

# Model 300B

## Microwave Intrusion Link

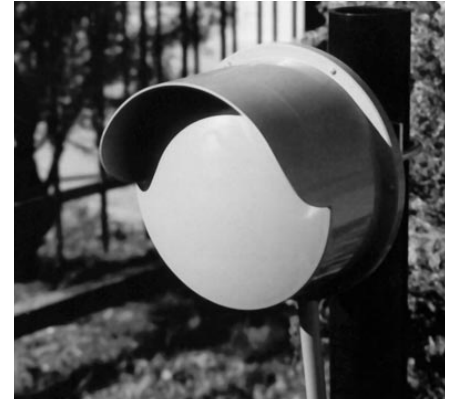
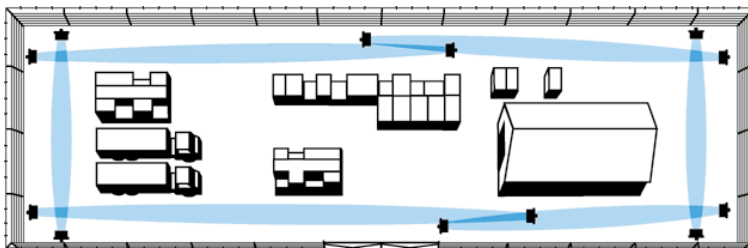
*Southwest Microwave Model 300B  
Outdoor Volumetric Microwave Protection  
to 600 Feet (183m)*

### FEATURES:

**M**odel 300B, Multiple Range Microwave Intrusion Link, represents a major technological advance in outdoor perimeter protection. State-of-the-art circuitry, coupled with interchangeable antenna elements allow the link to be used in nearly any situation. The 100 foot (30m) short range, wide angle pattern is ideal for gate protection, while the 350 foot (107m) mid range or 600 foot (183m) extended range patterns can be used for full perimeter protection.

Through the use of the GaAs FET microwave technology, Model 300B is able to operate with very low current drain from any convenient 12 VDC source. Phase Locked Loop (PLL) signal processing in the receiver increases detection probability by alarming on beam break, increase or decrease signal level due to multipath effects or jamming by other transmitters. The wide dynamic range Automatic Gain Control (AGC) circuit permits the link to adapt to various site conditions or changes in weather patterns. Four field selectable modulation frequencies in the transmitter and PLL filter in the receiver permit multiple links to be used in a single area.

Model 300B solid state electronics and antenna are mounted on a rugged metal baseplate and covered by a molded ABS radome. The link includes a universal mounting bracket which allows mounting to flat surfaces or 4" (102mm) outside diameter posts. A distinctive earth tone color scheme allows the link to blend in with the surrounding area.



- ▶ **Unaffected by Vibration, Wind, Fog, Rain, Snow, Dust or Temperature Extremes**
- ▶ **Extremely Low Current Drain** (40mA at 12 VDC) per Link
- ▶ State-of-the-Art Gallium Arsenide Field Effect Transistor (GaAs FET) Microwave Source
- ▶ Phase Locked Loop (PLL) Signal Processing
- ▶ **Field Changeable Antenna Elements for Optimum Detection at Short, Medium or Extended Range**
- ▶ Self-Contained Alignment Circuits and LED Troubleshooting Indicators

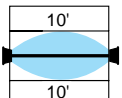
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### Pattern

Model 300B provides three detection patterns and ranges to 600 feet (183m). The pattern width may be varied in the field by simply installing the proper antenna pattern element and adjusting receiver sensitivity. **Protection pattern width may be varied from 2 feet (0.6m) to 40 feet (12.2m) wide.** Pattern height varies in conjunction with pattern width.

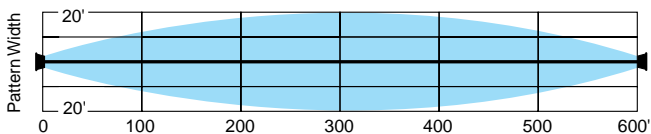
### Typical Horizontal Pattern



Short Range Capabilities – 100 x 20 ft (30 x 6m)

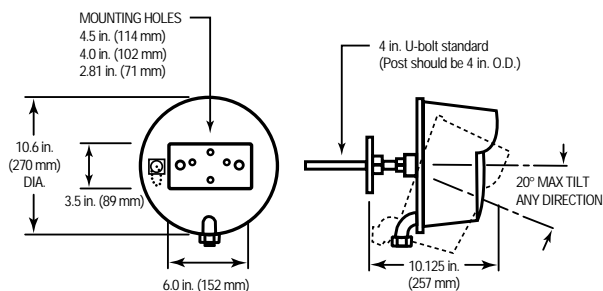


Mid Range Capabilities – 350 x 20 ft (107 x 6m)



Extended Range Capabilities – 600 x 40 ft (183 x 12m)

### Dimensions



### Operation:

Intrusion detection, using a modulated amplitude sensitive system (not doppler), takes place within the invisible pattern of microwave energy existing between transmitter and receiver. Changes in signal amplitude at the receiver are directly related to the object's size and density, allowing the sensor to discriminate between objects. Model 300B will alarm on humans walking, running or crawling on hands and knees through the pattern. Field adjustments can provide alarm on larger or smaller targets, depending on the specific application.

For detailed information on application, installation and adjustment, consult the Model 300B Technical Manual.

### Specifications:

**Equipment Supplied** Model 300BT Transmitter, Model 300BR Receiver, Universal swivel ball mounting brackets.

**Frequency** 10.525 GHz (USA) conforms to F.C.C. Part 15. Also available from 9.4 to 10.8 GHz. F.C.C. Identifier CA68H9300B.

**Output Power** 10mW peak, 5mW average, square wave modulated.

**Range** 10 to 600 feet (3 to 183m).

**Target Size** 80 pound (36kg) human-walking, running, hands and knees crawling or jumping. Prone crawling or rolling 80 pound (36kg) human or simulated with a 30cm diameter metal sphere, detected at maximum range of 400 feet (122m).

**Target Velocity** 0.1 ft/sec to 50 ft/sec (30mm/sec to 15m/sec).

**Probability of Detection** 0.99 minimum.

**Automatic Range Adjustment** Link automatically adjusts to slow changes in path loss due to rain, snow, etc. AGC range -54dB.

**Modulation Channels** Four, field selectable.

**False Alarm Rate** 1/unit/year based on signal to noise ratio.

**Operating Environment** -40°F to +150°F (-40°C to +66°C). 0-100% Relative Humidity.

**DC Input** 10.5 VDC to 14 VDC at 20mA (Tx or Rx).

**Alarm Output** SPDT-Form C, 2 amps at 28 VDC.

**Tamper Switch** SPDT-Form C, 2 amps at 28 VDC.

**Self Supervision** Alarm on failure and remote test.

**Mounting** Locking ball swivel mount. 20° adjustment in any direction.

**Remote Monitor** Alignment, sensitivity and power supply voltage monitored with RM82 Performance Test Set at receiver.

**LED Indicators** Internally located LED's - power on at transmitter. Alarm, jamming signal and wrong channel at receiver.

**Weight** 4.5 lbs. (2.0kg) each unit.

**Shipping Weight** 18 lbs. (8.2kg) total.

### How to Order

Specify Model 300B. Order optional accessories by model number and description. Specifications subject to change without notice.

