APPENDIX A – SECTION REFERENCE ATTACHMENTS

01 02 00 ATTACHMENT A ELECTRONIC DRAWING SUBMITTAL REQUIREMENT

A. Wake County Public School System (WCPSS) requires all architectural and/or engineering design drawings to be submitted using the requirements outlined in this document. Failure to follow these guidelines may impact the final payment to the architectural or engineering firm. Any questions regarding this document are to be directed to the appropriate project manager.

B. Requirements:

1. All drawings are to be submitted in PDF and .dwg format. The acceptable AutoCAD versions will be the current version at the time the drawings are created or the previous version.

2. When BIM is utilized, all electronic drawings are to be generated from the BIM file maintained by the Designer. Changes to design drawings will be made at the source file level, and revised pdf/dwg files generated from the source.

3. Formatting and Delivery of drawings and spec files shall follow the guidelines indicated in Appendix A - 01 02 00 – Attachment D: Design Delivery and Formatting Guidelines and Appendix A - 01 02 00 – Attachment E: File Deliverable Requirements.

4. Each drawing will be a standalone drawing file completely matching the printed drawing submitted to WCPSS.

    a) Externally referenced design drawings are not acceptable.

    b) The only acceptable externally referenced information will be a photographic image. Images will be stored in the same directory as the AutoCAD drawing file: no paths will be saved when the image is inserted into the drawing. All images will be a standard JPEG format.

5. Any stamps on the printed drawings will be included in an electronic format on the drawing file. This includes PE, “For Construction Only”, “Record Drawing” and “Bid Document” stamps.

6. A copy of the Project Manual including all addendums shall be in PDF format and included with the Project Record Drawings submittal.

7. All drawing files will be submitted to WCPSS via electronic file transfer or other digital media transfer device. Please verify the information in the transfer prior to submittal. Drawings should be stored in a logical directory format with file names matching the printed version of the drawing.

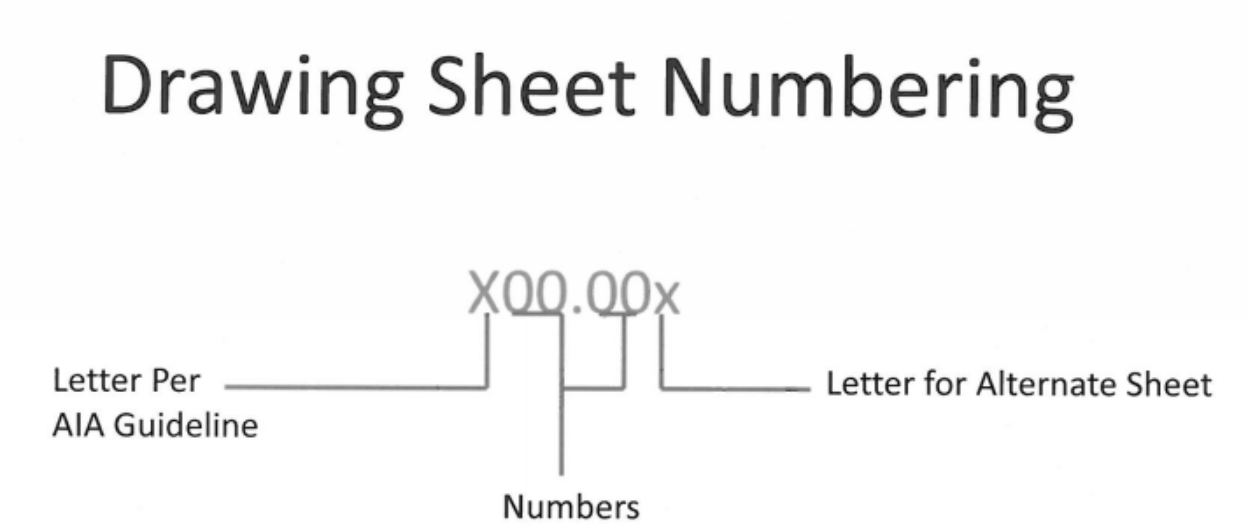
    a) Example: If the drawing title reads “A0.1 – Ground Floor Plan”, in the title block , creation of the PDF drawings file should read “A0.1 – Ground Floor Plan “, sheet number and placed in a discipline folder Architecture, and so forth.

8. Electronic drawing files will be submitted to WCPSS at the following phases:

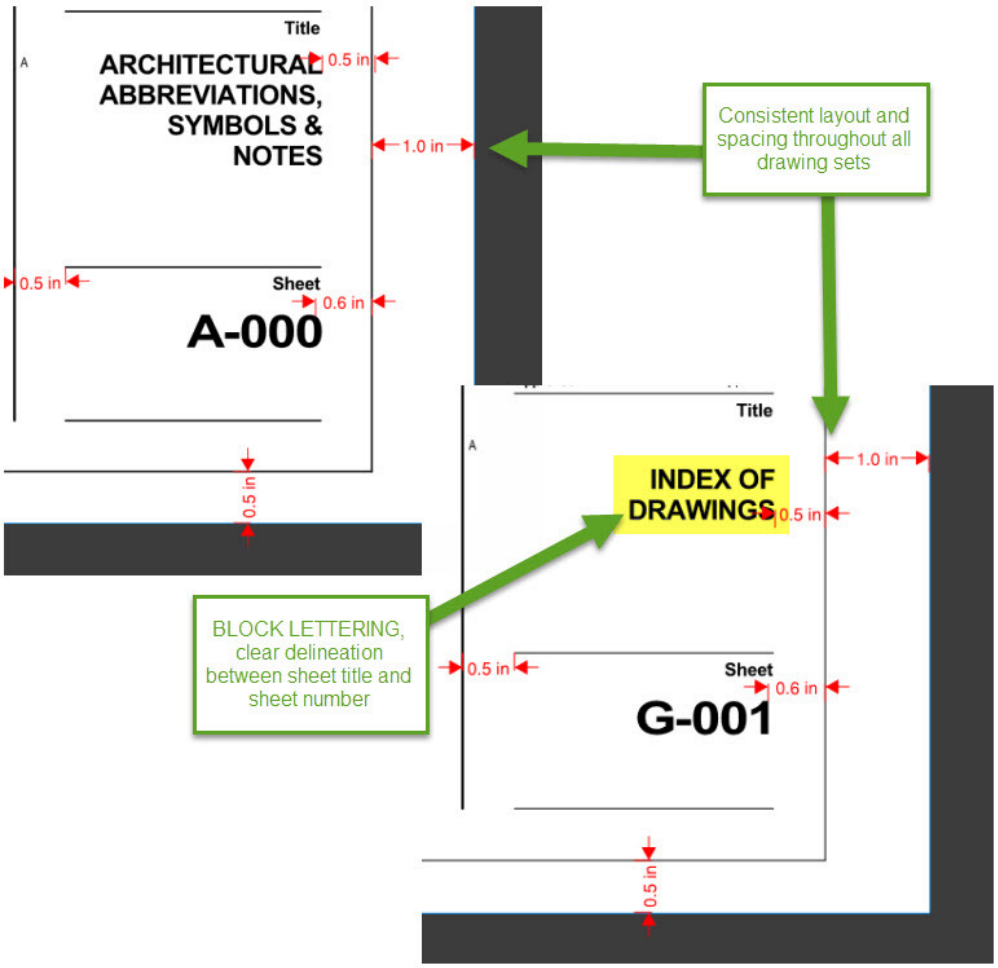
    a) Schematic Design
    b) Design Development
    c) 60% Construction Documents
    d) 100% Construction Documents
    e) Bid Set including all addenda (Conformance Set)
    f) Record Drawings

9. Record Drawing files must have all building letters and rooms numbers verified in the field.

01 02 00 ATTACHMENT B DRAWING SHEET NUMBERING



01 02 00 ATTACHMENT C DRAWING SHEET FONT AND MARGINS



Drawing Sheet Block Guidelines

- Use BLOCK LETTERING and a sans serif typeface
- Allow 1" between drawing L/R border and edge of page
- Allow .5" between drawing Top/Bottom border and edge of page
- Allow .5" margin for Sheet Title and Sheet Number
- Allow at least .5" between top of Sheet Title/Sheet Number and any border or title
- Include a SOLID LINE between Sheet Title and Sheet Number

01 02 00 ATTACHMENT D – DESIGN REVIEW DELIVERY AND FORMATTING GUIDELINES

Design Review Delivery and Formatting Guidelines

1. Drawing Delivery:
   All required documents for WCPSS Design Phase review must:

   a. Be delivered electronically to WCPSS FD&C
   b. Be organized as follows:
      i. **Printed Drawings:**
         1. Bound by Volume - NOTE: Drawings must not exceed 20-25 lbs. in weight per bound volume. Divide volumes accordingly. Printed volumes that exceed this weight may be rejected.

      ii. **Digital Drawings:**
         1. Bound and named by individual Discipline (e.g. 01 - COVER AND INDEX; 02 - ARCHITECTURAL; etc.)
            a. If a Discipline-bound section exceeds 100MB, divide into volumes at a logical division point
         2. Bookmarked *and* labeled **per page** as follows: “Sheet #” - “Sheet Title” (e.g. A08.24 - Interior Elevations; A08.04 - Unit B - First Floor Finish Plan)
         3. Include an Index of Drawings for each Discipline-bound drawings set (e.g. a separate index of drawings each for Architectural, Electrical, Plumbing, Mechanical, Theater, etc.)

2. Formating for Digital Drawings:
   Drawing files must:

   a. Be text searchable (i.e. saved in a way that text can be highlighted or found in a search - no scans of drawings)
   b. Consist of commonly used typeface fonts, recognizable by Windows PCs with no additional fonts loaded

3. Formatting for Digital Specs:
   Digital specs must:

   a. Be text-searchable
   b. Include a footer at the bottom of each page, listing Section # and Section Title
   c. Be Bookmarked **per section** as “Section #” - “Section Title” (e.g. 000105 - certifications page; 221125 - domestic water pumps)
   d. Be formatted consistently with CSI Master Format 2004

01 02 00 ATTACHMENT E – FILE DELIVERABLE REQUIREMENTS

File Deliverable Documents per Revision (includes As-Built)

	SD	DD	60%	100%	Bid	Conform	As-Built	Record
Drawings	x	x	x	x	x	x	x	x
Previous Revision Session Summary, with Incorporation Notes from Architect		x	x	x	x			
Design Phase Report	x	x	x	x	x			
Life Cycle Cost Analysis	x							
Sustainability Checklist	x	x	x	x	x			
Energy Status Report[2]	x	x	x	x	x			
Specs[3]			x	x	x	x	x[5]	x
Attestation that WCPSS Design Guidelines are followed	x	x	x	x				
Attestation that School design meets budget requirements	x	x	x	x				

File Formats

	SD	DD	60%	100%	Bid	Conform	As-Built	Record
.pdf	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**
.dwg					**x**			**x**
Source File[4]								**x**
Full-Size Print Set (Drawings), Owner's Rep								
Half-Size Print Set (Drawings), Owner's Rep	**2**	**2**	**2**	**2**	**2**	**1**		**x**
Full-Size Print Set (Drawings), CM	**1**	**1**	**1**	**1**				
Printed Specs, Owner's Rep			**1**	**1**	**2**	**1**		**2**
Printed Specs, CM			**1**	**1**				

1. Digital files for design review must conform to specs listed in Exhibit D
2. Each revision requires a revision-specific Energy Status Report
3. Spec Manual arrives in CD 60% revision
4. Source File = the file which is readable and editable by the unique program used to create it (e.g. Revit)
5. As-Built Specs shall include all Addenda included in Construction Phase. As-built Specs are the final required Spec

01 02 00 ATTACHMENT F – SCHEMATIC DESIGNS AND EMERGENCY ACCESS TO SCHOOLS

LEGAL MEMORANDUM

THARRINGTON SMITH, LLP
EDUCATION SECTION

Jonathan Blumberg	**Adam Mitchell**
Eva DuBuisson	**Neal Ramee**
Rebecca Fleishman	**Stephen Rawson**
Benita Jones	**Colin Shive**
Kathleen Tanner Kennedy	**Kenneth Soo**
Rod Malone	**Deborah Stagner**
Melissa Michaud	**Carolyn Waller**

Schematic Designs and Emergency Access to Schools

As you may be aware, the North Carolina legislature recently updated the emergency access and schematic design laws for all local school units. These changes were highlighted in both the NCSBA's update on August 15, 2014 and our legislative update on October 6, 2014. We send this memo as an extra reminder and to single out a particular upcoming deadline.

One change, already in effect, requires all school districts to provide local law enforcement with emergency access to key storage devices for all school buildings. School districts must also update access for law enforcement when changes to storage devices are made.

The second change, which goes into effect on June 1, 2015, requires local boards to provide schematic diagrams of school buildings to local law enforcement agencies and to the Division of Emergency Management at the Department of Public Safety. In addition to a traditional format, these diagrams should also be provided in a digital format. This memo is a reminder that you should take the necessary steps to have schematic diagrams available in digital format by June 1, 2015. Further, be aware that when substantial modifications to school buildings are made, boards should provide updates to the schematic designs. It is important to note that the schematic designs are expressly excluded from the public record.

For your reference we are attaching the statutory language. Also attached are the particular regulations formulated by the Department of Public Instruction. These regulations will help guide you in creating and submitting your school diagrams. To provide context for these particular regulations, an entire copy of the Safe Schools Facilities Planner is included as well.

Tharrington Smith, LLP.
February 2015

SCHEMATIC DESIGNS/EMERGENCY ACCESS TO SCHOOLS

SECTION 8.20.(a) Section 8.39 of S.L. 2013-360 is repealed.

SECTION 8.20.(b) Article 8C of Chapter 115C of the General Statutes is amended by adding new sections to read:

"**§ 115C-105.53. Schematic diagrams and emergency access to school buildings for local law enforcement agencies.**

(a) Each local school administrative unit shall provide the following to local law enforcement agencies: (i) schematic diagrams, including digital schematic diagrams, and (ii) emergency access to key storage devices such as KNOX® boxes for all school buildings. Local school administrative units shall provide updates of the schematic diagrams to local law enforcement agencies when substantial modifications such as new facilities or modifications to doors and windows are made to school buildings. Local school administrative units shall also be responsible for providing local law enforcement agencies with updated access to school building key storage devices such as KNOX® boxes when changes are made to these boxes or devices.
(b) The Department of Public Instruction, in consultation with the Department of Public Safety, shall develop standards and guidelines for the preparation and content of schematic diagrams and necessary updates. Local school administrative units may use these standards and guidelines to assist in the preparation of their schematic diagrams.
(c) Schematic diagrams are not considered a public record as the term "public record" is defined under G.S. 132-1 and shall not be subject to inspection and examination under G.S. 132-6.

§ 115C-105.54. Schematic diagrams and emergency response information provided to Division of Emergency Management.

(a) Each local school administrative unit shall provide the following to the Division of Emergency Management (Division) at the Department of Public Safety: (i) schematic diagrams, including digital schematic diagrams, and (ii) emergency response information requested by the Division for the School Risk Management Plan (SRMP) and the School Emergency Response Plan (SERP). Local school administrative units shall also provide updated schematic diagrams and emergency response information to the Division when such updates are made. The Division shall ensure that the diagrams and emergency response information are securely stored and distributed as provided in the SRMP and SERP to first responders, emergency personnel, and school personnel and approved by the Department of Public Instruction.
(b) The schematic diagrams and emergency response information are not considered a public record as the term "public record" is defined under G.S. 132-1 and shall not be subject to inspection and examination under G.S. 132-6."

SECTION 8.20.(c) The schematic diagrams referenced in subsection (b) of this section shall be provided to local law enforcement agencies and the Division of Emergency Management at the Department of Public Safety by June 1, 2015.

RECOMMENDATION FOR PREPARATION OF EMERGENCY SCHOOL SCHEMATIC DIAGRAMS

As required by Session Law 2013-360 section 8.39, each LEA is to provide to local law enforcement a schematic diagram of the each school in its district. It is recommended that the diagrams consisting of site plan and floor plans are prepared in a digital drawing format for ease of updating when the plan may change due to renovations or additions.

All new schools and renovation construction documents are prepared by architects and engineers using a digital drawing format. The standard at this time is AutoCAD DWG format. LEA's should make part of their design agreements the providing of the completed plan with required information affixed to the drawings provided in both DWG format and PDF format. AutoCAD DWG format can be converted to a portable document format such as Adobe Acrobat for printing and transmitting.

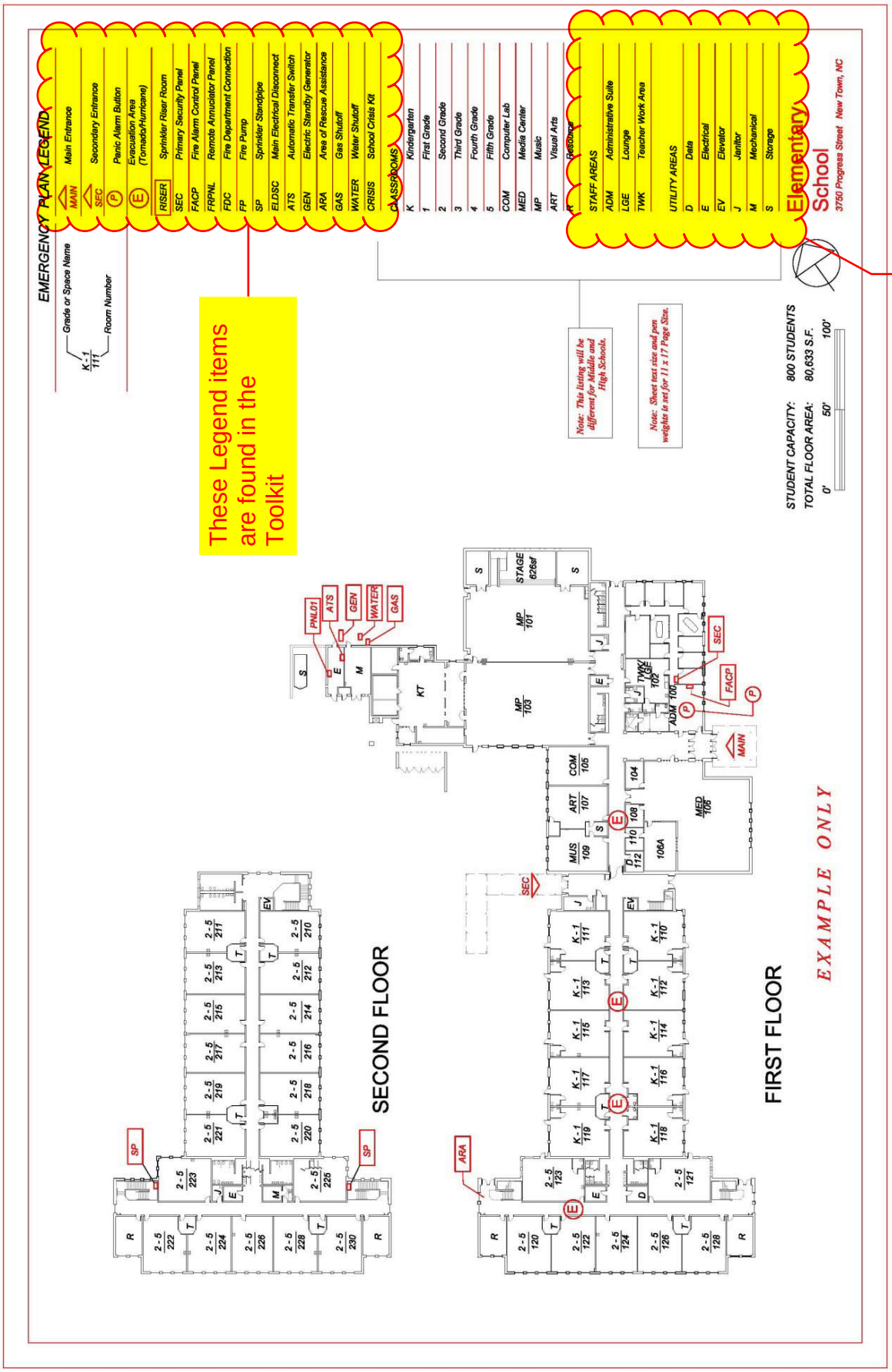
The following is a recommended standard for the preparation of these drawings.

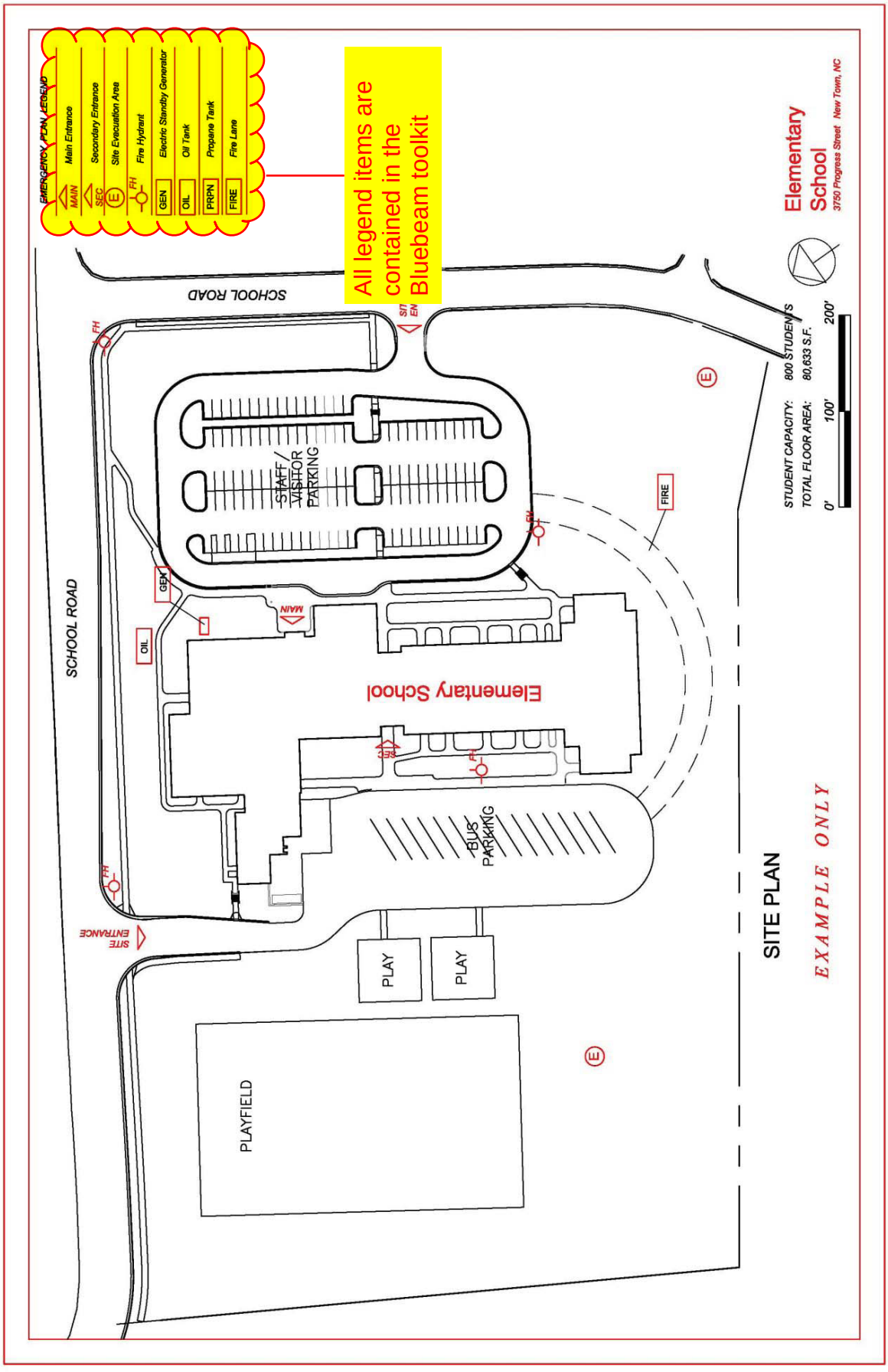
Digital drawings do not need to contain the designers seal or information as these plans serve a totally different purpose and are not considered a public record as the term "public record" as is defined under G.S. 132-1 and shall not be subject to inspection and examination under G.S. 132-6. The base digital drawings can also be used for property accounting drawings by the LEA.

The drawing can also be used for Property Accounting by turning off the emergency layer of the digital copy.

The following example is shown at a reduced scale. It is highly recommended that the print size should be at least 11" x 17" minimum for the clarity of reading the drawing.

SITE PLANS: Site plans should also be provided that will indicate the location of surrounding access streets, driveways, on-site parking areas, and the Main Entrance points to the building. In addition, there should be indication of Evacuation Areas that may be located on the site.


These Legend items are found in the Toolkit
Please point these out as well in your labeling. Classrooms are okay as-is.
EMERGENCY PLAN LEGEND
Grade or Space Name
Room Number
Main Entrance
Secondary Entrance
Panic Alarm Button
Evacuation Area (Tornado/Hurricane)
Sprinkler Riser Room
Primary Security Panel
Fire Alarm Control Panel
Remote Annuciator Panel
Fire Department Connection
Fire Pump
Sprinkler Standpipe
Main Electrical Disconnect
Automatic Transfer Switch
Electric Standby Generator
Area of Rescue Assistance
Gas Shutoff
Water Shutoff
School Crisis Kit
CLASSROOMS
Kindergarten
First Grade
Second Grade
Third Grade
Fourth Grade
Fifth Grade
Computer Lab
Media Center
Music
Visual Arts
Restroom
STAFF AREAS
Administrative Suite
Lounge
Teacher Work Area
UTILITY AREAS
Data
Electrical
Elevator
Janitor
Mechanical
Storage
Elementary School
3750 Progress Street New Town, NC
Note: This listing will be different for Middle and High Schools.
Note: Sheet text size and pen weights to set for 11 x 17 Page Size.
STUDENT CAPACITY: 800 STUDENTS
TOTAL FLOOR AREA: 80,633 S.F.
0' 50' 100'
SECOND FLOOR
FIRST FLOOR
EXAMPLE ONLY


All legend items are contained in the Bluebeam toolkit
EMERGENCY PLAN LEGEND
Main Entrance
Secondary Entrance
Site Evacuation Area
Fire Hydrant
Electric Standby Generator
Oil Tank
Propane Tank
Fire Lane
Elementary School
3750 Progress Street New Town, NC
STUDENT CAPACITY: 800 STUDENTS
TOTAL FLOOR AREA: 80,633 S.F.
0' 100' 200'
SCHOOL ROAD
STAFF / VISITOR PARKING
Elementary School
BUS PARKING
PLAY
PLAY
PLAYFIELD
SITE ENTRANCE
SCHOOL ROAD
SITE PLAN
EXAMPLE ONLY

PLOT SCALES AND TEXT SIZES:

It is recommended that the drawing plot size be 11” x 17” because of the ease of reading reduced size drawings. Font type should be legible and not clutter the readability of the drawing at the plot scale. Text style should be an open non-serif face such as Arial. Bolding the type should not be necessary.

