

# DL-3400 SERIES

## HIGH SPEC TELEMETRY LINK

VHF: 132-150, 150-174 MHz

UHF: 406-430, 450-470 MHz

900 MAS: 928-960 MHz



Dataradio's DL-3400 Series of analog radios are ideal for telephone line replacement applications and are readily adaptable with the DL-3282 Bell 202 and other FSK style modems. These premier units have FCC and Industry Canada approval and meet European ETSI standards for data applications.

**SUPERIOR SPECIFICATIONS** provide fast attack lock times. The DL-3400 operates at 1 - 5 watts adjustable RF output power with minimal keyup/down sideband noise and superior frequency stability.

**THE DL-3400'S DIAGNOSTICS PORT** provides the interface for the user to design and incorporate diagnostic applications with functions like forward/reflected power, RSSI, temperature, current sense, modulation flatness, and power set.

**TWO POWER SAVING FEATURES** provide power conservation methods:

**Sleep mode** draws a maximum 8 mA and is operational in 13 milliseconds

**Cold start** allows the user to cycle power on and off with a unit that reaches operational state in less than 30 milliseconds

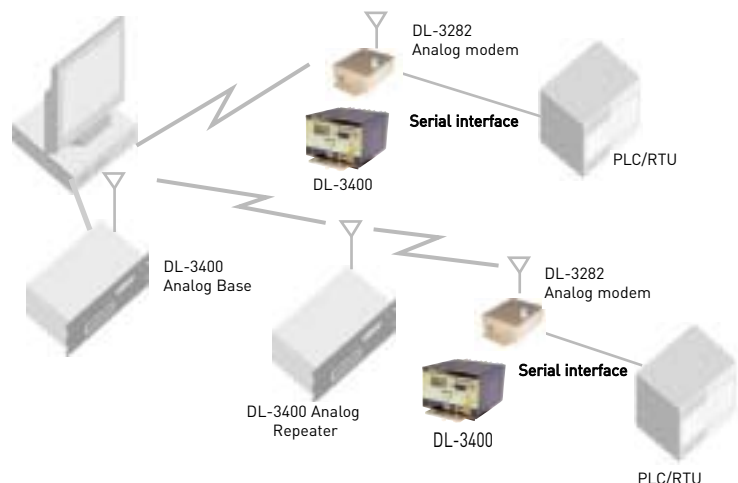
### DL-3400 TECHNICAL SPECIFICATIONS

#### GENERAL

	VHF	UHF	900 MHz
Frequency Range	132-174 MHz	380-512 MHz	928-960 MHz
Frequency Control	Synthesized		
Channel Bandwidth	12.5 or 25 kHz		
Operating Voltage	10 - 16 VDC		
Operating Temperature	-30°C to +60°C		
Data Interface	RS-232 DB-9		
FCC Type Acceptance	NP42423422-007	NP42423412-004	NP42423492-001
FCC Emission Designators	16K0F1D/F3D/F3E 11K0F3E	16K0F1D/F3D/F3E 11K0F3E	11K0F3E, 16K0F3 12K5F3D, 24K4F3D 12K5F1D, 19K6F1D
IC Type Acceptance	933-195-245	933-195-238A	2984195340A

**THE DL-3400'S** dependability makes it the perfect choice for those applications where high-speed data rates are not essential.

**ALL DATARADIO PRODUCTS** are designed to last and are backed by our standard two-year warranty. The DL-3400 is manufactured in the USA.



