



6/1/71 - 160.50

RECEIVER TYPE 521A-1



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FEATURES

The Type 521A-1 Receiver provides AM, FM, and CW reception in the 20 MHz to 80 MHz frequency range. It is a dual conversion unit with a first IF of 10 MHz for high image rejection and a second IF of 455 kHz. Three IF bandwidths may be selected by means of a front-panel switch: 4 kHz, 10 kHz, or 50 kHz. A built-in signal monitor with a maximum sweep width of 300 kHz and a resolution of 2.5 kHz is provided. Other features of the 521A-1 include a carrier operated relay (COR) and an independently variable beat frequency oscillator (BFO). A steel tape dial is used to indicate the frequency to which the receiver is tuned. The receiver's 60-MHz tuning range is spread over 26 inches of tape for ease of readability and resetability.

Provision is made to operate the 521A-1 with an external counter (see data sheet 830.50, DRO-290A) which gives a five-digit neon tube display of the frequency to which the receiver is tuned. Thus, the frequency can be read within ± 100 Hz over the entire tuning range. The counter contains a D AFC (digital automatic frequency control) circuit which permits locking the receiver's local oscillator to the counter in 100-Hz increments. When used, the D AFC circuit counteracts local oscillator drift, resulting in the receiver's stability equaling that of the counter's extremely accurate reference source.

SPECIFICATIONS

Frequency Range	20-80 MHz in one band
Types of Reception	AM, FM, and CW
IF Bandwidths	4 kHz, 10 kHz, and 50 kHz
Noise Figure	6 dB, maximum
Sensitivity	
50-kHz Bandwidth	AM: 1.26- μ V input modulated 50% by 1-kHz tone produces 10-dB (s plus n)/n, minimum
	FM: 2.2- μ V input modulated at 1-kHz rate with 17-kHz deviation produces 21-dB (s plus n)/n, minimum
10-kHz Bandwidth	AM: 0.56- μ V input modulated 50% by 1-kHz tone produces 10-dB (s plus n)/n, minimum

WATKINS-JOHNSON COMPANY

6006 Executive Blvd., Rockville, Md. 20852 (301) 881-3300, TWX: 710-824-9603 TELEX: 89-2558 CABLE: WJCEI
3333 Hillview Ave., Palo Alto, Calif. 94304 (415) 326-8830, TWX: 910-373-1253 TELEX: 34-8415 CABLE: WJPLA

4-kHz Bandwidth	FM: 1.1- μ V input modulated at 1-kHz rate with 3.5-kHz deviation produces 21-dB (s plus n)/n, minimum
Image Rejection	AM: 0.35- μ V input modulated 50% by 1-kHz tone produces 10-dB (s plus n)/n, minimum
IF Rejection	65 dB, minimum
Local Oscillator Output	90 dB, minimum
Local Oscillator to Antenna Conduction	50 mV, minimum
IF (predetection) Output	15 μ V, maximum
	10 mV, minimum, into 50-ohm load for input signal levels above AGC threshold
Output Stability with AGC	
50-kHz Bandwidth	AM: Output varies less than 2 dB for input signal range of 1.75 μ V to 100 mV
	FM: Output varies less than 1 dB for input signal range of 1 μ V to 100 mV
10-kHz Bandwidth	AM: Output varies less than 2 dB for input signal range of 0.75 μ V to 100 mV
4-kHz Bandwidth	AM: Output varies less than 2.5 dB for input signal range of 0.5 μ V to 100 mV
Video Output Level	2 volts, rms, minimum, across 91-ohm load
Video Frequency Response	Within 3 dB from 20 Hz to 20 kHz (50-kHz bandwidth)
Audio Output	100 mW, minimum into 600-ohm load or headphones
Audio Frequency Response	Within 3 dB from 100 Hz to 20 kHz (50-kHz bandwidth)
BFO Range	\pm 6 kHz, minimum
AFC Capability	Externally controlled
Signal Monitor Section	
Sweep Width	0 to 300 kHz
Resolution	2.5 kHz
Sweep Rate	22.5 Hz, nominal
Flatness of Response	\pm 1 dB
Input Power Required	115/230 Vac, 50-400 Hz
Power Consumption	16 watts
Weight	18 lbs., approximately
Dimensions	3.5 inches high, 17.5 inches deep, and 19 inches wide

Please contact us or our representative in your area for further information. Specifications subject to change without notice.