SCHOOL	PLOT	SCALE	TEXT SIZES AT 11” X 17” PLOT SCALE		
			Room Names & Nos.	Emergency Building Names	Titles
Elementary & Middle Floor Plans	11” x 17”	1” = 50’	4’-0”	4’-0”	9’-0”
Elementary & Middle Site Plans	11” x 17”	1” = 100’	4’-0”	4’-0”	9’-0”
High School and Very Large Floor Plans	11” x 17”	1” = 60’	4’-0”	4’-0”	9’-0”
High School and Very Large Site Plans	11” x 17”	1” = 200’	4’-0”	4’-0”	9’-0”

DRAWING COLORS AND LINE WEIGHTS

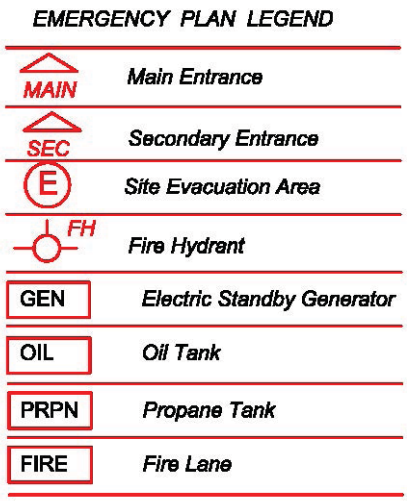
At reduced scales, floor plans and site plans can become “muddy” and not clearly readable. It is recommended that all line weights for the floor and site plans be set to those indicated in the table below. Extraneous information such as furniture, column lines, hatching, material indication in walls, and non-essential text should be removed. Show doors and windows in simplified form. Walls should be indicated without indication of cavities.

DRAWING COLORS AND LINE WEIGHTS			
LOCATIONS	COLOR	LINE WEIGHT	NOTES
Drawing	White/Black	0.09 mm	
Text	White/Black	0.15 mm	
Emergency Text	Red	0.30 mm	
Emergency Symbol	Red	0.30 mm	Size: 9’-6” x 22’

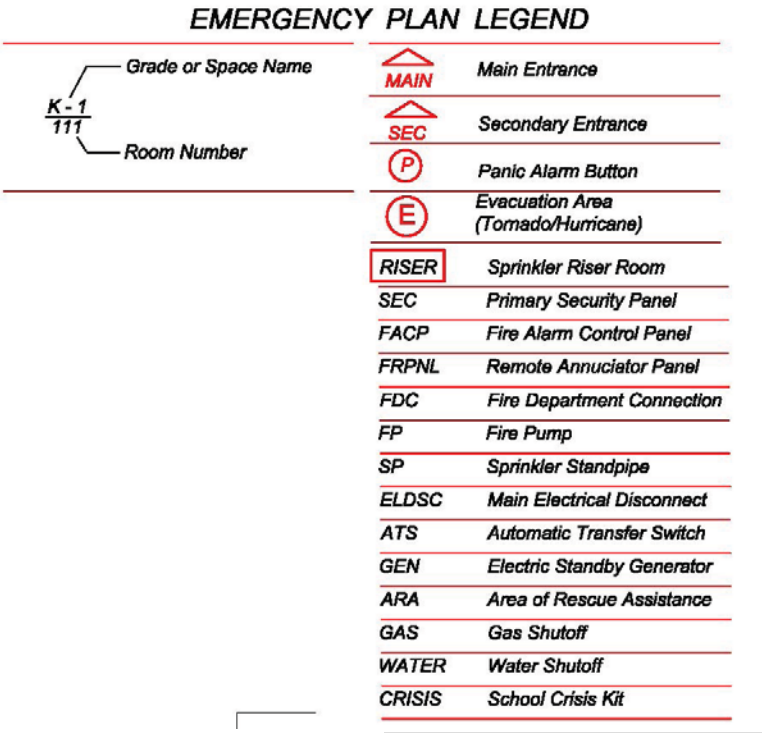
LAYERS

LAYERS – FLOOR PLANS		LAYERS – SITE PLANS	
Emergency Symbols and Text	A-FL-EMER	Emergency Symbols and Text	A-FL-EMER
Walls	A-FL-WL	Building Perimeter	A-ROOF / 1
Windows	A-FL-GL	Drives & Parking	C-PAVE / 2
Doors	A-FL-DR	Property Lines & Easements	C-PROP / 3
Stairs	A-FL-STR	Tree Lines & Major Planting Area	C-TREE / 4
Plumbing Fixtures	A-FL-FIX	Creeks, Ponds & Rivers	C-WATR / 5
Text 11 X 17 Plot	A-TXT-17	Playfields	C-PLAY / 6
Sheet 11 X 17 Plot	S-11X17	Text 11 X 17 Plot	A-TXT-17 / 41
		Sheet 11 x 17 Plot	S-1117 / 51

SYMBOLS AND ABBREVIATIONS



Site Plan Legend



Floor Plan Legend

GENERAL FLOOR PLAN - STANDARD ABBREVIATIONS			
Designation	Description	Designation	Description
DN	Cafeteria / Dining	COM	Computer Lab
KT	Kitchen	MED	Media Center
M	Mechanical	ART	Art Classroom
J	Janitor	MUS	General Purpose Music Room
T	Group Toilet	DD	Dance / Drama Room
ADM	Administrative Suite	AUD	Auditorium
GUI	Guidance Suite (when separate from ADM)	TWK	Teacher's Workroom
RES or R	Small Group Exceptional Children Resource Room	LGE	Teachers' Lounge
EXC	Self-Contained Exceptional Children Classroom	O	Office (Asst. Principal, Resource Officer when remote from ADM)

ELEMENTARY SCHOOL ABBREVIATIONS			
Designation	Description	Designation	Description
PK	Pre-Kindergarten	5	Fifth Grade
K	Kindergarten	4/5	Classroom for use by either grade (example)
1	First Grade	MUS	Music
2	Second Grade	MP	Multi-Purpose / Play
3	Third Grade	PRJ	Multi-Purpose Science or Project Room
4	Fourth Grade		

MIDDLE SCHOOL ABBREVIATIONS			
Designation	Description	Designation	Description
6	Sixth Grade Classroom	BND	Band Room
6SC	Sixth Grade Science Classroom	CHR	Chorus Room
7	Seventh Grade Classroom	MUS	Multi-Purpose Music Room
7SC	Seventh Grade Science Classroom	GYM	Gymnasium
8	Eighth Grade Classroom	WDV	Workforce Development
8SC	Eighth Grade Science Classroom	HL	Health Classroom

HIGH SCHOOL ABBREVIATIONS			
Designation	Description	Designation	Description
CR	Multi-Purpose Classroom	HL	Health Classroom
SC	Science Classroom Lab	AUX	Auxiliary Gym
WDV	Workforce Development	WT	Weight Room
BND	Band Room	WR	Wrestling Room
CHR	Chorus Room	LL	Foreign Language Lab
MUS	Multi-Purpose Music Room	FHSE	Field House
GYM	Gymnasium		

01 03 00 ATTACHMENT A - SPECIFICATION TITLE AND FOOTER GUIDELINES

1. TOC shall be based on CSI Master Format 2004
2. Footers shall be arranged as follows
    a. Footers shall be separated from body text by a horizontal line, with .5" vertical margin between line and text
    b. Section Title shall be Left Justified, with 1" left margin
    c. Section Number and Page shall be Right Justified, with 1" right margin, and shall be displayed as follows:

        [Section Number] - ##
        e.g.
        01 78 39 - 2
        22 10 01

01 07 00 ATTACHMENT A ASSET INFORMATION REQUIREMENTS

A. Information will be provided for all assets in Microsoft Excel format. Wake County Public School System will furnish this format electronically. "Assets" include all building or facility spaces and all mechanical and electrical equipment as specified in the schedules of mechanical and electrical drawings.

B. It is the Maintenance Department's responsibility to collect all information concerning the structures within the facility (building, floor, and room information) and all Equipment Designations. It is the responsibility of the Maintenance Department to provide all specific equipment information, taken from the equipment as it is installed or removed and to record the label number provided by Wake County Public School System. The contractor shall be required to provide a minimum of 2 weeks prior notice to the Wake County Public School System Area Facility Manager (AFM) for all above ceiling inspections and final mechanical room inspections. The AFM shall be responsible for installing the asset inventory label on each piece of equipment. The contractor shall be responsible for furnishing access to all equipment located overhead and on roof.

C. All buildings and spaces within buildings will be classified as "Building Spaces" and will have a separate worksheet called ROOM. Information pertaining to floor coverings, ceiling materials, etc. will be recorded for all areas within the building that can be designated with a specific Room Number. The worksheet for Building Spaces will include the following columns.

1. Equipment Designation: Unit number or designation taken from mechanical / electrical drawings (Ex.: AHU-1, CWP-1, etc.). This column will not be used in recording building/facility spaces (rooms, corridors, buildings, etc). See Attachment 01060-B.
2. Description: Brief description of the asset (Assets include equipment and building/facility spaces).
3. Location: The location of the Asset. This may include an operating location for a piece of equipment or may be a building or facility space that will be tracked as an asset. All building or facility spaces (all rooms, closets, corridors, lobbies, etc.) will be entered in the above table as separate line items without Equipment Designations. Spaces containing equipment assets will also be entered with each equipment item. The location is broken down into the following six sections:
    a. School: The Cost Center for the facility (4 digits, Numeric, 1st digit is a zero in most cases).
    b. Building: The Building Code for the building in which the asset is located (1 digit, Alphanumeric, ex.: Bldg. "A", Bldg. "B", etc.).
    c. Floor: The floor of the building on which the asset is located. (1 digit, Alphanumeric, "G" to be used for assets outside a specific building, "R" to be used for assets located on the roof of a specific building).
    d. Wing: The Wing of the building. Usually corresponds to a series of room numbers (1 digit, Numeric, ex.: "1" for the "100" series of rooms).
    e. Room: The Room number corresponding to the location of the asset (up to 4 digits, Numeric).
    f. Sub-Part: The designation for the sub-partition of a room (1 digit, Alphanumeric, ex.: A closet inside Room 01 may be designated "01A").
4. Equipment Number: Number of the label that the AFM will affix to the equipment.
5. Manufacturer: Manufacturer of the equipment. Care must be taken so that the same manufacturer is not entered more than once with a different name each time.
6. Serial Number: Serial Number of the equipment.
7. Vendor: Vendor from which the equipment was purchased. Care must be taken so that the same Vendor is not entered more than once with a different name each time.

a. Substantial Completion**:** Date on which the equipment was substantially completed**.**

8. Warranty Expiration Date: Date of expiration for the equipment's warranty.

D. Refer to Attachment 01 77 19-C for data collection sheets.

E. In addition to the above columns each asset classification worksheet will include the following asset attributes:

Asset Classification	**Asset Attributes**
Building Space	HVAC Room ID Room Use Primary Floor Covering Secondary Floor Covering Primary Wall Covering Primary Ceiling Material
Air Handling Unit	Unit Type (CHW Cool, CHW Cool/Elec Ht, CHW Cool/HHW Ht, CHW Cool/Steam Ht, Dual Temp Coil, Dual Temp/DX Coil, DX Cool, DX Cool/Elec Ht, DX Cool/HHW Ht, DX Cool/Steam Ht, Elec Ht, HHW Ht, Steam Ht) Model Drive (Belt / Direct) Belt Size Belt Quantity Primary Filter (Sizes and Quantities) Secondary Filter (Sizes and Quantities) Final Filter (Sizes and Quantities) Condenser Manufacturer Condenser Model Condenser S/N Supply Fan MFG Supply Fan Model Lube (Grease/Oil/Sealed) Supply Fan Type (Centrif / Axial) Motor Manufacturer Motor Model # Motor Serial # Motor HP Motor RPM Motor Voltage Motor Phase Motor Frequency Motor Amps Motor Frame Motor Rotation (CW/CCW) Motor Lube (Grease/Oil/Sealed) Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage Starter Manufacturer

Asset Classification	Asset Attributes
	Starter Contact Cat.#
	Starter Contact Size
	Starter Heater/Overload Designation
	Compressor Manufacturer
	Compressor Model #
	Compressor Serial #
Chiller	Type (Centrifugal/ Reciprocating / Screw)
	Model
	Filter (Size and Quantity)
	Condenser Manufacturer
	Condenser Model
	Condenser S/N
	Refrigerant Type
	Purge Refrigerant
	Voltage
	Phase
	Frequency
	Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage
	Starter Manufacturer
	Starter Contact Cat.#
	Starter Contact Size
	Starter Heater/Overload Designation
Cooling Tower	Model
	Drive (Direct / Coupling / Belt / Gear)
	Lube (Grease/Oil/Sealed)
	Belt Size
	Belt Quantity
	Cells
	Motor Manufacturer
	Motor Model #
	Motor Serial #
	Motor HP
	Motor RPM
	Motor Voltage
	Motor Phase
	Motor Frequency
	Motor Amps
	Motor Frame
	Motor Rotation (CW/CCW)
	Motor Lube (Grease/Oil/Sealed)
	Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage

Asset Classification	Asset Attributes
	Starter Manufacturer
	Starter Contact Cat.#
	Starter Contact Size
	Starter Heater/Overload Designation
Emergency Generator	Model
	Serial #
	kW Rating
	Voltage
	Phase
	Amps
	Frequency
	RPM
	Frame
Emergency Gen. Engine	Model
	Fuel (Diesel / Gas / Nat Gas)
	HP
	CYL (Number)
	RPM
	Belt Size
	Belt Quantity
	Oil Filter
	Air Filter
	Fuel Filter
Fan/Blower	Application (Return / Exhaust / Make-up / Supply)
	Type (Centrif / Axial / Prop)
	Model
	Filters (Size and Quantity)
	Lube (Grease/Oil/Sealed)
	Max Capacity (CFM)
	Drive (Direct / Coupling / Belt)
	Belt Size
	Belt Quantity
	Motor Manufacturer
	Motor Model #
	Motor Serial #
	Motor HP
	Motor RPM
	Motor Voltage
	Motor Phase
	Motor Frequency
	Motor Amps
	Motor Frame
	Motor Rotation (CW/CCW)

Asset Classification	Asset Attributes
	Motor Lube (Grease/Oil/Sealed)
	Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage
	Starter Manufacturer
	Starter Contact Cat.#
	Starter Contact Size
	Starter Heater/Overload Designation
Unit Heater	Type (HHW / Steam / Elect / Gas)
	Model
	kW Rating
	Voltage
	Phase
	Cycles
	Amps
Heat Exchanger	Type (Shell and Tube / Plate)
	Model
	Shell Press
	Shell Material
	Tube Press
Heat Exchanger (continued)	Tube Material
	Nat'l Board Number
	NC Certificate
Air Compressor	Model
	Drive (Direct / Coupling / Belt)
	Belt Size
	Belt Quantity
	Air Filter
	Oil Filter
	Receiver Nat'l Board Number
	Stages
	Pressure
	Motor Manufacturer
	Motor Model #
	Motor Serial #
	Motor HP
	Motor RPM
	Motor Voltage
	Motor Phase
	Motor Frequency
	Motor Amps
	Motor Frame
	Motor Rotation (CW/CCW)

Asset Classification	Asset Attributes
	Motor Lube (Grease/Oil/Sealed)
	Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage
	Relief Valve
	Relief Valve Pressure
	Relief Valve Mfg.
Air Dryer	Model
	Type (Refrigerated / Desiccant)
	Cooling
	Filter (Size and Quantity)
	Voltage
	Horsepower
	Capacity (gallons)
	Compressor Manufacturer
	Compressor Model #
	Compressor Serial #
Motor	Model
	HP
	RPM
	Volts
	Phase
	Frequency
	Amps
	Frame
	Rotation (CW / CCW)
	Motor Lube (Grease/Oil/Sealed)
Motor (continued)	Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage
	Starter Manufacturer
	Starter Contact Cat.#
	Starter Contact Size
	Starter Heater/Overload Designation
Electrical Distribution	Elec. Dist. Type (Main Dist. Panel, MCC, Main Switchboard)
	Model
	Volts
	Phase
	Frequency
	Amps
Pump	Type (Centrifugal / Diaphragm / Cartridge / Submersible Meter / Gear)
	Description (Chilled Water, Condensate Return, Cooling Tower, Domestic Hot Water, Dual Temperature, Glycol Water, Heating Hot Water, Loop Water, Oil, Sump)

Asset Classification	Asset Attributes
	Model
	Capacity
	TDH
	Lube (Grease/Oil/Sealed)
	Drive (Belt / Gear / Coupling / Direct)
	Suction Size
	Discharge Size
	Motor Manufacturer
	Motor Model #
	Motor Serial #
	Motor HP
	Motor RPM
	Motor Voltage
	Motor Phase
	Motor Frequency
	Motor Amps
	Motor Frame
	Motor Rotation (CW/CCW)
	Motor Lube (Grease/Oil/Sealed)
	Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage
	Starter Manufacturer
	Starter Contact Cat.#
	Starter Contact Size
	Starter Heater/Overload Designation
Tank	Type (Expansion, HHW Storage, HW Storage, etc.)
	Model
	Capacity
	Date Mfg.
	Max Op Pressure
	Nat'l Board Number
	NC Certification
	Relief Valve
Tank (continued)	Relief Valve Pressure
	Relief Valve Mfg.
Boiler	Fuel (Gas / Oil / Elec)
	Type (Fire Tube / Water Tube)
	Model
	Size
	NC Certificate
	Burner Manufacturer
	Burner Model #
	Burner Serial #
	Input Max. (BTUH)

Asset Classification	Asset Attributes
	Input Min. (BTUH)
	Gas Pressure (Inches)
	Motor Manufacturer
	Motor Model #
	Motor Serial #
	Motor HP
	Motor RPM
	Motor Voltage
	Motor Phase
	Motor Frequency
	Motor Amps
	Motor Frame
	Motor Rotation (CW/CCW)
	Motor Lube (Grease/Oil/Sealed)
	Oil Nozzle Size
	Relief Valve
	Relief Valve Pressure
	Relief Valve Mfg.
Roof	System Type
	Slope
	Deck Type
Dehumidifier	Type (Refrigerated / Desiccant)
	Model
	Refrigerant Type
	Compressor Manufacturer
	Compressor Model #
	Compressor Serial #
Air Conditioning Unit, Ductless Mini-Split	Type (Ht Pump, Cool Only, Elec Ht/Elec Cool)
	Model
	Refrigerant
	Filter
	Condenser Manufacturer
	Condenser Model
	Condenser S/N
	Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage
Air Conditioning Unit, Ductless Mini-Split (continued)	Compressor Manufacturer
	Compressor Model #
	Compressor Serial #
Air Conditioning Unit,	Type (Elec Ht/Elec Cool, Gas Ht/Elec Cool, Ht Pump, Oil Ht/Elec Cool,

Asset Classification	Asset Attributes
Split Central System	Water Souce Cool, Water Source Ht Pump)
	Model
	Drive (Belt/Direct/Coupling)
	Belt Size
	Belt Quantity
	Filter
	Condenser Manufacturer
	Condenser Model
	Condenser S/N
	Refrigerant
	Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage
	Compressor Manufacturer
	Compressor Model #
	Compressor Serial #
Air Conditioning Unit, Packaged Unit	Type (Elec Ht/Elec Cool, Gas Ht/Elec Cool, Ht Pump, HHW Ht/Elec Cool, Steam Ht/Elec Cool, Water Souce Cool, Water Source Ht Pump)
	Model
	Refrigerant
	Drive (Belt/Direct/Coupling)
	Belt Size
	Belt Quantity
	Filter
	Fuel
	Motor Manufacturer
	Motor Model #
	Motor Serial #
	Motor HP
	Motor RPM
	Motor Voltage
	Motor Phase
	Motor Frequency
	Motor Amps
	Motor Frame
	Motor Rotation (CW/CCW)
	Motor Lube (Grease/Oil/Sealed)
	Disconnect Switch Fuse Amperage
	Disconnect Switch Fuse Voltage
	Starter Manufacturer
	Starter Contact Cat.#
	Starter Contact Size
	Starter Heater/Overload Designation
	Compressor Manufacturer
	Compressor Model #
	Compressor Serial #

Asset Classification	Asset Attributes
Air Conditioning Unit Packaged Self-Contained	Type (Air Cool, Ht Pump, Packaged Terminal Unit, Water Cool) Model Refrigerant Drive (Belt/Direct/Coupling) Belt Size Belt Quantity Filter Motor Manufacturer Motor Model # Motor Serial # Motor HP Motor RPM Motor Voltage Motor Phase Motor Frequency Motor Amps Motor Frame Motor Rotation (CW/CCW) Motor Lube (Grease/Oil/Sealed) Disconnect Switch Fuse Amperage Disconnect Switch Fuse Voltage Compressor Manufacturer Compressor Model # Compressor Serial #
Air Conditioning Unit, Computer Room Unit	Type (Air Cool DX, Water Cool, Water Cool w/ Glycol Cooler) Model Refrigerant Drive (Belt/Direct/Coupling) Belt Size Belt Quantity Filter Condenser Manufacturer Condenser Model Condenser S/N Disconnect Switch Fuse Amperage Disconnect Switch Fuse Voltage Compressor Manufacturer Compressor Model # Compressor Serial #
Air Conditioning Unit,	Model

Asset Classification	Asset Attributes
Window Unit	Refrigerant
	Filter
	Compressor Manufacturer
	Compressor Model #
	Compressor Serial #
Fan Coil Unit	Type (Console, Ducted, Horizontal, Vertical)
	Model
	Drive
	Belt Size
Fan Coil Unit (continued)	Belt Quantity
	Filter Size/Qty.
Water Heater	Type (Elec, Gas, Oil, Steam)
	Capacity (Gallons)
	Model
	Input Btu
	Volts
	Phase
	Frequency
	Amps
	Watts Upper
	Watts Lower
	NC Certificate #
	Relief Valve
	Relief Valve Pressure
	Relief Valve Mfg.
Refrigeration Equipment	Type (Walk-in, Reach-in, Ice Mach.)
	Ice Type (Cubed, Flaked)
	Model
	Refrigerant
	Condenser Manufacturer
	Condenser Model
	Condenser S/N
	Compressor Manufacturer
	Compressor Model #
	Compressor Serial #
Transformer	Kva
	Model
	Primary Voltage
	Secondary Voltage
	Type (Dry/Oil Filled)
	Oil Capacity
General Equipment	Equipment Description (Fire Alarm, Kitchen Hood, Backflow Preventer,

Asset Classification	Asset Attributes
	CCTV, Intercom, Security, Variable Frequency Drives, Folding Walls, Electronic Scoreboards, Overhead Door, Dust Collector, Dumbwaiter, Chair Lift,)
	Model
	Backflow Preventer Size
	Belongs To What Equipment Designation
Facility Site Equipment	Equipment Description (Lawn Sprinkler, Site Lighting, Outside Electronic Scoreboard)
	Model
Kitchen Equipment	Equipment Description (Cabinet Heated, Deep Fryer, Oven Braising Pan, Serving Line Cold, Serving Line Hot, Tilt Skillet, Slicer, Steamer
	Model
	Unit Type (Elec, Gas, Oil)
	Volts
	Phase
	Cycles
	Amps
	Watts
Mobile Unit	Property Control #
	Model #
	Primary Floor Covering
	Secondary Floor Covering
	Primary Wall Covering
	Primary Ceiling Material
	HVAC Room ID
ACU, Packaged Self Contained Unit (Belongs to Mobile Unit)	Unit Type
	Model
	Refrigerant Type
	Drive (Belt, Direct)
	Belt Size
	Belt Quantity
	Filter Size
	Compressor Mfg.
	Compressor Model
	Compressor Serial #

All buildings and spaces within buildings will be classified as “Building Spaces” and will have a separate worksheet. The worksheet for Building Spaces will include the following columns. Information pertaining to floor coverings, ceiling materials, etc. will be recorded for all areas within the building that can be designated with a specific Room Number.

