuddin said. [Jakarta ANTARA in English 0835 GMT 25 Aug 82 BK]

TV BROADCASTING STATIONS--Jakarta, Aug 25 (ANTARA)--Early after its establishment some 20 years ago, the TVRI (Indonesian Television System) could only broadcast one hour daily and only for Jakarta. But at present it is able to broadcast eight hours daily. The TVRI has now nine broadcasting stations, 210 relay stations and ten mobile stations which are able to operate in rural areas. This was stated by radio, television and film director General Dr Sumadi in his report at the inauguration of the newly built TVRI production centre and at the symbolical dedication of the perumas-built low-cost houses in Dili, East Timor, by President Suharto here Tuesday. [Excerpt] [Jakarta ANTARA in English 0810 GMT 25 Aug 82 BK]

JAPANESE GRANT--The Japanese Government has decided to give Indonesia about 5,615 billion rupiah grant to finance the construction of a television and radio training center in Yogyakarta and a biology laboratorium in Bandung. Notes regarding this grant were exchanged in Jakarta today between Japanese Ambassador Toshio Yamazaki and the Director General for Economic and Socio-cultural Relations With Foreign Countries Rusli Noor. [Jakarta Domestic Service in Indonesian 1200 GMT 20 Aug 82 SK]

SOVIETS HAND OVER SIGNAL TRAINING CLASSROOM

BK010930 Vientiane Domestic Service in Lao 0400 GMT 27 Aug 82

[Summary] A ceremony was held at the officers' training school in Xieng Khouang Province on 23 August 1982 to mark the handing over of a signal training classroom to the Lao side by Soviet experts. "Attending the ceremony as guests of honor to witness the handing over of the classroom to the officers' training school were Brig Gen Somsak Soukkhavong, director of the school; representatives of the Soviet Army's political and military experts in Laos; Maj Bounthom, signal committee member attached to the General Staff Department; and a number of Soviet experts."

At the ceremony, a representative of the Soviet Army's political and military experts in Laos delivered a speech handing over the classroom. "He first praised and hailed the close Lao-Soviet spirit of friendship. He said: The Soviet experts have, for a long time, joined with the officers and men of the intermediate and high-level officers' training school in positively constructing the school building and installing the technical equipment used in studies."

He also stressed that the signal corps serves as a significant tool for the Lao army to march forward to fulfill the military tasks entrusted to it by the party Central Committee. He added that the cooperation in setting up the signal training classroom reflects the daily strengthening of the friendship and solidarity between the two parties and armies of the Soviet Union and Laos. With the spirit of profound friendship and solidarity, the Soviet experts have positively performed the task of building the classroom and installing the signaling and technical equipment in it. As a result, a full set of technical materials capable of communicating over long distances has been installed in the classroom.

Brig Gen Somsak Soukkhavong then made a speech accepting the signal classroom. He first expressed profound gratitude to the Soviet experts for their assistance in building the signal classroom. He said: "The success in setting up the signal classroom is the fruit of the implementation of the agreement on mutual assistance signed between the two countries. It also marks a new developmental step in the all-round assistance given to Laos by the Soviet Union." He added that he would do his best to guide the maintenance and effective use of the modern signal equipment in serving the building of the contingent of cadres of the Lao army. . .

At the end of the ceremony, the two sides signed a document on the handover of the classroom amid an atmosphere of profound friendship and cordiality.

CSO: 5500/2343

PAKISTAN RAILWAY TELECOMMUNICATION SYSTEM

Karachi DAWN in English 23 Aug 82 p 4

[Text]

MULTAN, Aug 22: The project of microwave telecommunication system of Pakistan Railways from Rawalpindi to Karachi will be completed by December this year at an estimated cost of Rs 720 million.

The work of completion of the project has been entrusted to an American firm, which has stated to be completed about 99 per cent of the work.

According to a reliable source here after completion of this project the performance of the railway operation system of trains will not only be improved but also the occurrance of accidents will be eliminated.

