TEST SET RADAR
P/N AN/UPM –155

PURPOSE

The purpose of the AN/UPM – 155 is for the use as an Intermediate Level Bench Tester of IFF Equipments

FEATURES

- Automatic self test which provides both fault detection and fault isolation to LRU level.
- Fully automatic transponder and interrogator test modes.
- Analog Controller Multiplexers are developed which enable complete autotest of the following IFF equipment:
  - APX-64
  - APX-76
  - APX-101
  - UPX-27
  - APX-72
  - APX-100
  - UPX-23
  - AN/TPX-46(V-1,2,7)
- Additional analog controller multiplexers can be developed to address particular IFF autotesting requirements.
- Local operator control or remote control through either a standard IEEE-488 or EIA RS-232C interface.
- High-resolution display permits extensive operator instruction via menus and prompts.
- Advanced measurement capability provides precise digital readout of RF power, frequency, pulse spacing, pulse widths and VSWR.
- Mode 4 testing can be accomplished using KIT/KIR equipment (secure area requerde) or by using the UPM-155's integal simulator, which generates Mode 4 maintenance codes.
- Operator-controlled, multi-function signal conditioner eliminates need for external pulse generators and scaling amplifiers.
- Modular construction with common CPU bus interface to each analog/digital functional and applicable RF Module.
SPECIFICATIONS

- Operating Modes
  - Automatic interrogator test mode
  - Automatic transponder test mode
  - Manual interrogator test mode
  - Manual transponder test mode
  - Manual measurement mode

- Interrogator Simulation Characteristics (Transponder Testing)
  - Modes 1,2,3/A, and C and Mode 4 synch, Word A, Word B and Word C challenges interface capability with:
    - ISLS control pulses (P2) Provision.
    - Variable pulses 1 and 2 with 3 to 500 microseconds delay, 0.275 to 10 microseconds pulse width.
    - Pulse repetition interval adjustable in 1.0 microsecond steps from 100 microseconds (10,000 prf) to 200,000 microseconds (5 prf).
    - Mode repeat selectable from 1 thru 8.
    - Trigger source either internal or external
    - Challenge delay from 0 trigger SIF-0 trigger to P3 pulse - 25 to 430 microseconds, 1 microsecond steps
    - Mode 4-0 trigger to M4 pretrigger - 4 to 38 microseconds, 1 microseconds steps
    - RF challenge signal characteristics
      - Carrier frequency - 1030 MHz ± 0.01 %
      - Modulation Challenges Swept CW
        - CW External
      - Two independent signal generators each with an output
        - Level of 95 DBMS to 0 dbBm in 1 dB steps with +1.0 dB accuracy
        - Pulse ON-OFF Ration 80 Db

- Transponder Simulation Characteristics (Interrogator Testing)
  - Internal challenge decoder
  - Two reply code generators
    - 1st Reply - independent replies for modes 1,2,3A and C 0000 thru 7777
  - Code Selection
    - OFF Mode 4.3
    - SIF codes Mode 4-1 pulse
    - SIF + x codes SIF 1 train and SIF 2 train
    - Variable emergency Mode inhibit select
    - Identification of position
  - Pulse widths and Pulse Spacing (Std. AIMS).
    - Accuracy ±0.025 uS
  - PRF
    - Range 0 to 1,000,000 PPS. -Accuracy ±1 PPS
    - Frequency Range 1010 MHZ to 1110 MHz
    - Power Range +50 dBm to +70 dBm
    - Accuracy ±10% for 2.5:1 VSWR or less
    - Swept CW Range +/-20 MHz from 1090 Mhz
    - Strobe Provided or 1030 MHz

- External Computer Interface
  - IEEE-488 -EIA-RS232C

- Environmental:
  - MIL-T-28800 Class 3
  - High impact shock: MIL-S-901 Grade A, Type A
  - Operating Temperature: -20° C to 55° C
  - Non-operating Temperature -50° C to +85° C

- EMI: MIL-STD-461C
- Reliability: 3,200 Hr. MTBF

- Physical Characteristics
  - Size 25" x 19" x 16"
  - Weight 110 lbs. (less front cover and accessories)
  - 135 lbs. (with front cover and accessories)