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News Items

Telephone

17 further *Natel C* base stations and seven base stations for *Natel D GSM* were put into operation.

Teleinformatics

16 digital (12 × 64/56 kbit/s, 1 × 128 kbit/s, 2 × 512 kbit/s, 1 × 768 kbit/s) and three analogue *leaselines* were put into operation via the leaseline control center.

Radio, Television, Radiocommunications

The following fixed *microwave radio links* were put into operation: for the *Concise – Yvonand* regional network with a transmission capacity of 140 Mbit/s (SDH/155 Mbit/s), for the feeding of *Lauerz – Rigi* and *Kaiserstuhl (D) – Weiach* *Natel C* base stations (4 × 2 Mbit/s each), for a *Basel/Grosspeter – Münchenstein* lease-line (4 × 2 Mbit/s). The *Wassen – Wassen/Bahnhof* (2 Mbit/s) temporary connection was put into operation in the same period for about 11 weeks and *Zurich/Selnau (via Lägern) – Regensdorf* *Natel base station* (4 × 2 Mbit/s) for approximately eight months.

The following Intelsat connections were newly put into operation via the *Leuk satellite earth station*: one voice circuit of the SSTDMA type (Satellite Switching Time Division Multiple Access) with *Singapore* (Satellite 60° E), six connections of the IDR Type (Intermediate Data Rate) with *Yemen* (60° E) and four FDMA voice circuits (Frequency Division Multiple Access) with *Mali* (335.5° E).

The programme of *Swiss Radio International* (SRI) is now broadcast over the *Intelsat-K* satellite, too, since the change over to the summer schedule. The satellite at the 338.5° east position supplies the eastern half of North America, Central America and the densely populated east coast of South America on the 11.605 GHz frequency. For the time being, it is still the Europe programme which will be broadcast over Intelsat-K. It is identical to the programme transmitted via the Astra 1A satellite.

Nine further FM stations were definitely put into operation on the *Heimersberg, Höfen* and *Leissigen* stations in the Bernese Oberland region. The Heimersberg station (DRS 1/94.6 MHz, DRS 2/97.5 MHz, DRS 3/101.0 MHz) supplies Blankenburg, Boltigen, Weissenbach and Zweisimmen, the Höfen station (DRS 1/89.5 MHz, DRS 2/98.1 MHz, DRS 3/105.0 MHz) serve the right bank of the Lake of Thun from Thun to Merligen and from Leissigen (DRS 1/87.8 MHz, DRS 2/99.1 MHz, DRS 3/104.5 MHz) the right bank of the Lake of Thun beyond Merligen is supplied as well as Habkern.

The *Kaiserstuhl* and *Monte Mondini* transmitters for the *Telepage Swiss* radio paging service were put into operation.

Miscellaneous

On the occasion of the *Telecommunications World Day* the Telecommunications Branch Association, Pro Telecom, announced that Switzerland has the greatest density of pay phones world wide, that is about eight to 1,000 inhabitants. In addition Switzerland takes a leading position also with the density of telephone-subscriber lines. With 60 lines per 100 inhabitants, it ranks second just behind Sweden. Not only in Switzerland has the importance of telecommunications constantly increased in the last century, Europe too belongs to the continents most susceptible to communications. With a population of only 15 % of the world, it is equipped with over 43 % of the telephones installed worldwide.

The training module «Basics of Telecommunications» was carried out by Telecom Technical Training Section at the *HTL Friebourg School of Engineering* as a Telecom PTT contribution to the *post graduate studies in Informatics and Telecommunications NDIT*.

The *ETSI sub working group TM 4* (Radio Relay Systems) met for the ninth time in Cagliari (I). The participants discussed the comments received to three standardization proposals concerning the bands with 30 MHz channel spacing (STM-1) as well as radio relay systems in the 23 and 38 GHz band. The appropriate corrections were made where necessary. The work group could not agree on a 128

QAM and 256 QAM modulation technology, respectively, for the STM-1 radio relay systems with 30 MHz channel spacing and orthogonal allocation. As both technologies have their advantages and disadvantages, it was agreed upon to waive a standard for the time being and only draft a technical report incorporating both systems. The SDH and the network management (TMN) reports were also amended, whereby there emerged no unanimous solution for the TMN concerning the definition of the network elements. A standard proposal was completed for radio relay systems in the 24 to 29.5 GHz frequency range which is to be presented at the next meeting of the TM 4 working group for adoption. Progress was also made concerning the standardization of point-to-multipoint radio relay systems in the 1.5 to 3.0 GHz frequency range.

The tenth meeting of the *CEPT working group FM (Frequency Management)* took place in Bergen (N). Three draft resolutions were adopted regarding DECT (Digital European Cordless Telecommunication System), Ermes (European Radio Message System) and GSM (Global System for Mobile Communication) as well as a draft recommendation about DCS 1800 (Digital Cell System) for the ERC (European Radio Committee). The forum with civilian and military participants can be marked as a historical event. Apart from representatives from NATO as well as the neutral countries there were also participants from the former Warsaw Pact countries. The aim of this meeting regarding the use of the spectrum in the different countries was to survey the actual state of affairs and to discuss further action for a common harmonization of the spectrum without political influence from outside. Finally, after lengthy negotiations for the introduction of the T-DAB (Terrestrial Digital Audio Broadcasting), the planning principles and a questionnaire for recording national requirements were adopted.