



# MIDLAND<sup>®</sup>

## SD-170 SERIES DATA RADIO

- 1 OR 5W OUTPUT / PROGRAMMABLE UP TO 16 CHANNELS
- CTCSS / DCS PRIVACY TONES
- PROGRAMMABLE CHANNEL SCAN
- BUSY CHANNEL LOCKOUT & TX DELAY
- WIDE / NARROW CHANNEL SPACING



**ROCK  
SOLID**

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Specifications	VHF Model SD-171	UHF Model SD-174
Frequency Range	148 - 174 MHz	450 - 490 MHz
Channels	16 (Dip switch selectable or external serial command)	
Channel Spacing	15 / 25 / 30 / 12.5 kHz	25 / 12.5 kHz
PLL Step	5.0 / 6.25 / 7.5 kHz	5.0 / 6.25 kHz
Channel Spread	26 MHz	40 MHz
Antenna Impedance	50 Ω	
Operating Voltage	7.2V DC to 18V DC	
Operating Temperature	-22°F to +140°F (-30°C to +60°C)	
Frequency Stability	± 2.5 ppm	
Current Draw RX	< 65 mA	
Current Draw TX	< 2.0 A	
Attack Time RX to TX	20 ms	
Attack Time TX to RX	20 ms, no power saving	
PLL Lock Time	10 ms	
Squelch Attack Time: RF Level @ Threshold	40 ms	
RF Level @ Threshold + 20 dB	30 ms	
Squelch Decay	5 ms min / 20 ms max	
Baud Rate GMSK	Up to 9600	
Baud Rate FFSK	Up to 4800	
Dimensions (H x W x D)	4-15/16" x 2-5/16" x 1-1/4" (125 x 58 x 32 mm)	
Weight	8.9 oz. (253 gm)	
FCC Identifier	MMASD171	MMASD174
FCC Compliance	Part 90	Part 90
IC Certification Number	3690A-SD171	3690A-SD174

### Receiver Specifications

Sensitivity (12dB SINAD)	.25 μV @ 12.5 & 25 kHz	
Selectivity	65 dB @ 12.5 kHz	70 dB @ 25 kHz
Intermodulation	70 dB @ 12.5 & 25 kHz	
Spurious Response	65 dB @ 12.5 & 25 kHz	
Audio Output (Method @ <10% THD Level)	250 mV @ 8 Ω (filtered); 250 mV rms @ 10KΩ (unfiltered)	

### Transmitter Specifications

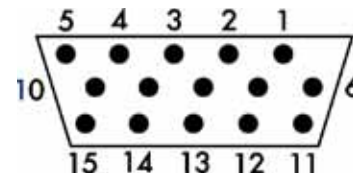
RF Output (programmable by channel)	1 / 5 Watts	
Spurious and Harmonic Emissions	60 dB	
Modulation	11K2F20, 10K8F3E, 15K0F3E	
FM Hum and Noise	40 dB @ 12.5 & 25 kHz	
Audio Distortion	2%	
Unfiltered Modulation	100 mV rms (input); 7 mV rms (filtered modulation input)	



6" UHF Antenna, 450-470 MHz,  
BNC Connector (CA-4506B)

\*\*\*Other Options Not Shown\*\*\*

6" VHF Antenna, 148-174 MHz, BNC Connector, uncut (CA-1506U)  
GPS Antenna (ACC-160)  
AFSK Bell 202 1200 Baud Modem (ACC-512)  
GMSK 9600 baud modem (ACC-513)  
FFSK 4800 baud modem (ACC-514)  
GPS Receiver (ACC-515)  
Extender Board (ACC-516)  
PC Programming Software, CD-ROM (ACC-916CD)  
PC Programming Interface Cable (ACC-2016)  
SD-171 / SD-174 Service Manual (680-100-2014)



### DATA CONNECTOR PIN-OUT

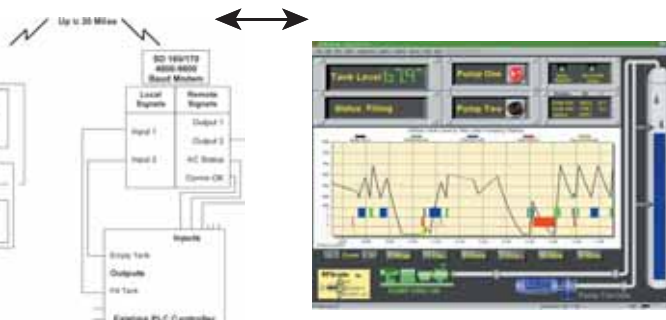
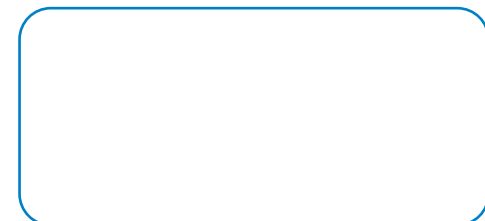
- 1 - Data modulation input: Analog input (Nominal modulated level input - 100Vrms)
- 2 - Data unfiltered output (Nominal demodulation output level - 250m Vrms @ 10KΩ)
- 3 - PTT-TTL level (or RS-232 level w/ modem option)
- 4 - Ground
- 5 - Serial data output for radio control or program - TTL level
- 6 - Busy Detect - TTL level (or RS-232 level w/ modem option)
- 7 - Microphone filtered audio input: Analog output (Nominal demodulation output level - 7mVrms)
- 8 - Serial data input for radio control or program - TTL level
- 9 - Speaker filtered output - Analog output (Nominal demodulation output level - 1Vrms @ 8m)
- 10 - Serial data input for option modem - RS-232 level
- 11 - Serial data busy for option modem - RS-232 level
- 12 - Serial data busy for option modem - RS-232 level
- 13 - GPS data input - TTL level (NMEA 0183 format)
- 14 - DGPS data input - TTL level (NMEA 0183 format)
- 15 - GPS data output - TTL level (NMEA 0183 format)

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FOR MORE INFORMATION, CONTACT:



Communicating to SD160/170 w/ 4800-9600 Baud Modem.