

## Programmable C-Band Radar Transponders

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### Features

- Small footprint ideal for missiles and smaller unmanned vehicles.
- Enhanced Pulse parameter capabilities
- 30% smaller than comparable units
- Minimum peak power outputs of 20 Watts and 50 Watts
- Infinite Shelf Life
- Reliable Solid State Transmitter using the latest GaAs technology

### Applications

- Vehicle Tracking

### Description

The Micro Systems, Inc. families of C-Band Radar Tracking Transponders are compact precision augmentation systems for enhancing the tracking capability of C-Band Radars. The 50 watt unit is 30% smaller than comparable units. It is particularly suitable for small missiles, targets, and aerial vehicles where weight and space are of a premium.

These units offer an industry first, offering a reliable solid state transmitter and using the latest in GaAs technology. The result is low modulation pulse voltages, increased reliability, infinite shelf-life, and no maintenance requirements. The transmit frequency, receive frequency, and all pulse code parameters are externally programmable using a standard PC – another industry first. This series of transponders provides a substantial savings of time and money for testing, systems maintenance, and operational parameter changes. Minimum peak power outputs of 20, and 50 watts are available.

Micro Systems, Inc. C-Band Transponders provide enhanced pulse parameter capabilities incorporating the latest range requirements in an effort to expand the operational capability of existing C-Band radar systems.

# Technical Specifications

AS9100C and ISO 9001:2008 Certified

## Transmitter

- **Frequency:** 5.4 GHz to 5.9 GHz, Externally Programmable at 1 MHz intervals
- **Minimum Power Output:** Model 253-X = 50 Watts; Model 252-X = 20 Watts
- **Type:** Solid State
- **Frequency Stability:** +/- 3 MHz
- **Pulse Width:** 250 nsec to 750 nsec ,externally programmable at 50 nsec intervals
- **PRF:** Up to 2600 Hz
- **Reply Delay** 1 µsec to 9 µsec, externally programmable at 0.5 µsec intervals

## Receiver

- **Frequency:** 5.4 GHz to 5.9 GHz, externally programmable at 1 MHz intervals
- **Sensitivity:** -65 dBm minimum, ≥99% Reply
- **RF Bandwidth:** 11 +/- 3 MHz
- **Pulse Width:** 0.25 µsec to 5.0 µsec Single pulse, 0.25 µsec to 1.0 µsec Double pulse
- **Pulse Decoder:** Single or Double, externally programmable
- **Pulse Coding:** 2 µsec to 16 µsec externally programmable at 0.5 µsec intervals

## Environmental

- **Temperature, Operating:** -40°C to +71°C; -54°C to +85°C Available
- **Temperature, Storage:** -62°C to +95°C
- **Vibration:** MIL-STD-810C
- **Altitude:** 85,000 feet
- **Acceleration:** 50 G's all axis 1 minute
- **Shock:** 100 G's all axis 6 msec, 120 G's all axis 4 msec
- **Humidity:** 100%
- **EMI/RFI:** MIL-STD-461C, Class A1 equipment, IAW MIL-STD-462

## Power Requirements

- **DC Power:** 22 to 34 VDC (28 VDC nominal)
- **Reverse Polarity:** Series diode protection
- **Impedance:** 50 ohms
- **Power Consumption:** 9 Watts maximum (320 mA @ 28 VDC)

## Physical

- **Size:** 3.50" W x 1.40" T x 3.95" D (8.9 x 3.6 x 10 centimeters)
- **Weight:** 18 ounces (510 grams)
- **Volume:** 18 cubic inches (295 cubic cm)
- **Power Connector:** MS2746Y08D35P

## Contact us for custom modifications

### For additional information contact:

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