Operating Instruction Manual

Public Viewing LED Monitor

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Important Safety Information

Please read all safety information before using this product. Follow all instructions on the product, and those explained in this manual.

Intended Use
This monitor was designed for AV or BNC inputs and tested to replace an existing monitor. These monitors are intended for indoor use only and are not designed for use in hazardous locations.

Explanation of Warnings and Consequences
Danger: Installation or use of this product in a hazardous environment may result in serious injury or death.
Warning: Removal of the products exterior covers may result in serious injury or death.
Caution: To avoid the risk of an electric shock, fire, explosion, and/or glass and unit damage, of which may cause a serious injury or death, please adhere to the following;
- This product must be operated with the original power supply.
- Do not use a damaged power supply unit.
- Do not use a power cord that is frayed or otherwise damaged.
- The socket outlet should be installed near the product and should be easily accessible.
- Use a power cable that is properly earthed. Always use the appropriate AC cord certified for use in that individual country.
- Do not attempt to service the monitor. Do not remove the cover or back of the monitor. There are no user serviceable parts inside. Refer all servicing to qualified service personnel.
- Do not expose the monitor to rain or other sources of water, steam or moisture.
- Do not place foreign objects on, or in the monitor or cables.
- Never wall-mount the monitor without the locking mechanism in place.
- Use an anchoring system appropriate for the weight of the product.
- Consult a construction professional before attempting to hang the

unit on a wall.

- Handle the monitor with care to avoid breaking the touch screen sensor. The display contains glass parts. Dropping the display may cause the glass parts to break.

Important Notes: Please adhere to the following in order to use the product safely and effectively;

- Plug power cord into appropriate power source.
- When unplugging power supply cord, pull on plug not cord.
- Do not connect or disconnect this product during an electrical storm.
- Install the display in a well-ventilated area. Always maintain adequate ventilation to protect the display from overheating and to ensure reliable and continued operation.
- Do not expose this display to heat. Even a passive heat source may cause damage to the case and other parts.
- Do not install this display in areas where extreme vibrations may be generated. For example, nearby manufacturing equipment may produce strong vibrations. The vibrations may cause the display to exhibit picture distortion or poor video quality.
- Product weight varies from 10 to 24 pounds depending on the packaging, use caution when lifting.
- Ensure that metal objects do not contact the touch screen.

Ergonomic concerns: Please adhere to the following in order to minimize risks from use of the product;

- Do not install the monitor in a manner or location with awkward accessibility
- Extended use may result in muscle, tendon, or fixed posture strains. It is recommended you take periodic breaks from continuous use.

Accessories

Please ensure that the following items are included with the product;

- AC wire (1 Unit)
- Power Supply (1 Unit 26"/32"/42" not applicable)
- Remote Control (1 Unit)
- VGA Cable (1 Unit)
- Audio Cable (1 Unit)
- Operating Instruction Manual (1 Unit)

Installation

Explanation of connectors
This section describes the jacks on the back panel of the monitor. There are several ways to connect devices.

DC24V: Power Supply; DC24V.
AC (If available): Power Supply; AC100-240V.
HDMI: Allows the connection of any device (i.e. a digital cable box) with an HDMI or DVI output.
VGA: Allows the connection of any device (i.e. a computer) with a VGA output, using a 15 pin D-sub cable.
S-Video: Allows the connection of any device (i.e. a DVD player) with an S-Video output, using a 4 pin S-Video cable.
AV IN/OUT: Allows the connection of any device that has composite video jacks (i.e. a VCR or DVD player).
Camera Out: Allows camera video loop out function.
Video Output (BNC1/BNC2 OUT): Allows the connection of a VCR or DVD recorder, enabling the recording analogue and digital programs from the antenna cable input whilst the monitor is turned on. (**Notes:** 1. this option excludes copy-protected programs and component video formats. 2. The monitor must remain on the channel that is recording.)
Audio In: Allows the establishment of sound when a computer is connected to the VGA jack. A 3.5mm stereo mini pin cable (AKA. 1/8" stereo mini pin) is required to connect a computer to the monitor to omit sound.
**Audio L & R:** Allows the reception of audio from another device (i.e. gaming console, VCR or DVD player).

Special Function Introduction

- **Orbit function:** This function enables the image of the screen to move slightly up/down/left/right in order to avoid panel burning from the image being consistently still.
- **Auto switch function:** This function enables the monitor to switch from AV/Camera/SD card automatically. Dwell timings may be changed by the user for different channels. Setting a channel to 0 will subsequently not allow for its display within the circuit.
- **Motion detection:** This function enables the camera function automatically from having detected physical movement from in front of itself.
- **Warning message:** This function enables the monitor to automatically display a warning message (i.e. Recording or Welcome) of which may be viewed by those who look at it.
- **Freeze:** This function enables the monitors display to become static, which allows for inspection of a specific scene.
- **Menu Lock:** This function enables the control buttons to become locked, there-by avoiding unauthorized changes to settings.

PVM/Media Controls and Functions

Buttons on the lower-right of the side panel:
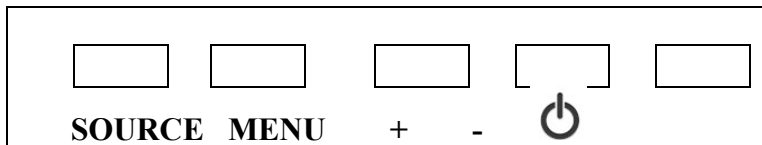
SOURCE   MENU   +   -   ⏻

1. ⏻ Turn monitor ON/OFF
2. SOURCE: Accesses the available video input signals (VGA, HDMI, AV, Camera, SD card, S-VIDEO)
3. MENU: Brings up the monitor Main menu. When in the OSD system, press the menu button to return to the previous menu or exit
4.＋: Turn volume up. In the monitor menu system, acts as the right arrow button on the remote control and adjusts menu controls.
5. - : Turn volume down. In the monitor menu system, acts as the left arrow button on the remote control and adjusts menu controls.
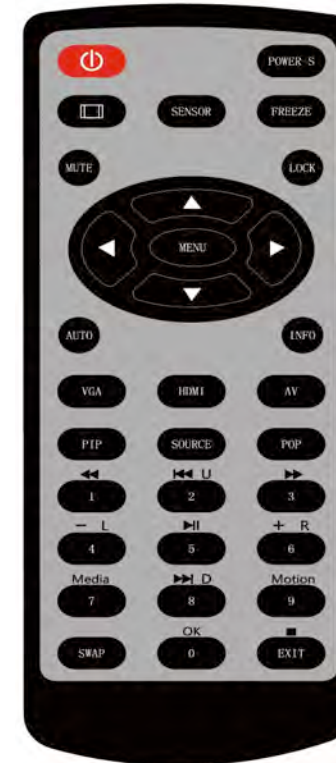(**Notes:** Remote Indicator; Red = Standby mode, Blue = Display.)

How to use buttons
Use the buttons on the right side control panel to adjust the OSD
1.) Power on the LCD monitor.
2.) Press the source button to access the available video input signals
3.) Press the Menu button, then press ＋ / － buttons to move the highlighted icon left & right
4.) Press the Source button to enter the submenu, then press ＋ / － buttons, corresponding to edit
5.) When satisfied with the setting, press the Menu button to return to the previous menu or exit

Remote Control

Ensure the remote control is pointed towards the remote control window on the display. No obstacles should be placed between the remote control and the remote control window. The effective receiving scope for the signal is 3 meters from the front of the remote control window.

- To ensure a normal operation, the remote control should not be dropped or damaged in any way. It should also be kept dry and away from all heat sources.
- Battery replacement is necessary when the remote controller acts inconsistently or stops operating the monitor.

Power	Turn On & off the monitor
Power-s	Back light : high, mid , low
[□□|]	Scale : normal, center, full, 16:9
Sensor	Available only with IR sensor
Freeze	Freeze the image for close look
Mute	Switches the sound on or off
Lock	Menu lock: lock, unlock the buttons
、	Move Up / down highlight icon,
Menu	Display the main on-screen menu
< 、 >	Press them to turn up or turn down the volume
Auto	Auto adjust (available only VGA mode)
INFO	Press it to display information on the monitor screen
VGA	VGA signal
HDMI	HDMI signal
AV	AV input signal
PIP	Picture in picture
Source	Press it to display and select the available video signal
POP	Picture on picture
SWAP	POP & PIP function
EXIT	Press this button to exit the menu

SD Card Function

1	◄◄	Rewind
2	I◄◄ U	Rewind Speed / Select Up
3	►►	Fast Forward
4	- L	Volume Down / Select Left
5	►II	Play / Pause
6	+ R	Volume Up / Select Right
7	MEDIA	Access Media Settings
8	►►I D	Fast Forward Speed / Select Down
9	MOTION	Menu Motion On / Off
0	OK	Confirm Selection
EXIT	■	Exit / Stop

Choose the input source

To see the picture on the monitor select the correct input source.

