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.
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 interlace 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 dBm in 1 dB steps with +1.0 dB accuracy
  Pulse ON-OFF Ratio 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
  IEEE-488 -EIA-RS232C

• Environmental:    MIL-T-28800 Class 3
• External Computer Interface
  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)