System Features

Radar

- Multi-mode Operation
  - Surface Search
  - Terrain Mapping
  - Beacon Navigation
  - Weather Avoidance
- System Weight
  - -360° operation: 60 lbs/27.2 kg
  - -120° operation: 50 lbs/22.7 kg
- High Reliability

Situation Display Capability

- Aircraft Heading Reference
- North-Oriented
- Fixed Ground Reference (True Motion)
- Variable Display Offset
- Target Marker: range/bearing or latitude/longitude
- Beacon Location and Identification
- Navigation Waypoint Overlay
- Search Pattern Display
- 10 Operator Assignable Global Identifiers

Optional Features

- Navigation Interfaces
- Area NAV
- Inertial Navigation
- GPS
- LLLTV/Video Interface
- FLIR Interface with FLIR Sensor Steering
- Track-While-Scan (TWS) Mode (up to 20 targets)
- Antennas for 360° operation:
  39 in. x 9 in.
  33 in. x 9 in.
  29 in. x 9 in.
- Antennas for 120° operation:
  18 in. circular
  18 in. x 12 in.
  12 in. circular
  10 in. circular

Interface Capabilities

- ARINC 419/429

Improved Human Engineering Features

- New Target Marker Logic
- Improved Accuracy
- Target to Center Offset Mode
- Ground Track Line Display
- Range Ring On/Off Capability
- Trackball or Joystick Operation
- Cockpit Display Operable

System Specifications

Radar

- Ranges: 0.625 nm
  1.25 nm
  2.5 nm
  5.0 nm
  10.0 nm
  20.0 nm
  40.0 nm
  80.0 nm
  160.0 nm
- Transmitter Frequency: 9375 MHz
- Transmitter Power Output: 10 KW nominal
- Pulse Repetition Frequency: 1600/800/200 Hz
- Pulse Width: 0.1/0.5/2.35 usec
- Receiver Frequency (Search/Weather Modes): 9375 MHz
- Receiver Frequency (Beacon Mode): 9310 MHz
- Antenna Gain: 31 dBi – 26 dBi
- Scan Angle: Full 360° or 120° sector scan
- Scan Rate: (360°) 45°/sec – 90°/sec (120°) 28°/sec
- Certification: TSO-C63b (RT and Antenna)

Temperature

- Receiver/Transmitter: -40° to +55°C
- Interface Unit: -15° to +55°C

Power Requirements

- 28 VDC @ 6 amps
- 115 VAC/400 Hz @ 35 Voltamp

Specifications subject to change without notice.

For further information contact:

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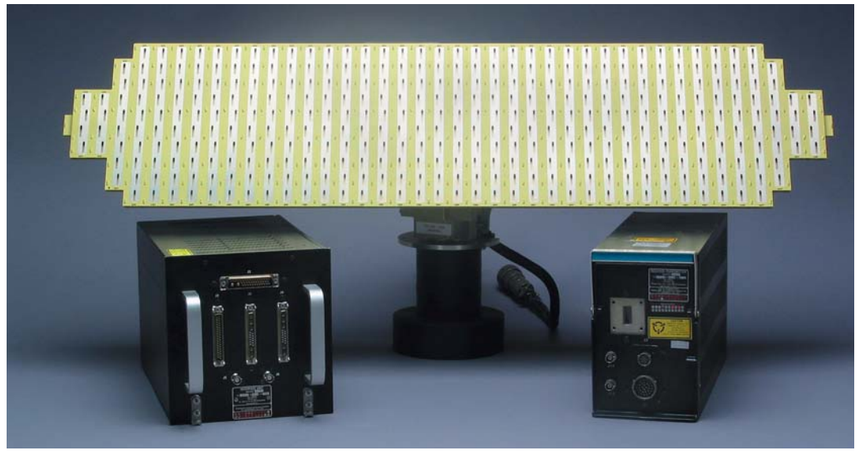
TELEPHONICS® A Griffon Company

Telephonics RDR-1700 is designed specifically for integration with glass-cockpit-configured aircraft.

RDR-1700

Search, Surveillance, and Weather Avoidance Radar System



Telephonics RDR-1700 Search, Surveillance and Weather Avoidance Radar System is the successor to the multi-mode RDR-1500B Radar System. Designed specifically for integration with glass-cockpit-configured aircraft, the RDR-1700 has several additional features to make it a mission-effective tool for maritime surveillance. The primary role of the RDR-1700 remains airborne search and surveillance while secondary roles include terrain mapping, weather avoidance and beacon navigation.

The RDR-1700 is a lightweight, X-band, 360-degree (belly-mount) or 120-degree scanning (nose-mount) digital color radar system. The three Line Replaceable Units (LRUs) include: antenna/pedestal unit, the receiver-transmitter unit and the interface unit. Control is provided via glass cockpit Multifunction Displays (MFDs) using an ARINC 429 interface. Waveguide pressurization is not required.

