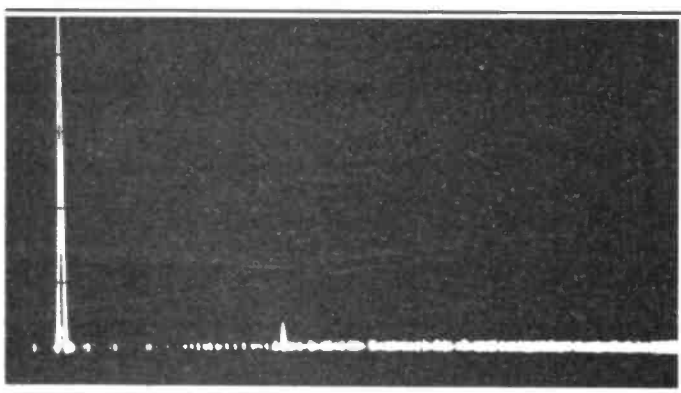
LABORATORY TEST RESULTS

Test: RX mode	Icom IC-25E (2m)
1) 12dB SINAD sensitivity (measured as PD) using 1kHz modulation frequency at 3kHz deviation (IC-25E) and 4kHz deviation (IC-45E) at band centre and band edges: 145, 144, 145.975MHz; 435, 432, 439.975MHz	0.15uV, 0.16uV. 0.15uV
2) Re-tune signal generator for best SINAD performance and note frequency offset	13.5dB at —1.1kHz
3) Test for RF intermodulation performance using two carriers offset from receive frequency by 25kHz and 50kHz. Adjust levels of both generators until a 12dB SINAD spurious signal is noted	1.1/1.3mV at 25 and 50kHz spacing; 1.05/1.1mV at 50 and 100kHz spacing
4) Test for selectivity. Couple two generators with a specified frequency difference and note the ratio of the levels between them for a degradation in SINAD of wanted signal at 15dB and 12dB deterioration	44 and 38dB noted at 12.5kHz separation; 76 and 59dB noted at 25kHz spacing; 81 and 81dB noted at 50kHz spacing
5) Measure audio distortion with a fairly strong signal modulated at 3kHz (IC-25E) and 4kHz (IC-45E). Test output level 125mW.	2.9% total harmonic distortion
6) Measure maximum AF output for 10% distortion	1.9W for 10% distortion
7) Test S meter calibration: note RF signal generator levels for S1, S5, S9 and S9 + 20dB	1.25uV, 3.2uV, 4.5uV, 6.5uV
8) Measure receive mode current consumption at squelched state, and at 125mW audio output level	370mA, 490mA
9) Check for speaker rattles at high volume settings	Substantial levels of speaker rattle and distortion using test tones in the range 180 to 700Hz; audible with normal speech
TX mode	
10) Measure actual transmit frequency against dial calibration at 145MHz or 435MHz. Check the effect on frequency stability of raising supply voltage from 12V to 13.8V	+50Hz maximum error
11) Check repeater shift accuracy	Within 50Hz of repeater shift frequency
12) Measure power output with 12V supply at band centre and band edges; frequency test points as per test 1	19.6W, 19.3W, 19.6W
13 As per test 12 but with supply voltage raised to 13.8V	28W, 27W, 28.5W
14) Measure power output with equipment switched to low power setting	600mW
15) Measure DC current consumption	5A
16) Check TX midband for for spurious and harmonic outputs to at least the 3rd harmonic; note any substantial emissions	2nd harmonic —65dB, 3rd harmonic below 70dB; no spurii detected at noise floor
17) Check carrier at high resolution for close in spectral purity	Nothing untoward detected down to —75dB
18) Check for satisfactory operation into a 3:1 capacitative VSWR: note any spurious products encountered during this test	2nd and 3rd harmonics below 60dB during this test
19) Check maximum instantaneous deviation of TX with high level AF burst	5kHz maximum deviation
20) Check accuracy of tone burst; note excessive deviation on tone	Accurate to within 1Hz!
21) Check for satisfactory TX operation after running with short and open circuit on antenna socket for five seconds duration, each condition (occurring consecutively)	Satisfactory



Output spectrum IC-25E
2nd harmonic —65dB
3rd harmonic below 70dB

Output spectrum IC-45E
2nd harmonic —63dB
3rd harmonic —70dB

EQUIPMENT USED

Two Marconi 2019 signal generators. Nada and Greenpar attenuators. Racal power meter type 9303. Elcom hybrid transformer. H-P 8903 audio analyser. Fluke and AVO multimeters. Rhode and Schwartz 30dB attenuator. Bird thruline wattmeter. Marconi 2300B deviation meter. Takeda Riken frequency counter. H-P 8558B spectrum analyser