WIRELESS STATION A510

INSPECTION STANDARDS

INSPECTION AFTER REPAIR

1. In addition to the tests detailed in F 568-1, the following tests will be carried out after repair. For details of test procedure and equipment required, see F 564.

TABLE 1 - RECEIVER TESTS

No	*Test*	*Conditions*	*Specification*
1	Dial calibration	Vol control max, control sw at R, A-B-NET at B, matching sw at 0. Freq meter to aerial. Dial tuned to each Mc/s point.	Low band:- ±50 kc/s at 2, 3 and 4 Mc/s. High band:- ±100 kc/s at 5 to 10 Mc/s.
2	Sensitivity and signal/ noise ratio	(a) Sig gen and Rec to 2.2 Mc/s. Input 5 uV, mod 30%. AF. wattmeter Z at 100 Ω.	Audio output > 200 uW.
		(b) As for (a) but modulation off.	Audio output < 20 uW or 10 dB down on (a).
3	Audio response	AF osc to pin 3, V5. Input at 1,000 c/s, adjusted for 200 uW output.	1 kc/s: 0 dB, 300 c/s: -6 dB 3 kc/s: -5 dB.
4	IF sensitivity	Sig gen 455 kc/s, mod 30% at 400 c/s, to control grid of mixer via 0.1 uF capacitor.	Not more than 50 uV input for 200 uW output.

TABLE 1 (CONTD)

No	*Test*	*Conditions*	*Specification*
5	IF selectivity	As in test 4 - measure bandwidth at 10 dB points and at 60 dB points.	Bandwidth,10 dB: 6 to 8 kc/s. Bandwidth,60 dB: 20 to 26 kc/s. Asymmetry not more than 6 kc/s.
6	IF rejection	Ratio of input at IF to input at rec freq for 200 uW.	2 Mc/s : 80 dB.
7	Image rejection	Ratio of input at image freq to input at rec freq for 200 uW output.	2 Mc/s: 60 dB; 4.5 Mc/s: 46 dB 5 Mc/s: 46 dB; 10 Mc/s: 36 dB.
8	Spurious rejection	(a) Rec tuned to 2 Mc/s. Sig gen output 50 mV. Vary sig gen from 2 to 10 Mc/s. Measure input to give 200 uW at any spurious response except image. (b) Repeat (a) on high band with rec tuned to 4.5 Mc/s and sig gen varied from 4.5 to 10 Mc/s.	At least 70 dB.
9	AGC operation	Sig gen and rec to 9 Mc/s. Input 5 uV. Tune for max output, increase input to 50 mV and adjust VOLUME control for 200 uW output. Slowly decrease input to 10 uV.	Output must not fall by more than 10 dB when input is decreased from 50 mV to 10 uV.
10	Battery consumption	No signal - receive.	LT: 280 mA max. HT: 16 mA max.
11	Low voltage operation	Voltages measured at chassis on load - LT: 1.1 V; HT: 66 V. Sig gen 5 Mc/s, 10 uV, mod 30%.	Signal in phones and clear netting signal on both bands.

TABLE 2 - SENDER TESTS

No	Test	Conditions	Specification
		A-B-NET at B, matching at 0. HF wattmeter to aerial terminal from 52 Ω 1 W socket. Tune for max output.	
1	RF output - low impedance	(a) CW - any frequency. (b) VOICE - any frequency (no mod).	> 0.5 W. 18% to 32% of CW output.
2	Matching	Freq at high end. MATCHING switch to positions 1 to 6 in turn. Retune on each position.	Each successive switch position should drop output. Retuning "SET TO FREQUENCY" dial should restore peak.
3	Battery consumption	CW - key pressed.	LT: 600 mA max; HT: 45 mA max.
4	Low voltage operation	Voltages as in table 1, test 11. CW - key pressed, wattmeter HF to aerial terminal.	Meter should peak, sidetone be audible. Output > 0.3 W.
5	Meter indication	(a) As in test 4. (b) As in test 4 but A-B-NET to NET. (c) As in (b) but control switch to VOICE.	At least two divisions. Meter reads on extreme left of red marking.

TABLE 2 (CONTD)

No	*Test*	*Conditions*	*Specification*
6	RF output - high impedance	Replace wattmeter with 2,000 Ω load (two 1,000 Ω 1 W resistors). Volt-ohmyst with crystal probe across 1,000 Ω. A-B-NET switch at A. (a) CW. Repeat on each crystal frequency. (b) VOICE. Repeat on each crystal frequency (no mod).	 Not less than 16 V (ie .512 W in 2,000 Ω). 20% to 40% of CW output.
7	Modulation sensitivity	As for test 6 except CRO substituted for voltohmyst and audio oscillator to mic input - attenuator 40 dB.	
	(a) Peak frequency	Switch to VOICE. Adj mod voltage for 50% to 80% modulation. Vary osc freq for max mod depth.	Peak mod freq to be between 900 c/s and 1,500 c/s.
	(b) Sensitivity	Using peak frequency obtained in (a), increase input voltage for 100% modulation. (5 V on audio oscillator output meter with 25 dB on attenuator gives 20 mV across mic input).	Max input to mic transformer 20 mV.

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