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## Summaries

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### The telex adapter unit TAG

J. Werndli, Berne, and H. Pfeiffer, Vienna

The telex adapter unit TAG was developed to provide low cost access to the telex network for small firms. To write and receive information, an available electronic typewriter or a PC terminal may be used. The modern microprocessor technology ensures continuous reception readiness for signals even though the terminal is not in operation.

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### Measurement of delay time fluctuations in digital transmission systems

J.-Ph. Mellana and K. Hilty, Berne

The authors describe a method for determination of delay time fluctuations in digital transmission systems during normal traffic situations. In this case, the television network serves as a common time base such that the PCM signal has neither to be looped back nor switched in a special way. The flow of data on the transmission channels was fully passively observed. Such it is in no way influenced. For a prolonged period, the delay time fluctuations were measured on a 140 Mbit/s optical transmission link of a length of 50 km.

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### Equipment and function of IDN exchanges for centralized operation

W. Suter, Berne

The PTT's regional operating centres will employ AXE 10, EWSD and System 12 IDN exchanges for the centralized operation from 1987 onwards. The basis of the centralized operation is the product specific equipment from the suppliers of exchanges. This paper shows the realization of functions and the corresponding equipment. It also indicates how the new equipment cooperates with already existing equipment supporting the presently operational telephone network. Consideration is also given to the schedule of the IDN implementation phases. In conclusion, the article points out the expected longrange development in the area of operating equipment and supporting tools.

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### Multipath delay spread in a hilly region at 210 MHz

Andreas Zogg, Azmoos

Investigations of multipath propagation in hilly terrain show that the delay spread

between the first and the last significant path may be greater than 30 microseconds. The method of measurement is described and the propagation conditions are illustrated by representative examples.

## News Items

### Telephone

Since 1 April, **certain enquiries at the operator service No 111 are no more being charged. They concern subscriber numbers that are not yet included in the directory or any other changes.** The operator has now access to the electronic directory allowing queries according to region, canton and network group.

In Geneva, the Standard Telephone and Radio (STR) handed over the **regional training centre for digital switching System 12** to the PTT. At the beginning, it is serving the basic training of staff by the STR and later the repetitive training and continued education by the PTT.

Additional permanent **satellite circuits for telephones** were established via Leuk earth station: to the USA (12), Hongkong (9) and Singapur (1) as well as for **data traffic** (64 kbit/s) with the USA (1) and Great Britain (1).

### Teleinformatics

After almost **five months of continuous strike**, the telegram traffic was taken up again in April with **Gibraltar**.

In the **first quarter**, the total **telegram traffic increased by 1.3 pc** (domestic +2.2 pc, international +4.3 pc, transit -5.7 pc as compared to the same quarter of last year). The number of greeting telegrams increased by 215 000 pieces or 4.2 pc.

The number of **new subscribers for facsimile service has further increased**. In April, 684 sets from the PTT and 1087 sets from private suppliers were recorded.

At the end of April, **210 mail boxes were connected** to arCom 400, a service of the Comtex project. 152 of them are served for the PTT's internal use.

### Radio, Television

**10 new VHF/FM transmitter came into operation.** Five are broadcasting programmes to the Western part, three offer radio programmes to the German and Romansh speaking regions and two transmitters serve the regional programmes in Romansh, that will now be offered by 18 VHF/FM transmitters in canton Graubünden.

At the end of May, two **transposers (Sargans and Langwies)** started transmission of the three national programmes for regions that so far were badly served.

**Radiophone networks for the postal coach service came into operation** in the area of **Locarno and the Principality of Liechtenstein**. These will ensure a more flexible employment of the postal coaches and their efficient operation.

**In 1987, the number of licenses for transceivers increased** by 6.4 pc to 253 000, the radio operating licenses by 5.9 pc to 26 500, the CB licenses by 0.9 pc to 76 000 and the amateur radio licenses by 1.3 pc to over 4300.

Of 5978 notifications for **interference of radio and television services**, 5830 were cleared by the respective departments of the PTT regional directorates in the last year. In more than 2700 cases the receiving equipment caused the trouble while 1185 times the wireless communications equipment was at fault.