## DL-3400 TECHNICAL SPECIFICATIONS

### RECEIVER

	VHF	UHF	900 MHz
RF Input Impedance	50 ohms		
Frequency Stability	2.5 ppm	1.5 ppm	1.5 ppm
Receiver Attack Time	<7 msec		
Carrier Detect	High/low programmable TTL levels		
Selectivity	70 dB @ 25 kHz 60 dB @ 12.5 kHz	70 dB @ 25 kHz 60 dB @ 12.5 kHz	65 dB @ 25 kHz 60 dB @ 12.5 kHz
Intermodulation	70 dB		
Spurious and Image Rejection	70 dB		
FM Hum and Noise**	-45 dB @ 25 kHz -40 dB @ 12.5 kHz	-45 dB @ 25 kHz -40 dB @ 12.5 kHz	-40 dB @ 25 kHz -35 dB @ 12.5 kHz
Sensitivity	<0.35µV @ 12 dB SINAD		
Current Drain	100 mA maximum		
Data Output	De-emphasis or flat		
Data Output Level	Adjustable		
Wideband Output Level	150mV RMS, adjustable down		
Narrowband Output Level	707 mV RMS, adjustable up or down		
Audio Response	Audio, FSK, sideband AC coupled - inverted or noninverted wideband DC coupled - noninverted only		

### TRANSMITTER

	VHF	UHF	900 MHz
Bandwidth without tuning	132 -150: 18 MHz 150 -174: 24 MHz	450 - 470: 20 MHz all other bands: 16 MHz	928-960: 32 MHz
RF Output Power @ 13.6 volts	1 - 5 watts, adjustable		
RF Output Impedance	50 ohms		
Duty Cycle	50% @ 5 watts, 30 sec maximum transmit		
Attack Time	< 7 msec		
Frequency Tolerance	2.5 ppm	1.5 ppm	1.5 ppm
Spurious and Harmonic Emission	-37 dBm (-74 dBc)	-37 dBm (-74 dBc)	-26 dBm (-63 dBc)
FM Hum and Noise**	-45 dB @ 25 kHz -40 dB @ 12.5 kHz	-45 dB @ 25 kHz -40 dB @ 12.5 kHz	-36 dB @ 25 kHz -30 dB @ 12.5 kHz
Current Drain	2000 mA @ 5.0 watts at 13.3 VDC		
Modulation Distortion	<5%		
Data Input	Pre-emphasis or flat		
Data Input Level	200-800 mV RMS, factory set to 400 mV RMS		

### INTERFACE INFORMATION

Antenna Connector: SMA bulkhead

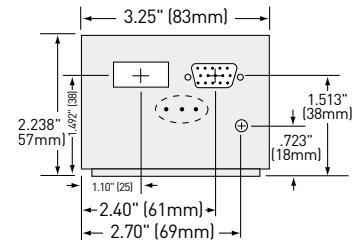
User Interface				Programming Interface			
Connector: 10-pin 3M (Type 3325)				Connector: RS-232 DB-9 female			
Pin	Description	Pin	Description	Pin	Description	Pin	Description
1	Wideband Data In*	6	PTT	1	Sleep mode	6	Program 0
2	Wideband Data Out	7	Carrier detect	2	RxD	7	—
3	Frequency select	8	Data In	3	TxD	8	Program 1
4	RSSI	9	Ground	4	—	9	Program 2
5	Supply	10	Data out	5	Ground		

\* Use of the wideband data port requires separate FCC certification.

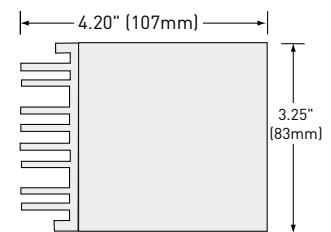
\*\* Psophometrically weighted

Specifications are for most applications using good RF propagation and installation practices. Refer to the DL-3400 Series Technical Manual for minimum specifications.

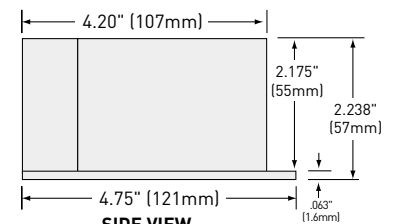
### MECHANICAL LAYOUT



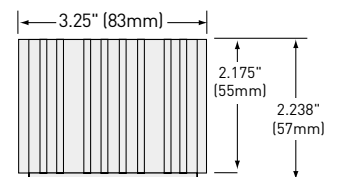
FRONT VIEW



TOP VIEW



SIDE VIEW



REAR VIEW