Press the source button on the monitor or remote control, then press source to select, and press +/- (>) to enable it.

VGA: The input source from VGA terminal output.
HDMI: The input source from HDMI terminal output.
AV: The input source from AV or video camera terminal output.
Camera: The input source from the built in camera.
S-VIDEO: The input source from S-Video terminal output.
SD card: the input source from the S/D card.

OSD Setup

OSD setup under VGA input mode

BRIGHTNESS: Adjusts the brightness of the picture.
CONTRAST: Adjusts the difference between the light and dark areas of the picture.
COLOUR TEMP: Press > Button to change the color intensity of the temperature selected (normal / warm / cool / s-RGB / user)
SCALE: Normal / Center
AUTO: (Auto-adjust) Press > button. Performs automatic configuration of the phase, clock, vertical and horizontal position.
PICTURE MODE: press   or button to select picture mode, then press the < or > buttons to select the correct color system. Press < or > button to select, standard / dynamic soft / user.
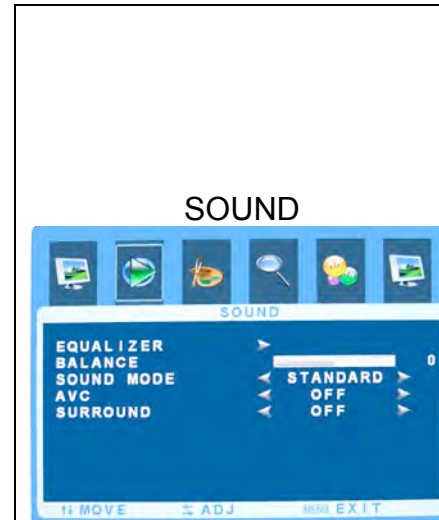
SOUND

equalizer

EQUALIZER: The five-band graphic equalizer allows you to adjust the audio frequency settings. You can select one of the five-band equalizer presets, or create your own personal preset (see picture equalizer).
BALANCE: Adjusts how much audio is sent to the left or right (-50 to +50).
The intermediate value is 0. When indication value of balance increases toward +50, sound of the right speaker is stronger and left speaker is weaker, when indication value of balance increases towards -50 the opposite is true.
SOUND MODE: Provides special processing through your speakers (Depending on the setting you choose as your Sound Type). The available audio modes are: Standard/User/movie/music.
AVC: ON / OFF
SURROUND: The surround sound feature expands the audio listening field wider and deeper to create exceptional sound quality from the monitor's speakers.

System

OSD LANGUAGE: Lets you select your preferred language for the menus: (English. Chinese. German. French. Spanish. Portuguese. Russian. Italian)

OSD H-POSITION: H-position moves the OSD position left (0-50) by pressing the > button. H-position moves the OSD position right (51-100) by pressing the < button.

OSD V-POSITION: Adjust the OSD image vertically by pressing the < button, or > button moves the OSD position up or down. 0-100

OSD DURATION: 5-60

OSD HALFTONE: 0-50

SLEEP-TIMER: Lets you set the monitor to turn off after a given amount of time (OFF.15min.30min.45min.60min)

Back light: HIGH, MID. LOW

AUTO POWER: (ON/OFF) Only working with Body sensor

MEM-RECALL: Press > button will reset to the factory defaults

Advanced function

Pos Setting: set the image position by increase or decrease the related value

MESSAGE ON/OFF: Setting the warning message on/off.

MESSAGE CHOOSE: Choose the warning message you want to display when this function is ON.

FLASH: Turn the warning message to flashing or off.

LED CONTROL/LED Panel: Front LED indication light on/off

IMAGE ORBIT: When this function is ON, the image will move slightly up/down/left/right to avoid still image cause pixel burning on the LED panel.

MULITI WINDOW:
OFF / PIP / POP
DEAFUALT VALUE OFF: Allows you select your window for the picture: PIP or POP

OSD setup under AV/Camera/SD card/S-VIDEO /HDMI input mode

BRIGHTNESS: Adjusts the brightness of the picture.
CONTRAST: Adjusts the difference between the light and dark areas of the picture.
HUE: -50 to +50
SATURATION: 0~100
SHARPNESS: 0~100
COLOUR TEMP: Press > button to change the colour intensity of the temperature selected (Normal/Warm/Cool/S-RGB/user)
SCALE: Normal/Centre
PICTURE MODE: standard/dynamic/soft/user
3D NR: Reduces picture static or any type of interference. This feature is useful for providing a clearer picture in weak analog signal conditions. Press the right arrow to choose between: *Off* for no noise reduction; *Low* for a softer, smoother picture that retains picture sharpness and detail; *Medium* for a slightly softer picture than the *Low* setting; *High* for an even softer, smoother picture than the other settings.
MPEG NR: Mpeg noise reduction (OFF / low / high).

SOUND

EQUALIZER: The five-band graphic equalizer lets you adjust the audio frequency settings. You can select one of the five-band Equalizer Presets or create your own personal preset.

BALANCE: To balance right and left sound of the monitor. The intermediate value is 0, when indication value of balance increases toward +50, sound of the right and left speaker becomes stronger and weaker, respectively, when indication value of balance decreases toward -50, sound of the right and left speaker become weaker and stronger.

SOUND MODE: Provides special processing through your speakers (Depending on the setting you chose as your Sound Type). The available audio modes are:

Standard. User. Movie. Music.

STANDARD: Does not give any special processing, simply provides the mono or stereo sound provided by the signal you're watching.

AVC:ON OFF

SURROUND: The surround sound feature expands the audio listening field wider and deeper to create exceptional sound quality from the monitor's speakers

LANGUAGE: Lets you select your preferred language for the menus: English. Chinese. German. French. Spanish. Portuguese. Russian. Italian

OSD H-POSITION: H-position moves the OSD position left (0-50) or press the > button. H-position moves the OSD position right (51-100)

OSD V-POSITION: Adjust the OSD image vertically by pressing the < or > button. V-position moves the OSD position up or down. 0-100

OSD DURATION: 0-50

OSD HALFTONE: 0-100

SLEEP-TIMER: Lets you set the monitor to turn off after a given amount of time (off.15min.30min.45min.60min)

BACK LIGHT: HIGH, MID. LOW

Auto power: (ON/OFF) Only working with Body sensor

MEM-RECALL: press ► key will be reset to the factory defaults

ADVANCE ADVANCE Pos. Setting ► Image Mode ◄ SD Card ► Motion Timer ◄ 5 Sec ► Switch Timer ► Special Ctrl ► ↕ MOVE ⇌ ADJ MENU EXIT	**Pos Setting:** set the image position by increase or decrease the related value **Image Mode**: Select the video channel you want to display or the way to display. AV/Camera/SD card/ Switch/ Motion **Switch:** monitor will switch automatically between AV/Camera/SD-card; you can set different dwell time for each channel by setting switch timer. **Motion**: Display SD card and switch to camera when detected any movement into the camera area.
Special Ctrl ADVANCE MESSAGE ON/OFF ◄ ON ► MESSAGE CHOOSE ◄ Record ► FLASH ◄ OFF ► LED CONTROL ◄ OFF ► LED PANEL ◄ OFF ► IMAGE ORBIT ◄ ON ► ↕ MOVE ⇌ ADJ MENU EXIT	1. **MESSAGE ON/OFF**: Setting the warning message on/off. 2. **MESSAGE CHOOSE**: Choose the warning message you want to display when this function is ON. 3. **Flash**: Turn the warning message flashing or off. 4. **LED CONTROL/LED Panel**: Front led indication light on/off 5. **IMAGE ORBIT**: When this function is ON, the image will move slightly up/down/left/right to avoid still image cause pixel burning on the LED panel.

Introduction of Camera
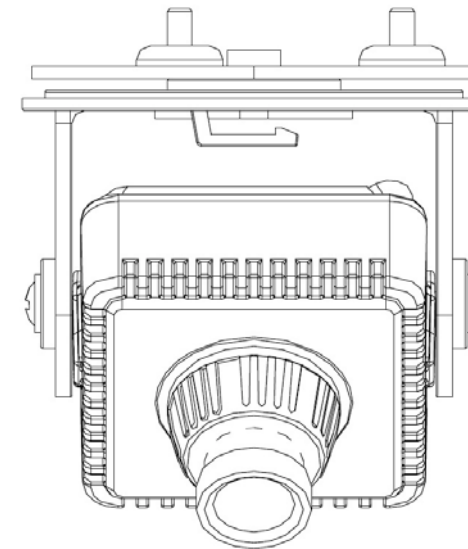
Accessing the Camera

The camera and its OSD button board can be found at the rear of the monitor unit. Please use a screwdriver to open the access door. The camera module position can be adjusted along three axis. When adjusting the camera position ensure that the picture display on the monitor is level.

