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Summaries and Notices

Summaries

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Radio Network Planning for the Swiss Mobile Telephone System Natel C

W. Geiser, Berne

The radio network planning for Natel C concerned up to now mostly the building up of the new network. The author describes the prerequisites and standards, shows the most important project steps and sheds light on the arising problems. An outlook shows that the planning work, after a first development is still not terminated by a long way.

p. 163...168

Natel C – Installing and Putting into Operation

E. Schmid and K. Metzger, Berne

According to plan, the Natel C network consists in approximately 600 base stations in its final development. The report conveys an approximate outline of the planning and setting up procedure of the Natel C stations. The functioning of the base stations, their commencement of operations and their system tests are described.

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First Operating Experiences with Natel C and Further Planning

A. Rothen, W. Eggenberger and J. Müller, Berne

As the requirement for mobility and attainability is continuously increasing and the costs of mobile apparatuses are decreasing, the market for the mobile telephone in the next years will not experience a saturation. On the basis of the development of participation, the predictions were upwardly corrected during the course of the year 1989. There are, therefore, eight further mobile telephone exchanges (MTX) planned. This requires a redistribution of the present partial networks and a new numbering plan. The Natel C system is continuously kept up to date with new functions and improvements. From 1992 onwards a new routing will be set up by the introduction of Gateway-MTX and the part of the signalizing system CCITT No. 7 for the mobile user part (MUP). For the operation, control and the maintenance, all information is gathered together in an operating centre. This information is then processed, sorted and then routed to the corresponding departments in the telecommunications managements.

News Items

Telephone

Six **new base stations** were put into operation for the **Swiss mobile telephone network Natel C** in February.

Teleinformatics

The **publifax service** from Switzerland was able to start up operation with **Yugoslavia** and **Tunisia.**

The Swiss package switching network **Telepac** consisted of 47 Network Modules and 118 Access Modules at the beginning of 1990. Approximately 7000 customers use direct connections and 5200 of them identify themselves with their Network User Identification; there are a total of 49,500 logical channels (corresponding to lease lines) in operation.

Radio, Television, Radiocommunications

Two older 300 kW medium wave transmitters on the **medium wave station Monte Ceneri-Cima** were equipped with the **DCC system (Dynamic Carrier Control)** in February. This system results in a dynamic carrier decrease, that is, the former constantly controlled carrier performance is changed between 25 and 100 % depending on modulation. Thus the side band performance remains the same so that the listener can detect no effects. In this way, by the 25 to 30 % economizing of energy, the additional costs can be written off within two years.

A new **television transmitter** in the band I was put into operation on the **Bantiger** station as a substitute for an old transmitter of the same performance. And on the **Ravoire** station two new television transmitters of the latest generation equipped with two channel tone for the German and Italian programmes were put into operation.

The present cooperation between the SRG, ORF and the ZDF in the German speaking **satellite television programme 3SAT** has been extended to the DDR television, which will result in being able to receive political and cultural programmes and as a counter action will allow time in their programming for 3SAT programmes – from Switzerland also.

In the **Leuk satellite ground station,** 5 voice circuits, **Switzerland–Turkey** via the Eutelsat I F-1 (16° E) satellites as well as 24 voice circuits, **Switzerland–Singapore** via the Intelsat VA F-12 (60° E) satellites were put into operation. In the Intelsat network, 192 voice circuits between Switzerland and the USA were switched from the analogue FDM/FM installations to the new **digital IDR system (Intermediate Data Rate).**

Miscellaneous

At the PTT research and development department in Berne, a **satellite ground station** which functions with a transmission frequency of 30 GHz and a reception frequency of 20 GHz was installed and tested. The main reflector of the antennae of the «Offset Gregorian» type has an aperture diameter of 2.4 m. Transmission experiments via the Olympus satellite are planned in collaboration with the **telecommunications main office FTZ of the German Federal Postal Administration** and the **German Research Institute for Aeronautics and Aerospace DLR.** Olympus was successfully brought into the geostationary orbit in July 1989 and has, among others, two transponders for 20/30 GHz. This frequency range has hardly been used up to now in satellite communication.