

WDR Camera Specifications

Image Picture Element	Pixim Orca Sensor
Effective Picture Element	720(H) x 540(V)
Resolution (TV lines)	504+TVL
Minimum Illumination	0.95 Lux @ F1.2 (AGC Boost)
S/N Ratio	>42dB
Wide Dynamic Range	120 dB / 17bit
Wide Dynamic Range Area	1 Zone - Fully Adjustable
Slow Shutter	Default 2x, max 32x
Electronic Shutter	1/50 or 1/60 ~ 1/100000
Day/Night	SDN Auto/On/Off
White Balance	ATW, MWB, 1-Touch
Auto White Balance Range	2200°K~7500°K, 2000°K~11000°K
Sync System	Internal/Line lock 57Hz - 62.4Hz for NTSC 47.5Hz - 52Hz for PAL
Video Output	1.0Vpp, 75 ohm Unbalanced
Power Range	AC: 24VAC ±20% or DC: 12VDC -10% +20%
Power Consumption	4.2W (Max)
Operating Temperature	-10C°to + 50°C
Storage Temperature	-20C°to + 60°C

Regulatory compliance

Emissions FCC part 15
Class B
CE:EN55011
ICES-003
EN55022
CISPR 11
CISPR 22
Immunity ANSI C63.4
CE:EN50130-4



FCC COMPLIANCE: This equipment complies with Part 15 of the FCC rules for intentional radiators and Class B digital devices when installed and used in accordance with the instruction manual. Following these rules provides reasonable protection against harmful interference from equipment operated in a commercial area. This equipment should not be installed in a residential area as it can radiate radio frequency energy that could interfere with radio communications, a situation the user would have to fix at their own expense.

CISPR 22 WARNING: This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

POWER SUPPLY REQUIREMENTS: For use with listed Audio/Video Product and only connected to 15W or less power supply. Power supply should be a NEC Class 2 / LPS Supply.

EQUIPMENT MODIFICATION CAUTION: Equipment changes or modifications not expressly approved are the responsibility of part making them: These modifications could void FCC compliance.

Product specifications subject to change without notice.

Certain product names mentioned herein may be trade names and/or registered trademarks of other companies.



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MD4 / V531-DEXXX-SXX
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Day/Night Camera Specifications

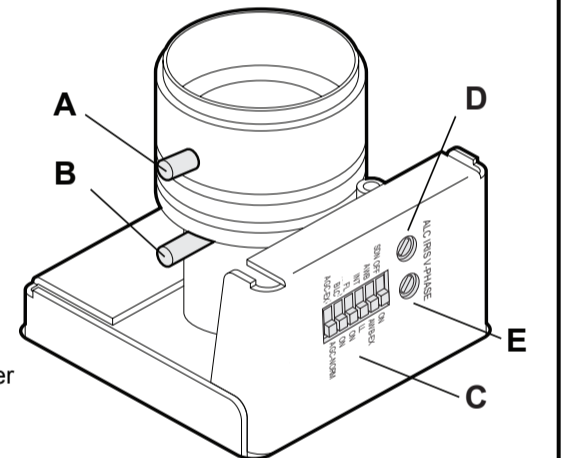
Type / Format	NTSC	PAL
Scanning Element	2:1 Interlace, H15.750KHz / V :59.94Hz	2:1 Interlace, H15.625KHz / V :50Hz
Image Picture Element	1/3" Interline CCD	
Effective Picture Element	768(H) x 494(V)	752(H) x 582(V)
Approximate pixels	380K	430K
Resolution (TV lines)	540 (normal)	
Minimum Illumination	0.65 Lux @ F1.2	
S/N Ratio	50dB	
Back Light Compensation	Central area for auto iris	
Exposure Control	DC Auto IRIS Drive	
Sync System	Internal/Line lock	
Line Lock (Phase Adj. Range)	0°~270°C	
Line Lock (Frequency Range)	60Hz ±1Hz	50Hz ±1Hz
Gamma Compensation	0.45	
Video Output	1.0Vpp, 75 ohm Unbalanced	
White Balance	Automatic White Balance	
AWB Normal Range	2700K – 11000K	
AWB.EX Range	2000K – 18000K	
Power Range	AC: 24VAC ±20% or DC: 12VDC -10% +20%	
Power Consumption	4.2W (Max)	
Operating Temperature	-10C°to + 50°C	
Storage Temperature	-20C°to + 60°C	

