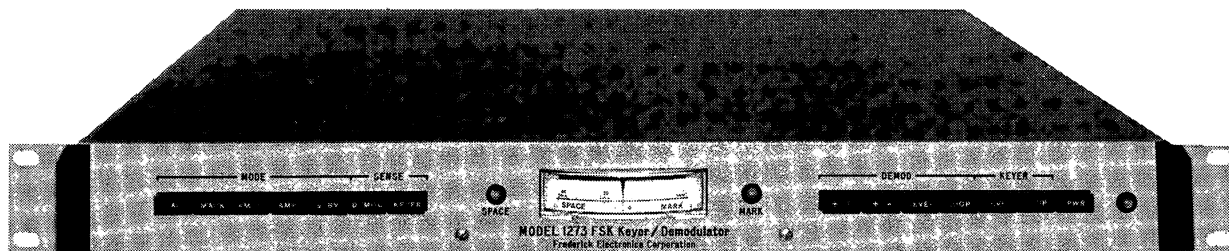


PLANTRONICS
Frederick Electronics

MODEL 1273
FSK
KEYER/DEMODULATOR



FEATURES

May be used as a half or full duplex device, or an independent Keyer or Demodulator.

Highly stable and accurate tone keyer output.

Demodulator has active filter input for improved noise rejection.

Low power consumption.

GENERAL

The Model 1273 provides a full or half duplex connection between a digital data device and a communications channel. The unit is intended primarily to interface a data terminal to an HF radio channel.

APPLICATIONS

Outstanding performance is realized in the demodulator section, for signals derived from the HF radio band, due to independent detection of the mark and space tones. "AM" detection of this redundant data has been acknowledged, by both amateur and professional RTTY operators, to be superior to "FM" detection techniques. Wide dynamic range is obtained without the use of limiter circuits. This makes possible good reception of signals with low signal-to-noise ratios and offsets the normal deleterious effects of frequency selective fading which

APPLICATIONS (CONT)

normally plagues HF radio reception. FEC has a long and highly successful history with design of equipment of this nature.

The tone keyer section has also been designed with the requirements of an HF radio circuit in mind. This section features excellent frequency stability and accuracy, spectral purity, and close output level control. All are highly desirable for TTY, FSK operation on HF paths.

The Model 1273 modem may be used in any situation where conversion of digital data to FSK signals and the inverse are required. This includes long distance hard wire circuits and storage or retrieval of audio data from magnetic tapes.

The equivalent of quad-diversity performance is realized by connecting two separate antenna/receiver/demodulator set-ups together. This is easily accomplished by connecting three wires from one Model 1273 to the other. No further equipment, such as a diversity combiner, is required.

DESIGN

The Model 1273 uses all solid-state modular circuitry, packaged on plug-in printed circuit boards. Access to the plug-in modules is provided by an easily removable top cover. The unit is suitable for fixed or slide-mounting in a standard 19" equipment rack.

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6/74

SPECIFICATIONS

ELECTRICAL

TONE KEYER SECTION

KEYING RATE - Up to 1200 baud.

INPUT SIGNALS/CIRCUITS - Selectable for:
Low level, MIL-STD-188C or EIA-STD-RS-232-C;
High level, polar current loop of 20 ma at
up to ± 65 vdc or neutral 20/60 ma loop at
up to 130 vdc.

OUTPUT CIRCUITS - Isolated and balanced,
600 ohms or 10K ohms, isolated and balanced.

OUTPUT SIGNALS - (Determined by plug-in
crystals.) Audio tones between 400 and
3500 Hz and employing shifts of 60 to 2000
Hz. Output level is adjustable from -45
dbm to +4 dbm. Variations between carriers
at 0 dbm output less than ± 0.25 dbm. Fre-
quency stability is better than ± 0.5 Hz.
Waveform is phase coherent within 1% and
contains less than 2% total harmonic dis-
tortion.

DEMODULATOR SECTION

KEYING RATE - Up to 1200 baud, but depen-
dent upon tone frequencies and shift para-
meters.

INPUT CIRCUIT - Isolated and balanced, 600
ohms or 10K ohms, isolated and balanced.

INPUT SIGNALS - Audio tones between 400
and 3500 Hz at a nominal 0 dbm. The dynamic
range is -50 dbm to +12 dbm. However sig-
nals above 0 dbm will be limited. Shifts
of 170 Hz to 2000 Hz may be accommodated,
but are dependent upon keying speeds. Also
accepts ON/OFF keyed CW.

OUTPUT SIGNALS/CIRCUITS - Standard output
signals which are compatible with EIA-STD-
232-C or MIL-STD-188C. TTY current loop
keyers are optional plug-in assemblies
which may be used to key polar or neutral
loops of up to 100 ma at 130 vdc. Low im-
pedance diversity connections are also pro-
vided. Bandpass filter outputs are avail-
able at the rear panel to drive tuning aids
and display devices.

PHYSICAL

DIMENSIONS - 19 inches wide (48.3 cm), 17
inches deep (43.2 cm), 1-3/4 inches high
(4.4 cm).

MOUNTING - Mounts directly into a 19-inch
rack or slide mounting.

FINISH - All front panel lettering is en-
graved and filled; paint is light gray
semigloss, chassis is clear anodized alu-
minum.

WEIGHT - Approximately 7.5 pounds (3.4 kg).

SERVICING - By removal of top cover.

POWER REQUIREMENTS - 115/230 vac, 50-400 Hz
at approximately 10 watts.

ENVIRONMENTAL - Operating temperature range
0° to 50° C; storage -40° to 80° C ambient.
Relative humidity - 0 to 95% (non-condensing).
Atmospheric pressure - sea-level to 15,000
feet (4.57 km).

ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION