

Microwave: Sierra Digital Series

Applications

- ▲ Point to Point medium haul, light density digital data applications.
- ▲ Can be operated as a "Repeater" with antennas in a "back to back" configuration.

**MODEL 2350S
(SYNTHESIZED)
21.2-23.6 GHz MILLIMETER
WAVE RADIO LINK
MEDIUM HAUL - UNIVERSAL
(BASEBAND) RADIO**



Features & Benefits

- ▲ Flexible – the 2350S Universal Radio accepts most signals utilizing 1 volt p-p levels with a bandwidth of 15 MHz.
- ▲ Operating frequency tunable at the Interface Unit with thumbwheel switches.
- ▲ Optional Output Power Control at the Interface Unit with thumbwheel switch.
- ▲ One year warranty - Low parts count, highly derated solid state devices make for extremely high MTBF.
- ▲ Easy installation – special mounts enable simplified, rapid installation.
- ▲ Can be used as repeater.

Description

The SDC 2350S series synthesized digital millimeter wave radio is a simple, low cost, alternative to a land line circuit.

The 2350S is a wide open Baseband radio and whether your requirements are for a T2 (6.312 Mb/s) or a E2 (8.448 Mb/s) circuit, a LAN, a video circuit or a special circuit, the 2350 millimeter wave link, with an appropriate MUX, affords you a low cost radio solution. Because of cost, response time, or right of way constraints with land lines; implementation of the 2350S digital radio will be quicker, easier, and more affordable.

Three units make up the 2350S system:

- A weatherproof outdoor transmitter/receiver unit including integral 12" antennas.
- Also available in separate box for use with external antennas.
- An Indoor Interface unit containing power supplies, and Baseband circuitry.

Technical Specifications

TECHNICAL SUMMARY

Frequency Range	21.2 to 23.6 GHz
Standard TX/RX spacing	1200 MHz
Allocated R.F. Channel Bandwidth	50 MHz
Occupied Bandwidth	Up to 30 MHz
<small>(requires modification of normal 15 MHz Bandwidth)</small>	
Modulation type	2-level FSK (FM)

STATUS AND DIAGNOSTICS

LED Status Indicators	Primary power, Link continuity
LED Alarm indicators	AGC Alarm, Tx Alarm, RX Alarm, Frequency command error
Alignment Aids	Outdoor Unit: AGC Test Points Indoor Unit: AGC Level Meter



ORDERING INFORMATION

Synthesized Universal Radio Model 2350S

OPTIONS

(Consult the Factory)

Note that standard models will accept input voltages from 93 to 265 VAC, 50/60 Hz.

6. + or - 24 VDC
7. + or - 48 VDC
10. 24" External Antennas
11. Flexguide sections to connect antennas to RF Heads.
12. Output Power control
17. Arctic Mod to Operate Down to -45°C (Increases power consumption)

** In the US, operation with 12 Inch antennas is restricted to Pair numbers D (21.825/23.025), T (21.875/23.075), G (21.925/23.125), and E (21.975/23.175).

Technical Specifications for the 2350S*

TRANSMITTER CHARACTERISTICS

RF Source	Oscillator/ Multiplier/ Amplifier Type
Guaranteed Power Output	+17 dBm (minimum)
Power Control Option	7 steps down from max power out
Frequency Stability (-30° to +70° C)	± 0.001%
Tuning Range	Covers full band with Two (2) sets of units

(One set covers upper half, one set covers lower half)

In response to interference, radios may be tuned in 5 MHz increments at the Control Unit.

RECEIVER CHARACTERISTICS

Type - Dual Conversion Superhetrodyne	2500 & 70 MHz
Noise Figure (System)	5.5 dB (typical)
Sensitivity - Receiver Threshold (for 10 ⁻⁶ operating point)	-80 dBm
Maximum receiver input (Damage will occur at +5 dBm)	-15 dBm

12" ANTENNA CHARACTERISTICS

Type	Parabolic
Diameter	12.5 inches (31.8 cm)
Polarization	Linear
Gain (22.4 GHz)	35 dB
Front to back ratio	42 dB
Beamwidth (3 dB)	3.2°

TRANSMISSION DATA

System Gain	97 dB
-------------	-------

INTERFACE PARAMETERS

Input Level	1 V P-P
Bandwidth	15 MHz
Impedance	75 Ohms

ENVIRONMENTAL CHARACTERISTICS

OUTDOOR UNIT INDOOR UNIT

Ambient temperature range	-30° to +70° C	0° to +50° C
Storage & transportation	-40° to +80° C	-40° to +60° C
Humidity (non-condensing)	up to 100%	up to 95% at +50° C

INPUT VOLTAGE REQUIREMENTS

Power input	93 - 265 VAC
Brown-out voltage	90 VAC
Line frequency	50/60 Hz
Six foot 3-prong powercord provided with indoor unit	

POWER CONSUMPTION

Total power required per Terminal 50 Watts Maximum
(100 w for both end)

FCC INFORMATION

FCC rules part number	101
Frequency range	21.2 - 23.6 GHz**
Emission Designator	42M0F7D
Frequency tolerance	± 0.001%
FCC Maximum power output	0.10 watts

SIZE AND WEIGHT

	High	Deep	Wide	Wt
Outdoor RF Unit with Integrated 12" antennas (excluding mount)	15"	12"	15"	151b.
Outdoor RF Unit for use with external antennas (excluding mount)	11"	8"	6"	151b.
Indoor Interface Unit	19" Rack, 2U mounting space (3.5" high)			

INTERCONNECT CABLES & CONNECTORS

Cabling Between RF Head and Interface Unit 0' to 1000'	Single 50 Ohm coaxial (Belden 9913 or equivalent.)
Coaxial connectors	Type N
Waveguide Flange for connection to external antennas	UG 595/U
Baseband In/Out Connectors (75 Ohms)	BNC

FREQUENCIES

The lower half of the band is covered by one pair of units and the upper half of the band is covered by a second pair of units. Therefore, to spare all possible frequencies would require four (4) different RF Heads.

*Specifications are subject to change without notice.

www.arcelect.com

Document #0057 1100

Telenetics is registered trademark of Telenetics Corporation. All other trademarks are the property of their respective holders. ©2000 Telenetics Corporation.