Under the system the staff at every station and the drivers and guards will be equipped with telephones and will be able to contact each other about any defect and fault and get it removed immediately saving life and property of passengers and railways.

Most of the work of installation of towers has been completed on the main line from Rawalpindi to Karachi railway stations. Moreover a 465-feet tower is being constructed at Khanewal near Multan to control the operation of trains between Lahore, Multan and Faisalabad

CSO: 5500/5909

SRI LANKAN ROLE SURE IN SEA CABLE SYSTEM

Colombo THE ISLAND in English 25 Aug 82 p 3

[Article by B.C. Perera]

[Text]

Sri Lanka will occupy a central place in the new US Dollar 500 million (approximately Rs.10,000 million) undersea cable system which will link South East Asia, Middle East and Europe.

The centre of operations for Sri Lanka is assured because of its strategic situation in the Indian ocean.

The Minister of State Mr. Anandatissa de Alwis, who is also responsible for breadcasting and television, stated recently that after the establishment of the country's national TV system, the country's central position in the communications map of the region has come to be recognised.

Eight countries, a State Ministry source stated have agreed to start serious planning for a submarine cable system which will link South East Asia, the Middle East and Europe.

The countries - Sri Lanka, Djibouti, Egypt, France, Indonesia, Italy, Saudi Arabia and Singapore, met recently in Paris and signed a Memorandum of Understanding to proceed with the planning work.

The system will consit of eight segments divided into three sections in the following order:-
SECTION I - Segment A: Singapore-Medan, Segment B: Medan-Colombo, Segment C: Colombo-Djibouti, Segment D: Djibouti-Jeddah.
SECTION II - Segment E: Jeddah-Suez, Segment F: Suez-Alexandria.
SECTION III - Segment G: Alexandria-Agrigente and Segment H: Agrigente-Marseilles.

All segments will be submarine cables except for SEgment F, a part of which will be laid overland. The complete system will cover 14,000 km, which will make it the second longest submarine cable system after the ANZCAN system currently under construction. THE ANSCAN system when completed, will connect Australia, New Zealand and Canada on a 15,000 km route..

The South EAst Asia-Middle East-Western Europe submarine cable system is scheduled for completion by the end of 1985.

The system can carry telecommunication traffic between the FAr East, Oceania, the Indian Sub-Continent, the Middle East, North and East Africa, Europe and North America.

As a trans-Indian Ocean cable, the system is expected to relieve congestion and provide media diversity for the INTELSAT Indian Ocean Satellite, as well as to meet the growing demand for telecommunication services in the region.

Meanwhile, a report from India states that telecommunication facilities between India and the Gulf are expected to improve substantially after the commissioning of the proposed Indo-UAE Submarine Cable Link in 1985.

CSO: 5500/5913

BRIEFS

CARIBBEAN BROADCASTING OFFICERS--The 13th General Assembly of the Caribbean Broadcasting Union [CBU] ended yesterday at the Ambassador Beach Hotel. Re-elected president of the CBU was Mr (Terry Holder) of Guyana. Reelected vice president for television was Mr Calsey Johnson, general manager of the Broadcasting Corporation of the Bahamas, while (Vic Fernand) of Barbados was returned as vice president for radio. The CBU's committee of management includes (Alvin Bolley) of Dominica, (Peter David) of Grenada, (Pinot Borobia) of Jamaica, (Hwit Tangle) of Suriname and (Hamilton Cummings) of Trinidad. The 1983 CBU General Assembly will be held in Grenada. [FL101758 Nassau Domestic Service in English 1700 GMT 10 Sep 82]

CARRIBBEAN BROADCASTING CONGRESS MEETING--Nassau, 15 Sep (AFP)--Representatives of 26 English- and Dutch-language broadcasting stations from the Caribbean area have concluded an assembly of the Union of Caribbean Broadcasting Stations, which was held here. They agreed to intensify cooperation programs. The participants agreed that their stations should be at the service of the economic, political, social, cultural and sports development of the region for the common welfare of their listeners. Representatives from all English- and Dutch-speaking countries of the area participated in the event, which also decided to seek international financing to increase the power of their stations with special advice from the BBC in London. [Text] [PA161759 Paris AFP in Spanish 2047 GMT 15 Sep 82]

