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## Summaries

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### Measurement of ground reflections at VHF band

A. Zogg, Azmoos, and W. E. Debrunner, Berne

The analysis of TV test scanning lines allows to determine relevant ground reflections with respect to amplitude, phase and delay time. These tests can be carried out in the field with today's test equipment and personal computer. After describing the measurement methods, typical results are given in this article. The discussion shows that statistics on multipath reception gathered in urban areas are insufficient for system planning in hilly terrain.

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### New series of telephone sets LW 700

R. Burkhard, Solothurn

The article describes two new sets, the LW 700 Commerce and the LW 700 Comfort. They will constitute the new series of sets LW 700 together with the type Compact introduced in 1986. The sets described offer more convenience in spite of the small size. Technical solutions and performance characteristics are outlined.

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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.

## News Items

### Telephone

In April, 19 additional satellite circuits came into operation, of which 16 for telephone circuits with the USA (12), New Zealand (2) and Peru (2) as well as three 64 kbit/s channels with the USA.

9598 subscribers were connected to Natel C (national car telephone) network at the end of March. Thus, the mobile telephones consisted of 21 609 lines together with Natel A and B as well as with the Zurich regional network.

### Teleinformatics

Since mid-April, the new main telegraph office of St. Gallen has been officially reopened after 17 years of interruption. The St. Gallen office took over from Zurich the telegram handing-in by telephone (service No 110) for the network groups of the Eastern parts of Switzerland as well as for the Principality of Liechtenstein.

At the end of March, all main telegraph offices (Basle, Berne, Geneva, Lausanne, Lugano, Zurich) were outfitted with new equipment for telegram entry and transmission of telegrams handed-in by telephone. They replace the obsolete operators' positions and video display unit in use since 1977.

Two new Telepac (packet switching) exchanges came into operation in March. They correspond to the latest technology DPN 50 and each has a capacity of 2000 channels. Thus, the Swiss Telepac network comprises 18 exchanges. A further equipment, provided also in March, serves for testing and training in Berne.

The Telepac network was further connected internationally to the Finnish Digipak network.

A record increase in telefax equipment was noted in March: 549 subscribers to the PTT supplied equipment and 1271 notices from users of private equipment. This amounted to a monthly increase of 1820 new subscribers.

### Radio, Television

Since 1 April, Teletext programmes have been broadcast daily from 05.00 to

01.00 hours by the Uetliberg/Zurich as well as by Bantiger/Berne and St. Chrischona/Basle TV transmitters with their corresponding transposers.

In 1987, the number of licensed transceivers increased by 6.4 pc to 232 965. The radio operator licenses went up by 5.9 pc to 26 496 with 159 670 radio equipment. The CB licenses rose only by 0.9 pc to 75 999 licensed equipment, of which around 70 000 in 27 MHz and 6000 in 900 MHz bands. The amateur radio licenses augmented by 55 (1.3 pc) to 4304.

Last year, the PTT regional telecommunication directorates dealt with 5978 notifications on interference of radio and TV receivers. In 2643 cases, the problem stemmed from the receiver equipment, namely in 26 pc from the receiver sets, in 23 pc from defects of the antennas or in 19 pc from inadequate antennas.

At the end of March, 9643 subscribers were connected to local paging system A and B, whereas the national car paging and Eurosignal counted to 21 295 subscribers.

### Miscellaneous

Basle's PTT regional telecommunication directorate was equipped with a pilot Grafico (interactive graphic information system for telephone network) system for collection of data and administration of telephone plants. After one week of training, the staff started digitization of location plans at the 2nd half of March.

In the middle of 1987, 17 044 persons were employed at the PTT telecommunication department, 351 more than in the previous years. About 35 pc were skilled and 12 pc unskilled workers, 19 pc administrative and EDP staff, 18 pc telephone and 3.6 pc telegraph operating personnel, 6.6 pc engineers. 375 apprentices got their training in government approved professions.

The PTT provided information to the government of the Principality of Liechtenstein, to the economic circle and to the press on the state and the development of telecommunications on 16 March at Vaduz. The postal and telecommunication services have been taken care of (since 1920) by Switzerland (the PTT telecommunication directorate of St. Gallen) at Liechtenstein's request and to its account.