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## Summaries

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### Electromagnetic Compatibility — EMC

B. Szentkuti, Berne

Electromagnetic Compatibility (EMC) is a type of environmental protection in the world of electrical engineering. The physical relationship between different sections of EMC such as interference source, coupling, receptor as well as possible countermeasures against interference is outlined. The planning for EMC is possible and it is necessary.

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### The PTT and the Electromagnetic Interference Protection

Chr. Bärffuss, Berne

The operation of licensed transmission equipment protected by the Telecommunication Regulations has a right to be safeguarded against interference from electromagnetic radio source and propagation. Interference protection is also a measure of radio spectrum conservation. On the other hand, within a crowded space the use of any kind of electronic equipment requires a general improvement of immunity against interfering influences.

p. 73...80

### Important Points of the New Interference Protection Regulation — Technical Aspects

R. Bersier, Berne

This article treats the important points of the Annexes 1 to 4 of the new Interference Protection Regulation (technical part). It describes the objective of the regulation as well as the nature and the effect of interference and sketches the principle of the applied measurement techniques. The article is mainly directed to the users of the regulation but it is also understandable without knowledge of the regulation.

p. 81...92

### Telepac Pilot Network

M. Schaeren, Berne

The Swiss PTT is currently constructing a national switched data network of packet switching technique designated as Telepac. The first step will be a pilot net-

work which includes three switching nodes and an operational center for gaining the necessary knowledge and experience. A number of usual transmission media allows the connection with data terminals from all parts of Switzerland. The offered interfaces and services correspond to the proposed recommendations of the CCITT and they meet today's real needs of interactive data transmission. Already in the near future worldwide uniform standards for interconnecting switched data networks are expected to be realized. The creation of the switched data network allows the telecommunication administrations to gain again more footing in an increasingly important area of communications which was left so far largely to the private manufacturers of data processing equipment.

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### Digital Network Synchronization: Synchronous Operation (First Part)

P.-A. Probst and P. Vörös, Berne

Digital transmission systems and digital central offices allow to construct to-

day a complete telecommunications network. The interconnections and circuit switching are being performed at 64 kbit/s. In order to faultlessly realize the two functions the corresponding clock pulses of the hierarchical multiplex stages of 2048 kbit/s must bear a fixed phase relationship. This requirement can be met with very stable oscillators or through the introduction of the synchronous process. This article describes the characteristics and limitations of these two possibilities, namely the plesiochronous and the synchronous operation. A preselected master-slave synchronous process is planned for the Swiss digital telecommunications network. This article concludes with a short description of the structure of the clock distribution network and the accompanying equipment.

## News Items

### Telephone

Compared to the previous year Switzerland's **outgoing international calls** in 1981 were expected to increase by almost 11 pc in chargeable minutes and around 6.5 pc in earnings.

For the first time the PTT acquired the passage right to the **undersea Artemis cable** between **France and Greece** for the next 15 years. The advance payment of the leased circuits will save around 40 pc.

All Swiss subscribers, with the exception of only a few hundred, will have direct access to the **IDD** in 1982 after opening the last connection at the Sursee exchange on 23 January 1982. 147 countries can be dialled automatically from Switzerland.

The **small earth station** at the CERN in Geneva was removed at the beginning of December 1981. It has been placed at Leuk earth station for the experiment in data transmission with the European Orbital Test Satellite OTS.

Additional **satellite circuits** to and from Switzerland vis Leuk were established in

December 1981: **Argentina** (3) and **Uganda** (1).

### Radio, Television

The PTT installed on contract 99 TV transposers each with **three foreign programmes** at 33 transmitting locations for public corporations, cooperative societies and unions in 1981. At the end of the year 114 TV transposers are in operation to serve around 100 000 inhabitants.

Since 1 January 1982 22 speech channels have been available for the **CB spectrum**. Before there were only 12.

### Miscellaneous

The fourth and **final test flight of the European space transportation system «Ariane»** was **successful** on 20 December 1981. The system will be used from 1982 onwards to place telecommunications satellites into geostationary orbit.

The United Nations proclaimed **1983 as World Communications Year**. The main objective will be the development and construction of the communications infrastructure throughout the world.