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### Direct international dialling

by G. Baggenstos, Berne

The introduction of international dialling by the subscriber is a rationalization measure suggesting itself in view of the tight labour situation and the progress of communication technology. The realization of such a far-reaching project involves major technical adjustments of the network layout as well as the equipment of the automatic exchanges. Therefore access to the international subscriber dialling system has had to be provided by stages. In spite of fully automatic international telephone service, telephone operators will continue to be employed for manual and semi-automatic services, but thanks to the rationalization measures taken it will be possible to maintain the number of female staff at the present level.

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### Basic principles and techniques of direct international dialling

by K. Bohren and O. Studer, Berne

In devising a direct international dialling system, the conditions of the existing fully automatic network had to be duly considered. Metering devices for international calls are to be found only in the primary centres of the different numbering plan areas, from where impulses are transmitted to the individual exchanges over circuits. Charge marking and route control are concentrated upon the routing registers in the nine tandem exchanges of Switzerland, so that only minor adjustments are necessary for the numerous registers of the local and rural exchanges. Details required for international accounting are recorded on magnetic tape. Telephone calls to neighbouring country areas adjacent to the border will continue to be handled mainly via special circuit groups, national area codes being used for these calls.

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### The Signalling Systems in the International Exchange

by D. Förster and W. Zimmermann, Albiswerk Zurich AG, Zurich

Customary line and register-signals for international long distance traffic, as well as CCITT systems and the MFC system are described.

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### The International Trunk Dialling System ESK A64

by O. Waas, A. Schnorff and R. Fornara, Albiswerk Zurich AG, Zurich

The international trunk dialling system ESK A64 meets all the requirements of the world numbering and routing plan. Incoming,

outgoing and transit connections may be built up by using the standardized international signalling systems CCITT Nr. 4, 5 and R2 (MFC). For international subscriber dialling metering pulses and data for call account between administrations are provided. The system is controlled by an electronic processor using a stored programme.

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### Recording of conversation time

by J. Zaugg and K. Messerli, Autophon AG, Solothurn

Conversation time recording-devices are used for accounting in the fully automatic international telephone service. They record call details on magnetic tape and thus replace the preparation of tickets. Accounting is done by means of computers in the PTT Electronic Computing Centre. This article deals mainly with the technical solution adopted.

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### Call charges and international accounting

by K. Lüthi, Berne

Charges for international telephone calls are established on the basis of international regulations and recommendations. They are to be fixed so as to cover inland costs and compensate foreign administrations for the use of circuits and facilities in their respective countries. The compensation is calculated on the basis of the chargeable telephone calls exchanged, which are registered by the conversation time recorder.

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### The Effect of International Self-dialling on the Number of Operators Required

by A. Hubacher, Berne

In spite of the introduction of international self-dialling, telephone operators have not become superfluous, as now the number of international inquiries is increasing. Moreover, the operator still has to handle manual calls requiring special attention, or calls to countries that for some time will not be connected to the automatic service. Therefore, the number of staff cannot be reduced in proportion to the extension of self-dialling. As the demands on the switchboard operator are increasing, special attention is paid to her training, above all in languages.

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### Operational aspects and problems

by W. Jucker, Berne

This article gives a brief survey of the present development of the international telephone service and of the problems posed by

route control, the different types of circuits available, and the quality of service to be provided. Constant technological progress makes it possible to improve telephone connections and to reduce call charges.

## News Items

### Posts

The **Postal Passenger Service brochure**, commissioned by the PTT Motor Vehicle Division and designed by the graphic artist E. Hänzli, has been **distinguished** as being the best foreign publicity and information prospectus published in 1970, and awarded the **Golden Mailcoach** by the Editor of the German periodical «Der Fremdenverkehr».

### Telephone

Thanks to a **Lincompex installation**, semi-automatic working is now possible on the **radiotelephone links Berne-Tel Aviv** (Israel). Owing to more favourable signal/noise ratio, better intelligibility is achieved; moreover, both parties can speak and hear each other at the same time.

**Semi-automatic service** has been introduced **between Switzerland and Brazil** over the two satellite links.

In **Basle a fire-department alarm-system** for 1080 members connected to nine local exchanges has been installed. The fire-men can be called up for service in nine companies.

### Telegraph, Telex

By **adding a further circuit** to be used for voice-frequency telegraphy **between Zurich and Montreal**, the number of telegraph channels available for traffic to Canada has been raised to 46.

### Radio, Television

In Switzerland **371,987 radio sets and 168,777 television sets were sold** and 23,700 wire broadcasting receivers were produced in 1970.

### Miscellaneous

Last year, **payments of the PTT to the Swiss economy** for deliveries and services of all kinds amounted to 1,300 million francs, a rise of some 150 million on the previous year.

After **deliberations** concerning the **revision of the PTT Agreement**, held at Vaduz from 10th to 12th February, it was decided that the Swiss PTT should continue to take care of the postal and telecommunications services in Liechtenstein, while the Principality would from now on be in charge of its radio and television service.