

## APPENDIX B - TEST EQUIPMENT REQUIREMENTS

This Appendix contains a list of test equipment suitable for performing all testing procedures contained in this manual. Other equipment meeting specifications listed in this Appendix may be substituted in place of recommended models. Equipment listed in this Appendix may exceed minimum required specifications for some procedures contained in this manual.

TYPE	MODEL	SPECIFICATIONS
3 dB Fixed Attenuator	HP8491A or Equivalent	Frequency Range: dc to 12.4 GHz SWR: <1.3 to 1 Attenuation Accuracy: 0.3 dB
10 dB Coupler	NARDA 4242-10 or Equivalent	Frequency Range: 0.5 to 2.0 GHz Nominal Coupling: ±10 dB
Digital Multimeter	FLUKE 8010A or Equivalent	±20.00 V Range 3.5 Digit ±0.1% Basic dc Accuracy
Heterodyne Monitor	ANZAC MD-141 or Equivalent	Frequency Range: RF/LO: 900 to 1100 MHz IF: dc to 1000 MHz
Measuring Receiver	HP8902A or Equivalent	Tuned RF Level Power Range: -127 to 0 dBm Frequency Range: 2.5 to 1300 MHz Accuracy: ±0.1 dB Relative Level
Mode S Ramp Test Set	Aeroflex ATC-601-2 or Equivalent	
Mode S Test System	Aeroflex ATC-1400A mated with Aeroflex S-1403, Aeroflex S-1403C or Aeroflex S-1403DL or Equivalent	
Oscilloscope	TEK 2465B with Counter/Timer/Trigger Option or Equivalent	Bandwidth: dc to 200 MHz Vertical Accuracy: ±10% Time Accuracy: ±0.7% of Time Interval +0.6% of Full Scale Δ Time Accuracy: ±0.5% of Time Interval +0.3% of Full Scale

TYPE	MODEL	SPECIFICATIONS
Power Meter	Boonton 4200 or Equivalent	Frequency Range: 0.1 to 2 GHz Power Range: -30 to +10 dBm Accuracy: $\pm 0.3$ dB
Power Sensor	HP11722A or Equivalent  Boonton 51011 or Equivalent	Measuring Receiver Compatibility  Power Meter Compatibility
RF Signal Generator	Aeroflex NAV-750C or Equivalent	Frequency Range: 1 to 1100 MHz Resolution: 0.1 to 100 Hz Accuracy: $1 \times 10^{-6}$ RF Output: 13 to -130 dBm
Spectrum Analyzer	Aeroflex AN1830 or Equivalent	Frequency Range: 10 MHz to 22 GHz Resolution Bandwidth: 100 Hz to 3.0 MHz Display Accuracy Log: $\pm 0.1$ dB/dB $\pm 1.5$ dB/70 dB Display Accuracy Linear: $\pm 3\%$ of reference level
Temperature Probe	FLUKE 80TK or Equivalent	Measurement Range: 0° to 50°C Accuracy: $\pm 2\%$
Transponder Test Set	Aeroflex ATC-1400A or Equivalent	
Universal Timer/Counter	HP 53131A with Option 015 or Equivalent	Frequency Range: 10 Hz to 1300 MHz Accuracy: $\pm 1 \times 10^{-6} + 1$ Count Time Period Measurement: 0 to 2000 ms ( $\pm 1$ ms)