

Description

The T-36C is a rugged-designed, user-friendly, high-precision instrument for rapid functional testing of VOR, LOC/GS, MB, and VHF COMM (AM/FM) avionic equipment.

With an intuitive and simple operator interface and battery operation of up to 8 hours on one charge, the T-36C navigation and communication capabilities allows the user to quickly, test, troubleshoot, and isolate problem systems on the ramp and in the shop.

The T-36C RF output allows testing from the flight deck of most large aircraft using an expandable, omnidirectional antenna. Testing of all functions can also be performed with the unit-under-test (UUT) directly connected to Test Set.



Features

- Tests VOR, LOC, GS, MB, VHF, and UHF COMM
- Pre-programmed test scenarios and settings
- Simultaneous LOC, G/S and MB output
- Allows testing at 25 kHz and 8.33 kHz spacing
- Compliant with European CE requirements
- Large easy to read backlit display
- Simple user interface and clearly identified switches
- Key board entry of nearly limitless parameters
- Internal battery charger included
- Standard 2 year limited warranty included

VOR

- Accurate generation of 30 Hz variable, reference, and 9960 Hz sub-carrier.
- Preset bearing simulation in 45° or slew in 1° increments.
- 30 Hz and 9960 Hz modulation can be deleted to check flag operation.
- Covers the entire VOR band of 108.00 to 117.95 MHz.
- 1020 Hz IDENT tone

LOC and GS

- Precise simulation of LOC/GS ground station signals.
- Allows selection of preset DDM deflections or manual slew in 0.001 increments.
- Simultaneous LOC/GS/MB Mode.
- Allows 90 and 150 Hz tones to be deleted

Communications (COMM)

- AM or FM with variable modulation and deviation settings.
- VSWR measurement allows testing of antenna system.
- Direct Connect and Antenna methods add versatility and accuracy.
- 25 MHz and 8.33 kHz channel selection.
- Accurate measurement of VHF/UHF frequency, power, and modulation.

Marker Beacon and ILS

- Easy user selection of 400, 1300, and 3000 Hz signals.
- Simultaneous MB and ILS output signals.
- Separate adjustment of DDM values, either preset or slew, in ILS.

Specifications *

TRANSMITTER Characteristics

* Standard Condition Values – As specified in Maintenance Manual and at selected Cal Positions.

| RF FREQUENCIES | | PRESET FREQUENCY VALUES*** | | | KEYPAD ENTRY FREQUENCY CAPABILITY | | |
|--|---------|----------------------------|------------|---|-----------------------------------|--------------|----------|
| FUNCTION | NOB | LO | MID | HI | FROM | TO | ACCURACY |
| Marker | MB | 74.50 MHz | 75.00 MHz | 75.50 MHz | 74.5000 MHz | 75.5000 MHz | ± 150 Hz |
| VOR OMNI | VOR | 108.00 MHz | 108.05 MHz | 117.95 MHz | 108.0500 MHz | 117.9500 MHz | ± 150 Hz |
| Localizer** | LOC | 108.10 MHz | 108.15 MHz | 110.15 MHz | 108.1000 MHz | 119.9500 MHz | ± 150 Hz |
| Glide Slope** | GS | 334.70 MHz | 334.55 MHz | 334.25 MHz | 329.1500 MHz | 335.0000 MHz | ± 300Hz |
| COMM | 108-174 | 108.00 MHz | 113.00 MHz | 174.95 MHz | 108.0000 MHz | 118.0000 MHz | ± 150 Hz |
| FREQUENCY SPACING IS IN 25 KHZ AND 8.33 KHZ STEPS | | | | | | | |
| ** Localizer and Glideslope Frequencies are Automatically Paired | | | | ***All preset values can be user modified and saved to memory | | | |