Lens Specifications

Focal Length	2.5~6.0mm	2.9~10mm	3.0~9.0mm	3.3~12mm	9~22mm
F-No.	F1.2	F1.2	F1.2	F1.4	F1.4
Iris Range	F1.2~F360	F1.2~F360	F1.2~F360	F1.4~F360	F1.4~F360
Minimum Object Distance	0.5m (19.7")	0.15m (6")	0.5m (19.7")	0.5m (19.7")	1m (39.4")
Field Of View	Diagonal	145.5°~59.1°	125.0°~36.0°	116.2°~39.7°	125.7°~29.9°
	Horizontal	111.6°~47.3°	94.6°~28.8°	90.0°~31.8°	89.8°~23.9°
	Vertical	82.2°~35.5°	68.4°~21.6°	66.2°~23.9°	63.6°~17.9°
LensType	Aspherical	Aspherical	Aspherical	Aspherical	Aspherical
IR Corrective Coating	Yes	Yes	Yes	Yes	Yes

Camera Adjustments

Day/Night Camera



- A : Focus adjuster
- B : Field of view adjuster
- C : DIP switches
- D : ALC adjustment
- E : V-PHASE adjustment

Day/Night Camera Adjustments

DIP switch settings

The bank of dip switches allow the following settings to be made:

SDN mode (SDN / ON)

When ON the camera operates in monochrome mode in reduced lighting.

Auto White Balance (AWB / AWB.EX)

AWB: The camera operates in the normal Auto White Balance range 2700K~11000K.

AWB EX: The camera runs in the extended Auto White Balance range 2000K~18000K.

Line Lock (INT / LL)

In LL mode, the V-Phase may be adjusted to compensate for connected supply phase differences.

Only applicable for 24VAC supply - otherwise the camera operates with INTernal sync.

Flickerless mode (FL / ON)

ON: The Camera reduces flicker in the image under fluorescent lighting.

Back Light Compensation (BLC)

When sen ON, this option improves the camera response to strong, unwanted lighting effects behind the required subject.

Low Light Sensitivity (AGC-EX)

When set to EX sensitivity in low light is increased.

Focus & field of view adjustment

Twist the levers on the side of the varifocal camera to adjust the focus and field of view settings.

TIP: If necessary, perform the final focus through the dome cover, holding it to the lens reversed to confirm the final results.

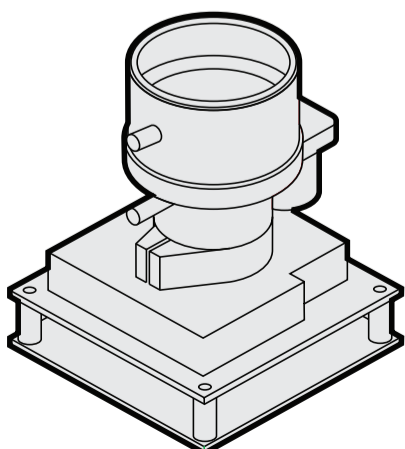
Vertical phase adjustment

Use this adjustment when using an AC supply to align the camera phase with that of the supply.

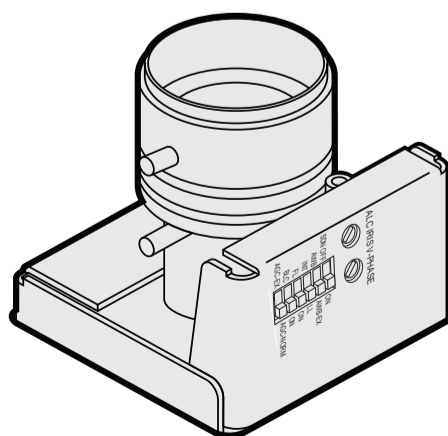
Iris adjustment

This is factory set and should not normally require adjustment except to compensate for excessive image blooming.

