

# STEALTH 2390 CRYPTONE

*Encrypted DV Speaker Microphone*

# 2390



**CRYSTAL CLEAR DIGITAL VOICE QUALITY  
OVER HF RADIO COMMUNICATION LINKS**

## KEY FEATURES

- ▶ AES 256 Encrypted Digital Voice
- ▶ Easy Set-Up and Operation
- ▶ Cost Effective and Maintenance Free

[www.stealth-tele.com](http://www.stealth-tele.com)

APPLICATION

The Stealth 2390 CrypTone addresses a high quality communication requirements of organizations engaged in homeland security, military and civil market segments. The 2390 is a secure speaker-microphone designed for easy connection with most brands of HF, VHF and UHF radios. Powered by the latest technology DSP platform, the 2390 CrypTone eliminates the traditional voice quality problem in the HF SSB radio communication links.

DIGITAL VOICE

The 2390 CrypTone is a digital voice coder (Vocoder) that uses state of the art Mixed-Excitation Linear Prediction (MELP) . This technology was developed for reliable digital voice communication over narrowband radios operated through highly distorted and multipath fading HF SSB radio channels, in which analogue voice fails. The voice signal in the digital format can be transmitted utilizing less bandwidth, making available RF-power used more effectively. At the receiver end, the digital signal is decoded without background atmosphere statics and industrial noise detection. Depending on propagation conditions, quality of voice can be optimized by the user through selection between fixed 600, 1200 and 2400 bps speed rates. Incoming signal data speed rates are detected automatically. This technique facilitates very robust voice link, capable of penetrating through very low SNR channels, and through interfering signals with exceptional quality of audio.

EMBEDDED ENCRYPTION

The 2390 CrypTone is not only upgrades analog radios to operate in digital voice (DV) mode, but encrypts digital voice data with the FIPS-197 certified Advanced Encryption Standard (AES), recommended for handling highly sensitive information. The 2390 CrypTone comes preloaded with 16 keys, which can be reloaded by the Key Loader software included. It units can also be field-reprogrammed using secure Over-The-Air-Reprogramming (OTAR), eliminating the need to take radios out of operation. The Multiple Key feature enhances security by remote disabling (Radio Kill) of any lost or stolen radio from continuing receiving messages.

NO LOST AUDIO

Audio in the CrypTone 2390 is converted to digital data immediately and buffered until ready to transmit, so the audio message is always complete, from start to finish. The operator does not need to be trained to wait to begin communications after pushing PTT. This feature ensures no loss or miscopying of critical information.

EASY TO INSTALL AND USE

The 2390 is compatible with all types of HF/VHF and UHF narrowband radios. The CrypTone Secure Speaker Microphone connects to the radio through an accessory connector located on its rear panel, using appropriate adapter cable. Power is supplied from the radio via the same connector. Mode and Status is indicated via multicolor LED. Operating the unit is always fast and simple: Push-To-Talk. Reliably! Securely!!

GENERAL SPECIFICATIONS

Vocoder	MELPe 600/1200/2400 bps
Subcarrier Frequency	1350 Hz
Channel Modulation	8PSK simplex
Interleaver	360 ms
Frequency Drift Compensation	±30 Hz, 1 Hz/sec
Symbol Speed Mistiming Compensation	±100 X 10 <sup>-6</sup>
Multipath/Fading Compensation	0...5 ms, 3..8 Hz
Audio Processing Delay	≤1.5 sec
Input Audio	600 Ohm (balanced or unbalanced)
Output Audio	600 Ohm (balanced or unbalanced)
Built-In Speaker Power	1 W / 8 Ohm
Supply Voltage	5...36 V DC (ESD, over current and reverse polarity protected)
Connections	9-pin Male T707 Audio Connector
Installation	Plug-In (via Radio Accessory Connector)
Operating Temperature Range	-30° to +60° C, 95% humidity
Ingress / Environmental Protection	IP54, MIL-STD-810G (dust, shock, vibration)
Weight and Dimensions	225 gr, L78mm x W60mm x D30mm
Color	Black

Note: Specifications may change without prior notice.

SECURITY SPECIFICATIONS

Encryption Method	AES 256 bit (2 <sup>256</sup> = 1,16 × 10 <sup>77</sup> Combinations)
Stored Keys, max	16
Key Loading	Via PC (RS-232/USB) or OTAR (Q4/2015)
TX Coded / Clear	Manual Select ( with LED indication)
TX Data Rates Change	Manual Select (with LED indication)
RX Coded / Clear	Automatic (for digital and analogue voice)
RX Data Rates Change	Automatic (600, 1200 and 2400 bps)
Silent RX	Speaker mute / bypass to headphones jack

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STANDARD PACKAGE

□ 2390.B18.001	CrypTone 2390 Main Unit
□ 2390.D50.001	CD (User Manual, Key Loader, CPS2390)
□ 2390.B18.002	Belt Clip

OPTIONAL ACCESSORIES

□ 2390.B18.003	USB-to RS-232 Adapter Cable
□ 2390.B17.101	Universal (Free End) Adapter Cable
□ 2390.B17.102	Adapter Cable CODAN NGT
□ 2390.B17.103	Adapter Cable BARRETT
□ 2390.B17.104	Adapter Cable MICOM
□ 2390.B17.105	Adapter Cable ICOM
□ 2390.B17.106	Adapter Cable VERTEX
□ 2390.B17.107	Adapter Cable (CUSTOM)
□ 2390.B45.001	Supply of Cryptone 2390 equipped radio (Service Order)

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