Asset Classification	**Asset Attributes**
Building Space	HVAC Room ID
	Room Use
	Primary Floor Covering
	Secondary Floor Covering
	Primary Wall Covering
	Primary Ceiling Material

01 07 00 ATTACHMENT B EQUIPMENT DESIGNATIONS

EQUIPMENT	EQ DESIGNATION CODE
ACU-COMPUTER ROOM UNITS	ACU
ACU-DUCTLESS MINI-SPLIT	ACU or HP
ACU-PACKAGED SELF CONTAINED	ACU or HP
ACU-PACKAGED UNIT	ACU or HP
ACU-SPLIT CENTRAL	ACU or HP
ACU-WINDOW UNIT	ACU
AIR COMPRESSOR	AC
AIR DRYER	AD
AIR HANDLING UNITS	AHU
BACKFLOW PREVENTER	BFP
BOILER	B
BRAISING PAN	KE
CABINET HEATED	KE
CCTV	CCTV
CHILLER	CH
COOLING TOWER	CT
DEEP FRYER	KE
DEHUMIDIFIER	DHD
DUST COLLECTOR	DC
ED-MAIN DISTRIBUTION PANEL	MDP
ELECTRONIC SCOREBOARD	ES
EMERGENCY GENERATOR	EG
ENGINE, EMERGENCY GENERATOR	EEG
FAN, AIR CURTAIN	FC
FAN, EXHAUST	EF
FAN, RETURN	RF
FAN, SUPPLY	SF
FAN COIL UNIT	FCU
FIRE ALARM SYSTEM	FAS
FOLDING WALLS	FW
HEAT EXCHANGER	HX

EQUIPMENT	EQ DESIGNATION CODE
KITCHEN HOOD	KH
MOTOR	MTR
OVEN	KE
OVERHEAD DOOR	OHDR
PUMP, BOOSTER	BP
PUMP, CHILLED WATER	CWP
PUMP, CONDENSATE RETURN	CRP
PUMP, COOLING TOWER WATER	CTP
PUMP, DOMESTIC COLD WATER	DCWP
PUMP, DOMESTIC HOT WATER	DHWP
PUMP, DUAL TEMPERATURE WATER	DTWP
PUMP, GLYCOL WATER	GWP
PUMP, HEATING HOT WATER	HHWP
PUMP, LOOP	LP
PUMP, OIL	OP
PUMP, SUMP	SP
REACH-IN COOLER	RRU
REACH-IN FREEZER	RRU
SECURITY	SEC
SERVING LINE COLD	KE
SERVING LINE HOT	KE
SITE LIGHTING	SL
SLICER	KE
STEAMER	KE
TANK, CHW STORAGE	CHWST
TANK, DHW STORAGE	DHWST
TANK, EXPANSION	ET
TANK, HHW STORAGE	HHWST
TILT SKILLET	KE
UNIT HEATER	UH
VARIABLE FREQUENCY DRIVES	VFD

ICE MACHINE	IM
INTERCOM	IC
INVERTER SYSTEM	INV
IRRIGATION SYSTEM	IS

WALK-IN COOLER	WRU
WALK-IN FREEZER	WRU
WATER HEATER	WH

01 07 00 ATTACHMENT C ROOM DATA COLLECTION SHEETS

01 – Room Data Collection Sheets

02 – Roof Data Collection Sheets

03 – ACU Computer Room Unit Data Collection Sheets

04 – ACU Ductless Mini-split Unit Data Collection Sheets

05 – ACU Packaged Unit Data Collection Sheets

06 – ACU Packaged Self Contained Unit Data Collection Sheets

07 – ACU Split Central Data Collection Sheets

08 – ACU Window Unit Data Collection Sheets

09 – Air Compressor Data Collection Sheets

10 – Air Dryer Data Collection Sheets

11 – Air Handling Unit Data Collection Sheets

12 – Boiler Data Collection Sheets

13 – Chiller Data Collection Sheets

14 – Compressor Data Collection Sheets

15 – Cooling Tower Data Collection Sheets

16 – Dehumidifier Data Collection Sheets

17 – Electrical Distribution Data Collection Sheets

18 – Emergency Generator Data Collection Sheets

19 – Emergency Generator Engine Data Collection Sheets

20 – Facility Site Equipment Data Collection Sheets

21 – Fan Data Collection Sheets

22 – Fan Coil Unit Data Collection Sheets

23 – General Equipment Data Collection Sheets

24 – Heat Exchanger Data Collection Sheets

25 – Invert System Data Collection Sheets

26 – Kitchen Equipment Data Collection Sheets

27 – Mobile Units Data Collection Sheets

28 – Motor Data Collection Sheets

29 – Overhead Door Data Collection Sheets

30 – Pump Data Collection Sheets

31 – Refrigeration Equipment Data Collection Sheets

32 – Tank Data Collection Sheets

WAKE COUNTY PUBLICH SCHOOL SYSTEM MAINTENANCE AND OPERATIONS

ROOM DATA COLLECTION SHEET

DATE: ________________

LOCATION									
SCHOOL	BUILDING	FLOOR	ROOM #	ROOM USE	HVAC ROOM ID	FLOOR 1	FLOOR 2	WALL	CEILING
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
				ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY		CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - PANELING - GLASS BLOCK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME:

CLASSIFICATION: **ROOF** **DEFAULT DESIGNATION: RF**

EQUIPMENT DESIGNATION	RF -	RF -	RF -	RF -	RF -	RF -	RF -	RF -	RF -
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
PRIORITY	3	3	3	3	3	3	3	3	3
ROOF TYPE									
ROOF SLOPE	LOW STEEP	LOW STEEP	LOW STEEP	LOW STEEP	LOW STEEP	LOW STEEP	LOW STEEP	LOW STEEP	LOW STEEP
DECK TYPE									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **AIR CONDITIONING UNIT**
SUB-CLASSIFICATION: **COMPUTER ROOM UNIT** **DEFAULT DESIGNATION: ACU**

EQUIPMENT DESIGNATION	ACU -	ACU -	ACU -	ACU -	ACU -	ACU -	ACU -	ACU -	ACU -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	AC - WC - GLYCOL	AC - WC - GLYCOL	AC - WC - GLYCOL	AC - WC - GLYCOL	AC - WC - GLYCOL	AC - WC - GLYCOL	AC - WC - GLYCOL	AC - WC - GLYCOL	AC - WC - GLYCOL
MODEL NUMBER									
REFRIGERANT TYPE									
DRIVE	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT
BELT SIZE									
BELT QUANTITY									
FILTER SIZE HXWXD(QTY)									
CONDENSER MFG.									
CONDENSER MODEL #									
CONDENSER SERIAL #									
COMPRESSOR MFG.									
COMPRESSOR MODEL #									
COMPRESSOR SERIAL #									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **AIR CONDITIONING UNIT**
SUB-CLASSIFICATION: **DUCTLESS MINI-SPLIT** **DEFAULT DESIGNATION: HP (Heat Pumps), ACU (All others)**

EQUIPMENT DESIGNATION									
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	CLG. ONLY ELEC. HTG/CLG HEAT PUMP	CLG. ONLY ELEC. HTG/CLG HEAT PUMP	CLG. ONLY ELEC. HTG/CLG HEAT PUMP	CLG. ONLY ELEC. HTG/CLG HEAT PUMP	CLG. ONLY ELEC. HTG/CLG HEAT PUMP	CLG. ONLY ELEC. HTG/CLG HEAT PUMP	CLG. ONLY ELEC. HTG/CLG HEAT PUMP	CLG. ONLY ELEC. HTG/CLG HEAT PUMP	CLG. ONLY ELEC. HTG/CLG HEAT PUMP
MODEL NUMBER									
REFRIGERANT TYPE									
FILTER SIZE HXWXD(QTY)									
CONDENSER MFG.									
CONDENSER MODEL #									
CONDENSER SERIAL #									
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
COMPRESSOR MFG.									
COMPRESSOR MODEL									
COMPRESSOR SERIAL#									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: 0
CLASSIFICATION: AIR CONDITIONING UNIT
SUB-CLASSIFICATION: PACKAGED UNIT

DEFAULT DESIGNATIONS: HP (Heat Pumps), ACU (All others)

EQUIPMENT DESIGNATION									
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - HHW HTG - STM HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - HHW HTG - STM HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - HHW HTG - STM HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - HHW HTG - STM HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - HHW HTG - STM HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - HHW HTG - STM HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - HHW HTG - STM HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - HHW HTG - STM HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - HHW HTG - STM HTG
MODEL NUMBER									
REFRIGERANT TYPE									
DRIVE	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT
BELT SIZE									
BELT QUANTITY									
FILTER SIZE HXWXD(QTY)									
FUEL	NATURAL GAS PROPANE	NATURAL GAS PROPANE	NATURAL GAS PROPANE	NATURAL GAS PROPANE	NATURAL GAS PROPANE	NATURAL GAS PROPANE	NATURAL GAS PROPANE	NATURAL GAS PROPANE	NATURAL GAS PROPANE
FAN MOTOR MFG.									
FAN MOTOR MODEL #									
FAN MOTOR SERIAL #									
FAN MOTOR HP									

SCHOOL CODE/NAME: **0**
CLASSIFICATION: **AIR CONDITIONING UNIT**
SUB-CLASSIFICATION: **PACKAGED UNIT** **DEFAULT DESIGNATIONS: HP (Heat Pumps), ACU (All others)**

FAN MOTOR RPM									
FAN MOTOR VOLTAGE									
FAN MOTOR PHASE									
FAN MOTOR FREQUENCY									
FAN MOTOR AMPS									
FAN MOTOR FRAME SIZE									
FAN MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
FAN MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
STARTER MFG.									
CONT. CAT.									
CONT. SIZE									
COMPRESSOR MFG.									
COMPRESSOR MODEL									
COMPRESSOR SERIAL#									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: 0
CLASSIFICATION: AIR CONDITIONING UNIT
SUB-CLASSIFICATION: PACKAGED SELF CONTAINED **DEFAULT DESIGNATIONS: HP (Heat Pumps), ACU (All others)**

EQUIPMENT DESIGNATION									
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	AIR COOLED - HP - PACK. TERMINAL UNIT - WATER COOLED	AIR COOLED - HP - PACK. TERMINAL UNIT - WATER COOLED	AIR COOLED - HP - PACK. TERMINAL UNIT - WATER COOLED	AIR COOLED - HP - PACK. TERMINAL UNIT - WATER COOLED	AIR COOLED - HP - PACK. TERMINAL UNIT - WATER COOLED	AIR COOLED - HP - PACK. TERMINAL UNIT - WATER COOLED	AIR COOLED - HP - PACK. TERMINAL UNIT - WATER COOLED	AIR COOLED - HP - PACK. TERMINAL UNIT - WATER COOLED	AIR COOLED - HP - PACK. TERMINAL UNIT - WATER COOLED
MODEL NUMBER									
REFRIGERANT TYPE									
DRIVE	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT
BELT SIZE									
BELT QUANTITY									
FILTER SIZE HXWXD(QTY)									
FAN MOTOR MFG.									
FAN MOTOR MODEL #									
FAN MOTOR SERIAL #									
FAN MOTOR HP									
FAN MOTOR RPM									
FAN MOTOR VOLTAGE									

SCHOOL CODE/NAME: **0**
CLASSIFICATION: **AIR CONDITIONING UNIT**
SUB-CLASSIFICATION: **PACKAGED SELF CONTAINED** **DEFAULT DESIGNATIONS: HP (Heat Pumps), ACU (All others)**

FAN MOTOR PHASE									
FAN MOTOR FREQUENCY									
FAN MOTOR AMPS									
FAN MOTOR FRAME SIZE									
FAN MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
FAN MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
COMPRESSOR MFG.									
COMPRESSOR MODEL									
COMPRESSOR SERIAL#									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: 0

CLASSIFICATION: AIR CONDITIONING UNIT
SUB-CLASSIFICATION: SPLIT CENTRAL

DEFAULT DESIGNATIONS: HP (Heat Pumps), ACU (All others)

EQUIPMENT DESIGNATION									
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - OIL HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - OIL HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - OIL HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - OIL HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - OIL HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - OIL HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - OIL HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - OIL HTG	DX AC - DX WC - HP - WSHP - ELEC HTG - GAS HTG - OIL HTG
MODEL NUMBER									
REFRIGERANT TYPE									
DRIVE	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT
BELT SIZE									
BELT QUANTITY									
FILTER SIZE HXWXD(QTY)									
CONDENSER MFG.									
CONDENSER MODEL #									
CONDENSER SERIAL #									
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
COMPRESSOR MFG.									
COMPRESSOR MODEL									
COMPRESSOR SERIAL#									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **AIR CONDITIONING UNIT**
SUB-CLASSIFICATION: **WINDOW UNIT**   **DEFAULT DESIGNATION: ACU**

EQUIPMENT DESIGNATION	ACU -	ACU -	ACU -	ACU -	ACU -	ACU -	ACU -	ACU -	ACU -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
MODEL NUMBER									
REFRIGERANT TYPE									
FILTER SIZE HXWXD(QTY)									
COMPRESSOR MFG.									
COMPRESSOR MODEL									
COMPRESSOR SERIAL#									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **AIR COMPRESSOR** **DEFAULT DESIGNATION: AC**

EQUIPMENT DESIGNATION	AC -	AC -	AC -	AC -	AC -	AC -	AC -	AC -	AC -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
MODEL NO.									
DRIVE TYPE	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR
FAN BELT SIZE (QTY)									
AIR FILTER									
OIL FILTER									
NATIONAL BOARD NO.									
NO. OF STAGES									
PRESSURE (PSIG)									
MOTOR MFG.									
MOTOR MODEL #									
MOTOR SERIAL #									
MOTOR HORSEPOWER									

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **AIR COMPRESSOR** **DEFAULT DESIGNATION: AC**

MOTOR RPM									
MOTOR VOLTAGE									
MOTOR PHASE									
MOTOR FREQUENCY									
MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
MOTOR AMPS									
MOTOR FRAME									
MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
RELIEF VALVE									
RELIEF VALVE PRESSURE									
RELIEF VALVE MFG.									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **AIR DRYER** **DEFAULT DESIGNATION: AD**

EQUIPMENT DESIGNATION	AD -	AD -	AD -	AD -	AD -	AD -	AD -	AD -	AD -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
MODEL NO.									
UNIT TYPE	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED
COOLING									
FILTER									
VOLTS									
HP									
CAPACITY									
COMPRESSOR MFG									
COMPRESSOR MN									
COMPRESSOR SN									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: 0

CLASSIFICATION: **AIR HANDLING UNIT** **DEFAULT DESIGNATION: AHU**

EQUIPMENT DESIGNATION	AHU -	AHU -	AHU -	AHU -	AHU -	AHU -	AHU -	AHU -	AHU -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	CHW - DX - DT - ELEC HTG - HHW HTG - STM HTG	CHW - DX - DT - ELEC HTG - HHW HTG - STM HTG	CHW - DX - DT - ELEC HTG - HHW HTG - STM HTG	CHW - DX - DT - ELEC HTG - HHW HTG - STM HTG	CHW - DX - DT - ELEC HTG - HHW HTG - STM HTG	CHW - DX - DT - ELEC HTG - HHW HTG - STM HTG	CHW - DX - DT - ELEC HTG - HHW HTG - STM HTG	CHW - DX - DT - ELEC HTG - HHW HTG - STM HTG	CHW - DX - DT - ELEC HTG - HHW HTG - STM HTG
MODEL NUMBER									
DRIVE	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT
BELT SIZE (QTY)									
PRIMARY FILTER HXWXD (QTY)									
SECONDARY FILTER HXWXD (QTY)									
FINAL FILTER HXWXD (QTY)									
CONDENSER MFG.									
CONDENSER MODEL #									
CONDENSER SERIAL #									
SUPPLY FAN MFG.									
SUPPLY FAN MODEL #									
SUPPLY FAN LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
SUPPLY FAN TYPE	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP
MOTOR MFG.									

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **AIR HANDLING UNIT** **DEFAULT DESIGNATION: AHU**

MOTOR MODEL #									
MOTOR SERIAL #									
MOTOR HORSEPOWER									
MOTOR RPM									
MOTOR VOLTAGE									
MOTOR PHASE									
MOTOR FREQUENCY									
MOTOR FRAME									
MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
MOTOR AMPS									
MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
STARTER MANUFACTURER									
STARTER CONTACT CAT. #									
STARTER CONTACT SIZE									
STARTER HEATER/ OVERLOAD DESIGNATION									
COMPRESSOR MFG.									
COMPRESSOR MODEL									
COMPRESSOR SERIAL#									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: 0

CLASSIFICATION: BOILER   **DEFAULT DESIGNATIONS: B (Boilers), WH (Water Heaters)**

EQUIPMENT DESIGNATION									
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	4	4	4	4	4	4	4	4	4
HEATING FUEL	ELEC - OIL - GAS	ELEC - OIL - GAS	ELEC - OIL - GAS	ELEC - OIL - GAS	ELEC - OIL - GAS	ELEC - OIL - GAS	ELEC - OIL - GAS	ELEC - OIL - GAS	ELEC - OIL - GAS
TYPE	FIRETUBE - WATERTUBE	FIRETUBE - WATERTUBE	FIRETUBE - WATERTUBE	FIRETUBE - WATERTUBE	FIRETUBE - WATERTUBE	FIRETUBE - WATERTUBE	FIRETUBE - WATERTUBE	FIRETUBE - WATERTUBE	FIRETUBE - WATERTUBE
MODEL NO.									
BOILER SIZE (BTUH)									
N.C. CERTIFICATE #									
BURNER MANUFACTURER									
BURNER MODEL NUMBER									
BURNER SERIAL NUMBER									
INPUT MAX. (BTUH)									
INPUT MIN. (BTUH)									
GAS PRESSURE (INCHES)									
MOTOR MANUFACTURER									
MOTOR MODEL NUMBER									

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **BOILER** **DEFAULT DESIGNATIONS: B (Boilers), WH (Water Heaters)**

MOTOR SERIAL NUMBER									
MOTOR HORSEPOWER									
MOTOR RPM									
MOTOR VOLTAGE									
MOTOR PHASE									
MOTOR FREQUENCY									
MOTOR FRAME									
MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
MOTOR AMPS									
MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
RELIEF VALVE									
PRESSURE									
MANUFACTURER									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: 0
CLASSIFICATION: CHILLER   **DEFAULT DESIGNATION: CH**

EQUIPMENT DESIGNATION	CH -	CH -	CH -	CH -	CH -	CH -	CH -	CH -	CH -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	4	4	4	4	4	4	4	4	4
UNIT TYPE	CENT - RECIP - SCREW	CENT - RECIP - SCREW	CENT - RECIP - SCREW	CENT - RECIP - SCREW	CENT - RECIP - SCREW	CENT - RECIP - SCREW	CENT - RECIP - SCREW	CENT - RECIP - SCREW	CENT - RECIP - SCREW
MODEL NO.									
FILTER									
CONDENSER MFG.									
CONDENSER MODEL #									
CONDENSER SERIAL #									
REFRIGERANT TYPE									
PURGE REFRIGERANT									
VOLTAGE									
PHASE									
FREQUENCY									
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
STARTER MANUFACTURER									
STARTER CONTACT CAT. #									
STARTER CONTACT SIZE									
STARTER HEATER/OVERLOAD DESIGNATION									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **COMPRESSOR** **DEFAULT DESIGNATION: CMP**

EQUIPMENT DESIGNATION	CMP -	CMP -	CMP -	CMP -	CMP -	CMP -	CMP -	CMP -	CMP -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
BELONGS TO									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
COMPRESSOR MODEL #									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **COOLING TOWER** **DEFAULT DESIGNATION: CT**

EQUIPMENT DESIGNATION	CT -	CT -	CT -	CT -	CT -	CT -	CT -	CT -	CT -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	4	4	4	4	4	4	4	4	4
MODEL NO.									
FAN DRIVE TYPE	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR
FAN LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
FAN BELT SIZE (QTY)									
NO. OF CELLS									
MOTOR MFG.									
MOTOR MODEL #									
MOTOR SERIAL #									
MOTOR HORSEPOWER									
MOTOR RPM									
MOTOR VOLTAGE									
MOTOR PHASE									
MOTOR FREQUENCY									

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **COOLING TOWER** **DEFAULT DESIGNATION: CT**

MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
MOTOR AMPS									
MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
MOTOR FRAME									
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
STARTER MANUFACTURER									
STARTER CONTACT CAT. #									
STARTER CONTACT SIZE									
STARTER HEATER/OVERLOAD DESIGNATION									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **DEHUMIDIFIER** **DEFAULT DESIGNATION: DHD**

EQUIPMENT DESIGNATION	DHD -	DHD -	DHD -	DHD -	DHD -	DHD -	DHD -	DHD -	DHD -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED	DESSICANT REFRIGERATED
MODEL NO.									
REFRIGERANT TYPE									
COMPRESSOR MFG.									
COMPRESSOR MODEL									
COMPRESSOR SERIAL#									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **ELECTRICAL DISTRIBUTION** **DEFAULT DESIGNATION: MDP**

EQUIPMENT DESIGNATION	MDP -	MDP -	MDP -	MDP -	MDP -	MDP -	MDP -	MDP -	MDP -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	4	4	4	4	4	4	4	4	4
UNIT TYPE	MAIN DIST PANEL	MAIN DIST PANEL	MAIN DIST PANEL	MAIN DIST PANEL	MAIN DIST PANEL	MAIN DIST PANEL	MAIN DIST PANEL	MAIN DIST PANEL	MAIN DIST PANEL
MODEL NO.									
VOLTAGE									
PHASE									
FREQUENCY									
AMP RATING									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **EMERGENCY GENERATOR** **DEFAULT DESIGNATION: EG**

EQUIPMENT DESIGNATION	EG -	EG -	EG -	EG -	EG -	EG -	EG -	EG -	EG -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	5	5	5	5	5	5	5	5	5
MODEL NO.									
KW RATING									
VOLTAGE									
PHASE									
FREQUENCY									
GENERATOR AMPS									
GENERATOR RPM									
GENERATOR FRAME SIZE									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: 0

CLASSIFICATION: ENGINE, EMERGENCY GENERATOR

DEFAULT DESIGNATION: EEG

EQUIPMENT DESIGNATION	EEG -	EEG -	EEG -	EEG -	EEG -	EEG -	EEG -	EEG -	EEG -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	5	5	5	5	5	5	5	5	5
MODEL NO.									
ENGINE FUEL	DIESEL - GASOLINE - NAT. GAS - PROPANE	DIESEL - GASOLINE - NAT. GAS - PROPANE	DIESEL - GASOLINE - NAT. GAS - PROPANE	DIESEL - GASOLINE - NAT. GAS - PROPANE	DIESEL - GASOLINE - NAT. GAS - PROPANE	DIESEL - GASOLINE - NAT. GAS - PROPANE	DIESEL - GASOLINE - NAT. GAS - PROPANE	DIESEL - GASOLINE - NAT. GAS - PROPANE	DIESEL - GASOLINE - NAT. GAS - PROPANE
ENGINE HP									
ENGINE # CYLINDERS									
ENGINE RPM									
BELT SIZE (QTY)									
OIL FILTER									
AIR FILTER									
FUEL FILTER									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: 0

CLASSIFICATION: **FACILITY SITE EQUIPMENT** **DEFAULT DESIGNATION:**

EQUIPMENT DESIGNATION											
MAXIMO EQUIP. NUMBER											
MANUFACTURER											
SERIAL NUMBER											Equipment Priority
EQUIPMENT DESCRIPTION	IS	IRRIGATION SYSTEM	IRRIGATION SYSTEM	IRRIGATION SYSTEM	IRRIGATION SYSTEM	IRRIGATION SYSTEM	IRRIGATION SYSTEM	IRRIGATION SYSTEM	IRRIGATION SYSTEM	IRRIGATION SYSTEM	2
	SL	SITE LIGHTING	SITE LIGHTING	SITE LIGHTING	SITE LIGHTING	SITE LIGHTING	SITE LIGHTING	SITE LIGHTING	SITE LIGHTING	SITE LIGHTING	5
	DW	DUMBWAITER	DUMBWAITER	DUMBWAITER	DUMBWAITER	DUMBWAITER	DUMBWAITER	DUMBWAITER	DUMBWAITER	DUMBWAITER	2
	CHLFT	CHAIRLIFT	CHAIRLIFT	CHAIRLIFT	CHAIRLIFT	CHAIRLIFT	CHAIRLIFT	CHAIRLIFT	CHAIRLIFT	CHAIRLIFT	4
	ELV	ELEVATOR	ELEVATOR	ELEVATOR	ELEVATOR	ELEVATOR	ELEVATOR	ELEVATOR	ELEVATOR	ELEVATOR	4
	GT	GREASE TRAP	GREASE TRAP	GREASE TRAP	GREASE TRAP	GREASE TRAP	GREASE TRAP	GREASE TRAP	GREASE TRAP	GREASE TRAP	4
	LS	LIFT STATION	LIFT STATION	LIFT STATION	LIFT STATION	LIFT STATION	LIFT STATION	LIFT STATION	LIFT STATION	LIFT STATION	5
MODEL NUMBER											

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **FAN** **DEFAULT DESIGNATION: FC, EF, RF, or SF**

EQUIPMENT DESIGNATION										
SPACE DESCRIPTION		ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER										
LOCATION ON ROOF/SITE		N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)										
BLDG. CODE (A,B,C…)										
MAXIMO EQUIP. #										
MANUFACTURER										
SERIAL NUMBER										
PRIORITY		3	3	3	3	3	3	3	3	3
EQUIP. APPLICATION	FC	AIR CURTAIN	AIR CURTAIN	AIR CURTAIN	AIR CURTAIN	AIR CURTAIN	AIR CURTAIN	AIR CURTAIN	AIR CURTAIN	AIR CURTAIN
	EF	EXHAUST	EXHAUST	EXHAUST	EXHAUST	EXHAUST	EXHAUST	EXHAUST	EXHAUST	EXHAUST
	RF	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN
	SF	SUPPLY	SUPPLY	SUPPLY	SUPPLY	SUPPLY	SUPPLY	SUPPLY	SUPPLY	SUPPLY
UNIT TYPE		AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP	AXIAL - CENT - PROP
MODEL NUMBER										
FILTER SIZE HXWXD (QTY)										
FAN LUBRICATION		GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
DRIVE TYPE		BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR
BELT SIZE (QTY)										
FAN CAPACITY (CFM)										
MOTOR MFG.										
MOTOR MODEL #										
MOTOR SERIAL #										
MOTOR HORSEPOWER										
MOTOR RPM										

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **FAN** **DEFAULT DESIGNATION: FC, EF, RF, or SF**

MOTOR VOLTAGE									
MOTOR PHASE									
MOTOR FREQUENCY									
MOTOR FRAME									
MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
MOTOR AMPS									
MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
STARTER MANUFACTURER									
STARTER CONTACT CAT. #									
STARTER CONTACT SIZE									
STARTER HEATER/OVERLOAD DESIGNATION									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **FAN COIL UNIT**

DEFAULT DESIGNATION: FCU

EQUIPMENT DESIGNATION	FCU -	FCU -	FCU -	FCU -	FCU -	FCU -	FCU -	FCU -	FCU -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	CONSOLE - DUCTED - HORIZONTAL - VERTICAL	CONSOLE - DUCTED - HORIZONTAL - VERTICAL	CONSOLE - DUCTED - HORIZONTAL - VERTICAL	CONSOLE - DUCTED - HORIZONTAL - VERTICAL	CONSOLE - DUCTED - HORIZONTAL - VERTICAL	CONSOLE - DUCTED - HORIZONTAL - VERTICAL	CONSOLE - DUCTED - HORIZONTAL - VERTICAL	CONSOLE - DUCTED - HORIZONTAL - VERTICAL	CONSOLE - DUCTED - HORIZONTAL - VERTICAL
MODEL NUMBER									
DRIVE	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT
BELT SIZE									
BELT QUANTITY									
FILTER SIZE HXWXD (QTY)									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **GENERAL EQUIPMENT** **DEFAULT DESIGNATION:**

EQUIPMENT DESIGNATION											
SPACE DESCRIPTION		ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	
ROOM NUMBER											
LOCATION ON ROOF/SITE		N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	
BLDG. FLOOR (B,1,2,3…)											
BLDG. CODE (A,B,C…)											
MAXIMO EQUIP. #											
MANUFACTURER											
SERIAL NUMBER											**Equipment Priority**
EQUIP. DESCRIPTION	**FAS**	FIRE ALARM SYSTEM	FIRE ALARM SYSTEM	FIRE ALARM SYSTEM	FIRE ALARM SYSTEM	FIRE ALARM SYSTEM	FIRE ALARM SYSTEM	FIRE ALARM SYSTEM	FIRE ALARM SYSTEM	FIRE ALARM SYSTEM	**5**
	KH	KITCHEN HOOD	KITCHEN HOOD	KITCHEN HOOD	KITCHEN HOOD	KITCHEN HOOD	KITCHEN HOOD	KITCHEN HOOD	KITCHEN HOOD	KITCHEN HOOD	**3**
	BFP	BACKFLOW PREVENTER	BACKFLOW PREVENTER	BACKFLOW PREVENTER	BACKFLOW PREVENTER	BACKFLOW PREVENTER	BACKFLOW PREVENTER	BACKFLOW PREVENTER	BACKFLOW PREVENTER	BACKFLOW PREVENTER	**5**
	CCTV	CCTV	CCTV	CCTV	CCTV	CCTV	CCTV	CCTV	CCTV	CCTV	**4**
	IC	INTERCOM	INTERCOM	INTERCOM	INTERCOM	INTERCOM	INTERCOM	INTERCOM	INTERCOM	INTERCOM	**4**
	SEC	SECURITY	SECURITY	SECURITY	SECURITY	SECURITY	SECURITY	SECURITY	SECURITY	SECURITY	**5**
	FW	FOLDING WALLS	FOLDING WALLS	FOLDING WALLS	FOLDING WALLS	FOLDING WALLS	FOLDING WALLS	FOLDING WALLS	FOLDING WALLS	FOLDING WALLS	**2**
	ES	ELECTRONIC SCOREBOARDS	ELECTRONIC SCOREBOARDS	ELECTRONIC SCOREBOARDS	ELECTRONIC SCOREBOARDS	ELECTRONIC SCOREBOARDS	ELECTRONIC SCOREBOARDS	ELECTRONIC SCOREBOARDS	ELECTRONIC SCOREBOARDS	ELECTRONIC SCOREBOARDS	**2**
	DC	DUST COLLECTOR	DUST COLLECTOR	DUST COLLECTOR	DUST COLLECTOR	DUST COLLECTOR	DUST COLLECTOR	DUST COLLECTOR	DUST COLLECTOR	DUST COLLECTOR	**2**
MODEL NUMBER											
BACKFLOW PREVENTER SIZE (INCHES):											
****BELONGS TO**											

