



CRYPTO AG

No. 3093 A

RT / CX

ONE TIME TAPE AUXILIARY DEVICE

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One Time Pad ciphering, while offering absolute security, is tedious and slow in use, and an equivalent mechanical system would therefore offer distinct advantages, such as convenience and higher ciphering speed.

The Hagelin ciphering machines can be provided with a mechanism for the production of such absolute ciphers, with the aid of a telegraph tape. This tape has to be perforated at random - for which procedure we can supply suitable equipment - and the users must be provided with identical tapes. In order to obtain absolute security the same tapes, like when One Time Pads are used, must be employed only once - hence the name One Time Tape.

For mechanical One Time Tape ciphering, our machines type CX-52 can be delivered with the auxiliary tape ciphering device installed, while users of this type of ciphering machine can install the RT/CX device themselves: all that is required is to replace the keywheels with the device, and change the lid to one fitted to the RT/CX - for which no tools except a screwdriver are needed. The RT/CX device comprises a sensing mechanism, similar to that of an automatic telegraph tape transmitter, and five guide arms, which will act on the bar drum of the ciphering machine. If correspondence is desired exclusively between type CX-52 machines, the drum bar lugs have to be set to the pattern 1-2-4-8-11, as this lug setting allows the composition of all the displacement steps for the typewheel from 1 to 26. This arrangement will thus be equivalent with the One Time Pad ciphering, with a complete 26-alphabet Vigenère table, with the One Time Tape acting as key.

It should be noted that correspondence can be obtained between One Time Pad hand ciphering and One Time Tape CX-52 installations. In this case a special lug setting will be required. For details we refer to our notice No. 3084, which deals fully with the aspects of One Time Tape ciphering, as realized in the mechanical Hagelin ciphering machines.

Where traffic is heavy, we recommend the use of the type B-52 electric drive for the ciphering machine, which will allow an operating speed of 2½ to 3 letters per second, and the ultimate in convenience.

Illustration: Fig. 093 shows a CX-52 machine, fitted with the RT/CX device, mounted on a B-52 base, for electric operation.

Encl. 1 Fig. 093.

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