



## GWX™ 70

Part Number: 010-GWX70-00

### **Overview**

With its advanced solid-state transmitter design eliminating the need for life limited magnetron tubes, the Garmin GWX 70 comprises the very latest and most reliable radar technology.

#### Scan with Doppler Accuracy

This Doppler-capable radar combines excellent range and adjustable scanning profiles with precision target definition — for accurate, easy-to-interpret, real-time analysis in the field. Its powerful yet versatile design allows it to be adapted to a wide range of uses, including weather detection, meteorological applications, small target detection, search and rescue, and synthetic aperture radar (SAR) applications.

#### Experience Solid-State Reliability

With its digital design, the GWX 70 provides reduced power consumption and extended life when compared to previous generations of magnetron-based radars. While magnetron tubes degrade or burn out over time, the solid-state technology in the GWX 70 maintains a consistent picture its entire lifecycle – all while only using 40 W of transmit power. What's more, the all-in-one antenna/receiver/transmitter unit is available with a 10", 12" or 18" antenna, so it's easily utilized in a wide variety of configurations.

#### Application-Specific Software Configurability

As a software defined radar system, the GWX 70 provides considerable flexibility for use in a wide range of unique radar applications. A standard RJ45 Ethernet connection allows for the high-speed transfer of raw I and Q data returns to a PC or laptop. User configuration, via the same Ethernet connection, includes pulse widths, pulse compression ratios, and other transmitter setup functions.

### **Features**

Possible applications include

- Weather monitoring
- Turbulence detection
- Intense weather (storm, tornado, hurricane) monitoring and alerts
- Synthetic aperture operation
- Fixed or vehicle mount



## **GWX 70 Continued....**

Software configurable and defined radar

Software selection includes

- Real-time agile frequency selection
- Pulse lengths
- Pulse compression ratios
- Time weighted window functions
- Doppler enabled performance to 40 nm
- Doppler ambiguity mitigation
- Pulse pair operation out to 40 nm
- Receiver gain
- Horizontal scan angle
- Vertical scan angle
- Configurable antenna scan profiles

Accessible data includes

- I and Q return data
- dBZ returns

RJ45 High Speed Ethernet connection for PC or Laptop communication for control and data collection

Rugged design allowing operation in severe environments both permanent or vehicle mount

Fast scan speeds

Single sox system

Easy installation

Various antenna sizes (mates to standard WR-90 waveguide termination)

Small size

Low weight

Ultra low power consumption

## **Specifications**

### **General**

**Output frequency range:** X-Band (~9.3 to ~9.5 GHz)

**Pulse widths:** Wide range of configurable pulse widths



## GWX 70 Continued...

Receiver gain adjustment: +12 to -64 dB

RX sensitivity: -126 dBm MDS

Manual gain: +12 to -64 dB

## Antenna sizes and beamwidth:

- 18" Antenna: 5.3°
- 12" Antenna: 7.8°
- 10" Antenna: 9.0°

## Mechanical

Size: Width: 8.0" (20.3 cm) diameter at base; Depth: 6.3" (16.0 cm); Antenna: 10", 12" or 18" diameter flat-plate

## Unit weight:

- GWX 70 with 18-Inch Antenna: 12.7 lbs (4.31 kg)
- GWX 70 with 12-Inch Antenna: 9.5 lbs (4.31 kg)
- GWX 70 with 10-Inch Antenna: 9.3 lbs (4.22 kg)

## Electrical:

Power requirements: <3 A at 14 V and <1.5 A at 28 V

Transmitter power: 40 W nominal