High Resolution Indoor Mini Dome Camera Sheet



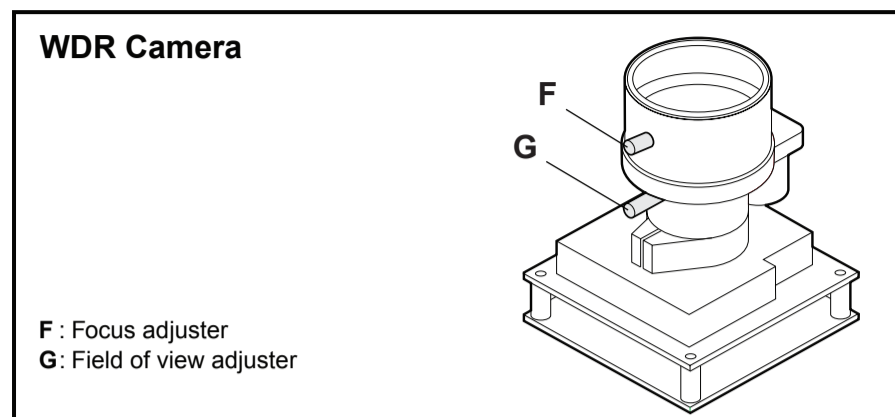
WDR 504+TVL
High Resolution



Day/Night 540TVL
High Resolution

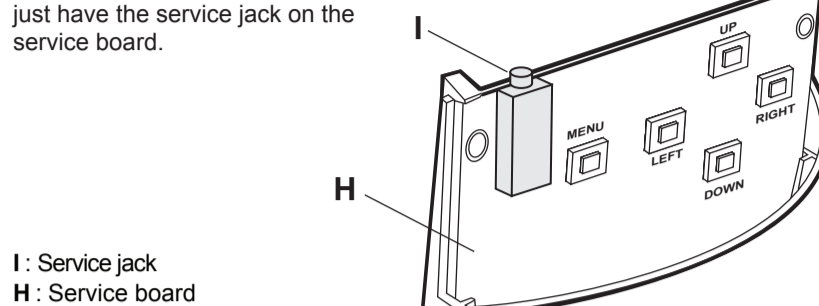
WDR Camera Adjustments and Programming

With the exception of the focus and field of view adjustments (made using levers **F** and **G**) all settings for the WDR version are made using its on screen menu display. A working video monitor and a separate plug-in service jack are required to view and select options.