RADIOTELEGRAPH COMMUNICATIONS--Through the efforts of workers of the National Telecommunications and Postal Services Institute and the generosity of the Cuban people, the inhabitants of Miskito settlements in Tasba Pri, (Guasmilona), (Simedida), (Santa) and (Columbus) will be able to establish communications with the rest of the country by using radiotelegraphy. The radiotelegraphy equipment was donated by the Cuban people and the installations were made by Nicaraguans. [Managua Radio Sandino in Spanish 1830 GMT 24 Aug 82 PA]

CSO: 5500/2342

BRIEFS

COMMUNICATIONS UNDERSECRETARY NAMED--Buenos Aires, 30 Aug (DYN)--Communications Secretary Angel Barbieri today installed Rafael de Arrascaeta as the new communications undersecretary. Rafael de Arrascaeta was serving as director of the national postal and telegraph enterprise. [Buenos Aires DYN in Spanish 1750 GMT 30 Aug 82 PY]

CSO: 5500/2343

BRIEFS

GUERRILLAS ATTACK 'RADIO EL SALVADOR' RELAY--San Miguel, 30 Aug--Extremists have carried out two strong attacks on the Radio El Salvador repeater station at kilometer 158 on the military route. The attacks took place this weekend. At 0700 Saturday terrorists attacked from the Santiago Plateau, which faces the radio station, using rocket launchers, rifles and machineguns to harass the soldiers and guards who are on continuous watch there. The soldiers and guards took strategic positions to repel the attack. There was no report of casualties on either side in this 2-hour attack. Yesterday, Sunday, at 1200, the extremists again attacked Radio El Salvador, which has been attacked, even with dynamite, many times before. This has forced security guards to adopt permanent security measures. It has been reported that the second attack was more intense and that it went on for 3 hours, but no casualties were reported in this harassment action. [Excerpt] [PA011910 San Salvador EL MUNDO in Spanish 30 Aug 82 p 1]

CSO: 5500/2342

BRIEFS

TERRORISTS DESTROY COMMUNICATIONS STATION--Lima, 1 Sep (LATIN-REUTER)--The police reported today that presumed leftist guerrilla members wounded three policemen and destroyed a communications relay station in the southeastern part of the country but that other attacks were aborted. The policemen were wounded when they tried to repel the attack of approximately 50 armed men yesterday near the city of Abancay. These men are believed to be members of the Maoist guerrilla group Shining Path. The destruction of the communications station cut television and telephone communications with two provinces, the police added. It also reported that in Lima, which in addition to the mountainous region of Ayacucho is in a state of emergency due to the recent outbreak of violence, the extremists dynamited a power plant and a communications tower. The police said that there were no casualties but that there was minor damage. Other sabotage actions against power pylons, irrigation projects and a factory were aborted when police experts deactivated bombs. These incidents were the most recent examples of political violence which has taken the lives of more than 50 people during the year. [Text] [PY012355 Buenos Aires LATIN in Spanish 1910 GMT 1 Sep 82]

CSO: 5500/2342

BRIEFS

TV RELAY STATIONS REPLACED--According to the Central News Unit, the operations for replacing the (?Golshahrak) relay station and the Bafq relay station have been completed, thanks to the efforts of the expansion unit of the network of the Voice and Vision of the Islamic Republic of Iran, in order to overcome the existing shortcomings in the TV reception in the Gafq and (?Mehriz) areas and also to prepare the grounds for the installation of the [names indistinct] TV relay stations. With the completion of these operations, the inhabitants of (?Mehriz) and [name indistinct] will be able to receive the programs of the Vision of the Islamic Republic of Iran on Channel 11 and those of Bafq on Channel 5 without difficulty. [Text] [Tehran Domestic Service in Persian 0730 GMT 1 Sep 82 LD]