Camera Features

The camera is a ultra wide dynamic range camera which achieves 120dB max (102dB typical) of dynamic range of the image by implementing PIXIM's SeaWolf digital imaging system.

With SeaWolf digital imaging system, the camera will:
- Deliver high-resolution, crystal clear images that accurately capture every aspect of any scene
- Offers the highest resolution of 690TVL(horizontal)

- Ultra-wide dynamic range imaging accurately captures all of the critical details in a scene including highlights, shadows and everything in between without compromising image quality or color accuracy.
- Enhanced low-light performance makes SeaWolf the natural choices for both indoor and outdoor cameras for all lighting conditions.

Camera OSD Buttons

* **Enter button:** Used for the menu display. This button can be used to confirm settings after changing the value of the selected function or current conditions.

* **UP & DOWN buttons:** Used for selecting items by moving the cursor up or down on the menu screen.

* **LEFT & RIGHT buttons :** Used when changing item values, by moving the cursor to the left or right on the menu screen.
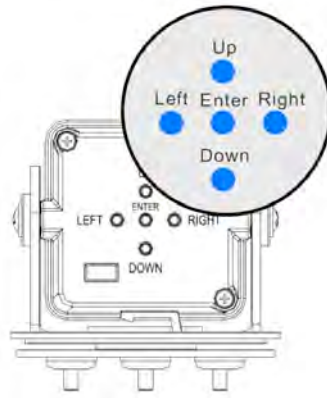
The Camera Menus
Camera functions and settings can be adjusted or changed by activating the camera menu. This camera provides two sets of menus:

* **The Camera Setup menu** is the basic menu intended for use by installers and end users. This provides basic configuration capability for a camera.
* **The Advanced Menu** provides all aspects of camera operation and is intended for expert users.

Note:

This document describes the Advanced Menu as developed by Pixim and as released with version 7.4 software.

Accessing the Camera Setup Menu

Please press Enter button and hold for 2 seconds to enter this menu. When the setup menu is activated text will display on the monitor. The user can then move the cursor to the desired item to change the setting.

Camera Setup Menu Items

WDR CONTROL	·MEDIUM (LOW/NORMAL/MEDIUM / HIGH)
BLC	·OFF (OFF / ON)
WHITE BALANCE	·ATW (ATW / AWB)
AGC	·NORMAL (LOW / NORMAL / HIGH)
LENS SELECT	·DC (MANUAL / DC)
FLUORESCENT	·OFF (OFF / CRR / CRR2)
D/N CONTROL	·AUTO (OFF / AUTO / GPIO)
SYNC	·INTERNAL (INTERNAL / LINELOCK...)
SAVE & EXIT	·Save change and exit this menu
DEFAULT	· Restore factory settings

Accessing the Advanced Menu

User can activate the Advanced Menu by the following button sequence:

LEFT, RIGHT, LEFT, RIGHT, DOWN

This button sequence needs to be entered when the camera is in normal operation and when no menus are being displayed.

Note:
The camera manufacturers may change this button sequence or disable access to the Advanced Menu.

Restoring Default Settings

The Advanced Menu provides the ability to significantly alter how the camera operates. If changes in settings leave the camera in an undesirable state, change that setting back to its prior state. If that does not work, use the menus to restore user or factory default settings.

Menu Organization and Notation

The Advanced Menu consists of a root menu that allows some common settings to be changed, and provides access to five other high-level menus. Each of these menus provides access to sub-menus, and in most cases these menus are two menu pages in size. The second page is accessed via selecting NEXT at the bottom of the first menu page.

- EXPOSURE Menu – Controls for dynamic range, shutter speed, AGC settings, metering strategies, and auto iris thresholds.
- WHITE BALANCE Menu – Controls for setting white balance strategies, metering methods, color temperature limits, and color roll suppression modes.
- VIEWING Menu – Controls for settings related to the image output by the camera including render intent, color kernel selection, image sharpness, color saturation, camera ID display, digital PTZ, image flip, and privacy masks.
- SETUP Menu – Controls for lens type and auto iris settings, video standards and output types, activity detection, day/night settings, color bar, and a focus aid.
- SAVE / RESTORE Menu – Restore factory settings, reset camera, and save / restore user settings.

The following notation is used throughout this document as well as within the actual on-screen Advanced Menu:
. A single dot after a menu item indicates that selecting that item will immediately cause an action related to that item to occur.
.. Two dots after a menu item indicates that selecting the item will result in the display of a sub-menu that features the controls for that item.

When a list of options is provided for a setting, the default setting is at the top of the list.

Root Menu
ADVANCED MENU (Root Menu)

Menu Item	Options	Description
WDR CONTROL	MEDIUM	Suitable for high-contrast outdoor scenes and indoor scenes that include windows (DRE=30)
	HIGH	Maximum setting for scenes with harsh lighting (DRE=36)
	LOW	Dynamic range level similar to that of CCD cameras – suitable for indoor or low-contrast outdoor scenes (DRE=9)
	NORMAL	Suitable for most indoor scenes and average contrast outdoor scenes (DRE=20)
PRESETS	WD_NORMAL	The preferred preset, suitable for most applications
	NORMAL	"Typical" camera functionality
	ATM	The metering zone is reduced to a narrower area in the middle of the image representative of where a face would appear in an ATM camera image.
	VIVID	Image is rendered sharper and with more vibrant colors
IMAGING MODE	QUALITY	Image is optimized for quality (Specially for 16:9 wide screen monitor)
	RESOLUTION	Image is optimized for resolution testing (for 4:3 monitor)
EXPOSURE		Enter EXPOSURE menu (see Section 6)
WHITE BALANCE		Enter WHITE BALANCE menu (see Section 7)

VIEWING		Enter VIEWING menu (see Section 8)
SETUP		Enter SETUP menu (see Section 9)
SAVE/RESTORE		Enter SAVE/RESTORE menu (see Section 10)
EXIT MENU		Exit ADVANCED MENU

Exposure Control Menus
EXPOSURE Menu

Menu Item	Options	Description
EXPOSURE MODE (NTSC)	60i	Interlaced NTSC – See Section 6.13
	30p	Progressive Capture NTSC (only available if camera has been calibrated to support this mode – See Section 6.13)
EXPOSURE MODE (PAL)	50i	Interlaced PAL – See Section 6.13
	25p	Progressive Capture PAL (only available if camera has been calibrated to support this mode – See Section 6.13)
AGC Not active when camera is in NIGHT mode (see Section 9.5.1)	HIGH	Daytime gain limit = 42
	LOW	Daytime gain limit = 24
	MEDIUM	Daytime gain limit = 30
	CUSTOM	Displayed only when a custom daytime gain limit has been set using the AGC sub-menu.
DNR..		Enter the DNR sub-menu (see Section 6.12)
RANGE CTRL	MEDIUM	Limit dynamic range extension (DRE) to 30
	HIGH	DRE limit = 36
	CUSTOM	Enter AUTO RANGE sub-menu to select a specific DRE limit
	LOW	DRE limit = 9

EXPOSURE PREF	NORMAL	DRE limit = 20
	HIGHLIGHTS	Camera will attempt to correctly expose highlights in the scene at the expense of shadow detail
	SHADOWS	Camera will attempt to correctly expose shadows in the scene at the expense of highlight detail
BLC	OFF	Disable backlight compensation
	ON..	Enable backlight compensation and enter the ADVANCED BLC SETUP sub-menu
SLOW SHUTTER MODE	AUTO..	Enter AUTO SHUTTER SETUP sub-menu to select the slow shutter limit for low-light scenes
	MANUAL..	Enter MANUAL SHUTTER SETUP sub-menu to select a constant shutter speed
	OFF	Disable slow shutter modes
METER METHOD	MEDIAN	Use the median metering metric. Not optimal for heavily bi-modal scenes.
	MEAN	Use logarithmic arithmetic mean to determine luminance of scene. Mean metering allows for far more stability in rendering heavily bi-modal scenes (scenes with a lot of dark and light content, but very little in between).
PREV.		Return to root ADVANCED MENU
NEXT.		Enter ADVANCED EXPOSURE menu (see Section 6.1)
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any unsaved property changes made in this menu and restore previous user settings, then exit the advanced menus

ADVANCED EXPOSURE Menu

Menu Item	Options	Description
GAIN MODE Not active when camera is in NIGHT mode (see Section 9.5.1)	AGC..	Use the AGC to adjust gain applied to the image, and enter the AGC sub-menu to set the bias and limit (see Section 6.2)
	MANUAL..	Manually adjust the gain applied to the image via the MANUAL GAIN sub-menu (see Section 6.3)
TOE CONTROL	AUTO	Preferred mode that adapts to scene
	OFF	Disable toe control function
	MIN	Legacy mode with minimal effect
	NORM	Legacy mode with nominal effect
	MAX	Legacy mode with maximal effect
RANGE MODE	AUTO..	Enter the AUTO RANGE sub-menu to configure the camera for automatically adjusting its dynamic range, up to a selected limit, and based on scene content (see Section 6.4)
	MANUAL..	Enter the MANUAL RANGE sub-menu to select a dynamic range extension manually (see Section 6.5)
TRANSITIONS..		Enter the TRANSITIONS sub-menu to adjust the speed and hysteresis of exposure and dynamic range limit transitions (see Section 6.8)
AI THOLD	Slider	Sets the auto iris threshold
SHUTTER SPEED	NORMAL	Enable standard exposure mode with exposure time limited by the SHUTTER MODE setting on the EXPOSURE menu
	1/100	Enable a special fast shutter mode with a 1/100 second maximum exposure time
	1/200	Enable a special fast shutter mode with a 1/200 second maximum exposure time
PREV.		Return to root EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

