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## Summaries

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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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### New alarm concept for transmission equipment

H. Zach, R. Payern and A. Schär, Berne

The main characteristics of the new alarm concept (AK 84) are the stepwise processing of alarm notices and the serial forwarding as well as remote query of detailed alarm conditions. The racks were developed with standard alarm building-blocks employing centralized indicators and control panel in accordance with the construction system 72.

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### Innovation in telecommunication industry

H. Guggisberg, Berne

All-electronic switching equipment shows electric power consumption characteristics which have consequences on the power supply design as well as on the removal of the dissipated heat. This affects mainly the reliability of telecommunication operation. For the power supply equipment, the principle of series regulation with transducers and thyristors is no more used. Instead, clocked, higher frequency rectifier equipment, so-called switching regulator, is used. The article describes briefly the advantages and limitations of this new technical device.

p. 164...171

### Simple and accurate screening measurements on RF-cables up to 3 GHz

B. Eicher, Ch. Staeger and B. Szentkuti, Berne, H. Fahrni, Solothurn

The measurement of screening effectiveness on cable assemblies is very different to perform over broad frequency ranges (e.g. from several kHz to more than 3 GHz). A new type of test set-up has been developed and tested with a transmission type wire injection principle. The main advantages of the new wire injection set-up are:

Inherent broad bandwidth due to proper matching of the injection circuit (about 10 kHz up to several GHz)

Backward and forward coupling measurements (to detect directive effects) are feasible without changing the set-up

The preparation of the cable under test (CUT) is simple and easy

Bending, twisting and moving of the CUT is possible during measurement

Very high dynamic range (transfer impedance values below  $1\mu\Omega/m$  or approximately 160 dB screening attenuation are measurable)

Set-up hardware (excluding measuring instruments) is very simple and inexpensive

Earth loop problems are less severe than with triaxial set-ups.

Comparative measurements have been performed on eleven different cable types with a triaxial set-up and two wire injection set-ups with 50  $\Omega$  and 100  $\Omega$  characteristic impedance. The agreement is generally better than  $\pm 4$  dB between the triaxial and wire injection test results.

## News Items

### Telephone

Since the beginning of the year the market for telephone sets has been liberalized in Switzerland. The PTT had a good start in business due to the involvement, initiative and flexibility of the staff. There was a great rush to buy sets taken out of the assortment sold on auction. New sets are being rented rather than bought. 'Swisstel' scores highest among the sets sold.

The number of subscribers on the **3-months-plus waiting list amounted to 4969 at the end of 1987**. That amounted to 526 more than the year before. In 2403 cases, the PTT equipment (circuits) was not available. In the remaining cases, the causes stay with the interested parties.

The first **EWSD digital exchange** was taken into operation with more than **20 400 subscriber lines served by only one central unit**. It is connected to the interoffice network by glass fibre cable.

More than **19 856 telephone circuits were connected with foreign countries** at the end of last year. These are 283 more than in the year before. 2295 circuits were available to overseas, 1143 via cable and 1152 via satellites.

**32 additional satellite circuits** were taken into operation for telephone (30) and teleinformatics (2) services with **Australia, Japan, Philippines, Zimbabwe and the USA**. Further, 24 temporary circuits were established with Canada for the pro-

gramme transmission of the Winter Olympic Games in Calgary.

### Teleinformatics

The most successful **greeting cards for telegrams** last year were the «Wedding» and the music telegram «Happy Birthday» (about 147 000 copies each) as well as the «Lady Bug» (around 110 000 copies). Altogether about 780 000 such greeting telegrams were ordered.

In mid-February, the PTT put into operation the **third videotex exchange in Lausanne** after Zurich and Berne.

### Radio, Television

In connection with the definitive **introduction of the Castel San Pietro television station** in Mendrisiotto (Canton of Tessin), again negotiations were held between a Swiss and an Italian delegation to solve the problem of the illegal Italian TV transmitters interfering in Swiss programme broadcasting.

In the **second half of 1988, the Radio Data System (RDS) will be employed in all VHF/FM radio stations** located on the main east-west traffic axis (Highway N 1) and equipped with the programmes of the Swiss Broadcasting Corporation.

### Miscellaneous

The **PTT's 1987 accounts** closed with a **profit of 487 million francs**, with a total income of 9191 million francs and a total expenditure of 8704 million francs. The **investment of 2.6 billion francs** (+ 14.6 pc against 1986) was again self-financed.