CSO: 5500/2342

BRIEFS

'VOP' END BROADCASTS--The PLO's radio station, broadcasting from an underground command in west Beirut, ended its broadcasts last night according to the agreement on the PLO's departure from Beirut. Our monitor notes that this was the PLO's only radio station, and its broadcasts relied on extensive propaganda transmitted daily to Israel in Hebrew, among others. This station also played a significant role in the rioting in the territories in recent years. It also transmitted coded instructions daily to the terrorists in Judaea, Samaria and Gaza. Upon its closure, the terrorists have lost their main communications medium. [Text] [TA282015 Jerusalem Domestic Service in Hebrew 2000 GMT 28 Aug 82]

CSO: 5500/2342

BRIEFS

EGYPT-SUDAN TELEPHONE CIRCUITS--A reliable source in the Ministry of Transport and Communications said the telephone circuits linking Egypt with Sudan number 16 telephone circuits. The volume of exchange between the transport sector in Sudan and the industrial institutions in Egypt amounted this year to two million dollars, said the source. [Text] [Khartoum SUNA in English 1 Sep 82 p 7]

'SUNA','MENA' ESTABLISH WIRELESS STATION--Aswan, Egypt, Aug. 31, (SUNA)--The Sudan News Agency (SUNA) in collaboration with the Middle East News Agency (MENA) have set up a joint wireless station to serve as a link between the capitals of integration provinces, Aswan and Dongola. In a letter to the Governor of the Northern Region and Aswan's Commissioner, SUNA's General Manager Mustafa Amin and MENA's Board Chairman Muhammad 'Abd-al-Jawad said the station was designed to provide information services for Aswan and Dongola within the context of integration between the two countries. The station had already started work on Aug. 29, SUNA learned. Another station would be established in Wadi Halfa during next week. This second net work has a direct link with Khartoum and Cairo. [Text] [Khartoum SUNA in English 31 Aug 82 p 8]

CSO: 5500/5016

BRIEFS

STD FOR MURANG'A DISTRICT--Murang'a, Wednesday, (KNA)--Murang'a district will get STD telephone facilities from next year. This was disclosed by the head of the telecommunications department of the Kenya Posts and Telecommunications Corporation (KPTC), Mr M.T. Kilili, when conducting a tour of the Murang'a post office today. Kilili said the proposed telephone exchange will have 1,000 telephone lines leading to all parts of the country. He added that the co-operation will soon provide a telex machine to Murang'a post office to facilitate faster communication in the district. The KPTC central divisional's manager, Mr J.M. Ngui said Murang'a post office telephone switchboard now has 500 lines. The additional lines will help to reduce telephone congestion. [Excerpt] [Nairobi THE NAIROBI TIMES in English 26 Aug 82 p 3]

CSO: 5500/5914

BRIEFS

ORBITING OF SATELLITE PROPOSED--THE most effective and quickest way of educating the people of SWA would be to put a satellite in orbit above SA and to beam off school and educational programmes directly to battery operated TV receivers. This is the view of Windhoek businessman Mr Adrian Collard who addressed the Socioeconomic conference in Windhoek a fortnight ago. "These skills may be used to improve individual, family and community living conditions and the ability to take advantage of the existing system of education". Mr Collard said that each TV receiver would have its own parabolic dish receiving antenna. The batteries could be recharged by solar panels. This would make these 'satellite schools' available to anyone who wished to take advantage of the unique opportunities such a programme could provide. The cost would be just over R100m. The annual costs of such a system should be about 15 to 20 percent of the cost of running and administering an extended formal educational system on the traditional lines. "The improved motivation and sense of responsibility engendered by such programmes of practical self help and reliance will provide a firm base for extended economic activity and better living standards for all", concluded Mr Collard. [Text] [Windhoek THE WINDHOEK ADVERTISER in English 24 Aug 82 p 3]

CSO: 5500/5911

DETAILS ON RADIO CORAL GIVEN

Saint Denis TEMOIGNAGES in French 26 Jul 82 p 11

[Text] Radio hosts from Radio Coral held a press conference Friday to announce that the station is now operating at full speed.

