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# Summaries and Notices

## Summaries

p. 340...342

### Multipurpose Transmission Site at Saint Chrischona

A. Haldemann, Berne

The present radio and television station at Saint Chrischona with its 50 years old structural steel tower will be replaced by 1984. The new tower of about 250 m, which was started at the middle of 1980, will be the highest structural work in Switzerland. The following article summarizes the reasons for this unusual construction which encloses all technical equipment.

p. 343...356

### Lightning Protection Design for the New Multipurpose Transmission Tower at Saint Chrischona

E. Montandon, Berne

The Swiss PTT is constructing at present a new multipurpose tower for radio relay, television and radio services at Saint Chrischona near Basle, at an altitude of about 500 m. The reinforced concrete tower is 250 m high, on a star shaped foundation. The tower is topped by the 100 m high antenna building. The upper 50 m of the tower contain space for operational equipment, mainly receiver equipment. Transmitter and power supply installations will be placed in the underground floors. The design and specifications for the lightning protection of the structure power supply, installed cable and equipment are based on the experimental measurements of an existing site. All details of construction which are important for reduction of the coupling impedance between the assumed lightning current path and the installations have been incorporated in the construction plan. Their implementation will be monitored during the construction phase. During and after completion of construction work the measurement of various coupling impedance will be carried out. No work is permitted which may impair the measurements during these measuring periods.

p. 357...364

### Protection Measures against Air and Water Pollution at the PTT

M. Wüthrich, Berne

Our measurements in the environmental field identify emissions and immissions.

These phenomena are especially found in air and water. In case of water we are occupied with problems of the purity of drinking water and water conditioning, and also with corrosion problems such as in pipe and heating facilities. There is also oil polluted drain water from garages. The air is contaminated with vapour and dust, eg vapour of solvents, exhaust gas from cars and heatings, smells in telephone exchange offices and dusts at the Post offices when emptying letter bags. Since the introduction of natural gas the danger of explosion has emerged and, thus, the need for protecting the underground telephone equipment. All the mentioned pollutants in air and water can only be effectively eliminated if their type and quantity are known. Therefore, it is necessary to conduct reliable qualitative and quantitative measurements before restoration of the environment.

p. 365...369

### Multipurpose Transmission Site at Frobburg

R. Nüesch, Berne

The multipurpose transmission site at Frobburg serves mainly to support the different PTT radio-relay networks, the VHF

## News Items

### Telephone

The PTT has decided to build a third **Intelsat antenna**, to become operational by the end of 1983, at its **Leuk earth station**.

In July, **international telephone circuits from Switzerland** were increased by 129 to European and 27 (over satellite) to overseas countries.

**Automatic telephone service between Switzerland and Alaska, Belize, Netherlands Antilles and the Caribbees** was opened on 1 August.

### Telegraph, Telex

**Automatic telex service to the People's Republic of China and to Nigeria** was opened on 1 August.

**Berne's Intelpost centre** handled 202 messages, a total of 435 pages, between January and June 1981, when experimental service opened with Canada.

### Radio, Television

A **Teletext pilot trial** was launched by the Swiss Broadcasting Corporation at

FM radio service and the national car telephone (Natel) network. The configuration of the transmission site is based on technical requirements and on preservation of landscape.

p. 374...379

### Screening Effectiveness of Coaxial-Connectors and Measuring Methods at High Frequency and Microwave

Chr. Stäger and W. Bolinger, Berne

A new circuit for measuring screening effectiveness of coaxial-connectors is described. It allows swept frequency measurements in impedance matched coaxial systems. The frequency range for a triaxial arrangement is 10 MHz to several GHz depending only on the connector size. With a waveguide setup screening effectiveness measurements up to 18 GHz are possible. Combining a tracking generator-spectrum analyzer with low noise and power amplifiers provides a high dynamic range and broadband frequency coverage. Technical details of the measurement circuits and of an artificial test-connector are shown. Test results on well known connector types complete the survey.

the International radio and tv exhibition FERA 1981 in Zurich. Experimental operation of the service is to start officially in October 1981.

The Swiss Federal Government has submitted a new draft for a **constitutional article on radio and television**, previous drafts having been rejected by the Swiss voters in 1957 and 1976. At the same time a draft for a new **local broadcasting regulation** has entered the consultation stage. This document provides for the admission of a limited number of local radio and tv stations during a 5-year experimental period. As it is not yet clear whether advertising will be allowed, two versions of the regulation have been prepared.

### Miscellaneous

The first two links of **Basle's new, 100 mm-tube pneumatic post network** have come into operation. The system will ultimately have a length of 60 km.

On 1 July the computer-based **central telecomms stores information and management system** had been in operation for 10 years. It was the PTT's first information system at the time.