

HAL COMMUNICATIONS CORPORATION

ST-6000 FSK DEMODULATOR/KEYER

The HAL ST-6000 Demodulator/Keyer provides outstanding performance for the reception and transmission of FSK teletype signals particularly on the HF radio band where the effects of interference and fading put severe requirements on demodulator performance. The HAL ST-6000 is the worthy successor to the HAL ST-6, used by commercial and amateur RTTY operators throughout the world.

The ST-6000 features switchable automatic threshold control (ATC), autostart operation, antispacer circuitry, 850, 425, and 170 Hz shifts, self-contained loop supply, crystal controlled tone keyer for all shifts, keyboard-operated-relay (KOR) circuitry, and new decision threshold hysteresis (DTH) circuitry for improved performance in the presence of selective fading and multipath propagation effects. Carefully designed active filters and active detection insure a wide dynamic range. Complete flexibility in interconnection of the demodulator and the keyer allow them to be used independently, in half duplex mode (typical commercial and amateur service) or in full duplex mode. The ST-6000 is compatible with all HAL electronic TTY video display equipment, as well as conventional mechanical equipment.

SPECIFICATIONS

Electrical

Input Data Rate: Up to 110 baud standard.

Input Signal: Audio tones in range 1200-3000 Hz.

Input Impedance: 600 ohms, balanced, transformer coupled.

Output Signals - Loop or low level

Loop: TTY current loop, 60 ma at 175 VDC.

Low Level: Bipolar voltage compatible with EIA-STD-RS-232C.

-3 to -15 VDC Mark, +3 to +15 VDC Space

Low Level: Bipolar voltage compatible with MIL-STD-188C.

+6 VDC Mark, -6VDC Space

Output Signals - Audio

Output Impedance: 600 ohm nominal, balanced, transformer coupled.

Output Level: -32 dbm (20 mv nominal), variable from -40 dbm to 0 dbm on board.

Variation between Tones: Less than ± 5 db at 0 dbm.

Harmonic Distortion: All harmonics below the 9th harmonic of the fundamental frequency are 40 db below the fundamental.

Frequency of standard tone pairs:

Shift:	850 Hz	425 Hz	170 Hz
Mark:	1275 Hz	1275 Hz	1275 Hz
Space:	2125 Hz	1700 Hz	1445 Hz

Frequency of optional tone pairs:

Shift:	850 Hz	425 Hz	170 Hz
Mark:	2125 Hz	2125 Hz	2125 Hz
Space:	2975 Hz	2550 Hz	2295 Hz

Optionally, other tone pairs between 1200-3000 Hz may be specified at extra cost. Mark frequency must be common to all tone pairs. Demodulator and tone keyer may have different tone pairs.

Automatic Threshold Control: Permits copy on mark-only or space-only. Switch selectable.

Autostart Response Time: Slow, 3.5 sec. Fast, 1.5 sec.

Motor Control Dropout Time: 30 sec. \pm 10 sec. AC connector on rear panel for motor connection.

Tuning Indicator: Front panel scope. Optional meter tuning with rear panel scope output.

KOR: Keyboard operated relay to control external devices.

Physical

Cabinet Finish: Light beige front and rear panel. Textured blue top, bottom and side panels.

Cabinet Style: Table or 19" rack mount.

Size: Table: 3.50 H x 9 D x 17 W (inches)
8,9 H x 22,8 D x 43,2 W (cm)
Rack: 3.50 H x 9 D x 19 W (inches)
8,9 H x 22,8 D x 48,3 W (cm)

Weight: 12.0 lbs. (5.45 kg) net, 15.0 lbs. (6.82 kg) shipping.

Power: 105-125 VAC (210-250 VAC optional) 50-60 Hz 20 watts.

ORDERING INFORMATION

When ordering the ST-6000 FSK Demodulator/Keyer, specify table or rack mount cabinet, tone pairs, power mains voltage.

Manufactured by:

Representative or Distributor:



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ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT ADVANCE NOTICE.

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