



MultiCom Messenger Modern messaging for HF/ VHF/UHF networks

Modern messaging systems must ensure reliable connections even under the most adverse conditions. The MultiCom Messenger application is Crypto AG's answer to this challenge. It is a software application that is installed on Windows-based PCs and laptops. Combined with the appropriate data encryption application of the MultiCom HC-2650, MultiCom Messenger provides a robust and secure message (e-mail) encryption for all peer-to-peer and broadcast radio communication.

Key Features

- Cost effective HF-Messaging using standardised e-mail tools and protocols.
- Simple to use, flexible user environment, compatible with standard e-mail clients.
- All-in-one solution for Voice, Data and Messaging using the HC-2650 encryption unit.
- Scalable, easy to configure and easy to expand.
- Standardised access points according STANAG 5066 allow the integration of further applications (customer or Crypto AG supplied).
- Robust: construction for high availability in demanding HF and V/UHF communication environments.
- Reliable, effective transmission by use of ARQ and/or broadcast protocols.
- Optional MultiCom Messenger Gateway for the integration of the messaging over radio into standard e-mail networks.

The MultiCom Messenger complements the MultiCom Radio Encryption HC-2650 units to provide a fully equipped and secure messaging system (e-mail) over narrowband HF and VHF/UHF channels. Implemented on standard PC hardware, secured by the MultiCom HC-2650 voice, data and IP encryption units, it forms an integral part of the MultiCom application family for mobile, ruggedised communication for navy, army, air force and other deployed services.

The system is based on the NATO Standard STANAG 5066, which defines advanced protocols for ARQ and broadcast transmission over radio networks. STANAG 5066 was especially developed for the varied and often challenging conditions encountered in HF transmission and was chosen by Crypto AG for its power and flexibility.

The modular design allows a configuration to be easily customised to suit your needs. The messaging platform can either be a commercial or ruggedised notebook or a standard PC. On this platform you can

have the MultiCom Messenger application software or the MultiCom Messenger Gateway application software running. The MultiCom Radio Encryption HC-2650 unit with its built-in modem or an external modem provides the necessary encrypted communication.

MultiCom Messenger

The following technical data applies to the MultiCom Messenger product. The MultiCom Messenger can be configured on a single workstation for standalone operation or with other PCs in a networked environment.

User interface

- Standard e-mail client user interface
- Compatible with standard e-mail clients Thunderbird, Microsoft Outlook and Outlook express
- Mixtures of all e-mail clients in a network possible
- Attachments possible using the standard e-mail client capabilities
- User may receive confirmation of reception at remote node with ARQ
- User may receive confirmation of message having being sent in Non-ARQ mode
- Mail read flag may be set to achieve end-to-end reception from mail user to mail user

Inbuilt Mail-Server Software

- Standard POP3 and SMTP protocols for mail client connections
- Configurable e-mail size restriction for avoiding the inadvertent blocking of communications by very large e-mails
- User node check before transmission avoids incorrectly written e-mail domain addresses
- Separate ARQ and Non-ARQ e-mail addresses for each user

Minimum operating system & hardware requirements

- Windows XP with 1.2GHz Intel or AMD, 512MB RAM
- Windows 7 with 1.2GHz & 2GB RAM

PC Hardware interfaces requirements (STANAG 5066 output)

- Serial port capable of half duplex hardware handshaking
- Asynchronous data settings configurable. Typical HF settings, 19200 baud, no parity, 8 data bits
- Higher data rates for VHF/UHF as required up to 115200 baud

MultiCom Messenger Gateway

The following technical data applies to the standard product MultiCom Messenger Gateway. The Gateway complements and works together with other MultiCom Messenger nodes.

Connectivity

The MultiCom Messenger Gateway is capable of connecting and routing e-mails in various ways, depending on how it is configured.

- Compatible with standard e-mail servers using SMTP protocol
- Connection via LAN/WAN to other MultiCom Messenger Gateways managing other STANAG networks, or simply via e-mail servers that do the routing
- Incoming e-mails may be routed to one or more e-mail servers according to the domain name in the e-mail
- Connection over radio networks to other MultiCom Messenger Gateway networks
- Connection over radio networks to standard MultiCom Messenger stations
- Control of multiple STANAG servers controlling different radio networks

User interface

- E-mail clients running on a standard e-mail server are used as a standard user environment
- The infrastructure and e-mail lists present are simply expanded for the secure e-mail transmission via the HC-2650 and radio connection of MultiCom Messenger Gateway

Gateway Mail Server

- Standard SMTP protocol (PUSH) for direct mail transfer to and from e-mail server(s)
- User node check when mails are sent to the end radio user