AGC Sub-Menu

Menu Item	Options	Description
BIAS	Slider	Sets the gain offset to brighten or darken the image above or below the value automatically calculated by the camera's exposure system
LIMIT	Slider	Sets the limit for the amount of gain applied to the image
PREV.		Return to root EXPOSURE or ADVANCED EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

MANUAL GAIN Sub-Menu

Menu Item	Options	Description
GAIN	Slider	Adjusts the amount of gain applied to the scene at a fixed level.
PREV.		Return to ADVANCED EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and

AUTO RANGE Sub-Menu

Menu Item	Options	Description
BIAS	Slider	Applies a bias above or below the dynamic range extension limit automatically calculated by the camera's exposure control system if the dynamic range mode is set to auto.
LIMIT	Slider	Limits the dynamic range of the camera based on the exposure preference property. When exposure preference is SHADOWS, gain is maintained and the dynamic range is reduced, overexposing bright parts of the scene if needed to achieve the desired dynamic range. When the exposure preference is HIGHLIGHTS, this property will maintain the range value (98% exposure) and decrease the gain, under-exposing the darker parts of the image if required to achieve the desired dynamic range.
PREV.		Return to root EXPOSURE or ADVANCED EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous menus

MANUAL RANGE Sub-Menu

Menu Item	Options	Description
VALUE	Slider	Adjusts the dynamic range extension limit manually
PREV.		Return to ADVANCED EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

AUTO SHUTTER SETUP Sub-Menu

Menu Item	Options	Description
SHUTTER LIMIT (NTSC)	8X-8FPS	Allow shutter time to increase up to 8 field times automatically
	16X-4FPS	Allow shutter time to increase up to 16 field times automatically
	32X-2FPS	Allow shutter time to increase up to 32 field times automatically
	64X-2FPS	Allow shutter time to increase up to 64 field times automatically
	2X-30FPS	Allow shutter time to increase up to 2 field times automatically
	4X-15FPS	Allow shutter time to increase up to 4 field times automatically
SHUTTER	8X-6FPS	Allow shutter time to increase up to 8 field times

Menu Item	Options	Description
LIMIT (PAL)		automatically
	16X-3FPS	Allow shutter time to increase up to 16 field times automatically
	32X-1FPS	Allow shutter time to increase up to 32 field times automatically
	64X-1FPS	Allow shutter time to increase up to 64 field times automatically
	2X-25FPS	Allow shutter time to increase up to 2 field times automatically
	4X-12FPS	Allow shutter time to increase up to 4 field times automatically
PREV.		Return to root EXPOSURE menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

MANUAL SHUTTER SETUP Sub-Menu

Menu Item	Options	Description
SHUTTER LIMIT (NTSC)	2X-30FPS	Set shutter time to 2 field times
	4X-15FPS	Set shutter time to 4 field times
	8X-8FPS	Set shutter time to 8 field times
	16X-4FPS	Set shutter time to 16 field times
	32X-2FPS	Set shutter time to 32 field times

Menu Item	Options	Description
	64X-2FPS	Set shutter time to 64 field times
SHUTTER LIMIT (PAL)	2X-25FPS	Set shutter time to 2 field times
	4X-12FPS	Set shutter time to 4 field times
	8X-6FPS	Set shutter time to 8 field times
	16X-3FPS	Set shutter time to 16 field times
	32X-1FPS	Set shutter time to 32 field times
	64X-1FPS	Set shutter time to 64 field times
PREV.		Return to root EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advance menu.

TRANSITIONS Sub-Menu

Menu Item	Options	Description
PRESETS	NORM	Transitions occur normally
	FAST	Transitions occur quickly
	SLOW	Transitions occur slowly
EXPOSURE TRANSITIONS..		Adjust the exposure response time, hysteresis, and transition speed for exposure transitions via the EXPOSURE TRANSITIONS sub- menu (see Section 6.9)
RANGE		Adjust the dynamic range response time,

Menu Item	Options	Description
TRANSITIONS..		hysteresis, and RANGE TRANSITIONS sub-menu (see Section 6.10)
PREV.		Return to ADVANCED EXPOSURE sub-menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

EXPOSURE TRANSITIONS Sub-Menu

Menu Item	Options	Description
FILTER	Slider	Specifies the response time of exposure transitions
HYST	Slider	Specifies the amount of change in the exposure meter before a change in exposure value occurs
TRANS	Slider	Specifies the transition rate from one exposure value to the next. Smaller values result in smoother transitions, but over a longer period of time.
PREV.		Return to TRANSITIONS sub-menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

RANGE TRANSITIONS Sub-Menu

Menu Item	Options	Description
FILTER	Slider	Specifies the response time of dynamic range transitions. Less filtering makes the camera respond more quickly to changes in the scene. More filtering makes the camera less responsive to changes in the scene.

HYST	Slider	Specifies the amount of change that must occur in the dynamic range of a scene before a change in the rendered dynamic range of a scene before a change in the rendered dynamic range occurs
TRANS	Slider	Specifies the transition rate from one dynamic range value to the next. Smaller values result in smoother transitions, but over a longer period of time.
PREV.		Return to TRANSITIONS sub-menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

ADVANCED BLC SETUP Sub-Menu

Menu Item	Options	Description
SHADOW GAIN	Slider	Adjusts the amount of gain applied to the shadowed areas of a scene while the BLC mode is active
PREV.		Return to root EXPOSURE menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

DNR Sub-Menu

Menu Item	Options	Description
IIR	ADAPTIVE	IIR filter is applied to parts of scene with recent changes
	GLOBAL	IIR filter is applied globally to entire scene
IIR LIMIT	Slider	Sets the level of IIR (DNR) applied to scene

IIR SHIFT	Slider	Shifts the point where IIR is applied
PREV.		Return to root EXPOSURE menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

White Balance Control Menus
WHITE BALANCE Menu

Menu Item	Options	Description
MODE		
	ATW Normal	Dynamically adjust for changing lighting conditions continuously, but only between the minimum and maximum limits set in the WHITE BALANCE LIMITS sub-menu (see Section 7.2). The default range is 2800K to 8100K.
	ATW Desat	Dynamically adjust for changing lighting conditions continuously, but gradually de-saturate to 50% of the calculated value when the calculated color temperature goes beyond the minimum or maximum limits. Enter the WHITE BALANCE LIMITS sub- menu to set the limits (see Section 7.2). The default range is 3200K to 7000K.
	AWB..	Perform a one-shot white balance calculation using the PUSH AWB CONFIRM sub-menu. Disable and re-enable to force a new calculation. (see Section 7.3)
	MANUAL..	Manually enter and fix the color temperature via the MANUAL WHITE BALANCE sub-menu. (see Section 7.4)
	ATW Xtnd	Dynamically adjust for changing lighting conditions continuously for the color temperatures between 2000K and 11,000K.

METER METHOD	MEAN	Meters based on the mean level within the scene
	MEDIAN	Meters based on the median level within the scene
FLUORESCENT	OFF	Disable color roll filter
	CRR	Enable color roll filter version 1
	CRR2	Enable color roll filter version 2 (Available only when an auto-iris lens is selected and installed)
	EFR	Enable Enhanced Flicker Reduction (Available only when auto-iris lens is selected/installed, and when camera is calibrated to support EFR.)
PREV.		Return to root ADVANCED MENU
NEXT.		Enter ADVANCED WHITE BALANCE menu (see Section 7.1)
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

Additional Information on Fluorescent Modes

Color Roll Reduction – Ballast controlled lighting such as fluorescent or mercury vapor lighting can cause a phenomenon known as color roll where areas of the image produced by the camera appear to change color over time. This can be eliminated completely in cameras that can be line locked to the same AC power circuit that is being provided to the lighting source, but many cameras are DC powered and cannot take advantage of a hardware line lock mechanism. In these cases, the camera can eliminate the color roll phenomenon using internal software mechanisms. All software- based color roll reduction mechanisms result

in imaging trade-offs including a reduction in the dynamic range available.

CRR Fluorescent Mode - This color roll reduction mode will work with manual and auto-iris lenses. However, using it with auto-iris lenses typically results in noticeable levels of noise in shadows or dark areas in the image.