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **HEAT EXCHANGER** **DEFAULT DESIGNATION: HX**

EQUIPMENT DESIGNATION	HX -	HX -	HX -	HX -	HX -	HX -	HX -	HX -	HX -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	4	4	4	4	4	4	4	4	4
UNIT TYPE	PLATE - SHELL & TUBE	PLATE - SHELL & TUBE	PLATE - SHELL & TUBE	PLATE - SHELL & TUBE	PLATE - SHELL & TUBE	PLATE - SHELL & TUBE	PLATE - SHELL & TUBE	PLATE - SHELL & TUBE	PLATE - SHELL & TUBE
MODEL NUMBER									
SHELL PRESSURE (PSIG)									
SHELL MATERIAL									
TUBE PRESSURE (PSIG)									
TUBE MATERIAL									
NATIONAL BOARD NO.									
N.C. CERTIFICATE NO.									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME:

CLASSIFICATION: **INVERTER SYSTEM** **DEFAULT DESIGNATION: INV**

EQUIPMENT DESIGNATION	INV -	INV -	INV -	INV -	INV -	INV -	INV -	INV -	INV -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	5	5	5	5	5	5	5	5	5
MODEL NO.									
BATTERY MFG									
BATTERY MODEL NUMBER									
# BATTERY UNITS									
# CELLS									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **KITCHEN EQUIPMENT** **DEFAULT DESIGNATION:**

EQUIPMENT DESIGNATION	KE -	KE -	KE -	KE -	KE -	KE -	KE -	KE -	KE -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
EQUIP. DESCRIPTION	CABINET HEATED DEEP FRYER OVEN BRAISING PAN SERVING LINE COLD SERVING LINE HOT TILT SKILLET SLICER STEAMER	CABINET HEATED DEEP FRYER OVEN BRAISING PAN SERVING LINE COLD SERVING LINE HOT TILT SKILLET SLICER STEAMER	CABINET HEATED DEEP FRYER OVEN BRAISING PAN SERVING LINE COLD SERVING LINE HOT TILT SKILLET SLICER STEAMER	CABINET HEATED DEEP FRYER OVEN BRAISING PAN SERVING LINE COLD SERVING LINE HOT TILT SKILLET SLICER STEAMER	CABINET HEATED DEEP FRYER OVEN BRAISING PAN SERVING LINE COLD SERVING LINE HOT TILT SKILLET SLICER STEAMER	CABINET HEATED DEEP FRYER OVEN BRAISING PAN SERVING LINE COLD SERVING LINE HOT TILT SKILLET SLICER STEAMER	CABINET HEATED DEEP FRYER OVEN BRAISING PAN SERVING LINE COLD SERVING LINE HOT TILT SKILLET SLICER STEAMER	CABINET HEATED DEEP FRYER OVEN BRAISING PAN SERVING LINE COLD SERVING LINE HOT TILT SKILLET SLICER STEAMER	CABINET HEATED DEEP FRYER OVEN BRAISING PAN SERVING LINE COLD SERVING LINE HOT TILT SKILLET SLICER STEAMER
MODEL NO.									
UNIT TYPE	ELEC - GAS - OIL	ELEC - GAS - OIL	ELEC - GAS - OIL	ELEC - GAS - OIL	ELEC - GAS - OIL	ELEC - GAS - OIL	ELEC - GAS - OIL	ELEC - GAS - OIL	ELEC - GAS - OIL
VOLTS									
PHASE									
CYCLES									
AMPS									
WATTS									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME:

CLASSIFICATION: **MOBILE UNIT**

MOBILE UNIT INFORMATION

MAXIMO EQUIP. #						
MANUFACTURER						
SERIAL NUMBER						
PRIORITY	3	3	3	3	3	3
MOBILE UNIT TYPE	MOBILE COMPLEX - MOBILE UNIT - MOBILE UNIT, LEASED	MOBILE COMPLEX - MOBILE UNIT - MOBILE UNIT, LEASED	MOBILE COMPLEX - MOBILE UNIT - MOBILE UNIT, LEASED	MOBILE COMPLEX - MOBILE UNIT - MOBILE UNIT, LEASED	MOBILE COMPLEX - MOBILE UNIT - MOBILE UNIT, LEASED	MOBILE COMPLEX - MOBILE UNIT - MOBILE UNIT, LEASED
PROPERTY CONTROL #						
MODEL #						
PRIMARY FLOOR	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD
SECONDARY FLOOR	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD	CARPET - VAT - VCT - CER. TILE - SHEET VINYL - CONCRETE - QUARRY TILE - TERRAZO - HARDWOOD
PRIMARY WALL	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - WOOD PANELING - GLASS BLOCK	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - WOOD PANELING - GLASS BLOCK	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - WOOD PANELING - GLASS BLOCK	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - WOOD PANELING - GLASS BLOCK	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - WOOD PANELING - GLASS BLOCK	PNTD CMU - PNTD MASONRY - NAT MASONRY - PNTD SHEETROCK - VINYL SHEETROCK - CERAMIC TILE - PNTD PLASTER - WOOD PANELING - GLASS BLOCK
PRIMARY CEILING	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK	SHEETROCK - 2 X 2 TILE - 2 X 4 TILE - 12 X 12 T&G - PLASTER - EXPOSED DECK
HVAC ROOM ID						

ACU PACKAGED SELF CONTAINED, BELONGS TO THE MOBILE UNIT

MAXIMO EQUIP. #						
MANUFACTURER						
SERIAL NUMBER						
PRIORITY	3	3	3	3	3	3
UNIT TYPE	AIR COOLED HEAT PUMP PACK. TERMINAL UNIT WATER COOLED	AIR COOLED HEAT PUMP PACK. TERMINAL UNIT WATER COOLED	AIR COOLED HEAT PUMP PACK. TERMINAL UNIT WATER COOLED	AIR COOLED HEAT PUMP PACK. TERMINAL UNIT WATER COOLED	AIR COOLED HEAT PUMP PACK. TERMINAL UNIT WATER COOLED	AIR COOLED HEAT PUMP PACK. TERMINAL UNIT WATER COOLED
MODEL NUMBER						
REFRIGERANT TYPE						
DRIVE	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT	BELT - DIRECT
BELT SIZE						
BELT QUANTITY						
FILTER SIZE HXWXD(QTY)						

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **MOTOR** **DEFAULT DESIGNATION: MTR**

EQUIPMENT DESIGNATION	MTR -	MTR -	MTR -	MTR -	MTR -	MTR -	MTR -	MTR -	MTR -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
BELONGS TO									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY									
MOTOR MODEL NUMBER									
MOTOR HP									
MOTOR RPM									
MOTOR VOLTAGE									
MOTOR PHASE									
MOTOR FREQUENCY									
MOTOR AMPS									
MOTOR FRAME SIZE									
MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
STARTER MANUFACTURER									
STARTER CONTACT CAT. #									
STARTER CONTACT SIZE									
STARTER HEATER/OVERLOAD DESIGNATION									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: 0

CLASSIFICATION: OVERHEAD DOOR **DEFAULT DESIGNATION: OHDR**

EQUIPMENT DESIGNATION	OHDR -	OHDR -	OHDR -	OHDR -	OHDR -	OHDR -	OHDR -	OHDR -	OHDR -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
MODEL NO.									
MOTOR MFG.									
MOTOR MODEL #									
MOTOR SERIAL #									
MOTOR HORSEPOWER									
MOTOR RPM									
MOTOR VOLTAGE									
MOTOR PHASE									
MOTOR FREQUENCY									
MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
MOTOR AMPS									
MOTOR FRAME									
MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME:

CLASSIFICATION: **PUMP**

EQUIPMENT DESIGNATION											
SPACE DESCRIPTION		ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	
ROOM NUMBER											
LOCATION ON ROOF/SITE		N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	
BLDG. FLOOR (B,1,2,3…)											
BLDG. CODE (A,B,C…)											
MAXIMO EQUIP. #											
MANUFACTURER											
SERIAL NUMBER											
UNIT TYPE		CARTRIDGE - GEAR - CENTRIFUGAL - DIAPHRAGM - METERING - SUBMERSIBLE	CARTRIDGE - GEAR - CENTRIFUGAL - DIAPHRAGM - METERING - SUBMERSIBLE	CARTRIDGE - GEAR - CENTRIFUGAL - DIAPHRAGM - METERING - SUBMERSIBLE	CARTRIDGE - GEAR - CENTRIFUGAL - DIAPHRAGM - METERING - SUBMERSIBLE	CARTRIDGE - GEAR - CENTRIFUGAL - DIAPHRAGM - METERING - SUBMERSIBLE	CARTRIDGE - GEAR - CENTRIFUGAL - DIAPHRAGM - METERING - SUBMERSIBLE	CARTRIDGE - GEAR - CENTRIFUGAL - DIAPHRAGM - METERING - SUBMERSIBLE	CARTRIDGE - GEAR - CENTRIFUGAL - DIAPHRAGM - METERING - SUBMERSIBLE	CARTRIDGE - GEAR - CENTRIFUGAL - DIAPHRAGM - METERING - SUBMERSIBLE	**Equipment Priority**
UNIT DESCRIPTION	**CWP**	CHILLED WATER	CHILLED WATER	CHILLED WATER	CHILLED WATER	CHILLED WATER	CHILLED WATER	CHILLED WATER	CHILLED WATER	CHILLED WATER	**4**
	CRP	CONDENSATE RETURN	CONDENSATE RETURN	CONDENSATE RETURN	CONDENSATE RETURN	CONDENSATE RETURN	CONDENSATE RETURN	CONDENSATE RETURN	CONDENSATE RETURN	CONDENSATE RETURN	**4**
	CTP	COOLING TOWER	COOLING TOWER	COOLING TOWER	COOLING TOWER	COOLING TOWER	COOLING TOWER	COOLING TOWER	COOLING TOWER	COOLING TOWER	**4**
	DHWP	DOMESTIC HOT WATER	DOMESTIC HOT WATER	DOMESTIC HOT WATER	DOMESTIC HOT WATER	DOMESTIC HOT WATER	DOMESTIC HOT WATER	DOMESTIC HOT WATER	DOMESTIC HOT WATER	DOMESTIC HOT WATER	**3**
	DTWP	DUAL TEMPERATURE	DUAL TEMPERATURE	DUAL TEMPERATURE	DUAL TEMPERATURE	DUAL TEMPERATURE	DUAL TEMPERATURE	DUAL TEMPERATURE	DUAL TEMPERATURE	DUAL TEMPERATURE	**4**
	GWP	GLYCOL WATER	GLYCOL WATER	GLYCOL WATER	GLYCOL WATER	GLYCOL WATER	GLYCOL WATER	GLYCOL WATER	GLYCOL WATER	GLYCOL WATER	**4**
	HHWP	HEATING HOT WATER	HEATING HOT WATER	HEATING HOT WATER	HEATING HOT WATER	HEATING HOT WATER	HEATING HOT WATER	HEATING HOT WATER	HEATING HOT WATER	HEATING HOT WATER	**4**
	LP	LOOP WATER	LOOP WATER	LOOP WATER	LOOP WATER	LOOP WATER	LOOP WATER	LOOP WATER	LOOP WATER	LOOP WATER	**4**
	OP	OIL	OIL	OIL	OIL	OIL	OIL	OIL	OIL	OIL	**4**
	SP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	**3**
MODEL NO.											
CAPACITY (GPM)											
TOTAL HEAD (FT)											
PUMP LUBRICATION		GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	
DRIVE TYPE		BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	BELT - CHAIN - CLUTCH - COUPLING - DIRECT - GEAR	
SUCTION SIZE (INCHES)											
DISCHARGE SIZE (INCHES)											
SEAL TYPE		MECHANICAL - PACKING	MECHANICAL - PACKING	MECHANICAL - PACKING	MECHANICAL - PACKING	MECHANICAL - PACKING	MECHANICAL - PACKING	MECHANICAL - PACKING	MECHANICAL - PACKING	MECHANICAL - PACKING	
MOTOR MFG.											
MOTOR MODEL #											
MOTOR SERIAL #											

SCHOOL CODE/NAME:

CLASSIFICATION: **PUMP**

MOTOR HORSEPOWER									
MOTOR RPM									
MOTOR VOLTAGE									
MOTOR PHASE									
MOTOR FREQUENCY									
MOTOR AMPS									
MOTOR FRAME									
MOTOR ROTATION	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW	CCW - CW
MOTOR LUBRICATION	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED	GREASE - OIL - SEALED
DISCONNECT SWITCH FUSE AMPERAGE									
DISCONNECT SWITCH FUSE VOLTAGE									
STARTER MANUFACTURER									
STARTER CONTACT CAT. #									
STARTER CONTACT SIZE									
STARTER HEATER/OVERLOAD DESIGNATION									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **REFRIGERATION EQUIPMENT** **DEFAULT DESIGNATION:**

EQUIPMENT DESIGNATION										
SPACE DESCRIPTION		ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER										
LOCATION ON ROOF/SITE		N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)										
BLDG. CODE (A,B,C…)										
MAXIMO EQUIP. #										
MANUFACTURER										
SERIAL NUMBER										
PRIORITY		3	3	3	3	3	3	3	3	3
EQUIPMENT DESCRIPTION	**IM**	ICE MACHINE	ICE MACHINE	ICE MACHINE	ICE MACHINE	ICE MACHINE	ICE MACHINE	ICE MACHINE	ICE MACHINE	ICE MACHINE
	RRU	REACH-IN COOLER	REACH-IN COOLER	REACH-IN COOLER	REACH-IN COOLER	REACH-IN COOLER	REACH-IN COOLER	REACH-IN COOLER	REACH-IN COOLER	REACH-IN COOLER
	RRU	REACH-IN FREEZER	REACH-IN FREEZER	REACH-IN FREEZER	REACH-IN FREEZER	REACH-IN FREEZER	REACH-IN FREEZER	REACH-IN FREEZER	REACH-IN FREEZER	REACH-IN FREEZER
	WRU	WALK-IN COOLER	WALK-IN COOLER	WALK-IN COOLER	WALK-IN COOLER	WALK-IN COOLER	WALK-IN COOLER	WALK-IN COOLER	WALK-IN COOLER	WALK-IN COOLER
	WRU	WALK-IN FREEZER	WALK-IN FREEZER	WALK-IN FREEZER	WALK-IN FREEZER	WALK-IN FREEZER	WALK-IN FREEZER	WALK-IN FREEZER	WALK-IN FREEZER	WALK-IN FREEZER
ICE TYPE		CUBED - FLAKED	CUBED - FLAKED	CUBED - FLAKED	CUBED - FLAKED	CUBED - FLAKED	CUBED - FLAKED	CUBED - FLAKED	CUBED - FLAKED	CUBED - FLAKED
MODEL NO.										
REFRIGERANT TYPE										
CONDENSER MFG.										
CONDENSER MODEL #										
CONDENSER SERIAL #										
COMPRESSOR MFG.										
COMPRESSOR MODEL #										
COMPRESSOR SERIAL #										

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **TANKS** **DEFAULT DESIGNATION:**

EQUIPMENT DESIGNATION										
SPACE DESCRIPTION		ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER										
LOCATION ON ROOF/SITE		N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)										
BLDG. CODE (A,B,C…)										
MAXIMO EQUIP. #										
MANUFACTURER										
SERIAL NUMBER										
PRIORITY		4	4	4	4	4	4	4	4	4
UNIT TYPE	**DHWST**	DHW STORAGE	DHW STORAGE	DHW STORAGE	DHW STORAGE	DHW STORAGE	DHW STORAGE	DHW STORAGE	DHW STORAGE	DHW STORAGE
	ET	EXPANSION	EXPANSION	EXPANSION	EXPANSION	EXPANSION	EXPANSION	EXPANSION	EXPANSION	EXPANSION
	HHWST	HHW STORAGE	HHW STORAGE	HHW STORAGE	HHW STORAGE	HHW STORAGE	HHW STORAGE	HHW STORAGE	HHW STORAGE	HHW STORAGE
	CHWST	CHW STORAGE	CHW STORAGE	CHW STORAGE	CHW STORAGE	CHW STORAGE	CHW STORAGE	CHW STORAGE	CHW STORAGE	CHW STORAGE
MODEL #										
CAPACITY (GALLONS)										
MFG. DATE										
NATIONAL BOARD NO.										
N.C. CERTIFICATE NO.										
RELIEF VALVE										
RELIEF VALVE PRESSURE PSIG										
RELIEF VALVE MFG.										

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **UNIT HEATER** **DEFAULT DESIGNATION: UH**

EQUIPMENT DESIGNATION	UH -	UH -	UH -	UH -	UH -	UH -	UH -	UH -	UH -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	ELEC - GAS - HHW - STEAM	ELEC - GAS - HHW - STEAM	ELEC - GAS - HHW - STEAM	ELEC - GAS - HHW - STEAM	ELEC - GAS - HHW - STEAM	ELEC - GAS - HHW - STEAM	ELEC - GAS - HHW - STEAM	ELEC - GAS - HHW - STEAM	ELEC - GAS - HHW - STEAM
MODEL NO.									
HEATER KW RATING									
VOLTS									
PHASE									
CYCLES									
HEATER AMP RATING									
FILTER SIZE									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME:

CLASSIFICATION: **VARIABLE FREQUENCY DRIVE** **DEFAULT DESIGNATION: VFD**

EQUIPMENT DESIGNATION	VFD -	VFD -	VFD -	VFD -	VFD -	VFD -	VFD -	VFD -	VFD -
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
BELONGS TO									
PRIORITY	SAME AS PARENT	SAME AS PARENT	SAME AS PARENT	SAME AS PARENT	SAME AS PARENT	SAME AS PARENT	SAME AS PARENT	SAME AS PARENT	SAME AS PARENT
MODEL NO.									
HP									
RPM									
VOLTS									
PHASE									
FREQUENCY									
LINE VOLTAGE FUSE AMPS									

WAKE COUNTY PUBLIC SCHOOL SYSTEM MAINTENANCE AND OPERATIONS
EQUIPMENT DATA COLLECTION SHEET

SCHOOL CODE/NAME: **0**

CLASSIFICATION: **WATER HEATER** **DEFAULT DESIGNATION: WH**

EQUIPMENT DESIGNATION									
SPACE DESCRIPTION	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY	ROOM - LOBBY - CORRIDOR - MECH - ELEC - STAIRWAY
ROOM NUMBER									
LOCATION ON ROOF/SITE	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW	N - NE - E - SE - S - SW - W - NW
BLDG. FLOOR (B,1,2,3…)									
BLDG. CODE (A,B,C…)									
MAXIMO EQUIP. #									
MANUFACTURER									
SERIAL NUMBER									
PRIORITY	3	3	3	3	3	3	3	3	3
UNIT TYPE	ELEC - GAS - OIL - STEAM	ELEC - GAS - OIL - STEAM	ELEC - GAS - OIL - STEAM	ELEC - GAS - OIL - STEAM	ELEC - GAS - OIL - STEAM	ELEC - GAS - OIL - STEAM	ELEC - GAS - OIL - STEAM	ELEC - GAS - OIL - STEAM	ELEC - GAS - OIL - STEAM
CAPACITY (GALLONS)									
MODEL NO.									
INPUT BTUH									
VOLTAGE									
PHASE									
FREQUENCY									
AMPS									
WATTS UPPER									
WATTS LOWER									
N.C. CERTIFICATE NO.									
RELIEF VALVE									
RELIEF VALVE PRESSURE									
RELIEF VALVE MFG.									

01 07 00 ATTACHMENT D ATTIC STOCK

Guideline Section	Description	Quantity	Note
Fire Protection	Sprinkler Head Escutheon Rings	10	Match Installed
Flooring	VCT	1 box of each style/color	
	Carpet Tile	1 box of each style/color	
Mechanical	Air Filters	1 additional set for each piece of equiment	Match Size and MERV Rating
	Drive Belts	1 additional set for each piece of belt driven equipment	Match Size and Quantity
Paint	Paint	1 additional gallon for each color	Provide paint color chart and paint color swatches for matching paint colors

01 08 10 ATTACHMENT A SUSTAINABILITY DESIGN CHECKLIST

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name:
Date:

Y	?	N			
			Credit	Integrative Process	1

0	0	0	Location and Transportation		16
			Credit	LEED for Neighborhood Development Location	16
			Credit	Sensitive Land Protection	1
			Credit	High Priority Site	2
			Credit	Surrounding Density and Diverse Uses	5
			Credit	Access to Quality Transit	5
			Credit	Bicycle Facilities	1
			Credit	Reduced Parking Footprint	1
			Credit	Green Vehicles	1

0	0	0	Sustainable Sites		10
Y			Prereq	Construction Activity Pollution Prevention	Required
			Credit	Site Assessment	1
			Credit	Site Development - Protect or Restore Habitat	2
			Credit	Open Space	1
			Credit	Rainwater Management	3
			Credit	Heat Island Reduction	2
			Credit	Light Pollution Reduction	1

0	0	0	Water Efficiency		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
			Credit	Outdoor Water Use Reduction	2
			Credit	Indoor Water Use Reduction	6
			Credit	Cooling Tower Water Use	2
			Credit	Water Metering	1

0	0	0	Energy and Atmosphere		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
			Credit	Enhanced Commissioning	6
			Credit	Optimize Energy Performance	18
			Credit	Advanced Energy Metering	1
			Credit	Demand Response	2
			Credit	Renewable Energy Production	3
			Credit	Enhanced Refrigerant Management	1
			Credit	Green Power and Carbon Offsets	2

0	0	0	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
			Credit	Building Life-Cycle Impact Reduction	5
			Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
			Credit	Building Product Disclosure and Optimization - Material Ingredients	2
			Credit	Construction and Demolition Waste Management	2

0	0	0	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
			Credit	Enhanced Indoor Air Quality Strategies	2
			Credit	Low-Emitting Materials	3
			Credit	Construction Indoor Air Quality Management Plan	1
			Credit	Indoor Air Quality Assessment	2
			Credit	Thermal Comfort	1
			Credit	Interior Lighting	2
			Credit	Daylight	3
			Credit	Quality Views	1
			Credit	Acoustic Performance	1

0	0	0	Innovation		6
			Credit	Innovation	5
			Credit	LEED Accredited Professional	1

0	0	0	Regional Priority		4
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1

0	0	0	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

02 41 00 ATTACHMENT A

NOTICE TO CONTRACTORS, SUBCONTRACTORS & SHORT TERM WORKERS

RE: ASBESTOS-CONTAINING BUILDING MATERIALS IN SCHOOL FACILITIES

A. GENERAL

1. This notice is to advise you that asbestos-containing building materials must not be disturbed if encountered during repairs, renovations, and other construction and installation activities in buildings owned by the Wake County Public School System. A management plan manual is located in the main office of each facility which specifies the location(s), if any, of asbestos-containing building materials. Copies of the manuals are also available for reference in Raleigh at the school system's Maintenance and Operations Department (Environmental and Grounds) at 1551 Rock Quarry Road. Contractors shall review the appropriate manual prior to beginning any construction activity to determine if that activity has the potential for disturbing asbestos-containing building material.
2. If disturbance of these materials cannot be reasonably avoided, no work shall begin until the AHERA Designee of the Wake County Public School System has been notified and has issued specific instructions on the proper procedures for the activity in accordance with federal, state and local regulation.
3. The Contractor Certification Form (Attachment B) must be signed and returned to the AHERA Designee prior to the start of work.
4. Contractors, subcontractors, and short-term workers shall also be responsible for determining, prior to the start of work, the location(s) of any areas of restricted or prohibited access on the site where the work is to be performed. **Such areas shall not be entered, for any reason, without prior authorization of the AHERA Designee.** The Wake County Public School System will not be responsible for claims of any kind from contractors, subcontractors or short-term workers who fail to comply with provisions of this notice.
5. For renovation projects, WCPSS shall perform asbestos and lead based paint surveys of the affected areas of the facility. This survey shall be shared with designers and contractors. The Owner may elect to contract to perform the necessary abatements or request the CMAR to bid the work.

Director of Environmental and Grounds, AHERA Designee
Wake County Public School System
Environmental Management
1551 Rock Quarry Road, Facilities Building
Raleigh, NC 27610
(919) 856-8120

02 41 00 ATTACHMENT B

CONTRACTOR CERTIFICATION FORM

B. GENERAL

1. The undersigned certify that they have received and read the "Notice to Contractors, Subcontractors and Short-Term Workers" issued by the Wake County Public School System regarding asbestos-containing building materials that may be present in school buildings.
2. The Undersigned further certify the following:
   a. That they have informed their workers and/or subcontractors of this notice and the proper procedures to follow.
   b. That they will contact the AHERA Designee for the Wake County Public School System to determine if there are restricted access areas at the facility where work is planned and, if there are such areas, that they will notify their workers and subcontractors accordingly.
   c. That they will be responsible for proper notification of these conditions to all subcontractors and for obtaining the signature(s) of the authorized representatives of those subcontractors in the spaces provided below.
   d. That this form will be properly completed, signed, and returned to the AHERA Designee for the Wake County Public School System prior to the start of work.

Project/School/Facility:_____
Project Number: _____

Prime Contractor: _____

President/Manager/Owner _____Date:_____

Subcontractor: _____

President/Manager/Owner _____Date:_____

Subcontractor: _____

President/Manager/Owner _____Date:_____

Subcontractor: _____

President/Manager/Owner _____Date:_____

Remit to: Director of Environmental and Grounds, AHERA Designee
Wake County Public School System
1551 Rock Quarry Road
Raleigh, NC 27610

08 71 00 DOOR HARDWARE ATTACHMENT A

A. LOCKSETS FOR SCHOOLS

1. Classroom shall be 45 H 7 INL X LEVER/TRIM X FINISH X HAND.
2. Offices shall be 45 H 7 A X LEVER/TRIM X FINISH X HAND.
3. Staff Toilets shall be 45 H 7 HJ X LEVER/TRIM X FINISH X HAND.
4. Custodial and Mechanical Rooms shall be 45 H 7 D X LEVER/TRIM X FINISH X HAND.
5. Doors shall have at least one cylinder for every pair of exterior doors.
6. 4400-series Knox Box shall be dual lock type. Top shall be keyed to local Fire Department and bottom keyed to WCPSS school key.
7. KNOX Box forms for ordering the units from KNOX shall be provided by WCPSS.

10 11 00 ATTACHMENT A – DRY ERASE BOARDS AND TACKBOARDS

A. GENERAL

1. This Attachment includes requirements for Porcelain Steel Dry Erase Boards and Tackboards.
2. Warranty: Lifetime Guarantee under conditions of normal use. Should not exhibit excessive fading of color, crazing, cracking or flaking.