Operating system requirements

- Windows XP, Windows 7

Common Properties

MultiCom Messenger and MultiCom Messenger Gateway products have the following common properties:

Data Communications Software

- STANAG 5066 based data transfer
- Dynamic choice of ARQ, Non-ARQ or broadcast mode – mixed transmission modes to different users possible even from the one e-mail
- ARQ mode transmission ensures fault free transmission to the end user, as well as the option of delivery acknowledgement to the far end mail server
- Non-ARQ mode enables transmission of the message to users that only have receive capability (cost effective receive-only infrastructure) or are temporarily not allowed to transmit (EMCON/Radio Silence)
- Broadcast messages to groups of users on different nodes reduces on-air time, and enables simultaneous delivery to all users
- Open architecture allows other applications developed by Crypto AG or the customer to be added at a later date

Compatible HC-2650 applications

The following HC-2650 applications are necessary for the data encryption.

- D-2650 with internal modem and/or
- D-7665 for external modem or radio capable of data transmission

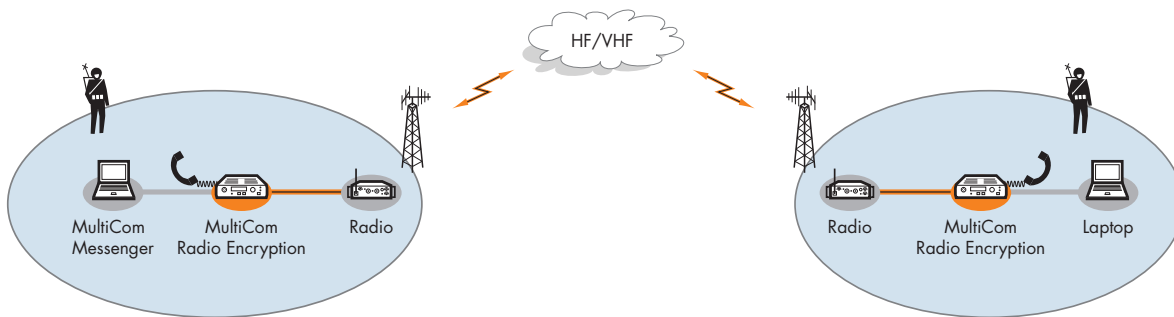
MultiCom Messenger

The MultiCom Messenger application is a software package that is installed on Windows based PCs and laptops. Together with the appropriate data encryption application of the MultiCom HC-2650 (data application D-2650 or data application D-7665), it provides a secure message (email) encryption for all peer-to-peer and broadcast radio communication. The delivery consists of two system components:

- The windows application software: A CD-ROM containing an e-mail client, a dedicated e-mail server and the STANAG 5066 based radio communication server and protocol.
- The matching control software in the HC-2650 encryption unit.

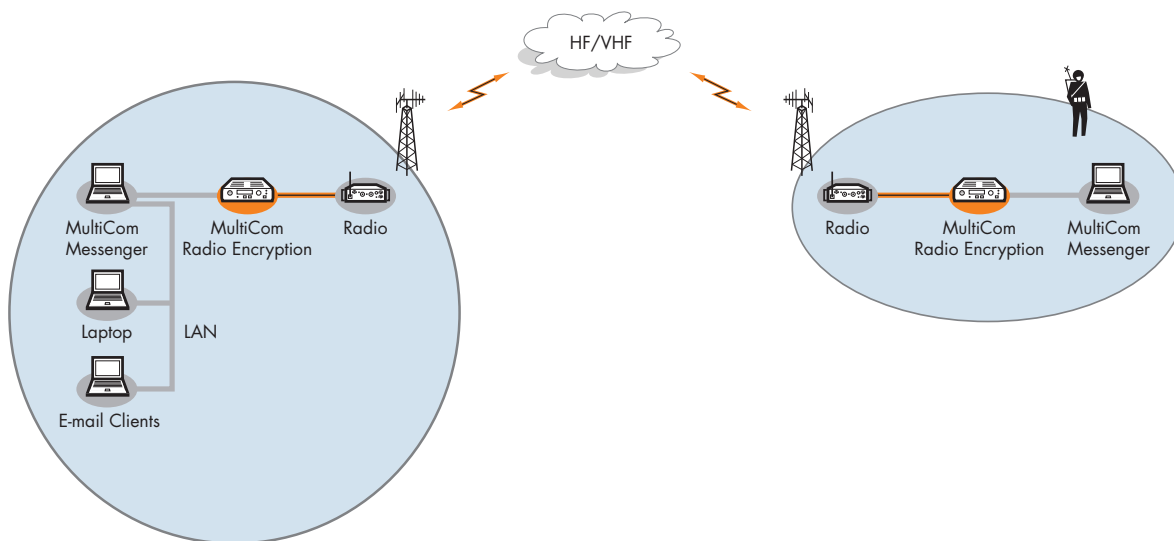
Compact system for voice, e-mail and file transmission

The simplest application is the point to point connection, where all software modules (mail client, mail server and STANAG 5066 server) are integrated onto one single PC. Here, the MultiCom Messenger can be combined with voice applications, providing a flexible, compact system capable of voice, e-mail, file and picture transfer. This is an ideal and compact package for voice and data where traffic levels are low.



