



**BIS-WDS™ Prime** 

# **Concealed Weapons Detection Camera**

**Product Overview** 



The **BIS-WDS<sup>TM</sup>** Prime is the combination of a millimeter wave camera and full-motion video camera that detects concealed weapons in a maximum time of 3/10 of a second, whether deployed indoors or outdoors, at a "stand-off" distance of 10 to 45 feet with lens options. The product uses millimeter wave (MMW) technology to detect the energy signature of potential weapons hidden beneath clothing on a person.

The **BIS-WDS Prime** system software then creates an icon and superimposes it onto a full-motion color video image for display to an operator.

The camera system is completely passive, meaning there are no harmful rays and that it is totally safe. It is the only passive concealed weapons detection device available, which is affordable and small enough to be wall or ceiling mounted. The **BIS-WDS Prime** is always on, always detecting and classifying objects using real-time algorithms.

The **BIS-WDS Prime** system detects and classifies up to 50 threats simultaneously in real - time. It generates event traps for each. It utilizes sophisticated algorithms for the classification of suspicious items it detects. Standard items that are classified are hand guns, knives, and assault rifles whether metal, plastic, ceramic or composite. The system attempts to classify every suspicious millimeter wave energy reading. If the system can classify the item as a gun, knife or assault rifle, it will display a red icon overlay on the full-motion video indicating the location of the item on the person A legend key associates each icon with its classification type. If the system detects a suspicious item but cannot classify it, it will display a yellow warning indication overlay in the full-motion video indicating the location of the suspicious item on the person.

LOCKHEED MARTIN

### **Detection and Classification**

Objects detected by the camera include those containing metal and the types of plastic, ceramic and composite materials commonly used in weapons or in containers for explosives.
50
0.3 second
Yellow icon overlay on full-motion video and system generated event trap.
Red icon overlay on full-motion video and system generated event trap.
The system can classify hand guns, knives and assault rifles.
Multi-threaded software application executes simultaneous instructions in parallel, providing military grade reliability.



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# **Introducing New Concealed Weapons Detection System**

# The Brijot Imaging Systems Weapons Detection System (BIS-WDS Prime) can be used in virtually any venue where security is paramount.

<b>Commercial Buildings</b>
Transportation

Large Venue Retail

## **Deployment Considerations**

### **Outdoor deployment:**

The system should be deployed so that both the camera and the target being imaged are underneath a canopy or cover. This is to minimize any rain coming between the image target and the camera. Heavy rain would disrupt the effectiveness of the imaging because the camera would image the water rather than the target.

### **Indoor Deployment:**

Camera performance is increased from the maximum time of 3/10 of a second with access to the sky (e.g. daytime or nighttime sky). Sky access provided via glass or plastic cannot be filtered by metallic based tinting.



Model 1606: Standard Model with 20 foot optional lens Model 1609: Standard Model with 30 foot optional lens

Mode	Number of Sensors	Nominal Focus Distance					Field of View	
		Meters	Feet	Horizontal (ft)	Vertical (ft)	Horizontal FOV (deg)	Vertical FOV (deg)	
WDS-160	16	3	10	3.2	6.5	18	36	Nominal 3 m (10 ft) +50%/-35% 1.9-4.5 m (6.5'-15')
WDS-160	16	6	20	3.2	6.3	9	18	Nominal 6 m (20 ft) +50%/-35% 3.9-9 m (13'-30')
WDS-160	)9 16	9	30	3.1	6.3	6	12	Nominal 9 m (30 ft) +50%/-35% 5.9-13.5 m (19.5'-45')

System Op	erating Parameters	Interfaces		
Power supply:	90 to 240 VAC, 50 or 60 Hz, 182 W consumption	Analog video output:	NTSC or PAL, BNC connector	
Detector millimeter wave (MMW) frequency:	80 to 100 GHz (90 GHz center frequency, 20 GHz bandwidth)	Digital video output:	1024 x 768 72 Hz, D-sub 15 (VGA) connector, DDI 1.0 compatible	
Operating temperature:	-10°C to 50°C (14°F to 122°F)	Control setup and monitoring:	10/100/1000 Ethernet, RJ45	
Operating humidity:	0 to 100% RH condensing (outdoor use)	Streaming digital video:	IP streaming QCIF (NTSC:176x120, PAL: 176x144), CIF (NTSC: 704x249 interpolated to 4CIF 704x480) (option),	
Dimensions (H x W x D): (excluding mounting bracket)	70.6 cm x 33.0 cm x 48.3 cm (27.8" x 13" x 19")		2CIF (NTSC: 704x288 interpolated to 4CIF 704x576) Variable, user configurable frame rate from 1 to 15fps	
(exclosing mounting procker)	(27.0 × 13 × 17 )	For future use:	USB 2	
External folded optics for models WDS-1606	External folded optics (dual reflectors) consist of an external structure that mounts onto the base model	Discrete digital I/O:	Four user definable digital inputs	

models WDS-1606 WDS-3206, WDS-3209:

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enclosure and provides longer focal distance.

Overall dimensions of

Height 0.94 m (37 inches)

Width 0.864 m (34 inches)

Depth 0.66 m (26 inches)

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Four digital outputs, preset to:

System Status (Operating/Idle)

Threat Classified (threat found)

System Self Test Status (OK/Not OK)

Threat Detected (unknown item found)