

# APPENDIX B

# SPECIFICATIONS

## Model 192S Specifications

### LED INDICATORS

- Power On
- Receiver Carrier Detect
- Transmitter Enable
- Link Connect/Disconnect
- Auto Connect Enable
- RS-232/422/485 Framing Error

### I/O – CONNECTORS

- RS-232C/422/485 - 25 Pin Sub D Female
- Infrared Programming Port
- RJ 11 Phone Interface (optional)
- Antenna Output – TNC-R
- Input Power - 2 Pin Molex Female

### ADDRESSING RANGE

- 1 to 254

### DATA INPUT

- RS-232/422/485 Asynchronous
- Selectable 1,200 to 57,600 baud
- 7 to 8 data bits
- Even, Odd or no parity
- One or Two Stop Bits

### DATA BUFFERS

- Transmit 4000 bytes
- Receive 4000 bytes

### FLOW CONTROL

- Hardware or Software

### DATA TRANSMISSION PROTOCOL

- Carrier Sensed Multiple Access with Collision Detection (CSMA-CD)

### ERROR CHECKING

- 16 Bit Cyclic Redundancy check (CRC) with Packet Acknowledge and Retry

### FREQUENCY OF OPERATION

- 2.4 to 2.462 GHz.
- Frequency selectable in 11 frequency zones

### RF DATA RATE

- 85.5K, 171K, 344K, or 688K bps RF data rate (user selectable)

### TRANSMITTER

- 1 Watt RF output
- 100% duty cycle
- 50 ohms output impedance
- Protocol activated keying
- <1 ms typical latency
- Direct sequence spread spectrum

### RECEIVER

- Double conversion superheterodyne
- -93 dBm 8E-2 Frame Error Rate
- 80 dB Image Rejection
- > 35 dBm Adjacent Channel Rejection
- Four levels of squelch (software programmable)

### POWER REQUIREMENTS

- 11-16 VDC @ 700 ma Transmit  
290 ma Receive

### SIZE

- 2.45 in. Height
- 8.16 in. Width
- 9.37 in. Length

### WEIGHT:

- 5 lbs.
- Rugged die cast aluminum case

### ENVIRONMENT

- -30° to 50° C
- 95% Non-condensing

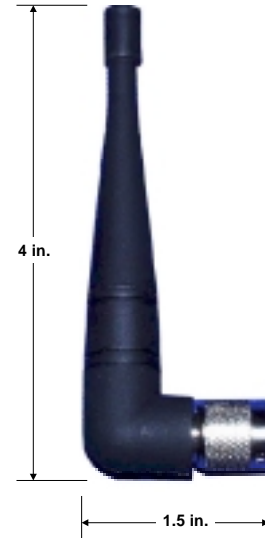
### WARRANTY

1 Year

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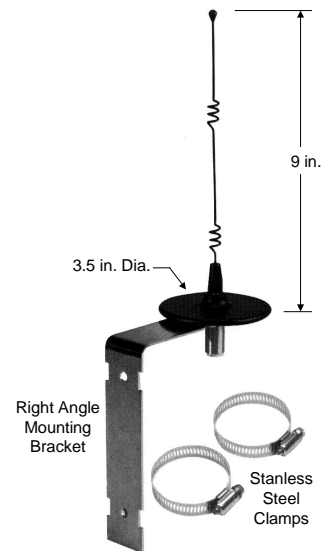
## Model 192S Antennas

<b>Model No:</b>	AA01S
<b>Antenna Type:</b>	Omni-Directional, right angle rubber duck, ½ wave
<b>Applications:</b>	Back of ESTeem Model 192S mount.
<b>Frequency:</b>	2400 to 24825 MHz
<b>Polarization:</b>	Vertical
<b>Impedance:</b>	50 ohms
<b>Gain:</b>	3 dBd
<b>VSWR:</b>	< 1.5
<b>Front To Back Ratio:</b>	n/a
<b>Horizontal Beamwidth:</b>	n/a
<b>Vertical Beamwidth:</b>	n/a
<b>Antenna Material:</b>	Rubber duct whip.
<b>Mounting Hardware:</b>	n/a
<b>Antenna Connector:</b>	TNC-R Male
<b>Antenna Envelope:</b>	4 in. length by 1.5 in width
<b>Weight:</b>	.08 lbs.



Model AA01S

<b>Model No:</b>	AA20S
<b>Antenna Type:</b>	Omni Directional, 5/8 Wave over 5/8 Wave over ¼ Wave.
<b>Applications:</b>	Fixed base or mobile mount.
<b>Frequency:</b>	2400 to 2485 MHz
<b>Polarization:</b>	Vertical
<b>Impedance:</b>	50 ohms
<b>Gain:</b>	5 dBd
<b>VSWR:</b>	< 1.5
<b>Front To Back Ratio:</b>	n/a
<b>Horizontal Beamwidth:</b>	n/a
<b>Vertical Beamwidth:</b>	n/a
<b>Antenna Material:</b>	Stainless steel whip. All other hardware anodized metal.
<b>Mounting Hardware:</b>	Stainless steel clamps for mounting to ¾ in. to 1½ in. pipe with right angle mount of direct panel mount..
<b>Antenna Connector:</b>	N Female.
<b>Antenna Envelope:</b>	9 in. length by 3.5 in. width
<b>Weight:</b>	.4 lbs.



Model AA20S

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# SPECIFICATIONS

## Model 192S Antennas

<b>Model No:</b>	AA202S
<b>Antenna Type:</b>	Directional, 15 element yagi in sealed UV stable radome
<b>Applications:</b>	Fixed base.
<b>Frequency:</b>	2400 to 2500 MHz
<b>Polarization:</b>	Linear
<b>Impedance:</b>	50 ohms
<b>Gain:</b>	13.9 dBd
<b>VSWR:</b>	< 1.5
<b>Front To Back Ratio:</b>	18 dB
<b>Horizontal Beamwidth:</b>	34 degrees
<b>Vertical Beamwidth:</b>	30 degrees
<b>Antenna Material:</b>	Stainless hardware with one piece copper radiating element. Advanced microwave substrate. All other hardware anodized metal.
<b>Mounting Hardware:</b>	Stainless steel U bolts for mounting to 1.5 in. to 2.2 in. diameter pipe.
<b>Antenna Connector:</b>	N Female on UltraLink® Pigtail
<b>Maximum Power Input:</b>	50 Watts
<b>Antenna Envelope:</b>	26 in. length by 4.0 in. height by 1.5 in. width
<b>Windload (RWV):</b>	125 mph
<b>Wind Load ½ in. Ice:</b>	100 mph
<b>Wind Surface Area:</b>	0.4 ft <sup>2</sup>
<b>Weight:</b>	1.25 lbs.



Model AA202S