

**Zeitschrift:** Technische Mitteilungen / Schweizerische Post-, Telefon- und Telegrafienbetriebe = Bulletin technique / Entreprise des postes, téléphones et télégraphes suisses = Bollettino tecnico / Azienda delle poste, dei telefoni e dei telegrafi svizzeri

**Herausgeber:** Schweizerische Post-, Telefon- und Telegrafienbetriebe

**Band:** 50 (1972)

**Heft:** 1

**Rubrik:** Summaries and notices

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p 2...10

## Automation and Data Processing at the Telephone-cable Test Department

H. Kühne, Berne  
H. Schaudt, Brugg

For some years Swiss cable manufacturers have been using automatic measuring equipment for electrical tests of telephone cables. Previously the many different routine tests of 2400-pair (1200-quad) cables involved considerable expenditure of time and personnel. Digital recording and processing of test results by a computer not only saves time, but also offers a number of other advantages. For quality control of their cables 'Kabelwerke Brugg Ltd' use a free-programmable computer which processes the test results from the automatic measuring equipment and calculates splicing tables on the basis of the individual cable data.

*An English translation of this article will be published in one of the next issues*

p. 11...21

## Electrical Interference from Phase-controlled Rectifiers of Railway Engines

H. Meister, Berne

Modern ac railway engines are equipped with dc motors fed by phase-controlled rectifiers. The harmonics produced by these engines often interfere with nearby telecommunication plant. The present article shows how these interferences arise, what influence they are likely to have on telecommunication plant, and by what means they can be sufficiently eliminated.

p. 22...30

## New Automatic Morning and Alarm Call System in Zurich

R. De Sassi, Zurich

On 30 June 1971 a large electronic installation for automatic morning and alarm calls to 5,600 telephone users was put into operation at Zurich. This plant not only relieves the manual service of both the acceptance and execution of a substantial number of orders, but also facilitates the handling of calls which have to be dealt with by the operator. The author describes the input, output and storage functions of the system, reports on operational experience, discusses statistical data and outlines future developments.

## News Items

### Posts

At the Berne Giro Office a **small computer** has been put into operation on a trial basis. Although amounts from accounting documents have to be read in manually as before, it is hoped that the efficiency of the service can be improved to some extent. Calculations will show whether it is economical to introduce more of these processors before the planned automation of the entire Giro service.

In December 1971, **radio telephone service** was introduced between **postal coaches and control centres in the Chur and St. Moritz regions.**

### Telephone

On 15 November 1971 the **Zurich-Engelstrunk exchange** was put into operation. The processor-controlled plant has a capacity of 11,000 incoming and outgoing lines.

On 19 October 1971 the **largest public call office of Switzerland** was opened at Zurich main railway station. The facilities in two new rooms include 5 operator's positions for 35 telephone booths, 2 telephone booths for picture transmission, and 1 telex booth.

On 1 November 1971 Switzerland was operating **69 overseas satellite circuits**, that is  $\frac{1}{3}$  more than at the beginning of last year. Of these channels 8 are used by Radio-Suisse Ltd, and 61 by the PTT. Satellite links are available to Argentina, Brazil, India, Iran, Japan, Canada, the USA and Australia.

In July and August 1971, **international calls from Switzerland** reached 28.3 million chargeable minutes. ISD calls amounted to 66.6%, having risen by 10% on January of the same year.

### Telegraphs, Telex

With the connection of primary offices Zurich and Berne to the **ATECO telegram switching system**, the third introductory stage has been completed. The processors now handle 75% of the traffic.

On 6 November 1971, **semi-automatic telex service to Morocco** was opened over 5 direct circuits.

On 5 November 1971, Radio-Suisse Ltd opened **direct telex service to Kuwait** over two satellite circuits passing through Rome.

## Radio, Television

On 18 November 1971, **an additional 8 local VHF radio broadcasting stations** were put into operation; 5 of them relay the German-spoken, and 3 the French-spoken Swiss programmes.

In November and December 1971, chain 3 of the **Swiss TV main transmitter network** was extended by 6 stations, 4 relaying the Italian-spoken, and 2 the French-spoken programme. In the same period 13 transponders were added to the **TV network covering German-speaking Switzerland.**

## Miscellaneous

In October and November 1971, **bilateral discussions** were held in Berne between representatives of the German Bundespost, the Austrian and French PTT administrations and the Swiss PTT. At these meetings the demand for transmission facilities was re-examined, with a view to enabling the administrations to adapt technical plant to traffic requirements. Tariff questions were also raised.

In accordance with a CEPT recommendation Swiss PTT have since 1 October 1971 been remunerated for **telecommunication transit** on the basis of **facilities provided**. In turn, Switzerland has for some time been remunerating Belgium, Germany, France, Italy and Spain on the basis of a rental charge. This method replaces the settlement of accounts by call minutes among CEPT members.

On 15 November 1971 an **agreement** was signed in Moscow on **the establishment of an international satellite communication system and organization**. INTERSPUTNIK, which will be similar to INTELSAT, is intended mainly for Eastern Europe. Other countries wishing to participate are to be included in the agreement at a later stage.

On 11 November 1971, representatives of the French and the Swiss PTT signed an **agreement on the Super-CERN telecommunication facilities** at Geneva-Meyrin. Most of the CERN and Super-CERN plant is, or will be, situated on French territory. Under the agreement Switzerland will manufacture a private exchange for connection to the Swiss telecommunication network, while France will be supplying the subscriber's cables.