

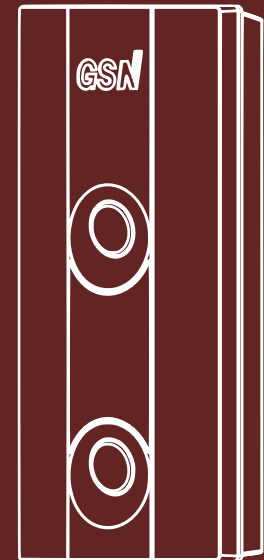
PATROL-USM

COMBINED
ULTRASONIC & MICROWAVE
INTRUSION DETECTOR

DETECTS BREAKAGE,
INTRUSION AND MOTION
WITHIN PROTECTED AREA

PATROL-USM combined ultrasonic & microwave detector determines destruction of walls, doors, all types of glass and intrusion into the protected area.

PATROL-USM provides unprecedented protection of object, where the use of **PIR** detectors is not reliable.

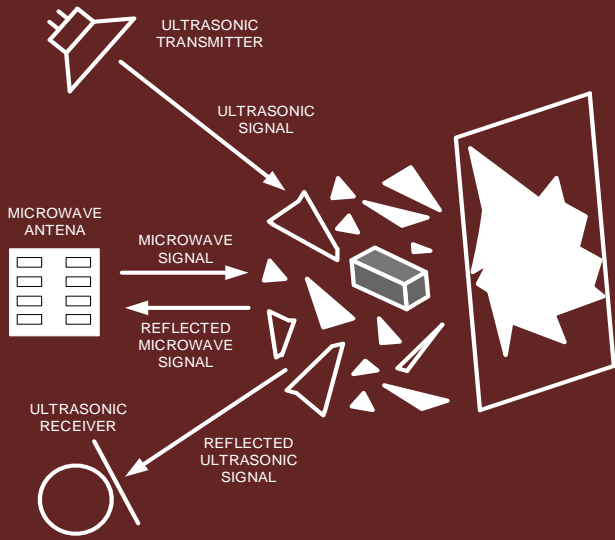


ALGORITHM

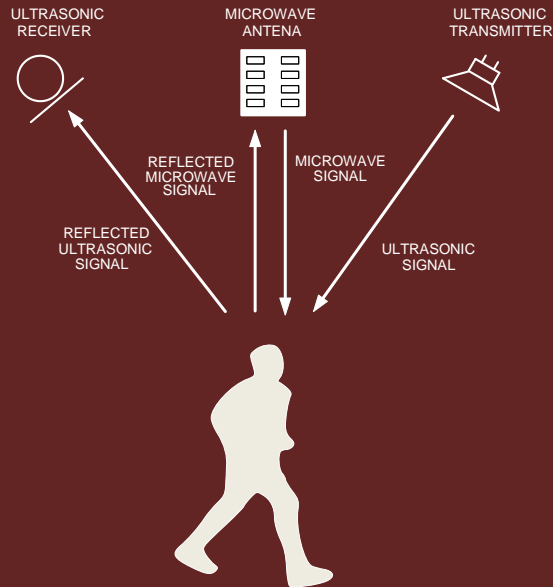
Dual-technology detector incorporates two physical means for determining destruction of walls, doors, all types of glass and intrusion into the protected area: registering the change in frequency of ultrasonic and microwave signals (Doppler Effect).

1. The Doppler Effect occurs when ultrasonic waves, emitted continuously by the detector, change their length and frequency when reflecting from different moving objects.
2. The Doppler Effect occurs when microwaves, emitted by the detector, change their length and frequency when reflecting from different moving objects.
3. To activate the alarm, both ultrasonic and microwave signals must be successively sensed within a pre-determined time period.

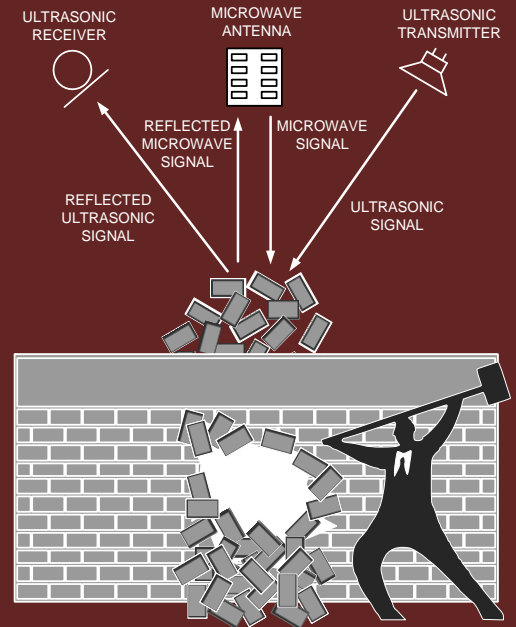
Glass Breakage Detection



Human Motion Detection



Wall Breakage Detection



FEATURES



- UNPRECEDENTED PREMISES PROTECTION



- WIDE OPERATING TEMPERATURE RANGE



- INNOVATIVE METHOD FOR DETECTING ULTRASONIC AND MW SIGNALS



- DIGITAL SPECTRAL ANALYSIS OF ULTRASONIC AND MW FREQUENCIES



- PULSE-COUNT SELECTION (1-7)