Actually, Radio Coral began its broadcasting on the weekend of 4 July in the Western region, where up till then there had been no commercially owned station. But Radio Coral officials estimate that some 150,000 Reunionese live in the region, so local radio stations are a necessity to give the people some interesting variety.

The broadcasters on the coastal station are trying to respond to a social need: they want to broaden social communications; they want to bring help and assistance to individuals or groups of people, whether or not they belong to the association.

Broadcasters will cover the cultural scene, music and news, with cartoons and sports as well. Radio Coral also wants to help people become better informed on economic and social questions. It wants people to be able to turn to it for education and information that should be as complete as possible.

There will be musical programs for every taste, and Radio Coral will broadcast music of every kind. At the same time, a serious effort will be made to facilitate cultural expression, particularly Reunionese folk culture. Local folk music must be promoted, and Reunionese singers and groups will be invited to perform live on the radio.

Radio Coral intends to play a part in giving the Reunionese more exposure to their own culture so they can realize their real potential. And an effort will be made to rid the broadcasts of any colonialist content, in order to liberate cultural expression from any form of oppression. And groups which up to now have had no way to express themselves will be able to do so on Radio Coral.

With respect to news, there will be a weekly press review every Saturday. There will also be news about problems people are having: right to work, women's rights...The thrust will be to keep people informed of everything that is going on in the artistic and literary worlds, and debates will be broadcast. Sports will not be forgotten either, and the station will emphasize small [athletic] clubs, neighborhood events, and local sports issues.

Radio Coral officials will have contact with cultural groups on the isles of Madagascar and Mauritius, and they hope to bring over high-quality productions from the neighboring isles.

Every Day on 92 Megahertz FM

If you live between Possession and Saint-Leu, you can tune in to Radio Coral from 0600 in the morning to 2200 hours at night Monday through Thursday. On Friday the station broadcasts until midnight, and on weekends goes nonstop to Sunday night at 2200 hours.

Radio Coral officials have set up a company whose president is Daniel Singainy. Albert Nazir is vice president, Tristan Souprayenmestry is secretary, and Marie-Therese Talvy is treasurer. Some 20 radio hosts man Radio Coral.

Its intention is to be a diversified radio station without a political ideology, and is especially concerned to remain financially independent.

9516
CSO: 5500/5887

BRIEFS

SHIP COMMUNICATIONS--Moscow September 2 TASS--Work has started outside the city of Odessa on an international marine satellite communications station, to be completed later this year, writes [MOSCOW NEWS] INFORMATION. Ships enroute in the Atlantic or Indian Ocean can send their messages via satellite to the station which will then relay them along land communications systems. Messages to ships will be sent likewise. The station will be able to send distress signal to the nearest salvage centres. Time at sea will be saved thanks to the availability of weather forecasts and commercial information. Captains will know in advance of where and when their ships can be processed and freight be taken. Within the framework of the international maritime satellite organisation, of which the USSR is a member, three stations have already been completed, at Sothbury, Santa Paula in the USA and Yamaguchi in Japan. Another 16 stations are now being built in various countries, including at Odessa and Nakhodka in the USSR. [Text] [Moscow TASS in English 1251 GMT 2 Sep 82 LD]

SATELLITE TELEVISION--Oil workers living on Poluostrov Buzachi are now able to watch color television. The reliable television system broadcasting on Poluostrov Mangyshlak combines both satellite and cable transmissions. Only 1 percent of the population on Mangyshlak--shepherds living in remote pasture areas--are unable to watch television. By the end of the year, sufficient Ekran transmitters will have been installed there also, and everyone living on the peninsula will be able to watch television. [Moscow Domestic Service in Russian 1330 GMT 20 Aug 82 LD]