B. MANUFACTURERS

1. Acceptable manufacturers shall be per below:
   a. American Chalkboard Co.
   b. Best Rite Manufacturing (MooreCo, Inc.)
   c. Claridge Products and Equipment
   d. ADP Lemco, Inc.
   e. Nelson/Adams (NACO)

C. MATERIALS

1. Porcelain Steel Dry Erase Board: Provide balanced, high pressure-laminated porcelain enamel dry erase boards of 3-ply construction consisting of face sheet, core material and backing

   a. Face sheet: shall be 24 gauge porcelain, enamel steel with magnetic, non-porous surface. Should wipe clean with an eraser or dry cloth. Also:
      1. Deposition coat of 2.0 to 2.5 mils on front of steel.
      2. Deposition coat of 1.5 to 2.0 mils on back of steel.
      3. Porcelain enamel steel writing and erasing coat system, totaling 3.5 to 4.5 mils over front surface.
      4. Firing temperature must be no less than 1500 deg. F.
      5. Hardness of writing surface shall be uniform in color and texture.
      6. Reflectance factor shall be no more than 20% or less than 15%, nor vary as a result of wear.
      7. Writing surface shall be no less than 6.5 MOH's scale.
      8. Color: White.

   b. Core: Provide 1/2 in. thick, industrial grade, particle-board or fiberboard core material with zero VOC's. (Fiberboard is lighter in weight and preferable.)

   c. Backing Sheet: (.015 in. aluminum sheet vapor barrier.) Moisture retardant, laminated with suitable, low VOC emitting adhesive to prevent delamination. Lamination of all materials to be factory type only, with special formulated adhesives. Hand lamination is not acceptable.

2. Tackboard: Seamless sheet, 1/4 in. thick ground natural cork compressed with linseed oil and integral color throughout, laminated to burlap backing. Factory laminate cork face sheet under pressure to 1/4 in. thick hardboard in extruded aluminum frame.

D. ACCESSORIES

1. Metal Trim and Accessories: Fabricate frames and trim of not less than 0.062 in. thick aluminum alloy, size and shape as indicated, to suite type of installation. Provide straight factory-applied trim, single-length units whenever possible. Keep joints to a minimum. Miter corners to a neat, hairline closure.
2. Markertray: Furnish manufacturer's standard snap-on, continuous box-type, extruded aluminum chalktray with end caps and angled bottom support. 1-3/4 in. to 2 in. frame.
3. Map Rail: Where specified on drawings furnish map rail at top of each unit, complete with the following accessories:
    1. Display Rail: Provide continuous cork display rail approximately 1 to 2 in. wide, integral with map rail at top of board.
    2. End Stops: Provide one end stop at each end of map rail.
    3. Map Hooks: Provide two (2) map hooks with flexible metal clips for each 4 ft. of map rail or fraction thereof.
    4. Flag Holders: Provide two (2) per room.

10 14 00 ATTACHMENT A – INTERIOR SIGNAGE

A. GENERAL OBJECTIVES

1. To provide uniformity in signage on each campus to aide in utilization of sign information.
2. To establish consistency in signage guidelines among all WCPSS campuses.
3. To demonstrate sensitivity to the wide range of ages and sizes found among school building users and create a signage system that will be effective for all building users.

B. SIGNAGE TYPES

1. Wayfinding: Even when a building is clearly and logically organized, it can be difficult for the unfamiliar user to perceive the most straightforward route to a destination. Directional signs help students, staff and visitors find their way.
   a. Building Directory:
      1. Locate in an area immediately visible from the primary building entry.
      2. Directory should be recessed, rather than projecting.
      3. Letters and numbers should be simple in style and easy to change.
   b. “You Are Here” Maps:
      1. “You are here" maps are a useful orientation and wayfinding device. They should be located at all areas where a building user is likely to need help deciding how to proceed.
      2. Orient the drawing correctly in relation to the building and the viewer.
      3. A simple drawing is more useful than one that is too cluttered with graphic symbols and complex color coding. Target the complexity of the drawing to the age level of the users. Possibly use a copy of the Property & Accounting drawings or fire exit route drawings with room numbers added.
   c. Directions to a particular destination:
      1. Directional signs may be wall-mounted, floor-mounted or professionally executed graphics directly applied to the wall surface.
      2. If projected pedestrian traffic is heavy in an area, locate signs so pedestrian flow does not obstruct viewing.
   d. Exit Route Map inside each classroom
      1. Provide exit route maps, with placard holders, located by door exiting classroom as required by the Wake County Fire Marshal.

2. Identification: Schools are typically organized into grouped areas such as grade-level wings or teams. These student areas, as well as shared spaces such as the media center and food service area, must be identified with signage. Within each area, rooms and personnel also require individual identification. Examples are:
   a. Room numbers and names.
   b. Restrooms.
   c. Stairs.
   d. Mechanical.
   e. Electrical.
   f. Custodial.
3. Emergency and Regulatory: Various codes require signage that informs the user population of prohibited activities or safety requirements. Examples are: Fire exits, Handicapped accessibility, Environmental health and safety.

a. Provide the following signs in the same color and style as room identification signs:
    1. Stair Signage: Sign indicating stair number and floor level on corridor side of stair and inside stair also as requested by the Fire Marshal
    2. Roof Access: At each roof access point, provide a sign indicating “Roof Access-Authorized Personnel Only”, 10” h x 12”w.
    3. “Elevator #_” at each floor level of each elevator.
    4. “#_Floor Evacuation Plan” at the top with a clear opening below for a paper insert., and “In Case of Emergency call 911” at the bottom.
    5. Occupancy limit placard holder in assembly spaces.
    6. Signs for available assisted listening devices in Auditoriums and Multi-Purpose rooms.
b. Provide the following signs with white reflective lettering on red background:
    1. “Sprinkler Riser Room” 10” h x 12” w.
    2. “Boiler Room” 10” h x 12” w.
    3. “FACP” 10” h x 12” w at location of fire alarm control panel.
    4. “PIV” 10” h x 12” w, on galvanized sign post with a height so sign is visible from the fire lane access over any parked vehicle.

C. STANDARDS

1. All signage shall comply with current applicable editions of the North Carolina State Building Code, ICC ANSI A117.1, and ADA. Changes in legal requirements subsequent to release of this document by WCPSS are the responsibility of consultants.
2. Additional Requirements:
    a. Size:
        1. Signs shall be of consistent size and proportion and must be large enough to convey necessary information.
        2. Signs with numbers only shall be 2" x 6".
        3. For signs where room name or additional information is required, use a 6" x 6" format.
        4. When additional information needs to be added to a room that only has a 2" x 6" number sign, a 4" x 6" sign can be added to achieve a consistent 6" x 6" module.
    b. Construction:
        1. The sign plaque should be manufactured with integral raised features.
        2. For economy, general purpose sign plaques should be frameless and one piece construction. Avoid any add-on features that peel off, slide out or pop off.
        3. For Administration and Student Support Services, use signs with fixed numbers and removable inserts for name and title.
    c. Methods of Attachment:
        1. Signs must be securely attached. Double-sided adhesive tape is not acceptable.
        2. Use concealed fasteners or vandal-proof exposed fasteners.
3. Nomenclature:
    a. Room Designation:
        1. All spaces shall receive a number. On signs that also require a name, the number should appear first.
        2. Two spaces shall not receive the same number even though they may be connected by a doorway.
        3. If a single space has multiple doors, all doors should receive the same number.
        4. Number rooms in each area of the building to aid in wayfinding. All room

numbers shall be 4-digits. For example, the Administrative/Media wing could be 1100-1199, Kindergarten/First Grade wing could be 1200-1299, Second/Third Grade wing 1300-1399, etc. For a second story, the numbers above those wings would be 2100-2199, 2200-2299, 2300-2399, etc. The designation ending in “00” would be the corridor of each wing.

5. Mechanical rooms should be assigned a room number and designated “Mechanical”.
6. Electrical rooms should be assigned a room number and designated “Electrical”.
7. Communication closets should be assigned a room number and designated “Communications”.
8. Outdoor storage rooms be assigned a room number and designated Storage.

b. Number of Digits: Room numbers should not exceed four digits except where there may be spaces within a space. This may be a combination of letters and numbers. Place letters after the numbers. (Example: 1200A).
c. Rooms on primary corridors: Number odd numbers consecutively along one side of a corridor with even numbers on the opposite side. This is typically done using the building floor plan, but it is imperative to consider the space in three dimensions. Angles and viewing distance are critical.
d. Rooms on secondary corridors or suites: Use a logical model to aid in wayfinding.

4. Allowance: Provide an allowance in the budget for signs to be prepared at the principal's direction. For example, signs are used to designate corridors that are off-limits during lunch.
5. Room Names: All individual toilet rooms are unisex.

Elementary School:

SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
1. General Classrooms		
Kindergarten	Yes	-----
Kindergarten toilet	Yes	Toilet
Kindergarten outdoor storage	Yes	Storage
First grade	Yes	-----
First grade toilet	Yes	Toilet
Second grade	Yes	-----
Third grade	Yes	-----
Fourth grade	Yes	-----
Fifth grade	Yes	-----
3. Special Education		
Self-contained classroom	Yes	-----
Instructional kitchen	Yes	-----
Toilets	Yes	Toilet
Adaptive Curriculum classroom	Yes	-----
		-----
4. Pre-Kindergarten		
Pre-kindergarten classroom	Yes	-----
Toilet	Yes	Toilet
Pre-K Observation	Yes	-----
Pre-K Outdoor Storage	Yes	Storage
6. Visual Arts	Yes	
Art room	Yes	Art
Art storage	Yes	-----
Kiln room	Yes	
7. Music	Yes	
Music room	Yes	Music
Music storage	Yes	
10. Media Center	Yes	Media Center
RLV area	Yes	-----
Digital Learning area	Yes	-----
Storage	Yes	-----
Group Instruction area	Yes	-----
Media Workroom/Office	Yes	
Toilet	Yes	Toilet
	Yes	

SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
11. Physical Education		
Multipurpose (Play) area	Yes	Multi-Purpose Room
Platform (Stage)	Yes	-----
Office	Yes	-----
Chair storage/dressing	Yes	-----
PE equipment storage/dressing	Yes	-----
Outdoor PE storage	Yes	Storage
13. Staff Requirements		
Lounge/kitchen	Yes	-----
Toilets	Yes	Toilet
Teacher workroom	Yes	-----
Teacher storage	Yes	-----
Satellite Toilets	Yes	Toilet
Year-round Cart Storage	Yes	Storage
Leveled Book Storage	Yes	Storage
14. Administration	(Inserts to be determined by principal)	
Reception area	Yes	Administration
Principal's office	Yes	-----
Asst. Principal's office	Yes	-----
Secretary's office	Yes	-----
Locked storage	Yes	-----
SIDM office	Yes	-----
Examination Suite/Health Room	Yes	-----
Health room toilet	Yes	Toilet
Records room	Yes	
Conference room	Yes	-----
PTA office/storage	Yes	-----
Lead teacher office	Yes	-----
Office workroom	Yes	-----
Toilet	Yes	Toilet
Supply/storage	Yes	Storage
15. Student Support Services	Yes	Student Support Services
Student Support Services corridor	Yes-Inserts to be determined by principal	
Guidance room	Yes	Guidance
Human Services room	Yes	
Psychologist, Social Worker office	Yes	-----
Speech Therapy/Audiology	Yes	-----
OT/PT	Yes	-----
Supply/Storage	Yes	Storage
Toilet	Yes	Toilet

SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
16. Child Nutrition Services		
Dining Area	Yes	Dining
Food Preparation (Kitchen)	Yes	Kitchen (locate on loading dock)
Serving line	No	-----
Office	Yes	-----
Dry storage	Yes	-----
Office	Yes	
Recycling	Yes	
Dry Storage	Yes	Storage
Cooler/Freezer	Yes	-----
Staff locker room	Yes	-----
Toilet	Yes	Toilet
Custodial	Yes	Custodial
17. Plant Operations		
Custodial	Yes	Custodial
General storage/receiving/custodial lockers	Yes	Receiving (locate on loading dock) Number only in corridor
Custodial office	Yes	-----
Toilet	Yes	Toilet
Lawn equipment storage	Yes	Storage
18. Technology		
Head End Room	Yes	Communications
IDF Room	Yes	Communications
19. Non-Assignable		
Mechanical	Yes	Mechanical
Electrical	Yes	Electrical
Group Toilets (boys)	Yes	Boys
Group Toilets (girls)	Yes	Girls
Stairways	Yes	Stair
Can Wash	Yes	
20. Ready To Learn Center		
Reception	Yes	Ready To Learn
Examination/consultation	Yes	-----
Health services/provider staff office	Yes	-----
Storage	Yes	-----
Toilet	Yes	Toilet

Middle School

SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
1. General Classrooms		
Regular classrooms	Yes	-----
Foreign Language Classroom	Yes	-----
Gen. Ed. Support Classroom	Yes	-----
3. Special Education		
Self-contained classroom	Yes	-----
Instructional kitchen	Yes	-----
Toilets	Yes	Toilet
CCR Classroom	Yes	-----
5. Science Classrooms		
Science Classroom/Lab	Yes	
Preparation Room	Yes	
Chemical Storage	Yes	Storage
Outdoor Storage	Yes	Storage
6. Visual Arts		
Art room	Yes	Art
Kiln room	Yes	-----
Supply & Equip. storage	Yes	Storage
7. Music		
Choral room	Yes	Chorus
Band/Instrument room	Yes	Band
Practice rooms	Yes	-----
Office/library	Yes	-----
Instrument storage	Yes	Storage
8. Theater Arts/Auditorium		
Theater seating/	Yes	Theater
Stage	Yes	-----
Control room	Yes	-----
Dressing Rooms	Yes	Boys,Girls
Chair/Table Storage	Yes	-----
Dance/Drama Room	Yes	
9.01 FACS Education		
Family and Consumer Sciences lab	Yes	Family and Consumer Sciences
Family and Consumer Sciences storage	Yes	-----
9.02 Technology or Biotech. Ed.		
Technology Education lab	Yes	Technology
Material storage	Yes	-----

SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
9.03 Business & Info Tech. Educ.		
Business lab	Yes	Computer
Business office	Yes	-----
10. Media Center		
RLV area (Reading, Listening & Viewing)	Yes	Media Center
Group Instruction	Yes	
AV equipment storage	Yes	Storage
Toilet	Yes	Toilet
Media Workroom/Office	Yes	-----
11. Physical Education		
Main gym	Yes	Gymnasium
Auxiliary Gym	Yes	Gymnasium
Health education classroom (Multi-purpose)	Yes	-----
Coaches office, male	Yes	-----
Coaches office, female	Yes	-----
Boys Locker Room	Yes	Boys' Locker Room
Showers/restrooms, boys	Yes	Boys
Girls locker room	Yes	Girls' Locker Room
Showers/restrooms, girls	Yes	Girls
Training room/first aid	Yes	Training
Equipment storage room	Yes	Storage
Laundry	Yes	-----
Uniform storage	Yes	Storage
Miscellaneous storage	Yes	Storage
Outdoor PE storage	Yes	Storage
Lobby area/commons	Yes	-----
Ticket booth	Yes	-----
Concession area	Yes	-----
13. Staff Requirements		
Lounge/kitchen	Yes	-----
Toilets	Yes	Toilet
Teachers' Workroom/office-teaming	Yes	-----
Satellite toilets	Yes	Toilet
Year-round Cart Storage	Yes	Storage

SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
14. Administration	(Inserts to be determined by principal)	
Reception area	Yes	Administration
Principals' office	Yes	-----
Asst. principal's office	Yes	-----
Secretary's office	Yes	-----
SIMS office	Yes	-----
Records room	Yes	-----
Conference room	Yes	
Locked Storage	Yes	Storage
Workroom, mail, copy, storage	Yes	-----
Toilets	Yes	Toilet
ISS	Yes	-----
ISS office	Yes	-----
ISS toilet	Yes	Toilet
Supply/general storage	Yes	Storage
Material/Book storage room	Yes	Storage
15. Student Support Services	Inserts to be determined by principal	
Receptionist/secretary	Yes	Student Support Services
Counselor office	Yes	-----
Conference room/career center (occupational info.)	Yes	-----
Closet	Yes	-----
Human services room	Yes	-----
Health Room	Yes	-----
Health Room Toilet	Yes	Toilet
Psychologist/social worker office	Yes	-----
Speech/Audiologist office	Yes	-----
OT / PT therapy room	Yes	-----
Supply/Storage	Yes	Storage
Commons/lockers	Yes	-----
16. Child Nutrition Services		
Dining	Yes	Dining
Food Preparation (Kitchen)	Yes	Kitchen (locate on loading dock)
Serving line	No	-----
Office	Yes	-----
Recycling	Yes	-----
Dry storage	Yes	Storage
Cooler/freezer	Yes	-----
Staff locker room/toilet/WD	Yes	
Staff Toilet	Yes	Toilet
Custodial	Yes	-----

SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
17. Plant Operations		
General storage/receiving/custodial lockers	Yes	Receiving (locate on loading dock) Number only in corridor
Toilet	Yes	Toilet
Custodial Office/Storage	Yes	-----
Lawn Equipment Storage	Yes	Storage
18. Technology		
Head End Room	Yes	Communications
IDF Room	Yes	Communications
19. Non-Assignable		
Group Toilets (Boys)	Yes	
Group Toilets (Girls)	Yes	
Stairways	Yes	Stair
Mechanical	Yes	Mechanical
Electrical	Yes	Electrical
Custodial Closets	Yes	
Can Wash	Yes	
20. Maintenance Cluster		
Shop Area	Yes	
AFM Office	Yes	
Unconditioned Storage	Yes	Storage

High School

SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
1. General Classrooms		
Classrooms	Yes	-----
Student government	Yes	-----
Gen. Ed. Support Classrooms	Yes	
Multipurpose Room	Yes	
3. Special Education		
Self-contained classroom	Yes	-----
Instructional kitchen	Yes	-----
Toilets	Yes	Toilet
CCR Classrooms	Yes	-----
5. Science Classrooms		
Science Labs/CR	Yes	
Prep Room	Yes	
Chemical Storage Room	Yes	Chemical Storage
6. Visual Arts		
Art Classroom	Yes	Art
Auxiliary Art Classroom	Yes	Art
Kiln	Yes	-----
Supply & Equipment storage	Yes	-----
7. Music		
Choral room	Yes	Chorus
Choral Storage/library	Yes	-----
Band room	Yes	Band
Ensemble Practice Rooms	Yes	-----
Band Workroom	Yes	-----
Uniform storage	Yes	-----
Instrument storage	Yes	-----
Band storage/library	Yes	-----
8. Theater Arts/Auditorium		
Theater seating/orchestra area	Yes	Theater
Stage	Yes	-----
Control room	Yes	-----
Dressing Rooms	Yes	Men and Women Dressing
Spot Deck	Yes	-----
Dance/Drama Room	Yes	-----
Cat walk	Yes	-----
Workroom	Yes	-----
Storage	Yes	-----
Chair Storage	Yes	-----

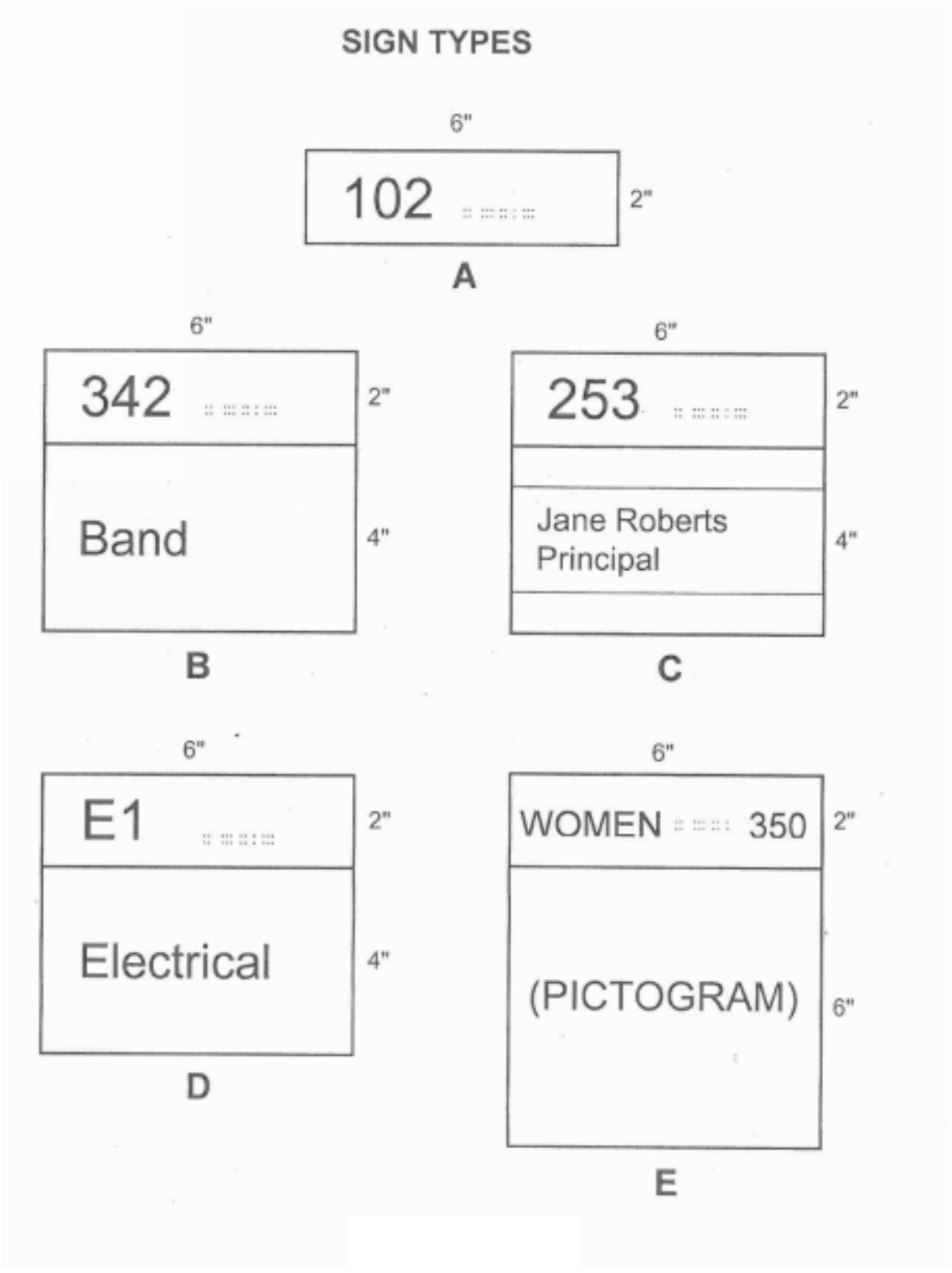
SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
9.01 Family and Consumer Sciences		
Family and Consumer Sciences Lab	Yes	Family and Consumer Sciences
FACS Food Lab Storage	Yes	-----
FACS Design Classroom	Yes	Family and Consumer Sciences
Dressing/Storage Room	Yes	-----
FACS Classroom	Yes	Family and Consumer Sciences
FACS CR Storage	Yes	
9.02 TE&D and Comp/Network Eng.		
Tech. Eng. & Design CR	Yes	Technical Engineering & Design
TE&D Storage	Yes	-----
Computer/Network Eng. CR	Yes	Computer/Network Engineering
CNE Storage	Yes	-----
9.03 Business, Finance & Info Tech, Marketing Education		
Business Computer Lab	Yes	Computer
Marketing Education Lab	Yes	-----
WBL Rooms	Yes	-----
9.04 Trade & Ind. Ed. or Ag. Educ. or Culinary Lab		
T&I Educ. or Ag. Educ. or Cul. Lab	Yes	
Material Storage	Yes	
Tool Storage	Yes	
9.05 Digital Media or Tech Course		
Digital Media or Tech Course CR	Yes	
Storage	Yes	
9.06 Health Science or Bio Tech. or FACS or Public Safety		
Classroom / Lab	Yes	
Storage	Yes	
9.07 CADD Drafting		
CADD Drafting CR	Yes	
Storage	Yes	
9.08 Sci. & Tech. Vis & Game Art or Tech Course TBD		
S&TV and Game Art or Tech. Lab	Yes	

SPACE STADARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
10. Media Center		
Main Use Area (Reading, Listening & Viewing)	Yes	Media Center
A/V Equipment Storage	Yes	-----
Media Workroom/Office	Yes	
Toilets	Yes	Toilet
11. Health/Physical Education/Athletics		
Main gym	Yes	Gymnasium
Auxiliary gym	Yes	Auxiliary Gymnasium
Health Education CR	Yes	-----
Weight/training room (large)	Yes	Weight Room
Weight/training room (small)	Yes	Weight Room
Athletic Directors Office	Yes	-----
Boys' team locker room	Yes	Men's Team Lockers
Boys' class locker room	Yes	Men's Lockers
Showers/restrooms, boys class	Yes	-----
Showers/restrooms, boys team	Yes	
Girls' team locker room	Yes	Women's Team Lockers
Girls' class locker room	Yes	Women's Lockers
Showers/restrooms, girls class	Yes	-----
Showers/restrooms, girls team	Yes	
Training room/first aid	Yes	Training
Training Office	Yes	
Laundry area	Yes	-----
PE equip. storage room	Yes	-----
Team general storage	Yes	-----
Outdoor equipment	Yes	Storage
Lobby area/commons	Yes	-----
Ticket booth	Yes	-----
Concession area	Yes	-----
Faculty Dress/Shower/Toilet	Yes	Staff Toilet