Power Output

| FREQUENCY | RANGE | TOLERANCE |
|---------------------------------|-----------------|-----------|
| DIRECT CONNECT (RT Port) | | |
| 108 to 117.95 MHz | -25 to -100 dBm | ± 2 dB |
| 118 to 156 MHz | -25 to -90 dBm | ± 2 dB |
| 156 to 174MHz | -25 to -90 dBm | ± 2 dB |
| Selectable in 1 dB steps | | |

| FREQUENCY | RANGE | TOLERANCE |
|--------------------------|--------------|-----------|
| ANTENNA | | |
| 108 to 118 MHz | 0 to -70 dBm | ± 2.5 dB |
| 118 to 156 MHz | 0 to -60 dBm | ± 2.5 dB |
| 156 to 174 MHz | 0 to -60 dBm | ± 2.5 dB |
| Selectable in 1 dB steps | | |

NAVIGATIONAL Characteristics

| FUNCTION | FREQUENCY | CONDITIONS | DEFAULT | ACCURACY | RANGE | RESOLUTION | SWITCH NAME | | | | |
|---|---------------------|---|-----------|----------------------|------------------------------------|------------|--|-------|-------|--|------------------------------|
| Marker | 0.4, 1.3, 3.0 kHz | ----- | 95 % mod | +/- 5 % | ----- | ----- | TONES | | | | |
| Tone Frequency Accuracy ± 8 Hz @ 0.4, 1.3, 3.0 kHz | | | | | | | | | | | |
| VOR OMNI | 9960 Hz & 30 Hz | 0° Bearing | 30 % mod | +/- 2 % Mod. | 0° to 360° | 1° | ILS/VOR VAR | | | | |
| | Bearing Accuracy | ± 1° at 0° degree bearing | | | | | | | | | |
| | FM Modulation | 30 Hz reference at ± 480 Hz Peak deviation on 9960 Hz Sub carrier | | | Accuracy ± 30 Hz at peak deviation | | | | | | |
| VOR Presets | 0° | 45 90 135 180 225 270 315 360 | | | | | Key Pad Variable - 0° to 360° in 1° inc. | | | | |
| Glide Slope | 90 Hz & 150 Hz ± 1% | @ 0.0 DDM | 40 % mod | +/- 2 % Mod. | 0 to 0.400 DDM (U/D) | 0.001 DDM | ILS/VOR VAR | | | | |
| Localizer | 90 Hz & 150 Hz ± 1% | @ 0.0 DDM | 20 % mod | +/- 2 % Mod. | 0 to 0.200 DDM (L/R) | 0.001 DDM | ILS/VOR VAR | | | | |
| PRESETS | | | U1/R1 | U2/R2 | FS | 0C | FS | D2/L2 | D1/L1 | | Accuracy at "ON COURSE" (OC) |
| LOC | DDM | | 0.093 | 0.155 | 0.200 | 0.000 | 0.200 | 0.155 | 0.093 | | LOC ± 0.002 DDM |
| GS | DDM | | 0.091 | 0.175 | 0.400 | 0.000 | 0.400 | 0.175 | 0.091 | | GS ± 0.002 DDM |
| Key Pad Variable DDM in .001 DDM increments to full scale | | | | | | | | | | | |
| IDENT | 1020 Hz | VOR | 10% Fixed | +/- 5 % Mod ± 50 Hz. | ----- | ----- | MB/NAV ID | | | | |

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COMMUNICATIONS Characteristics

| FOR FREQUENCY RANGES – SEE TRANSMITTER CHARACTERISTICS SECTION | | | |
|--|---|------------------|---------------------------|
| Communication Modes | AM, FM, UHF and VHF in Amplitude Modulation (AM) and Frequency Modulated (FM) | | |
| Communication AM | | | |
| Communication Tones AM | 1020 Hz | Accuracy ± 50 Hz | Modulation ± 5% @ 120 MHz |
| Variable Range - 0 to 95% AM | 150 Hz | Accuracy ± 50 Hz | Modulation ± 5% @ 120 MHz |
| Audio Output Level | 100 – 900 mv in 100 mv steps Accuracy ± 50 mv | | |
| Communication FM | | | |
| FM Modulation Variable | Range from 1 kHz - 10 kHz Deviation in 1 kHz steps ± 2 kHz Deviation / 1020 Hz @ 120 MHz | | |
| Tone | 1020 Hz Accuracy ± 50 Hz | | |
| Output Level | 100 – 900 mv in 100 mv steps Accuracy ± 50 mv | | |

