System Interface
Special Application Radar

- **K-Band Antenna**
- **RS232 Serial Port**
- **2 - 200 MPH Speed Range**

The System Interface (SI-2) is a stationary mounted radar system using a K-band antenna. The SI-2 processor board is included in the K-band antenna housing, which tracks target speeds from processed raw Doppler signals generated by the microwave transceiver. The SI-2 antenna is directional, meaning it can be set to track targets moving toward or away from it. The SI-2 includes an RS232 serial port for communication with, for example, standard numeric display signs, changeable radar message trailers, computers, and conveyer belt controls. The SI-2 antenna detects targets within the ranges of 2 – 200 mph (3 – 322 Km/h). Additionally, you can order an optional program diskette that uses the SI-2 Flash memory design to customize your SI-2 system.

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800.428.4315

SI-2 ANTENNA TECHNICAL SPECIFICATIONS

General

Antenna	K-band
Frequency	24.150GHz ± 50 MHz
Nominal Power Out	10mW nominal
Output Power Density	0.5 mW/cm2
Beam Width	12 degrees
Detection Range	1500 feet
Supply voltage	10.8VDC – 24VDC
Nominal current draw	+12V (.250mA) +24V (.120mA)
Surge current requirements	1 Amp
Operating temperature	−22°F to +158°F (−30°C to +70°C)
Maximum Humidity	100% (Unit is weatherproof, not waterproof)
Polarization	Linear
Input voltage	10.8 – 24VDC

Processor

Serial communications	RS232C
Data rate	Baud rates 1200, 2400, 9600, 19200
Data format	(Various, see selectable RS232 output protocols below.)
Target acquisition time	0.021ms

Mechanical

Weight	1.60 lbs. (0.73 kg)
Length	8 in (20.3 cm)
Width	3 in (7.6 cm)

Accuracy

Speed range	2 - 200 mph (3 - 322 Km/h)
Accuracy	±0.1 mph (±0.1 Km/h)

DB-9 Connector Pinout

Signal	DB-9 Connector
+12VDC power	1 (red)
RS232 TX	2 (black)
RS232 RX	3 (green)
Ground (shield)	5 (brown)
Ground	9 (black)

Output Rate (Programmable)

Selectable output rate when target speed changes	1-10 times per second
When polled Data hold time: Low/high speed cutoff	1-10 seconds

Angle and Direction (Programmable)

Horizontal and vertical cosine corrections from 0° – 45°
Direction (D) report switch ON/OFF
D = + (approaching target)
D = − (receding target)
D = ? (target from unknown direction)

Sample Applications

Traffic Safety
• Speed Signs & Trailers
• Variable Message Displays

Manufacturers
• Control Systems   • Data Collection
• Motion Detection

Sports
• Scoreboards
• Video Overlays
• SI-Arcade Series Available

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