- SEPARATE ADJUSTMENT FOR BOTH ULTRASONIC AND MW CHANNEL SENSITIVITY

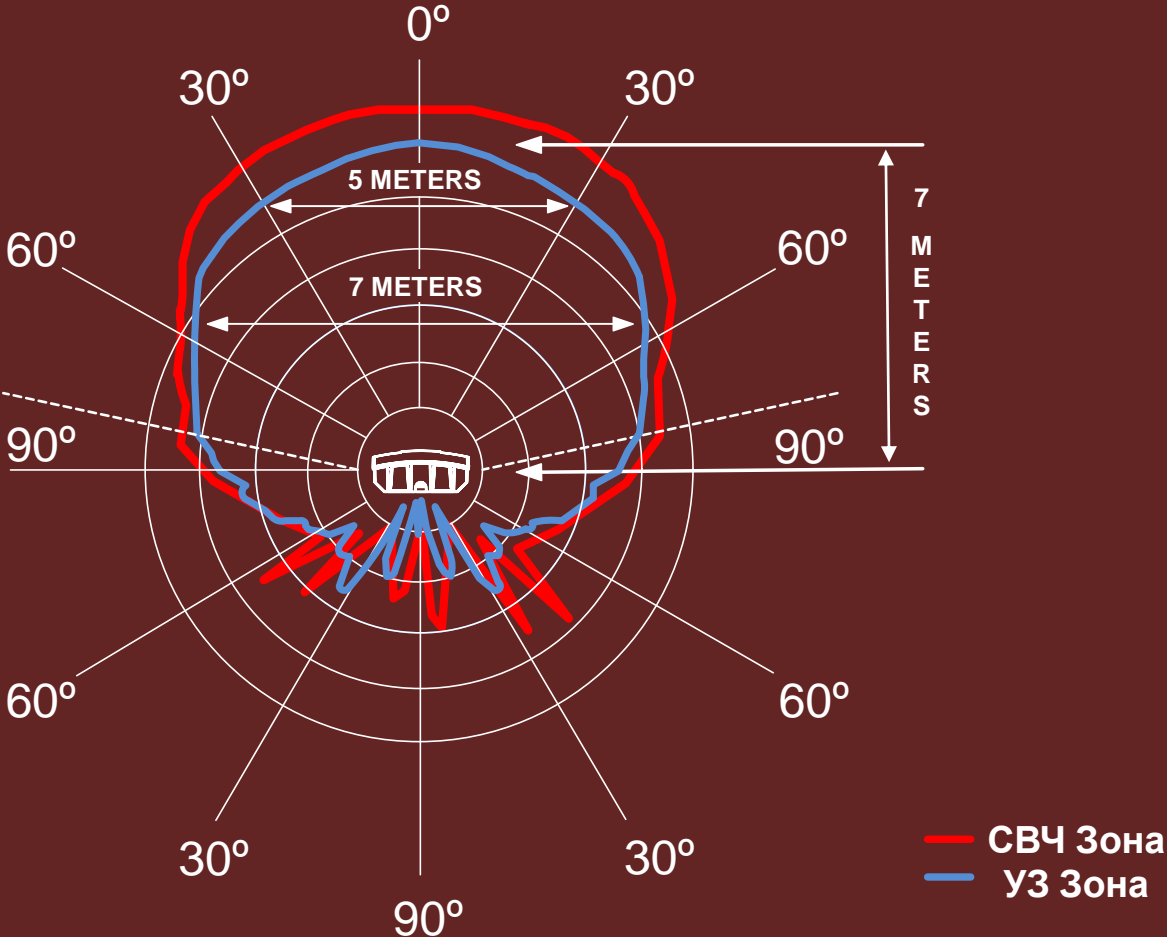


- HIGH RFI/EMI PROTECTION



- AUTOMATIC GAIN CONTROL – ADAPTATION TO ENVIRONMENTAL CHANGES

DETECTION ZONE



TECHNICAL SPECIFICATION

Input voltage:.....9 - 16Vdc

Current consumption in standby mode:.....44mA

Current consumption in alarm mode:.....95mA

Warm-up period:.....30sec

Ultrasonic channel operating frequency:.....40kHz

Detection range:.....7m

Maximum protected volume:.....200m³

Detection angle:.....170°

Operating temperature range:.....-30°C to +70°C

Relay output:.....NC; 60V; 120mA; 16Ω

RFI immunity:.....30V/m at a frequency range 10MHz – 2GHz

WARRANTY

GSN Electronic Company Ltd., warrants the product to be free from defects in materials and workmanship under condition of observance of service regulations and to be repaired or replaced under absence of mechanical damages for a limited period of **five years** from the date of sale.