RECEIVER Characteristics

| | | | |
|-------------------------------|------------------------|--|--|
| Frequency Range | Same as COMM Ranges | Frequency Counter Measurement Accuracy | +/-500 Hz of selected Frequency |
| Maximum Input Level (RT port) | 25 W | Power Measurement Range | 0 dBW to +14 dBW (1 to 25 W) Direct Connect (CW Only) |
| Power Measurement Accuracy | +/-20 % (CW Only) | | |
| AM Measurement Range | 0 to 100% Modulation | AM Measurement Tolerance | +/- 5% @ 120 MHz |
| FM Measurement Range | 0 to 15 kHz | FM Measurement Tolerance | +/- 2 kHz @ 120 MHz |
| Sensitivity (Antenna port) | -10 dBm AM; -30 dBm FM | | |
| VSWR Measurement | 1.0 to 5.0; +/- 1 | | |

MISCELLANEOUS SPECIFICATIONS & Characteristics

| | | | |
|--|-------------------------|-------------------------|---|
| Size | 15.5 X 9.4 X 6.5 inches | Operating Temperature | -28° C to +55° C |
| Weight | 20 pounds | Storage Temperature | -50° C to +70° C |
| Case Style | MIL-PRF-28800, Class 2 | Case Color | Yellow |
| Input Power Requirements | 100 to 240 VAC +/- 10% | Input Power Consumption | 20 Watts |
| Input Power Frequency | 50 to 400 Hz | Input Current | 0.17 Amps AC |
| AC Fuse Requirements | 1.0 A SB (2 req.) | DC Fuse Requirements | 5.0 A SB (2 req.; internal to Test Set) |
| Note: Input power specified for battery charging simultaneously with Test Set operation. | | | |

Standard Accessories and Options

- Standard 2 Year Limited Warranty included
- Multi Band Omni Antenna
- Operational and Maintenance Manual
- AC Power Cord
- Direct Connect Cable
- All Accessories store in Test Set cover
- 5 & 10 Year Warranty Plans available

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Tel-Instrument Commercial Product Lines

TB-2100 ATC/DME Bench Test Set



- Test TCAS, DME, and Transponder
- Transmits and receives ADS-B (1090 MHz squitter)
- Transmits Traffic Information System (TIS) intruder flight data
- Meets test requirements for European Mode S Elementary and EHS
- Performs test requirements per FAR Part 43, Appendix F
- Allows DME testing on all channels (108.00 to 117.95 MHz)
- Compliant with European CE requirements

TR-211 Multi-Function Test Set



- Test VOR, Localizer, Glideslope, and Marker Beacon
- Easy to use, one-man operation
- Full range of tests to comply with CAT III periodic ramp certification
- Fully adjustable functions allow precise testing and measurement
- Allows testing from flight deck

FlexiBus Databus Analyzers



- Test Transponder, ATRBS, and Mode S with unrivaled accuracy
- Color LCD touch display features wide viewing angle
- Continuous display of critical measurements including power, pulse parameters, percent reply, and frequency
- Easy to navigate menus require minimal training to operate
- IEEE Compatible

TR-220 Multi-Function Test Set



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- Test DME and Transponder with Elementary and EHS
- Receives and displays ADS-B (1090 MHz squitter)
- Transmits TIS intruder flight data for 4 intruders
- Performs test requirements per FAR Part 43, Appendix F
- Allows DME testing on all channels (108.00 to 117.95 MHz)
- Compliant with European CE requirements

T-300 Navigation Test Set



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- Displays ARINC 429 data in Engineering and /or Hex formats
- Up to 60 user tables permit storage and recall of commonly used transmitted words
- Receive 1024 label/SDI combinations
- Trap and store 3500 ARINC 429 labels
- Rechargeable NI-MH batteries permits up to 24 hours of operation

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