CRR2 Fluorescent Mode - This color roll reduction mode works with auto-iris lenses only. Noise levels are reduced in shadows or dark areas in the image compared to the noise levels present when using the CRR mode, but dynamic range is also reduced further in high contrast scenes.

Enhanced Flicker Reduction (EFR) – This mode is intended for use in situations where the frequency of the video standard is not the same as the frequency of the AC voltage. An example is Eastern Japan where the 60Hz NTSC video standard is used along with 50Hz AC voltage.

Memory Limitations - The number of color roll reduction options is limited by the amount of flash memory included in the camera. Cameras with 64Mb flash can support all three options. Generally, cameras with 32Mb flash can support CRR2 in addition to either CRR or EFR, but not both.

ADVANCED WHITE BALANCE Menu

Menu Item	Options	Description
FILTER MODE	ADAPTIVE	Improved white balance new to 7.4 firmware providing smoother transitions.
	CLASSIC	Perform white balance in the manner that releases prior to 7.4 did.
MGNTA LIMIT	ON	Allow automatic correction including only black body colors (suitable for daylight and incandescent lighting)
	CUSTOM..	Enter MAGENTA CONTROL sub- menu to manually set the gain applied to the camera's

		color output (see Section 7.7)
	OFF	Allow automatic correction beyond black body colors
WB BIAS	Slider	Sets a bias, in mireds along the black body curve, to be applied above or below the calculated color temperature.
TRANSITIONS		Enter WHITE BALANCE TRANSITIONS sub-menu (see Section 7.8)
PREV.		Return to root WHITE BALANCE menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

WHITE BALANCE LIMITS Sub-Menu

Menu Item	Options	Description
LOWLIMIT	Slider	Sets low end of color temperature range when the white balance mode is ATW Normal or ATW Desat
HIGHLIMIT	Slider	Sets high end of color temperature range when the white balance mode is ATW Normal or ATW Desat
PREV.		Return to root EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

PUSH AWB CONFIRM Sub-Menu

Menu Item	Options	Description
Save AWB & ALL Chngs.		Set white balance based on current scene and lock it
CANCEL.		Do not set white balance. Return to WHITE

		BALANCE menu.

MANUAL WHITE BALANCE Menu

Menu Item	Options	Description
ADJ MODE	KELVIN	Enter KELVIN ADJUST sub-menu to adjust color temperature in Kelvin (see Section 7.5)
	R/B	Enter R/B ADJUST sub-menu to adjust color temperature using red/blue components (see Section 7.6)
PREV.		Return to root WHITE BALANCE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

KELVIN ADJUST Sub-Menu

Menu Item	Options	Description
KELVIN	Slider	Sets white balance color temperature manually in Kelvin units
PREV.		Return to root EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

R/B ADJUST Sub-Menu

Menu Item	Options	Description
RED	Slider	Sets red white balance component
BLUE	Slider	Sets blue white balance component
PREV.		Return to root EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

MAGENTA CONTROL Sub-Menu

Menu Item	Options	Description
MGNTA LIMIT	Slider	Adjusts the gain applied to the color output of the camera to shift it toward the black body curve
PREV.		Return to ADVANCED WHITE BALANCE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

WHITE BALANCE TRANSITIONS Sub-Menu

Menu Item	Options	Description
ATW SLEW	Slider	Controls the rate of change when transitioning from one color temperature to another
HYST	Slider	Sets the delta that must occur in color temperature before white balance is adjusted
PREV.		Return to root EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced

		menus

Viewing Settings Menus
VIEWING Menu

Menu Item	Options	Description
PTZ		Enter ZOOM sub-menu to control digital pan, tilt, and zoom (see Section 8.2)
FLIP	OFF	Output image is rendered as captured
	HORIZ	Output the image flipped in the horizontal direction
	VERT	Output the image flipped (inverted) in the vertical direction
	BOTH	Output the image flipped in both the vertical and horizontal directions
RENDER INTENT	MOVIE	Render images with more saturated colors, but at the expense of sharpness
	INFO	Render images sharper, but at the expense of color saturation and visible noise
KERNEL SELECT	<FILTER_KERNEL>	Select proper kernel for BG39 type infrared filters
	<LENS_KERNEL>	Select proer kernel for hot mirror type infrared filters
PRIVACY MASK SETUP ..		Enter the PRIVACY MASK SETUP menu (see Section 12). This menu is also used to control the camera ID.
PREV.		Return to root ADVANCED MENU
NEXT.		Enter ADVANCED WHITE BALANCE menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in

		this menu and restore previous user settings, then exit the advanced menus

ADVANCED VIEWING Sub-Menu

Menu Item	Options	Description
LINEARITY		Enter LINEARITY sub-menu to adjust the amount of gamma to be applied to the image (see Section 8.3)
SHARPNESS.		Enter SHARPNESS sub-menu (see Section 8.4)
SATURATION.		Enter SATURATION sub-menu (see Section 8.5)
PREV.		Return to root VIEWING Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

ZOOM Sub-Menu

Menu Item	Options	Description
ZOOM	Slider	Sets the amount of digital zoom to be applied to the image
PAN	Slider	Moves the image center pixel in the horizontal direction when camera is in zoom mode
TILT	Slider	Moves the image center pixel in the vertical direction when camera is in zoom mode
PREV.		Return to root VIEWING Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

LINEARITY Sub-Menu

Menu Item	Options	Description
GAMMA	Slider	Adjusts the amount of gamma applied to the image. The value selected is actually the inverse of the gamma multiplied by 100 (e.g.; for a gamma of 2.2, the slider would be set to 45).
PREV.		Return to ADVANCED VIEWING sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

SHARPNESS Sub-Menu

Menu Item	Options	Description
BIAS	Slider	Adjusts the bias to be applied to vertical and horizontal sharpness of the image
APERTURE	Slider	Adjusts the bias to be applied to horizontal sharpness only
SHIFT	Slider	Shift, or move, the sharpness roll-off curve
PREV.		Return to ADVANCED VIEWING sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced

SATURATION Sub-Menu

Menu Item	Options	Description
BIAS	Slider	Biases color level in the image. Reducing the color level reduces noise, but results in de-saturated colors.
SAT	Value	Adjusts the chroma level in the image by changing the percentage of gain to move from the System Transfer Curve (STC) into the color space conversion algorithm. This can help to preserve color in highlights.
STC MODE	SAT	Implement the STC using a Pixim algorithm designed to limit the amount of de-saturation that occurs in high dynamic range scenes.
	CLASSIC	Implement the STC using a classic Bezier algorithm.
SHIFT	Value	Adjusts the saturation roll-off curve. Negative shifts will cause roll-off to occur sooner resulting in less saturation at higher light levels. Minimum and maximum saturation levels are unaffected by the shift.
PREV.		Return to ADVANCED VIEWING sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

Camera Setup Menus
SETUP Menu

Menu Item	Options	Description
IRIS.		Enter IRIS configuration sub-menu (see Section 9.2)
FOCUS.		Enter the FOCUS DETECTOR sub- menu to use the focus aid (see Section 9.3)
VIDEO I/O.		Select video standard, video levels, line lock or internal sync, and composite or UTP output. Also enable or disable digital video output as well as color bar output. (see Section 9.4)
ID SETUP.		Enter the ID SETUP sub-menu (see Section 9.9)
ACTIVITY		Enter the ACTIVITY DETECTION SETUP menu to enable and control activity detection

DETECTION.		functionality (see Section 11)
DAY/NIGHT SETUP.		Enter the DAY/NIGHT SETUP sub- menu to configure the camera for night time operation (see Section 9.5)
PREV.		Return to root ADVANCED MENU
NEXT.		Enter ADVANCED SETUP sub-menu (see Section 9.1)
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

ADVANCED SETUP Sub-Menu

Menu Item	Options	Description
NORMAL METER PRESETS		Select the area of the image to use for exposure, white balance, and dynamic range metering, and adjust the boundaries for the metering zones, via the NORMAL METER PRESETS sub-menu (see Section 9.6)
RS-485 SETUP		Set up the camera for communicating over the serial port via the RS-485 SETUP sub-menu (see Section 9.8)
PREV		Return to root SETUP Menu
SAVE		Save changes made in this menu as user settings
CANCEL		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

IRIS Sub-Menu

Menu Item	Options	Description
LENS	DC	Camera includes and controls an auto-iris lens via the

SELECT		exposure control system
	MANUAL	Camera does not control the lens iris
DC GAIN	Slider	Controls how hard the iris motor is driven for an auto-iris lens
AI THRESH	Slider	Sets the exposure system gain in dB that the auto-iris control will maintain. Higher values activate the auto-iris control at lower light levels.
PREV.		Return to root SETUP Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

