



TYPES 232-1 AND 232-2 TUNABLE FILTERS

The CEI Types 232-1 and 232-2 Tunable Filters are designed to cover the 2 to 30-MHz frequency range and provide an undemodulated 15 kHz or 25 kHz output. The output bandwidth is 5 kHz. Triple conversion is used in both units. The initial conversion of the input signal is up to 65 MHz for maximum image rejection and to minimize conducted local oscillator radiation. The second conversion is down to 10 MHz, and the third conversion is down to 15 kHz for the 232-1 and 25 kHz for the 232-2. Provision is made to lock the local oscillator in the filters in 100-Hz increments over the entire tuning range to the DAFC (digital automatic frequency control) circuit of a CEI DRO-307-1 Frequency Counter. The filter's stability then approaches that of the counter's internal reference source. A carrier operated relay (COR) is provided with a front-panel indicator lamp and threshold control. Release time of the relay is approximately 1.0 second after the loss of the activating carrier. A set of normally open and normally closed relay contacts are available at a rear-panel connector.

An illuminated stainless steel tape dial is used to indicate the frequency to which the filter is tuned. The 28-MHz tuning range is spread over approximately 25 inches of tape for optimum readability and resetability. Front-panel controls are main tuning, fine tuning, RF gain, and COR threshold. Dial locks are provided on all controls. All signal input and output connectors are BNC. The 232-1 and 232-2 filters are constructed in compact packages measuring only 3.25 inches high, 8 inches wide, and 15.7 inches deep. They are designed for mounting in a CEI EF-201A Equipment Frame which permits installation of two filters side-by-side in a standard 19-inch rack.

PRELIMINARY SPECIFICATIONS

Tuning Range	2 to 30 MHz
Noise Figure	6 dB, maximum
Input Impedance	50 ohms, nominal
Input VSWR	2:1, maximum
Output Center Frequency	232-1, 15 kHz; 232-2, 25 kHz
Output Bandwidth	5 kHz
Output Level	1V, rms, into 10 k Ω load
Local Oscillator Radiation	10 μ V, maximum
Image Rejection	60 dB, minimum
IF Rejection	60 dB, minimum

PRELIMINARY SPECIFICATIONS (Continued)

Internally Generated Spurious

Signals	Below output noise level
Fine Tuning Range	± 100 kHz, approximately
Gain Control Modes	Manual and AGC
Gain Control Range	80 dB, minimum, in either mode
Local Oscillator Output	50 mV, minimum, into 50-ohm load
COR Sensitivity	10 mV to 1.0V, front panel adjustable
COR Release Time	1.0 sec, maximum
DAFC Stability	Holds receiver within ± 100 Hz of set frequency for indefinite period
Input Power	115 or 230 Vac, 50-400 Hz
Power Consumption	6 watts, approximately
Dimensions	3.25 inches high, 8 inches wide, and 15.7 inches deep

FOB Rockville, Maryland. Taxes extra where applicable.

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