CSO: 5500/2342

BRIEFS

EUROPEAN GEOSTATIONARY TELECOMMUNICATIONS SATELLITE--This is a full-scale model of the first European geostationary satellite for telecommunications. It will be launched later this year and is the first of a series of five. They are being built by a consortium headed by British Aerospace. Each satellite weighs 1 ton. It measures 13.8 m and can relay 12,600 telephone calls and two television channels. All of the satellites except the first will also have extra communications equipment, by means of which companies will be able to directly transmit and receive data, telephone, telex, telefacsimile and video signals via their own parabolic antennae on their office buildings. The satellites will be supplied with power from solar cells on panels extended from the satellite. PHOTO CAPTION: Europe's first telecommunications satellite will be launched this year. It will handle 12,600 telephone calls and two television programs simultaneously. [Text] [Stockhome NY TEKNIK in Swedish 10 Jun 82 p 26] 11949

ARIANE LAUNCH 9 SEPTEMBER--On 3 July MARECS-B, the second European maritime communications satellite, joined the second model of the Italian telecommunications satellite 'Sirio' 2 at the base in Kourou. These two satellites are to be placed in orbit on 9 September by Ariane L5 using the 'Sylda' double launching system made by Aerospatiale. [Text] [Paris AVIATION MAGAZINE INTERNATIONAL in French 15-31 Aug 82 p 16 WA]

CSO: 5500/2342

BRIEFS

CALLS TO MOSCOW CANCELED--Bonn, 2 Sep (DPA)--Beginning today, STD telephone calls between the Federal Republic and Moscow are no longer possible. The Federal Postal Ministry said that telephone conversations with the Soviet capital must now go through the operator, as was the case earlier. The halting of the STD service, for which no reason was given, marks a new level in restrictions on telephone traffic between the Soviet Union and Western countries. Moscow had told the Federal Republic, Austria, France, Britain, the United States and other Western countries to expect a drastic reduction in STD telephone service beginning 1 July. The unofficial reason given for this is "technical problems." However, Western diplomats have suggested that the Soviet Government wants to prevent rapid and uncontrollable contacts between Soviet dissidents and the West. Connection by the operator means that phone calls to Moscow must be registered with the telephone exchange, which then makes the connection with Moscow. There can be a delay of several hours. [Text] [Hamburg DPA in German 1309 GMT 2 Sep 82 LD]

CSO: 5500/2343

BRIEFS

SATELLITE TELEVISION INAUGURATED--The first antenna for receiving public television broadcasting will be installed in Iceland next month. The firm Hljombaer, located at Hverfisgata, plans to install this device which is produced by the Swedish firm Luxor. In an interview with MORGUNBLADID yesterday Thorvaldur Sigurdsson of Hljombaer stated that the antenna they have purchased measures 3 meters in diameter, carries 3 megacycles and will be installed by the store at Hverfisgata. Thorvaldur stated that specialists at Luxor expected no difficulties in this country with receiving broadcasts from at least three or four satellites presently in operation. Among these is a Russian television satellite broadcasting at 35 to 36 decibels and from which excellent reception could be expected. Furthermore we should be able to get telecasts from a French satellite broadcasting from Africa. Reception from that particular satellite is quite good in Sweden, and Luxor specialists believe that equally good reception should be possible in Iceland. Another possibility is a British experimental satellite. However it is doubtful that it is powerful enough for good reception in the Reykjavik area. The antenna which Hljombaer has purchased cost about 30 thousand Swedish kronor and Thorvaldur stated that an infinite number of television receptors could be connected to it, meaning a network from one house to another. [Text] [Reykjavik MORGUNBLADID in Icelandic 23 Jul 82 p 32] 9981

CSO: 5500/2314

BRIEFS

MARECS-B LAUNCH--From 9 to 11 September, Kenneth Baker, British minister of technology, will be at the space center in Kourou, French Guiana, to witness the launching of a British satellite. This maritime communications satellite, called the MARECS-B, is to be put in place above the Pacific Ocean by an Ariane launcher. It will enable communications between ships in most of that ocean as well as between these ships and the shore. [Text] [Paris LES ECHOS in French 18 Aug 82 p 4 WA]

CSO: 5500/2342

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