FOCUS DETECTOR Sub-Menu

Menu Item	Options	Description
FOCUS TYPE GRAPHICAL		View the focus aid in graphical form via the FOCUS TYPE GRAPHICAL sub-menu (see Section 9.3.1)
FOCUS TYPE NUMERICAL		View the focus aid in numerical form via the FOCUS TYPE NUMERICAL sub-menu (see Section 9.3.2)
FOCUS TYPE NUM+GRAPH		View the focus aid simultaneously in graphical and numerical form via the FOCUS TYPE NUM+GRAPH sub- menu (see Section 9.3.3)
PREV		Return to root SETUP Menu
SAVE		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

FOCUS TYPE GRAPHICAL Sub-Menu

Menu Item	Options	Description
FOCUS METER	View Only	Indicates whether the camera lens is more or less focused by how far to the right the on-screen rectangle is shaded
SET FOCUS REGION..		Set the area of the image to be used by the focus detector via the SET FOCUS REGION sub-menu (see Section 9.3.4)
PREV.		Return to FOCUS DETECTOR sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

FOCUS TYPE NUMERICAL Sub-Menu

Menu Item	Options	Description
FOCUS METER	View Only	Indicates whether the camera lens is more or less focused using a number displayed with higher numbers indicating more focus and lower numbers indicating less focus
SET FOCUS REGION..		Set the area of the image to be used by the focus detector via the SET FOCUS REGION sub-menu (see Section 9.3.4)
PREV.		Return to FOCUS DETECTOR sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

FOCUS TYPE NUM-GRAPH Sub-Menu

Menu Item	Options	Description
FOCUS METER	View Only	Indicates whether the camera lens is more or less focused graphically and numerically with a bigger rectangle and higher number indicating better focus
SET FOCUS REGION..		Set the area of the image to be used by the focus detector via the SET FOCUS REGION sub-menu (see Section 9.3.4)
PREV.		Return to FOCUS DETECTOR sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

SET FOCUS REGION Sub-Menu

SET FOCUS REGION

The camera's focus region is used for calculating all focus metrics. The focus zone is always square, and camera buttons are used to alter the focus region definition.

Upon initial entry into the menu, the following button event sequences are used to access each of the operations below. Pressing the ENTER button toggles between each of the modes. Holding the ENTER button for approximately 2 seconds exits the SET FOCUS REGION sub-menu.

• Move the focus zone (signified by a white outline of the zone)
    LEFT moves the zone to the left
    RIGHT moves the zone to the right
    UP moves the zone upwards
    DOWN moves the zone downwards

• Increase the size of the focus zone (signified by a green outline of the zone)

    LEFT increases the width of the zone to the left and the height downward to maintain aspect ratio
    RIGHT increases the width of the zone to the right and the height downward to maintain aspect ratio
    UP increases the height of the zone upwards and the width to the right to maintain aspect ratio
    DOWN increases the height of the zone downwards and the width to the right to maintain aspect ratio

• Decrease the size of the focus zone (signified by a red outline of the zone)
    LEFT decreases the width of the zone inwards from the right side of the screen and decrease height from the bottom of the screen to maintain aspect ratio
    RIGHT decreases the width of the zone inwards from the left and decrease height from the bottom to maintain aspect ratio
    UP decreases the height of the zone from the bottom and the width from the right to maintain aspect ratio
    DOWN decreases the height of the zone from the top and the width from the right to maintain aspect ratio

VIDEO I/O Sub-Menu

Menu Item	Options	Description
VIDEO STANDARD	NTSC	Configure the video output as NTSC. Read the warnings in the VIDEO MODE SAVE sub-menu if it appears and select the appropriate option.
	PAL	Configure the video output as PAL. Read the warnings in the VIDEO MODE SAVE sub-menu if it appears and select the appropriate option.
SETUP	ON	Apply setup to the composite video output
	OFF	Do not apply setup to the composite video output
VIDEO LEVEL	Slider	Increase or decrease the video output level (IRE units).

COLOR BAR	OFF	Enable standard camera display
	ON	Enable display of camera generated color bars
SYNC	INT	Default 60 Hz internal synchronization mode for DC powered cameras
	INT2	Alternate 59.94 Hz internal synchronization mode for DC powered cameras
	LL	Line Lock. Synchronize the video output to the mains frequency for AC powered cameras (see Section 9.4.1)
UTP	OFF	Enable composite video output and disable unshielded twisted pair (UTP) output
	ON..	Enable UTP output and disable composite video output. Enter the UTP PREEMPHASIS sub-menu (see Section 9.4.2).
DIGITAL VIDEO OUTPUT..		Configure the digital video output via the DIGITAL VIDEO OUTPUT sub- menu (see Section 9.4.3)
PREV.		Return to root SETUP Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings

LINELOCK Sub-Menu

Menu Item	Options	Description
LL LIMIT	5.00%	With line lock enabled, set 5% of the field or frame time aside to let frequency drift
	0.25%	With line lock enabled, set 0.25% of the field or frame time aside to let frequency drift
	0.50%	With line lock enabled, set 0.50% of the field or frame time aside to let frequency drift
	1.00%	With line lock enabled, set 1% of the field or frame time

		aside to let frequency drift
V-PHASE	Slider	Adjust the vertical phase of output video when the camera is in line lock or external lock mode
PREV.		Return to VIDEO I/O sub-menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

UTP PREEMPHASIS Sub-Menu

Menu Item	Options	Description
PREEMPHASIS GAIN	0dB	Apply no gain (for standard length UTP cable)
	1.5dB	Apply 1.5 dB of gain (for longer than standard cables)
	3.0dB	Apply 3.0 dB of gain (for longer than standard cables)
	4.5dB	Apply 4.5 dB of gain (for longer than standard cables)
	6.0dB	Apply 6.0 dB of gain (for longer than standard cables)
PREV.		Return to root SETUP Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

DIGITAL VIDEO OUTPUT Sub-Menu

Menu Item	Options	Description
DIGITAL OUTPUT	OFF	Disable the BT.656 video output
	ON	Enable the BT.656 video output

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656 OSD	ON	Composite OSD with BT.656 video output when selected by the user
	OFF	Don't composite OSD with BT.656 output even if the user attempts to do so
FIELD ORDER	NORMAL	Output field 1 then field 2
	REVERSE	Output field 2 then field 1
FIELD RPT	OFF	Both output fields will contain a separate captured field
	2x	Both output fields will contain the first field captured. The second field captured will be discarded.
	SET	(see Section 9.3.4)
	FREEZE	Output the same frame until another mode is selected (note this mode will not reduce camera power consumption)
PREV.		Return to VIDEO I/O sub-menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

FRAME REPEAT COUNT Sub-Menu

Menu Item	Options	Description
FRAME COUNT	Slider	Adjust the number of times the first captured field is repeated
PREV.		Return to DIGITAL VIDEO OUTPUT sub-menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

DAY / NIGHT SETUP Sub-Menu

Menu Item	Options	Description
D/N CONTROL	AUTO	System gain set manually or automatically, will be used by the camera to decide when to enter or exit night mode. Selecting this mode will open the DAY/NIGHT AUTO SETUP sub-menu for configuring specific behavior (see Section 9.5.1).
	GPIO	Camera will enter night mode when a GPIO is asserted and exit when it is de-asserted. Selecting this mode will open the DAY/NIGHT GPIO SETUP sub-menu for configuring behavior (see Section 9.5.2).
	DAY	Camera will stay in day mode regardless of light level or any external control
	NIGHT	Camera will stay in night mode regardless of light level or any external control
NIGHT MODE	B/W +BURST	In night mode, video output is black and white, but the color burst signal is still present (allowing display of color menus).
	B/W	In night mode, video output is black and white with no color burst signal (resulting in black and white menus).
TDN MODULE VERSION:	Read Only	Displays version of the TDN firmware module resident in the camera
PREV.		Return to root SETUP Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

DAY/NIGHT AUTO SETUP Sub-Menu

Menu Item	Options	Description
NIGHT GAIN	Slider	Adjusts the gain limit to be used when the camera is in night mode
IN THRESH	Slider	Adjusts when the camera will enter night mode. The value correlates to the highest gain possible in day mode which will vary by color temperature.
IN DELAY	Slider	Sets the time delay in seconds for a day/night transition to occur after it is triggered
PREV.		Return to DAY/NIGHT SETUP sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

DAY/NIGHT GPIO SETUP Sub-Menu

Menu Item	Options	Description
IN DELAY	Slider	Sets the time delay in seconds for a day/night transition to occur after it is triggered
PREV.		Return to DAY/NIGHT SETUP sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

NORMAL METER PRESETS Sub-Menu

Menu Item	Options	Description
PRESETS	SAFE	Sets metering zone to the safe area and enters the

	AREA	zone adjustment mode (ee Section 9.7)
	ATM	Sets metering zone to a vertically oriented rectangle located in the horizontal center of the screen and enters the zone adjustment mode (see Section 9.7)
	LOWER 1/3	Sets metering zone to the lower third of the screen and enters the zone adjustment mode (see Section 9.7)
	WD NORMAL	Selects the WD NORMAL metering zone and enters the zone adjustment mode (see Section 9.7)
PREV.		Return to ADVANCED SETUP sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

Zone Adjustment Mode

Upon initial entry into the zone adjustment mode, the following button event sequences are used to access each of the operations below. Pressing the ENTER button toggles between each of the modes. Holding the ENTER button for approximately two seconds exits this menu.