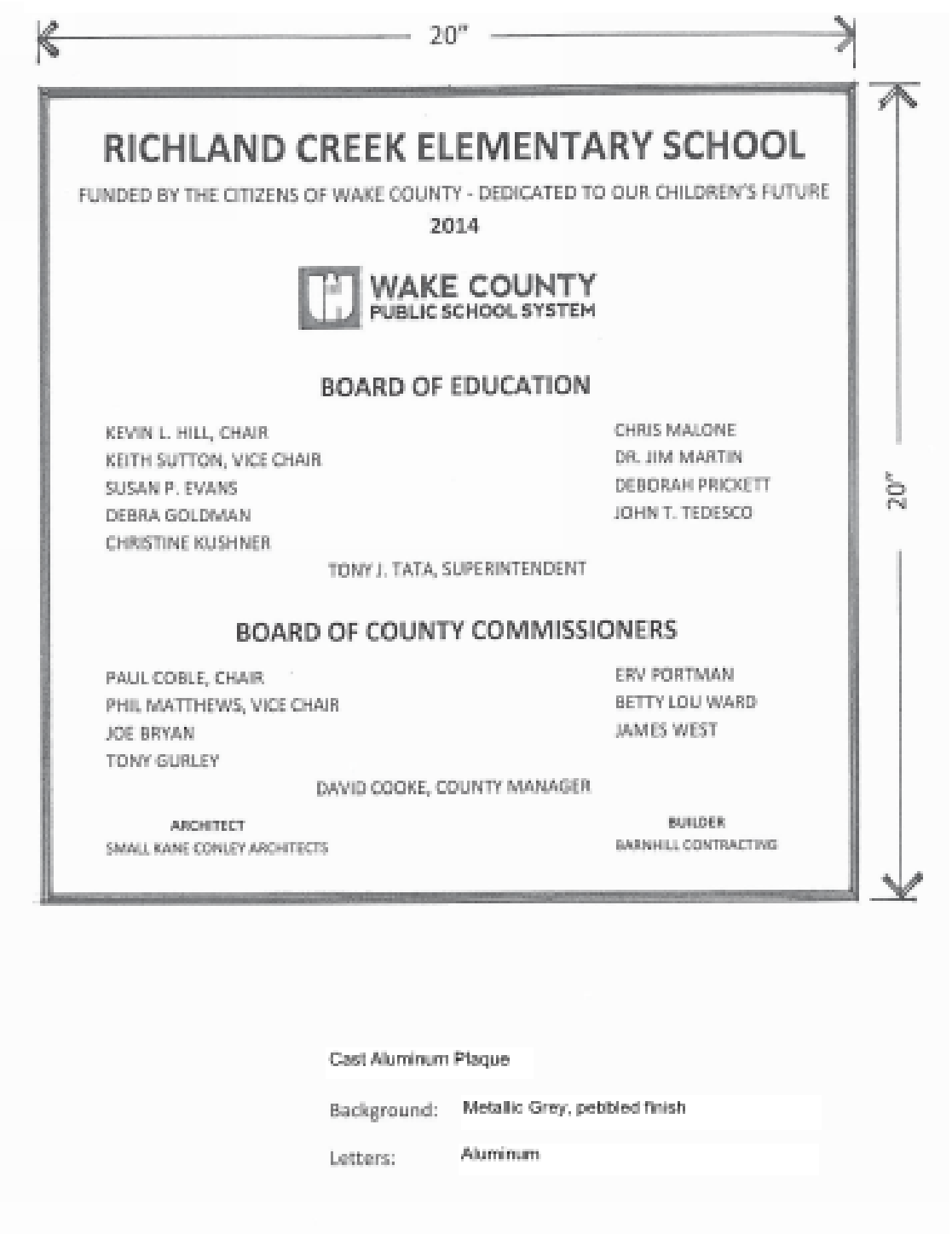
SPACE STADARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
12. Auxiliary Athletics		
Stadium	Yes	
Concession Stand	Yes	
Concession Storage	Yes	
Press Box	Yes	
Ticket Booth	Yes	
Equipment Storage	Yes	
Team Storage	Yes	
Public Toilets	Yes	Men and Women
13. Staff Requirements		
Faculty Lounge/Work Area	Yes	Faculty
Faculty conference	Yes	-----
Faculty toilets	Yes	Toilet
Faculty dressing rooms	Yes	Toilet
14. Administration	Inserts to be determined by principal	
Reception area/receptionist	Yes	Administration
Principal's office	Yes	-----
Asst. Principal's office	Yes	-----
Secretary's office	Yes	-----
SDIM Office	Yes	-----
Bookkeeping	Yes	-----
Attendance office	Yes	-----
Conference room	Yes	-----
Locked storage	Yes	-----
Workroom, mail, copy, storage & copy room	Yes	-----
Toilets	Yes	Toilet
Bus supervisor/secretary office	Yes	-----
General Office	Yes	
Mail Room	Yes	
Toilet	Yes	Toilet
Break	Yes	
Storage	Yes	
Book material storage room	Yes	-----
Cooperative Education Room	Yes	-----
15. Student Support Services	Inserts to be determined by principal	
Receptionist/secretary	Yes	Student Support Services
Secretary	Yes	
Counselor office	Yes	-----
Conference room	Yes	-----
Coat closet	Yes	-----
Intervention Coord. / AIG Office	Yes	-----
Human services/ Nurse Office	Yes	-----

SPACE STANDARD DESIGNATION	NUMBER	NAME (Also include pictograms as required by ADA)
15. Student Support Services (continued)		
Health Exam Room / Toilet	Yes	-----
Toilet	Yes	Toilet
Psychologist, social worker office	Yes	-----
Speech Therapy/Audiology	Yes	-----
OT/PT room	Yes	-----
Technicians office	Yes	-----
Industrial Educ. Coord. Office/ Conf.	Yes	-----
Records	Yes	-----
SAP Office	Yes	-----
Student Lockers		
16. Child Nutrition Services		
Dining Area	Yes	Dining
Food Preparation	Yes	Kitchen (locate on loading dock)
Serving line	No	-----
Office	Yes	-----
Recycling	Yes	-----
Dry storage	Yes	-----
Cooler/Freezer	Yes	-----
Staff locker room/Toilet/WD	Yes	Toilet
Custodial	Yes	-----
17. Plant Operations		
General storage/receiving/custodial lockers	Yes	Receiving (locate on loading dock) Number only in corridor
Toilet	Yes	Toilet
Bldg. Manager Office/Storage	Yes	-----
Lawn Equipment Storage	Yes	-----
18. Technology		
Head End Room	Yes	Communications
IDF Room	Yes	Communications
19. Non-Assignable		
Corridors/Lobbies		
Group Toilets	Yes	Men and Women
Stairways	Yes	Stair
Elevators	Yes	Elevator
Mechanical Rooms	Yes	Mechanical
Electrical Rooms	Yes	
Custodial Closets	Yes	Custodial
Loading Dock / Can Wash	Yes	
20. Maintenance Cluster		
Shop Area	Yes	
AFM Office	Yes	
Storage	Yes	

10 14 00 – ATTACHMENT A – SIGN TYPES



10 14 13 – ATTACHMENT A – DEDICATION PLAQUE



Cast Aluminum Plaque

Background: Metallic Grey, pebbled finish

Letters: Aluminum

11 40 00 – ATTACHMENT A – Food Preparation Equipment Schedule

Reference:

ES=Elementary, MS=Middle, HS = High

Plan Identifier	Quantity ES	MS	HS	Item	Acceptable Products	Comments
1	2	2	2	Single-Stack Combi Oven w/ backflow preventer and table.	Rational Model B628206.19E	
2	1	1	1	Mixer, 10 qt. with attachments.	Globe SP10 10-qt.	
					Hobart HL120 12-qt.	
					Vollrath 40756	
3	1	1	1	Table, stainless steel, 2'-0" X 2'-0" with rolled edges. No castors.	Triad Stainless Model #6SU-24 with 2 drawers and undershelf	
4	1	1	1	Food Processor	Robot Coupe CL50E	Preferred Alternate
5	1	1	1	Mobile heat /proof cabinet	Intermetro Metro C5 3 Series	
					Winston HA4522	
					CresCor H-137-WSUA-12D	
6	1	1	1	Ice machine (400-lb. cap.) with water filter and 400-lb capacity storage bin, w/backflow preventer	Manitowac RF-0300A	
					Hoshizaki	
7	5	5	5	Mobile end-load pan rack	Metro RD3N	
8				(not used)		
9	1	1	1	Single convection oven w/ stainless-steel back panel	Blodgett Mark V	Preferred Alternate
10				(not used)		
11	1	1	1	Clean Pan Rack 60"x24"x68"	Metro	
12	1	1	1	Single Reach-in Refrigerator	True Mfg. Co. Model STR1R-1S	
13	1	2	2	Double Roll-Thru Heated Cabinet	Delfield SSHRT2-S	
14	1	2	2	Roll-Thru Refrigerated Cabinet	Delfield Model SMRRT1-S	
					Victory RIS-2D-S1-PT	
15	1	1	1	Slicer	Globe 3850P	
					Hobart 2912	
					Vollrath 40800	

16	4	4	6	Worktable, 2’-6” x 6’-0” with 2 drawers and one undershelf each end)	Custom-manufactured	
17	1	1	1	Three-Compartment Sink, 2’-6” x 12'-0” (3 - 30”W sinks, with drain boards and undershelf at each end)	Custom-manufactured	
18	1	1	1	Four-Compartment Sink, 2’-6” x 15'-0” (4 - 28”W sinks, with drain boards and undershelf at each end)	Custom-manufactured	
19	2	2	2	Wall shelf, 8’-0”L (1 above each sink at 5’-1” A.F.F.)	Custom-manufactured	
20	1	1	1	Microwave Oven, Double Stack	(2) Amana Model MS035	
21	2	2	2	Drying Rack	Metro Model # PR48VX3	
22	3	3	3	Handwash sink	(See WCPSS Design Guidelines)	
23	1	1	1	Tackboard, 4’-0” X 4’-0”	(See WCPSS Design Guidelines)	
24	2	2	2	Washdown station	(See WCPSS Design Guidelines)	
25	1	1	1	Barrier-free eyewash station	(See WCPSS Design Guidelines)	
26	1	1	1	Utility Distribution System (UDS) w/ digital controls and (2) extra 208v/1p outlets	(See WCPSS Design Guidelines)	
27	1	1	1	Silver and tray caddy/stand w/ plexiglass sides	LTI Colorpoint K36-RTS	Preferred Alternate
28	1	2	0	Milk cooler, double-sided, mobile, 12- crate capacity	Norlake AR124SSS	
					MasterBuilt OCC-1211-SS	
					Beverage Air Coldwall ST Series	
					True Mfg. Co Model TMC-58-S	
28A	0	0	4	Pass-Thru Merchanidising Unit	True Mfg. Co. Model GDM-33CPT-54-LD	
29	1	4	4	Hot foot counter, w/ 5 recessed wells, dual service, adj. buffet shield, SS door w drain valve behind door; LED lights	LTI Colorpoint EF5-CPA	Preferred Alternate
30	1	4	4	Cold food counter, 4-well, dual service, SS door w drain valve behind door; buffet shield; LED lights, dual-service buffet	LTI Colorpoint 60CFMA	Preferred Alternate
31				(not used)		
32	1	4	0	Ice cream dispenser w/ hinged lid, line up lock	LTI Colorpoint 50-ST w/ DI2222IC merchandise drop-in	Preferred Alternate
32A	0	0	4	Fiberglass Hot Top	Colorpoint Model 50-CPS-F	

33	1	4	4	Cashier stands w full-length SS tray slides	LTI Colorpoint 50-CSE	Preferred Alternate
34	1	4	4	Condiment station	LTI Colorpoint 36-ST-EB	Preferred Alternate

11 61 00 ATTACHMENT A – ELEMENTARY SCHOOL PLATFORM EQUIPMENT

A. GENERAL

1. Front Platform Curtain and Valance: Flame resistant 25 oz. Velour (color to be selected). Curtains to be manufactured with 50% fullness. Panel headings shall be box-pleated and constructed with 2 in. heavy jute webbing with a pleat control system consisting of 16 gauge flame resistant virgin vinyl pleat control strips with 4 in. brass grommets placed every 12 in. on center.
    a. Front curtain panels shall have 12 in. leading and 2 in. trailing hems. Bottom hems of the front curtain panel shall be 6 in. Valance hems shall be 2 in. on the sides and 3 in. on the bottom.
    b. Valance shall be constructed with hidden vertical seams i.e. the seams are to fall behind the pleats.
    c. Panel headings shall be box-pleated and constructed with 2 in. heavy jute webbing with a pleat control system as noted in specification for Front Platform Curtain above.
    d. Side and rear panels shall have 2 in. side hems and 4 in. bottom hems. Overhead borders shall have 2 in. side hems and 3 in. bottom hems.
    e. Borders shall be constructed with hidden vertical seams as noted in specification for valance above.
2. Front Curtain Track: ADC 170, or approved equal.
3. Side Curtain Tracks: Sturdi-Bilt 390 (Walk-Draw), or approved equal.
4. Two side panels: Left and Right of Platform on ADC or equivalent 280 walkalong track – black with compatible hardware.
5. Rear Bi-part curtain with ADC or equivalent track complete with Floor Mounted Pulley System.
6. Rear border to be tied to 1½” schedule 40 pipe suspended from ceiling truss to hang in front of rear traveller
7. Valance Pipe: If required, shall be 3/4 in. I.D. black steel TC pipe.
8. Overhead Border Pipes: shall be 3/4 in. I.D. black steel TC pipe.
9. Track and Pipe Hardware: shall be supported from structure and of adequate design and strength to support curtains. All track and pipe hardware shall be installed by the General Contractor.

11 61 00 ATTACHMENT B – MIDDLE SCHOOL STAGE EQUIPMENT

A. GENERAL

1. Front Stage Curtain and Valance: Flame resistant 25 oz. Velour (color to be selected). Curtains to be manufactured with 60% fullness. Panel headings shall be box-pleated and constructed with 2 in. heavy jute webbing with a pleat control system consisting of 16 gauge flame resistant virgin vinyl pleat control strips with 4 in. brass grommets placed every 12 in. on center.
    a. Front curtain panels shall have 12 in. leading and 2 in. trailing hems. Only full widths shall be allowed. Bottom hems of the front curtain panels shall be 6 in., with #8 jack chain encased in flame resistant Repp chain pockets.
    b. Valance hems shall be 2 in. on the sides and 3 in. on the bottom, with Kirsch #1602 weighted tape in the bottom hem.
    c. Valance shall be constructed with hidden vertical seams i.e. the seams are to fall behind the pleats.
2. Stage Curtain System: shall consist of back traveler, two (2) rear curtain panels, two (2), four (4) or six (6) side leg panels and two (2), three (3) or four (4) overhead borders, depending on stage depth and sight-line situation. Curtains shall be manufactured with 60% fullness from flame-retardant, black Atlas Oxford fabric or similar fabric by another approved manufacturer.
    a. Borders shall be box-pleated and constructed with 2 in. heavy jute webbing with a pleat control system as noted in specification for Front Stage Curtain above.
    b. Side legs and rear curtain panels shall have 2 in. side hems and 4 in. bottom hems with #8 jack chain encased in flame resistant Repp chain pockets.
    c. Overhead borders shall be constructed with hidden vertical seams as noted in specification for valance above.
3. Mid Stage Curtain: shall consist of two (2) panels manufactured with 60% fullness from flame retardant, black Atlas Oxford fabric or similar fabric by another approved manufacturer.
    a. Panel headings shall be box-pleated and constructed with 2 in. heavy jute webbing with a pleat control system as noted in specification for Front Stage Curtain above.
    b. Side legs and rear curtain panels shall have 2 in. side hems and 4 in. bottom hems with #8 jack chain encased in flame resistant Repp chain pockets.
4. Front Curtain Track: ADC 170, or approved equal.
5. Side Leg Tracks: Rotodraper Pivot Arms #17 with #400 clamp, or approved equal.
6. Rear Curtain Track: Sturdi-Bilt 390 (Walk-Draw), or ADC 170 (Rope-Operated), or approved equal.
7. Mid-Stage Curtain Track: ADC 170, or approved equal.
8. Valance Pipe: If required, shall be 3/4 in. I.D. black steel TC pipe.
9. Overhead Border Pipes: shall be 3/4 in. I.D. black steel TC pipe.
10. Track and Pipe Hardware: shall be supported from structure and of adequate design and strength to support curtains. All track and pipe hardware shall be installed by the General Contractor.

11 61 00 ATTACHMENT C – HIGH SCHOOL STAGE EQUIPMENT

A. GENERAL

1. Note: Size, design and use of High School stage prevents provision of specifics as to quantity of any type of curtain to be used. Therefore, these guide specifications provide for each type of curtain that might be used only.
2. Front Stage Curtain and Valance: Flame resistant 25 oz. Velour (color to be selected). Curtains to be manufactured with 60% fullness. Panel headings shall be box-pleated and constructed with 2 in. heavy jute webbing with a pleat control system consisting of 16 gauge flame resistant virgin vinyl pleat control strips with 4 in. brass grommets placed every 12 in. on center.
    a. Front curtain panels shall have 12 in. leading and 2 in. trailing hems. Only full widths shall be allowed. Bottom hems of the front curtain panels shall be 6 in., with #8 jack chain encased in flame resistant Repp chain pockets. Valance hems shall be 2 in. on the sides and 3 in. on the bottom, with Kirsch #1602 weighted tape in the bottom hem.
    b. All curtains with fullness shade (with hidden vertical seams).
3. Stage Curtain System: shall consist of back traveler, midstage traveler, two (2) rear curtain panels two (2), four (4) or six (6) side leg panels and two (2), three (3) or four (4) overhead borders, depending on stage depth and sight-line situation. Curtains shall be manufactured with 60% fullness from flame retardant, black Atlas Oxford fabric or similar fabric by another approved manufacturer.
    a. Borders shall be box-pleated and constructed with 2 in. heavy jute webbing with a pleat control system as noted in specification for Front Stage Curtain above.
    b. Legs and panels shall have 2 in. side hems and 4 in. bottom hems with #8 jack chain encased in flame-resistant Repp chain pockets. Overhead borders shall have 2 in. side hems. Bottom hems shall be 3 in. with Kirsch #1602 weighted tape inside the hems.
    c. Overhead borders shall be constructed with hidden vertical seams as noted in specification for valance above.
    d. Back and mid-stage travelers shall consist of two (2) panels manufactured with 60% fullness from flame retardant, black color Atlas Oxford fabric or similar fabric by another approved manufacturer.
    e. Panel headings shall be box-pleated and constructed with 2 in. heavy jute webbing with a pleat control system as noted in specification for Front Stage Curtain above.
    f. Panels shall have 2 in. side hems and 4 in. bottom hems with #8 jack chain encased in flame resistant Repp chain pockets.
4. Cyclorama: shall be manufactured from flame resistant seamless Muslin fabric (color to be white). There shall be no fullness to this curtain. Panels shall have a heading constructed with 2 in. heavy jute webbing with 16 gauge flame resistant virgin vinyl control strips with #2 brass grommets placed every 12 in. on center. The side hems shall be 2 in. and the bottom hem shall be 4 in. with 2 in. heavy jute webbing attached at the top of this hem on the back side of the panel. This webbing to have #2 brass grommets and tie lines at approximately every 12 in. on center used to fasten a 3/4 in. I.D. black steel TC pipe to the bottom of the panel.
5. Front Curtain Track: ADC 280A, or approved equal.
6. Back and Mid-Stage Traveler Tracks: ADC 170 or ADC 280A, depending on width and height of panels, or approved equal.
7. Leg Tracks: Rotordraper pivot arm #17 with #400C clamp or approved equal.
8. Legs: Install on 3/4 in. I.D. black TC pipe.
9. Valance and Overhead Borders: Install on 3/4 in. I.D. black steel TC pipe.
10. Cyclorama: Install single track.

11. Track and Pipe Hardware: Shall be supported from structure, and installed by the General Contractor, of adequate design and strength to support curtains.

12 20 00 WINDOW TREATMENTS – 1 INCH MINI-BLINDS – ATTACHMENT A

A. GENERAL

1. Type III blinds shall be manufactured in accordance with the standards quality supplied for commercial use.

B. HEADRAIL

1. The headrail to be sheet steel .019 in. (0.483 MM) thick after painting, zinc plated, electro galvanized, or primed and painted with baked on enamel finish. Headrail to be nominal 1 in. x 1 in., 1 in. x 1 1/2 in., 1 in. x 1 1/8 in.
2. All hardware to be enclosed in the metal headrail. When the blind is in the closed position, the tip slat shall barely make contact with the underside of the headrail for its full length. Adjustable end braces shall be provided for a snug fit in brackets.

C. BOTTOM RAIL

1. The bottom rail shall be a minimum of 0.020 in. (0.508 MM) corrosion resistant sheet steel for channel section or 0.018 in. (0.457 MM) for oval or lock seam, zzinc plated, electro galvanized, or primed and painted, with baked on enamel finish.

D. HARDWARE

1. In blinds over 60 inches or over 50 square feet, the tilt rod shall be of soled cross-section and manufactured from corrosion resistant steel with either metal or low friction thermoplastic at each tape drum. In blinds under 60 inches or 50 square feet, the tilt rod shall be solid cross-section or u-shaped cross-section and manufactured from corrosion resistant steel. All tilt rods shall provide acceptance torsional rigidity during operation. Tilt rod supports shall have minimal friction and be manufactured from abrasive resistant polymer or corrosion resistant steel. Tilter mechanism shall be of a corrosion resistant steel or plastic housing that may be of the open or enclosed lubricated type. Gears shall be nylon or die-cast metal or equivalent, and approximately 3/8 in. (9.525 MM) to 3/4 in. (19.05 MM) diameter.
2. Tilt want to be transparent plastic with a diameter (measured across smallest dimension on non-circular cross-sections) of 0.20 in. (5.08 MM) or greater, and must provide acceptable torsional rigidity during operation.

E. SLATS

1. The slats shall be special flexible or tempered aluminum alloy, width 1 in. (25.00 MM) plus/minus 0.003 in. (0.0762 MM). Slat thickness shall be a minimum of 0.0072 in. (0.1829 MM) before painting and a minimum of 0.0082 in. (0.083 MM) after painting. Slats shall have rounded corners with a 1/8 in. (93.175 MM) to 3/16 in. (4.7625 MM) radius.
2. Slats shall have baked colorfast enamel coating of sufficient hardness to resist surface abrasion for the expected life of the blind.

F. TAPES AND TAPE SPACING

1. One-inch blinds shall have braided ladders of polyester yarn supporting slats. Their horizontal components or rungs to consist of two threads interbraided with the verticals. Maximum allowable ladder spacing to be 20.0 MM.

2. Maximum spacing for 1 in. blinds shall be 24 in. (914.4 MM) from center of tape, with a maximum of 6 1/2 in. (165.1 MM) from rout hole to the end of the slat on each end of the slat. The number of tapes for various blind widths shall be as shown below:

BLIND WIDTH	NO. OF TAPES
0 in. – 36 in. (0.0mm – 914.4 MM)	2
Over 36 in. – 60 in. (914.4 MM – 1,524 MM)	3
Over 60 in. – 84 in. (1,524 MM – 2,133.6 MM)	4
Over 89 in. – 108 in. (2,133.6 MM – 2,743.2 MM)	5
Over 108 in. – 132 in. (2,743.2 MM – 3,352.8 MM)	6

G. CORDS

1. Cord for 1 in. (25.4 MM) blinds to be braided polyester fiber, minimum of 1.4 MM diameter with or without polyester or rayon core and a minimum breaking strength of 130 lbs.

H. CORD LOCKS

1. A proper number of crash-proof cord locks shall be provided. The cord lock should have the ability to lock the slats at desired heights upon release of the cord.

I. STRINGING

1. Blinds shall be strung in such a way that the pounds of pull force (required to raise the last 6 in. (152.4 MM) to a fully open position when measured with an extension scale) shall not be greater than the result computed in accordance with the following formula:

$$\text{Lbs. Pull Force} = 45 \times \frac{\text{blind width (inches)} \times \text{blind length (inches)}}{14{,}400}$$

Data based on specification that maximum force to lift a 120 in.x 120 in. blind is 45 lbs.

J. ACCESORIES

1. Blinds shall have properly attached good quality tassels and equalizers. A minimum of two screws or bolts per bracket (except hold down brackets) shall be provided. Hold down brackets for Type I and II blinds shall be at the option of the purchaser.

2. All door blinds, except Type II, with side and sill channels shall have hold down brackets.

K. INSTALLATION

1. If installation by the contractor is called for in the invitation for bids, the following requirements shall apply.

2. Blinds in excess of 60 inches (1,524 MM) width or 45 sq. ft. (4.18 Sq. M) in area shall have intermediate supports which shall not be over 48 inches apart at any point.

3. When possible, blinds shall be installed between jambs with head member against soffit. Clearance between slat ends and jambs shall be 1/16 in. (1.588 MM) to 1/4 in. on each side

of blind. Bottom rail with no clips, staples, or tape in contact with the sill at underside, bottom rail to be 1/4 in. (6.35 MM) maximum above sill on level slat position.

4. All blinds installed in windows with air conditioner units shall have cut-outs to appropriately fit around the unit. No bunching of slats on the top of the unit or unsightly gaps on either side of the unit shall be allowed.

L. IDENTIFICATION

1. All blinds shall be marked or labeled inside the headrail with the contractor's name, date of assembly, and date or month and year of shipment. If installation is made by the contractor, the date of installation shall be substituted for date of shipment.

M. TEST PROCEDURES

1. Certified copies of test results applicable to the model(s) offered and a certificate of compliance completed by an officer of the company must be provided to the Division of Purchase and Contract. The test results must comply with Document 1029 of the American Window Covering Manufacturers Association latest requirements and must cover all required tests:

    1. Durability

        (a) Lifting
        (b) Tilting

    2. Pull Force Test
    3. Salt-Spray, Humidity and Weathering Test
    4. Pull Apart Test
        (a) Shrinkage of Stretch Test
    5. Rigidity Test
    6. Flexibility

7. All Cord and Tapes Tests as specified in Document 1029

12 30 00 LAMINATE CASEWORK FEATURES – ATTACHMENT A

	CORE	SURFACE	EDGE	CONSTRUCTION/ JOINERY	HARDWARE

Cabinet Boxes - Base & Wall (Maximum width: 36”)					
•Exposed vertical surfaces	All front & sides: 3/4" Base bottom: 3/4"	GP28	Finish all exposed edges (including	Doweled, glued under pressure.	
•Semi-exposed parts (interior of open cabinets, not including drawer bodies)	Wall top & bottom: 1" Back: entrapped - 1/4” Back: onset - 1/2”	CL20 or melamine	wall cabinet top and bottom). 3mm PVC.	Full sub-top is required on base cabinets.	
•Concealed surfaces	Full sub-top	CL20 or melamine			
•Panel ends		GP28			
Countertops & Backsplash **(wet areas)**	1" exterior grade veneer core plywood or phenolic resin particleboard	GP50 balanced with backing sheet	3mm PVC	Apply silicone sealant to joint between HPL top and backsplash. Field joints >48” apart and >48” from end of top.	
Countertops & Backsplash	1" particleboard	GP50 balanced with backing sheet	3mm PVC	Apply silicone sealant to joint between HPL top and backsplash. Field joints >48” apart and >48” from end of top.	

Cabinet Doors	3/4" particleboard	GP28 with CL20 liner on back.	3mm PVC	Door width: ≤18".	Heavy duty, 5-knuckle, 2-3/4" institutional type hinge (**no** concealed hinges). Brushed chrome finish. Disc tumbler locks. Roller catches.
Drawer Fronts	3/4" particleboard	GP28 with CL20 liner on back.	3mm PVC	Doweled, glued under pressure.	Wire design pulls. Brushed chrome finish.
Drawer Sides and Backs	1/2" particleboard or 5/8" medium density fiberboard	Melamine on all visible surfaces with drawer in normal open position.			Combination epoxy coated steel and nylon roller bearing drawer slides. Self-closing. Full extension for file drawers. ¾ Extension for all other drawers.
Drawer Bottoms	Fully captured construction - minimum thickness: 1/4". Platform construction – minimum thickness: 1/2".	Melamine panel product or particleboard.			Platform construction: must use wrap-around drawer slide
Shelves (Maximum span: 36", except for 48" span above K-5 cubby units). (Any span over 30" should have additional support).	3/4" particleboard ≤ 30"W. 1" particleboard > 30"W.	GP28 or melamine	3mm PVC	Multiple holes (minimum 5mm diam. @ 1-1/4" OC).	Supports to be polycarbonate or steel twin pin design with anti tip-up shelf restraints.

