

April 29, 2014

V. - A.

TO: Mr. Steve Bennett
Aitkin County Jail
217 Second Street
Aitkin, MN 56431



326 Blackburn St.
 Ripon, WI 54971
 920.748.6603
 fax 920.748.9397

RE: Proposal for Improvements to the Interview System

Interview System Proposal

The following is our price quotation for the above referenced project. Our quotation is for a complete system, which encompasses all the functions required by a facility of this nature and the device quantities provided as we discussed during my visit on April 15, 2014

Summary of Scope:

The existing system has (1) wall mounted Bosch fixed box camera, (1) Louroe ceiling mounted microphone and a commercial Sony DVR. The owners have reported that if the interviewee is not facing the camera and is either whispering or does not speak clearly they cannot record and hear what has been said. We would recommend that (2) additional ceiling mounted cameras be added to eliminate the blind spots and capture both the child and parent (or guardian) along with the interviewer. The existing Louroe microphone does not have enough sensitivity to capture the audio and it will be removed and replaced with a new microphone. The Astatic 210 microphones we are proposing have line-level audio which can be adjusted for the specific acoustic properties of the room. A second Astatic 210 will be added to the ceiling at the opposite end of the room. Two mini-dome Bosch cameras will also be added at the corners of the ceiling opposite the existing box camera. We will route all three cameras to a new Bosch 4 Channel DVR with 1 Terabyte of memory. We will combine the (2) audio signals with a preamplifier and a mixer and then route the audio into the DVR. All recorded video from any camera will include the audio from both microphones. The owners will provide a network cable that will be connected to the DVR enabling up to four remote owner computers with preloaded Bosch software to view live and recorded video and audio at their desks. The DVR also has a DVD burner feature allowing HD DVD s to be created. The DVD will include a watermark providing an authenticity check for both local and remote archives, ensuring recording integrity. We will add a switch inside the room near the door that the interviewer will push to start the recording on the DVR at the beginning of an interview. We are including a new Planar 22" LCD HD monitor that will be wall mounted next to the shelves that will hold the DVR and audio devices. The monitor will allow someone to review the stored video at the DVR and select the recording to be downloaded to the DVD.

Included in our proposal is a lump sum for a completely assembled and tested interview control system. In addition to all the equipment, this proposal includes the following:

- Installation of audio and video cable in the drop ceiling above the room.
- Installation of surface mounted cameras, microphones and a wall switch.
- Wiremold from ceiling to switch to cover switch wires. (unless wire can be routed inside wall)
- Installation of a monitor wall mount and new head end audio equipment.
- System testing and adjusting.
- Owner training and final documentation.
- Bosch software to be loaded on owner computers. (please see PC requirements found on DVR specification sheet)
- Freight to the project site.

Exceptions:

This proposal assumes that the following is not included:

- All of the 120VAC input power, connections and power distribution of the various systems to generator power. (Assume the existing power can be re-used).
- (1) Cat 5e cable between owner network and DVR.
- Computers, video cards or monitors at owner desks.
- County network switches
- Firewalls or other measures to protect network.

- Performance and payment bond.
- County permits and fees.
- Prevailing wages.
- State, County or Municipal sales taxes.
- Liquidated damages.
- Portable toilets.

Bill of Material:

General Requirements

- Submittal Development
- Shop & record drawings
- Maintenance & operating manuals
- One year warranty

Audio System by Radio Design Labs/Astatic

- (2) Astatic 210 line-level microphones
- (1) RDL STMX2 Mixer
- (1) RDL STDA3 Preamplifier
- (2) West Penn 292 audio cables 20' lg.

Video System by Bosch and Planar

- (1) Bosch DIVAR DVR-3000-04A101
- (2) Bosch VDC-455V03-20S mini-dome cameras
- Bosch video software
- Planar 22" LCD monitor
- Tripp Lite full motion wall mount for monitor
- Coaxial cable, power cable and power supplies

Proposal:

Total Interview Control System Base Bid = \$4,989.00

If a bond is required please add 1.25% to estimate for the bond cost

Scheduling

Scheduling will be coordinated upon a purchase order or contract for project. Typically a project with this scope of work will require (6) weeks for drawings, product procurement and shop testing. An additional (4 to 6) weeks may be required for scheduling a field technician.

Warranty:

Accurate Controls, Inc. shall guarantee our hardware and engineering to be free from defects for one year. We shall replace defective material in a timely fashion after diagnosis. Accurate Controls, Inc. will not replace or warrant hardware which is damaged due to negligence, acts of god or vandalism.

Summary:

Accurate Controls, Inc. is a national UL508A integrator of the preceding equipment with all of our project coordinators, technicians and engineers being factory authorized. I trust that this gives you a good indication as to what Accurate Controls, Inc. will provide to you. For more information about Accurate Controls, Inc. please visit our website at www.accuratecontrols.com. If you have any questions, comments or suggestions, please feel free to call me at 920-748-6603 ext 247.

Respectfully,
Fred Voetberg
 Fred Voetberg
 Project Manager/Estimator

210

Premium Omnidirectional Button Style Microphone with Adjustable Line-Level

Description

The Astatic 210 is a miniature-boundary microphone designed for installation in security, ambient monitoring and observation applications. The output level is variable from -50dBv (3.2mV) to -10.5dBV (300mV) @ 1 μ Bar which is designed to interface with security cameras, digital video recorders and other observation and recording devices.

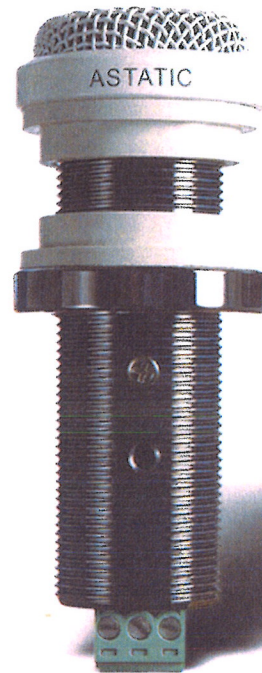
Astatic's internal audio limiter circuitry tames high sound pressure levels and improves intelligibility by protecting the audio signal from distorting sensitive recording circuitry in cameras and digital recorders. The integrated volume control is located on the side of the microphone and is protected from tampering when the microphone is installed. The integrated 150Hz, 6dB/oct high-pass filter attenuates unwanted low frequency energy.

8 to 18VDC (70mA) is required to power the microphone (not supplied). The connection is made through a removable 3.5mm terminal block plug connector on the opposite end of the microphone. The connector accepts DC power and outputs an unbalanced, amplified signal.

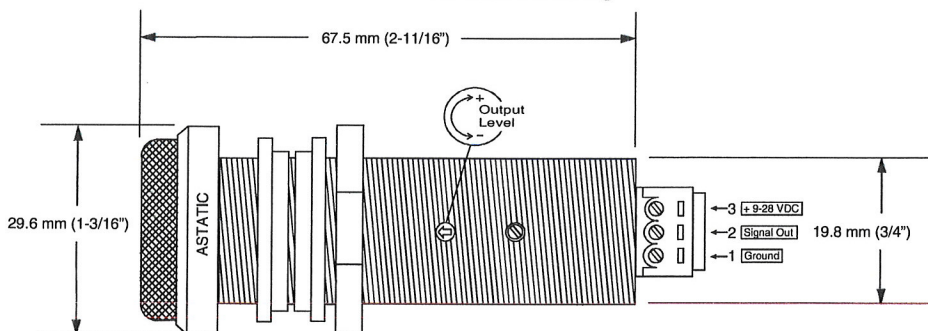
The Astatic 210 housing is all-metal, designed for commercial applications. The threaded housing makes for easy installation into ceilings, walls, tables and other surfaces. Rubber isolation bushings and metal nut/washer hardware are also provided.

Features

- Adjustable Line-level output
- Omnidirectional pick-up pattern
- Integrated high-pass filter for improved intelligibility and voice articulation
- Integrated limiter maintains near/far signal integrity
- All-metal housing suitable for commercial applications
- Mounting hardware included
- RF (radio frequency) Resistant Architecture
- Shock-absorbing polymer bushings included
- Inconspicuous design



Dimensional Drawing



ASTATIC COMMERCIAL

210

Premium Omnidirectional Button Style Microphone with Adjustable Line-Level

Specifications†

Operating Principle	Condenser
Polar Pattern	Omnidirectional
Frequency Response	120Hz -18KHz
Sensitivity	Adjustable, -50dBV (3.2mV) to -10.5dBV (300mV) @ 1 µBar
Impedance	50 ohms
Maximum SPL	100dB
Self Noise	22dBA
Power Requirements	8 to 18VDC, 70mA
Connector	3.5 mm terminal block plug with 180 degree wire-to-plug orientation, accepting 30 to 14AWG size wire.
Polarity	Positive pressure on diaphragm corresponds to positive voltage on pin 2.
Finish	Durable matte-white urethane
Dimensions	(See drawing)
Net Weight [Mass]	2.4oz [.07Kg]
Packaged Weight [Mass]	5.4oz [.15Kg]
RF Immunity	Meets or exceeds EN55103-2, E1, E2, E3 and E4

RoHS Compliant

†Specifications subject to change without notice.

Included Accessories2 rubber bushings,
hex nut and washer.

Architects' and Engineers' Specifications

The microphone will be an inconspicuous, omnidirectional, button-style, condenser boundary microphone designed for surface installation. The integrated limiter will maintain near/far signal integrity. The sensitivity of the microphone will be -50dBV (3.2mV) to -10.5dBV (300mV) @ 1 µBar. The frequency response will be 120Hz to 18KHz. The impedance of the microphone will be 50 ohms. The self noise will be 22dBA. The maximum SPL will be 100dB.

The microphone will include an integral 150Hz, 6dB/oct high-pass filter to improve intelligibility. The microphone will have a removable 3.5mm terminal block plug with 180 degree wire-to-plug orientation, accepting 30 to 14AWG size wire.

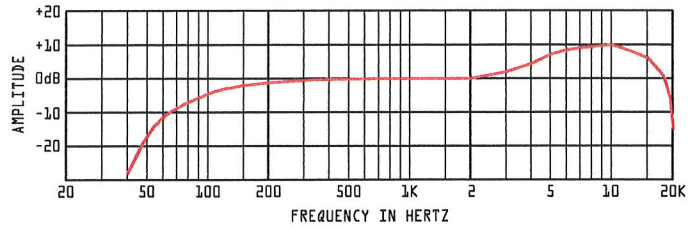
The microphone will be externally powered with an 8 to 18VDC 70mA source (not supplied). The microphone element and electronics will be enclosed in a radio frequency resistant housing meeting or exceeding EN55103-2. The microphone will be 3-3/8" [85mm] long, 1-1/8" [28mm] in diameter and stand 3/4" [20mm] above boundary. The net weight [mass] will be 2.4oz [.07Kg]. The packaged weight [mass] will be 5.4oz [0.15Kg]. The microphone will have durable matte-white urethane finish.

The Astatic model 210 is specified.

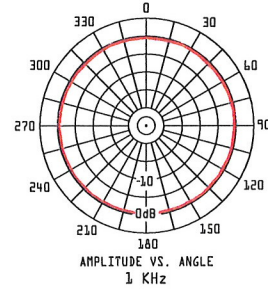


ASTATIC COMMERCIAL

Frequency Response



Polar Pattern



Two-Year Limited Warranty

CAD Audio hereby warrants that this product will be free of defects in material and workmanship for a period of two years from the date of purchase. In the unlikely event that a defect occurs CAD Audio will, at its option, either repair or replace with a new unit of equal or greater value. Retain proof of purchase to validate the purchase date and return it with any warranty claim.

This warranty excludes exterior finish or appearance, damage from abuse, misuse of the product, use contrary to CAD Audio's instructions or unauthorized repair. All implied warranties, merchantability, or fitness for a particular purpose is hereby disclaimed and CAD Audio hereby disclaims liability for incidental, special or consequential damages resulting from the use or unavailability of this product.

This warranty gives you specific legal rights and you may have other rights that vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

Note: No other warranty, written or oral is authorized by CAD Audio.

Shipping Instructions

Please call our customer service department at 440-349-4900 for a pre-approved return authorization number.

Carefully repack the unit and return the insured package to: CAD Audio, 6573 Cochran Road, Building 1, Solon, Ohio 44139.

RETURNS WITHOUT A PRE-APPROVED RETURN AUTHORIZATION NUMBER WILL BE REFUSED.

If outside the United States, contact your local dealer or distributor for warranty details.



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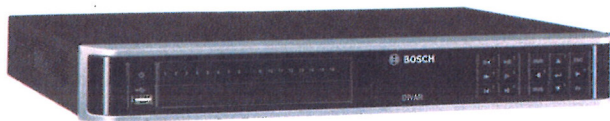
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Solon, Ohio 44139 U.S.A.
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Sales: (800) 762-9266
www.cadaudio.com

DIVAR AN 3000

www.boschsecurity.com



BOSCH
Invented for life



- ▶ 960H RT high-resolution on HDMI output
- ▶ Mobile device support (iOS, Android)
- ▶ Remote alarm notification
- ▶ Network function for remote viewing, playback and control
- ▶ Simultaneous monitoring, recording and playback

The DIVAR AN 3000 is a family of 4/8/16 channel digital recorders that use the latest 960H high-resolution video technology and state-of-the-art compression techniques. These advanced technologies, coupled with efficient network data transmission, deliver the high security and reliability required for modern surveillance systems. Simultaneous remote or local monitoring, recording, archive and playback are guided by simple menu selections and operator commands. The recorders are available with a number of storage capacities, and a built-in DVD burner can be specified.

System overview

The DIVAR takes advantage of the latest H.264 video and G.711 audio compression technology to dramatically reduce bandwidth and storage requirements while still delivering superb image and audio quality. Armed with the newest 960H video technology, DIVAR gives you the full benefits of the latest 960H high-resolution cameras. With the ability to capture more than 30% extra horizontal image resolution compared to D1/CIF recorders, the proof is in the pixels.

The DIVAR records multiple video and audio signals while simultaneously providing live multi-screen viewing and playback. Comprehensive search and playback functions provide quick recall and viewing of recorded video.

The DIVAR is not intended for use over a PoE switch.

Recording

The DIVAR is very easy to use. Simply connect the cameras, apply power and let the unit record automatically with no further intervention required. The H.264 compression function significantly reduces file size of recordings without sacrificing image quality. The DIVAR can record at up to 25 (PAL) / 30 (NTSC) images per second, per channel at 960H resolution.

Dome control

The DIVAR can control pan/tilt/zoom (PTZ) equipment via RS-485 / RS-232 serial communications. PTZ devices, including the AUTODOME from Bosch and a number of third party domes, are supported.

Alarms

All models have extensive alarm handling functions and telemetry control. Alarm functions include local inputs and relay outputs, plus motion detection in user-defined areas. If an alarm is detected, the DIVAR can:

- send an e-mail notification and/or FTP push
- display an on-screen message

- sound a buzzer and/or show a warning

Local control

The unit can be easily operated and programmed via the on-screen display menu system using:

- the supplied mouse
- the front panel control keys
- the supplied remote control

Video inputs, audio inputs/output, and alarm inputs/outputs are located on the rear panel.

A choice of monitor outputs provide full-screen, multi-screen and sequenced viewing:

- Three video connectors (BNC/VGA/HDMI) provide simultaneous output for monitor A for live display (with zoom) and playback (display can be frozen and zoomed)
- A single BNC connector provides output to monitor B (spot monitor) for live viewing

Network control

Use the PC software or built-in web application via a network for live viewing, playback, and configuration.

Watermark

The DIVAR includes an authenticity check for both local and remote archives, ensuring recording integrity. An Archive Player is provided for playback of secure video files and to check if video is authentic.

Smartphone App

A DIVAR Viewer App from Bosch for iOS and Android devices is available for live viewing and PTZ control. This means you can watch live video from cameras connected to the DVR from anywhere in the world. You can also control focus, pan, tilt and zoom on PTZ-enabled cameras.

Functions

The DIVAR has the following features:

- 4, 8 or 16, auto-terminating camera inputs with 960H resolution
- 4 audio inputs and 1 audio output
- 1 MIC input for talk input/output
- Simultaneous live viewing, recording, playback, archiving, and remote streaming
- Choice of CVBS/VGA/HDMI monitor A outputs
- 10/100/1000Base-T Ethernet port for local or wide area network connection
- RS-485 / RS-232 serial ports to control movable cameras (PTZ)
- IR remote control, front panel keyboard and USB mouse support for camera control
- Selectable PAL/NTSC TV monitor output mode
- Secret (covert) recording channel that can be locked for unauthorized viewing
- Full-screen and multi-screen display capabilities in live and playback modes for monitors
- 16 switching (alarm) inputs and 3 alarm outputs
- Alarm and error notification (screen, audible, warning light, FTP, e-mail) and automatic record activation
- Motion detection and video loss detection
- DIVAR viewer App for live and PTZ control on Smartphone (iOS and Android)

- Supports Bosch and Pelco PTZ control protocols
- Authenticity check in Archive player
- Manual and automatic recording (scheduled and alarm)
- Multiple search modes (time, channel, type, motion, smart motion within recorded images)
- Local video/audio archiving via USB and optional built-in DVD burner
- Local video storage via optional built-in HDDs

Certifications and approvals

Standards

EMC Directive	2004/108/EC
EMC Immunity	EN 50130-4:2011 *
EMC Emission	EN 55022:2010, +AC:2011. Class B conducted + radiated emission EN 61000-3-2:2006, +A1: 2009, +A2:2009 Mains harmonics EN 61000-3-3:2008. Voltage fluctuations
Environment	EN 50130-5 Class 1
Low voltage directive	2006/95/EC
Safety	EN 60950-1:2006, +A11:2009, +A1:2010, +A12:2011, +AC:2011 USA: UL 60950-1: 2nd edition 2011-12-19 CAN/CSA-C22.2 No.60950-1-07, 2nd edition 2011-12
FCC	CFR Title 47 Part 15:2009 class B
EMC Australia	C-Tick

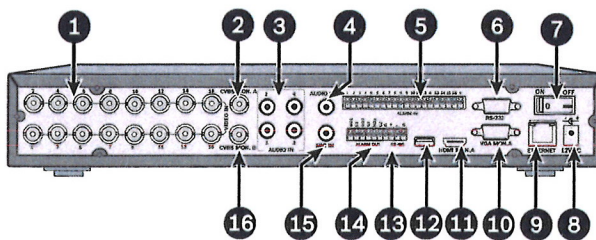
* Clause 8 (mains supply voltage dips and short interruptions): to meet the requirements of this clause, auxiliary equipment (such as a UPS) must be used.

Region Certification

Europe	CE
USA	UL
	FCC
Canada	CSA

Installation/configuration notes

Connections on back of DIVAR 3000 (16-channel version)



- | | |
|---------------------------|---------------------------|
| 1 Camera inputs | 9 RJ45 network connector |
| 2 CVBS output - Monitor A | 10 VGA output - Monitor A |

3 Audio inputs	11 HDMI output - Monitor A
4 Audio output	12 USB connector
5 Alarm inputs	13 RS485 connector for Dome control
6 RS232 connector for Dome control	14 Alarm outputs
7 Power ON/OFF switch	15 Microphone input
8 Power connector	16 CVBS output - Monitor B

Recommended PC requirements for Web support

Operating system	Windows XP, Windows Vista or Windows 7
Web browser	Safari, Chrome, Firefox (QuickTime required; no playback supported) Internet Explorer 9 (including playback)
Processor	Intel Core Duo 2.0 GHz or comparable
RAM memory	2048 MB
Free disk space	10 MB
Graphics card	NVIDIA GeForce 8600 or better
Video memory	256 MB
Network interface	10/100/1000-BaseT

Technical specifications

Electrical

Rated voltage and power

External power adapter AC input	100–240 VAC; 50-60 Hz; 1.7 A
Power adapter DC output	12 VDC; 5 A
DVR Power input	12 VDC; 35 W, 119 BTU/h
RTC battery on main PCB	Lithium CR2032, 3 VDC

Video

Video standard	PAL or NTSC (select via General Setup menu, or auto detect on channel 1) 960H resolution support
Playback	960H: 960x576 (PAL), 960x480 (NTSC) 4CIF: 704x576 (PAL), 704x480 (NTSC) 2CIF: 704x288 (PAL), 704x240 (NTSC) CIF: 352x288 (PAL), 352x240 (NTSC) QCIF: 176x144 (PAL), 176x120 (NTSC)
Compression	H.264
Inputs	4, 8 or 16 composite video 1 Vpp, 75 ohm, CVBS (BNC)
Outputs	1 channel Mon. A: CVBS (BNC) 1 channel Mon. A: HDMI 1 channel Mon. A: VGA 1 channel Mon. B: CVBS (BNC)

Support for simultaneous CVBS/VGA/HDMI output to Mon. A

Monitors

MON.A	Live, playback, menus VGA: analog RGB max. 1920x1080, 60 Hz HDMI: digital RGB max. 1920x1080, 165 MHz CVBS: 1 Vpp, 75 ohm, BNC (NTSC/PAL)
Resolution (MON.A)	CVBS (PAL): 704x576 CVBS (NTSC): 704x480 VGA: 1920x1080, 1280x1024, 1280x720, 1024x768 HDMI: 1920x1080, 1280x1024, 1280x720, 1024x768 960H camera: 960x576 (PAL), 960x480 (NTSC) 720H camera: 704x576 (PAL), 704x480 (NTSC)
MON.B	Live CVBS: 1 Vpp, 75 ohm, BNC
Resolution (MON.B)	CVBS (PAL): 704x576 CVBS (NTSC): 704x480

Audio

Inputs	4-ch RCA (for 4/8/16 channel), 200 to 3000 mV, 10 kOhm (RCA)
Output	Mono RCA, 200 to 3000 mV, 5 kOhm (RCA)
MIC input	Mono talk input RCA, 200 to 3000 mV, 10 kOhm (RCA)
Compression	G.711A
Sample rate	8 kHz per channel
Bit rate	8-bit

Control

RS485	PTZ control port Output signals according to RS485, max. signal voltage -5 to +5 V
RS232	PTZ control port interface Output signals according to EIA/TIA-232-F, max input voltage ± 10 V
Supported protocols	Pelco P and D (over RS-485) Bosch OSD (over RS-485 or RS-232)

Alarms

Inputs	16 inputs configurable NO/NC, max. input voltage 5 VDC
Outputs	3 relay outputs, configurable NO/NC
Relay contact	Max. rated, 30 VDC, 2 A continuous or 125 VAC, 1 A (activated)

Connectors

Video inputs	4, 8 or 16 BNC
Monitor outputs	1 VGA D-SUB 1 HDMI 2 channel BNC (CVBS)
Alarm inputs	16 screw terminal inputs, cable diameter AWG26-16 (0.13–1.5 mm)
Alarm outputs	3 screw terminal outputs, cable diameter AWG26-16 (0.13–1.5 mm)
Audio inputs	4 RCA
Audio outputs	1 RCA
Audio bidirectional (MIC)	1 RCA for talk input or output
Ethernet	RJ45, 10/100/1000Base-T according to IEEE802.3
RS485	Screw terminal output
RS232	DB9 male, 9-pin D-type
USB 2.0	One front and one rear USB connector for mouse or USB memory device
+12 VDC	External power input

Video recording**Recording**

Speed	Max. 30 IPS per channel (NTSC), configurable Max. 25 IPS per channel (PAL), configurable
Mode	Manual, motion detection, scheduled, alarm

Network control

View alarm	External, motion detection, system alarms and video loss
Audio	Bidirectional (audio input and output connected via device)
PC software	Bosch Video Client

Playback

Multi-channel	Simultaneous 1/4/9/16 channels
Mode	Frame-by-frame, slow play, fast play, reverse
Search	Time, channel, type, smart
Network	Bosch Video Client or Web Client software

Alarm Handling

Motion detection	Detection zones: 396 (PAL) / 330 (NTSC)
Video loss	External alarm and screen prompt

Storage

Internal	2 SATA HDD or 1 HDD + 1 DVD (R/RW) Max. capacity per HDD: 3 TB Max. supported speed per HDD: 6 Gb/s
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Exporting

DVD (optional)	Built-in DVD+R/RW writer
USB	Flash memory or external HDD (FAT32)
Network	Bosch Video Client or Web Client software

Mechanical

Dimensions (WxDxH)	375 x 290 x 50 mm (14.8 x 11.4 x 2.0 in) excluding cabling and feet (5 mm)
Weight	2.5 kg (5.51 lb) approx. excluding HDD(s) and DVD writer

Environmental**Temperature (incl. HDD(s) and DVD writer)**

Operating	+0°C to +40°C (+32°F to +104°F)
Storage	-40°C to +70°C (-40°F to +158°F)

Humidity

Operating	<93% non-condensing
Storage	<95% non-condensing

Ordering information**DIVAR AN 3000**

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 4 channels; base unit
Order number **DVR-3000-04A000**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 8 channels; base unit
Order number **DVR-3000-08A000**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 16 channels; base unit
Order number **DVR-3000-16A000**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 4 channels; DVD
Order number **DVR-3000-04A001**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 8 channels; DVD
Order number **DVR-3000-08A001**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 16 channels; DVD
Order number **DVR-3000-16A001**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 4 channels; 1 TB HDD
Order number **DVR-3000-04A100**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 8 channels; 1 TB HDD
Order number **DVR-3000-08A100**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 16 channels; 1 TB HDD
Order number **DVR-3000-16A100**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 4 channels; DVD; 1 TB HDD
Order number **DVR-3000-04A101**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 8 channels; DVD; 1 TB HDD
Order number **DVR-3000-08A101**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 16 channels; DVD; 1 TB HDD
Order number **DVR-3000-16A101**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 4 channels; 2 TB HDD
Order number **DVR-3000-04A200**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 8 channels; 2 TB HDD
Order number **DVR-3000-08A200**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 16 channels; 2 TB HDD
Order number **DVR-3000-16A200**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 4 channels; DVD; 2 TB HDD
Order number **DVR-3000-04A201**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 8 channels; DVD; 2 TB HDD
Order number **DVR-3000-08A201**

DIVAR AN 3000

960H/RT digital recorder for analog camera video management. HDMI/VGA/CVBS outputs; audio; H.264; PTZ control; web interface; free viewing Apps; 16 channels; DVD; 2 TB HDD
Order number **DVR-3000-16A201**

Accessories**DVR-XS050-A Storage Expansion Kit**

Storage expansion kit. 500 GB
Order number **DVR-XS050-A**

DVR-XS100-A Storage Expansion Kit

Storage expansion kit. 1 TB
Order number **DVR-XS100-A**

DVR-XS200-A Storage Expansion Kit

Storage expansion kit. 2 TB
Order number **DVR-XS200-A**

DVR-XS300-A Storage Expansion Kit

Storage expansion kit. 3 TB
Order number **DVR-XS300-A**

DVR-XS-DVD DVD Writer Expansion kit

DVD writer expansion kit
Order number **DVR-XS-DVD**

Represented by:

Americas:

Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
security.sales@us.bosch.com
www.boschsecurity.us

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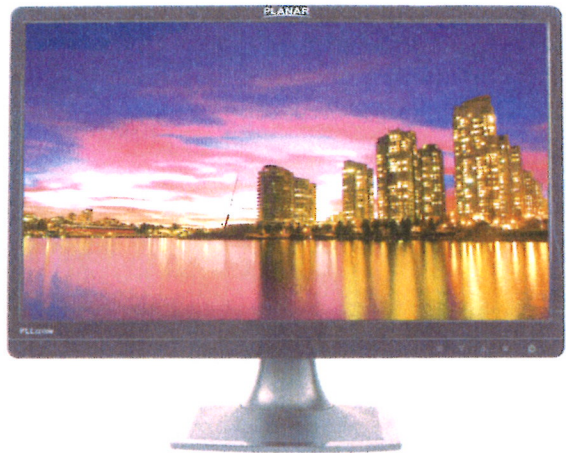
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The Planar® PLL2210W 22" widescreen LED backlit LCD monitor is a great value for home or office. This slim, space-saving monitor delivers superb performance at a great price point.



SPECIFICATION	DETAIL
Product Name	PLL2210W
Planar Part Number	997-6897-00
Viewable Size	21.5" diagonal (18.77" horizontal x 10.56" vertical)
Aspect Ratio	16:9
Contrast Ratio (typ)	1000:1
Viewing Angle (typ)	170° Horizontal and 160° Vertical (Specified at CR>10:1)
Response Time (typ)	5 ms
Brightness (Typical)	250 cd/m ²
Display Type	Edge-Lit LED LCD
Display Resolution	1920 x 1080, full HD
Tilt Range	-5° to +20°
Palette	16.7 million colors
Pixel Pitch	0.24825
Refresh Rate	55-76Hz (60Hz recommended)
Dimensions (W x H x D)	19.94" x 15.35" x 7.0"
Dimensions without Stand	19.94" x 12.64" x 1.91"
Panel Depth	1.91"
Display Weight	7 lbs.
Shipping weight	10 lbs.

External Connections	D-sub 15-pin, 24-pin DVI-D
Audio Output	N/A
Compatibility	PC and Mac® (adapter may be required for Mac)
Power Supply	Internal
Power Consumption (max)	25W Typical, (0.5W standby)
Power Requirements	AC 110/220 VAC
VESA Compatible/Location	Built-in 100 mm VESA, back
Product Approvals	FCC-B, UL/cUL, CE, WEEE, Rohs
Service and Support	3-Year Customer First™ warranty featuring FREE 2-Day Advance Replacement for three full years
Options / Features	Anti-glare coating, Multi-language support, On Screen Display (OSD), Kensington® Security slot
In the Box	PLL2210W 21.5" LCD Monitor, Power Cord, VGA Cable, User's Guide
UPC	8 10689 06897 6

For more information, please visit www.planar.com

Specifications are subject to change without notice.

Specification Report Date: 4/29/2014

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VDC-4x5 Series Dome Cameras FlexiDome VF and XT+

www.boschsecurity.com



BOSCH
Invented for life



The FlexiDome^{VF} and FlexiDome^{XT+} series of dome cameras are an excellent solution for virtually any indoor or outdoor application. The cast aluminum housing, polycarbonate dome and hardened inner liner of the FlexiDome^{XT+} version can withstand the equivalent of 120 lbs of force. The FlexiDome^{VF} utilizes a standard indoor enclosure. These units contain full-featured color cameras with 1/3-inch CCD and integral varifocal lenses.

Installation is quick and easy, since the cameras come completely assembled and ready to use. Using the proprietary pan/tilt/rotation mechanism, installers can select exactly the required field of view. Mounting options are numerous, including surface, 4S, wall, corner and suspended ceiling.

The FlexiDome^{VF} and FlexiDome^{XT+} cameras are an ideal solution for many surveillance applications. Their compact, sleek design and virtually flush-mount appearance complement any decor. The camera enclosure provides the extra protection necessary for applications such as in schools, banks, prisons, parking garages, retail and commercial buildings.

- ▶ Low-impact and impact-resistant models
- ▶ 1/3-inch format CCD imager
- ▶ Superior picture clarity in virtually all situations
- ▶ 540 TVL color resolution
- ▶ AC or DC operation

Functions

Technology

The FlexiDome^{VF} and FlexiDome^{XT+} series incorporate the latest technology in imaging, with 540 TVL resolution color cameras. Their superior sensitivity, high resolution and picture quality provide optimal performance in virtually all situations. The choice of lenses makes these cameras very versatile, because they can cover everything from standard and telephoto to low-light applications.

Operation

The lens wizard and focus aid make lens adjustment easy and straightforward, and ensure proper focus throughout the 24-hour cycle. All cameras can operate on both AC and DC. LineLock and phase adjustment are available, when AC power is used. NightSense is a feature that can extend the excellent sensitivity by a factor of three in monochrome operation. All cameras incorporate Bilinx, a technology that allows technicians to set up and control the camera settings remotely over the video cable.

Controls and Indicators

- OSD
- 5-key operation

Interconnections

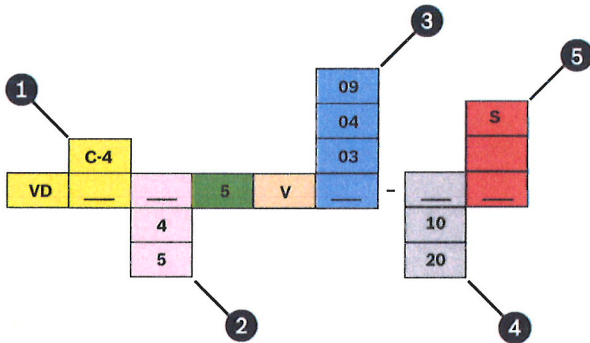
- Video connection BNC on flying lead
- Power connection on flying leads

Certifications and approvals

Safety	UL 1950; CSA 22.2 No. 950; EN 60950 (CE)
Immunity	EN 50130-4 (CE)
Emission	EN 50022 class B (CE); FCC, class B part 15
Water/dust protection	IP 66 and NEMA-4X (VDC-455 models only)

Region	Certification
Europe	CE
USA	FCC Declaration of Conformity VDx 355-455-485-495

Installation/configuration notes



- | | | |
|---|-----|--------------------------------------------------------------------------------|
| 1 | C-4 | Color (with NightSense) |
| 2 | 4 | Low impact |
| | 5 | High impact |
| 3 | 03 | 2.6 to 6 mm F1.4 |
| | 04 | 4 to 9 mm F1.6 (low impact version)
3.7 to 12 mm F1.6 (high impact version) |
| | 09 | 9 to 22 mm F1.4 |
| 4 | 10 | PAL color |
| | 20 | NTSC color |
| 5 | | Flush mount |
| | S | Surface mount |

FlexiDome^{VF} model overview

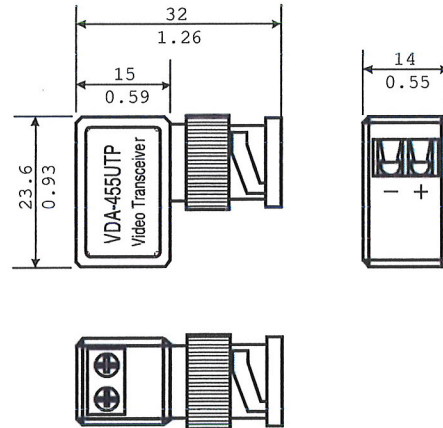
Model	Standard	Lens
VDC-445V03-10	PAL	2.6 to 6 mm F1.4

VDC-445V03-20	NTSC	2.6 to 6 mm F1.4
VDC-445V04-10	PAL	4 to 9 mm F1.6
VDC-445V04-20	NTSC	4 to 9 mm F1.6
VDC-445V09-10	PAL	9 to 22 mm F1.4
VDC-445V09-20	NTSC	9 to 22 mm F1.4

FlexiDome^{XT+} model overview

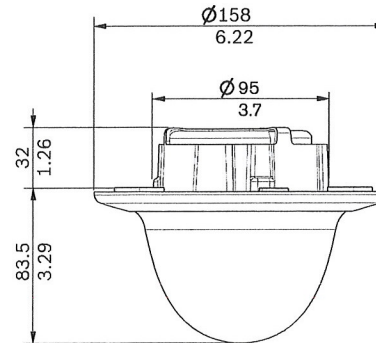
Model	Standard	Lens
VDC-455V03-10	PAL	2.6 to 6 mm F1.4
VDC-455V03-20	NTSC	2.6 to 6 mm F1.4
VDC-455V04-10	PAL	3.7 to 12 mm F1.6
VDC-455V04-20	NTSC	3.7 to 12 mm F1.6
VDC-455V09-10	PAL	9 to 22 mm F1.4
VDC-455V09-20	NTSC	9 to 22 mm F1.4

BNC to UTP Transceiver



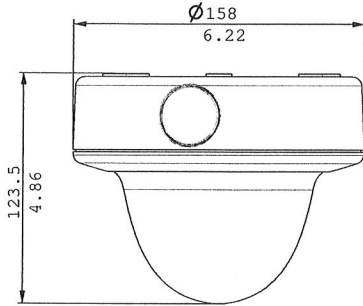
Dimensions in mm (in.)

FlexiDome^{VF} Low Impact, Indoor Flush Mounting Model



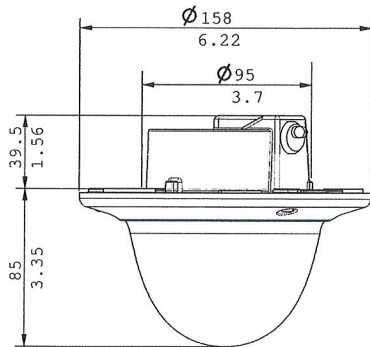
Dimensions in mm (in.)

VDA-445SMB-Surface Mount Box



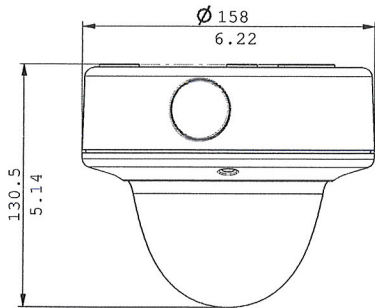
Dimensions in mm (in.) for the FlexiDome^{VF} low-impact, indoor surface mounting model

FlexiDome^{XT+} Impact-resistant, Indoor Flush Mounting Model



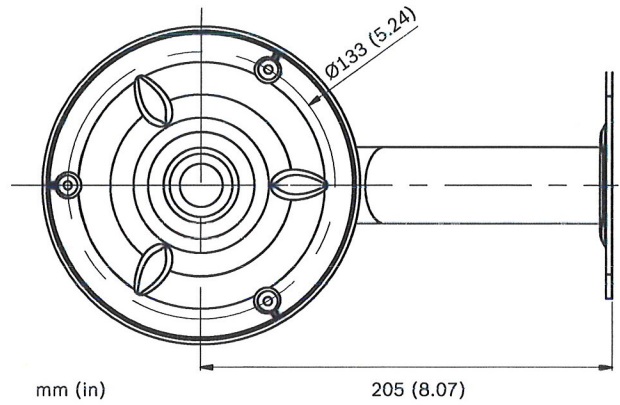
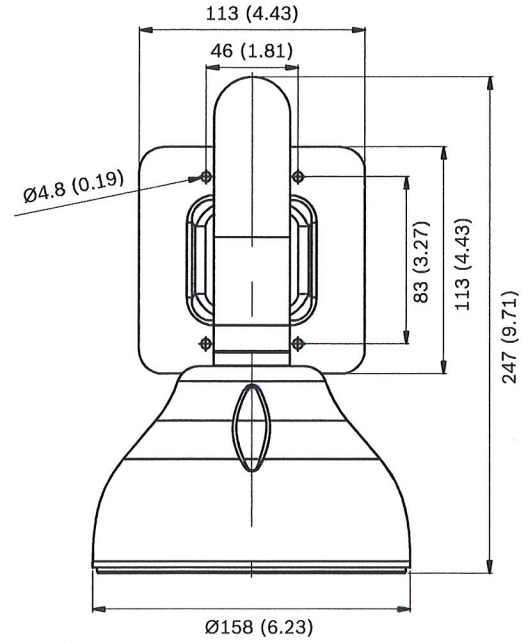
Dimensions in mm (in.)

VDA-455SMB -Hardened Surface Mount Box

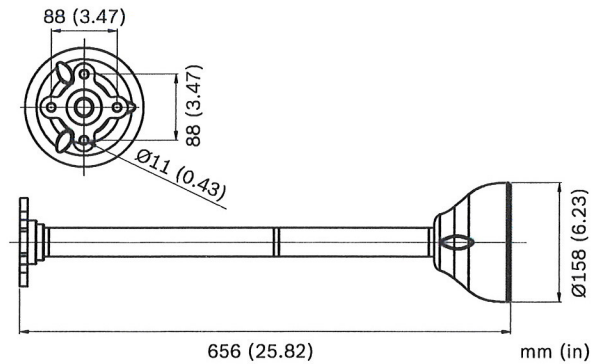


Dimensions in mm (in.) for the FlexiDome^{XT+} impact-resistant, surface mounting model

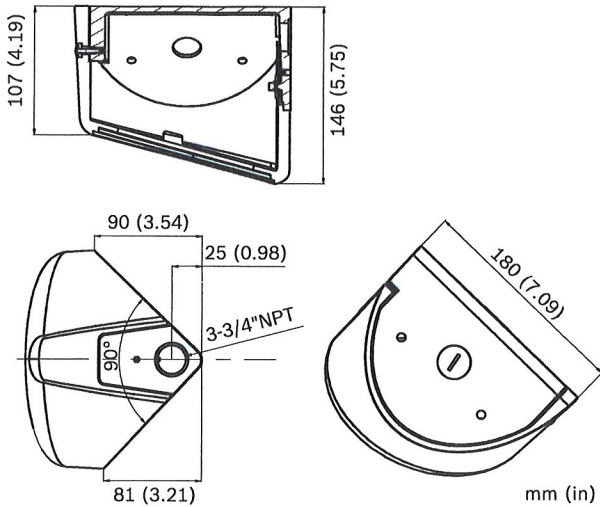
VDA-WMT-DOME -Pendant Wall Mount



VDA-PMT-DOME -Pipe Mount



VDA-CMT-DOME –Corner Mount



Technical specifications

Electrical

Power Supply	
Rated Voltage	12 VDC or 24 VAC, 50/60 Hz
Voltage Range	10.8 to 39 VDC or 12 to 28 VAC, 45 to 65 Hz
Power Consumption	
VDC-445	4 W
VDC-455	4 W (6 W with heater operation)
Imager	Interline transfer CCD, 1/3-inch image format
Active Picture Elements	
PAL Models	752 H x 582 V
NTSC Models	768 H x 494 V

Sensitivity (3200 K)

Model		Usable Picture (30 IRE)	Usable Picture (50 IRE)	Full Video (100 IRE)
VDC-445V03 VDC-455V03	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)
VDC-445V04 VDC-455V04	Color	0.58 lx (0.053 fc)	1.3 lx (0.12 fc)	5.1 lx (0.48 fc)
	NightSense	0.23 lx (0.021 fc)	0.5 lx (0.048 fc)	2.0 lx (0.19 fc)

VDC-445V09 VDC-455V09	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)

Resolution	540 TVL
Signal-to-noise Ratio	>50 dB
AGC	20 dB (max)
Auto Black	On/off selectable
Electronic Shutter	Flickerless, on/off
NightSense	Auto, forced, off selectable
Sharpness Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting, off selectable
White Balance	Automatic sensing (2500 to 9000 K) and hold
Video Output	Composite video 1.0 Vpp, 75 Ohm
Synchronization	Internal or LineLock*
Connector	Flying leads (through the back)

* Line-lock (only when AC-powered) synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (from 0° to 358°) to allow vertical synchronization in multi-phase power installations.

Optical

Varifocal	Manual zoom and focus adjustment
Iris Control	Automatic iris control
Viewing Angle	
2.6 to 6 mm	Wide: 98.5° x 75.3° (H x V) Tele: 48.1° x 36.2° (H x V)
4 to 9 mm	Wide: 68° x 50.2° (H x V) Tele: 32.1° x 24.1° (H x V)
3.7 to 12 mm	Wide: 76.1° x 55.8° (H x V) Tele: 23.8° x 17.9° (H x V)
9 to 22 mm	Wide: 31.2° x 22.8° (H x V) Tele: 12.8° x 9.6° (H x V)

Mechanical

Dimensions	See drawings
Weight	
VDC-445	440 g (1.1 lb)
VDC-455	740 g (1.63 lb)

Mounting	Flush on hollow surface with three (3) screws in a 4S electrical box
Color	White (RAL9010) trim ring with black inner liner
Adjustment Range	360° pan, 90° tilt, ±90° azimuth
Dome Bubble	Polycarbonate, clear with UV blocking anti-scratch coating
Trim Ring	Vandal resistant models: aluminum Low impact models: polycarbonate

Environmental

Operating temperature	
VDC-445	-10 °C to +45 °C (+14 °F to +113 °F)
VDC-455	-50 °C to +50 °C (-58 °F to +122 °F) (with heater 'ON')
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	5% to 93% relative humidity
Impact protection	IEC 60068-2-75 test Eh, 50 J; EN 50102, exceeding IK 10 (VDM-355 and VDC-455 models only)

Ordering information

VDC-445V03-10 Indoor Color Model

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.
Order number **VDC-445V03-10**

VDC-445V03-10S Indoor Color Model, Surface Mount

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount
Order number **VDC-445V03-10S**

VDC-445V03-20 Indoor Color Model

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white
Order number **VDC-445V03-20**

VDC-445V03-20S Indoor Color Model, Surface Mount

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount
Order number **VDC-445V03-20S**

VDC-445V04-10 Indoor Color Model

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white
Order number **VDC-445V04-10**

VDC-445V04-10S Indoor Color Model, Surface Mount

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount
Order number **VDC-445V04-10S**

VDC-445V04-20 Indoor Color Model

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white
Order number **VDC-445V04-20**

VDC-445V04-20S Indoor Color Model, Surface Mount

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount
Order number **VDC-445V04-20S**

VDC-455V03-10 Vandal Resistant Color Model

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white
Order number **VDC-455V03-10**

VDC-455V03-10S Vandal Resistant Color Model, Surface Mount

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount
Order number **VDC-455V03-10S**

VDC-455V03-20 Vandal Resistant Color Model

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white
Order number **VDC-455V03-20**

VDC-455V03-20S Vandal Resistant Color Model, Surface Mount

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount
Order number **VDC-455V03-20S**

VDC-455V04-10 Vandal Resistant Color Model

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white
Order number **VDC-455V04-10**

VDC-455V04-10S Vandal Resistant Color Model, Surface Mount

1/3-inch, PAL color, 540 TVL, 12V DC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount
Order number **VDC-455V04-10S**

VDC-455V04-20 Vandal Resistant Color Model

1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white
Order number **VDC-455V04-20**

VDC-455V04-20S Vandal Resistant Color Model, Surface Mount

1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount
Order number **VDC-455V04-20S**

VDC-445V09-10 Indoor Color Model

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.
Order number **VDC-445V09-10**

VDC-445V09-20 Indoor Color Model

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.
Order number **VDC-445V09-20**

VDC-445V09-10S Indoor Color Model, Surface Mount

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.
Order number **VDC-445V09-10S**

VDC-445V09-20S Indoor Color Model, Surface Mount

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.
Order number **VDC-445V09-20S**

VDC-455V09-10 Vandal Resistant Color Model

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.
Order number **VDC-455V09-10**

VDC-455V09-20 Vandal Resistant Color Model

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.
Order number **VDC-455V09-20**

VDC-455V09-10S Vandal Resistant Color Model, Surface Mount

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.
Order number **VDC-455V09-10S**

VDC-455V09-20S Vandal Resistant Color Model, Surface Mount

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.
Order number **VDC-455V09-20S**

Accessories**VDA-445DMY-S**

Flexidome surface mounted indoor dummy camera
Order number **VDA-445DMY-S**

VDA-445SMB

Surface mount box, indoor for VDM-345 and VDC-445
Order number **VDA-445SMB**

VDA-455SMB

Surface mount box, high impact for VDM-345, VDC-445, VDM-355, VDC-455, VDC-485 and VDN-495 (not for FlexiDome VF).
Order number **VDA-455SMB**

VDA-455UTP

Adaptor for UTP twisted pair output
Order number **VDA-455UTP**

S1460 Service/Monitor Cable

2.5 mm connector to BNC for analog and IP cameras, 1 m
Order number **S1460**

UPA-1509-60 Power Supply

120 VAC, 60 Hz, 15 VDC, 9 VA Out
Order number **UPA-1509-60**

UPA-1509-50 Power Supply

220 VAC, 50 Hz, 15 VDC, 9 VA Out
Order number **UPA-1509-50**

UPA-2420-50 Power Supply

220 VAC, 50 Hz, 24 VAC, 20 VA Out
Order number **UPA-2420-50**

UPA-2450-50 Power Supply, 220 V, 50 Hz

Indoor, 220 VAC, 50 Hz In; 24 VAC, 50 VA Out
Order number **UPA-2450-50**

VDA-455TBL Tinted bubble

Tinted bubble for FlexiDome series
Order number **VDA-455TBL**

VDA-455CBL Clear bubble

Clear Bubble for FlexiDome series
Order number **VDA-455CBL**

VDA-WMT-DOME Wall Pendant Mount Bracket

Wall pendant mount bracket for FlexiDome cameras
Order number **VDA-WMT-DOME**

VDA-CMT-DOME Corner Mount Bracket

Corner mount bracket for FlexiDome cameras
Order number **VDA-CMT-DOME**

VDA-PMT-DOME Pendant Pipe Mount Bracket

Pendant pipe mount bracket for FlexiDome cameras
Order number **VDA-PMT-DOME**

Software Options**VP-CFGSFT Configuration Software**

for cameras using Bilinx, includes VP-USB Adaptor
Order number **VP-CFGSFT**

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