- Move the zone (signified by a white outline of the zone)
  LEFT moves the zone to the left
  RIGHT moves the zone to the right
  UP moves the zone upwards
  DOWN moves the zone downwards
- Increase the size of the zone (signified by a green outline of the zone)
  LEFT increases the width of the zone to the left
  RIGHT increases the width of the zone to the right
  UP increases the height of the zone upwards
  DOWN increases the height of the zone downwards
- Decrease the size of the zone (signified by a red outline of the zone)
  LEFT decreases the width of the zone inwards from the right
  RIGHT decreases the width of the zone inwards from the left
  UP decreases the height of the zone from the bottom
  DOWN decreases the height of the zone from the top

RS-485 SETUP Sub-Menu

Menu Item	Options	Description
CAMERA #:	Value	Select the camera number to be used within a multi-drop serial network using RIGHT and LEFT buttons.
PROTOCOL	PELCO-D	Enables the Pelco-D protocol (camera manufacturer must have a license from Pelco)
	PIXIM MULTIDROP	Enables a multi-drop configuration using the Pixim Serial Command protocol
	PELCO-C	Enables the Pelco-C protocol (camera manufacturer must have a license from Pelco)
BAUD	2400	Selects a baud rate of 2400

RATE	4800	Selects a baud rate of 4800
	9600	Selects a baud rate of 9600
	19200	Selects a baud rate of 19200
PREV.		Return to ADVANCED SETUP sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

CAMERA ID SETUP Sub-Menu

Menu Item	Options	Description
ID DISPLAY	OFF	Disable display of the camera ID
	ON	Display the camera ID
CAMERA ID:		Allows user to change the camera ID string (see below)
ID POSITION	UP-LEFT	Display camera ID in upper left corner of display
	UP-CENTER	Display camera ID in top center of display
	UP-RIGHT	Display camera ID in upper right corner of display
	DOWN-LEFT	Display camera ID in lower left corner of display
	DOWN-RIGHT	Display camera ID in lower right corner of display
PREV.		Return to ADVANCED SETUP sub- menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

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The camera ID in the reference PCL is limited to eight characters in length. When the CAMERA ID menu item is selected, the first character in the ID string is highlighted, and the following buttons are used to modify the camera ID string:

ENTER (short press) - Advance to next character in the ID string
RIGHT - Increment to next ordinal character in OSD character set
LEFT - Decrement to prior ordinal character in OSD character set
UP or DOWN - Exit camera ID string edit mode
ENTER (hold) - Exit ADVANCED MENU

SAVE / RESTORE Menu

SAVE/RESTORE Menu

Menu Item	Options	Description
SAVE USER SETTINGS.		Save all current settings as user settings.
RESTORE USER SETTINGS.		Restore previously saved user settings then exit the advanced menus.
RESTORE FACTORY SETTINGS.		Restore factory default settings then exit the advanced menus.
RESET CAMERA.		Restart the camera.
DIAG DISPLAY	OFF	Do not display diagnostics in output video
	ON	Display diagnostics in output video (for Pixim engineering use only)
FW Rev:	Read Only	Displays version of firmware currently loaded into camera
PCL_VERSION	Read Only	Displays version of PCL currently loaded into camera
PREV.		Return to root ADVANCED MENU

SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

Activity Detection

The ACTIVITY DETECTION SETUP menu is entered from the SETUP menu.

ACTIVITY DETECTION SETUP Menu

Menu Item	Options	Description
ALARM	OFF	Disable activity detection
	ON	Enable activity detection and enter the ACTIVITY DETECTION MENU
SETUP ALARM ZONE		Enter the ALARM ZONE SETUP sub- menu
PREV		Return to root SETUP Menu
E		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

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ALARM ZONE SETUP Sub-Menu

Menu Item	Options	Description
SET ACTIVE ZONES	1 ZONE	Enable Zone 1 only
	2 ZONES	Enable Zone 1 and Zone 2 only
	3	Enable Zones 1, 2, and 3 only

	ZONES	
	4 ZONES	Enable all Zones (1-4)
ADJUST ZONE 1		Enter the ALARM ZONE SETUP sub- menu to adjust Zone 1
ADJUST ZONE 2		Enter the ALARM ZONE SETUP sub- menu to adjust Zone 2
ADJUST ZONE 3		Enter the ALARM ZONE SETUP sub- menu to adjust Zone 3
ADJUST ZONE 4		Enter the ALARM ZONE SETUP sub- menu to adjust Zone 4
PREV.		Return to root SETUP Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

ACTIVITY DETECTION MENU Sub-Menu

Menu Item	Options	Description
ACTIVITY THR.	Slider	Adjusts the sensitivity level where the alarm will trigger
DIG. ZOOM	Slider	Selects how much zoom will be applied to the image when an alarm is triggered
DIG. PAN	Slider	Selects, as a percentage offset, how much to pan the image to the left or right when an alarm is triggered
DIG. TILT	Slider	Selects, as a percentage offset, how much to tilt the image to the top or bottom when an alarm is triggered
PREV.		Return to root SETUP Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and

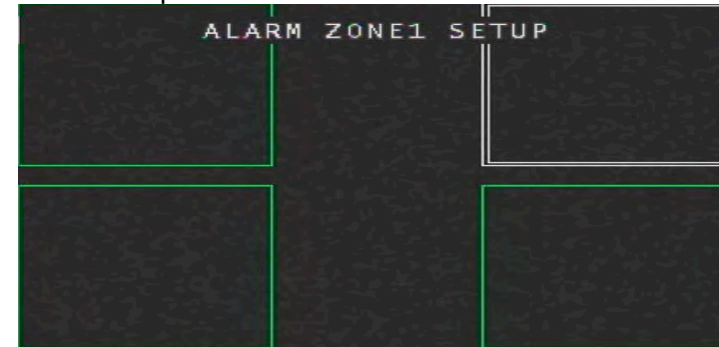|		restore previous user settings, then exit the advanced menus

ALARM ZONE SETUP Sub-Menus

Each alarm zone has a default definition and position.
Zone 1: Square in upper right corner
Zone 2: Square in upper left corner
Zone 3: Square in lower right corner
Zone 4: Square in lower left corner

Upon initial entry into any of the zone setup menus, the following button event sequences are used to access each of the operations below. Pressing the ENTER button toggles between each of the modes. Holding the ENTER button for approximately two seconds exits this menu.
• Move the zone (signified by a white outline of the zone)
 LEFT moves the zone to the left
 RIGHT moves the zone to the right
 UP moves the zone upwards
 DOWN moves the zone downwards
• Increase the size of the zone (signified by a green outline of the zone)
 LEFT increases the width of the zone to the left
 RIGHT increases the width of the zone to the right
 UP increases the height of the zone upwards
 DOWN increases the height of the zone downwards
• Decrease the size of the zone (signified by a red outline of the zone)

LEFT decreases the width of the zone inwards from the right
RIGHT decreases the width of the zone inwards from the left
UP decreases the height of the zone from the bottom
DOWN decreases the height of the zone from the top

Privacy Masks

The PRIVACY MASK SETUP sub-menu is selected from the VIEWING menu. The default PCL supports 12 privacy masks, but the product can support 16 assuming the user variables required are available and have not been used by the camera manufacturer to provide other, custom functionality.

