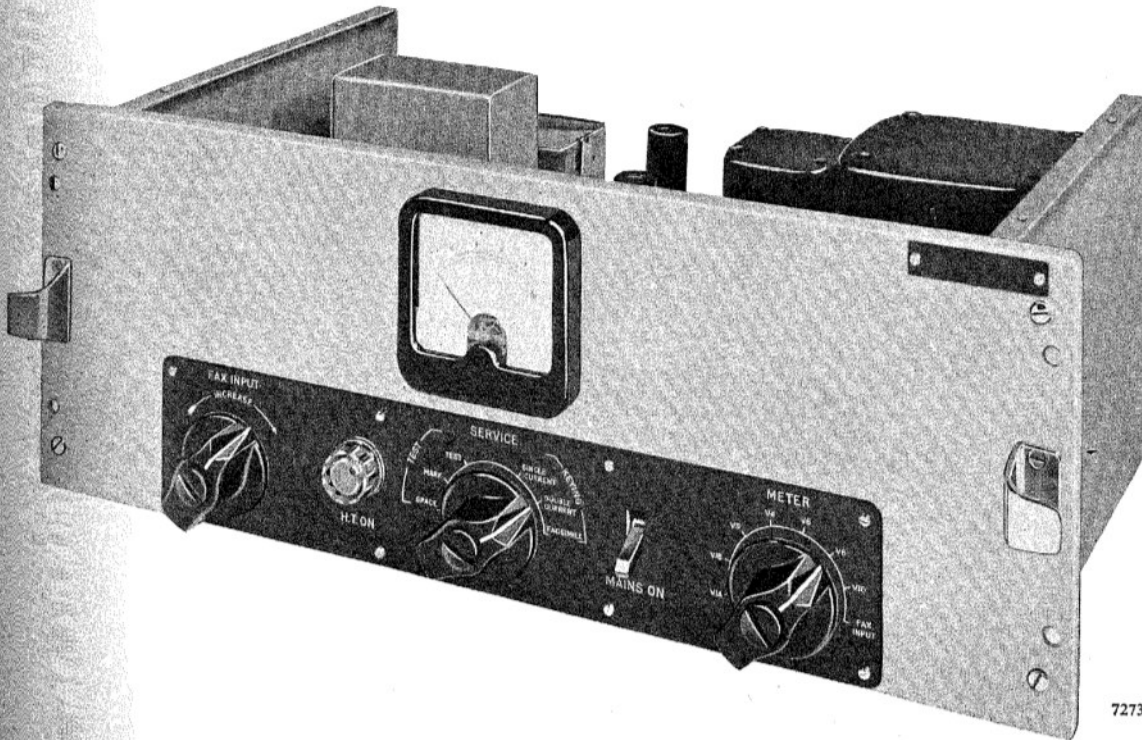




High-speed Electronic Keying Unit Type HK 11



7273

THE Type HK 11 is a unit designed to convert the amplitude-modulated output of a facsimile picture transmitter into a form suitable for keying certain types of frequency shift drive units.

It is essentially a black or white system only, corresponding to a 'mark' or 'space' frequency in the drive unit. It may be used in conjunction with keying units Types HD 22, HK 12 (A and B), HD 61 (A and B) and HD 12 to which only a small amount of modification is required.

CONSTRUCTION

The unit is designed for rack or cabinet mounting and is assembled on an aluminium alloy chassis with a 19-inch wide steel front panel.

The front panel carries the input level control and service switch as well as the mains on/off switch and a feed meter and metering switch. An indicator lamp lights when HT is on.

Connections are made by plugs and sockets at the rear of the unit. The fuses also are situated at the rear.

CIRCUIT

There are two main methods of keying frequency shift drive units; one method employs a mechanical relay which applies one of two keying voltages to the grid of a reactance modulator stage; the other method uses an electronic relay which itself provides the keying voltages.

The High Speed Electronic Keying Unit Type

HK 11 is capable of operation on either system. In the first case, the mechanical relay is removed from the FSK unit and the Type HK 11 Electronic Keying Unit selects the keying voltages as required for a 'mark' or 'space' signal. In the second case, the unit provides a keying voltage for direct connection to the line input terminals of the drive units.

Whichever system is employed, it is necessary to remove signal curbing components in the FSK drive units, so that keying up to a maximum speed of 3500 bauds may be achieved.

The amplitude-modulated facsimile input is connected through a level control to an amplifier stage followed by a full-wave demodulator. A level indicator is connected to the output of the amplifier so that the correct voltage may be obtained. The demodulator is followed by a filter to remove the carrier frequency components of the facsimile signal.

At the output from the filter, a high-speed keying line, or a series of test signals may be switched to the input of a double triode trigger stage. This is followed by a cathode follower, the output of which drives a further cathode follower to provide an output for Types HD 22, HK 12 (A and B) and HD 61 (A and B) equipments.

The first cathode follower also provides the keying potentials to a pair of gating diodes. The two keying voltages (one 'mark' and one 'space') from the Type HD 12 FSK drive unit are fed through separate buffer stages to the gating diodes, combined output from which is fed to a cathode follower output stage.

A meter and selector switch mounted on the front panel permit measurement of valve cathode currents and adjustment of signal input level. A built-in power supply provides HT and LT voltages to all stages.

DATA SUMMARY

Service: 1. Single current high speed keying.
2. Double current high speed keying.
3. Amplitude-modulated facsimile signals or tone keying.

Test facilities: Permanent 'mark' or 'space'.
Keying at mains frequency.

Inputs: 1. From facsimile transmitter
2. Tone keying from line
3. High speed DC keying line
(Plug-in filters to suit standard audio frequencies, amplitude modulated)

Input impedance: Keying line 2.2 k Ω unbalanced.
Facsimile 600 Ω balanced.

Line potentials:

Keying line (a) ± 10 V double current
(b) ± 10 V single current
Facsimile -20 dBm minimum.

Keying speed: 3500 bauds max.

Output voltages:

1. ± 10 V approx. into 2.2 k Ω
2. Gates one of two voltages between 0-16 V and 16-32 V supplied by a keying unit.

Power supply: 200-250 V 50-60 c/s single-phase AC.

Power consumption: 55 W approx.

Dimensions:

Height	Width	Depth	Weight
7 in.	19 in.	10 $\frac{1}{2}$ in.	25 lb
(18 cm)	(48.3 cm)	(27.3 cm)	(11.4 kg)

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