NOTES:

1 – Dimensions given are minimum and actual (not nominal).

2 – Balanced construction is required on all components.

3 – All hardware (latches, hinges and pulls) must be ADA compliant.

4 – All PVC edges must be machine applied with hot melt adhesive. All PVC edges must be machine radiused.

5 – Toe kick should be separate, and of plywood construction.

6 – Warranty should be 3 years.

7 – At the owner/architect's request, AWI certification may be required, paid for by the manufacturer.

8 – Reference AWI 7th edition, Section 1600 as guide for engineered product. **Do not** reference Section 400.

9 – Pre-approved manufacturers are: TMI, Interior Wood Specialties and Stevens. All others must be approved by addenda.

10 – All particleboard is to be medium density, 45 – 50 lb. industrial grade fir or pine, meeting or exceeding ANSI A 208.1-1993, M-3 requirements.

14 24 00 ATTACHMENT A – NON-PROPREITARY EQUIPMENT AFFADAVIT

A. GENERAL

1. The elevator control equipment proposed for the project identified below shall be Non-Proprietary. The following provisions comprise a warranty representing compliance with the established standards for Universal Serviceability and Maintainability.
2. Equipment Purchase Unrestricted: Any elevator company shall be allowed to purchase and install this equipment.
3. Spare Parts: Spare parts shall be available for sale or replacement or stock to be maintained at the building site, or the offices of any elevator contractor designated by the building owner to maintain their equipment.
   a) No exchange-only provisions shall limit any parts purchase.
   b) No building owner approval shall be required to processing any parts order.
   c) A published price list shall establish reasonable list pricing for parts.
4. Diagnostics: The control system shall be provided together with all diagnostic tool functions, either onboard or in a separate device.
   a) Such maintenance, adjustment and troubleshooting device or system shall provide unrestricted access to all parameters, levels of adjustment, and flags necessary for maintenance of equipment.
   b) No expiring software, degrading operation, or key shall be accepted. Any lost or damaged tool shall be replaced or repaired at a reasonable cost.
5. Training: Factory and/or on-site training shall be available from the original equipment manufacturer for enrollment by anyone who wishes to learn about the installation, adjustment, maintenance, and troubleshooting the equipment. Training fees shall be reasonable and appropriate.
6. Technical Support Hotline: A technical support hotline shall be provided by the original equipment manufacturer whereby anyone designated by the building owner shall be able to obtain assistance for installation, adjustment, maintenance or troubleshooting.
7. Engineering Support: The original equipment manufacturer shall provide engineering support to any maintaining contractor so designated by the building owner.
8. Documentation: Manuals, engineering drawings, circuit diagrams, and prints shall be provided with the equipment at time of delivery. All documentation shall be available for replacement purchase, at a reasonable cost, by any installing or maintaining elevator contractor or persons so designated by the building owner

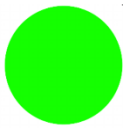
B. AFFADAVIT

The undersigned swears and affirms that the conditions described above are hereby made a part of the equipment proposal. The building owner, elevator contractor, and/or consultant shall reasonably rely upon these provisions.

_____	_____
Project	Installing Company Officer Signature Date
_____	_____
Controller Manufacturer	Printed Name and Title

22 05 50 – ATTACHMENT A – CEILING GRID LABELING

Ceiling grid markers shall be the color as indicated below. Beside all colored grid markers, a printed label shall be used to specify what the color marker is locating. Labels shall be no more than 1-inch in height. Lettering shall be minimum 18-point font. Lettering shall be black on white tape.

Sample	Color	Item Marker is Indentifying
	Neon Red	Electrical – Pull Box/Future/Disconnects, etc.
	Neon Yellow	Mechanical-Equipment/Valves/Dampers, etc.
	Neon Green	Camera Drops
	Neon Orange	Wireless Access Point
	Blue	Domestic Cold Water-Valves/Arrestor, etc. Chilled Water-Valves, tc.
	Yellow	Gas – Valves/Regulators, etc.
	Green	Domestic Hot Water-Valves, etc. Heating Hot Water-Valves, etc.
	Red	Fire Alarm/Sprinklers/Life Safety

22 40 00 – ATTACHMENT A – PLUMBING FIXTURE MOUNTING HEIGHTS

WATER CLOSETS

FIXTURE	REGULAR	HANDICAPPED	REMARKS
Pre K	10 in.	12 in.	Top of Seat
K-5	15 in.	15 in.	Top of Seat
6-8	15 in.	16-1/2 in.-19-1/2 in.	Top of Seat
9-12	15 in.	16-1/2 in.-19-1/2 in.	Top of Seat
Adult	15 in.	16-1/2 in.-19-1/2 in.	Top of Seat

URINALS

FIXTURE	REGULAR	HANDICAPPED	REMARKS
K-5	20 in.	14 in.	To Rim
6-8	20 in.	17 in.	To Rim
9-12	24 in.	17 in.	To Rim
Adult	24 in.	17 in.	To Rim

LAVATORIES

FIXTURE	REGULAR	HANDICAPPED	REMARKS
Pre K	23 in.	23 in.	To Rim
K-5	27 in.	30 in.	To Rim
6-8	31 in.	34 in.	To Rim
9-12	31 in.	34 in.	To Rim
Adult	31 in.	34 in.	To Rim

WATER COOLERS

FIXTURE	REGULAR	HANDICAPPED	REMARKS
Pre K-3	24 in.	30 in.	To Rim
4-5	28 in.	30 in.	To Rim
6-8	34 in.	34 in.	To Rim
9-12	34 in.	34 in.	To Rim
Adult	34 in.	34 in.	To Rim

SHOWERS

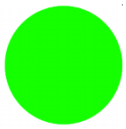
FIXTURE	REGULAR	HANDICAPPED	REMARKS
6-8 boys	72 in.	see note 2	Bottom of Showerhead
6-8 girls	66 in.	see note 2	Bottom of Showerhead
9-12 boys	72 in.	see note 2	Bottom of Showerhead
9-12 girls	66 in.	see note 2	Bottom of Showerhead
Adult	72 in.	see note 2	Bottom of Showerhead

NOTES:

1. Handicapped heights shall comply with the NC Building Code and all ADA requirements.
2. Top of shower controls not more than 48 in.

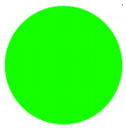
23 06 00 – ATTACHMENT A – CEILING GRID LABELING

Ceiling grid markers shall be the color as indicated below. Beside all colored grid markers, a printed label shall be used to specify what the color marker is locating. Labels shall be no more than 1-inch in height. Lettering shall be minimum 18-point font. Lettering shall be black on white tape.

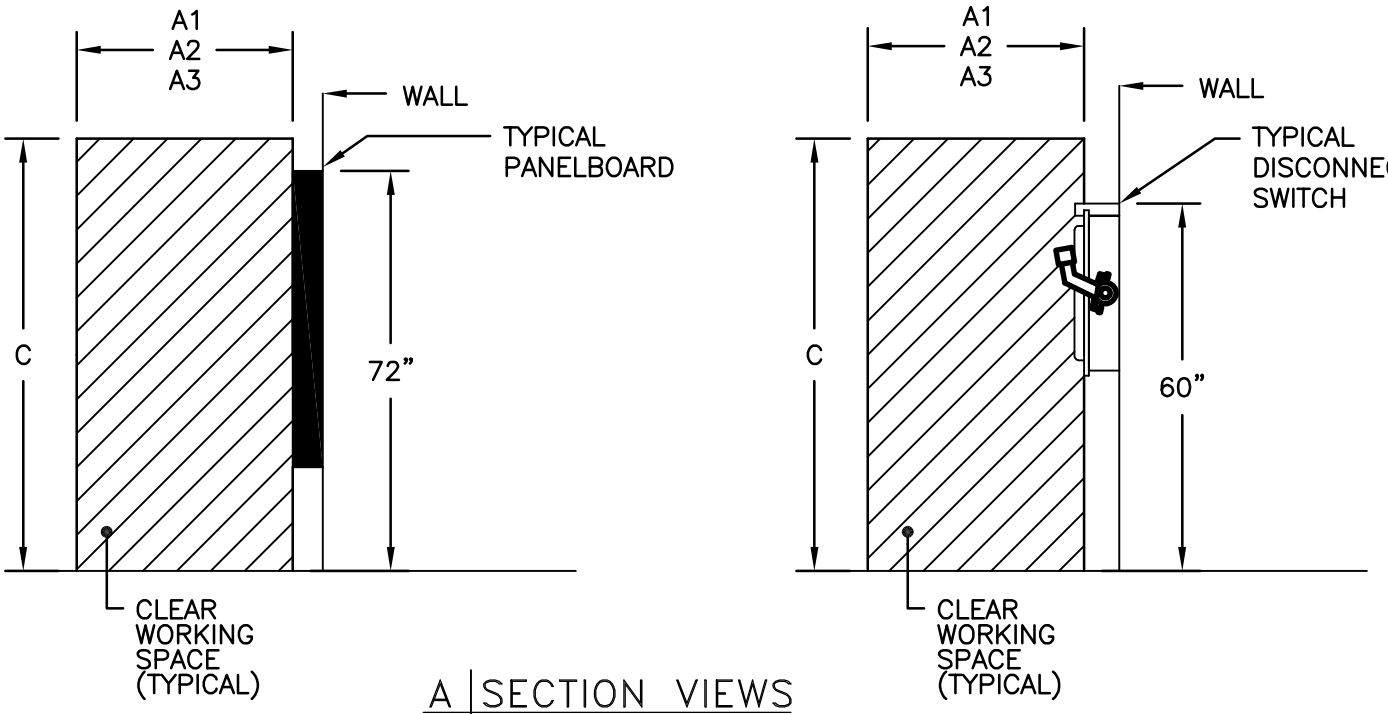
Sample	Color	Item Marker is Indentifying
	Neon Red	Electrical – Pull Box/Future/Disconnects, etc.
	Neon Yellow	Mechanical-Equipment/Valves/Dampers, etc.
	Neon Green	Camera Drops
	Neon Orange	Wireless Access Point
	Blue	Domestic Cold Water-Valves/Arrestor, etc. Chilled Water-Valves, tc.
	Yellow	Gas – Valves/Regulators, etc.
	Green	Domestic Hot Water-Valves, etc. Heating Hot Water-Valves, etc.
	Red	Fire Alarm/Sprinklers/Life Safety

26 05 33 – ATTACHMENT A – CEILING GRID LABELING

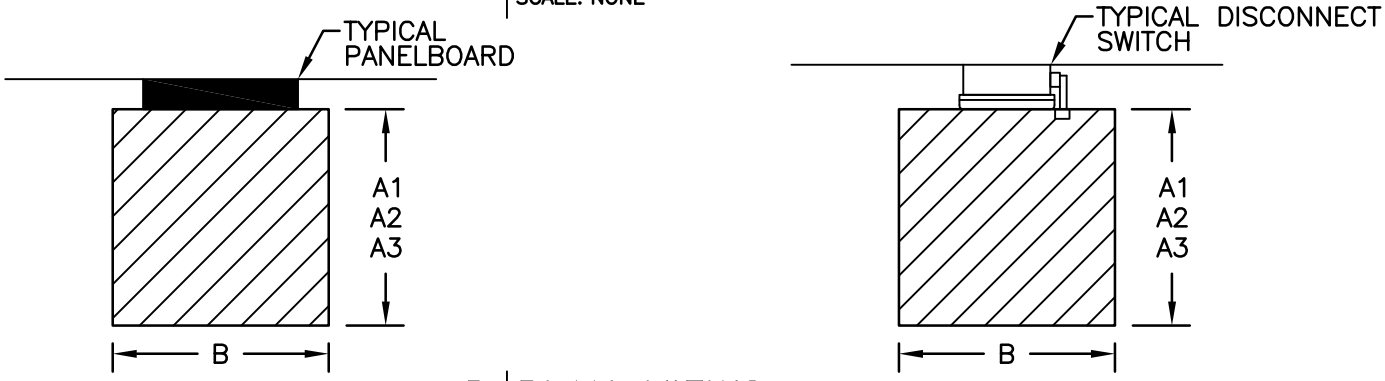
Ceiling grid markers shall be the color as indicated below. Beside all colored grid markers, a printed label shall be used to specify what the color marker is locating. Labels shall be no more than 1-inch in height. Lettering shall be minimum 18-point font. Lettering shall be black on white tape.

Sample	Color	Item Marker is Indentifying
	Neon Red	Electrical – Pull Box/Future/Disconnects, etc.
	Neon Yellow	Mechanical-Equipment/Valves/Dampers, etc.
	Neon Green	Camera Drops
	Neon Orange	Wireless Access Point
	Blue	Domestic Cold Water-Valves/Arrestor, etc. Chilled Water-Valves, tc.
	Yellow	Gas – Valves/Regulators, etc.
	Green	Domestic Hot Water-Valves, etc. Heating Hot Water-Valves, etc.
	Red	Fire Alarm/Sprinklers/Life Safety

26 24 00 - ATTACHMENT A – PANEL BOARD WORKING SPACE REQUIREMENTS



A | SECTION VIEWS
SCALE: NONE



B | PLAN VIEWS
SCALE: NONE

WORKING SPACE DISTANCES–MINIMUM REQUIREMENTS			
DIM	DISTANCE	VOLTS–GND	REMARKS
A1	3'–0"	0–600	NO LIVE/GROUNDED PARTS OPPOSITE EQUIPMENT
A2	3'–6"	151–600	GROUNDED PARTS OPPOSITE EQUIPMENT
A3	4'–0"	151–600	LIVE PARTS OPPOSITE EQUIPMENT
B	2'–6"	0–600	2'–6" OR WIDTH OF EQUIPMENT, WHICHEVER IS GREATER
C	6'–6"	0–600	6'–6" OR HEIGHT OF EQUIPMENT, WHICHEVER IS GREATER

GENERAL NOTES:

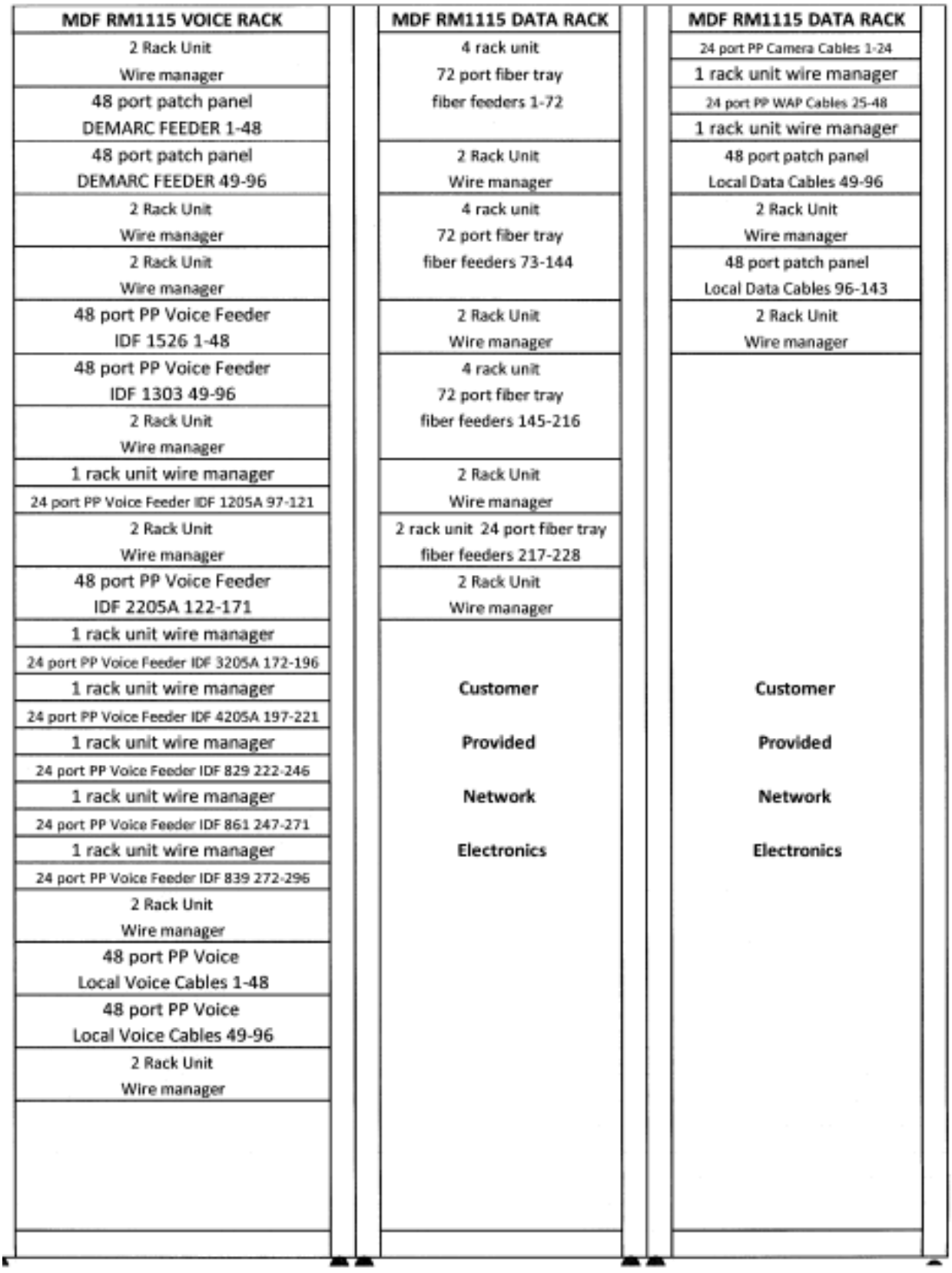
1. REFER TO NEC 110–26 FOR ADDITIONAL WORKING SPACE REQUIREMENTS.
2. CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE WORKING SPACE DISTANCE REQUIREMENTS ARE MET. COORDINATE EQUIPMENT LOCATIONS WITH ALL TRADES.

26 50 00 ATTACHMENT A - LIGHTING LEVEL TABLE

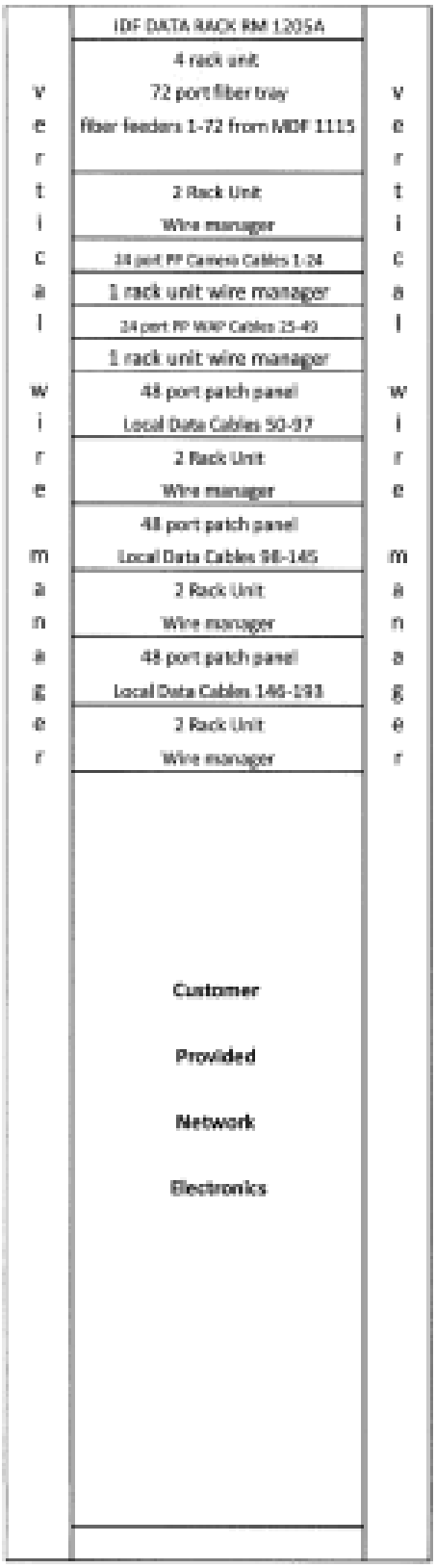
Type of Interior Areas	Recommended Initial Design Level, Foot-candles	Remarks
Administrative Offices	50 fc	
Auditorium	30 – 50 fc	Auditorium stages need 70 fc at full bright dimmer settings
Bathrooms	30 fc	
Cafeterias – Dining	30 fc	
Cafeterias - Kitchen	50 fc	
Classrooms	50 fc	
Computer Lab	50 fc	
Drafting Classroom	75 fc	
Gymnasium – general exercise	30 fc	
Gymnasium – HS basketball	75 fc	
Hallways	30 fc	
Media – Support/Admin Areas	30 fc	
Media – Open Study Areas	50 fc	
Locker Rooms	10 fc	
Mechanical Rooms	30 fc	
Science Labs	50 fc	
Technology Labs	50 fc	

*Lighting levels per IES standards

27 00 00 - ATTACHMENT A – MDF ROOM RACK LAYOUT



27 00 00 - ATTACHMENT B – IDF ROOM RACK LAYOUT



27 00 01 - ATTACHMENT A – SAMPLE MDF SCHEDULE

SAMPLE MDF

Fiber Station Cable Records - MDF-XXX
(School Name)
Strands 1-48

NOTE: FIBER CABLES FROM FDE TO MDF

From Room	Fiber Strand	To Room	Fiber Strand	To Room
MDF-127	1	FDE-200	1	ROOM 201
MDF-127	2	FDE-200	2	ROOM 201
MDF-127	3	FDE-200	3	ROOM 202
MDF-127	4	FDE-200	4	ROOM 202
MDF-127	5	FDE-200	5	ROOM 203
MDF-127	6	FDE-200	6	ROOM 203
MDF-127	7	FDE-200	7	ROOM 204
MDF-127	8	FDE-200	8	ROOM 204
MDF-127	9	FDE-200	9	ROOM 205
MDF-127	10	FDE-200	10	ROOM 205
MDF-127	11	FDE-200	11	ROOM 206
MDF-127	12	FDE-200	12	ROOM 206
MDF-127	13	FDE-200	13	ROOM 207
MDF-127	14	FDE-200	14	ROOM 207
MDF-127	15	FDE-200	15	ROOM 208
MDF-127	16	FDE-200	16	ROOM 208
MDF-127	17	FDE-200	17	ROOM 209
MDF-127	18	FDE-200	18	ROOM 209
MDF-127	19	FDE-200	19	ROOM 210
MDF-127	20	FDE-200	20	ROOM 210
MDF-127	21	FDE-200	21	ROOM 211
MDF-127	22	FDE-200	22	ROOM 211
MDF-127	23	FDE-200	23	ROOM 212
MDF-127	24	FDE-200	24	ROOM 212
MDF-127	25	FDE-200	25	ROOM 213
MDF-127	26	FDE-200	26	ROOM 213
MDF-127	27	FDE-200	27	ROOM 214
MDF-127	28	FDE-200	28	ROOM 214
MDF-127	29	FDE-200	29	ROOM 215
MDF-127	30	FDE-200	30	ROOM 215
MDF-127	31	FDE-200	31	ROOM 216
MDF-127	32	FDE-200	32	ROOM 216
MDF-127	33	FDE-200	33	ROOM 217
MDF-127	34	FDE-200	34	ROOM 217
MDF-127	35	FDE-200	35	SPARE
MDF-127	36	FDE-200	36	SPARE
MDF-127	37	FDE-200	37	SPARE
MDF-127	38	FDE-200	38	SPARE
MDF-127	39	FDE-200	39	SPARE
MDF-127	40	FDE-200	40	SPARE
MDF-127	41	FDE-200	41	SPARE
MDF-127	42	FDE-200	42	SPARE
MDF-127	43	FDE-200	43	SPARE
MDF-127	44	FDE-200	44	SPARE
MDF-127	45	FDE-200	45	SPARE
MDF-127	46	FDE-200	46	SPARE
MDF-127	47	FDE-200	47	SPARE
MDF-127	48	FDE-200	48	SPARE

27 00 01 - ATTACHMENT B – SAMPLE MDF SCHEDULE

SAMPLE MDF

Fiber Feeder Cable Records - FDE-XXX
(School Name)
Strands 1-48

NOTE: FIBER CABLES FROM FDE TO MDF

To Room	Fiber Strand	From Room	Fiber Strand	To Room
MDF-127	1	FDE-200	1	ROOM 201
MDF-127	2	FDE-200	2	ROOM 201
MDF-127	3	FDE-200	3	ROOM 202
MDF-127	4	FDE-200	4	ROOM 202
MDF-127	5	FDE-200	5	ROOM 203
MDF-127	6	FDE-200	6	ROOM 203
MDF-127	7	FDE-200	7	ROOM 204
MDF-127	8	FDE-200	8	ROOM 204
MDF-127	9	FDE-200	9	ROOM 205
MDF-127	10	FDE-200	10	ROOM 205
MDF-127	11	FDE-200	11	ROOM 206
MDF-127	12	FDE-200	12	ROOM 206
MDF-127	13	FDE-200	13	ROOM 207
MDF-127	14	FDE-200	14	ROOM 207
MDF-127	15	FDE-200	15	ROOM 208
MDF-127	16	FDE-200	16	ROOM 208
MDF-127	17	FDE-200	17	ROOM 209
MDF-127	18	FDE-200	18	ROOM 209
MDF-127	19	FDE-200	19	ROOM 210
MDF-127	20	FDE-200	20	ROOM 210
MDF-127	21	FDE-200	21	ROOM 211
MDF-127	22	FDE-200	22	ROOM 211
MDF-127	23	FDE-200	23	ROOM 212
MDF-127	24	FDE-200	24	ROOM 212
MDF-127	25	FDE-200	25	ROOM 213
MDF-127	26	FDE-200	26	ROOM 213
MDF-127	27	FDE-200	27	ROOM 214
MDF-127	28	FDE-200	28	ROOM 214
MDF-127	29	FDE-200	29	ROOM 215
MDF-127	30	FDE-200	30	ROOM 215
MDF-127	31	FDE-200	31	ROOM 216
MDF-127	32	FDE-200	32	ROOM 216
MDF-127	33	FDE-200	33	ROOM 217
MDF-127	34	FDE-200	34	ROOM 217
MDF-127	35	FDE-200	35	SPARE
MDF-127	36	FDE-200	36	SPARE
MDF-127	37	FDE-200	37	SPARE
MDF-127	38	FDE-200	38	SPARE
MDF-127	39	FDE-200	39	SPARE
MDF-127	40	FDE-200	40	SPARE
MDF-127	41	FDE-200	41	SPARE
MDF-127	42	FDE-200	42	SPARE
MDF-127	43	FDE-200	43	SPARE
MDF-127	44	FDE-200	44	SPARE
MDF-127	45	FDE-200	45	SPARE
MDF-127	46	FDE-200	46	SPARE
MDF-127	47	FDE-200	47	SPARE
MDF-127	48	FDE-200	48	SPARE