PRIVACY MASK SETUP Sub-Menu

Menu Item	Options	Description
PRIVACY MASK	OFF	Disable privacy masks
	ON..	Enable privacy masks and enter the ENABLE MASKS sub-menu
MASK COLOR	WHITE	Use white privacy masks
	BLACK	Use black privacy masks
	RED	Use red privacy masks
ID DISPLAY	ON	Display camera ID
	OFF	Do not display camera ID
ID POSITION	UP-LEFT	Display camera ID in upper left corner of display
	UP-CENTER	Display camera ID in top center of display
	UP-RIGHT	Display camera ID in upper right corner of display
	DOWN-LEFT	Display camera ID in lower left corner of display
	DOWN-	Display camera ID in lower right corner of display

	RIGHT	
PM MODULE VERSION:	Read only	Provides version ID for the privacy mask module
PREV.		Return to root EXPOSURE Menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

ENABLE MASKS (1 to 6) Sub-Menu

Menu Item	Options	Description
MASK 1	OFF	Disable video output masking of the area defined by Mask 1
	ON	Enable video output masking of the area defined by Mask 1 and enter the privacy mask configuration mode
64	OFF	Disable masking of the OSD area defined by Mask 2
	ON	Enable masking of the OSD area defined by Mask 2 and enter the privacy mask configuration mode
MASK 3	OFF	Disable masking of the OSD area defined by Mask 3
	ON	Enable masking of the OSD area defined by Mask 3 and enter the privacy mask configuration mode
MASK 4	OFF	Disable masking of the OSD area defined by Mask 4
	ON	Enable masking of the OSD area defined by Mask 4 and enter the privacy mask configuration mode
MASK 5	OFF	Disable masking of the OSD area defined by Mask 5
	ON	Enable masking of the OSD area defined by Mask 5 and enter the privacy mask configuration mode
MASK 6	OFF	Disable masking of the OSD area defined by Mask 6
	ON	Enable masking of the OSD area defined by Mask 6 and

		enter the privacy mask configuration mode
PREV.		Return to root SETUP Menu
NEXT.		Enter the ENABLE MASKS (7 to 12) sub-menu
SAVE.		Save changes made in this menu as user settings
CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

ENABLE MASKS (7 to 12) Sub-Menu

Menu Item	Options	Description
MASK 7	OFF	Disable video output masking of the area defined by Mask 7
	ON..	Enable video output masking of the area defined by Mask 7 and enter the privacy mask configuration mode
MASK 8	OFF	Disable masking of the OSD area defined by Mask 8
	ON..	Enable masking of the OSD area defined by Mask 8 and enter the privacy mask configuration mode
MASK 9	OFF	Disable masking of the OSD area defined by Mask 9
	ON..	Enable masking of the OSD area defined by Mask 9 and enter the privacy mask configuration mode
MASK 10	OFF	Disable masking of the OSD area defined by Mask 10
	ON	Enable masking of the OSD area defined by Mask 10 and enter the privacy mask configuration mode
MASK 11	OFF	Disable masking of the OSD area defined by Mask 11
	ON	Enable masking of the OSD area defined by Mask 11 and enter the privacy mask configuration mode
MASK 12	OFF	Disable masking of the OSD area defined by Mask 12
	ON	Enable masking of the OSD area defined by Mask 12 and enter the privacy mask configuration mode
PREV.		Return to root SETUP Menu
SAVE.		Save changes made in this menu as user settings

CANCEL.		Cancel any property changes made in this menu and restore previous user settings, then exit the advanced menus

Privacy Mask Configuration Mode

When a privacy mask has been enabled, the camera will enter the configuration mode for that mask, and the mask will be shown in white meaning that the camera is ready to allow the zone to be moved. The following button events are used to configure the masks. Pressing the ENTER button toggles between each of the modes. Holding the ENTER button for approximately two seconds exits configuration mode for the mask.

- Move the mask (signified by the mask being shown in opaque white)
  LEFT moves the zone to the left
  RIGHT moves the zone to the right
  UP moves the zone upwards
  DOWN moves the zone downwards
- Change the size of the mask (signified by the mask being shown in transparent purple)
  LEFT decreases the width of the mask from the right
  RIGHT increases the width of the mask toward the right
  UP decreases the height of the mask from the bottom
  DOWN increases the height of the mask toward the bottom

Camera Specification

SPECIFICATION		
Sensor	Sensor	1/3' DPS Sensor
	Video Format	PAL/NTSC
	Resolution	690HTV-E
	Mini illumination	0.1 Lux
	S/N Ratio	≥50 db (AGC OFF)
Control	WDR control	LOW/NORMAL/MEDIUM / HIGH
	BLC	ON, OFF

Model	DS19PVM	DS215PVM
Display Type	19" (4:3) Active Matrix TFT LED Module	21.5" (16:9) Active Matrix TFT LED Module
Active Area	376.32 (H) x 301.056 (V)	476.64 (H) x 268.11 (V)
Pixel Pitch	0.294 (H) x 0.294 (V)	0.24825 (H) x 0.24825 (V)
Resolution	1280 (H) x 1024 (V)	1920 (H) x 1080 (V)
Colors	16.7 Million Colors	
Contrast Ratio	1000:1 (Typical)	
Brightness	300 Cd/m2	
Response Time	5 ms	3.5 ms
Video System	NTSC / PAL	
Video IN/OUT (BNC)	1 / 1	
VGA IN (15 Pin Sub)	1	
HDMI IN	1	
Audio IN (RCA)	3	
PC Stereo IN	1	
Camera Out	1	
Remote Control	YES	
Speaker	YES 2.5W X 2	
Filter Type	3D Comb Filter	
De-Interlacing	YES	
Noise Reduction	YES	
Multi Display Function	PIP / POP	
LCD Protection	Glass	
Multi Language	English, French, German, Spanish, Italian, Portuguese, Polish, Russian	
Cycle Function	YES	
Motion Sensor	IR Motion Sensor (ON / OFF)	
Part / Labor	2 Year	
MTBF (Approx)	50,000 Hours	
Operating Temperature	0 – 50 Degrees Celsius / 32 – 122 Fahrenheit	
Camera Type	WDR Camera	
Signal / Scanning	NTSC / PAL	
Image Sensor	1/3" PIXIM ORCA CMOS (Dramatic Dynamic Range Sensor)	
AGC Control	0 – 60 dB	
Resolution	Horizontal: 600 TVL	
VESA Mount Size	100 x 100 MM (BS M6 x 16MM Screw)	

Specification

Model	DS236PVM	DS26PVM
Display Type	23.6" (16:9) Active Matrix TFT LED Module	26" (16:9) Active Matrix TFT LED Module
Active Area	521.28 (H) x 293.22 (V)	576 (H) x 324 (V)
Pixel Pitch	0.2715 (H) x 0.2715 (V)	0.100 (H) x 0.300 (V)
Resolution	1920 (H) x 1080 (V)	1920 (H) x 1080 (V)
Colors	16.7 Million Colors	
Contrast Ratio	1000:1 (Typical)	
Brightness	300 Cd/m2	400 Cd/m2
Response Time	3.5 ms	3.5 ms
Video System	NTSC / PAL	
Video IN/OUT (BNC)	1 / 1	
VGA IN (15 Pin Sub)	1	
HDMI IN	1	
Audio IN (RCA)	3	
PC Stereo IN	1	
Camera Out	1	
Remote Control	YES	
Speaker	YES 2.5W X 2	
Filter Type	3D Comb Filter	
De-Interlacing	YES	
Noise Reduction	YES	
Multi Display Function	PIP / POP	
LCD Protection	Glass	
Multi Language	English, French, German, Spanish, Italian, Portuguese, Polish, Russian	
Cycle Function	YES	
Motion Sensor	IR Motion Sensor (ON / OFF)	
Part / Labor	2 Year	
MTBF (Approx)	50,000 Hours	
Operating Temperature	0 – 50 Degrees Celsius / 32 – 122 Fahrenheit	
Camera Type	WDR Camera	
Signal / Scanning	NTSC / PAL	
Image Sensor	1/3" PIXIM ORCA CMOS (Dramatic Dynamic Range Sensor)	
AGC Control	0 – 60 dB	
Resolution	Horizontal: 600 TVL	
VESA Mount Size	100 x 100 MM (BS M6 x 16MM Screw)	

Model	DS32PVM	DS42PVM
Display Type	32" (16:9) Active Matrix TFT LED Module	42" (16:9) Active Matrix TFT LED Module
Active Area	698.4 (H) x 392.85 (V)	930.24 (H) x 523.26 (V)
Pixel Pitch	0.12125 (H) x 0.36375 (V)	0.1615 (H) x 0.4845 (V)
Resolution	1920 (H) x 1080 (V)	1920 (H) x 1080 (V)
Colors	16.7 Million Colors	
Contrast Ratio	6000:1 (Typical)	
Brightness	450 Cd/m2	
Response Time	6.5 ms	4.5 ms
Video System	NTSC / PAL	
Video IN/OUT (BNC)	1 / 1	
VGA IN (15 Pin Sub)	1	
HDMI IN	1	
Audio IN (RCA)	3	
PC Stereo IN	1	
Camera Out	1	
Remote Control	YES	
Speaker	YES 2.5W X 2	
Filter Type	3D Comb Filter	
De-Interlacing	YES	
Noise Reduction	YES	
Multi Display Function	PIP / POP	
LCD Protection	NO	
Multi Language	English, French, German, Spanish, Italian, Portuguese, Polish, Russian	
Cycle Function	YES	
Motion Sensor	IR Motion Sensor (ON / OFF)	
Part / Labor	2 Year	
MTBF (Approx)	50,000 Hours	
Operating Temperature	0 – 50 Degrees Celsius / 32 – 122 Fahrenheit	
Camera Type	WDR Camera	
Signal / Scanning	NTSC / PAL	
Image Sensor	1/3" PIXIM ORCA CMOS (Dramatic Dynamic Range Sensor)	
AGC Control	0 – 60 dB	
Resolution	Horizontal: 600 TVL	
VESA Mount Size	200 x 200 MM (BS M6 x 16MM Screw)	