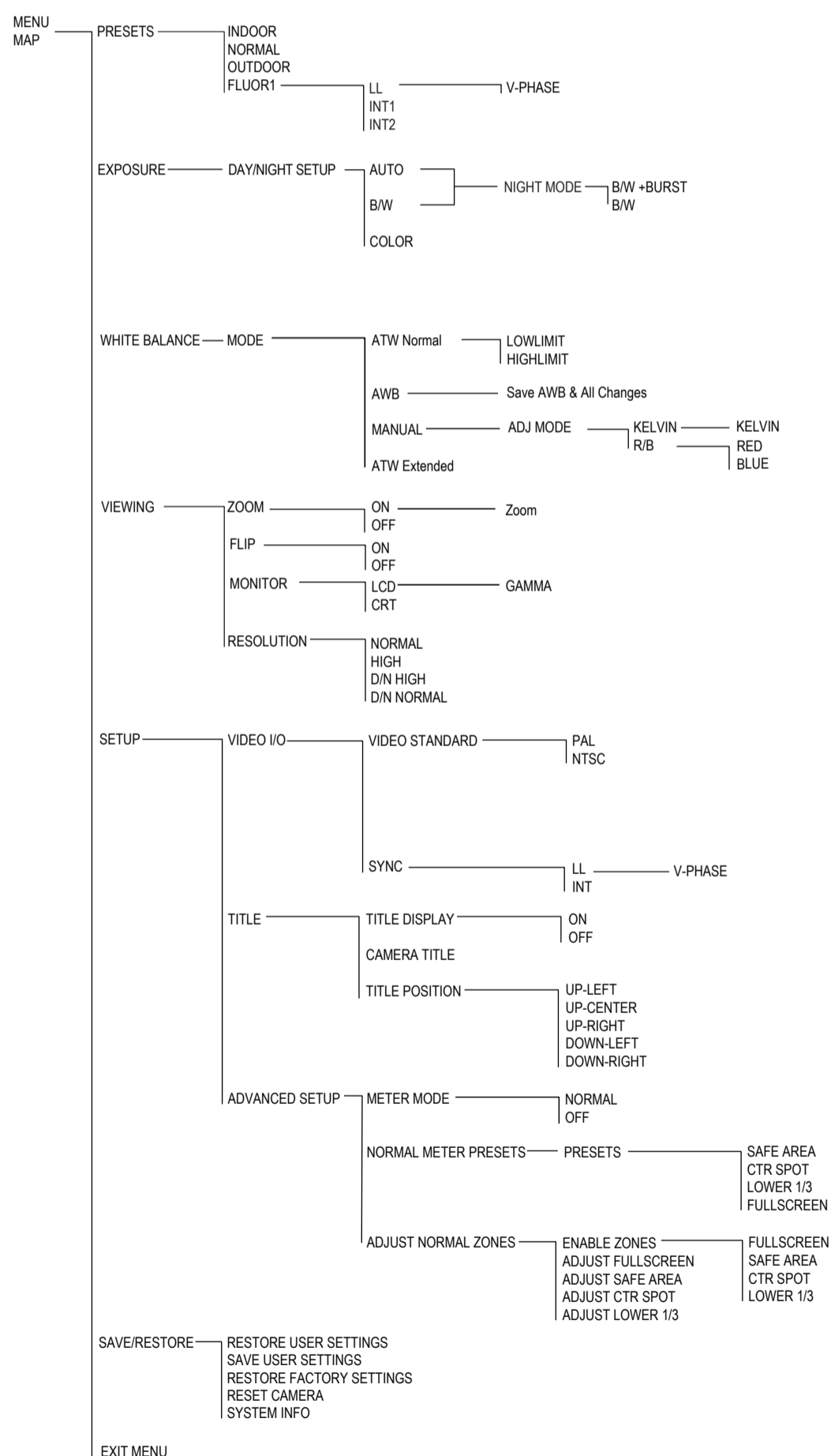
Service Board

Only the WDR versions will have the programming buttons, the others will just have the service jack on the service board.



WDR Menu Map

Press the **MENU** button on the control board for three seconds to view the menu.



WDR Menu Description

PRESETS

There are "factory set" general configurations. Select the preconfigured mode for the camera to use to give the best performance for the specified environment. Pressing the **[MENU]** key on the selected option will display the pre-configured set-up parameters.

NORMAL – This should provide the most versatile settings for general purpose applications.

INDOOR or OUTDOOR – These settings are optimized for indoor/outdoor lighting conditions.

FLUOR1 - This setting can be used to help reduce the Flicker effects of this type of lighting.

LL (Line Lock) - Sync is locked to the AC supply cycle and permits adjustment of V-phase to correct for vertical sync picture roll. (Applicable for 24VAC supply only. If a 12 volt DC power supply is used the camera will run in INT1 or INT2.)

EXPOSURE

This mode enables camera to acquire better images under Daylight or low light conditions.

AUTO-In reduced lighting camera switches to Night (black & white) mode automatically and back to Color once the ambient lighting returns to normal levels.

The Night Mode is adjustable for improving low light performance.

B/W – Forces the camera into Night (black & white) only mode regardless of lighting conditions.

This feature is adjustable for improving low light performance by reducing noise from the video signal.

COLOR – Forces the camera into Day (Color) only mode regardless of lighting conditions.

WHITE BALANCE

This mode has 4 modes for selection. Each mode process electronic shutter differently and is suitable for different environment.

ATW Normal – Selects a normal Auto White Balance Range, for general operation. If necessary the range is configurable with low limit (to help with reds) and high limit (to help with blues) adjustments.

AWB – Auto White Balance

MANUAL – Allows manual setting of the color temperature of the image. This can be achieved by using the Kelvin option, by which ever method the installer is familiar with. This setting is also good for static environment applications where the lighting conditions never change, like indoor hallways.

ATW Extended – Extended Auto White Balance Range – use this setting for scenes that may have an extremely wide range of color temperature.

VIEWING

ZOOM – Variable zoom up to 3x

FLIP – Mirror Image

MONITOR – Select output devices: LCD or CRT.

RESOLUTION – Adjust video output.

SETUP

VIDEO I/O – The function enables video frequency and sync setup.

TITLE – The camera can be named and displayed when operating.

ADVANCED SETUP –

Normal Meter Presets - These are factory set general configurations to choose from. If adjustments are needed for a zone go to **Adjust Normal Zones** to reconfigure.

Adjust Normal Zones - This feature is used to configure the area used for WDR light metering. Tapping the **[MENU]** key reveals a box which is the WDR zone.

Repeatedly tapping the **[MENU]** key changes the color of the zone.

White - Move entire zone's position.

Green - Used to increase the size of the zone.

Red - Used to reduce the size of the zone.

Use the arrow keys to adjust the zone position or size. Holding the **[MENU]** key for 3 seconds returns you to the previous menu. The default setting will provide good general performance. If adjustment is necessary, size according to the area of interest making sure to include all areas of interest. This will dictate how the overall wide dynamic range features operate.

Example:

An internal scene viewing a doorway and polished floor. Daylight often streams through the doorway. It is required to see people entering the doorway and follow them to the left hand side of the picture. The doorway is central to the image. The box should be sized and positioned to cover the doorway and the area to the left where people walk.

SAVE/RESTORE

RESTORE USER SETTINGS – This will undo any changes made since the last "Save Setting".

SAVE USER SETTINGS – Save any programming changes to ensure they are retained after power loss or reset. If changes are not saved, the camera will revert to the previous settings on power-up.

RESTORE FACTORY SETTINGS – Restore camera settings to factory default – full reset, all previous program will be lost including video standard (return to default setting).

RESET CAMERA – This is a soft reset and has the same effect as cycling the camera power.

SYSTEM INFO – Displays the camera firmware version.

EXIT MENU

Select and exit OSD menu when the setup is complete. Make sure the user setting is saved before exit.