A 20-target Track-While-Scan (TWS) capability is integral to this system. All radar controls are handled via a joystick, cockpit display, and bezel mounted key switches.

The RDR-1700 offers standard display modes including aircraft heading reference, North-oriented and ground reference. The system also has the capability to offset the sweep center to any location on the display. Additionally, the RDR-1700 has target marker capability allowing the operator to determine range and bearing (or latitude/longitude) of a target from the aircraft and also relative range and bearing between targets.

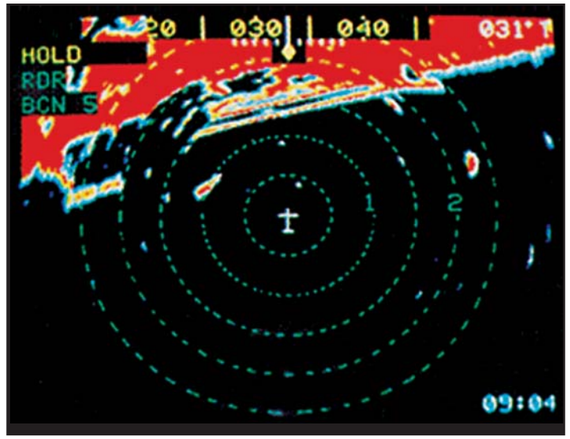
The system provides three basic operations: surface search and detection with sea-clutter rejection, weather avoidance, and radar beacon interrogation and display. The system displays the radar returns and will also interface with aircraft navigation systems to display information such as search patterns, waypoints and flight log information.

System capabilities include: long-range navigation position update, and target position transmission. The 20 target Track-While-Scan Processor provides location latitude and longitude, target heading and velocity.

Display Modes

ACFT Heading Reference Mode

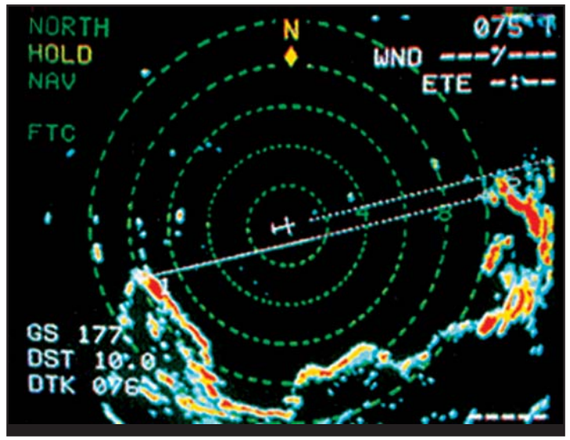
In the ACFT Heading Reference Mode, the radar image is presented on the indicator display with the aircraft heading straight toward the top of the screen. In the NAV mode, heading markers and compass card are displayed at the top center of the screen and a deviation bar is displayed at the bottom center of the screen.



ACFT Heading Reference Mode

North Reference Mode

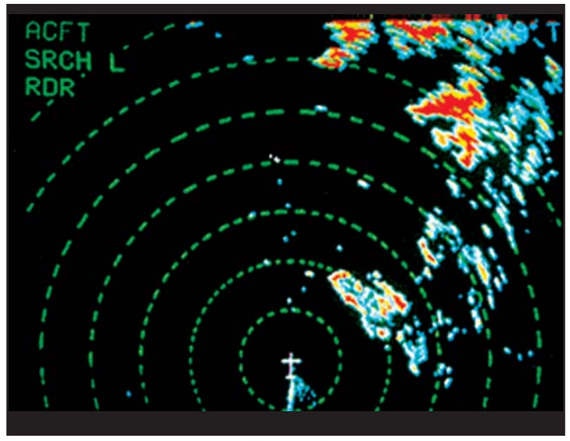
In the North Reference Mode, the radar image is displayed with North at the top center of the screen. A North marker appears at the top, and a heading vector points in the direction of the aircraft's heading.



North Reference Mode

Offset Mode

The Offset Mode may be selected at any time to bring the target of interest to the center of the radar screen. The system processes radar data out to twice the selected range to provide full display coverage in the offset mode.



Offset Mode

Search Mode

The system includes a Search Mode with nine display ranges that can detect and display targets to a minimum range of 250 feet. Even under adverse conditions, targets such as a small boat will be detected.

The search mode permits searching for ships at sea and terrain mapping of topographical features (bodies of water, islands, bridges, etc.).

The search mode has three pulse widths available. When in the search mode with the pulse width selection in auto, the following pulse width criteria are active:

Range (Nmiles)	Pulse Width (microsec)
Up to 10	Short (0.1)
Up to 20	Medium (0.5)
Above 20	Long (2.35)

In addition, the operator may manually select medium or long pulse widths in any range.

A Fast Time Constant (FTC) clutter rejection circuit is provided for searching of targets in heavy sea clutter environments. The FTC is operator selectable.

Optional Tracker

With 20 target TWS option operators can determine the velocity and heading of tracked targets.

Typical RDR-1700 Display

Optional Tracker