

System Overview:

Model 7010 PIR is a portable ground based instrument measurement system that is designed to establish and maintain Instrument Landing System (ILS), Marker Beacon or VOR Signals in space and keep the equipment within the requirement established in the ICAO Annex 10 Volume 1 for facility performance categories I, II, and III.

Missions of PIR

- 1) When a new navaid system is installed or after critical equipment repair, the PIR establishes the initial system parameters with sufficient accuracy to assure a successful flight check
- 2) Immediately after a successful flight check, the PIR establishes the standards against which future ground based measurements are compared.
- 3) The PIR periodically measures system parameters which are compared to the Standards established at flight check time in order to assure that the system parameters have not changed beyond established limits
- 4) The PIR is used during corrective maintenance activities to isolate equipment faults and repair equipment.

Main PIR Functions : A Summary

- 1) Measure Difference in Depth of Modulation in DDM or in micro-amps
- 2) Measure Depths of Modulation (%MOD) of individual components of the ILS signal
- 3) Measure the Sum of Depths of Modulation (SDM) of the individual components of the ILS signal
- 4) Measure Absolute or Relative RF Field Intensity
- 5) Measure transmitter frequency error from assigned frequency
- 6) Measure the audio frequencies of individual components of the signal
- 7) Measure DDM.(%MOD) and SDM from an externally detected ILS audio source
- 8) Provide detected audio signals to external equipment (eg.a headphone)
- 9) Measure total Harmonic distortion of the ILS 90/150Hz frequency components
- 10) Performs spectral analysis of the ILS 90/150 Hz frequency components
- 11) Stores up to 100 measurements (time stamped) and provides a means to retrieve the stored measurements to a printer or personal computer (PC) via an RS 232
- 12) Measures marker beacon parameters
- 13) Measures VOR parameters including azimuth and deviation ratio