



## Fax Encryption HC-4221

**Even in this age of the Internet, the fax machine has remained an indispensable means of communication because of its speed, simplicity and reliability. Faxes are also virtually unequalled when it comes to sending documents in a manner which is legally binding or which preserves their legal character. However, phone and fax communication is easy to tap. If you have sensitive information to fax, you must encrypt it to protect it from the prying eyes of others! Crypto AG offers you a tried and tested encryption product based on the highest cryptographic standards to do just that: Fax Encryption HC-4221. With the colour option you can also securely fax in colour.**

The Fax Encryption HC-4221 is a desktop unit which is so simple to operate. It offers encryption at the press of a button. All you do is connect it with a cable between your fax and the wall socket for your phone. It is virtually a plug-and-play unit so it is easy to put into operation. The black-and-white compatible colour option allows you to upgrade your system successively to colour fax communication.

The Security Architecture from Crypto AG provides maximum security for your fax communications. Encryption is done in a separate encryption hardware module. In the process, you use exclusively symmetrical and secret algorithms profiled by your security manager. Attacks from the internet are thus excluded.

With the multi-key system, you can define any hierarchically arranged user groups within which the members are enabled to communicate with each other. The optional Key Handling Centre KHC-1500-4000 is a great help to you in this regard. It is a user-friendly application that allows you to distribute keys offline or conveniently (and

less expensively) online, i.e. directly over your fax line. All operations proceed at the same level of security as is afforded to your communications.

### Key features

- Compact and robust desktop unit for easy connection between your fax and your phone/fax wall socket
- Compatible with all G3 and Super G3 fax machines
- Colour option enables transmission of coloured documents
- Easy to put into operation and use, with changeover from plain text to encryption at the press of a button
- Encryption adapts automatically to the possible transmission speeds
- Encryption is done in a separate hardware security module, making it impossible for secure data and keys to be accessed
- Keys are distributed in a user-friendly manner using key distribution cards/ smart cards or online, i.e. directly over your fax line (downline loading) using the Key Handling Centre KHC-1500-4000

## General data

### Operation mode

- Fully automatic at send and receive side
- Selectable PLAIN and CRYPTO
- Fax transmission according to CCITT G3 recommendations including Error Correction Mode (ECM)
- Automatic ciphered/plain documentation marking

### Communication

- 2,400...14,400 bps with automatic fallback depending on line quality
- Suppresses non secure G2 fax communications
- Works with any Super G3 or G3 fax unit

### Interfaces

- 2-wire balanced
- 2-wire balanced
- Line:  
Transmit level: 0...-15 dBm selectable  
Receive level: 0...-43 dBm automatic adjustment
- Fax:  
Output level: -9 dBm  
Input level: 0...-20 dBm

### Dimensions

- 221 x 62 x 286 mm W/H/D

### Weight

- 2.3 kg (without AC power adapter)

### Power supply

- 10...36 V dc direct or 90...264 VAC via external AC Power Adapter

### Power consumption

- < 15 VA

### Test

- Permanent built-in selftest

### Approvals

- CE (European conformity)

### Quality assurance

- ISO 9001:2000)

### Safety

- EN 60950-1

### Telecommunication

- CTR-21 including all advisory notes

## Cryptographic data

### Algorithm

- Customer-specific cipher algorithm
- Customer managed profiling of algorithm by CMP with variety  $> 10^{154}$
- Backward compatibility to HC-4220 and earlier generation of CRYPTOFAX® models

### Key variety

- Communication key  $> 10^{38}$
- Initialisation vector  $> 10^{19}$

### Key memory

- 256 communication keys (active, spare, expired)

### Key entry

- Manually via keyboard or chip card or automatically via down-line loading from Key Handling Centre KHC-1500-4000

### Access protection

- Algorithm, keys and parameters are stored in an encapsulated, tamper-proof security module
- Access to unit protected by user password

## Environmental data

### Reliability

- MTBF: >100,000 hrs
- MTTR: < 2 hrs

### Environment (MIL-STD 810E)

- Operating temperature: +0 °C...+50 °C
- Storage temperature: -20 °C...+70 °C
- Humidity: 95% (RH) at +50 °C, non condensing
- Vibration: 10 Hz ... 150 Hz/1g (according to IEC-68-2-6)

### EMC

- Conforms to EN 55024 and EN 55022 class B

### Safety

- Conforms to EN 60950-1

## Accessories

(Included in the delivery)

- ACpower adapter: 90...264 Vac
- Line cables: 1 m + 3 m
- 2 junction boxes
- Installation and operating manual
- Surge protection

## Options

- Colour option for enable transmission of coloured fax messages

## Fax Systems

