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## Summaries

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### Earth Station Antenna Using a Corrugated Horn-Reflector Feed

I. Sato, Tokyo, and S. K. Sarkar, Berne

This report presents details of the configuration and RF performance of Leuk earth station antenna using a corrugated horn-reflector primary feed, along with its design background and analysis. The conical section of the horn-reflector was corrugated to improve radiation properties. Theoretical and experimental studies of its electrical performance were undertaken. The corrugated horn-reflector was employed as a primary feed of 97 ft cassegrain antenna constructed at Leuk earth station in 1973. It was confirmed that the corrugated horn-reflector feed improved the aperture efficiency, noise temperature and cross polarization characteristics.

(The English version of this article was published in No 2/1977, p. 108-117)

p. 58...64

### Fault Location in Coaxial Cable and Waveguide Systems above 1 GHz

W. Bolinger, Berne

After an introduction to fault location techniques for transmission lines above 1 GHz, a new fault location test assembly is described. With this setup all cables and waveguides being installed or planned in the near future for the PTT's microwave network can be measured.

p. 65...71

### Lifetest of Tubular Plate Accumulators

Th. Gerber, Berne

This paper is about the testing of tubular plate accumulators used as direct-current supply in the telecommunications service of the Swiss PTT. It provides details of the influence of operating voltage on the current and water consumption, on the so-called antimony poisoning as well as on corrosion and consequent aging processes. Furthermore, criteria to obtain the optimum voltage for charge retention are established. The results are based on measurements and tests conducted during the past 15 years and performed on an accumulator bank under laboratory conditions.

p. 82...85

### The AZ 44 Coinbox Telephone

P. Guyer, Berne

At the beginning of 1977, a new pay station was introduced. In addition to the main specifications, the mechanical construction and functioning are described

of this electronically controlled apparatus, which can be connected to any normal subscriber's line. The article ends with a glance at the easy operating procedure and the installation of this apparatus of modern design.

## News Items

### Telephone

**Automatic telephone service** between **Switzerland** and **Chile** has been opened over a direct satellite link. Additional satellite circuits to **Brazil** (one) and **Mexico** (two) have been connected via Leuk.

In 1977 Switzerland's international circuits increased by 988 to 10,414.

More favourable transit terms, the connection of direct circuits and the change-over to semiautomatic or ISD service have enabled Switzerland to **lower by some 20 pc the charges for telephone calls** to over a dozen extra-European countries.

**Neuchâtel international manual office** closed in January. The Region's subscribers are now being served from Geneva up to the end of this year, when a new office opens at Lausanne-Préville.

**Two new SPADE links** between **Zurich** and **Lagos** were opened via Leuk on 19 Decembre 1977.

VDU terminals connected to the **TERCO computer system** have been experimentally used at 18 operators' positions in 12 enquiry offices since November 1977.

**Periodic pulse metering of local calls** was introduced in 78 Swiss local networks on 3 January.

### Telegraph, Telex

The telegraph offices of Basle, Berne, Geneva, Lausanne, Lugano and Zurich, which operate a **public facsimile service**, have been equipped with **new, faster machines** capable of transmitting an A4 size document in two, three, four or six minutes as against six minutes only with the former one-speed units.

**Telex service to Guinea-Bissau** was opened via Berne manual office on 1 December 1977.

**Modems for data transmission** increased by 22 pc to 7000 last year. Of these, 59 pc were used on leased circuits and 41 pc on the public switched telephone network.

### Radio, Television

Switzerland's **vhf radio broadcasting network** comprised 95 stations with 198 transmitters and translators on two chains of 103 and 95 respectively at the end of last year. Some 99.5 pc of the population were able to receive at least two national programmes.

In December 1977 the **Swiss television network** was enlarged by 30 translators. By the end of the year, 369 stations with 957 transmitters and translators (379 on chain 1 and 289 each on chains 2 and 3) were in operation. Some 99.1 pc of the population were supplied with their respective regions' first programme, and about 95 pc were able to receive all three national programmes.

A basic discussion on the introduction of a **broadcasting service for motorists** was held between representatives of the PTT, the police, the automobile associations, organizations for the prevention of road accidents, and the Swiss Broadcasting Corporation at the end of last year. While they agreed that there was a demand for such a service, the PTT said it could not use radio licence fees to finance a project designed above all to increase road safety. A separate institution would therefore have to be set up for this purpose.

### Miscellaneous

The last of the planned links has been opened in **Basle's 65 mm diameter pneumatic tube system**. The network, with terminals in post offices, telecommunications buildings and banks, now has a total length of 18,100 m.