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TCE-500

Secure crypto telephone - wanted item

TCE-500 is a secure narrow-band telephone set for use on standard analogue networks (PSTN), developed by Thales Norway (previously: Thomson CSF, Alcatel and [STK](#)) in 1993. The TCE-500 and the TCE-500B are approved by NATO for all level of classification and have a built-in modem.

The image on the right shows a typical Thomson TCE-500 unit, which looks like an ordinary telephone set. A Crypto Ignition Key (CIK), which is used for the protection of data and keys, is inserted at the rear right. A nice sample of this telephone is on display at the NCM (USA).

For speech encoding, the TCE-500 uses CELP at 7200bps and LPC-10 at 2400bps. As it uses the [SAVILLE encryption algorithm \[2\]](#), it is backwards compatible with the American [STU-II](#), the later [STU-II/B](#) and the Philips [Spendex 40](#).

Keys are normally loaded from the KDC on a per-call basis, but can also be loaded with [fill device](#) or manually via the keypad [\[2\]](#).

A civil version of the TCE-500 is known as the TCE-520. Although both models are cosmetically identical, the TCE-520 is **not** compatible with the American STU-II and is not NATO-approved. The TCE-500 can be used in combination with the TCE-550 Key Distribution Center (KDC). For the civil market, The TCE-560 KDC was available. We currently have no further information about the TCE-500. If you have any additional information, or a spare unit, please [contact us](#).

Branding

The TCE-500 was developed when the former STK assets were owned by Alcatel. Early TCE-500 units therefore carry the Alcatel logo. Alcatel was eventually taken over by Thomson CSF, which later was renamed to Thales. It is therefore possible to find TCE-500 units under different names:

- Alcatel
- Thomson CSF
- Thales

Technical specifications

- 2 or 4 line full-duplex operation
- DTMF or pulse-dialling
- CELP speech encoding 7200 pbs (auto fallback to 4800/2400 bps)
- LPC-10 speech encoding
- Data V.24, 1200, 2400, 4800 and 9600 baud
- Tempest: ASMG-720
- Compatibility: STU-II and compatible devices
- PSU: 20-250V (auto-range), AC/DC, 8W (operation), 4W (standby)
- Dimensions: 110 x 308 x 248 mm

Cryptographic algorithms

- [SAVILLE](#)

Contact

- Alcatel proprietary
- Customer specific

Links

References

1. [NATO Information Assurance, TCE 500B](#)
Last updated 13 July 2010. Retrieved June 2012.
2. [Jane's Military Communications, TCE 500/TCE 520 Secure Telephone](#)
ISBN 0-7106-1163-3. Fifteenth Edition, 1994-1995. p. 532.

Further information

- [Other STK/Alcatel/Thomson/Thales crypto devices](#)
- [Other secure phones](#)

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