



Training in C. T. C.

The Swedish Railways have very extensive facilities for training their personnel. Training in signalling technique is given at the Signals School at Ängelholm, where entire interlocking plants have been installed and various types of signalling equipment have been got together.

The railway signalling course includes the remote control of signals by C.T.C. The training of personnel for C.T.C. maintenance was previously done at L M Ericssons Signalaktiebolag in Stockholm, but since 1963 the courses have been arranged at Ängelholm. The Swedish Railways have purchased from L M Ericsson a demonstration plant for teaching the methods of fault tracing and maintenance of C.T.C. equipment and also for instructing traffic and engineering personnel in C.T.C. operation.

(Left) Mr. Sigvard Nilsson of the Swedish Railways instructing a group of signal repairmen in C.T.C.

Equipment for Long Distance Carrier Circuit in Brazil

After lengthy planning work by L M Ericsson and the Brazilian telephone company TELEOESTE, one of the longest open wire carrier circuits in the world has been opened between Campo Grande and São Paulo.

plied by L M Ericsson. It is to be installed between Campo Grande and Corumba, about 300 miles, again on the railway's open wire line. With this latter section a direct connection will be obtainable from Brasilia via Rio de Janeiro and São Paulo to Corumba on the Bolivian border, a distance of almost 2 500 miles.

There have been many difficulties to overcome on the Baurú-Corumba section. No less than 115 filters had to be connected along the line to avoid disturbance of the railway telegraphy. Eight diesel generators were

installed for the intermediate repeater stations.

Through precision in planning and installation the quality of the telephone channels has been brought up to international standard, which is a great advance on what would be expected with untransposed line of this type and over such distances.



The carrier system is type ZAA 8 for eight telephone channels. Over a distance of nearly 500 miles the circuit runs on the only open-wire pair that exists between Campo Grande and Baurú. This line belongs to the railway and was built for telegraphy; it is an entirely untransposed 3.2 mm copper wire line with the wires spaced about 16 inches apart and follows the railway through the most desolate country.

From Baurú to São Paulo, Brazil's second city, a distance of some 220 miles, the circuit runs on open wires of very good quality belonging to Companhia Telefonica Brasileira (CTB).

The circuit is now being prolonged by the addition of a ZAAF 4 system for four telephone channels, also sup-

Mesbla is the name of the largest chain of department stores in Brazil, with branches in all important towns. L M Ericsson has delivered to the main store in Rio de Janeiro a 400-line crossbar P.A.X., system ARD 231. (Photo right).

