

# Aircraft Transponder System Training Set

Model XPND-100A



Your local Partner

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# Aircraft Transponder System Training Set

Model XPND-100A

Our trainer enables trainees to get hands-on experience on transponder systems. The trainer ensures practical training with original aircraft transponder equipment configured to bring real-life experience to the training environment. Our design provides trainees with a good understanding of transponder equipment and a methodical approach for troubleshooting and testing procedures. We understand and tailor according to our customers' training needs.

The trainer is delivered plug and play and comes with necessary antennas, transmitters, receivers, wiring, and indicators.

## Optional

- **Transponder/DME Test Set**
- **NAV/COM Tester**

Please contact us for Test Equipment.

## Specifications

### Features

- Understanding fundamentals of aircraft transponder and its components.
- Encoder altimeter
- Encoder altimeter testing
- TXPDR Ident
- Aircraft Altimeter
- Altimeter and Transponder run in sync
- Altitude simulation
- Installed and mounted in the rack.
- A-mode, C-mode and S-mode operation.
- Toggle switch for modes A or C
- 0-15 A DC current meter and 0-30 V DC voltmeter
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel.

### Components

- Transponder
- Transponder antenna with coaxial connector
- Altitude Encoder
- Altimeter
- Vacuum Pump
- Dc Power Box
- Aircraft Circuit Breaker

- Circuit Breaker Lockout
- 20 A power supply
- Current and voltage meters
- Assembled and wired according to aeronautical regulations
- Aeronautical standard connectors and jackets.

## Components Technical Specs

### Transponder Device General Specs

- Transmitter Frequency; 1090 MHz +-3 MHz
- Receiver Sensitivity: -73dBm (nominal); -69dBm (min. for 90% reply)
- Mode C Capability: Accepts standard ICAO Altitude Transmission Code digitizer output, reporting in 100 ft. increments from -1000 ft. throughout operating range
- Input voltage 28 VDC
- 4096 discrete codes
- Backlight labels and knobs
- CLR button
- VFR button
- IDT button
- Numeric Buttons(0-1-2-3-4-5-6-7)
- KNOP(OFF-SBY-TST-ON-ALT)
- Code window
- Original installation manual.

### Optional

- **Transponder/DME Test Set**

Avionics test equipment is a ramp tester developed to simulate the ground station or airborne environment required to test Modes A and C transponders.

ARINC specifications and FAA regulations regarding pilot's code and encoded altitude tests and SLS, transponder receiver sensitivity, percent reply, and transmitter power, frequency.

PRF measurements, precise range, power and frequency and velocity simulation.

- Digital readout of XPDR code and altitude
- Measures transponder frequency and checks for correct DME channel
- Binary pulse information for code and altitude
- Precision DME range and velocity signals, both X and Y channel
- Front panel connector provides direct check of altitude encoders
- Internal battery and battery charge
- Checks position of XPDR second framing pulse relative to F1.

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- **NAV/COM Tester**
  - Output Power;
  - ADF = -12 +/-3 dbm
  - VOR= -10 +/-3 dbm
  - ILS Localizer= -10 +/-3 dbm
  - ILS GS = -17 +/-3 dbm
  - ILS MKR = -15 +/-3 dbm
  - DME = -12 +/-3 dbm
  - TXPDR = -12 +/-3 dbm
  - VOR radial accuracy; +/- 1 deg
  - ILS localizer DDM accuracy; +/- 15%
  - ILS glide slope DDM accuracy; +/- 15%
  - DME accuracy; +/- 0.1NM
  - Transponder specs;
  - PRF 235+/-5 Mode A,C 50 +/-2 Mode S
  - P2 level equal P1 +/- 0.1 dbm
  - P2 position 2 +/-0.01 uS from P1
  - P3 position 8 +/- .01uS or 21 +/- 0.02uS Rel to P1
  - Pulse width 0.8 +/-0.01uS P1,P2,P3
  - Frequency 1030 MHz Tx, 1090 MHz Rx , +/- 2.5ppm
  - Reply % 0 to 100% displayed +/- 0.5%
  - Reply window 2.5 to 3.5uS F1 from P3
  - Pulse Width reads out to +/- 50nS resolution
  - X Data Pulse Must=0 for good read
  - SPI Displays ID message

**NOTE:** Avionics devices brand/model and some technical specs can be change due to market availability.

## Documentation

- User's Manual
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz