



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
ADJ1004

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
JOHN ABBOTT
304-558-2544

RFQ COPY
 TYPE NAME/ADDRESS HERE

RFQ COPY

Electronic Specialty Company
 1325 Dunbar Avenue
 Dunbar, WV 25064

SHIP TO

ADJUTANT GENERAL'S DEPARTMENT
 MOUNTAINEER CHALLENGE PROGRAM
 CAMP DAWSON
 240 ARMY ROAD
 KINGWOOD, WV
 26537
 304-341-6406

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/26/2010	Net 30	Our Truck		

BID OPENING DATE: **02/25/2010** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		840-84		\$219,885.00
<p>VIDEO SURVEILLANCE SYSTEMS</p> <p>CONTRACT TO PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL A SURVEILLANCE VIDEO SYSTEM FOR THE MOUNTAINEER CHALLENGE ACADEMY, KINGWOOD, WV, PER THE SPECIFICATIONS.</p> <p>QUESTIONS: QUESTIONS SHALL BE SUBMITTED TO THE PURCHASING DIVISION, ATTENTION JOHN ABBOTT, SENIOR BUYER, AT JOHN.H.ABBOTT@WV.GOV, NO LATER THAN 2/12/2010; 2:00 PM.</p> <p>MANDATORY PRE-BID</p> <p>A MANDATORY PRE-BID WILL BE HELD ON 2/10/2010; 1:30 PM AT THE MOUNTAINEER CHALLENGE ACADEMY, KINGWOOD, WV. ALL INTERESTED PARTIES ARE REQUIRED TO ATTEND THIS MEETING. FAILURE TO ATTEND THE MANDATORY PRE-BID SHALL RESULT IN DISQUALIFICATION OF THE BID. NO ONE PERSON MAY REPRESENT MORE THAN ONE BIDDER.</p> <p>AN ATTENDANCE SHEET WILL BE MADE AVAILABLE FOR ALL POTENTIAL BIDDERS TO COMPLETE. THIS WILL SERVE AS THE OFFICIAL DOCUMENT VERIFYING ATTENDANCE AT THE MANDATORY PRE-BID. FAILURE TO PROVIDE YOUR COMPANY AND REPRESENTATIVE NAME ON THE ATTENDANCE SHEET WILL RESULT IN DISQUALIFICATION OF THE BID. THE STATE WILL NOT ACCEPT ANY OTHER DOCUMENTATION TO VERIFY ATTENDANCE. THE BIDDER IS RESPONSIBLE FOR ENSURING THEY HAVE COMPLETED THE INFORMATION REQUIRED ON THE ATTENDANCE</p>						

RECEIVED

2010 MAY -5 PM 1:20

WV.PURCHASING DIVISION

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE 	TELEPHONE 304-766-6277	DATE 5/4/2010
TITLE Sr. Account Executive	FEIN 55-0452548	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
 2. The State may accept or reject in part, or in whole, any bid.
 3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee
 4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
 5. Payment may only be made after the delivery and acceptance of goods or services
 6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
 7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
 8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
 9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller
 10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
 11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties
 12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
 13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at www.state.wv.us/admin/purchase/vrc/hipaa.htm and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
 14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
 15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
 16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder
- I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



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VENDOR

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ADJUTANT GENERAL'S DEPARTMENT
 MOUNTAINEER CHALLENGE PROGRAM
 CAMP DAWSON
 240 ARMY ROAD
 KINGWOOD, WV
 26537
 304-341-6406

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
01/26/2010				

BID OPENING DATE: 02/25/2010 BID OPENING TIME 01:30PM

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<p>SHEET. THE PURCHASING DIVISION AND THE STATE AGENCY WILL NOT ASSUME ANY RESPONSIBILITY FOR A BIDDER'S FAILURE TO COMPLETE THE PRE-BID ATTENDANCE SHEET. IN ADDITION, WE REQUEST THAT ALL POTENTIAL BIDDERS INCLUDE THEIR E-MAIL ADDRESS AND FAX NUMBER.</p> <p>ALL POTENTIAL BIDDERS ARE REQUESTED TO ARRIVE PRIOR TO THE STARTING TIME FOR THE PRE-BID. BIDDERS WHO ARRIVE LATE, BUT PRIOR TO THE DISMISSAL OF THE TECHNICAL PORTION OF THE PRE-BID WILL BE PERMITTED TO SIGN IN. BIDDERS WHO ARRIVE AFTER CONCLUSION OF THE TECHNICAL PORTION OF THE PRE-BID, BUT DURING ANY SUBSEQUENT PART OF THE PRE-BID WILL NOT BE PERMITTED TO SIGN THE ATTENDANCE SHEET.</p> <p>EXHIBIT 5</p> <p>WEST VIRGINIA CODE 21-1D-5 PROVIDES THAT: ANY SOLICITATION FOR A PUBLIC IMPROVEMENT CONSTRUCTION CONTRACT REQUIRES EACH VENDOR THAT SUBMITS A BID FOR THE WORK TO SUBMIT AT THE SAME TIME AN AFFIDAVIT OF COMPLIANCE WITH THE BID. THE ENCLOSED DRUG-FREE WORKPLACE AFFIDAVIT MUST BE SIGNED AND SUBMITTED WITH THE BID AS EVIDENCE OF THE VENDOR'S COMPLIANCE WITH THE PROVISIONS OF ARTICLE 1D, CHAPTER 21 OF THE WEST VIRGINIA CODE. FAILURE TO SUBMIT THE SIGNED DRUG-FREE WORKPLACE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF SUCH BID.</p> <p>NOTICE TO PROCEED: THIS CONTRACT IS TO BE PERFORMED WITHIN 30 CALENDAR DAYS AFTER THE NOTICE TO PROCEED IS RECEIVED. UNLESS OTHERWISE SPECIFIED, THE FULLY EXECUTED PURCHASE ORDER WILL BE CONSIDERED NOTICE TO PROCEED.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN</p>						

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<p>NOTICE TO THE VENDOR IF THE MATERIALS OR WORKMANSHIP SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM WITH THE SPECIFICATIONS OF THE BID AND CONTRACT HERE IN.</p> <p>WAGE RATES: THE CONTRACTOR OR SUBCONTRACTOR SHALL PAY THE HIGHER OF THE U.S. DEPARTMENT OF LABOR MINIMUM WAGE RATES AS ESTABLISHED FOR PRESTON COUNTY, PURSUANT TO WEST VIRGINIA CODE 21-5A, ET, SEQ. (PREVAILING WAGE RATES APPLY TO THIS PROJECT)</p> <p>ARBITRATION: ANY REFERENCES MADE TO ARBITRATION OR INTEREST FOR PAYMENTS DUE (EXCEPT FOR ANY INTEREST REQUIRED BY STATE LAW) CONTAINED IN THIS CONTRACT OR IN ANY AMERICAN INSTITUTE OF ARCHITECTS DOCUMENTS PERTAINING TO THIS CONTRACT ARE HEREBY DELETED.</p> <p>WORKERS' COMPENSATION: VENDOR IS REQUIRED TO PROVIDE A CERTIFICATE FROM WORKERS' COMPENSATION IF SUCCESSFUL.</p> <p>ALL OF THE ITEMS CHECKED BELOW WILL BE A REQUIREMENT OF THIS CONTRACT:</p> <p>(XX) INSURANCE: SUCCESSFUL VENDOR SHALL FURNISH PROOF OF COMMERCIAL GENERAL LIABILITY INSURANCE PRIOR TO ISSUANCE OF CONTRACT. UNLESS OTHERWISE SPECIFIED IN THE BID DOCUMENTS, THE MINIMUM AMOUNT OF INSURANCE COVERAGE REQUIRED IS \$250,000.</p> <p>() BUILDERS RISK INSURANCE: SUCCESSFUL VENDOR SHALL FURNISH PROOF OF BUILDERS RISK - ALL RISK INSURANCE IN AN AMOUNT EQUAL TO 100% OF THE AMOUNT OF THE CONTRACT.</p> <p>(XX) BONDS: FIVE PERCENT (5%) OF THE TOTAL AMOUNT OF THE BID PAYABLE TO THE STATE OF WEST VIRGINIA, SHALL BE SUBMITTED WITH EACH BID AS A BID BOND. THE SUCCESSFUL</p>						

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<p>BIDDER SHALL ALSO FURNISH A PERFORMANCE BOND AND LABOR/MATERIAL BOND FOR 100% OF THE AMOUNT OF THE CONTRACT. BONDS MAY BE PROVIDED IN THE FORM OF A CERTIFIED CHECK, IRREVOCABLE LETTER OF CREDIT, OR BOND FURNISHED BY A SOLVENT SURETY COMPANY AUTHORIZED TO DO BUSINESS IN THE STATE OF WEST VIRGINIA. A LETTER OF CREDIT SUBMITTED IN LIEU OF A BOND WILL ONLY BE ALLOWED FOR PROJECTS UNDER \$100,000. PERSONAL OR BUSINESS CHECKS ARE NOT ACCEPTABLE IN LIEU OF THE 5% BID BOND, PERFORMANCE BOND, OR LABOR AND MATERIAL BOND.</p> <p>() MAINTENANCE BOND: A TWO (2) YEAR MAINTENANCE BON COVERING THE ROOFING SYSTEM WILL BE A REQUIREMENT OF THE SUCCESSFUL VENDOR.</p> <p>REV. 11/00</p> <p>EXHIBIT 7</p> <p>DOMESTIC ALUMINUM, GLASS & STEEL IN PUBLIC WORKS PROJECTS</p> <p>IN ACCORDANCE WITH WEST VIRGINIA CODE 5-19-1 ET., SEQ., EVERY CONTRACT FOR CONSTRUCTION, RECONSTRUCTION, ALTERATION, REPAIR, IMPROVEMENT OR MAINTENANCE OF PUBLIC WORKS, WHERE THE COST IS MORE THAN \$50,000 AND, IN THE CASE OF STEEL ONLY, WHERE THE COST OF STEEL IS MORE THAN \$50,000 OR WHERE MORE THAN 10,000 POUNDS OF STEEL ARE REQUIRED, THE STATE WILL ACCEPT ONLY ALUMINU GLASS, OR STEEL PRODUCTS PRODUCED IN THE UNITED STATES. IN ADDITION, ITEMS OF MACHINERY OR EQUIPMENT PURCHASED FOR USE AT THE SITE OF PUBLIC WORKS SHALL BE MADE OF DOMESTIC ALUMINUM, GLASS OR STEEL, UNLESS THE COST OF THE PRODUCT IS LESS THAN \$50,000 OR LESS THAN 10,000 POUNDS OF STEEL ARE USED IN PUBLIC WORKS PROJECTS.</p>						

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<p>FOREIGN MADE ALUMINUM, GLASS OR STEEL PRODUCTS MAY BE ACCEPTED ONLY IF THE COST OF DOMESTIC PRODUCTS IS FOUND TO BE UNREASONABLE. SUCH COST IS UNREASONABLE IF IT IS 20% OR MORE HIGHER THAN THE BID PRICE FOR FOREIGN MADE PRODUCTS. IF THE DOMESTIC ALUMINUM, GLASS OR STEEL PRODUCTS TO BE SUPPLIED OR PRODUCED IN A "SUBSTANTIAL LABOR SURPLUS AREA", AS DEFINED BY THE UNITED STATES DEPARTMENT OF LABOR, FOREIGN PRODUCTS MAY BE SUPPLIED ONLY IF DOMESTIC PRODUCTS ARE 30% OR MORE HIGHER IN PRICE THAN THE FOREIGN MADE PRODUCTS.</p> <p>IF, PRIOR TO THE AWARD OF A CONTRACT UNDER THE ABOVE PROVISIONS, THE SPENDING OFFICER OF THE SPENDING UNIT DETERMINES THAT THERE EXISTS A BID FOR LIKE FOREIGN ALUMINUM, GLASS OR STEEL THAT IS REASONABLE AND LOWER THAN THE LOWEST BID DOMESTIC PRODUCTS, THE SPENDING OFFICE MAY REQUEST, IN WRITING, A REEVALUATION AND REDUCTION IN THE LOWEST BID FOR SUCH DOMESTIC PRODUCTS. ALL VENDORS MUST INDICATE IN THEIR BID IF THEY ARE SUPPLYING FOREIGN ALUMINUM, GLASS OR STEEL.</p> <p>REV. 3/88</p> <p>EXHIBIT 9</p> <p>NOTICE FOR ISSUANCE & ACKNOWLEDGEMENT OF CONSTRUCTION PROJECT ADDENDA</p> <p>THE ARCHITECT/ENGINEER AND/OR AGENCY SHALL BE REQUIRED TO ABIDE BY THE FOLLOWING SCHEDULE IN ISSUING CONSTRUCTION PROJECT ADDENDA FOR STATE AGENCIES:</p> <p>(1) THE ARCHITECT/ENGINEER SHALL PREPARE THE ADDENDUM AND A LIST OF ALL PARTIES THAT HAVE PROCURED DRAWINGS</p>						

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<p>AND SPECIFICATIONS FOR THE PROJECT. THE ADDENDUM AND LIST SHALL BE FORWARDED TO THE BUYER IN THE STATE PURCHASING DIVISION. THE ARCHITECT/ENGINEER SHALL ALSO SEND A COPY OF THE ADDENDUM TO THE STATE AGENCY FOR WHICH THE CONTRACT IS ISSUED.</p> <p>(2) THE BUYER SHALL SEND THE ADDENDUM TO ALL INTERESTED PARTIES AND, IF NECESSARY, EXTEND THE BID OPENING DATE. ANY ADDENDUM SHOULD BE RECEIVED BY THE BUYER WITHIN FOURTEEN (14) DAYS PRIOR TO THE BID OPENING DATE.</p> <p>(3) ALL ADDENDA SHOULD BE FORMALLY ACKNOWLEDGED BY ALL BIDDERS AND SUBMITTED TO THE STATE PURCHASING DIVISION. THE SAME RULES AND REGULATIONS THAT APPLY TO THE ORIGINAL BIDDING DOCUMENT SHALL ALSO APPLY TO AN ADDENDUM DOCUMENT. THE ONLY EXCEPTION MAY BE FOR AN ADDENDUM THAT IS ISSUED FOR THE SOLE PURPOSE OF CHANGING A BID OPENING TIME AND/OR DATE.</p> <p>REV. 11/96</p> <p>EXHIBIT 10</p> <p>ADDENDUM ACKNOWLEDGEMENT</p> <p>I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.</p> <p>ADDENDUM NOS.:</p> <p>NO. 12/8/2010.....</p>						

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LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
NO. 2		2/16/2010		
NO. 3		3/22/2010		
NO. 4		4/15/2010		
NO. 5		4/22/2010		
<p>I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF THE BIDS.</p> <p>VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.</p> <p>.....SIGNATURE</p> <p>Electronic Specialty Company.....COMPANY</p> <p>....5/4/2010.....DATE</p> <p>REV. 11/96</p> <p>CONTRACTORS LICENSE</p> <p>WEST VIRGINIA STATE CODE 21-11-2 REQUIRES THAT ALL PERSONS DESIRING TO PERFORM CONTRACTING WORK IN THIS STATE MUST BE LICENSED. THE WEST VIRGINIA CONTRACTORS LICENSING BOARD IS EMPOWERED TO ISSUE THE CONTRACTORS LICENSE. APPLICATIONS FOR A CONTRACTORS LICENSE MAY BE MADE BY CONTACTING THE WEST VIRGINIA DIVISION OF LABOR</p>						

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<p>CAPITOL COMPLEX, BUILDING 3, ROOM 319, CHARLESTON, WV 25305. TELEPHONE: (304) 558-7890.</p> <p>WEST VIRGINIA STATE CODE 21-11-11 REQUIRES ANY PROSPECTIVE BIDDER TO INCLUDE THE CONTRACTORS LICENSE NUMBER ON THEIR BID.</p> <p>BIDDER TO COMPLETE:</p> <p>CONTRACTORS NAME: Electronic Specialty Company</p> <p>CONTRACTORS LICENSE NO.: WV 010229</p> <p>THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FURNISH A COPY OF THEIR CONTRACTORS LICENSE PRIOR TO ISSUANCE OF A PURCHASE ORDER/CONTRACT</p> <p>APPLICABLE LAW</p> <p>THE WEST VIRGINIA STATE CODE, PURCHASING DIVISION RULES AND REGULATIONS, AND THE INFORMATION PROVIDED IN THE "REQUEST FOR QUOTATION" ISSUED BY THE PURCHASING DIVISION IS THE SOLE AUTHORITY GOVERNING THIS PROCUREMENT.</p> <p>ANY INFORMATION PROVIDED IN SPECIFICATION MANUALS, OR ANY OTHER SOURCE, VERBAL OR WRITTEN, WHICH CONTRADICTS OR ALTERS THE INFORMATION PROVIDED FROM THE SOURCES AS DESCRIBED IN THE ABOVE PARAGRAPH IS VOID AND OF NO EFFECT.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p>						

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LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
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<p style="text-align: center;">REV. 5/2009</p> <p style="text-align: center;">NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p style="margin-left: 40px;">DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: JOHN ABBOTT (32)-----</p> <p>REQ. NO.: ADJ1004-----</p> <p>BID OPENING DATE: 02/25/2010-----</p> <p>BID OPENING TIME: 1:30 PM-----</p> <p>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: -----304-766-6270-----</p> <p>PLEASE PRINT OR TYPE NAME OF PERSON TO CONTACT CONCERNING THIS QUOTE: -----Kevin Mercer-----</p>						
---	--	--	--	--	--	--

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE		TELEPHONE	
		DATE	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
ADJ1004

PAGE
10

ADDRESS CORRESPONDENCE TO ATTENTION OF
JOHN ABBOTT 304-558-2544

RFQ COPY
 TYPE NAME/ADDRESS HERE

VENDOR

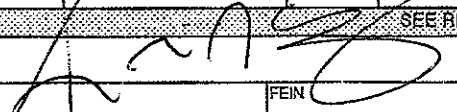
SHIP TO

ADJUTANT GENERAL'S DEPARTMENT
 MOUNTAINEER CHALLENGE PROGRAM
 CAMP DAWSON
 240 ARMY ROAD
 KINGWOOD, WV
 26537
 304-341-6406

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/26/2010				

BID OPENING DATE: 02/25/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
***** THIS IS THE END OF RFQ ADJ1004 ***** TOTAL:						\$219,885.00

SIGNATURE 			TELEPHONE		DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE			

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



Mountaineer Challenge Academy

**ADJ1004
IP Security System**

WARRANTY INFORMATION

All products come with a 3 Year Warranty

1 Year Service Contract with Electronic Specialty Company on all Labor and Material.

Project Total \$219,885.00

LIFE SAFETY • SECURITY • PROFESSIONAL SOUND • VIDEO CRITICAL • COMMUNICATIONS
SERVICE/SALES LOCATIONS: DUNBAR, WV • MORGANTOWN, WV • ASHLAND, KY

WV Contractors License #WV 010229

Mountain State Challenge Academy Materials List

Qty.	Part Number	Description
16	SNC-C7478	36X Zoom SmartDome IP
1	SNC-C6225	10x Zoom MiniDome IP
1	SADT937WM	Ceiling Mount
2 (not on materials list)	Samsung 42" Flat Panel	42" Monitor (able to view all cameras at the same time)
2	NVS MISCARTNO	DNF Server w/3 year Warranty
2	VN-NVR-SW	NVR Software for DNF Servers
63	VN-CAM-LIC	Camera License Fees, Vicon
1	VN-WS-SW	Workstation software
2	VE-NVR-1	1 Year software Servers DNF
1	VE-WS-1	Workstation software 1 year
1	VE-VMC-1	Video Matrix Software 1 year
1	VE-NVR-R2	NVR Software for DNF 2 Year
1	VE-WS-R2	Workstation year 2
1	VE-NVR-R3	NVR Software Year 3
1	VE-WS-R3	Workstation Year 3
1	VE-VMC-R2	Video Matrix software year 2
1	VE-VMC-R3	Video Matrix Software year 3
1	VMDC-4R	Control Center PC, viewing up to 4 monitors
4	849520	Gigabit switch POE 24 ports
16	AV1055DN	1.3 MP Dome 720p
8	AV2155DN	2.0 MP Dome 1080p
24	AV3155DN	3.0 MP Dome Day/Night
15	AV5155DN	5.0 MP Dome Day/Night
63	MD-FMA	ceiling mount adapter
63	AV3YR	3 Year camera warranty
1 (not on materials list)		DVR for Latrines and Nurses Office
36	camera comes with 4-10mm	3-8mm auto iris lens
27	M13VG550	5-50mm auto iris lens
2	MCS16-20	Power supply
1	WMRK-2436SVR	Server Enclosure
1	WMRK-36	Riser Base
1	PDT-1020C-NS	10 Outlet, Single 20amp strip
2	UPS-2200R	Middle Atlantic UPS
1	ESC-SERV-1Y	service contract 1 Year, Parts and Labor

Kevin Mercer

From: Kevin Mercer
Sent: Wednesday, April 28, 2010 10:01 AM
To: Price, Ron N
Subject: ADJ 1004, WV Code Question
Attachments: WV Code 61-8-28.pdf; WV 21-3-20.pdf; WV 21-13-3.pdf

Importance: High

Mr. Price,

We're trying to find in the WV Code where it states that a facility of this type can permit cameras in the latrines and nurses office.

Please see attached WV code.

Kevin Mercer
Sr Sales Executive
Electronic Specialty Co.

1325 Dunbar Ave.
Dunbar, WV 25064
Cell: 304-951-2239
Office: 304-766-6277
Fax: 304-766-6270
Kevin@ElectronicSpecialty.com

Connect with me on 
<http://www.linkedin.com/pub/kevin-merc/5/249/115>

West Virginia Code

§21-3-20. Use of video and other electronic surveillance devices by employers prohibited.

(a) It is unlawful for any employer or the agent or representative of an employer, whether public or private, to operate any electronic surveillance device

or system, including, but not limited to, the use of a closed circuit television system, a video-recording device, or any combination of those or other

electronic devices for the purpose of recording or monitoring the activities of the employees in areas designed for the health or personal comfort of the employees or for safeguarding of their possessions, such as rest rooms, shower

rooms, locker rooms, dressing rooms and employee lounges.

(b) Any employer or agent thereof who violates any provision of this section is guilty of a misdemeanor and, if convicted, shall be fined five hundred dollars for the first offense. An employer or agent thereof convicted a second time under this provision shall be fined one thousand dollars. For the third and

any subsequent offense, the penalty shall be two thousand dollars.

§61-8-28. Criminal invasion of privacy; penalties.

(a) For the purposes of this section, the words or terms defined in this subsection have the meanings ascribed to them. These definitions are applicable

unless a different meaning clearly appears from the context:

(1) "A person fully or partially nude" means a male or female who is either clothed or unclothed so that: (A) All or any part of his or her genitals, pubic area or buttocks is visible; or (B) in the case of a female only, a part of a nipple of her breast is visible and is without a fully opaque covering;

(2) "To visually portray" a person means to create a reproducible image of that person by means of:

(A) A photograph;

(B) A motion picture;

(C) A video tape;

(D) A digital recording; or

(E) Any other mechanical or electronic recording process or device that can preserve, for later viewing, a visual image of a person; and

(3) "Place where a reasonable person would have an expectation of privacy" means a place where a reasonable person would believe that he or she could, in

privacy, be fully or partially nude without expecting that the act of exposing

his or her body was being visually portrayed by another person.

(b) It is unlawful for a person to knowingly visually portray another person without that other person's knowledge, while that other person is fully or partially nude and is in a place where a reasonable person would have an expectation of privacy. A person who violates the provisions of this subsection is

guilty of a misdemeanor and, upon conviction, shall be confined in a county or

regional jail for not more than one year or fined not more than five thousand dollars, or both.

(c) Any person who displays or distributes visual images of another person with knowledge that said visual images were obtained in violation of subsection

(b) of this section is guilty of a misdemeanor and, upon conviction, shall be confined in a county or regional jail for not more than one year or fined not more than five thousand dollars, or both.

(d) A person who is convicted of a second or subsequent violation of subsection (b) or (c) of this section is guilty of a felony and, upon conviction, shall be confined in a state correctional facility for not less than one year nor more than five years or fined not more than ten thousand dollars, or both.

W. Va. Code § 61-8-28 (2007)

§ 61-8-28. Criminal invasion of privacy; penalties.

(a) For the purposes of this section, the words or terms defined in this subsection have the meanings ascribed to them. These definitions are applicable unless a different meaning clearly appears from the context:

(1) "A person fully or partially nude" means a male or female who is either clothed or unclothed so that: (A) All or any part of his or her genitals, pubic area or buttocks is visible; or (B) in the case of a female only, a part of a nipple of her breast is visible and is without a fully opaque covering;

(2) "To visually portray" a person means to create a reproducible image of that person by means of:

(A) A photograph;

(B) A motion picture;

(C) A video tape;

(D) A digital recording; or

(E) Any other mechanical or electronic recording process or device that can preserve, for later viewing, a visual image of a person; and

(3) "Place where a reasonable person would have an expectation of privacy" means a place where a reasonable person would believe that he or she could, in privacy, be fully or partially nude without expecting that the act of exposing his or her body was being visually portrayed by another person.

(b) It is unlawful for a person to knowingly visually portray another person without that other person's knowledge, while that other person is fully or partially nude and is in a place where a reasonable person would have an expectation of privacy. A person who violates the provisions of this subsection is guilty of a misdemeanor and, upon conviction, shall be confined in a county or regional jail for not more than one year or fined not more than five thousand dollars, or both.

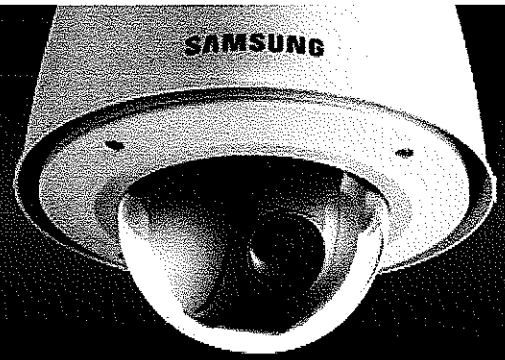
(c) Any person who displays or distributes visual images of another person with knowledge that said visual images were obtained in violation of

subsection (b) of this section is guilty of a misdemeanor and, upon conviction, shall be confined in a county or regional jail for not more than one year or fined not more than five thousand dollars, or both.

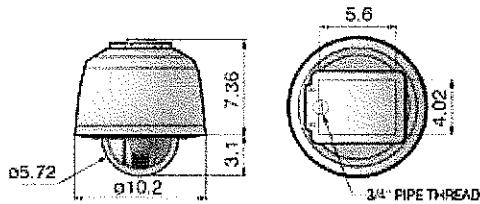
(d) A person who is convicted of a second or subsequent violation of subsection (b) or (c) of this section is guilty of a felony and, upon conviction, shall be confined in a state correctional facility for not less than one year nor more than five years or fined not more than ten thousand dollars, or both.

SNC-C7478(C)

36x Pan-Tilt-Zoom, SmartDome™ Network Camera



Dimensions (unit : in)

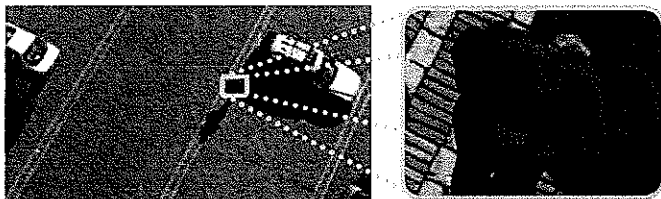


Features

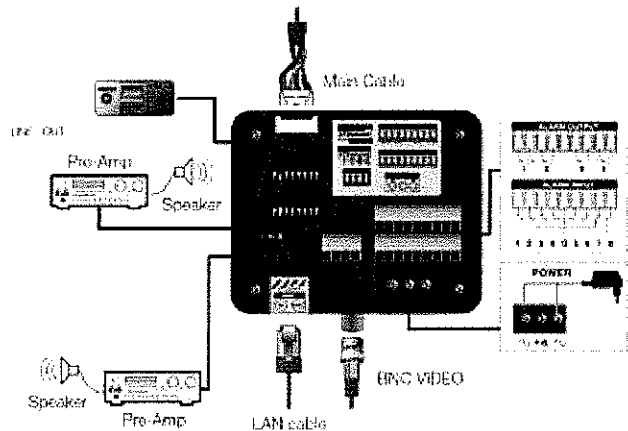
- Real-time 30(25) fps at High Resolution(DI)
- 432x Zoom Control (Optical 36x, Digital 12x)
- MPEG-4 & MJPEG Dual Encoding
- Rotating Speed : MAX 360°/sec • Digital Image Stabilization
- Smooth Manual speed: MIN 0.05°/sec
- Day/Night Function (ICR)
- WDR (Wide Dynamic Range)
- Endless 360° Pan Rotation
- Bi-directional Audio Support
- Shortest Path by Vector Drive Technology
- Micro SD/SDHC Memory Card Slot for Alarm Recording
- Scheduled Preset Function
- HTTPS security login support
- Housing Design for Quick installations and Maintenance
- Standard RTP/RTSP support (QuickTime VLC Player)
- Vandal Proof/ Weather Proof
- IPv4/IPv6 support

36X Optical Zoom Lens

This camera system features a 36x Auto Focus Optical lens and 12x digital zoom combining to provide 432x zoom



Installation - Cabling



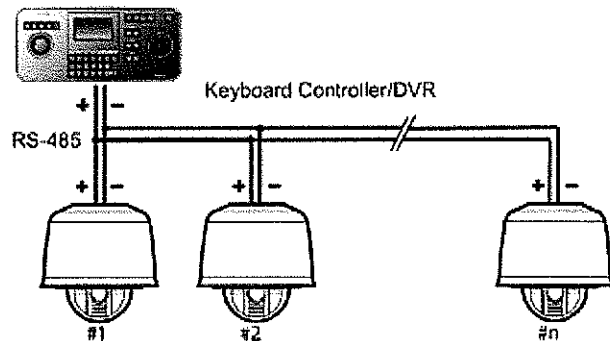
POWER CONNECTION

Please, check the voltage and current capacity of rated power carefully

Rated Power	Input Voltage Range	Current Consumption
AC 24V	AC 19V ~29V	2.5 A

RS-485 COMMUNICATION

For PTZ control, connect this line to keyboard and DVR To control multiple cameras, RS-485 communication lines can be connected in parallel as shown below.



SNC-C7478(C)

36x Pan-Tilt-Zoom, SmartDome™ Network Camera



Specifications

Camera Unit

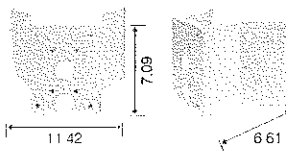
Camera Type	Color/BW	Auto			
Image	Device	1/4" Ex-View HAD Progressive Scan CCD			
Min. Illumination	Color/BW	Level	Sens-up	Color	B/W(S/W)
		50 IRE	Off	1.4 Lux	0.15 Lux
		30 IRE	Off	0.84 Lux	0.09 Lux
		15 IRE	Off	0.42 Lux	0.045 Lux
		50 IRE	64 times	0.0219 Lux	0.0023 Lux
		30 IRE	64 times	0.0131 Lux	0.0014 Lux
		15 IRE	64 times	0.0066 Lux	0.0007 Lux
Resolution	Horizontal	Color: 540TVL B/W: 570TVL			
PAN/TILT	Speed	Manual Pan	0.05° ~ 360°		
		Preset Pan	360°		
		Manual Tilt	0.05° ~ 360°		
		Preset Tilt	360°		
	Range	Panning	0° ~ 360° (Endless)		
		Tilting	180°		
	Number of Auto PAN		8		
	Number of Preset		127		
	Number of Pattern		4		
	Lens	Focal Length		3.4 ~ 122.4mm	
Zoom Ratio		36x Optical, 12x Digital			
Aperture Ratio		F1.6(W) / F4.5(T)			
Viewing Angle		Tele	1.7°(H) x 1.27°(V)		
		Wide	57.8°(H) x 43.35°(V)		
Lens Drive Type		DC Auto Iris			
Mount Type		Board-in type			
Functions	Number of Privacy Zones		8		
	Day/Night		Auto / Day / Night (ICR)		
	Wide Dynamic Range		On/Off		
	Digital Zoom		Yes (~12x)		
Environmental Conditions	Fan/Heater		Yes		
	Operating Temperature		-49°F ~ +122°F / -45°C ~ +50°C		
	Operating Humidity		Less than 90%		
Power	Power Requirement		AC 24V		
	Power Consumption		24W(Heater OFF) / 57W(Heater ON)		
Physical Specification	Dimensions (W x H x D)	SNC-C7478	10.2 x 21.73 x 15.93 in / 259 x 552 x 404.5 mm		
		SNC-C7478C	10.2 x 25.55 x 10.2 in / 259 x 649 x 259 mm		
	Weight	Net	13.2 lb / 6 kg		
		Body	White Grey		
	Color	Body	White Grey		

Network Unit

Network Board	OS	Embedded Linux	
	Hardware	Flash memory	32M byte
		RAM	256M byte
		Ethernet	RJ-45 (10/100BASE-T)
		Video Out	VBS 1.0Vp-p
		Audio	Line In / Line Out
	SD Memory Slot	Yes (Micro SD/SDHC)	
Alarm	Input	8 ea	
	Output	4 ea	
Video	Compression	MPEG4 / MJPEG Dual Codec Simultaneous Full Frame Dual Streaming	
	Resolution	D1	NTSC: 720x480
		VGA	640x480
		CIF	NTSC: 352x240
	Frame Rate	NTSC: 30, 15, 8, 3, 1 fps	
Quality	1 ~ 10 level		
Audio	Compression	G.711	
	Bi-directional Communication	Yes	
DIS	Digital Image Stabilization	Yes	
Motion Detection	Sensitivity and Area Setting	High Medium Low	
	Protocol	IP	IPv4 / IPv6
Network Protocol	IPv4	TCP/IP	UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, VSIIP
		IPv6	TCP/IP, HTTP, HTTPS, SSL, DHCP
	Streaming	Unicast, Multicast	
Security	Security	HTTPS(SSL), Login Authentication, Digest Login Authentication	
	DDNS	Supporting Samsung DDNS and Public DDNS services	
Connection	Maximum User Access	Max 10 Users at Unicast Mode / Max 20 Users at Multicast Mode	
	User Access Level	Administrator	Live Monitoring, Alarm I/O control, OSD menu control, PTZ control, SD memory search, SETUP
		Operator	Live Monitoring, PTZ control, Alarm I/O control
Event Management	Alarm Input	JPEG image transfer: FTP / JPEG image / Recording: SD memory / Notification: notify to viewer or by E-mail (one image attachment), Alarm Out	
	Motion Detection		
	Schedule	JPEG Image transfer: FTP, E-mail / JPEG Image Recording: SD memory	
Web Browser Viewer (Default)	Supported OS	Windows XP, VISTA	
	Supported Browser	Internet Explorer 6.0 or Higher	
	S/W upgrade	Using Web viewer UI	
Video Management Software		autoIP™, Milestone, ONSSI	
SDK	HTTP API	CGI Command	Provides functionality to control cameras and set/retrieve internal parameter values. Get JPEG image or MJPEG stream Alarm In/Out control
		RTP/RTSP API	RTP Header, RTSP Command Document
	ActiveX	SDK	ActiveX API for viewing data streams from IP camera

Mount Adapter Options

SCX-747KM

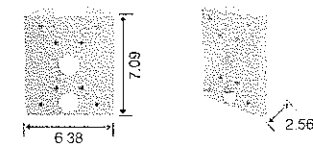


SCX-747KM

Corner Mount Adapter for 36x PTZ (SCC-C7478, SNC-C7478)

Material	Steel
Dimensions (W x H x D)	11.42 x 7.09 x 6.61 in 290 x 180 x 168 mm
Weight	5.07 lb / 2,300 g
Operating Temperature	-40°F ~ + 122°F -40°C ~ + 50°C
Operating Humidity	0 ~ 90% RH

SCX-747PM



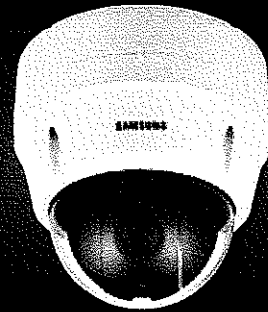
SCX-747PM

Pole Mount Adapter for 36x PTZ (SCC-C7478, SNC-C7478)

Material	Steel
Dimensions (W x H x D)	6.38 x 7.09 x 2.56 in 162 x 180 x 65 mm
Weight	2.87 lb / 1,300 g
Operating Temperature	-40°F ~ + 122°F -40°C ~ + 50°C
Operating Humidity	0 ~ 90% RH

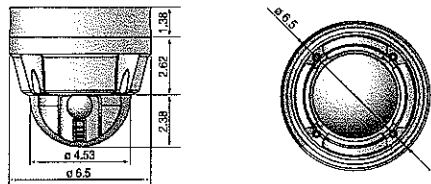
SNC-C6225

Anti-Vandal, Weather Resistant, 10X Zoom
Mini SmartDome™ Network Camera



Dimensions (unit : in)

Front/Rear Panel



Summary

The SNC-C6225 Mini SmartDome™ network camera has a 10X optical zoom and a 10X digital zoom allowing a total zoom of 100X. The SNC-C6225 is easy to install, vandal and weather resistant, and works great in a retail environment. The camera is compatible with autoIP™ open VMS platform.

Features

- Real-time 30(25) fps at High Resolution(D1)
- 100x Zoom Control (Optical 10x Digital 10x)
- MPEG-4 & MJPEG Dual Encoding
- Rotating Speed : MAX. 360°/sec
- Digital Image Stabilization
- Day/Night Function (ICR)
- Smooth Manual speed : MIN. 0.05 °/sec
- Bi-directional Audio Support
- Endless 360° Pan Rotation
- Micro SD Memory Card Slot for Event Recording
- Shortest Path by Vector Drive Technology
- HTTPS security login support
- Standard RTP/RTSP support (QuickTime VLC Player)
- Scheduled Preset Function
- Weather Resistant, Anti-vandal, IP66
- IPv4/IPv6 support

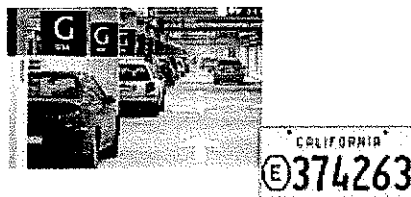
Recommended Accessories

SADT-937WM, Wall Mount

*See accessories page for more options

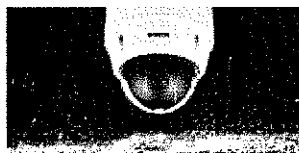
100X Power Zoom (10X Optical, 10X Digital)

The camera uses a 10X optical zoom along with a 10X digital zoom resulting in 100X zooming capability. The 100X Power Zoom combined with the auto focus function makes object identification easier.



Vandal and Weather Resistant (IP66)













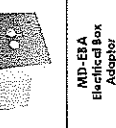
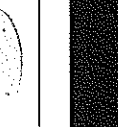

Built for the toughest conditions, the SNC-C6225 is suited for external installation thanks to its special structure that resists water and dust.

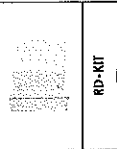
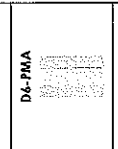
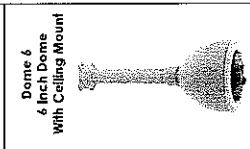
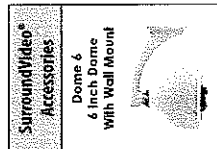


Weather Resistant



Vandal Resistant

Megadome™ Cameras		SurroundVideo™ Cameras		SurroundVideo™ Accessories	
	AV115E AV115SN AV115S-1HK AV115DN-1HK All-in-one Dome Camera 2 MP, 1/2" CMOS		AV115E AV115SN AV115S-1HK AV115DN-1HK All-in-one Dome Camera 5 MP, 1/2" CMOS		AV115E AV115SN AV115S-1HK AV115DN-1HK All-in-one Dome Camera 5 MP, 1/2" CMOS
	AV115E AV115SN AV115S-1HK AV115DN-1HK All-in-one Dome Camera 3 MP, 1/2" CMOS		AV115E AV115SN AV115S-1HK AV115DN-1HK All-in-one Dome Camera 5 MP, 1/2" CMOS		AV115E AV115SN AV115S-1HK AV115DN-1HK All-in-one Dome Camera 5 MP, 1/2" CMOS
	AV115E AV115SN AV115S-1HK AV115DN-1HK All-in-one Dome Camera 2 MP, 1/2" CMOS		AV115E AV115SN AV115S-1HK AV115DN-1HK All-in-one Dome Camera 5 MP, 1/2" CMOS		AV115E AV115SN AV115S-1HK AV115DN-1HK All-in-one Dome Camera 5 MP, 1/2" CMOS
MD-WAIT Web Mount	MD-CAIT Pendant Mount	MD-PMA Pole Mount Adaptor	MD-CRMA Corner Mount Adaptor	MD-EBA Elicited Box Adaptor	RD-KIT
					
Max Resolution	1280x960 @ 100 FPS	1280x960 @ 100 FPS	1280x960 @ 100 FPS	1280x960 @ 100 FPS	1280x960 @ 100 FPS
Minimum Illumination	Color: 0.1 Lux @ F1.4 Day/Night: 0.1 Lux @ F1.4	Color: 0.1 Lux @ F1.4 Day/Night: 0.1 Lux @ F1.4	Color: 0.1 Lux @ F1.4 Day/Night: 0.1 Lux @ F1.4	Color: 0.1 Lux @ F1.4 Day/Night: 0.1 Lux @ F1.4	Color: 0.1 Lux @ F1.4 Day/Night: 0.1 Lux @ F1.4
Full Frame at New Resolution	1280x960 @ 100 FPS	1280x960 @ 100 FPS	1280x960 @ 100 FPS	1280x960 @ 100 FPS	1280x960 @ 100 FPS
Copper Price of New Resolution	1280x960 @ 100 FPS	1280x960 @ 100 FPS	1280x960 @ 100 FPS	1280x960 @ 100 FPS	1280x960 @ 100 FPS
Frame Rate	27fps @ 1280x1024 32fps @ 1280x1024	27fps @ 1280x1024 32fps @ 1280x1024	27fps @ 1280x1024 32fps @ 1280x1024	27fps @ 1280x1024 32fps @ 1280x1024	27fps @ 1280x1024 32fps @ 1280x1024
Dimensions (HxWxD) (mm)	128x128x128	128x128x128	128x128x128	128x128x128	128x128x128
Lens (mm)	MP Varifocal Lens 4.5 to 18mm, F1.8, IR Connected	MP Varifocal Lens 4.5 to 18mm, F1.8, IR Connected	MP Varifocal Lens 4.5 to 18mm, F1.8, IR Connected	MP Varifocal Lens 4.5 to 18mm, F1.8, IR Connected	MP Varifocal Lens 4.5 to 18mm, F1.8, IR Connected
Compression Type	H.264 (MP Varifocal Lens) Motion JPEG	H.264 (MP Varifocal Lens) Motion JPEG	H.264 (MP Varifocal Lens) Motion JPEG	H.264 (MP Varifocal Lens) Motion JPEG	H.264 (MP Varifocal Lens) Motion JPEG
Image Resolutions	21 Levels	21 Levels	21 Levels	21 Levels	21 Levels
Bit Rate Control	RTSP, RTMP, RTP, RTSP, RTMP, RTP, RTSP, RTMP, RTP	RTSP, RTMP, RTP, RTSP, RTMP, RTP, RTSP, RTMP, RTP	RTSP, RTMP, RTP, RTSP, RTMP, RTP, RTSP, RTMP, RTP	RTSP, RTMP, RTP, RTSP, RTMP, RTP, RTSP, RTMP, RTP	RTSP, RTMP, RTP, RTSP, RTMP, RTP, RTSP, RTMP, RTP
Image Stabilities	100% to 100%	100% to 100%	100% to 100%	100% to 100%	100% to 100%
Non-Identical Frames	8 Non-Identical Frames	8 Non-Identical Frames	8 Non-Identical Frames	8 Non-Identical Frames	8 Non-Identical Frames
Motion Detection	64 Zones	64 Zones	64 Zones	64 Zones	64 Zones
Masking Mask	Yes	Yes	Yes	Yes	Yes
Electronic PTZ	Multiple PTZ Windows	Multiple PTZ Windows	Multiple PTZ Windows	Multiple PTZ Windows	Multiple PTZ Windows
Electronic Image Flip	180 degrees	180 degrees	180 degrees	180 degrees	180 degrees
Image Contrast	100 to 200	100 to 200	100 to 200	100 to 200	100 to 200
Power Requirements	DC Input: max. 12V-48V DC AC Input: max. 24V AC 5 Watts max.	DC Input: max. 12V-48V DC AC Input: max. 24V AC 5 Watts max.	DC Input: max. 12V-48V DC AC Input: max. 24V AC 5 Watts max.	DC Input: max. 12V-48V DC AC Input: max. 24V AC 5 Watts max.	DC Input: max. 12V-48V DC AC Input: max. 24V AC 5 Watts max.
Weather Proofing Structure	IP67	IP67	IP67	IP67	IP67
Temperature Specification	(10W) IR: Separate 12V DC Input 0 to 50 deg. C -30 to 50 deg. C, white	(10W) IR: Separate 12V DC Input 0 to 50 deg. C -30 to 50 deg. C, white	(10W) IR: Separate 12V DC Input 0 to 50 deg. C -30 to 50 deg. C, white	(10W) IR: Separate 12V DC Input 0 to 50 deg. C -30 to 50 deg. C, white	(10W) IR: Separate 12V DC Input 0 to 50 deg. C -30 to 50 deg. C, white
Panel Material	Die-cast aluminum chassis 4" polycarbonate dome bubble 3" stainless steel 304/201 stainless steel	Die-cast aluminum chassis 4" polycarbonate dome bubble 3" stainless steel 304/201 stainless steel	Die-cast aluminum chassis 4" polycarbonate dome bubble 3" stainless steel 304/201 stainless steel	Die-cast aluminum chassis 4" polycarbonate dome bubble 3" stainless steel 304/201 stainless steel	Die-cast aluminum chassis 4" polycarbonate dome bubble 3" stainless steel 304/201 stainless steel
Camera Positioning	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit
Accessories	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit	MD-WAIT: Web Mount MD-CAIT: Pendant Mount MD-PMA: Pole Mount Adaptor MD-CRMA: Corner Mount Adaptor MD-EBA: Elicited Box Adaptor MD-HK: Optional Heater Kit
General Software	AV100 Intranet	AV100 Intranet	AV100 Intranet	AV100 Intranet	AV100 Intranet



AV1355

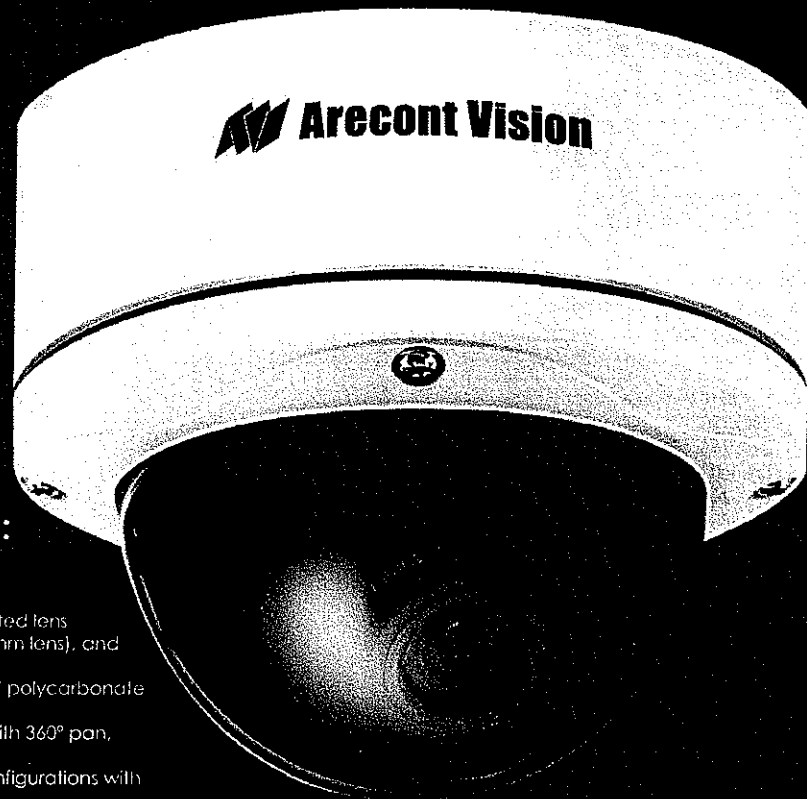
Arecont Vision
megapixel technology...
beyond imagination

AV1355 (Color)
AV1355-16 (Color)

AV1355-1HK
AV1355-16HK

AV1355DN (Day/Night)
AV1355DN-16 (Day/Night)

AV1355DN-1HK
AV1355DN-16HK



Arecont Vision Advantages:

- Integrated megapixel camera, IR corrected lens (AVxx55: 4.5-10mm lens; AVxx55-16: 8-16mm lens), and IP66 dome housing
- Vandal resistant aluminum chassis with 4" polycarbonate dome bubble
- Easily adjustable 3-axis camera gimbal with 360° pan, 90° tilt and 360° z-axis
- Available in 1.3, 2, 3, and 5 MP sensor configurations with color only or Day/Night versions
- Supports both H.264 and MJPEG at full resolutions and full frame rates
- Heater kit versions for cold climate environments
- Surface mount with optional pendant mount, wall mount, pole mount, corner mount or electrical box adapter
- IP66 weatherproofing standard

- Simultaneous support of both H.264 and MJPEG
- 10x average bandwidth and storage reduction over MJPEG

- Up to 8 concurrent non-identical streams with different frame rates, bit rates, resolutions and picture quality

- Maintain desired bandwidth and storage size

- Allows for compatibility with media players such as Apple QuickTime, Windows Media Player, VLC Player, etc.

- 1/2" CMOS Sensor

- Four times the resolution of IP VGA or analog cameras

- Up to 32fps in 1.3 megapixel mode

- Zoom live or after-event while recording full field of view in HD ... replace PTZ devices

- Less cameras to install, less wiring, no external power (POE), less NVR licensing fees

- Can be used for either live viewing or archiving purposes

- Simultaneous full field of view and Region-of-Interest (ROI)
- Image cropping allows streaming of full density partial images
- On-camera motion detection
- Assembled 10W heater versions or separate heater module for retrofit
- Motorized IR Cut Filter (DN Version) and more

The AV1355/1355-16 MegaDome™ series network camera is part of Arecont Vision's full line of H.264 megapixel cameras. This fully compliant implementation of H.264 (MPEG 4, Part 10) provides full 1280 x 1024 megapixel resolution at full video frame rates of 32fps. The MegaDome™ camera line provides an all-in-one solution with integrated megapixel camera, lens, and vandal resistant dome enclosure. Using MegaVideo® technology, these cameras offer bandwidth and storage efficiency of up to 10X on average over traditional megapixel counterparts.

Learn more about our products at www.arecontvision.com

1-800-451-7070 | sales@arecontvision.com | 1515 N. 4700th Ave, Suite 100, Camarillo, CA 93010

Model Numbers:

AV1355 - Color
AV1355-1HK - Color w/Heater
AV1355DN - Day/Night
AV1355DN-1HK - Day/Night w/Heater

AV1355-16 - Color
AV1355-16HK - Color w/Heater
AV1355DN-16 - Day/Night
AV1355DN-16HK - Day/Night w/Heater

Imaging

- 1.3 megapixel CMOS image sensor
- 1280(H) x 1024(V) pixel array
- 1/2" optical format
- Bayer mosaic RGB filter
- Minimum illumination of:
 - Color: 0.1 Lux @ F1.4
 - Day/Night: 0 Lux, IR sensitive
- Dynamic range 61 dB
- Maximum SNR 50 dB

Full Field of View (FOV) Resolutions

- 1280(H)x1024(V) 1.3 megapixel
- 640(H)x512(V) 1/4 resolution

Cropped Field of View Resolutions

- 1280x720 HDTV-720p
- 1024x768 XGA
- 800x600 SVGA
- 704x570 PAL
- 704x480 NTSC
- 640x480 VGA
- 352x288 CIF
- 320x240 SIF

Data Transmission

- Video frame rate up to:
 - 32fps @ 1280x1024
- Compression type:
 - H.264 (MPEG4, Part 10)
 - Motion JPEG
 - 21 levels of quality
- TFTP, HTTP, RTSP, RTP/TCP, RTP/UDP image transmission protocols
- 100Base-T Ethernet Network Interface
- Data rate:
 - bit rate control from 100Kbps to 10Mbps
 - bit rate control available for full view, multi view, and archive
 - unthrottled data rate in MJPEG up to 55Mbps
- Multi-streaming: 8 non-identical streams

Programmability

- Auto Exposure (AE) and Gain Control (AGC) > 120dB
- On-camera real-time motion detection with 64 detection zones
- Programmable backlight compensation
- Auto multi-matrix white balance
- 50/60Hz selectable flicker control
- Electronic pan, tilt, zoom (PTZ)
- Electronic image flip - 180 degree rotation
- Resolution windowing down to 32x32 pixels window
- Programmable shutter speed to help control motion blur
- MoonLight™ mode - extended exposure and proprietary noise cancellation
- Programmable resolution, brightness, saturation, gamma, sharpness, tint
- Picture-in-Picture: simultaneous delivery of full field of view and zoomed images
- Bandwidth & storage savings by running at 1/4 resolution

Camera Electrical

- General purpose opto-coupled input and output
- Power over Ethernet (PoE): PoE 802.3af
- Auxiliary power: 12-48VDC and 24VAC
- Power consumption 5 Watts maximum

Heater Electrical

- Voltage Input: 10V to 50V DC (separate power required)
- Power Output: 10W Max
- Switch: On: 17°C (62.6 °F), Off: 30 °C (86 °F)

Regulatory Approvals

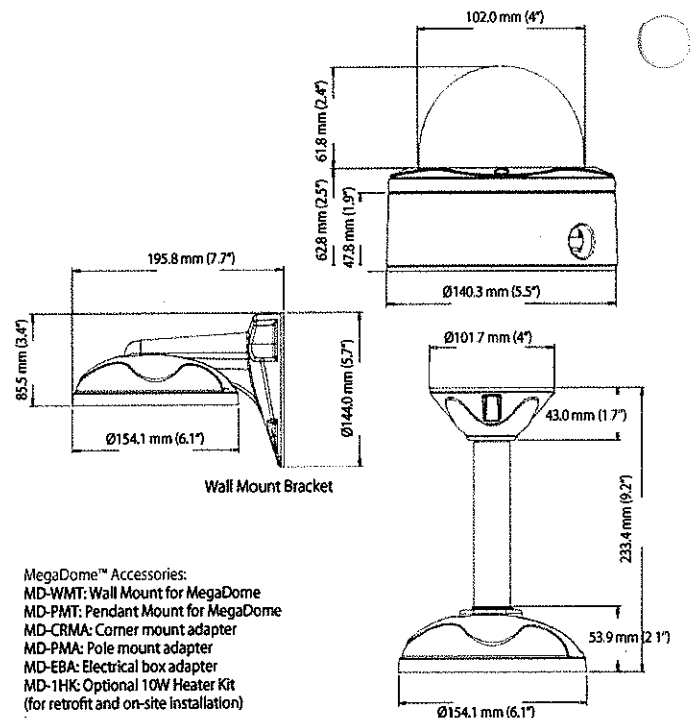
- FCC, Class A
- CE and RoHS compliant

Environmental

- IP66 weatherproofing standard
- Operating temperature:
 - No heater: 0°C (32°F) to +50°C (122°F)
 - With heater: -30°C (-22°F) to +50°C (122°F)
- Storage temperature: -20°C (-4°F) to +60°C (140°F)
- Humidity: 0% to 90% (non condensing)

Mechanical

- Easily adjustable 3-axis camera gimbal with 360° pan, 90° tilt and 360° z-axis
- Die-cast aluminum chassis with 4" polycarbonate dome bubble
- Total Unit dimensions:
 - Ø5.5 x 4.9 in (H), bubble only: Ø4.0 x 2.4 in (H)
 - Ø140.3 x 124.6 mm (H), bubble only: Ø102 x 61.8 mm (H)
- 2.0 lbs (0.91 kg)



MegaDome™ Accessories:
 MD-WMT: Wall Mount for MegaDome
 MD-PMT: Pendant Mount for MegaDome
 MD-CRMA: Corner mount adapter
 MD-PMA: Pole mount adapter
 MD-EBA: Electrical box adapter
 MD-1HK: Optional 10W Heater Kit (for retrofit and on-site installation)

Lens:
 Integrated 4.5-10mm IR corrected Megapixel Varifocal Lens (AVx55 models) Ø - Diameter
 Integrated 8-16mm IR corrected Megapixel Varifocal Lens (AVx55-16 models) Pendant Mount Bracket

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AV2155

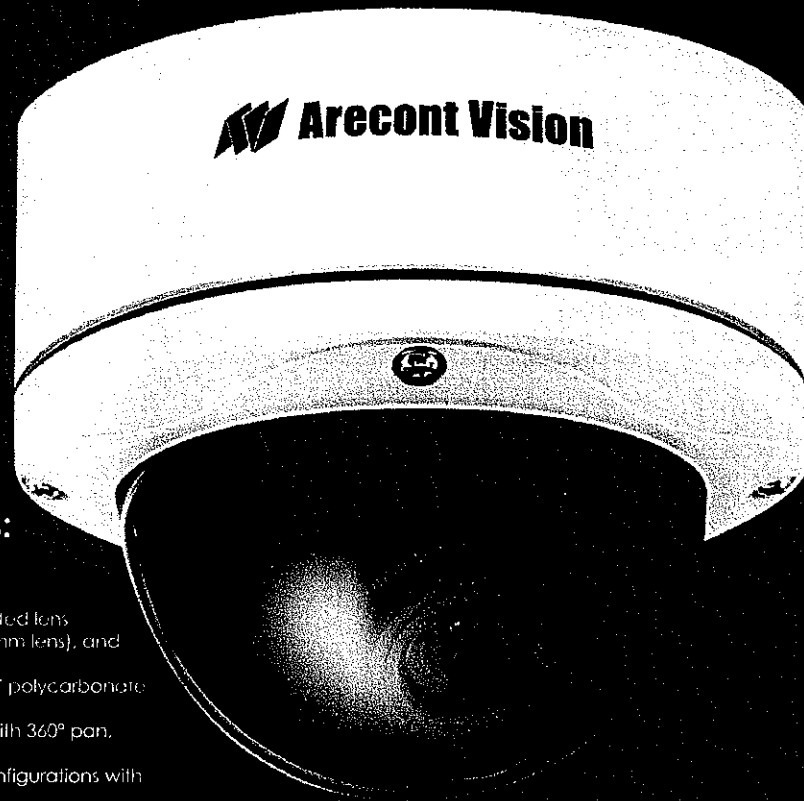
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AV2155 (Color)
AV2155-16 (Color)

AV2155-1HK
AV2155-16HK

AV2155DN (Day/Night)
AV2155DN-16 (Day/Night)

AV2155DN-1HK
AV2155DN-16HK



Arecont Vision Advantages:

- Integrated megapixel camera, IR corrected lens (AVxx55: 4.5-10mm lens; AVxx55-16: 8-16mm lens), and IP66 dome housing
- Vandal resistant aluminum chassis with 4" polycarbonate dome bubble
- Easily adjustable 3-axis camera gimbal with 360° pan, 90° tilt and 360° z-axis
- Available in 1.3, 2, 3, and 5 MP sensor configurations with color only or Day/Night versions
- Supports both H.264 and MJPEG at full resolutions and full frame rates
- Heater kit versions for cold climate environments
- Surface mount with optional pendant mount, wall mount, pole mount, corner mount or electrical box adapter
- IP66 weatherproofing standard

- Simultaneous support of both H.264 and MJPEG
- 10x average bandwidth and storage reduction over MJPEG

- Up to 8 concurrent non-identical streams with different frame rates, bit rates, resolutions and picture quality

- Maintain desired bandwidth and storage size

- Allows for compatibility with media players such as Apple QuickTime, Windows Media Player, VLC Player, etc.

- 1/2" CMOS Sensor

- Six times the resolution of IP VGA or analog cameras

- Up to 24fps in 2 megapixel mode

- Zoom live or after-event while recording full field of view in HD ... replace PTZ devices

- Less cameras to install, less wiring, no external power (POE), less NVR licensing fees

- Can be used for either live viewing or archiving purposes

- Simultaneous full field of view and Region-of-Interest (ROI)
- Image cropping allows streaming of full density partial images
- On-camera motion detection
- Assembled 10W heater versions or separate heater module for retrofit
- Motorized IR Cut Filter (DN Version) and more

The AV2155/2155-16 MegaDome™ series network camera is part of Arecont Vision's full line of H.264 megapixel cameras. This fully compliant implementation of H.264 (MPEG 4, Part 10) provides full 1600 x 1200 megapixel resolution at full video frame rates of 24fps. The MegaDome™ camera line provides an all-in-one solution with integrated megapixel camera, lens, and vandal resistant dome enclosure. Using MegaVideo® technology, these cameras offer bandwidth and storage efficiency of up to 10X on average over traditional megapixel counterparts.

Learn more about our products at www.arecontvision.com

Model Numbers:

AV2155 - Color
AV2155-1HK - Color w/Heater
AV2155DN - Day/Night
AV2155DN-1HK - Day/Night w/Heater

AV2155-16 - Color
AV2155-16HK - Color w/Heater
AV2155DN-16 - Day/Night
AV2155DN-16HK - Day/Night w/Heater

Imaging

- 2 megapixel CMOS image sensor
- 1600(H) x 1200(V) pixel array
- 1/2" optical format
- 4.2 µm pixel pitch
- Bayer mosaic RGB filter
- Minimum illumination of:
 - Color: 0.1 Lux @ F1.4
 - Day/Night: 0 Lux, IR sensitive
- Dynamic range 61 dB
- Maximum SNR 50 dB

Full Field of View (FOV) Resolutions

- 1600(H)x1200(V) 2 megapixel
- 800(H)x600(V) 1/4 resolution

Cropped Field of View Resolutions

- 1280x1024 1.3 MP
- 1280x720 HDTV-720p
- 1024x768 XGA
- 800x600 SVGA
- 704x570 PAL
- 704x480 NTSC
- 640x480 VGA
- 352x288 CIF
- 320x240 SIF

Data Transmission

- Video frame rate up to:
 - 24fps @ 1600x1200
 - 32fps @ 1280x1024
- Compression type:
 - H.264 (MPEG4, Part 10)
 - Motion JPEG
 - 21 levels of quality
- TFTP, HTTP, RTSP, RTP/TCP, RTP/UDP image transmission protocols
- 100Base-T Ethernet Network Interface
- Data rate:
 - bit rate control from 100Kbps to 10Mbps
 - bit rate control available for full view, multi view, and archive
 - unthrottled data rate up to 55Mbps
- Multi-streaming: 8 non-identical streams

Programmability

- Auto Exposure (AE) and Gain Control (AGC) >120dB
- On-camera real-time motion detection with 64 detection zones
- Programmable backlight compensation
- Auto multi-matrix white balance
- 50/60Hz selectable flicker control
- Electronic pan, tilt, zoom (PTZ)
- Electronic image flip - 180 degree rotation
- Resolution windowing down to 32x32 pixels window
- Programmable shutter speed to help control motion blur
- MoonLight™ mode - extended exposure and proprietary noise cancellation
- Programmable resolution, brightness, saturation, gamma, sharpness, tint
- Picture-in-Picture: simultaneous delivery of full field of view and zoomed images
- Bandwidth & storage savings by running at 1/4 resolution

Camera Electrical

- General purpose opto-coupled input and output
- Power over Ethernet (PoE): PoE 802.3af
- Auxiliary power: 12-48VDC and 24VAC
- Power consumption 5 Watts maximum

Heater Electrical

- Voltage Input: 10V to 50V DC (separate power required)
- Power Output: 10W Max
- Switch: On: 17°C (62.6 °F), Off: 30 °C (86 °F)

Regulatory Approvals

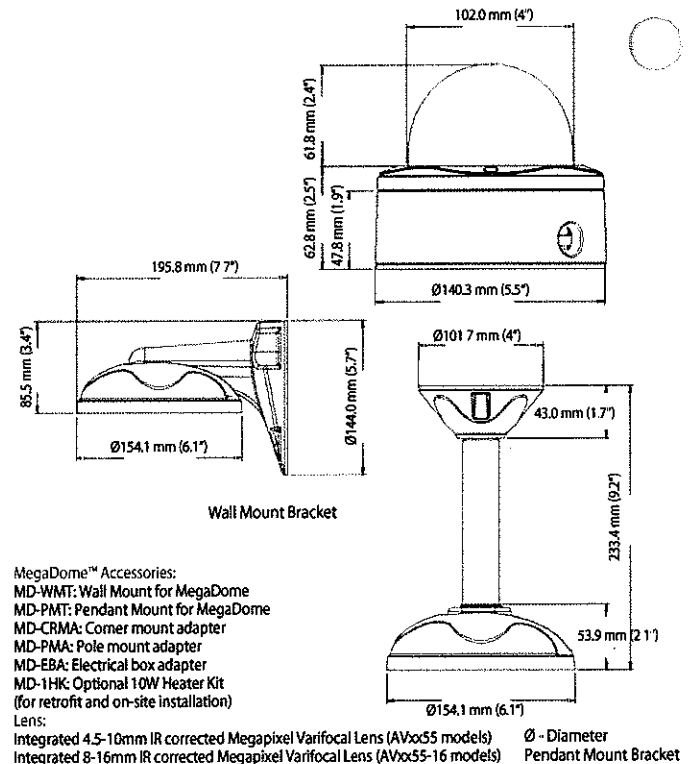
- FCC, Class A
- CE and RoHS compliant

Environmental

- IP66 weatherproofing standard
- Operating temperature:
 - No heater: 0°C (32°F) to +50°C (122°F)
 - With heater: -30°C (-22°F) to +50°C (122°F)
- Storage temperature: -20°C (-4°F) to +60°C (140°F)
- Humidity: 0% to 90% (non condensing)

Mechanical

- Easily adjustable 3-axis camera gimbal with 360° pan, 90° tilt and 360° z-axis
- Die-cast aluminum chassis with 4" polycarbonate dome bubble
- Total Unit dimensions:
 - Ø5.5 x 4.9 in (H), bubble only: Ø4.0 x 2.4 in (H)
 - Ø140.3 x 124.6 mm (H), bubble only: Ø102 x 61.8 mm (H)
- 2.0 lbs (0.91 kg)



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AV3155

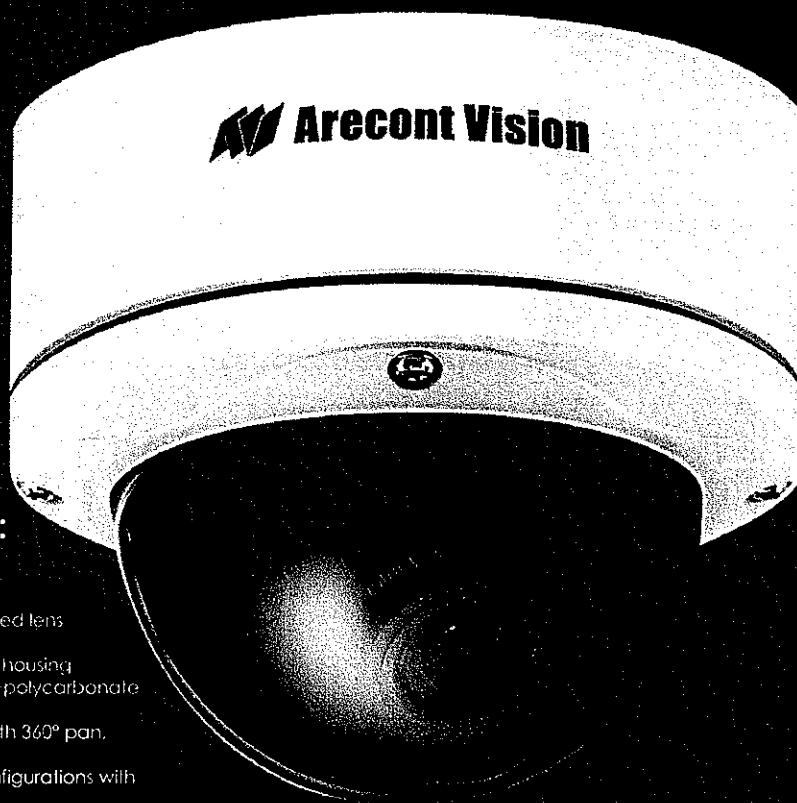
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AV3155 (Color)
AV3155-16 (Color)

AV3155-1HK
AV3155-16HK

AV3155DN (Day/Night)
AV3155DN-16 (Day/Night)

AV3155DN-1HK
AV3155DN-16HK



Arecont Vision Advantages:

- Integrated megapixel camera, IR corrected lens (AVxx55: 4.5-10mm lens; AVxx55-16: 8-16mm lens), and IP66 dome housing
- Vandal resistant aluminum chassis with 4" polycarbonate dome bubble
- Easily adjustable 3-axis camera gimbal with 360° pan, 90° tilt and 360° z-axis
- Available in 1.3, 2, 3, and 5 MP sensor configurations with color only or Day/Night versions
- Supports both H.264 and MJPEG at full resolutions and full frame rates
- Heater kit versions for cold climate environments
- Surface mount with optional pendant mount, wall mount, pole mount, corner mount or electrical box adapter
- IP66 weatherproofing standard
- Simultaneous support of both H.264 and MJPEG
- 10x average bandwidth and storage reduction over MJPEG
- Up to 8 concurrent non-identical streams with different frame rates, bit rates, resolutions and picture quality
- Maintain desired bandwidth and storage size
- Allows for compatibility with media players such as Apple QuickTime, Windows Media Player, VLC Player, etc.
- 1/2" CMOS Sensor
- Ten times the resolution of IP VGA or analog cameras
- Up to 15fps in 3 megapixel mode
- Zoom live or after-event while recording full field of view in HD ... replace PTZ devices
- Less cameras to install, less wiring, no external power (POE), less NVR licensing fees
- Can be used for either live viewing or archiving purposes
- Simultaneous full field of view and Region-of-Interest (ROI)
- Image cropping allows streaming of full density partial images
- On-camera motion detection
- Assembled 10W heater versions or separate heater module for retrofit
- Motorized IR Cut Filter (DN Version) and more

The AV3155/3155-16 MegaDome™ series network camera is part of Arecont Vision's full line of H.264 megapixel cameras. This fully compliant implementation of H.264 (MPEG 4, Part 10) provides full 2048 x 1536 megapixel resolution at full video frame rates of 15fps. The MegaDome™ camera line provides an all-in-one solution with integrated megapixel camera, lens, and vandal resistant dome enclosure. Using MegaVideo® technology, these cameras offer bandwidth and storage efficiency of up to 10X on average over traditional megapixel counterparts.

Learn more about our products at www.arecontvision.com

Model Numbers:

AV3155 - Color
AV3155-1HK - Color w/Heater
AV3155DN - Day/Night
AV3155DN-1HK - Day/Night w/Heater

AV3155-16 - Color
AV3155-16HK - Color w/Heater
AV3155DN-16 - Day/Night
AV3155DN-16HK - Day/Night w/Heater

Imaging

- 3 megapixel CMOS image sensor
- 2048(H) x 1536(V) pixel array
- 1/2" optical format
- 3.2 µm pixel pitch
- Bayer mosaic RGB filter
- Minimum illumination of:
 - Color: 0.2 Lux @ F1.4
 - Day/Night: 0 Lux, IR sensitive
- Dynamic range 61 dB
- Maximum SNR 49 dB

Full Field of View (FOV) Resolutions

- 2048(H)x1536(V) 3 megapixel
- 1024(H)x768(V) 1/4 resolution

Cropped Field of View Resolutions

- 1920x1200 WUXGA
- 1920x1080 HDTV-1080p
- 1600x1200 2MP
- 1280x1024 1.3MP
- 1280x720 HDTV-720p
- 1024x768 XGA
- 800x600 SVGA
- 704x570 PAL
- 704x480 NTSC
- 640x480 VGA
- 352x288 CIF
- 320x240 SIF

Data Transmission

- Video frame rate up to:
 - 15fps @ 2048x1536
 - 20fps @ 1920x1200
 - 22fps @ 1920x1080
 - 24fps @ 1600x1200
 - 32fps @ 1280x1024
- Compression type:
 - H.264 (MPEG4, Part 10)
 - Motion JPEG
 - 21 levels of quality
- TFTP, HTTP, RTSP, RTP/TCP, RTP/UDP image transmission protocols
- 100Base-T Ethernet Network Interface
- Data rate:
 - bit rate control from 100Kbps to 10Mbps
 - bit rate control available for full view, multi view, and archive
 - unthrottled data rate up to 55Mbps
- Multi-streaming: 8 non-identical streams

Programmability

- Auto Exposure (AE) and Gain Control (AGC) > 120dB
- On-camera real-time motion detection with 64 detection zones
- Programmable backlight compensation
- Auto multi-matrix white balance
- 50/60Hz selectable flicker control
- Electronic pan, tilt, zoom (PTZ)
- Electronic image flip - 180 degree rotation
- Resolution windowing down to 32x32 pixels window
- Programmable shutter speed to help control motion blur
- MoonLight™ mode - extended exposure and proprietary noise cancellation
- Programmable resolution, brightness, saturation, gamma, sharpness, tint
- Picture-in-Picture: simultaneous delivery of full field of view and zoomed images
- Bandwidth & storage savings by running at 1/4 resolution

Camera Electrical

- General purpose opto-coupled input and output
- Power over Ethernet (PoE): PoE 802.3af
- Auxiliary power: 12-48VDC and 24VAC
- Power consumption 5 Watts maximum

Heater Electrical

- Voltage Input: 10V to 50V DC (separate power required)
- Power Output: 10W Max
- Switch: On: 17°C (62.6 °F), Off: 30 °C (86 °F)

Regulatory Approvals

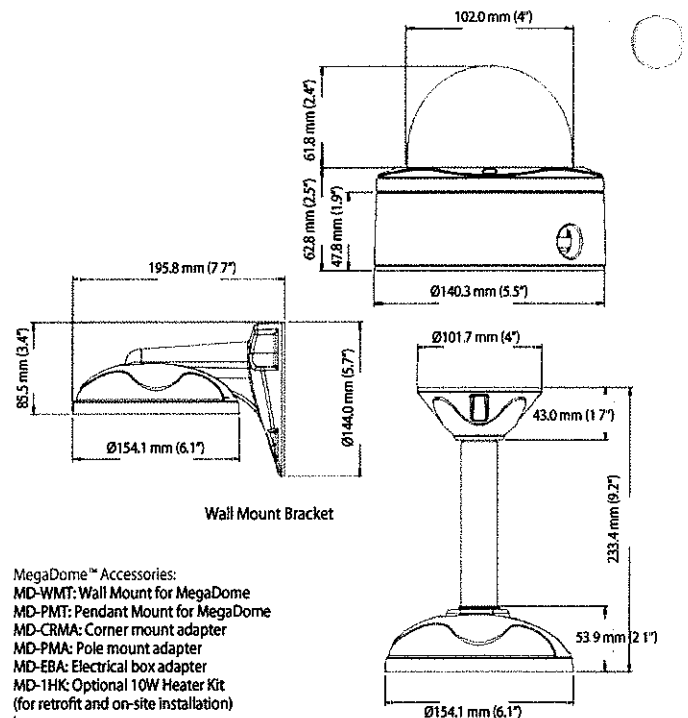
- FCC, Class A
- CE and RoHS compliant

Environmental

- IP66 weatherproofing standard
- Operating temperature:
 - No heater: 0°C (32°F) to +50°C (122°F)
 - With heater: -30°C (-22°F) to +50°C (122°F)
- Storage temperature: -20°C (-4°F) to +60°C (140°F)
- Humidity: 0% to 90% (non condensing)

Mechanical

- Easily adjustable 3-axis camera gimbal with 360° pan, 90° tilt and 360° z-axis
- Die-cast aluminum chassis with 4" polycarbonate dome bubble
- Total Unit dimensions:
 - Ø5.5 x 4.9 in (H), bubble only: Ø4.0 x 2.4 in (H)
 - Ø140.3 x 124.6 mm (H), bubble only: Ø102 x 61.8 mm (H)
- 2.0 lbs (0.91 kg)



MegaDome™ Accessories:
 MD-WMT: Wall Mount for MegaDome
 MD-PMT: Pendant Mount for MegaDome
 MD-CRMA: Corner mount adapter
 MD-PMA: Pole mount adapter
 MD-EBA: Electrical box adapter
 MD-1HK: Optional 10W Heater Kit (for retrofit and on-site installation)

Lens:
 Integrated 4.5-10mm IR corrected Megapixel Varifocal Lens (AVx55 models) Ø - Diameter
 Integrated 8-16mm IR corrected Megapixel Varifocal Lens (AVx55-16 models) Pendant Mount Bracket

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AV5155

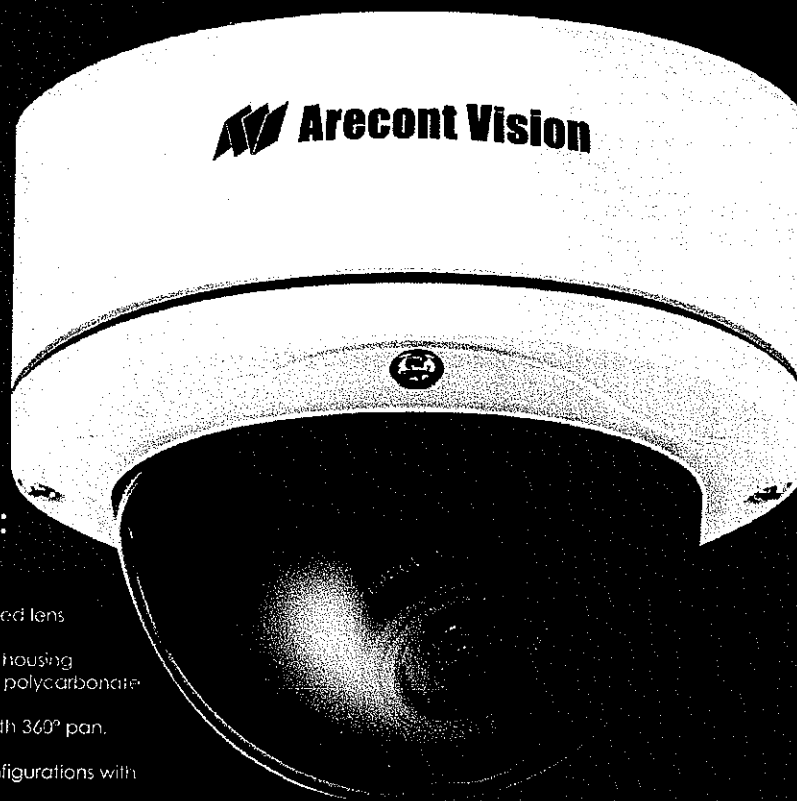
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AV5155 (Color)
AV5155-16 (Color)

AV5155-1HK
AV5155-16HK

AV5155DN (Day/Night)
AV5155DN-16 (Day/Night)

AV5155DN-1HK
AV5155DN-16HK



Arecont Vision Advantages:

- Integrated megapixel camera, IR corrected lens (AVxx55: 4.5-10mm lens; AVxx55-16: 8-16mm lens), and IP66 dome housing
- Vandal resistant aluminum chassis with 4" polycarbonate dome bubble
- Easily adjustable 3-axis camera gimbal with 360° pan, 90° tilt and 360° z-axis
- Available in 1.3, 2, 3, and 5 MP sensor configurations with color only or Day/Night versions
- Supports both H.264 and MJPEG at full resolutions and full frame rates
- Heater kit versions for cold climate environments
- Surface mount with optional pendant mount, wall mount, pole mount, corner mount or electrical box adapter
- IP66 weatherproofing standard

- Simultaneous support of both H.264 and MJPEG
- 10x average bandwidth and storage reduction over MJPEG

- Up to 4 concurrent non-identical streams with different frame rates, bit rates, resolutions and picture quality

- Maintain desired bandwidth and storage size

- Allows for compatibility with media players such as Apple QuickTime, Windows Media Player, VLC Player, etc.

- 1/2.5" CMOS Sensor

- Sixteen times the resolution of IP VGA or analog cameras

- Up to 9fps in 5 megapixel mode

- Zoom live or after-event while recording full field of view in HD ... replace PTZ devices

- Less camera to install, less wiring, no external power (POE), less NVR licensing fees

- Can be used for either live viewing or archiving purposes

- Simultaneous full field of view, and Region-of-Interest (ROI)
- Image cropping allows streaming of full density partial images
- On-camera motion detection
- Assembled 10W heater versions or separate heater module for retrofit
- Motorized IR Cut Filter (DN Version) and more

The AV5155/5155-16 MegaDome™ series network camera is part of Arecont Vision's full line of H.264 megapixel cameras. This fully compliant implementation of H.264 (MPEG 4, Part 10) provides full 2592x1944 megapixel resolution at full video frame rates of 9fps. The MegaDome™ camera line provides an all-in-one solution with integrated megapixel camera, lens, and vandal resistant dome enclosure. Using MegaVideo® technology, these cameras offer bandwidth and storage efficiency of up to 10X on average over traditional megapixel counterparts.

Learn more about our products at www.arecontvision.com

www.arecontvision.com | info@arecontvision.com | +1 616 527 2700 | 877-CAMERA-6

Specifications

AV5155

5 Megapixel H.264 IP MegaDome™ Camera

Model Numbers:

- AV5155 - Color
- AV5155-1HK - Color w/Heater
- AV5155DN - Day/Night
- AV5155DN-1HK - Day/Night w/Heater

- AV5155-16 - Color
- AV5155-16HK - Color w/Heater
- AV5155DN-16 - Day/Night
- AV5155DN-16HK - Day/Night w/Heater

Imaging

- 5 megapixel CMOS image sensor
- 2592(H) x 1944(V) pixel array
- 1/2.5" optical format
- 2.2 µm pixel pitch
- Bayer mosaic RGB filter
- Minimum illumination of:
 - Color: 0.3 Lux @ F1.4
 - Day/Night: 0 Lux, IR sensitive
- Dynamic range 70.1 dB
- Maximum SNR 44.1 dB

Full Field of View (FOV) Resolutions

- 2592(H)x1944(V) 5 megapixel
- 1296(H)x968(V) 1/4 resolution

Cropped Field of View Resolutions

- 2560x1600 WQXGA
- 2048x1536 3MP
- 1920x1200 WUXGA
- 1920x1080 HDTV-1080p
- 1600x1200 2MP
- 1280x1024 1.3MP
- 1280x720 HDTV-720p
- 1024x768 XGA
- 800x600 SVGA
- 704x570 PAL
- 704x480 NTSC
- 640x480 VGA
- 352x288 CIF
- 320x240 SIF

Data Transmission

- Video frame rate up to:
 - 9fps @ 2592x1944
 - 12fps @ 2560x1600
 - 15fps @ 2048x1536
 - 24fps @ 1600x1200
 - 32fps @ 1280x1024
- Compression type:
 - H.264 (MPEG4, Part 10)
 - Motion JPEG
 - 21 levels of quality
- TFTP, HTTP, RTSP, RTP/TCP, RTP/UDP image transmission protocols
- 100Base-T Ethernet Network Interface
- Data rate:
 - bit rate control from 100Kbps to 10Mbps
 - bit rate control available for full view, multi view, and archive
 - unthrottled data rate up to 55Mbps
- Multi-streaming: 4 non-identical streams

Programmability

- Auto Exposure (AE) and Gain Control (AGC) >120dB
- On-camera real-time motion detection with 64 detection zones
- Programmable backlight compensation
- Auto multi-matrix white balance
- 50/60Hz selectable flicker control
- Electronic pan, tilt, zoom (PTZ)
- Electronic image flip - 180 degree rotation
- Resolution windowing down to 32x32 pixels window
- Programmable shutter speed to help control motion blur
- MoonLight™ mode - extended exposure and proprietary noise cancellation
- Programmable resolution, brightness, saturation, gamma, sharpness, tint
- Picture-in-Picture: simultaneous delivery of full field of view and zoomed images
- Bandwidth & storage savings by running at 1/4 resolution

Camera Electrical

- General purpose opto-coupled input and output
- Power over Ethernet (PoE): PoE 802.3af
- Auxiliary power: 12-48VDC and 24VAC
- Power consumption 5 Watts maximum

Heater Electrical

- Voltage Input: 10V to 50V DC (separate power required)
- Power Output: 10W Max
- Switch: On: 17°C (62.6 °F), Off: 30 °C (86 °F)

Regulatory Approvals

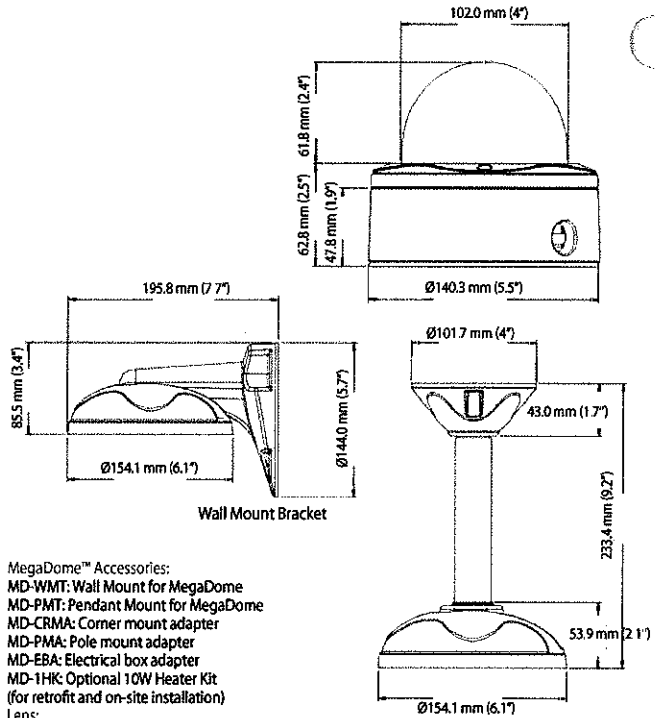
- FCC, Class A
- CE and RoHs compliant

Environmental

- IP66 weatherproofing standard
- Operating temperature:
 - No heater: 0°C (32°F) to +50°C (122°F)
 - With heater: -30°C (-22°F) to +50°C (122°F)
- Storage temperature: -20°C (-4°F) to +60°C (140 °F)
- Humidity: 0% to 90% (non condensing)

Mechanical

- Easily adjustable 3-axis camera gimbal with 360° pan, 90° tilt and 360° z-axis
- Die-cast aluminum chassis with 4" polycarbonate dome bubble
- Total Unit dimensions:
 - Ø5.5 x 4.9 in (H), bubble only: Ø4.0 x 2.4 in (H)
 - Ø140.3 x 124.6 mm (H), bubble only: Ø102 x 61.8 mm (H)
- 2.0 lbs (0.91 kg)



MegaDome™ Accessories:
 MD-WMT: Wall Mount for MegaDome
 MD-PMT: Pendant Mount for MegaDome
 MD-CRMA: Corner mount adapter
 MD-PMA: Pole mount adapter
 MD-EBA: Electrical box adapter
 MD-1HK: Optional 10W Heater Kit (for retrofit and on-site installation)
 Lens:
 Integrated 4.5-10mm IR corrected Megapixel Varifocal Lens (AVx55 models) Ø - Diameter
 Integrated 8-16mm IR corrected Megapixel Varifocal Lens (AVx55-16 models) Pendant Mount Bracket

Arecont Vision
 megapixel technology...
 beyond imagination

Made In USA

Revised on 12/10/09

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Mega Pixel

Mega-Pixel-Compatible Vari-Focal Lens Series

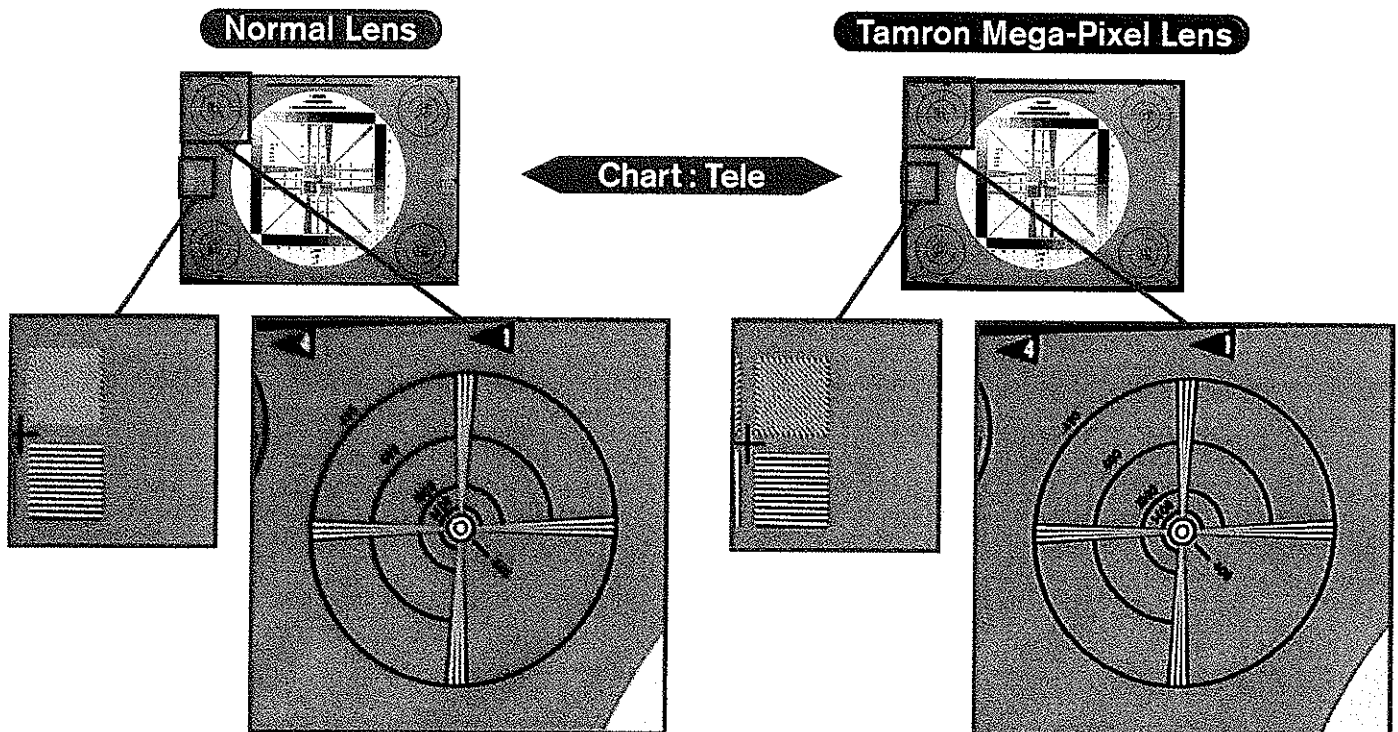
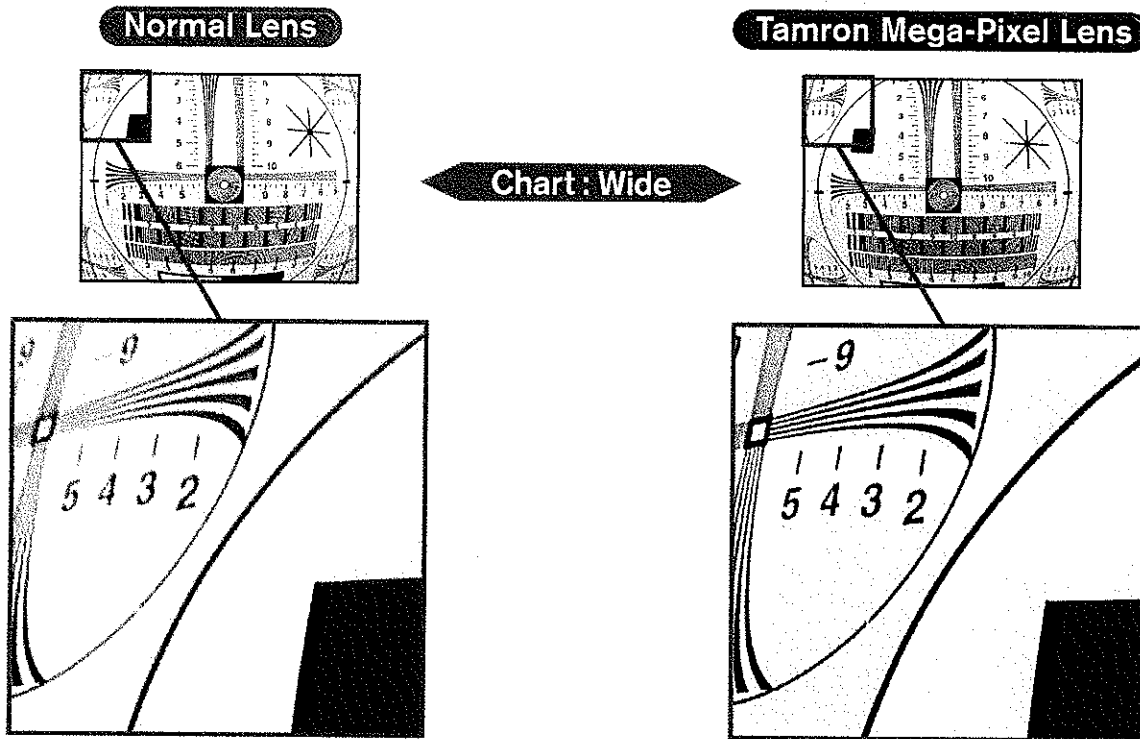


Ultra High Definition Vari-Focal Lenses Designed
to Derive Maximum Performance from Mega-Pixel Cameras

Mega-Pixel-Compatible Vari-Focal Lens Series

Tamron's ultra high definition Mega-Pixel-Compatible Vari-Focal Lens Series derives maximum performance from mega-pixel cameras to provide the best solution for your mega-pixel camera applications.

Key Technology Supporting Mega-Pixel Compatibility



Note: Video images shown on this page were all shot using actual monitoring cameras (Mega-Pixel-Compatible) and CCTV lenses.

Key Technology Supporting Mega-Pixel Compatibility

High Quality Lens Series for Maximum Mega-Pixel Camera Performance

Each lens in Tamron's Mega-Pixel-Compatible Vari-Focal Lens Series uses hybrid aspherical elements (and special glass elements in the case of the 3.0-8mm lens) to minimize various optical aberrations and ensure high optical quality while realizing the compact design. Through the employment of innovative optical technologies, each lens delivers high-resolution and high-contrast images that are uniformly sharp from the center to the periphery.

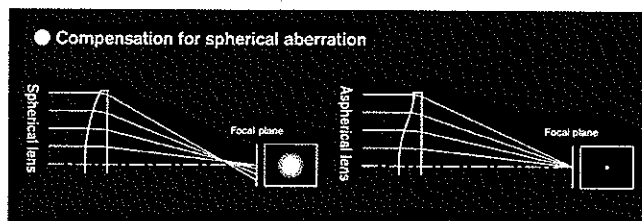
In particular, resolution in the image corner is almost double when compared to that of conventional lenses. Each lens provides the best solution in applications with high quality mega-pixel cameras, ensuring high quality images even when images are enlarged.

Multiple-Layer Coatings

Multicoating is applied to lens surfaces to minimize the phenomena of ghosting and flare in backlit situations. The result is consistent high contrast and excellent image quality even in such conditions.



Concept diagram showing compensation for aberration by an aspherical lens



Highly Accurate and High Quality Mechanical Construction to Achieve Maximum Performance

Each and every mechanical component boasts high accuracy and is assembled with advanced manufacturing engineering technologies. As a result, constructional problems that are likely to cause image degradation through focal point shift or lopsided blur have been eliminated.

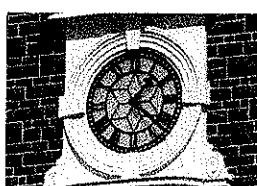
Covers Wide Range from 2.4mm Ultra Wide-angle to 50mm Telephoto



2.4mm (Horizontal angle of view 111.3°)



8mm (Horizontal angle of view 35.4°)



50mm (Horizontal angle of view 5.5°)

Tamron's Mega-Pixel-Compatible Vari-Focal Lens Series covers a wide range of angles of view from 2.4mm ultra wide-angle, 8mm standard focal length and even 50mm ultra telephoto in order to satisfy all needs. Each lens features a lightweight and compact design to fit almost all surveillance applications.

Lock Mechanism for Each Control Ring

Each control ring (zooming, focusing and iris-control*) has a lock mechanism. Setting displacement after installation can be avoided since each ring can be independently locked. (*Manual iris only)

Slip-Mount Mechanism

Each lens is equipped with a slip-mount mechanism that allows position adjustment by rotating the lens after it is mounted on a camera. This facilitates setting the auto-iris meter portion of the lens to a correct position around the lens.

Environmentally-Friendly Design

Environmentally-friendly designs are used, including the employment of design approaches that do not use substances in optical glass materials, sealing and packaging that impact the environment. In addition, each Tamron factory implements environmental assessment when procuring materials and components in order to ensure non-use of environmentally destructive substances.

Wide Dynamic Range [M13VM308/M13VG308]

M13VM308/M13VG308 is a fast lens boasting the maximum aperture of F/1.0. The extremely fast maximum aperture enhances the sensitivity of surveillance cameras, making it possible to obtain vivid color images even in dimly-lit conditions such as dark rooms, corridors, or during surveillance in early morning or evening hours when sufficient light is not available.

The fast lens is especially useful for cameras equipped with low sensitivity image sensors since it enhances light intensity.

Note: Images are for illustrative purposes only.



F/1.4



F/1.0

When the F/1.4 lens, giving the camera a minimum working brightness of 1.0 Lux, was replaced by the F/1.0 lens, the minimum working brightness improved to 0.5 Lux, doubling the camera's sensitivity.

Mega-Pixel-Compatible Vari-Focal Lens Line-Up

Covers from an ultra wide angle of 111°
1/3 2.4-6mm F/1.2



Mega Pixel

Large-aperture F/1.0 brightness
1/3 3.0-8mm F/1.0



Mega Pixel

Vari-Focal range from standard
5mm up to 50mm ultra telephoto range
1/3 5-50mm F/1.4



Mega Pixel

Lens designed for compatibility
with 1/2-format Image Sensor
1/2 4-12mm F/1.4



Mega Pixel

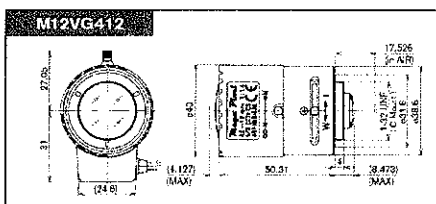
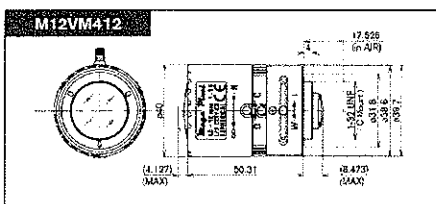
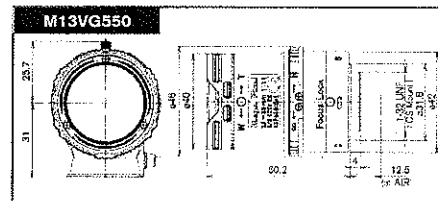
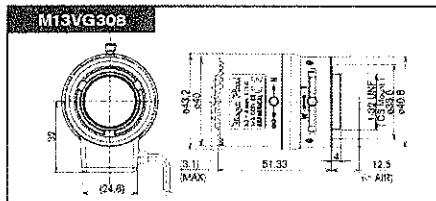
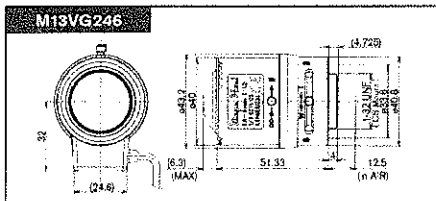
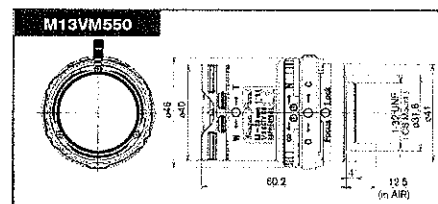
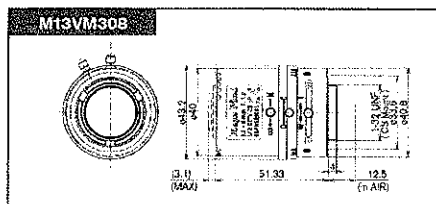
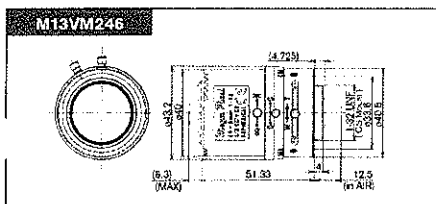


SPECIFICATIONS

Model	M13VM246	M13VG246	M13VM308	M13VG308	M13VM550	M13VG550	M12VM412	M12VG412		
Imager Size	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/2		
Mount	CS	CS	CS	CS	CS	CS	C	C		
Focal Length	2.4-8mm	2.4-6mm	3.0-8mm	3.0-8mm	5-50mm	5-50mm	4.0-12mm	4.0-12mm		
Aperture Range	1.2-Close	1.2-360	1.0-Close	1.0-360	1.4-Close	1.4-360	1.4-Close	1.4-360		
Zoom Ratio	x2.5	x2.5	x2.6	x2.6	x10	x10	x3	x3		
Angle of View (Horizontal X Vertical)	1/3 1/4	Wide	111.3° x 83.5°	111.3° x 83.5°	92.5° x 68.2°	92.5° x 68.2°	53.8° x 40.3°	53.8° x 40.3°	93.9° x 68.8°	93.9° x 68.8°
		Tele	47.1° x 35.4°	47.1° x 35.4°	35.4° x 26.5°	35.4° x 26.5°	5.5° x 4.2°	5.5° x 4.2°	31.4° x 23.6°	31.4° x 23.6°
Operation	1/4	Wide	83.5° x 62.6°	83.5° x 62.6°	68.2° x 50.6°	68.2° x 50.6°	40.3° x 30.2°	40.3° x 30.2°	100.5° x 73.4°	100.5° x 73.4°
		Tele	35.4° x 26.6°	35.4° x 26.6°	26.5° x 19.9°	26.5° x 19.9°	4.2° x 3.1°	4.2° x 3.1°	33.4° x 25.1°	33.4° x 25.1°
Focus	Manual w/Lock	Manual w/Lock	Manual w/Lock	Manual w/Lock	Manual w/Lock	Manual w/Lock	Manual w/Lock	Manual w/Lock		
	Zoom	Manual w/Lock	Manual w/Lock	Manual w/Lock	Manual w/Lock	Manual w/Lock	Manual w/Lock	Manual w/Lock		
	Iris	Manual w/Lock	DC Auto Iris	Manual w/Lock	DC Auto Iris	Manual w/Lock	DC Auto Iris	Manual w/Lock		
Focus Range	0.3m-∞	0.3m-∞	0.3m-∞	0.3m-∞	1m-∞	1m-∞	0.3m-∞	0.3m-∞		
Iris Coil Resistance	-	Drive 190Ω, Cont 485Ω	-	Drive 190Ω, Cont 465Ω	-	Drive 190Ω, Cont 700Ω	-	Drive 190Ω, Cont 485Ω		
Iris Operating Voltage	-	Open 4.0V, Close 0.7V	-	Open 4.0V, Close 0.7V	-	Open 4.0V, Close 0.7V	-	Open 3.0V, Close 0.5V		
Back Focus (in air)	Wide 7.84 Tele 13.72mm	Wide 7.84 Tele 13.72mm	Wide 8.31 Tele 14.92mm	Wide 8.31 Tele 14.92mm	Wide 10.28 Tele 11.01mm	Wide 10.28 Tele 11.01mm	Wide 9.05 Tele 18.90mm	Wide 9.05 Tele 18.90mm		
Weight	65g	75g	64g	74g	64g	77g	58g	69g		
Operating Temperature	-20~+60°C	-20~+60°C	-20~+60°C	-20~+60°C	-20~+60°C	-20~+60°C	-20~+60°C	-20~+60°C		

*Specifications subject to change without notice

DIMENSIONS



Caution : Please read the instruction manual carefully before using the lens.

TAMRON®

Manufacturer of precise and sophisticated optical products for a broad range of industries



Quality Assurance Activities: At Tamron, quality management activities are performed in compliance with ISO9001:2000 not only to assure product quality but to enhance customer satisfaction.

Environmental Protection: We recognize the significance of our social responsibilities. Tamron promotes corporate activities that protect the earth's environment through the establishment of a quality assurance system that is compliant with ISO14001

TAMRON USA, INC. <http://www.tamron.com>

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Specifications subject to change without notice 2008.8

MPL-US-112-U-0808-0030

FALCON SERIES 1620nz

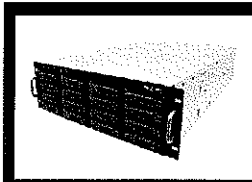
PRODUCT CONFIGURATION SHEET

What is a Falcon Video Storage System?

Dynamic Network Factory's Falcon series video management systems are ideal entry-level or midrange solutions for organizations looking for integrated high performance, image/video management and RAID protected storage. As demand increases for longer archive time, better video resolution and higher frame rates, each Falcon solution ensures maximized data retention and scalable performance.

Key Features:

- ▶ Up to 32TB Internal Capacity
- ▶ Two SAS Drives Mirrored At RAID 1 for the Operating System
- ▶ Compatible with Leading Industry Video Management Software
- ▶ Open Hardware Platform
- ▶ 6GB High Speed Video Cache
- ▶ 64-Bit Quad-Core Architecture



FALCON SERIES 1620nz

Internal Capacities (SATA)	16TB - 32TB *
Internal Capacities (SAS)	2.28TB - 9.6TB *
External Expansion	iSCSI, SAS, or Fibre Channel
SAS Support	Yes
SATA-II Disk Support	Yes
Redundancy Features	Redundant PS, RAID 10, 5, or 6
OS Options	64-Bit Quad-Core Architecture

* Depending on RAID Configuration

NETWORK INTERFACE CARD FEATURES:

- ▶ Support For 10BASE-T, 100BASE-TX, And 1000BASE-T RJ45 Output
- ▶ Support For Intel I/OAT 3 For Fast, Scalable And Reliable Networking
- ▶ VMDq For Enhanced Performance Of Virtualization
- ▶ Dedicated IPMI For Monitoring The Operation Of The System
- ▶ MSI-X, Low Latency Interrupts Improving Application Response Times
- ▶ Wide Pipelined Internal Data Path Architecture
- ▶ Support For TX/RX Of Jumbo Frames
- ▶ Built-In Cable Diagnostics And Adjustments For Cable Faults
- ▶ Support For Packet Classification And Quality Of Service Applications
- ▶ IP, SCTP, TCP And UDP Checksum Offloading For IPv4 And IPv6 Standards
- ▶ 802.1q VLAN Support With VLAN Tag Insertion
- ▶ Wake On LAN Support

INTERNAL CAPACITIES: 16TB-32TB SATA*
2.28TB-9.6TB SAS*

EXTERNAL EXPANSION: YES

ALL-IN-ONE VIDEO RECORDER PLATFORM

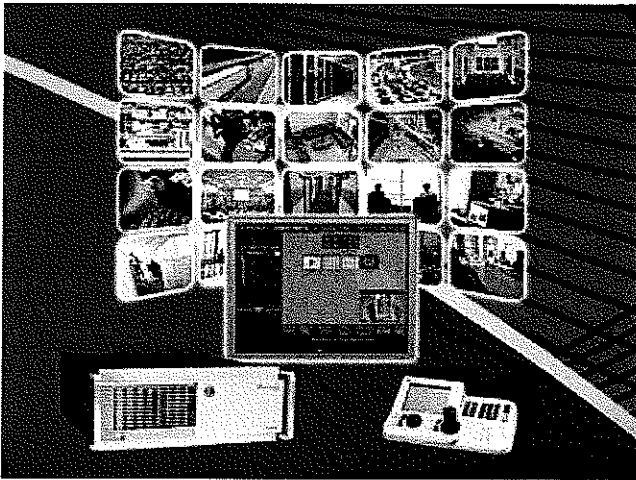
SYSTEM SPECIFICATIONS

Form Factor	3U Rackmount
# of Hot Swap Disks	18 (2-OS, 16-Data)
Operating System	Fault Tolerant OS
Max Internal Capacity	32TB
1/2 Populated Capacity	16TB
RAID Levels	0, 1, 1E, 5, 5EE, 6, 10, 50, 60, and JBOD
High Speed Video Cache	6GB
Gigabit Ethernet Ports	2 x GbE
Power Supply	Redundant 800W w/PFC
USB Ports	6 x USB 2.0
VGA Ports	1 x VGA (monitor 1280x1024 Res.)
Keyboard / Mouse Ports	PS/2 ports
Serial Ports	1 x Fast UART 16550 serial port
Optical Drives	Integrated DVD+/-RW
Operating Temperature	0°C(32°F) ~ 50°C(122°F)
Humidity	5% ~ 95% non-condensing
Dimensions	19"(W) x 27.5"(D) x 5.25"(H)

RAID CONTROLLER FEATURES:

- ▶▶ Non-Blocking Switch Fabric Architecture
- ▶▶ Powerful Reliability Enhancement
- ▶▶ Intelligent Cache Algorithms
- ▶▶ Multi-Lane Data Paths
- ▶▶ Advanced Content Streaming
- ▶▶ Hybrid Initialization
- ▶▶ Accelerated RAID Recovery
- ▶▶ PCI Express x8 Configurations
- ▶▶ SATA-II/SAS Advanced Features
- ▶▶ 3Gb/s Transfer Speed
- ▶▶ Native Command Queuing
- ▶▶ Cache Battery Backup

Virtual Matrix Display Controller



- Scalable matrix control solution for small and large installations
- Create large multi-monitor displays
- Local and remote control
- Tower and rack-mount configurations
- Intuitive GUI provides simple, easy-to-use controls
- Compatible with IP or serial keypads and Programmable Logic Controllers (PLC)
- Connect up to 6 monitors to each unit and add more units for multiple monitor solutions
- Supports 1080P High-Definition; 16 x 9 viewing; and H.264 compression
- Control can be shared by multiple operators.

Virtual Matrix Display Controller

The Virtual Matrix Display Controller (VMDC) is a self-contained, matrix control solution for the ViconNet® Video Management system designed to provide users with the ability to direct network video to multiple monitor displays. The VMDC solution is a comprised of both a matrix command/control center software interface and a hardware decoding component that enables the high-quality ViconNet remote network video streams to be displayed on multiple monitors in multiple locations. The design enables each operator to display any camera on any monitor connected to the network. Camera selection may be controlled via a dedicated keypad or by using the graphical user interface. This enhancement over the standard ViconNet interface is specifically designed to support the typical environment of a command center which includes workstations and video walls.

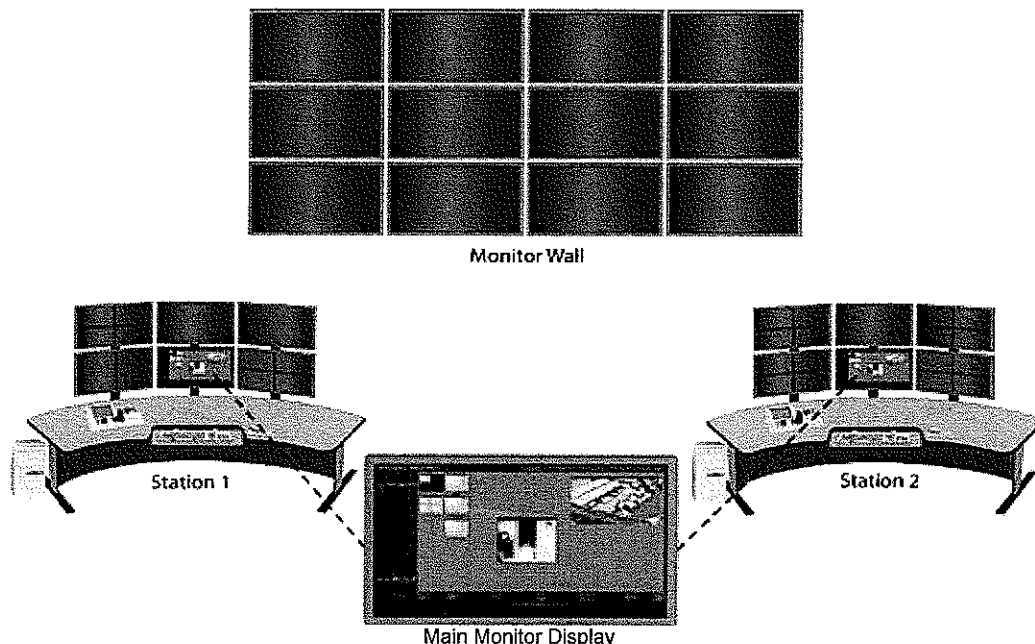
Each VMDC can control up to 6 high-definition monitors. The unit may be rack or desk mounted. Control of additional monitors is as easy as connecting additional units to the network providing a scalable, cost-effective management solution. Typically, a VMDC would be installed in the command/control center for the video management system and provide both local control of monitors in the center and remote control of monitors located elsewhere in the facility, including monitor wall displays. In a real-world situation, an operator who sees something on his station that bears additional scrutiny can direct that video to a monitor wall, another station or any monitor on the network.

The Main Monitor display interface allows dynamic control of the layout and content is easily added by dragging and dropping cameras into the monitor views. Multi-level map displays can be used to provide an alternative means of identifying camera locations and graphically depicting alarms.



VM Display Controller Main Monitor Display

VM Display Controller Multi-Station Installation



A multiple station installation employing 2 VMDC Tower units is shown above. Station 2 can be at a remote location or another facility. ViconNet video is provided to each station via the network. Each operator has access to the Main Monitor Display and can view and control monitors on the Monitor Wall, if so equipped, or any system monitor. Typically, most operators would view local ViconNet video at their stations and one operator would control the VMDC.

This setup provides the following control options:

- Monitor wall can be set up with any combination of camera window views. For example: a single window on one monitor, a quad view on another, etc. The monitor windows can be divided into 1, 4, 9, 16, 25, 36 or 64 segments. There are a maximum of 150 video streams for each VMDC, regardless of how the monitors are segmented.
- Operator can start any camera on any monitor or any monitor window view by dragging and dropping views from the Main Monitor site list, group list or map by dropping the view on the selected monitor icon using a mouse, keypad or PLC control.
- Cameras may be placed on any of the monitors connected to either VMDC. Each operator has full control of every system camera.

System performance will vary depending upon compression, resolution and other parameters. Contact Vicon for more information.

Ordering Information

Model Number	Description
VMDC-SW	Virtual Matrix Display Controller Software (Installation on 3rd party server). Single license.
VMDC-2	Virtual Matrix Display Controller with 2 display outputs. Tower unit.
VMDC-4	Virtual Matrix Display Controller with 4 display outputs. Tower unit.
VMDC-6	Virtual Matrix Display Controller with 6 display outputs. Tower unit.
VMDC-2R	Virtual Matrix Display Controller with 2 display outputs. 4RU rack-mount unit.
VMDC-4R	Virtual Matrix Display Controller with 4 display outputs. 4RU rack-mount unit.
VMDC-6R	Virtual Matrix Display Controller with 6 display outputs. 4RU rack-mount unit.

Data Sheet Number: V212

Dated: 03/2010

Vicon Data Sheet Part Number: 8009-7212-00-00

Specifications subject to change without notice

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Workstation Requirements

Operating System:	Microsoft® Windows® 7 Ultimate.
CPU:	Intel® Core™ i7-920 processor.
RAM:	4 GB.
Hard Drive:	250 GB minimum.
Video Card:	Sapphire ATI HD 5650
Power Supply:	750 W minimum.

Note: Specifications listed above are the minimum requirements for a workstation running the VM Display Controller software

Mechanical

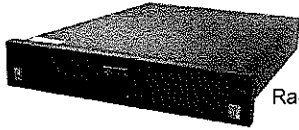
Application:	Indoor
Mounting:	Standard 19 in. (483 mm) rack mount and stackable, 3U height.
Dimensions:	5.25" (133.4 mm) H x 18.75" (476 mm) W x 21.25" (539.8 mm) D, including connectors.
Weight:	40.0 lb (18.1 kg).
Construction:	Steel case and hardware
Color:	Black.

Environmental

Operating Temperature:	32° to 104°F (0° to 40°C).
Humidity:	Up to 95% relative, non-condensing.
Ideal Room Temperature:	66° to 75°F (19° to 25° C).
Ideal Room Humidity:	Up to 80% relative, non-condensing.
Maximum Room Temperature:	50° to 86°F (10° to 30° C).
Storage Temperature Range:	-4 to 158° F (-20 to 70° C) maximum.

Software

Graphical Map:	Graphical site map that supports realistic camera location.
Quick Playback:	Starts video playback of live camera with a few clicks.
Local and Remote Monitor Control:	The interface graphically displays a virtual representation of all monitors connected in the system and permits flexible display configurations and drag-and-drop camera selection.
PTZ Control:	Operator has full PTZ control of any PTZ camera in the system using the GUI, keypad or PLC.
Macro Configuration:	Macros can be defined for recording or displaying/playing cameras, microphones and related devices (sensors) as well as sending alarm notification through email or SMS text message.
Authorization Rights:	Group rights can be configured by specific site. Rights provide authority to perform all system functions.
Alarms:	Alarms can be programmed to annunciate under special conditions.
Central Failure Notification (CFN):	Utility that provides notifications indicating certain applications have failed.



Rack-mount version



Master Workstation Version 5 Software

- Provides real-time over the network digital video surveillance
- VN-WS-SW has all ViconNet capabilities except recording; for recording, use the VN-NVR-SW
- Open platform allows full functionality with IP cameras from major manufacturers
- Supports megapixel cameras from Vicon and of leading manufacturers
- Supports various compressions, including MPEG-4, M-JPEG and H.264, manufacturer dependant
- Graphical Map feature supports realistic camera location
- Full PTZ control hierarchy for simultaneous or prioritized users
- Multiple channel viewing/recording system allowing networking of Network Video Recorders (NVR), IP cameras and Digital Recorders (DVR)
- Device Site List or logical camera grouping
- Individual picture quality settings per camera
- Remote configuration of devices across the network
- Features LAN and WAN (Internet) connectivity
- Remote alarm capability
- Authorization utility for maximum system security
- Create macros to view/listen to video and audio, PTZ cameras at preset positions, trigger relays over the network and send email or text message on alarms or on schedule
- Integrated ViconNet VI video intelligence module provides alarms with indication on video

ViconNet® Master Workstation software, Model VN-WS-SW, is available for installation on any popular brand (i.e., HP/Dell) PC-type computer running Windows® platform (see Technical Information Section) or as a preconfigured PC, Models VN-WS-PC/VN-WS-PC-R, running Windows XP, ready to review video and audio over the LAN and WAN (Internet). This software package has all the capabilities of ViconNet version 5 except the recording function. For recording capability refer to the product specification for the VN-NVR-SW, V113-20. Refer to Table 1 for a detailed list of models.

The VN-WS-SW provides video management capabilities when connected with Vicon's Kollektor® Series DVRs and ViconNet IP cameras and encoders on a standard 100/1000Base-T network. ViconNet version 5 provides an open platform that allows integration with IP cameras, encoders and IP edge devices, including megapixel cameras, from numerous industry-leading manufacturers (see Table 2). Additionally, the ViconNet interface has integrated ViconNet VI video intelligence. It also allows integration with leading access control systems; these integrations may require additional 3rd party software. With version 5, there is support for the ViconNet GUI on a widescreen monitor (16:9 and 16:10 at a variety of resolutions). ViconNet version 5 continues to support the Virtual Matrix Controller (VMC), now supporting the same graphical map showing cameras placement as the ViconNet GUI.

The ViconNet system provides exceptionally powerful features that include the ability to review live and recorded video with synchronized audio up to 16 separate ViconNet cameras simultaneously and remotely configure devices over the network.

ViconNet's Main Window provides a multi-channel display area containing up to 16 connected cameras and microphones. An optional map can be added with actual camera locations, making camera selection simple. (VN-WS-PC/VN-WS-PC-R is equipped with dual output VGA card, allowing the display of the Map on a dedicated monitor while viewing video on the other.) The Main Window contains the necessary controls to operate and setup the system. The login window requires a preconfigured User Name and Password for access.

Vicon requires the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation, cause video loss and damage to the equipment. Failure to comply voids the unit's warranty.

Product Specification

Table 1: Models, Products Codes and Descriptions

Model	Product Code	Description
VN-WS-PC	9602-01	ViconNet VN-WS-SW Software preloaded on a PC; full administrative functionality without recording, for use with ViconNet version 5 Digital Recorders Video Encoders and IP Cameras; tower case. Single site license.
VN-WS-PC-R	9602-03	ViconNet VN-WS-SW Software preloaded on a PC; full administrative functionality without recording, for use with ViconNet version 5 Digital Recorders Video Encoders and IP Cameras; rack-mount. Single site license.
VN-WS-SW	9602-05	ViconNet Software; ViconNet application for use with ViconNet version 5 Digital Recorders and Video Encoders that allows full administrative functionality without recording Single site license.
VN-VIEWER-16	9601-10	ViconNet 16-Channel Viewer Software; viewer plus software for use with version 5 Kollektor Elite, Pro, Lite and ViconNet Workstations Views 16 cameras playback and control PTZ.

**Table 2: Compatible Equipment
Supported Vicon IP Cameras and Encoders**

Model	Description
Kollektor Series DVRs	Includes Kollektor Elite, Pro and Lite 16-input digital video recorders
I-Onyx® VN-855 Series	Includes high-resolution color, day/night and WDR versions; 24 VAC or PoE
I-Onyx® VN-955 Series	Megapixel cameras, includes color and day/night box cameras, IR and indoor and outdoor camera domes
SurveyorVFT™ Camera Dome Series	Indoor and outdoor models, pendant or in-ceiling, 22X, 23X or 35X PTZ, variety of fixed with varifocal lenses
Roughneck® V910 Impact-Resistant Camera Dome	Outdoor fixed with a variety of varifocal lenses, 24 VAC or PoE available
KTX-4 Encoder	4-channel network encoder converts up to 4 analog video inputs into digital, 24 VAC or PoE
VN-301T Encoder	Single-channel encoder converts analog video input into digital, 24 VAC

**Compatible IP Camera Manufacturers
(Frequently Updated)**

ACTi Corporation
AXIS Communications, Inc.
Panasonic Corporation
Sony Corporation of America

**Compatible Megapixel Camera Manufacturers
(Frequently Updated)**

Arecont Systems, Inc. (Arecont Vision)
IQinVision

ASSOCIATED EQUIPMENT AND ACCESSORIES

Kollektor Family of Digital Video Recorders, Product Code varies by model: 16-channel networked digital video recorders. Includes the Kollektor Elite, Kollektor Pro and Kollektor Lite series Product Specification V112, V128 and V185 respectively

Model VM-617LCD/VM-619LCD Flat Panel Monitors, Product Code 8776-21/8776-31: 17-inch or 19-inch flat panel monitor for use with Kollektor Pro Series recorders and ViconNet VN-NVR systems Product Specification V171.

Model VM-632LCD/VM-642LCD/VM-646LCD LCD HDTV Monitors, Product Code 9213-00/9214-00/9215-00: 32-inch, 42-inch or 46-inch LCD monitor for use with Kollektor Pro Series recorders and ViconNet VN-NVR systems Product Specification V187

Model VN-17FLT Monitor, Product Code 8237: 17-inch flat screen monitor for use with Kollektor Pro Series recorders and ViconNet VN-NVR systems. Product Specification V127.

NETSWITCH-16 Network Switch, Product Code 8495: 16-port, 10/100 autosensing network switch, stackable Product Specification V161.

NETSWITCH-24 Network Switch, Product Code 8495-10: 16-port, 10/100 autosensing network switch, stackable. Product Specification V162.

NETSWITCH-24POE Network Switch, Product Code 8495-20: 16-port, 10/100/1000 autosensing network switch with a choice of 24 VAC or PoE power source, stackable Product Specification V162-20.

Uninterruptible Power Supplies: 725 VA and 1000 VA units with DB9 (RS-232) and USB ports; 120 VAC input/output. Product Specification V147

Product Specification

Vicon defines one of the workstations in a system as a Nucleus that enables each system device to share video and configuration commands. The Nucleus can be configured on a specified Workstation.

ViconNet utilizes two different video compression methods, selectable based on the application's requirements.

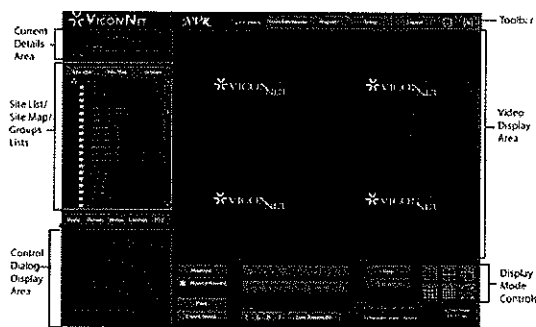
NORMAL: Optimized MPEG-4; a proprietary compression algorithm developed by Vicon that produces outstanding video quality and extended recording durations.

FULL: JPEG; standard full frame compression for use in situations that cannot use a motion compensation compression.

Simultaneously, ViconNet supports other manufacturers JPEG and MPEG compression methods. See Table 2

ViconNet uses an MD5 type video authentication algorithm. MD5 is a standard authentication that is based on a 128-bit message used to verify data integrity (ViconNet devices only)

ViconNet offers a vast set of features to view and playback video as well as setup the system to the specific needs of the user.



Main Window

Toolbar provides access to all major functionality of the system. The Schedule/Macro, Reports, Setup, and Logout buttons are accessible in this area.

Schedule/Macro button allows the running of preconfigured combinations of programmed routines.

- **Reports** button allows the viewing of system status reports.
- **Setup** button allows configuration of the local and remote components, authorizations, sites, authentication, utilities, schedules and macros.
- **Logout** button allows logging out without closing the application. Minimize and Close buttons are also available

Current Details Area displays the name of the current local device name, user and Nucleus name

Site Devices are cameras, microphones and sensors that can be remotely configured. **Sites List** provides a physical list of all known network Site areas, connected cameras, PTZ cameras and microphones. **Site Map** allows organizing devices on a map of the physical environment. Cameras can be organized into logical groups and individually named for flexibility and easy access (**Groups List**).

Other Controls provide a palette of buttons that only become active when a valid device is selected. The Other Controls are Audio, Picture, Matrix, Controls, PTZ, Print and Export Image. The selection of each button causes the Control Dialog Display Area to display additional controls

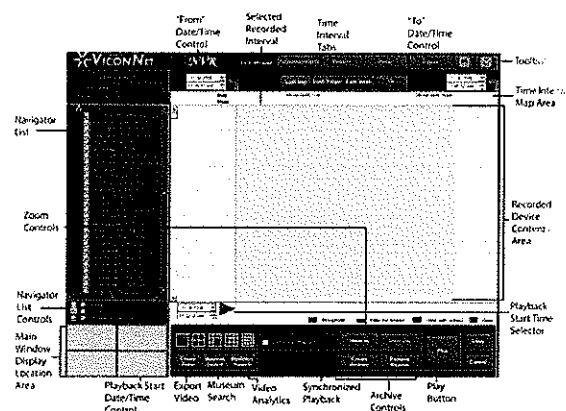
Control Dialog Display Area offers controls depending on which of the Other Controls is selected.

Function Controls provide a palette of controls to manually start and stop recording, stop currently running live video and macros and set the video quality.

Video Display Area is a multiscreen-selectable view area where all live view and playback video can be viewed. **Display Mode Controls** provide a palette of buttons to select and modify the number of simultaneous video display locations in the Video Display Area. This area can be displayed in single, two-by-two [quad, hexa (six)], three-by-three (nine), four-by-four (sixteen) and full screen (maximized to entire screen). The current video quality is displayed in the lower left portion of each video space.

System Status Area provides current information on the number of recording cameras and microphones and the Scheduler state of activity.

Playback Controls provide a palette of buttons used to playback video previously selected in the Navigator Window. The control buttons include Play, Forward, 7-Speed Fast Forward, Backward, 7-Speed Fast Rewind, Stop/Pause, Previous Frame and Next Frame



Navigator Window

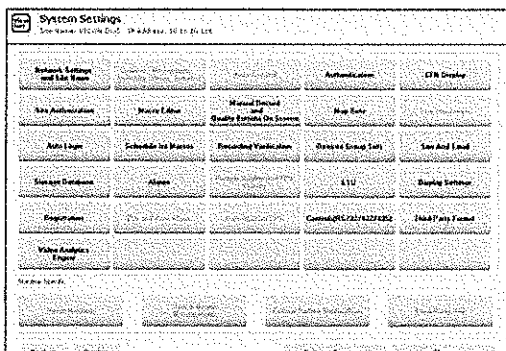
Playback **Navigator Window** graphically displays a timeline of recorded video. It contains all function buttons necessary to control playback video. Cameras and Microphones can be selected from the **Navigator List** and displayed in the timeline. The Display Mode

can be selected to configure the number of cameras played back. The **Archive Controls** allow the saving of selected video to the storage location of your choice. The video can be saved to any local or remote storage location, including CD-RW or DVD drives, recognized by the system. An **Export Video** button can be used to create an AVI, Xvid or MPEG-4 file of the selected single camera video segment and save it on the system. **Analytics Search** button is used to search for video displaying behavior violations from one camera at a time. When the **Play** button is selected, the Main Window appears showing the previously selected video.

The Navigator List displays a list of the current storage location sources and devices. Navigator Controls List defines what is displayed in the list as a regular database, an archive or both. The **Main Window Display Location Area** is a graphical representation of the Video Display area in the Main window. The **Recorded Devices Contents** displays a list of the devices that have been selected for viewing.

Selection of video and audio for playback can be done using the **Time Interval Tabs**, the **Date/Time Controls**, a scalable timeline defined by the "From" and "To" **Date/Time Controls**, or the **Playback Start Time Selector**, allowing calling up playback images from any database on the network directly from the screen. **Zoom Controls** enable the selected segment of video easier to view. **Museum Search** allows the search for a specific camera's data within a defined region of the database, saving the time of searching the whole database. Playback Controls are also displayed. **Quick Playback** allows instantaneous playback of a currently recording, live-view window of a local camera.

There are several high-level configuration features that provide custom setup of the system by means of the **System Settings** menu.



System Settings Window

The **Network Settings and Site Name** configuration allows setup of all site IP address information and a system Nucleus. The Nucleus acts as the coordinator of all running system applications. The Backup Nucleus stores all Nucleus settings to be used if the Nucleus recovery is needed, providing uninterrupted system functionality. **Device** configuration is done remotely by connecting to a Collector using the Site Selection window

Macros are predetermined routines to display and record cameras and activate devices at specific times. Macro configuration can be defined for displayed/played cameras, microphones and sensors, command duration, picture quality, refresh mode and related devices. Macros can be set up to send email or text messages upon alarms or schedule. **SMS and Email** screen configures the system trigger the sending of email and SMSs via a macro

Site Authorization rights are configured by specific site. Rights provide authority to perform specific system functions for defined users and groups, Administrator or Guest.

Scheduling establishes routines for recording and operating devices.

Alarm response is performed using system macros. Alarms can be programmed to annunciate under specific schedules. Alarms can be triggered by physical sensors, detected video loss, detected video motion, or messages sent over the network. A log is kept of each alarm occurrence

The Advanced Settings in **Storage Database** sets the storage configuration parameters, defining where an archive can be saved and duration for which recordings will be stored

Video is always authenticated, but **Authentication** display can be configured on or off. When display is set to on, a video authentication symbol displays, notifying if the video was authenticated or not

Central Failure Notification (CFN) enables workstations and Collector Elites connected to the same Nucleus to receive notifications indicating that certain applications have failed, for example, macro, recording and database failures. It also notifies any device (camera, encoder, DVR or workstation) failure. CFN increases the user's awareness of problems that occur at unmanned remote sites. The notifying site is the same as the Nucleus. The display of the notification can be programmed to be sent to other workstations/Collector Elites

Recording Verification System (RVS) ensures continuous recording by notifying users of any recording errors, since automatic recording and scheduled macros are two of the ViconNet's most important features. RVS monitors automatic recording activity (audio and video) at all times, both locally and over the network. Note that the VN-WS-SW does not record, but it can monitor other devices on the system. The RVS includes a watchdog in which the RVS allows the system to reboot under specific conditions

Auto Login can be activated to allow selected users to automatically log in; when the application starts, the Main window displays without entering a user name/password

Video Analytics consists of enabling the ViconNet integrated video intelligence used for the detection of unusual events or behavior

Product Specification

Third Party Site allows cameras from other manufacturers to be accessed over the network to be used with ViconNet

Third Party Format defines the format of the third party camera selected in the Third Party Site.

Map Sets consists of various maps related maps, for example each floor of a building

Display Settings provides a variety of screen resolutions and aspect ratios

LTU enables translating the ViconNet user interface to any language.

Controls RS232/422/485 is used to configure the controls (PTZ joystick, relays, control panel) after the appropriate driver is installed.

Devices Group Sets enables organizing devices into logical groups by any criteria and combining these groups into group sets.

Registration of the ViconNet system is required for it to perform its full functionality.

ViconNet automatically backs up system settings upon closing, but this can be done manually using the **Backup** button; settings can be restored by clicking **Restore**.

The **Setting Summary** displays all settings for the specified site.

Only available in the Nucleus, **Reset Nucleus** is used to cleanup the Nucleus by removing all associated disconnected sites. **Users & Group Management** defines which system operations are available to each group, per site

VN-WS-PC WORKSTATION (Tower and Rack Mount)

Motherboard/

Power Supply: ATX motherboard with 450 W power supply.

Operating System: Windows XP Professional.

CPU: Intel® Core™ 2 Duo 2.66 GHz.

RAM Memory: 2 GB DDR-SDRAM DIMM.

CD-RW Drive/USB: Internal CD-RW drive (optional DVD)/

6 USB ports (2 front, 4 back).

Hard Drive: 80 GB minimum.

Pointing Device: PS-2 or USB wheel mouse.

Keyboard: PS-2 or USB type, 101 keys.

LAN Card: 1 GB onboard.

VGA Adapter: Video adapter with onboard 128 MB RAM. Dual output.

Cooling: Internal fan, 45 cfm flow rate.

ELECTRICAL

Input Voltage: 115 – 240 VAC ±10%, 50/60 Hz.

Note: Vicon requires the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation and cause damage to the equipment. Failure to comply voids the warranty.

Current: 115 VAC: 0.8 A max
230 VAC: 0.4 A max.

Power Consumption: 92 Watts nominal.

Heat Equivalent: 5.2 btu/min (1.3 kg-cal/min).

Note: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of the heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.

VN-WS-SW SOFTWARE FEATURES

Open Platform: Compatible with IP cameras from ACTi, AXIS, Panasonic, and Sony; compatible with megapixel cameras from Arecont and IQinVision. Refer to Table 2.

Main Window

Screen: A multi-channel display area containing up to 16 connected cameras and microphones and all necessary controls to operate and setup the system.

Graphical Map: Supports realistic camera location (a workstation with a dual output VGA will allow showing the Map on a dedicated monitor while viewing video on the other).

Site List: A physical list of all known network Site areas and connected cameras and microphones.

Play from Time: Call up images from any database on the network from Main Screen.

Navigator Window: A graphical display of recorded video. It contains a set of function buttons used to access the video on-screen.

Control Dialog

Display Area: A space to work in conjunction with the Other Controls Area.

Toolbar: An area providing access to all major functionality of the system.

Display Mode

Controls Area: A palette of buttons to set the picture quality (resolution) and refresh mode of the live video display.

Other Controls

Area: A palette of buttons that activate when a valid device is selected from the Site list.

System

Configuration: A Main Settings Menu used for setup of devices, authorization, and all other system functions.

Function Control

Area: A palette of controls used to enable or disable any currently running macros in the system.

Network and Sites

Configuration: The network portion of this feature allows setup of all IP address information and a system Nucleus and Backup Nucleus.

Macro

Configuration: Macros can be defined for recorded or displayed/played cameras, microphones and related devices (sensors).

Device

Configuration: Devices can be configured for system recognition and operation.

Authorization

Rights Setup: Group rights can be configured by specific site. Rights provide authority to perform all system functions.

Technical Information (cont'd)

Log Reporting: Continuously running activity log.

Schedule Function: System can be set to display a video "tour" of multiple channels.

Alarm

Configuration: Alarms can be programmed to annunciate under special conditions.

Storage

Database Utilities: This utility allows setup and usage of detected hard disks locally.

Authentication: Video authentication is established by site and affects display of destination video.

Central Failure

Notification (CFN): Sends notifications indicating certain applications have failed.

GUI Display: Supports 16:9 and 16:10 wide screen @ a variety of resolutions.

CONTROLS AND CONNECTORS

Front Panel: Power switch and indicator.
LAN indicator.
Reset switch.
2 USB ports.

Rear Panel: Power switch.
Power receptacle.
Keyboard port mini-DIN type.
Mouse port mini-DIN type.
Network port RJ-45 connector.
USB connectors for peripherals.
Parallel port for printer.
Serial (COM) port.
Speaker output mini phono-type.

MECHANICAL

Case Style: Standard mid-height tower or rack-mount.

Dimensions: Tower
Height: 16.7 in. (424 mm).
Width: 7.5 in. (191 mm).
Depth: 16.7 in. (424 mm).
Rack Mount
Height: 3.4 in. (86 mm).
Width: 19.0 in. (483 mm).
Depth: 22.5 in. (572 mm).

Weight: Tower: Approx. 30 lb (13.6 kg).
Rack Mount: Approx. 26 lb (11.8 kg).

Construction: Steel and plastic.

Color: Black.

Shipping

Dimensions: Tower

Length: 30 in. (762 mm).
Width: 13 in. (330 mm).
Height: 21 in. (533 mm).

Rack Mount

Length: 30 in. (762 mm).
Width: 23 in. (584 mm).
Height: 9.75 in. (248 mm).

Shipping Weight: Tower: 40 lb (18 kg).
Rack Mount: Approx. 43 lb (19.5 kg).

Shipping Volume: Tower: 4.7 ft³ (0.13 m³).
Rack Mount: 3.9 ft³ (0.11 m³).

ENVIRONMENTAL

Operating

Temperature Range: 32 to 104° F (0 to 40° C).

Operating

Humidity Range: 0 to 95% relative, non-condensing.

Storage

Temperature Range: -4 to 158° F (-20 to 70° C).

Storage

Humidity Range: 0 to 95% relative, non-condensing.

PC COMPUTER REQUIREMENTS

(Minimum for Customer-Supplied PC; when using with Vicon cameras only)

Operating System: Windows XP Professional/Vista/2003 Server.

CPU: Pentium 4, 3.0 GHz minimum.

RAM Memory: 1 GB minimum.

Hard Drive: 3 GB of free space required.

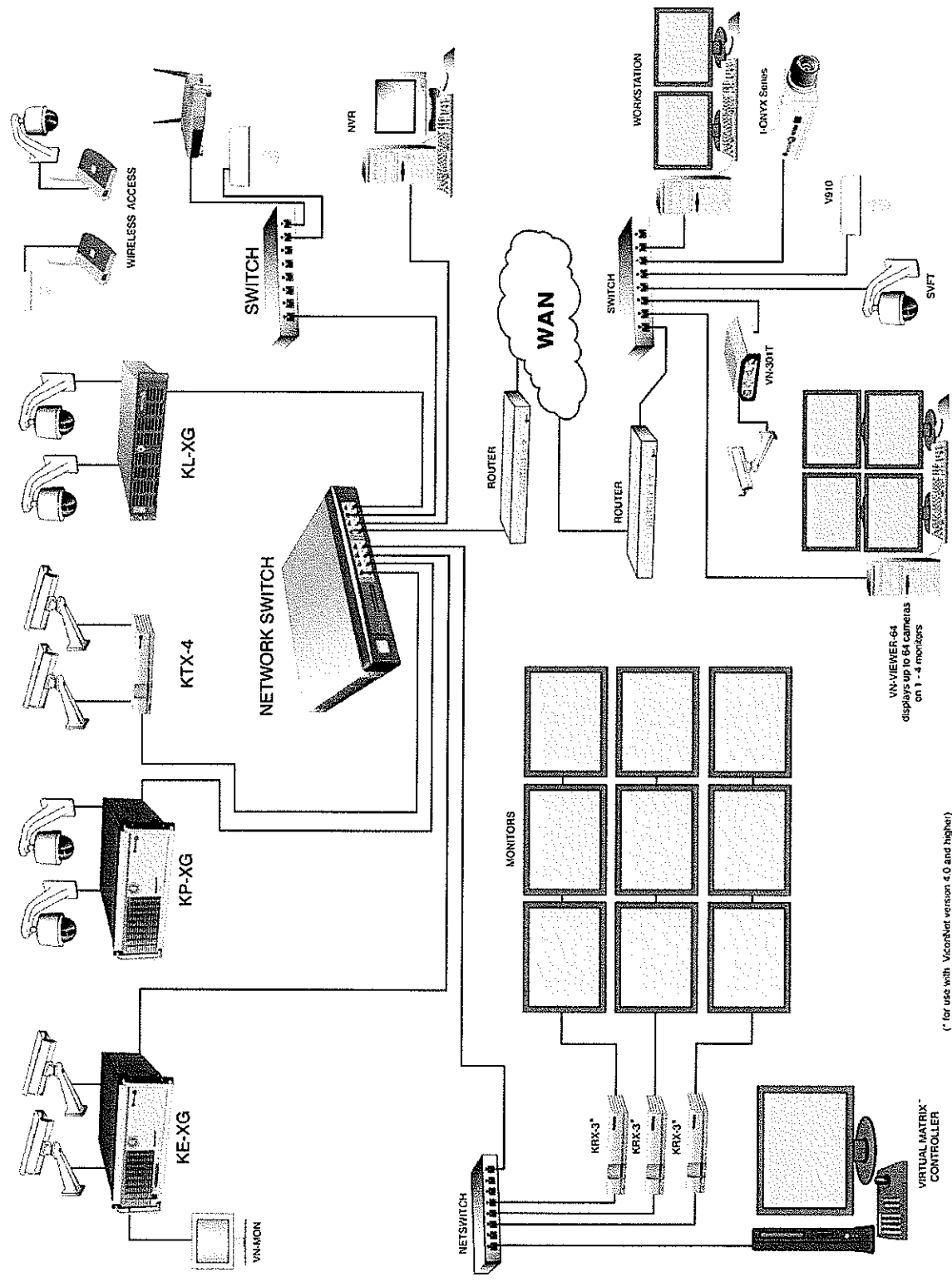
Mouse: PS-2 or USB type required.

Keyboard: PS-2 or USB, 101 keys.

LAN Card: 100/1000 Mbps required for network connection.

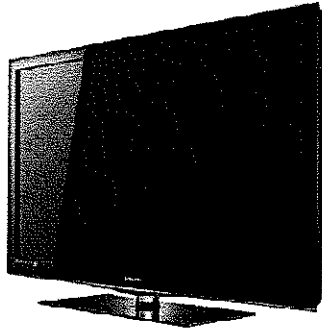
VGA Adapter: Video adapter with onboard 128 MB RAM. Recommended settings are 1024x768 pixels, 32-bit color.

Technical Information (cont'd)



VN-VIEWER-64
displays up to 64 cameras
on 1 - 4 monitors

(* for use with ViconNet version 4.0 and higher)



46" 1080p LCD HDTV

- Auto Motion Plus™ 120Hz
- Full HD 1080P
- Anynet+
- 4 HDMI



The Samsung LN46C630 features 1080p picture quality that's so lifelike, you have to see it to believe it. A 120,000:1 Dynamic Contrast Ratio enhances the brilliant picture with vibrant whites and deep blacks. And if action is your passion, you'll never miss a piece of it with Samsung Auto Motion Plus 120Hz™. It virtually eliminates blur so nearly every scene is filled with clarity. Take all of that and add our unique Touch of Color™ design which adds a hint of beautiful color to the bezel, and you have one truly remarkable HDTV.

Auto Motion Plus™ 120Hz



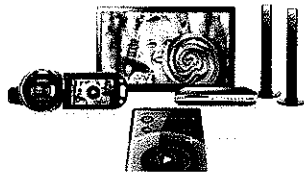
Never has fast-paced animation or special effects in movies looked smoother than they do with Auto Motion Plus 120 Hz technology. By analyzing and extending action frames, Auto Motion Plus 120 Hz assures nothing goes by in a blur. Instead, special effects are crisper. Animation smoother. Sports sharper. And viewers are more glued to their screens.

Full HD 1080P



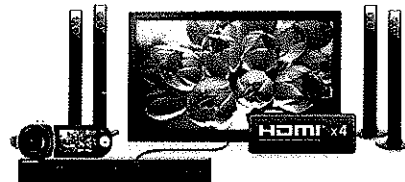
Anyone can say they have the clearest picture. But only Full HD 1080p has twice the detail and twice the resolution of regular HDTV. It delivers dazzlingly rich color and vivid details. And even corrects the errors from standard definition content. It's definitely not your father's HD.

Anynet+



Take the drama out of enjoying your home theater. Anynet+ delivers one-touch control for all compatible SAMSUNG audio and video devices connected via HDMI. Now one touch is all it takes instead of a coffee table full of remotes.

4 HDMI



All it takes is one cable to connect your TV to your other audio and video sources. Our HDMI slot allows you to import all kinds of content without compression including pictures and videos from your digital camcorders and multimedia PCs. Now enjoying it all on a wide HD screen couldn't be easier.

USB2.0 Connect Share Movie



There's no excuse anymore for leaving all those great digital pictures and videos in your cameras. All you need with the Samsung HDTV is USB 2.0 movie connection cord. Just plug it in then instantly play, save or delete. It even works for your music collection. So now anytime is showtime.

The smartest way to watch DVDs in high resolution



Want your standard DVD movies to look as good as Blu-ray discs do? No problem. We created BD Wise—a feature found on Samsung DVD and Blu Ray disc players that, when used with an HDMI cable, automatically detects the optimal resolution for your discs and adjusts your Samsung HDTV to the perfect setting. This way you can spend more time enjoying great-looking movies and less time fiddling with settings.

Video	Screen Size	39.9"
	Resolution	1920 x 1080
	Dynamic Contrast Ratio	120,000:1
	Response Time	4 ms
	LCD 120Hz	Yes (120 Hz)
	Native Resolution	1080p
Audio	Sound Output(RMS)	SRS TruSurround HD10 W x 2
Input & Output(Wireless)	Bluetooth	No
	802.11	No
Input Output	HDMI	4 (3 rear / 1 side)
	Composite (AV)	2 (shared rear and side)
	Component	2 (rear)
	USB	2 (side)
	S-Video	No
	Ethernet	Yes
	PC input (D-sub)	Yes
Features	Picture-in-Picture	Yes
	Game Mode	Yes
	HDMI-CEC	Yes
	Infolink (RSS)	Yes
	Wide Color Enhancer	Yes
	AllShare™	Y
	ConnectShare™ Movie	Yes
	Optical Link	Yes
	Energy Star rated	Yes

Connectivity	Media 2.0	Internet@TV	No
		AllShare™	No
		Content Library	No
		ConnectShare™ Movie	Yes
	Media Stream	InfoLink	Yes
		USB 2.0 (Movie, JPEG)	No
System	Tuners	built-in	
Dimension	Set size(WXHXD) with stand	43.7"x28.9"x10.8"	
	Set size(WXHXD) without stand	43.7"x26.4"x3.2"	
	Package size(WXHXD)	54.1"x32.3"x7.1"	
Weight	Set weight with stand	48.1 lbs	
	Set weight without stand	39.7 lbs	
	Package weight	58.4 lbs	

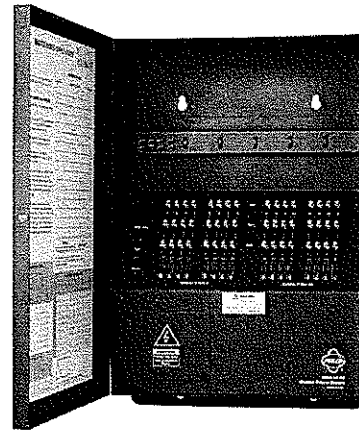
Features and specifications are subject to change without prior notification

MCS Series Power Supply

MULTIPLE 24 VAC POWER SUPPLY, INDOOR

Product Features

- 2, 5, 10 or 20 Amp Capacities
- 4, 8 or 16 Outputs
- Fuse or Circuit Breaker Protection;
Spare Fuses Included with Fused Models Only
- 120 VAC or 230 VAC Selectable Input
- 24 VAC Output or 28 VAC Output for Longer Wire Runs
- AC Power Indicator with Power On/Off Switch
- Compatible with Cameras, Domes, and Pan/Tilts
- Models with Circuit Breakers Have Class 2 Rated Outputs



MCS16-10

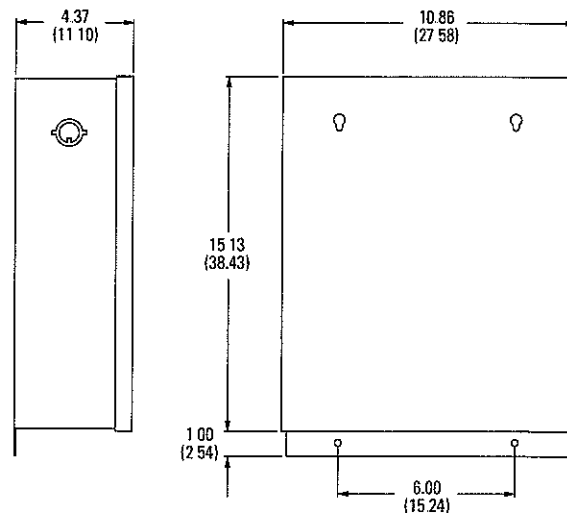
Power supplies in the **MCS Series** offer a variety of configurations for powering up to 16 units from a single power source

The power supplies provide 24 VAC output for 4, 8 or 16 units. To compensate for voltage losses over long wire runs, 28 VAC outputs also are available on most models. The power supplies have a selectable input of 120 or 230 VAC and are packaged in an easy-to-install metal enclosure that has ample room for wiring connections and conduit entries.

For integrated systems such as Spectra® and Esprit® the higher capacity models are capable of handling pan/tilt and receiver operation in addition to camera functions. (See product capacity chart.)

Models are available with either fuses or self-resetting circuit breakers on each output. Fused models provide a greater degree of protection for the camera because they are faster acting and more precise. Circuit breakers will self-reset when the fault is corrected, eliminating the need for replacing fuses. However, the amount of current required to trip a circuit breaker can vary as much as 100% depending on temperature. In the fused models, the values of fuses can be changed depending upon the specific current requirements of the equipment connected.

The **MCS16-10S**, **MCS16-10SB**, **MCS16-20S** and **MCS16-20SB** are 16-output supplies that have individual power switches and LEDs on each output. This is a popular feature in larger systems where it is frequently necessary to power-down individual units.



NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES



C653 / REVISED 1-05





Middle Atlantic Products

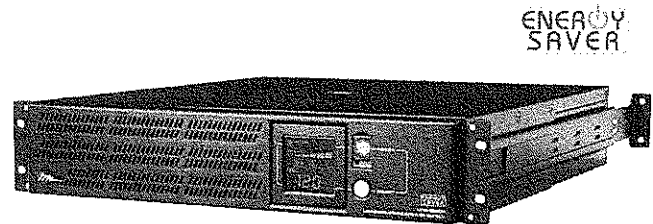
middleatlantic.com

Uninterruptible Power Supply

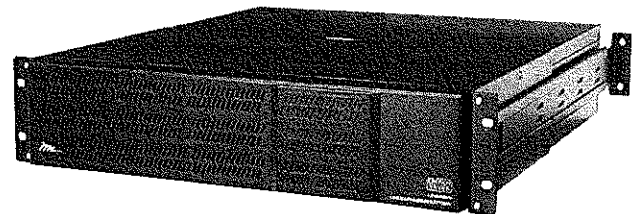
Uninterruptible Power Supply with Energy Saver design that is optimized to address the needs of A/V systems

Features

- Pure Sine Wave technology with Automatic Voltage Regulation to improve the quality of power provided to the A/V system
- Control system integration via RS-232, USB and analog I/O
- Load shedding allows extended runtime for system-critical components by disconnecting power to less-critical components
- Line Interactive Technology
- Power Manager software allows extensive configuration and event notification capabilities
- Energy Saver design reduces power consumption by up to 75% when compared with traditional UPS designs
- 9' SignalSafe™ power cord minimizes stray magnetic fields
- UL Listed in the US and Canada



UPS-1000R



UPS-EBPR

Architects and Engineers' Specifications

Rackmount Uninterruptible Power Supply (UPS) shall be Middle Atlantic Products model # UPS- ___ R (refer to chart). UPS shall be line interactive with AVR. Unit shall measure 19.00" W x 3.50" H x 19.00" D and occupy 2 rackspaces. UPS shall have a rear mounting range of 19" to 32" and not require more than one person to mount. Unit shall operate on 120 volt AC/60Hz current. Unit shall have a nominal output of 120V. Unit shall have a capacity of ___ VA and ___ W (refer to chart). Unit shall have (8) NEMA 5-___ receptacles on the rear of the unit (refer to chart). Unit shall have a priority outlet bank consisting of 4 outlets dedicated to ensure maximum runtime of critical components. Unit shall have a non-critical outlet bank consisting of 4 outlets dedicated to load shedding. Rackmount UPS shall include a 9' 14/3 SignalSafe™ power cord with NEMA L5-15P plug. Rackmount UPS shall have a hot swappable battery that allows for a ___ minute runtime at half load and a ___ (refer to chart) minute runtime at full load. Rear of unit shall have inputs that allow for the installation of up to 10 additional hot swappable batteries. Rackmount UPS shall utilize Middle Atlantic Power Manager™ software. Rackmount UPS shall be warranted to be free from defects in materials and workmanship under normal use and

conditions for a period of 3 years. Rackmount UPS shall be UL listed in US and Canada.

Expansion Battery

Rackmount expansion battery pack shall be Middle Atlantic Products model # UPS-EBPR. Expansion battery pack shall be suitable for use with both UPS-1000R and UPS-2200R. UPS-EBPR shall measure 19.00" W x 3.50" H x 19.29" D and occupy 2 rackspaces. With ___ hot swappable batteries connected to the unit, there is a ___ minute runtime at half load and a ___ minute runtime at full load (refer to chart).

Replacement Battery

Replacement Battery Pack for the UPS shall be Middle Atlantic Products model # UPS-RBP. Replacement battery pack shall be suitable for use with both UPS-1000R and UPS-2200R. Replacement battery shall be warranted to be free from defects in materials and workmanship under normal use and conditions for a period of 1 year.

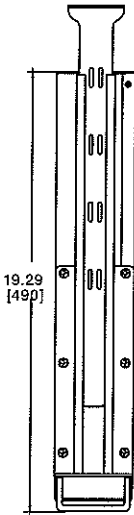
electronic version available at middleatlantic.com

Exceptional Support & Protection Products™

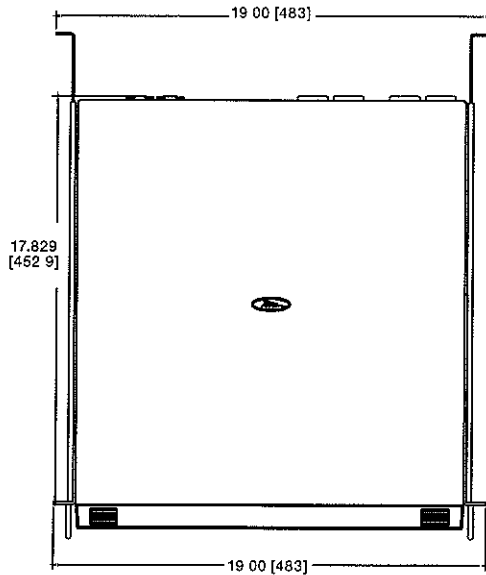
US: New Jersey ▪ California ▪ Illinois ▪ Voice: 973-839-1011 Fax: 973-839-1976 ▪ middleatlantic.com
 Canada: Ontario ▪ British Columbia ▪ Voice: 613-836-2501 Fax: 613-836-2690 ▪ middleatlantic.ca

UPS basic dimensions

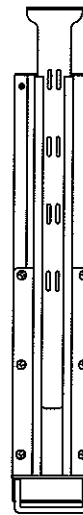
SIDE VIEW



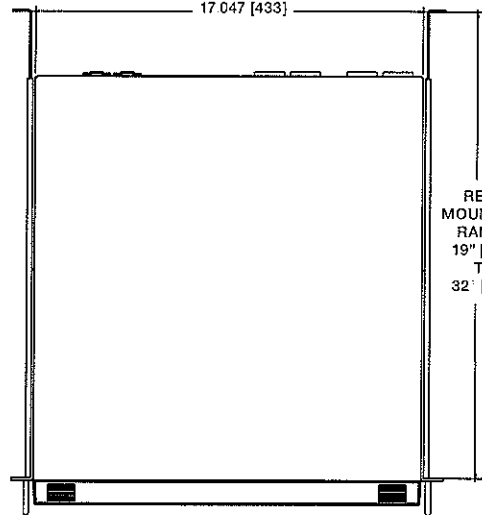
TOP VIEW



SIDE VIEW

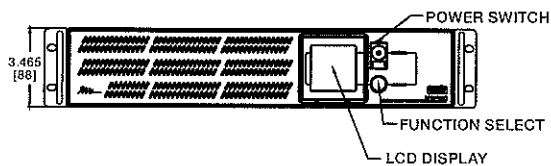


BOTTOM VIEW

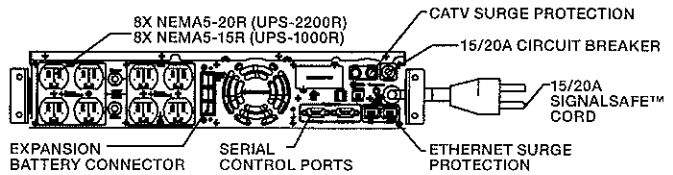


REAR MOUNTING RANGE
19" [483]
TO
32" [813]

FRONT VIEW (UPS-xx00R)



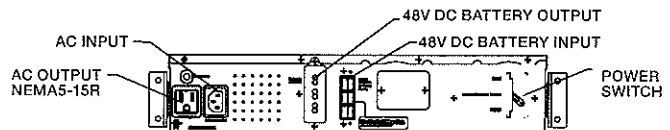
REAR VIEW (UPS-xx00R)



FRONT VIEW (UPS-EBPR)



REAR VIEW (UPS-EBPR)



All dimensions in inches unless otherwise noted
[All dimensions in brackets are in millimeters]

General Information		
Model No.	UPS-1000R	UPS-2200R
Input		
Nominal Input Voltage	120 V	120 V
Input Voltage Range	80Vac – 145Vac	80Vac – 145Vac
Input Frequency	60 Hz +/- 3 Hz (auto sensing)	60 Hz +/- 3 Hz (auto sensing)
Input Protection Type	AC Circuit Breaker	AC Circuit Breaker
Cord Length	9 ft.	9 ft.
Output		
Green Mode Consumption	Less than 9W at full battery capacity	Less than 9W at full battery capacity
Nominal Output Voltage	120 V	120 V
Capacity (VA)	1000VA	2150VA
Capacity (Watts)	750W	1650W
Waveform	Pure Sine Wave	Pure Sine Wave
On Line Output Frequency	57 - 63 Hz for 60 Hz nominal	57 - 63 Hz for 60 Hz nominal
On Battery Output Frequency	60 Hz +/- .1 Hz	60 Hz +/- .1 Hz
Transfer Time (Typical)	4 ms typical line to battery / battery to line	4 ms typical line to battery / battery to line
Overload Protection (on line mode)	100% ≤ Load < 110% warning, 120 sec shutdown 110% ≤ Load < 125% warning, 40 sec shutdown 125% ≤ Load warning, 10 sec shutdown	100% ≤ Load < 110% warning, 120 sec shutdown 110% ≤ Load < 125% warning, 40 sec shutdown 125% ≤ Load warning, 10 sec shutdown
Overload Protection (on battery mode)	100% ≤ Load < 110% warning, 30 sec shutdown 110% ≤ Load < 125% warning, 10 sec shutdown 125% ≤ Load warning, 3 sec shutdown	100% ≤ Load < 110% warning, 30 sec shutdown 110% ≤ Load < 125% warning, 10 sec shutdown 125% ≤ Load warning, 3 sec shutdown
Surge Protection and Filtering		
Lightning / Surge Protection	L-N = > 381 J (127J x 3) Clamp voltage 270V (Max energy 10 / 1000 μs)	L-N = > 381 J (127J x 3) Clamp voltage 270V (Max energy 10 / 1000 μs)
RJ11 / RJ45 Protection	Sidactorx1 Clamp Voltage 275V Fuse (.75A / 250V) x 2	Sidactorx1 Clamp Voltage 275V Fuse (.75A / 250V) x 2
Physical		
Output Receptacles	(8) NEMA 5-15R	(8) NEMA 5-20R
Dimensions (in.)	19.00" [423] W x 3.50" [89] H x 19.29" [490] D	19.00" [423] W x 3.50" [89] H x 19.29" [490] D
Weight (lb)	68 lbs.	77 lbs.
Battery		
Rating	12V / 9.0 AH x 4	12V / 9.0 AH x 4
Auto Charger	1A	1A
Hot Swappable External Battery	Yes	Yes
Runtime at Half Load	26 minutes	13 minutes
Runtime at Full Load	13 minutes	6.4 minutes
Warning Diagnostics		
Control Panel	LCD Display Indicators, Power On	LCD Display Indicators, Power On
Audible Alarms	On Battery, Low Battery	On Battery, Low Battery
Environmental		
Operating Temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Operating Relative Humidity	0 to 95% Non-Condensing	0 to 95% Non-Condensing

Communication		
Software	Middle Atlantic Power Manager™	Middle Atlantic Power Manager™
Management		
Self-Test	Manual Self-Test via front panel	Manual Self-Test via front panel
Auto-Charger/ Auto-Restart	Yes	Yes
COM Interface	True RS232 x1 + Analog I/O x1	True RS232 x1 + Analog I/O x1
Built-in USB Interface	Yes	Yes

Expansion Battery Estimated Runtimes

UPS-1000R								
Load (VA)	120	240	360	480	600	720	840	960
Load (W)*	84	168	252	336	420	504	588	672
Load (A)	1	2	3	4	5	6	7	8
Number of expansion batteries	ESTIMATED RUNTIME (Minutes)							
UPS only	102	51	34	26	20	17	15	13
1	561	283	190	143	114	94	80	69
2	1020	515	345	260	207	171	145	125
3	1479	747	501	377	300	249	211	181
4	1938	979	657	494	394	326	276	238
5	2397	1211	813	611	487	403	341	294
6	2856	1443	968	728	580	480	407	350
7	3315	1676	1124	845	674	557	472	406
8	3774	1908	1280	962	767	635	537	463
9	4233	2140	1435	1079	860	712	603	519
10	4692	2372	1591	1196	954	789	668	575

*Assuming a Power Factor of .7

UPS-2200R																
Load (VA)	120	240	360	480	600	720	840	960	1080	1200	1320	1440	1560	1680	1800	1920
Load (W)*	90	180	270	360	450	540	630	720	810	900	990	1080	1170	1260	1350	1440
Load (A)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Number of expansion batteries	ESTIMATED RUNTIME (Minutes)															
UPS only	102	51	34	26	20	17	15	13	11	10	9	9	8	7	7	6
1	561	283	190	143	114	94	80	69	60	53	47	42	37	33	29	26
2	1020	515	345	260	207	171	145	125	109	96	84	75	66	58	51	45
3	1479	747	501	377	300	249	211	181	158	139	122	108	95	84	74	64
4	1938	979	657	494	394	326	276	238	207	181	160	141	124	109	96	84
5	2397	1211	813	611	487	403	341	294	256	224	197	174	153	135	118	103
6	2856	1443	968	728	580	480	407	350	305	267	235	207	182	161	141	122
7	3315	1676	1124	845	674	557	472	406	353	310	272	240	212	186	163	142
8	3774	1908	1280	962	767	635	537	463	402	352	310	273	241	212	185	161
9	4233	2140	1435	1079	860	712	603	519	451	395	348	306	270	237	208	181
10	4692	2372	1591	1196	954	789	668	575	500	438	385	339	299	263	230	200

*Assuming a Power Factor of .75



NETSWITCH-24POE 24-Port Gigabit Network Switch with PoE

- 24 RJ-45 10/100 ports, 4 RJ-45 10/100/1000 ports and 2 mini-GBIC expansion ports
- Provides PoE power that eliminates the need for a separate power supply
- Forwards and filters data at full wire speed
- Provides store-and-forward switching
- Supports half duplex and full duplex modes auto-negotiating for all ports
- Secure control with SSL for browser-based interface
- Convenient rack-mount installation

The NETSWITCH-24POE 24-Port Network Switch provides 12.8 GB non-blocking wire speed switching for 10/1000 BASE-T and 100-BASE-TX network clients. It is perfect when large files must be moved across the network quickly. The network can be expanded even further with four 10/100/1000 switched RJ-45 GB Uplink ports and two mini-GBIC ports.

The NETSWITCH-24POE is ideal for integrating with a ViconNet system running PoE for any ViconNet PoE-enabled IP camera, encoder and decoder. An existing 10/100 Ethernet network can connect to a Gigabit backbone without any additional equipment. Each port independently and automatically negotiates for best speed and selection of half or full duplex mode. Address Learning and Aging prevent data transfer errors and fast store-and-forward switching prevents damaged data from being passed on into the network.

Power control circuitry automatically detects Power over Ethernet (PoE) on access devices before providing power. Power feeding of Ethernet is provided on the 10/100BaseT ports. Independent Overload and short-circuit protection for each port is provided. LED indicators for power status are provided per port. The unit offers various management options.

The NETSWITCH-24POE can be rack mounted using the mounting kit provided. The NETSWITCH-24POE includes a built-in power supply.

The NETSWITCH-24POE complies with requirements for an FCC Class A device. (NETSWITCH-24POE is a Cisco® product, model SRW224G4P)

ELECTRICAL

Input Voltage: 100 - 240 VAC.

Current: 0.5A.

Power Consumption: 15.4 W maximum output power per port simultaneously on 12 ports; 7.5 W maximum per port on all 24 ports.

Radio Emission

Standards: FCC Class A.
CE: IEEE 802.3, 802.3af.

INDICATORS AND CONNECTORS

LED Indicators: System, Speed, PoE, 10/100 Link, 2 GB Link, 1-24 LEDs.

Ports: 24 RJ-45 for 10/1000 Base-T and 100-BASE-TX (deliver up to 4 Gbps per port); 4 RJ-45 for 10/100/1000 Base-T and 2 mini-GBIC for further expansion.

Cable Type: CAT5 Ethernet or better for 10/100 Base-T; CAT5e or better for 10/100/1000 Base-T.

MECHANICAL

Mounting: Rack mountable, hardware included.

Dimensions: Height (H): 1.75 in. (44 mm).
Width (W): 17.32 in. (440 mm).
Depth (D): 13.7 in. (348 mm).

Weight: 8.85 lb (4.02 kg).

Shipping Dimensions: Height: 3.5 in. (89 mm).
Width: 21.25 in. (540 mm).
Depth: 17.5 in. (445 mm).

Shipping Weight: 12.1 lb (5.5 kg)

Shipping Volume: 0.75 ft³ (0.02 m³)

ENVIRONMENTAL

Operating

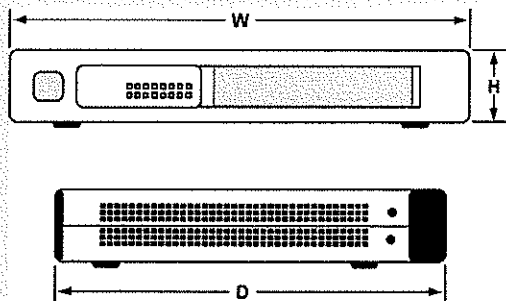
Temperature Range: 32 to 122° F (0 to 50° C).

Operating Humidity: 20 to 95%, noncondensing.

Storage

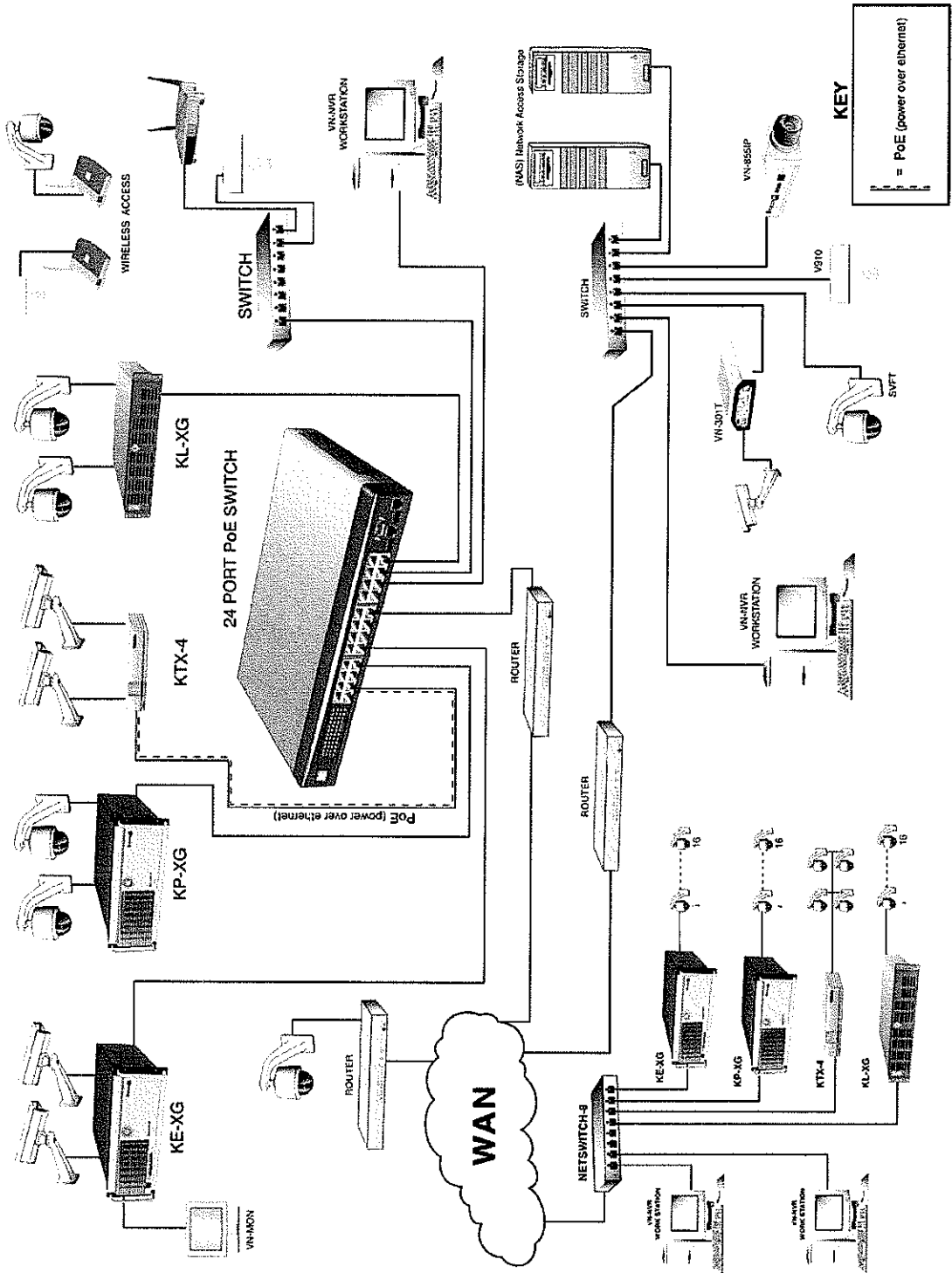
Temperature Range: -4 to 158° F (-20 to 70° C).

Storage Humidity: 5 to 90%, noncondensing.



Technical Information

Typical Network Diagram





Middle Atlantic Products, Inc.®

middleatlantic.com

WMRK Series Enclosure

EIA/TIA Compliant

The WMRK Series configured multi-vendor server enclosure is optimized for use with servers from leading manufacturers

Features

- Accepts servers from multiple vendors and extends equipment life through Passive thermal management
- Front and rear adjustable cage nut style rail with rear Z-rail adaptors to accommodate most server-slide kits
- Front door, split rear doors and top are perforated to provide adequate ventilation
- 20 Amp vertical power strip included, 10 or 20 outlets depending on model
- Includes temperature monitoring module, programmed for local and remote notification
- Fully welded construction provides a 1,000 lb. weight capacity
- Available in 24 and 42 rackspace heights; 42 space model includes 3-1/4" width vertical lacer strip
- Top includes five integral gland grommets 4" cable pass-throughs to protect cables
- Top includes UHF/VHF antenna knockouts and accepts mounting of optional 6", 9", 12" and 18" wide cable ladders
- Grounding and bonding stud at base of rack to conform to NEBS and NEC standards
- Durable black textured powder coat
- 6mm hardware included



WMRK-4242SVR-AB

Architects' and Engineers' Specifications

EIA compliant 19" gangable configured multi-vendor server rack shall be Middle Atlantic Products model # WMRK-___ (refer to chart) Overall dimensions shall be ___"H x ___"W x ___"D (refer to chart). Useable height shall be (24, 42) rackspaces, useable depth shall be ___" (refer to chart) Fully welded construction shall provide a 1,000 lb. weight capacity. Rack shall be constructed of the following materials: top and bottom shall be 14-gauge steel, horizontal braces shall be 16-gauge steel and all structural elements shall be finished in a durable black powder coat. Top shall include five 4" cable pass-throughs with gland grommets. Top and standard locking front door shall be perforated for ventilation with 64% open area. Split rear door shall be perforated for ventilation with 76% open area. Rack shall have removable split rear knockout panels with 1/2", 3/4", 1" and 1-1/2" electrical knockouts and top BNC knockouts for UHF/VHF antennae. Grounding and bonding stud shall be 1/4-20 threaded, installed in base of enclosure. Rack shall include corded 20 Amp power strip with 10 outlets (24 space model) or 20 outlets (42 space model). Rack shall include face-mounted temperature monitoring module with local and remote notification. 42 space model shall additionally include one 3-1/4" width vertical lacing strip. Rack shall include 6mm cage nut mounting hardware. WMRK rack shall be warranted to be free from defects in material or workmanship under normal use and conditions for the lifetime of the rack.

OPTIONS

- Vertical lacer strips, see master catalog for model #s
- Horizontal lacing bars, see master catalog for model #s
- Additional cage nut rackrail shall be model # PROWMRK-RRx (x = number of rackspaces)
- Additional Z-rail adaptor shall be model # PROWMRK-ZRA-x (x = number of rackspaces)

customizable specification clips available at middleatlantic.com

Engineered Mounting Solutions

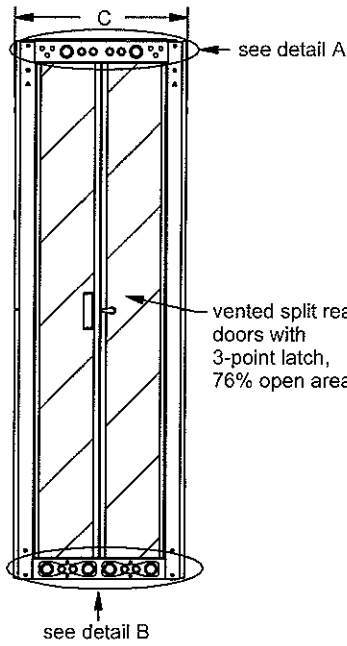
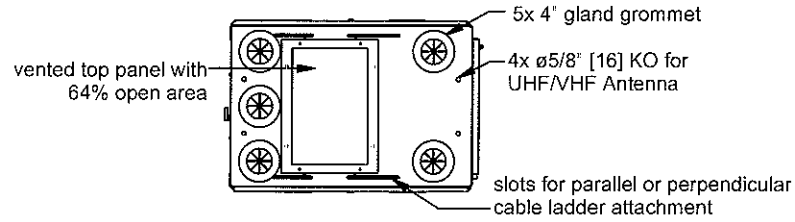
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Canada: Ontario • British Columbia • Voice: 613-836-2501 Fax: 613-836-2690 • middleatlantic.ca

WMRK basic dimensions

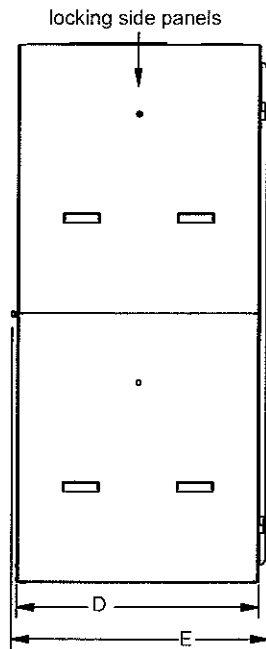
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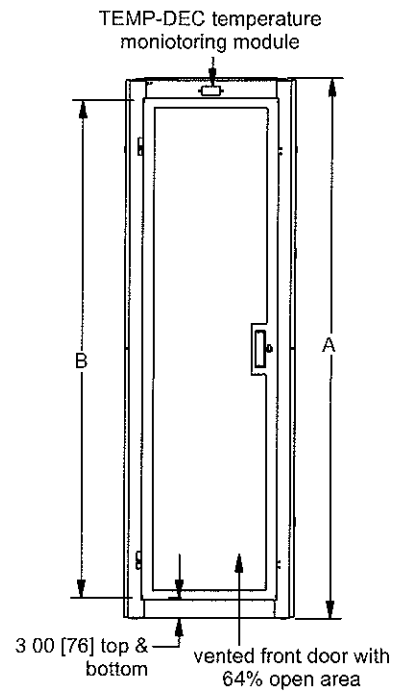
TOP VIEW



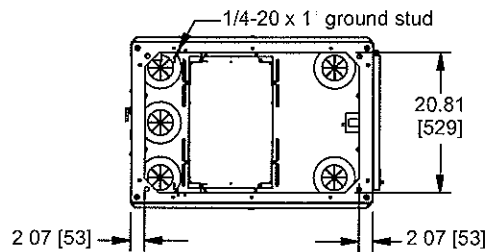
REAR VIEW



SIDE VIEW



FRONT VIEW



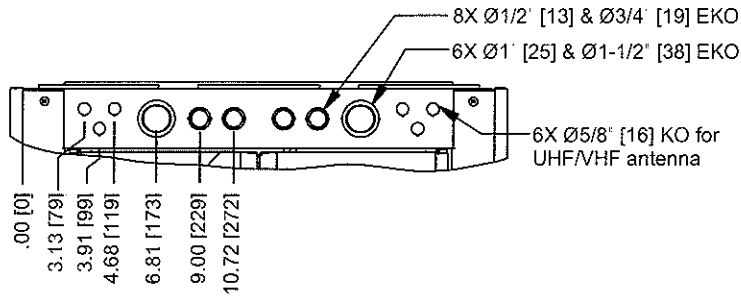
BOTTOM VIEW

WMRK basic dimensions

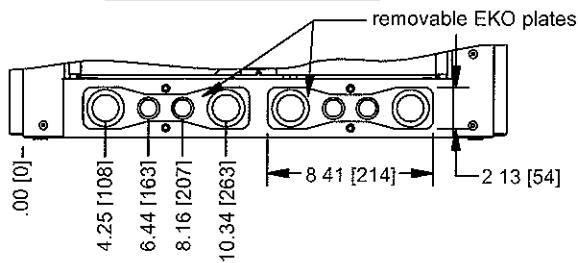


All dimensions in inches unless otherwise noted [All dimensions in brackets are in millimeters]

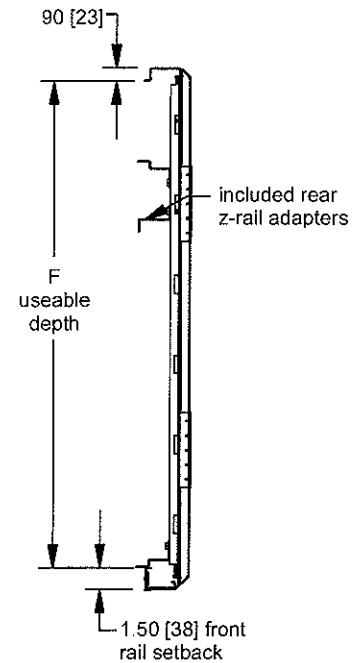
DETAIL 'A' TOP REAR



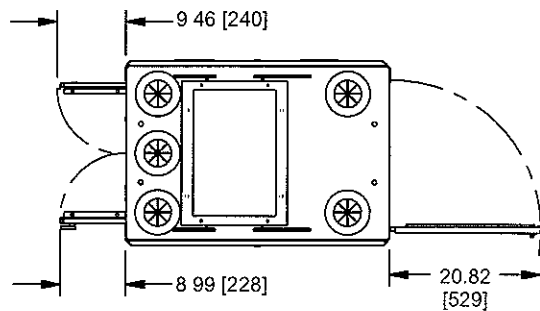
DETAIL 'B' BOTTOM REAR



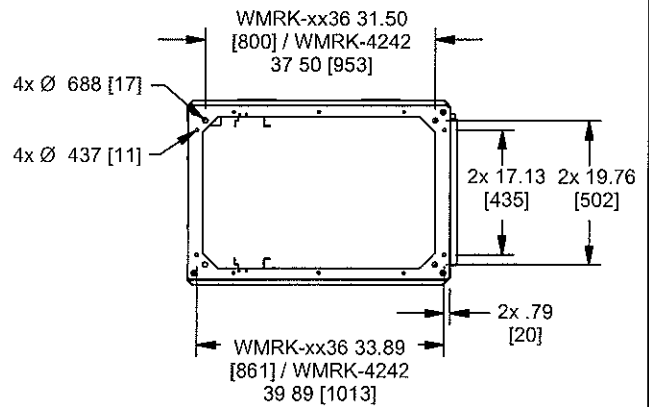
SECTIONAL TOP VIEW



TOP VIEW



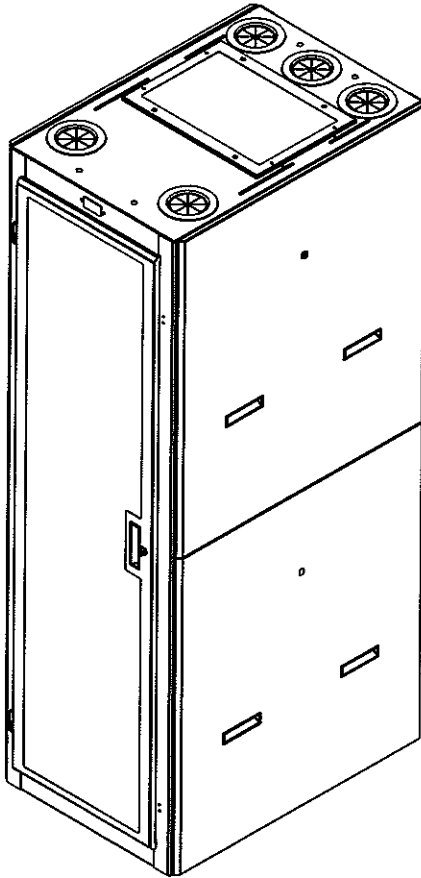
FLOOR MOUNTING LOCATIONS



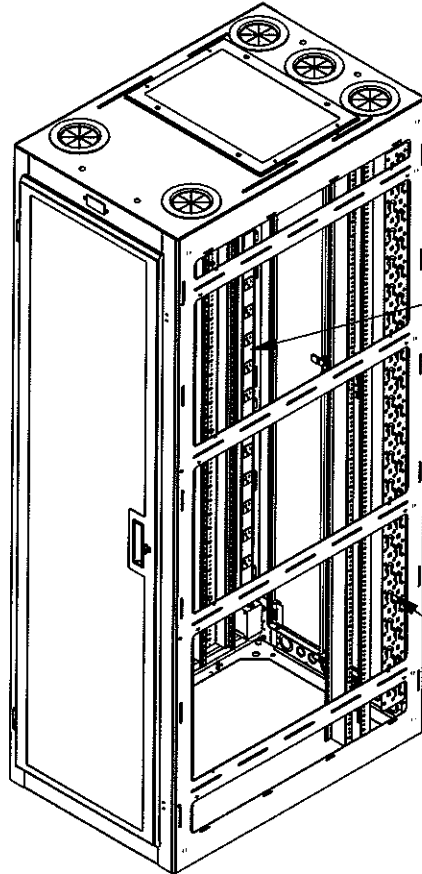
Part #	A Height	B Racking Height	C Width	D Depth	E Overall Depth	F Useable Depth	Side Panels Included
WMRK-2436SVR	48.56 [1234]	42.13 [1070]	25.58 [650]	36.00 [914]	38.90 [988]	33.60 [853]	Yes
WMRK-2436SVR-AB	48.56 [1234]	42.13 [1070]	23.94 [608]	36.00 [914]	38.90 [988]	33.60 [853]	No
WMRK-4236SVR	80.06 [2034]	73.63 [1870]	25.58 [650]	36.00 [914]	38.90 [988]	33.60 [853]	Yes
WMRK-4236SVR-AB	80.06 [2034]	73.63 [1870]	23.94 [608]	36.00 [914]	38.90 [988]	33.60 [853]	No
WMRK-4242SVR	80.06 [2034]	73.63 [1870]	25.58 [650]	42.00 [1067]	44.90 [1067]	39.60 [1006]	Yes
WMRK-4242SVR-AB	80.06 [2034]	73.63 [1870]	23.94 [608]	42.00 [1067]	44.90 [1067]	39.60 [1006]	No

WMRK basic dimensions

20.00 22.25



WMRK-XXXXSVR



WMRK-XXXXSVR-AB

included power strip

included vertical lace

Part #	Included Power Strip	Included Vertical Lace
WMRK-2436SVR	PDT-1020C-NS	--
WMRK-2436SVR-AB	PDT-1020C-NS	--
WMRK-4236SVR	PDT-2020C-NS	LACE-40-OP
WMRK-4236SVR-AB	PDT-2020C-NS	LACE-40-OP
WMRK-4242SVR	PDT-2020C-NS	LACE-40-OP
WMRK-4242SVR-AB	PDT-2020C-NS	LACE-40-OP

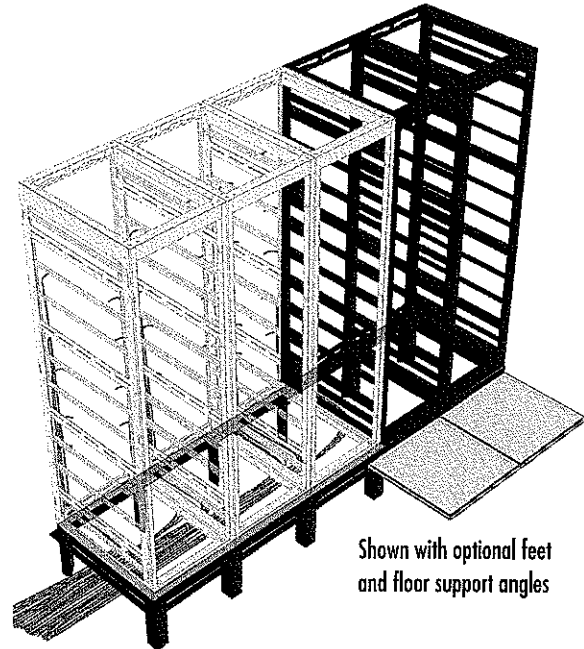
RIB Series Riser Bases



RIB Series Riser bases provide advanced cable management

Features

- 1/8" thick fully welded construction
- Riser bases allow for field rough-in prior to arrival of racks and enclosures
- Riser bases act as a lower cable chase for passing cables between racks in multi-bay installations
- Ideal for use in raised floor installations when used with optional VFEET and ANGLE / WANGLE / DANGLE / WMANGLE
- Available in custom widths, depths, heights and configurations
- Durable black textured powdercoat finish



Shown with optional feet and floor support angles

Architects' and Engineers' Specifications

Riser base shall be Middle Atlantic Products model # RIB-_-_- (see chart for available models) to accommodate ___ qty (refer to chart) ___ (WRK / DRK / MRK / VRK / VMRK) Series ___" depth racks. Riser base shall be constructed of 11-gauge steel. Riser base shall be 2-1/2" H x ___" W x ___" D (refer to chart). Riser base shall have one knockout on each side for cable pass-through measuring 1.71" H x ___" W (refer to chart for width dimension). Riser bases shall be phosphate pre-treated and finished a durable textured black powdercoat. Riser base shall be warranted to be free from defects in material or workmanship under normal use and conditions for the lifetime of the product. Riser base shall be RoHS EU Directive 2002/95/EC compliant

* Seismic Riser base option available (see SRB Spec Sheet 96-01027)

OPTIONS

Raised floor riser feet shall be Middle Atlantic Products model # VFEET-_-_-12 for ___ (refer to chart on page 3) bay installations for use with ___ (refer to chart on page 3) bay RIB series riser base. Raised floor riser feet shall be 11.5" tall, constructed of 11-gauge steel, and designed for 12" raised floors. Raised floor riser feet shall be phosphate pre-treated and finished in a durable black powdercoat.

Support angles shall be Middle Atlantic Products model # ANGLE-_-_- (for use when mounting MRK / VRK / VMRK Series racks) (refer to chart on page 4) / WANGLE-_-_- (for use when mounting WRK Series racks) (refer to chart) for use with ___ (refer to chart on page 4) / DANGLE-_-_- (for use when mounting DRK Series Racks) (refer to chart) / WMANGLE-_-_- (for use when mounting WMRK Series Racks) (refer to chart). Support angles shall be constructed from 11-gauge steel. Support angles shall be phosphate pre-treated and finished in a durable black powdercoat.

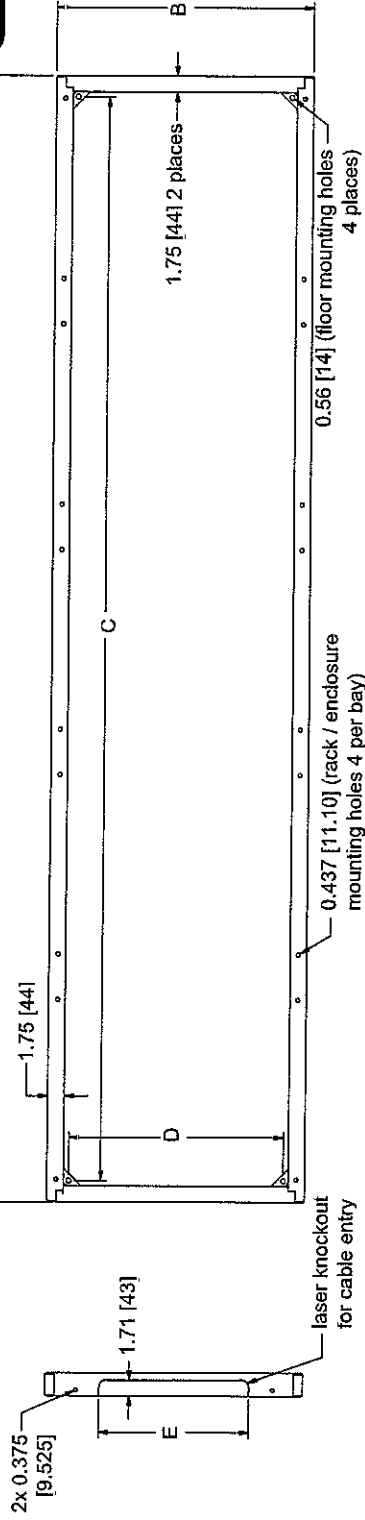
customizable specification clips available at middleatlantic.com

Exceptional Support & Protection Products™

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RIB Series Riser Bases basic dimensions (5 Bay shown)

SIDE VIEW



FRONT VIEW

RIB Riser Base

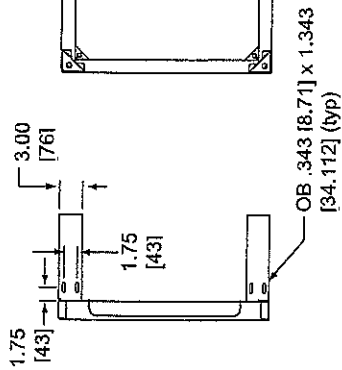
Part #	A OVERALL WIDTH	B OVERALL DEPTH	C FLOOR MOUNTING HOLES	D FLOOR MOUNTING HOLES	E KNOCKOUT WIDTH	F KNOCKOUT WIDTH	# OF RACKS ACCOMMODATED
RIB-1-MRK-26	22.00 [559]	26.40 [671]	17.40 [442]	21.80 [554]	14.87 [378]	16.10 [409]	1
RIB-2-MRK-26	44.03 [1118]	26.40 [671]	39.43 [1002]	21.80 [554]	14.87 [378]	16.10 [409]	2
RIB-3-MRK-26	66.06 [1678]	26.40 [671]	61.46 [1561]	21.80 [554]	14.87 [378]	16.10 [409]	3
RIB-4-MRK-26	88.09 [2237]	26.40 [671]	83.49 [2121]	21.80 [554]	14.87 [378]	16.10 [409]	4
RIB-5-MRK-26	110.12 [2797]	26.40 [671]	105.52 [2680]	21.80 [554]	14.87 [378]	16.10 [409]	5
RIB-1-MRK-31	22.00 [559]	31.40 [798]	17.40 [442]	26.80 [681]	19.87 [505]	21.10 [536]	1
RIB-2-MRK-31	44.03 [1118]	31.40 [798]	39.43 [1002]	26.80 [681]	19.87 [505]	21.10 [536]	2
RIB-3-MRK-31	66.06 [1678]	31.40 [798]	61.46 [1561]	26.80 [681]	19.87 [505]	21.10 [536]	3
RIB-4-MRK-31	88.09 [2237]	31.40 [798]	83.49 [2121]	26.80 [681]	19.87 [505]	21.10 [536]	4
RIB-5-MRK-31	110.12 [2797]	31.40 [798]	105.52 [2680]	26.80 [681]	19.87 [505]	21.10 [536]	5
RIB-1-MRK-36	22.00 [559]	36.00 [914]	17.40 [442]	31.40 [798]	24.47 [622]	19.87 [508]	1
RIB-2-MRK-36	44.03 [1118]	36.00 [914]	39.43 [1002]	31.40 [798]	24.47 [622]	19.87 [508]	2
RIB-3-MRK-36	66.06 [1678]	36.00 [914]	61.46 [1561]	31.40 [798]	24.47 [622]	19.87 [508]	3
RIB-4-MRK-36	88.09 [2237]	36.00 [914]	83.49 [2121]	31.40 [798]	24.47 [622]	19.87 [508]	4
RIB-5-MRK-36	110.12 [2797]	36.00 [914]	105.52 [2680]	31.40 [798]	24.47 [622]	19.87 [508]	5
RIB-1-MRK-42	22.00 [559]	42.00 [1067]	17.40 [442]	37.40 [950]	30.47 [774]	30.47 [774]	1
RIB-2-MRK-42	44.03 [1118]	42.00 [1067]	39.43 [1002]	37.40 [950]	30.47 [774]	30.47 [774]	2
RIB-3-MRK-42	66.06 [1678]	42.00 [1067]	61.46 [1561]	37.40 [950]	30.47 [774]	30.47 [774]	3

All dimensions in inches unless otherwise noted [All bracketed dimensions are in millimeters]



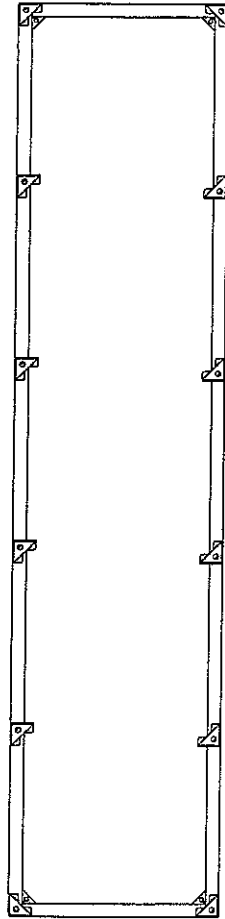
VFEET Raised Floor Riser Feet basic dimensions

SIDE VIEW



BOTTOM VIEW

(Riser base shown upside down to show VFEET positioning)

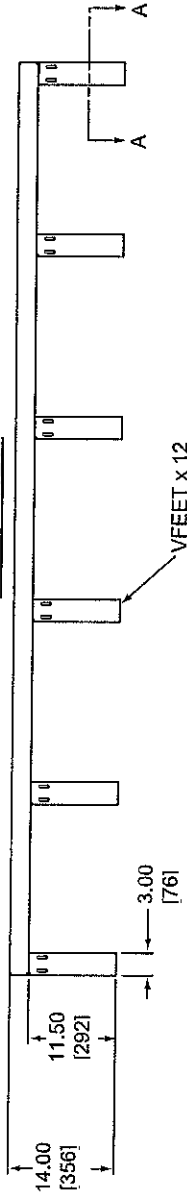


SECTION A-A



0.69 [17.5] floor mounting holes in VFEET x 12

FRONT VIEW



VFEET Raised Floor Riser Feet

Part #	# OF FEET	USED ON	# OF RACKS ACCOMMODATED
VFEET-1-12	4	RIB-1	1
VFEET-2-12	6	RIB-2	2
VFEET-3-12	8	RIB-3	3
VFEET-4-12	10	RIB-4	4
VFEET-5-12	12	RIB-5	5

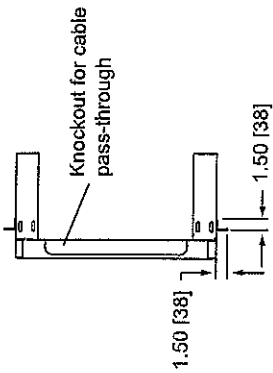
All dimensions in inches unless otherwise noted [All bracketed dimensions are in millimeters]



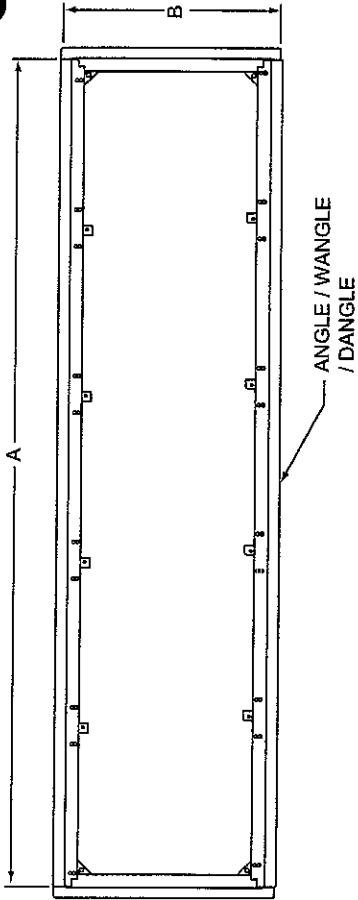
Raised Floor Support Angles bas... dimensions

All dimensions in inches unless otherwise noted [All bracketed dimensions are in millimeters]

SIDE VIEW



BOTTOM VIEW



FRONT VIEW



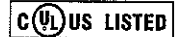
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ANGLE / WANGLE / WANGLE / ANGLE Raised Floor Support Angles

Part #	A OVERALL WIDTH	B OVERALL DEPTH	USED ON	RACK SERIES	# OF RACKS ACCOMMODATED
ANGLE-1	21.75 [552]	29.15 [740]	VFEE-1-12	MRK/YRK/WARK 38" depth racks	1
ANGLE-2	43.78 [1112]	29.15 [740]	VFEE-2-12	MRK/YRK/WARK 38" depth racks	2
ANGLE-3	65.81 [1672]	29.15 [740]	VFEE-3-12	MRK/YRK/WARK 38" depth racks	3
ANGLE-4	87.84 [2231]	29.15 [740]	VFEE-4-12	MRK/YRK/WARK 38" depth racks	4
ANGLE-5	109.87 [2791]	29.15 [740]	VFEE-5-12	MRK/YRK/WARK 38" depth racks	5
ANGLE-1-36	21.75 [552]	38.75 [984]	VFEE-1-12	MRK/YRK/WARK 36" depth racks	1
ANGLE-2-36	43.78 [1112]	38.75 [984]	VFEE-2-12	MRK/YRK/WARK 36" depth racks	2
ANGLE-3-36	65.81 [1672]	38.75 [984]	VFEE-3-12	MRK/YRK/WARK 36" depth racks	3
ANGLE-4-36	87.84 [2231]	38.75 [984]	VFEE-4-12	MRK/YRK/WARK 36" depth racks	4
ANGLE-5-36	109.87 [2791]	38.75 [984]	VFEE-5-12	MRK/YRK/WARK 36" depth racks	5
DANGLE-1-31	29.75 [756]	29.15 [740]	VFEE-1-12	DRK 31" depth racks	1
DANGLE-2-31	59.78 [1518]	29.15 [740]	VFEE-2-12	DRK 31" depth racks	2
DANGLE-3-31	89.91 [2284]	29.15 [740]	VFEE-3-12	DRK 31" depth racks	3
WANGLE-1-48	24.00 [610]	30.38 [771]	VFEE-1-12	WRK 27" and 31" depth racks	1
WANGLE-2	48.78 [1226]	30.38 [771]	VFEE-2-12	WRK 27" and 31" depth racks	2
WANGLE-3	72.56 [1843]	30.38 [771]	VFEE-3-12	WRK 27" and 31" depth racks	3
WANGLE-4	96.84 [2460]	30.38 [771]	VFEE-4-12	WRK 27" and 31" depth racks	4
WANGLE-5	121.12 [3076]	30.38 [771]	VFEE-5-12	WRK 27" and 31" depth racks	5

Part #	A OVERALL WIDTH	B OVERALL DEPTH	USED ON	RACK SERIES	# OF RACKS ACCOMMODATED
ANGLE-1-42	21.75 [552]	38.75 [984]	VFEE-1-12	MRK 42" depth racks	1
ANGLE-2-42	43.78 [1112]	38.75 [984]	VFEE-2-12	MRK 42" depth racks	2
ANGLE-3-42	65.81 [1672]	38.75 [984]	VFEE-3-12	MRK 42" depth racks	3
DANGLE-1-3642	29.75 [756]	38.75 [984]	VFEE-1-12	DRK 36" and 42" depth racks	1
DANGLE-2-3642	59.78 [1518]	38.75 [984]	VFEE-2-12	DRK 36" and 42" depth racks	2
DANGLE-3-3642	89.91 [2284]	38.75 [984]	VFEE-3-12	DRK 36" and 42" depth racks	3
WANGLE-1-3642	23.69 [602]	38.75 [984]	VFEE-1-12	WARK 36" depth racks	1
WANGLE-2-3642	47.655 [1210]	38.75 [984]	VFEE-2-12	WARK 36" depth racks	2
WANGLE-3-3642	71.621 [1819]	38.75 [984]	VFEE-3-12	WARK 36" depth racks	3
WANGLE-1-48	23.69 [602]	38.75 [984]	VFEE-1-12	WARK 42" depth racks	1
WANGLE-2-48	47.655 [1210]	38.75 [984]	VFEE-2-12	WARK 42" depth racks	2
WANGLE-3-48	71.621 [1819]	38.75 [984]	VFEE-3-12	WARK 42" depth racks	3

PDT Series Thin Power Distribution




Middle Atlantic Products, Inc.

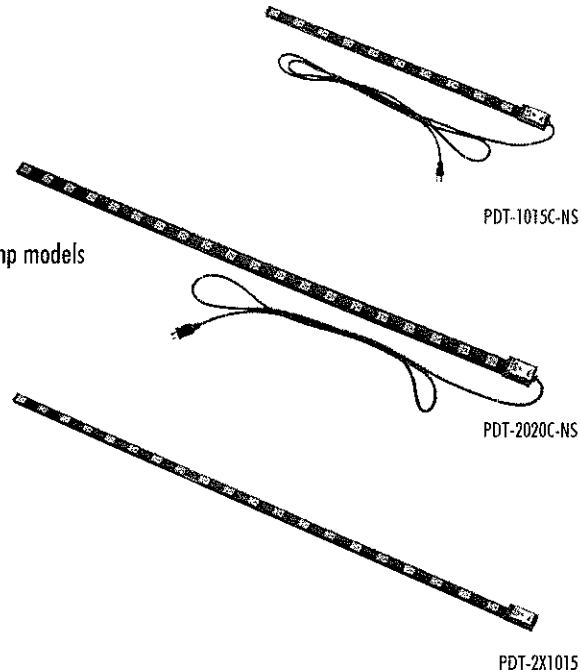
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High density power strips feature a slim, low-profile design

Features

- Slim low-profile design requires minimum space
- Up to 20 outlets depending on model
- Lightweight aluminum chassis
- Field configurable single or dual circuits available in both 15 & 20 amp models
- Field configurable isolated ground models available
- Mounting hardware included
- Corded models include 10' power cord terminated with NEMA 5-15P / 5-20P / L5-20P plug depending on model
- Black anodized finish
- Top feed models available
- UL Listed in the US and Canada

* For additional Vertical Power Strips, please see A&E Spec # 96-938 and #96-976



Architects' and Engineers' Specifications

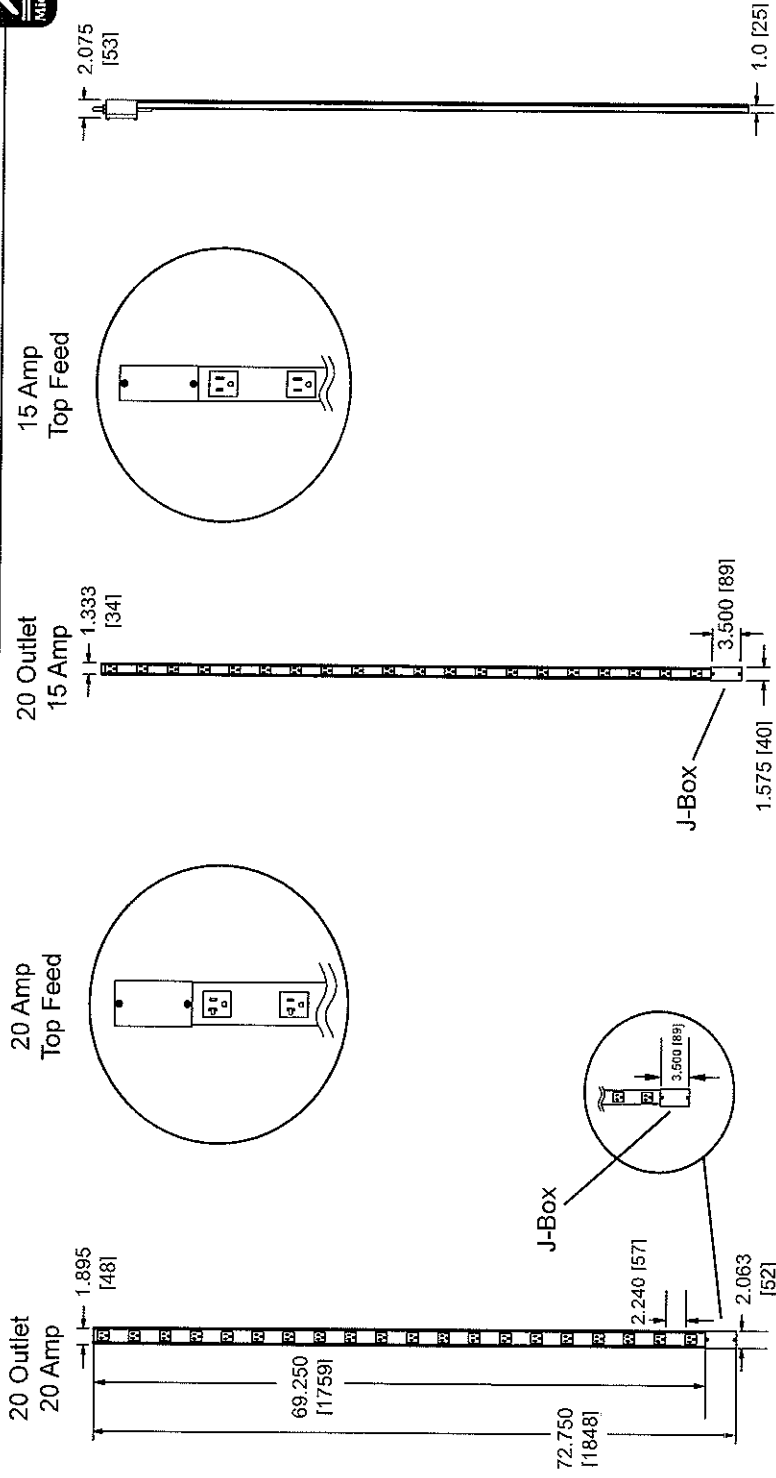
High density thin power distribution shall be Middle Atlantic Products model # PDT-___ with ___ outlets and ___ amps (refer to chart). Thin power distribution shall be ___ long (refer to chart) x 1" deep x 1.9" (20 amp models) or 1.3" (15 amp models) wide. J-Box shall be 2" deep X 2" (20 amp models) or 1.5" (15 amp models) wide. Thin power distribution shall feature ___ NEMA 5-15R / 5-20R outlets (refer to chart). Corded power strip include ___ amp protection and mounting hardware (refer to chart). Corded models shall be terminated with 10' power cord and NEMA 5-15P / 5-20P / L5-20P plug (refer to chart). PDT Series shall feature a black anodized finish. Regular and top feed models shall be provided to accommodate installations where ground prongs must be positioned at the top of each outlet. PDT Series with J-Box shall feature field configurable single or dual circuits available in both 15 & 20 amp models. PDT Series with J-Box shall feature field configurable isolated ground models. PDT Series shall be UL Listed in the US and Canada.

electronic version available at middleatlantic.com

Engineered Mounting Solutions

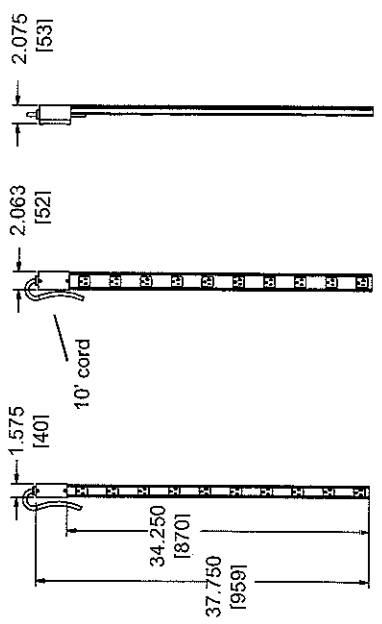
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PDT Series power strips basic dimensions



FRONT VIEW

SIDE VIEW



FRONT VIEW

SIDE VIEW

PART #	TERMINATED	CIRCUIT	# OF OUTLETS	OVERALL LENGTH	UL LISTED
PDT-2015C-NS	5-15P	15 AMP (1)	20, 5-15R	72-3/4 [1848]	1
PDT-2020C-NS	5-20P	20 AMP (1)	20, 5-20R	72-3/4 [1848]	1
PDT-2X1015	J-BOX	15 AMP (2)	20, 5-15R	72-3/4 [1848]	2
PDT-2X1015T	J-BOX	15 AMP (2)	20, 5-15R	72-3/4 [1848]	2
PDT-2X1020	J-BOX	20 AMP (2)	20, 5-20R	72-3/4 [1848]	2
PDT-2X1020T	J-BOX	20 AMP (2)	20, 5-20R	72-3/4 [1848]	2
PDT-1015C-NS	5-15P	15 AMP (1)	10, 5-15R	37-3/4 [959]	1
PDT-1020C-NS	5-20P	20 AMP (1)	10, 5-20R	37-3/4 [959]	1
PDT-2020TL-NS	L5-20P	20 AMP (1)	20, 5-20R	72-3/4 [1848]	1

All dimensions in inches unless otherwise noted [All dimensions in brackets are millimeters]



State of West Virginia
DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT
West Virginia Code §21-1D-5

STATE OF West Virginia

COUNTY OF Kanawha, TO-WIT:

I, Kevin Mercer, after being first duly sworn, depose and state as follows:

- 1. I am an employee of Electronic Specialty Company; and,
(Company Name)
- 2. I do hereby attest that Electronic Specialty Company
(Company Name)

maintains a valid written drug free workplace policy and that such policy is in compliance with **West Virginia Code §21-1D-5**.

The above statements are sworn to under the penalty of perjury.

Electronic Specialty Company
(Company Name)

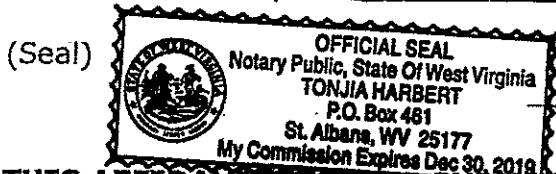
By: Kevin Mercer

Title: Sr. Account Executive

Date: 5/4/2010

Taken, subscribed and sworn to before me this 5 day of May 2010.

By Commission expires December 30, 2019



Tonjia Herbert
(Notary Public)

THIS AFFIDAVIT MUST BE SUBMITTED WITH THE BID IN ORDER TO COMPLY WITH WV CODE PROVISIONS. FAILURE TO INCLUDE THE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF THE BID.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, Electronic Specialty Company
of Dunbar, WV, as Principal, and Ohio Farmers Insurance Company
of Westfield Center, OH, a corporation organized and existing under the laws of the State of
OH with its principal office in the City of Westfield Center, as Surety, are held and firmly bound unto the State of
West Virginia, as Obligee, in the penal sum of Five Percent of Amount Bid (\$ 5%) for the payment of which,
well and truly to be made, we jointly and severally bind ourselves, our heirs administrators, executors, successors and assigns

The Condition of the above obligation is such that whereas the Principal has submitted to the Purchasing Section of the
Department of Administration a certain bid or proposal, attached hereto and made a part hereof, to enter into a contract in writing for
Installation of a Surveillance Video System for the new Mountaineer Challenge Academy, Kingwood, WV -
According to Plans and Specifications

NOW THEREFORE,

- (a) If said bid shall be rejected, or
- (b) If said bid shall be accepted and the Principal shall enter into a contract in accordance with the bid or proposal attached
hereto and shall furnish any other bonds and insurance required by the bid or proposal, and shall in all other respects perform the
agreement created by the acceptance of said bid, then this obligation shall be null and void, otherwise this obligation shall remain in full
force and effect. It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event,
exceed the penal amount of this obligation as herein stated

The Surety, for the value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no
way impaired or affected by any extension of the time within which the Obligee may accept such bid, and said Surety does hereby
waive notice of any such extension

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations
have caused their corporate seals to be affixed hereunto and these presents to be signed by their proper officers. this

5th day of May, 2010

Principal Corporate Seal

Electronic Specialty Company

(Name of Principal)

By [Signature]

(Must be President or
Vice President)

VICE PRESIDENT
(Title)

Surety Corporate Seal

Ohio Farmers Insurance Company

(Name of Surety)

By [Signature]

Kimberly J Wilkinson WV Resident Agent Attorney-in-Fact

IMPORTANT – Surety executing bonds must be licensed in West Virginia to transact surety insurance. Corporate seals must be affixed,
and a power of attorney must be attached.

THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 06/25/08, FOR ANY PERSON OR PERSONS NAMED BELOW

POWER NO. 4752152 06

General Power of Attorney

Westfield Insurance Co. Westfield National Insurance Co. Ohio Farmers Insurance Co. Westfield Center, Ohio

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do, by these presents make, constitute and appoint LARRY D. KERR, GREGORY T. GORDON, STEPHEN B. STODDEN, PATRICIA A. MOYE, ALLAN L. MC VEY, KIMBERLY J. WILKINSON, JOINTLY OR SEVERALLY

of CHARLESTON and State of WV its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship.

LIMITATION: THIS POWER OF ATTORNEY CANNOT BE USED TO EXECUTE NOTE GUARANTEE, MORTGAGE DEFICIENCY, MORTGAGE GUARANTEE, OR BANK DEPOSITORY BONDS.

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of each of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY:

"Be It Resolved, that the President, any Senior Executive, any Secretary or any Fidelity & Surety Operations Executive or other Executive shall be and is hereby vested with full power and authority to appoint any one or more suitable persons, as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

The Attorney-in-Fact, may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices, and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be as binding upon the Company, as if signed by the President and sealed and attested by the Corporate Secretary."

"Be It Further Resolved, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached." (Each adopted at a meeting held on February 8, 2008).

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their Senior Executive and their corporate seals to be hereto affixed this 25th day of JUNE A.D., 2008

Corporate Seals Affixed



WESTFIELD INSURANCE COMPANY WESTFIELD NATIONAL INSURANCE COMPANY OHIO FARMERS INSURANCE COMPANY

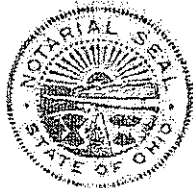
Signature of Richard L. Kinnaird, Jr.

By: Richard L. Kinnaird, Jr., Senior Executive

State of Ohio County of Medina ss :

On this 25th day of JUNE A.D., 2008, before me personally came Richard L. Kinnaird, Jr. to me known, who, being by me duly sworn, did depose and say, that he resides in Medina, Ohio; that he is Senior Executive of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial Seal Affixed



Signature of William J. Kahelin

William J. Kahelin, Attorney at Law, Notary Public My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

State of Ohio County of Medina ss :

I, Frank A. Carrino, Secretary of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; and furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are, in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio this 5th day of May A.D., 2010



Signature of Frank A. Carrino

Frank A. Carrino, Secretary

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (**West Virginia Code §61-5-3**), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: Electronic Specialty Company

Authorized Signature: [Signature] Date: 5/4/2010

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 5 day of May, 2010.

My Commission expires December 30, 2012.

AFFIX SEAL HERE

NOTARY PUBLIC [Signature]