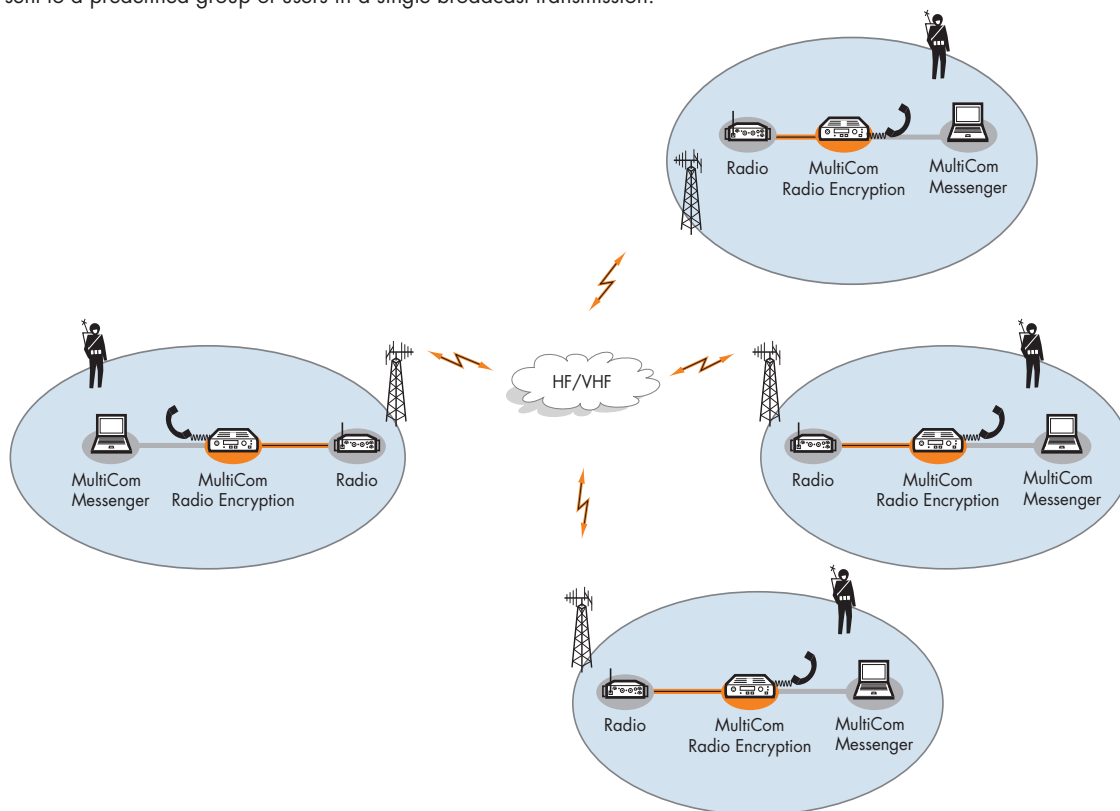
Scalable nodes

The simplest MultiCom Messenger node can be easily expanded to have one or more e-mail clients. The system provides a simple internal e-mail service also capable of forwarding e-mails internally in the node. Each user has a separate e-mail account, and has the connection to other nodes via radio.



Scalable and flexible system

The MultiCom Messenger can be expanded node by node to provide a network of independent nodes. A message using broadcast mode can be sent to multiple users. This saves time – instead of sending e-mails to multiple users, and having the transmissions occurring one after the other, the e-mail can be sent to a predefined group of users in a single broadcast transmission.



MultiCom Messenger Gateway

The most powerful option of the MultiCom Messenger suite of products is the MultiCom Messenger Gateway. This is an expansion to the MultiCom Messenger system which can directly connect to a standardised e-mail server. Thus, the user with a MultiCom Messenger in the field has access to and is accessible from hundreds or even thousands of users. All incoming e-mails from the radio are forwarded to the standard e-mail server for storage, archiving and of course further forwarding to the final recipient. The MultiCom Messenger Gateway can serve multiple radio networks each with its own separate STANAG 5066 stack. For large numbers of radio networks, multiple MultiCom Messenger Gateways can be combined to connect to a virtually unlimited number of radio networks.

