

GENESYS DIGITAL RADIO

UHF & VHF NAV/COMM RADIO FOR
SPECIAL MISSION AVIATION

Precise Performance.
Proven Experience.
Personalized Attention.



GDR® - LEANER, LIGHTER, LESS EXPENSIVE!

The Genesys Digital Radio (GDR®) is a family of remote-mount, software-definable radios. They feature combined VOR/localizer/glideslope and marker beacon navigation and VHF communication with a frequency range of 118-136 MHz and 25 or 8.33 kHz channelization with transmit power of 16 or 25 watts. The radio is designed to interface to a host controller/display that has the capability to control the navigation and communications functions via RS-232, or ARINC-429 serial interfaces.

Features of the radio include:

- 16 or 25 watts transmit power
- Utilizes 28VDC aircraft power and complies with MIL-STD-704E
- Automatic selection of VOR or LOC mode of operation by channel frequency
- Automatic pairing of LOC (Localizer) and GS (Glide Slope)
- Reception and decoding of the VOR or LOC signals
- Reception and decoding of the GS signals
- Reception and decoding of the marker beacon signals
- OBS input via bus for operation of analog CDI in VOR operation
- Drives analog instrument panel CDI & VDI and/or auto pilot
- LOC enabled annunciator output for autopilot gain control
- Internal Glide Slope and ILS/VOR RF diplexer
- Selection of COMM and VOR/ILS channels via RS-232, ARINC 429, or RS-422 bus
- Two PTT inputs for UHF or VHF transmit selection
- Dual UHF and VHF full time reception
- Support for two microphone inputs, two audio outputs, and separate sidetone output
- The COMM subsystem functions as either:
 - Class D Receiver with a Class 3 Transmitter (25 KHz channel spacing)
 - Class E Receiver with a Class 5 Transmitter (8.333 KHz channel spacing).
- VHF COMM transceiver operational range of 118.000 to 155.975 MHz
- Tunable VHF and UHF guard receivers
- DME tuning via ARINC 429 output



SPECIFICATIONS

Dimensions:

- Width: 2.22" (56.39mm)
- Height: 7.10" (180.34mm)
- Depth: 11.60" (294.64mm)

Weight:

- 5.5 lbs (2.49 kg) (w/single tray)

RTCA/DO-160G:

- [F2]ZXBBB[H,R,U]EWXSFSZZAZ[ZC]YM[A3J3L3]XXAC

RTCA/DO-178C:Level-A

MIL-STD: 704E, 810G

A/C power:

- 5.6 amps typical TX @ 28 VDC
- 10 amps maximum TX @ 18 VDC
- 0.8 amp typical RX @ 28 VDC

Control Buses:

- 2 each ARINC 429 RX
- 1 ea. ARINC 429 TX
- 2 each RS-232

Antenna Connectors:

- 1 each 50 Ohm BNC VOR/ILS/GS diplexed
- 1 each 50 Ohm BNC UHF/VHF COMM with guard receiver
- 1 each 50 Ohm BNC Marker Receiver

Discrete Inputs:

- On/off control, on when pulled low
- Emergency tune when low, programmable to 121.5 or 243 MHz
- TX interlock pad, 10 dB
- 2 PTT, 1 UHF TX, 1 VHF TX or programmable.
- ARINC SDI programming COM1 to COM 3

Built in test:

- Supplied with PBIT and CBIT

VOR/ILS Receiver:

- 108 to 117.975 MHz, voice and navigation modulation

Main COMM Receiver:

- 118 to 136.975 MHz or 155.975 MHz, 225 to 400 MHz

Guard Receiver:

- Fully tunable UHF and VHF on shared antenna port

Preset channels:

- Up to 100, dependent on external control head or EFIS

Channelization:

- 8.33 kHz or 25 kHz as allowed by band

FM Immunity:

- Compliant to EUROCAE ED-23B

TX power:

- 16 Watts Standard, 25 Watts based on Model #

Audio loads:

- 150 to 600 Ohm loads permitted, factory set for 100 mW into 150 Ohm load

AM modulation:

- >85% with 0.25 to 3.0 Vrms audio input, ALC

TX Modulation:

- Audio Flat -3 to +1 dB from 0.3 to 2.5 KHz
- Audio compliant with a Class 5 Transmitter for 8.333 KHz channel spacing

TX distortion:

- <5% AM

Audio outputs:

- Main RX audio 10 to 100 mW bench adjustable
- Sidetone audio 10 to 100 mW bench adjustable

RX Performance:

- Class D Receiver compliant with 25 KHz channel spacing
- Class E Receiver compliant with 8.333 KHz channel spacing

Rx sensitivity:

- -105 dBm typical, 6dB SINAD

RX squelch:

- S/N squelch bench adjustable, CLIMAX compatible
- Carrier override squelch bench adjustable

TX interlock:

- 10 dB attenuation via external discrete

Export:

- Non-ITAR, ECCN 7A994

MODELS & PART NUMBERS

The following GDR product models and part numbers are available to meet your installation needs.

Models	VOR/ILS	Marker Beacon	VHF COMM 136 MHz	VHF COMM 156 MHz	UHF COMM 225-400 MHz	TX Power (Watts)	
GDR-1636	✓	✓	✓			16	VHF Nav/Comm
GDR-1656	✓	✓		✓		16	VHF Nav/Comm
GDR-1636U	✓	✓	✓		✓	16	VHF + UHF
GDR-1656U	✓	✓		✓	✓	16	VHF + UHF
GDR-2536	✓	✓	✓			25	VHF + UHF
GDR-2556	✓	✓		✓		25	VHF + UHF
GDR-2536U	✓	✓	✓			25	VHF + UHF
GDR-2556U	✓	✓	✓	✓	✓	25	VHF + UHF
GDR-1624U					✓	16	UHF Only
GDR-2524U					✓	25	UHF Only

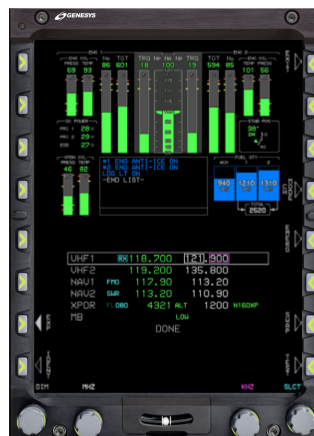
TSO'S

The Special Mission GDR radio complies with the following TSO's.

TSO-C34e	ILS GS Rx equipment operating in RF range 329.15 - 335.0 MHz
TSO-C36e	ILS LOC Rx equipment operating in RF range 108 - 112 MHz
TSO-C40c	VOR Rx equipment operating in RF range 108 -117.95 MHz
TSO-C35d	Marker Receiver Equipment Cat A and EUROCAE 1/WG 7/70
TSO-C169	VHF Radio Communications Transceiver Equipment Operating in the RF range 117.975 to 137.000 MHz
TSO-C128	Devices that prevent blocked channels used in two-way radio communications due to unintentional transmissions

GDR CONTROLLER & DISPLAY

The GDR radio is designed to interface with multiple different radio control and display devices including an EFIS, Genesys Control Panel (GCP), and other 3rd party radio controllers. Inquire for more information concerning your GDR radio control and display needs.



+1.817.215.7600
Genesys-Aerosystems.com

