

FACSIMILE TRANSCEIVER

HELLFAX KF 108



for the copy-true reception and transmission of printed
or handwritten records over normal telephone circuits

Facsimile equipment lends itself to a variety of applications within the general field of communication engineering. Although it is not supposed to challenge the well established position of teleprinters or picture telegraph equipments in their particular domain, it may be used to good advantage in those cases where the cost of a teleprinter would not be economically justified or where skilled operating personnel is not available. It will, of course, be indispensable if a true monochrome duplicate of the original copy is the determining factor. In most cases the transmission of black and white, without the various intermediate shades (gray, etc.), should be fully adequate. Typical applications are the transmission of handwritten or typed information, filled-in forms (telegrams, cheques, waybills, etc.), signatures (for verification purposes), simple drawings and non-Latin characters (e. g. Arabic).

The HELLFAX KF 108 has been designed to meet all of these requirements. It is a combined send/receive unit with a photoelectric scanning system (exciter lamp and photoelectric cell). The electronic system has been so rated as to permit operation over any telephone circuit affording satisfactory voice transmission.

The transceiver is powered by a synchronous motor and synchronization between two interoperating equipments is accomplished by the power frequency.

The electromechanical recording system, printing wheel viewed through magnifying glass



A NOVEL FEATURE IN FACSIMILE OPERATION is the recording principle adopted for the HELLFAX KF 108

For the first time in facsimile recording, use is made of an electromechanical printing system. The sharply defined individual dots are printed by means of a continuously re-inked tiny printing wheel. The decisive advantage of this recording process lies in the fact that ordinary writing paper may be used, no further processing of the paper is required, and no smoke and objectionable odour are generated.



Depression of a pushbutton initiates transmission process

Special advantages afforded by the HELLFAX

Simplicity of operation

The original copy to be transmitted is wrapped around the drum, connection with the distant station is established over the telephone, transmission is started by depressing a pushbutton.

At the receiving end, a blank (ordinary writing paper) is wrapped around the drum and the pushbutton "Rec." depressed.

Transmission and stopping of motor at the end of the message are accomplished on a fully-automatic basis.

Speed of service

With a copy completed to the limit of the usable area by means of a typewriter with close letter spacing, the writing area will be covered by approx. 3,000 characters.

In this case the transmission time will be approx. 3½ minutes. This corresponds to a transmission speed of about 850 characters per minute (a teleprinter transmits 400 characters per minute).

Transmission of messages which do not cover the entire usable area takes even less time. This is accomplished by the use of a displaceable limit switch.

Dependability

As a result of the high definition, 2500 dots per square centimeter, interference may, at the worst, slightly impair the readability but never produce false characters.

Copy-true reproduction

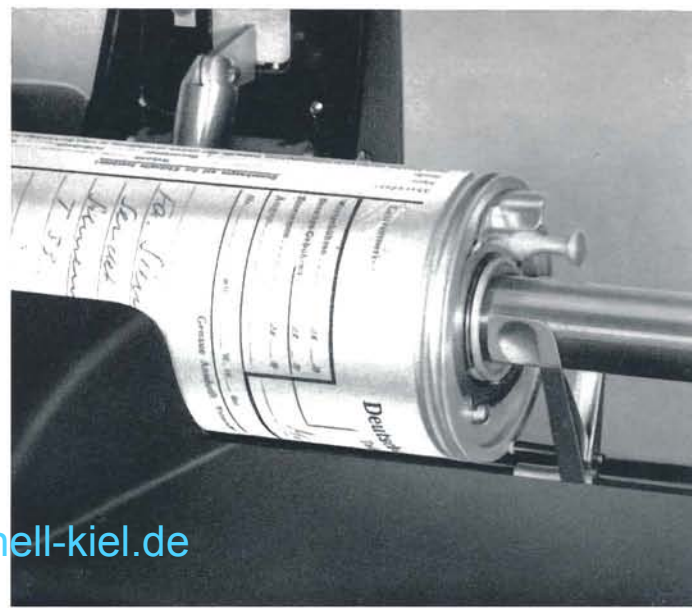
Since the facsimile method is related to phototelegraph, the received copy is an exact replica of the transmitted original.

Reproduction is always in one color only (violet) although the original may be printed in several shades.

Economy

Since transmission is fully automatic, the operator need not be in attendance and is therefore free to accomplish other tasks. The paper is normal writing paper and therefore much less costly than the otherwise required electrosensitive paper. The paper costs, which account for a substantial portion of the operating costs of machines using electrosensitive paper, are reduced to a small fraction by the use of the HELLFAX.

A displaceable limit switch permits savings in transmission time



Technical Characteristics

Paper size	210 × 148 mm (8.27 × 5.83 in.)
Usable area	190 × 138 mm (7.48 × 5.43 in.)
Transmission time	approx. 3½ minutes
Speed of drum	187.5 r. p. m.
Diameter of drum	68.5 mm (2.7 in.)
Index of cooperation	342.5
Drum feed	127 lines per inch
Definition	25 dots per sq. mm
Carrier frequency	1850 ± 50 cps
Maximum dot frequency	1250 cps
Output level	+ 0.87 db (0.8 v. across 600 Ω)
Input level	0 to —26 db (adjustable)
Minimum input voltage	40 millivolts
Drive system	synchronous motor
Operating voltage	220 v., 50 cps
Power consumption	approx. 120 va
Dimensions	width 530 mm (20.8 in.) depth 300 mm (11.8 in.) height 270 mm (10.6 in.)
Net weight	approx. 15 kg (32 lb.)