

# IFF-45TSL

MK XIIB and TACAN Bench Test Set



A next-generation RF signal generator/receiver designed for engineering, manufacturing and return-to-service applications.

The IFF-45TSL test set provides RF signal generation and parametric measurement of MK XIIB and TACAN equipment. Replies and interrogations can be individually configured to support MK XIIB testing requirements. ADS-B Out testing monitors ADS-B, TIS-B, ADS-R and acquisition squitters. The IFF-45TSL emulates either a TACAN ground transponder or a TACAN airborne interrogator.



## New IFF-45TSL Features

- New front panel LED Status Indicators (PWR, System, Crypto, TX/RX top and bottom, Direct vs. Antenna)
- New Target Generator Instrument Option available (IFF-45TSL-STG)
  - Mode 5 Level 2 B "In" and ADS-B "In" available in the Target Generator Instrument
  - Support for 5 configurable transponder like static targets
  - Configurable fields include M3 Code, GPS position, GPS Altitude, etc. – these parameters will be used globally across all modes of the target
  - Supermode interrogations will be handled
  - Each target will have capability to:
    - Transmit squitters (DF17, DF18, ADS-B "In", M5L2-B "In")
    - Transmit real-time replies appropriate to the random interrogation received (Modes 1, 2, 3/A, C, S, 4 and 5)
- Much improved processing capability (DSP, FPGA, Processor, Memory)
- Improved transmitter On/Off ratio performance
- Modernized RF circuitry (no tuning required and more stable)
- AIMS 17-1000 certification
- Mode 5 Level 2 B "Out"
- Better support of Transponder Box Test (bench) for tests needing burst mode type tests (up to 101 interrogation sequence)

### New IFF-45TSL Features continued

- Better support of Interrogator Box Test (bench) by checking interrogator's ability to handle all Mode S reply types and that it can be programmed to operate using all II and SI codes transmitted in both all-call and roll-call interrogations
- Better Interrogator Installation (ramp) test capability allowing for verification that the interrogator can be programmed to operate using all II and SI codes and that both sets of codes are transmitted in both all-call and roll-call interrogations
- Ability to externally or internally trigger M5L2 reports on a 1:1 basis (test mode, non-conforming to AIMS)
- Ability to increase the max squitter rate (ADS-B and M5L2) (current maximum of 2 Hz - test mode, non-conforming to AIMS)
- Support Fixed Waveform operation for Mode 5
- Ability to modify Mode S preamble pulse positions/widths
- Backward compatibility with legacy Remote-Control Interface (RS-232, Ethernet and GPIB)
- Improved GUI
- Standard 2U enclosure (old unit was 2U+ which required 3U of space)
- Improved cooling

### Carry Over IFF-45TS Features

- All features from the existing IFF-45TS will be carried over, including:
  - Mode 5 testing without actual cryptographic applique and keys using integral mode 5 emulator
  - Supports DoD AIMS 04-900A Option A - KIV-78 and QRTK6 NG (with Airbus DS QRTK6 NG adapter) and Option B - KIV-77 and SIT-2010 crypto appliques, KIV-79
  - Separate connections for direct or over-the-air testing
  - Test ranges of up to 3 km with appropriate antennas
  - ADS-B Out
- Over-the-air platform testing of MK XIIA equipment including Mode 5, ADS-B beacons and TACAN interrogators



## Ordering Information

### Versions and Options

Order Number	Description
IFF-45TSL	IFF-45TSL Base Unit
IFF-45TSL-SADSB	ADS-B
IFF-45TSL-SINTGR	IFF Interrogator
IFF-45TSL-SM5	IFF Mode 5
IFF-45TSL-STACAN	DME/TACAN
IFF-45TSL-STG	Target Generator
IFF-45TSL-SXPDR	IFF Transponder
IFF-45TSL-SM5L2B	Mode 5 Level 2 B
IFF-45TSL-SNSM	National Secure Mode
IFF-45TSL-SSEQ	Sequence Mode

### Standard Accessories

IFF-45TSL-GUI	PC Windows-based GUI
IFF-45TSL-OPSM	Operation Manual (CD)
IFF-45TSL-GSM	Getting Started Manual

### AC Power Cord

62302	110 V
62315	220 V
30050	Serial data cable, 9 pin D, 1.5 meters

### Extended Warranty

Order Number	Description
45TSL-EXTWARR	1 Yr Extended HW Warranty + Certified Calibrations

### Optional Accessories

Order Number	Description
88631	45TSOPT6 KIV 77 adapter (Opt B)
89879	45TSOPT8 KIT/KIR-1A/C adapter
86075	45TSOPT9 KIV 78/KIV 6 adapter (Opt A)
45TSL-CNTRLR-TS-MON-M5	Controller w/touch-screen monitor, w/Mode 5 GUI
112349	UC-584 coupler kit, dual antenna
112350	UC-584 coupler kit, single antenna
IFF-45TSL-ATC	Transit Case
IFF-45TSL-MM*	Maintenance Manual
112684	Antenna

\*Includes remote program GUI



## Physical Characteristics

Size	Rackmount: 3.5"H x 17.75"W (not including ears) x 19.5"D
	Benchtop: 4.5"H x 18"W x 19.5"D
Weight	Rackmount: 25.5 lbs. (11.6 kg)
	Benchtop: 29.0 lbs. (13.2 kg)

## Environmental

Operational Temperature	-10° to +55°C (+14° to +131°F)
Storage Temperature	-10° to +55°C (+14° to +131°F)

## Test Set Certifications

UL

CE

DoD AIMS MK XIIB (Pending)

For complete certification list see IFF-45TSL Specification Sheet



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