27 00 01 - ATTACHMENT C – SAMPLE MDF SCHEDULE

SAMPLE MDF

Voice Station Cable Records - DEMARC-XXX
(School Name)
Voice Station Cable

From Room	Fiber Strand	To Room
MDF-127	V1	ROOM 100
MDF-127	V2	ROOM 101
MDF-127	V3	ROOM 102
MDF-127	V4	ROOM 103
MDF-127	V5	ROOM 104
MDF-127	V6	ROOM 105
MDF-127	V7	ROOM 106
MDF-127	V8	ROOM 107
MDF-127	V9	ROOM 108
MDF-127	V10	ROOM 109
MDF-127	V11	ROOM 110
MDF-127	V12	ROOM 111
MDF-127	V13	ROOM 112
MDF-127	V14	ROOM 113
MDF-127	V15	ROOM 114
MDF-127	V16	ROOM 115
MDF-127	V17	ROOM 116
MDF-127	V18	ROOM 117
MDF-127	V19	ROOM 118
MDF-127	V20	ROOM 119
MDF-127	V21	ROOM 120
MDF-127	V22	ROOM 121
MDF-127	V23	ROOM 122
MDF-127	V24	ROOM 123
MDF-127	V25	ROOM 124
MDF-127	V26	ROOM 125
MDF-127	V27	ROOM 126
MDF-127	V28	ROOM 127
MDF-127	V29	ROOM 128
MDF-127	V30	ROOM 129
MDF-127	V31	ROOM 130
MDF-127	V32	ROOM 131
MDF-127	V33	ROOM 132
MDF-127	V34	ROOM 133
MDF-127	V35	SPARE
MDF-127	V36	SPARE
MDF-127	V37	SPARE
MDF-127	V38	SPARE
MDF-127	V39	SPARE
MDF-127	V40	SPARE
MDF-127	V41	SPARE
MDF-127	V42	SPARE
MDF-127	V43	SPARE
MDF-127	V44	SPARE
MDF-127	V45	SPARE
MDF-127	V46	SPARE
MDF-127	V47	SPARE
MDF-127	V48	SPARE

27 00 01 - ATTACHMENT D – SAMPLE MDF SCHEDULE

SAMPLE MDF

Voice Feeder Records - MDF/DEMARC-XXX
(School Name)
Paris 49-96

From Room	Voice Pair	To Room
MDF/DEMARC-127	49	IDF-200
MDF/DEMARC-127	50	IDF-200
MDF/DEMARC-127	51	IDF-200
MDF/DEMARC-127	52	IDF-200
MDF/DEMARC-127	53	IDF-200
MDF/DEMARC-127	54	IDF-200
MDF/DEMARC-127	55	IDF-200
MDF/DEMARC-127	56	IDF-200
MDF/DEMARC-127	57	IDF-200
MDF/DEMARC-127	58	IDF-200
MDF/DEMARC-127	59	IDF-200
MDF/DEMARC-127	60	IDF-200
MDF/DEMARC-127	61	IDF-200
MDF/DEMARC-127	62	IDF-200
MDF/DEMARC-127	63	IDF-200
MDF/DEMARC-127	64	IDF-200
MDF/DEMARC-127	65	IDF-200
MDF/DEMARC-127	66	IDF-200
MDF/DEMARC-127	67	IDF-200
MDF/DEMARC-127	68	IDF-200
MDF/DEMARC-127	69	IDF-200
MDF/DEMARC-127	70	IDF-200
MDF/DEMARC-127	71	IDF-200
MDF/DEMARC-127	72	IDF-200
MDF/DEMARC-127	73	IDF-200
MDF/DEMARC-127	74	IDF-200
MDF/DEMARC-127	75	IDF-200
MDF/DEMARC-127	76	IDF-200
MDF/DEMARC-127	77	IDF-200
MDF/DEMARC-127	78	IDF-200
MDF/DEMARC-127	79	IDF-200
MDF/DEMARC-127	80	IDF-200
MDF/DEMARC-127	81	IDF-200
MDF/DEMARC-127	82	IDF-200
MDF/DEMARC-127	83	IDF-200
MDF/DEMARC-127	84	IDF-200
MDF/DEMARC-127	85	IDF-200
MDF/DEMARC-127	86	IDF-200
MDF/DEMARC-127	87	IDF-200
MDF/DEMARC-127	88	IDF-200
MDF/DEMARC-127	89	IDF-200
MDF/DEMARC-127	90	IDF-200
MDF/DEMARC-127	91	IDF-200
MDF/DEMARC-127	92	IDF-200
MDF/DEMARC-127	93	IDF-200
MDF/DEMARC-127	94	IDF-200
MDF/DEMARC-127	95	IDF-200
MDF/DEMARC-127	96	IDF-200

27 00 01 - ATTACHMENT E – SAMPLE MDF SCHEDULE

SAMPLE MDF

Voice Feeder Records - IDF-XXX
(School Name)
Paris 49-96

To Room	Voice Pair	From Room
DEMARC-127	49	IDF-200
DEMARC-127	50	IDF-200
DEMARC-127	51	IDF-200
DEMARC-127	52	IDF-200
DEMARC-127	53	IDF-200
DEMARC-127	54	IDF-200
DEMARC-127	55	IDF-200
DEMARC-127	56	IDF-200
DEMARC-127	57	IDF-200
DEMARC-127	58	IDF-200
DEMARC-127	59	IDF-200
DEMARC-127	60	IDF-200
DEMARC-127	61	IDF-200
DEMARC-127	62	IDF-200
DEMARC-127	63	IDF-200
DEMARC-127	64	IDF-200
DEMARC-127	65	IDF-200
DEMARC-127	66	IDF-200
DEMARC-127	67	IDF-200
DEMARC-127	68	IDF-200
DEMARC-127	69	IDF-200
DEMARC-127	70	IDF-200
DEMARC-127	71	IDF-200
DEMARC-127	72	IDF-200
DEMARC-127	73	IDF-200
DEMARC-127	74	IDF-200
DEMARC-127	75	IDF-200
DEMARC-127	76	IDF-200
DEMARC-127	77	IDF-200
DEMARC-127	78	IDF-200
DEMARC-127	79	IDF-200
DEMARC-127	80	IDF-200
DEMARC-127	81	IDF-200
DEMARC-127	82	IDF-200
DEMARC-127	83	IDF-200
DEMARC-127	84	IDF-200
DEMARC-127	85	IDF-200
DEMARC-127	86	IDF-200
DEMARC-127	87	IDF-200
DEMARC-127	88	IDF-200
DEMARC-127	89	IDF-200
DEMARC-127	90	IDF-200
DEMARC-127	91	IDF-200
DEMARC-127	92	IDF-200
DEMARC-127	93	IDF-200
DEMARC-127	94	IDF-200
DEMARC-127	95	IDF-200
DEMARC-127	96	IDF-200

27 00 01 - ATTACHMENT F – SAMPLE MDF SCHEDULE

SAMPLE MDF

Cat5e Data Station Records - MDF-XXX
(School Name)
Data Station Cable

From Room	Data Cable Number	To Room
MDF-127	D1	ROOM 100
MDF-127	D2	ROOM 101
MDF-127	D3	ROOM 102
MDF-127	D4	ROOM 103
MDF-127	D5	ROOM 104
MDF-127	D6	ROOM 105
MDF-127	D7	ROOM 106
MDF-127	D8	ROOM 107
MDF-127	D9	ROOM 108
MDF-127	D10	ROOM 109
MDF-127	D11	ROOM 110
MDF-127	D12	ROOM 111
MDF-127	D13	ROOM 112
MDF-127	D14	ROOM 113
MDF-127	D15	ROOM 114
MDF-127	D16	ROOM 115
MDF-127	D17	ROOM 116
MDF-127	D18	ROOM 117
MDF-127	D19	ROOM 118
MDF-127	D20	ROOM 119
MDF-127	D21	ROOM 120
MDF-127	D22	ROOM 121
MDF-127	D23	ROOM 122
MDF-127	D24	ROOM 123
MDF-127	D25	ROOM 124
MDF-127	D26	ROOM 125
MDF-127	D27	ROOM 126
MDF-127	D28	ROOM 127
MDF-127	D29	ROOM 128
MDF-127	D30	ROOM 129
MDF-127	D31	ROOM 130
MDF-127	D32	ROOM 131
MDF-127	D33	ROOM 132
MDF-127	D34	ROOM 133
MDF-127	D35	SPARE
MDF-127	D36	SPARE
MDF-127	D37	SPARE
MDF-127	D38	SPARE
MDF-127	D39	SPARE
MDF-127	D40	SPARE
MDF-127	D41	SPARE
MDF-127	D42	SPARE
MDF-127	D43	SPARE
MDF-127	D44	SPARE
MDF-127	D45	SPARE
MDF-127	D46	SPARE
MDF-127	D47	SPARE
MDF-127	D48	SPARE

27 00 01 - ATTACHMENT G – SAMPLE TECHNOLOGY SCHEDULE

Technology Schedule

Date: _____
School Name: _____
Building Name and/or
Phase Number: _____

FUNCTION	START DATE	COMPLETE DATE	ACTUAL COMP
Install conduits from street to building for telephones			
Install switch enclosures			
Install pathways			
Install copper station cables			
Complete MDF room (backboards, grounding, pull strings)			
Install copper feeder cables (includes patch panels)			
Install innerduct			
Install surface raceway			
Install fiber station cable			
Install cabinets in MDFs/FDEs			
Install fiber feeder cables			
Terminate copper cables			
Terminate fiber cables			
Test copper cables			
Test fiber cables			
Labeling			
Provide Contractor punch list			
Provide documentation to Owner for walk thru			

28 00 00 – ACCESS CONTROL DESIGN FOR ENTRY VESTIBULE – ATTACHMENT A

Employee

1. Present credentials at card reader near door #1. Door #1 unlocks.
2. Present credentials at card reader near door #2. Door #2 & #3 unlocks.

Handicapped Employee

1. Present credentials at card reader near door #1. Door #1 unlocks.
2. Press the handicap actuator to open Door #1.
3. Present credentials at card reader near door #2. Door #2 & #3 unlocks. If the handicapped employee desires to enter Door #2 and visit the office then they may require assistance from office personnel to gain entry.
4. Press the handicap actuator to open Door #3 only.

Visitor

1. Active Aiphone at Door #1. School receptionist grants entry and Door #1 unlocks.
2. Walks over to door #2 and awaits receptionist to unlock Door #2 to enter and conduct their business. The button that receptionist uses to unlock Door #2 will be located on the receptionist's desk next to the Aiphone master station.

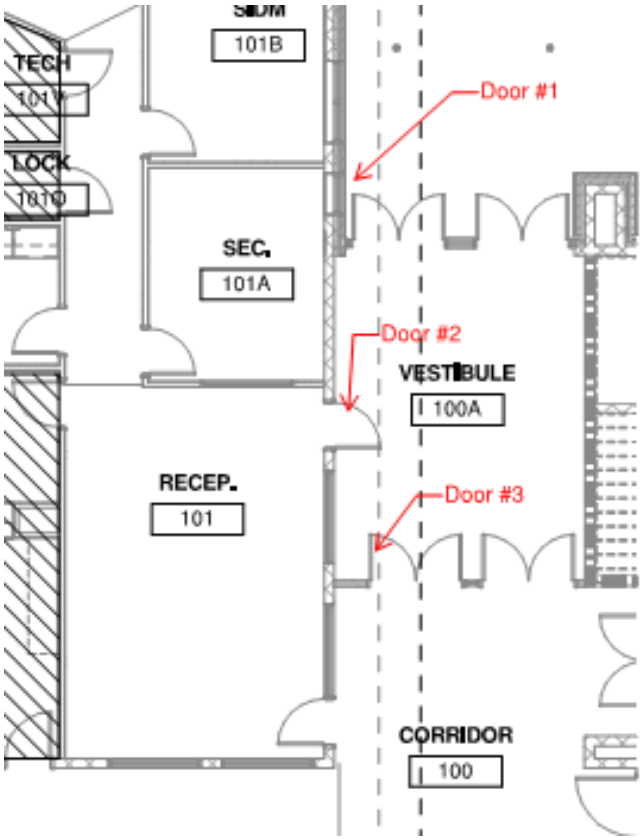
Handicapped Visitor

1. Active Aiphone at Door #1. School receptionist grants entry and door #1 unlocks.
2. After verbal notification from the receptionist visitor presses the handicap actuator and Door #1 opens.
3. Walks over to door #2 and awaits receptionist to unlock Door #2 to enter and conduct their business. The handicapped visitor may require assistance from office personnel to gain entry. The button that receptionist uses to unlock Door #2 will be located on the receptionist's desk next to the Aiphone master station.

Leaving The Building

There is no access control involved in the egress from the building. Non-handicapped individuals can exit via the panic hardware while handicapped individuals can exit with the provided actuators.

28 00 00 – ACCESS CONTROL ENTRY VESTIBULE FLOOR PLAN EXAMPLE – ATTACHMENT B



Mission Statement

Successfully Plan Security Camera & Access Control Systems

Contractor Pre-Requisites

An active network and the following items need to be completed by the system integrator before access control or the security surveillance cameras can be completed and accepted:

I. Contractor needs to have the following completed for the Video Surveillance

- ✓ All cameras installed
- ✓ All cameras addressed
- ✓ All cameras aimed
- ✓ All IP Addresses for each camera location located on a set of as-built

** IIS will then populate, configure, name and train

II. Contractor needs to have the following completed for S2 Security Door Access

- ✓ All Door Hardware installed wired and Tested
- ✓ Controller wired and connected to the doors and network
- ✓ Nodes to be addressed as .26 controllers as .25
- ✓ Door named in S2
- ✓ Left powered on and tested

**WCPSS will make the access badges for school employees

III. Contractor needs to have the following completed for Aiphone

- ✓ Door and Master Stations Installed
- ✓ Configured and tested
- ✓ Aiphones to be addressed at .40 for Master Station and .41 for door station etc.

**We need any and all configuration and as built documentation from contractors

NOTE:

In the future, if the contractors need the IP's, WCPSS (Ricky Horne) can help with that. They still will need to contact Bill Otstot about setting up network ports. Also, for your info this is our IP scheme. The second byte will be different at each location so that's why I left it blank.

IV. Example Beaverdam .194

- Card Access Controller 10. .251.25
- Card Access Node 1 10. .251.26
- Card Access Node 2 10. .251.27 ect . . .

- Security System NL-Mod 10. .251.35
- Aiphone 10. .251.40
- Aiphone 10. .251.41 ect . . .

- CCTV 10. .251.101
- CCTV 10. .251.102 ect . . .

28 10 00 ATTACHMENT A – SECURITY SYSTEM PRODUCT DATA

Gemini **X255** is the expansive hardwire/wireless control offering **255 fully-programmable zones**, 195 users, **fuseless operation** & supports the full line of top performing Gemini Wireless.

Gemini keypads compatible with the GEMP9600

	K1CA	K2AS	K3DGTL	K4RF	K4	RP1CAe2	RP2AS e2	RP3DGTL	RP8LCD	RP8/K800
GEMX255	•					•				

Gemini

NAPCO

Manufacturing great security products is all we do. It's that simple.™

28 10 00 - A -2

Gemini™ **X255** zone hybrid control

Control panel features

8 to 255 zones, hardwire or wireless zones from GEM EZM8 zone- expansion modules and RP1/K1 4-zone keypads or wireless points using Gemini receivers

- **Including up to 8 2-wire fire zones**
- **Up to 195 individually coded users, each with a programmable authority level**
- **Exclusive RS232 panel-port supports PC home automation/ networking integration for 9600 baud comprehensive communications**
- **Fuseless maintenance-free operation**
- 8 End-of-line-resistor burglary zones programmable for area, exit/entry delay, interior, follower, day zone, chime, fire option, sensor watch, swinger shutdown, zone anding and a variety of other features
- 3 on-board relay outputs, expandable to 99
- Three keypad panics: fire, police & auxiliary
- Up to 8 independent area partitions
- Up to 8 separate access stations for up to 195 users
- Up to 64 separately-addressable X-10 devices with the GEM-X10KIT
- English-language prompts & system status messages from keypad (GEM-RP1CAe2 installed "with 255 support" only)
- User-customized zone descriptions, reprogrammable as required
- Supports 2-wire and 4-wire smoke detectors
- Reports alarms, restores and troubles by zone
- 255 event schedule
- 800 event log
- Overview mode permits monitoring and control of total system from one keypad
- Supports up to 4 RF receivers
- Guard-tour programmable for start time, tour length, and check points (tour stations)
- 2 programmable entry delay times
- 2 interior-bypass groups
- Dynamic battery test interrupts charging and places battery under load every four hours
- Chime by zone; programmable duration
- Non-volatile RAM retains memory during power losses
- PCD-Windows programmable
- Auto-download log
- Exclusive V.A.L.I.D.™ FEATURE (Verifying Automatic Line Integrity Diagnostic) reduces false alarms due to changes in line resistance

Communicator features

- Compatible with all major receiver formats, including BFSK, 4/2, Modem 2, SIA, 4/3/1, 4 + 2 Express and Point ID
- Rotary dial and TouchTone™ with rotary backup
- 3 20-digit telephone numbers
- Backup reporting; double reporting; split reporting
- 195 User codes with opening/closing reporting by user
- AC failure reporting with programmable report delay
- Supervised telephone line cut with programmable delay
- Pager capability

Specifications

Operating temperature: 0-49°C (32-120°F)
Input power: 16.5Vac via Class 2 Plug-In 40VA Transformer, supplied
Loop voltage: 10-13VAC
Loop current: 2.5mA with 2.2ohm end-of-line resistor (model EOL2.2K); 5mA for 2-wire smoke-detector zones
Loop resistance: 300W max.; 50W for 2-wire smoke detector zones
Relay outputs (burglary; reset; aux): wet, 12Vdc, 1.2A max.; dry (cut related jumper for dry contacts), SPDT contacts 24Vdc, 2A
Auxiliary power output: 12 Vdc regulated
Remote power output: 12Vdc regulated (for keypads) 750 mA combined Standby Current (Remote Power + Aux. Power + Reset Relay Power)
Standby time: Residential fire/burglary & commercial burglary, 4 hours minimum
EZM Module: GEM-EZM8: input, 50mA (including PGM Output) PGM output: 5mA, 12V special application
Keypad current:
GEM-RP1CAe2, GEM K1CA: 100mA; 35mA if back lighting is disabled (cut W1, W2 & W3) PGM output: 5mA, 12V special application
Maximum number of keypads: 15 maximum wiring length for each run (#22AWG): 1000' divided by total number of keypads & EZMs on run
Keypad Dimensions: 4 3/8" x 5 7/8" x 1 1/6" (HWD); 11.1cm x 14.9cm x 2.7cm (HWD)

Optional accessories and peripherals

GEM-EZM8: 8-Zone expansion zone module (see models labeled "GEM-X255 Support")
VERI-PHONE: Two-way voice/listen in system
GEM-RECV8: Wireless receiver, 8 points
GEM-RECV16: Wireless receiver, 16 points
GEM-RECV96: Wireless receiver, 96 points
GEM-RECV255: Wireless receiver, 255 points*
GEM-TRANS2: Window/door transmitter, 2-point
GEM-RTRANS: Recessed wireless window/door transmitter, 1-point
GEM-KEYF: Keyfob transmitter
GEM-SMK: Wireless smoke detector
GEM-PIR: Wireless PIR, 50x50'
GEM-PIRPET: Wireless 40 lb. pet immunity PIR
GEM-DT: Wireless Adaptive® Dual Technology sensor, 40x40'
GEM-GB: Wireless glass break detector
GEM-WP PANIC: Waterproof panic button/pendant
GEM-HEAT: Rate of rise heat detector
2 WAYUNIVKFKIT: 2 Way LCD keyfob & receiver

Home/facilities automation:

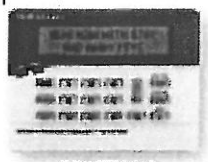
GEM-RS232KIT: Alarm-to-PC interface for 100% 2-way intercommunications with a growing number of leading PC automation software packages (including, but not limited to, IBM Home Director™, Savoy Cyberhouse™, Crestron, Phast, etc.)
GEM-DEVELOPER: System development professional's protocol for custom programming seamless integration with Gemini RS232 port communications.
GEM-X10 Interface Module: Provides programming & scheduler-integrated X-10 device support.
RM3008: relay module
M278: Line-reversal module
PS3002: Power-supply module, 13.2Vdc, 1.9A
EOL130: 2-Wire fire zone resistor, 130ohm, 3ohm
EOL2.2K: End-of-line resistor assembly, 2.2ohm for fire circuit
FT2200: EOL relay/resistor supervisory module
RB1000: Relay board
RBAT4: Rechargeable battery, 12Vdc, 4AH
RBATH1: Dual battery harness
RPB-3: Universal junction box
TRF11: Transformer, 16Vac/40VA, Class 2
WL1: Wire assembly with lug connector

*Consult panel documentation for UL restrictions which may apply to UL installations using upwards of 200 wireless-only points

Ordering information

- **GEM-X255:** Super Expandable Hybrid Control Panel & Transformer
- **GEM-RP1CAe2:** 32-Character EZ-Read Backlit LCD Keypad with 4 EOL Zone Expansion Module built-in (See models labeled "GEM-X255 Support"!)
- **GEMK1CA:** Keypad same as above with Stay & Away functions.
- **StarLink SL-1:** Backup wireless receiver for all alarm panel brands
- **NAPCO NETLINK™** Intranet/Internet Alarm Reporting Components (for specs see website, or literature # A482).
- **GeminiAccess™** economically add up to 8 doors of access control to Gemini Panels. Several paks are available (for specs see website, or literature #A481).

Compatible with these standard **Gemini keypads**



GEMK1CA
4 built in zones

RP1CAe2
4 built in zones

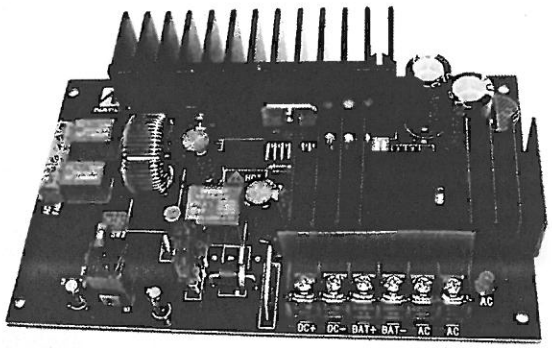
In North America 1-800-645-9445 • 631-842-9400
333 Bayview Avenue, Amityville, New York 11701 USA • www.napcosecurity.com
International 224 Europa Blvd, Gemini Business Park Warrington WA5 7TN England UK 44 (0) 1925242428

 A446A

NAPCO®
333 Bayview Avenue
Amityville, New York 11701
For Sales and Repairs, (800) 645-9445
For Technical Service, (800) 645-9440

NP-P5ASUP
5 AMP SUPERVISED POWER SUPPLY / CHARGER

WI1340B 12/05



DESCRIPTION

The NP-P5ASUP is both a charger and supervised power limited supply that converts a low voltage AC input into a 12VDC or 24VDC power limited output, with 5A of continuous supply current.

FEATURES

- 12VDC or 24VDC selectable output.
- Maximum charge current .5 amps.
- 5 amps continuous supply current at 12VDC-24VDC.
- Filtered and electronically regulated outputs.
- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails
- AC input and DC output LED indicators.
- AC fail supervision (form "C" contacts).
- Low battery supervision (form "C" contacts).
- Short circuit and thermal overload protection.
- Includes battery leads.
  Board Dimensions: 179.3mm(L) x 108.7mm(W) x 45mm(H)
  Specified at 25° C ambient.

INSTALLATION INSTRUCTIONS

The NP-P5ASUP should be installed in accordance with The National Electrical Code and all applicable Local Regulations.

1. Mount the NP-P5ASUP in desired location.
2. Set the NP-P5ASUP to desired DC output voltage via SW1 (see Voltage Output/Transformer Selection Table).
3. Connect proper transformer to terminals marked [AC] (see Voltage Output/Transformer Selection Table).
   Use 18 AWG or larger for all power connections (Battery, DC output). Use 22 AWG to 18 AWG for power limited circuits (AC Fail/Low Battery reporting).
4. Connect devices to be powered to terminals marked [+ DC -]. **Note:** It is important to measure output voltage before connecting devices. This helps avoid potential damage.
5. When the use of stand-by batteries are desired, they must be lead acid or gel type. Connect battery to terminals marked [+ BAT -] on the board (battery leads included). Use two (2) 12VDC batteries connected in series for 24VDC operation. **Note:** When batteries are not used, a loss of AC will result in the loss of output voltage.
6. Connect appropriate signaling notification devices to AC Fail & Low battery supervisory relay outputs marked [N. C., C, N.O.].

LED DIAGNOSTICS

Red (DC)	Green (AC)	Power Supply Status
ON	ON	Normal operating condition.
ON	OFF	Loss of AC, Stand-by battery supplying power.
OFF	ON	No DC output.
OFF	OFF	No DC output. Loss of AC. Discharged or no battery.

VOLTAGE OUTPUT/TRANSFORMER SELECTION TABLE

Output VDC	Switch Position	Transformer Requirements
12VDC @ 5 amps continuous supply current	1. ON 2. OFF	NP-TRF28100
24VDC @ 5 amps continuous supply current	1. ON 2. ON	NP-TRF28175

Note: Transformers with higher VA ratings may be used for all output voltages above as long as you do not exceed 28VAC.

TERMINAL IDENTIFICATION

Terminal Legend	Function/Description
AC/AC	Low voltage AC input (see voltage output/transformer selection table). For 12VDC output use 28VAC or higher with 100 VA power rating or higher. For 24VDC output use 28VAC with 175VA power rating or higher. Caution: Do not apply voltages above 28VAC (28 VAC is maximum input rating)
+ DC -	12VDC/24VDC @ 5 amps continuous power limited output.
AC FAIL N.C., C, N.O.	Used to notify loss of AC power, e.g. connect to audible device or alarm NC, C, NO panel. Relay normally energized when AC power is present. Contact rating 1 amp @ 120VAC / 28VDC
Low Battery N.C., C, N.O.	Used to indicate low battery condition, e.g. connect to alarm panel. NC, NO, C Relay normally energized when DC power is present. Contact rating 1 amp @ 120VAC / 28VDC. Low battery threshold: 12VDC output threshold set @ approximately 10.5VDC, 24VDC output threshold set @ approximately 21VDC.
+ BAT -	Stand-by battery connections. Maximum charge rate .5 amp.

NAPCO®
333 Bayview Avenue
Amityville, New York 11701
For Sales and Repairs, (800) 645-9445
For Technical Service, (800) 645-9440
Publicly traded on NASDAQ Symbol: NSSC

GEMC-NL-MOD

Network Communication Module

DATA SHEET

WI1912 09/10

GENERAL DESCRIPTION

The NAPCO NetLink™ GEMC-NL-MOD allows the reporting of alarms over a TCP/IP based (Intranet or Internet) network. Alarm reporting, previously performed via Telco only, can now be performed over both a TCP/IP network and/or Telco, or via the TCP/IP network as a backup. The GEMC-NL-MOD is housed in a separate plastic enclosure, and is connected to the Local Download receptacle for the Gemini C-Series control panels.

The GEMC-NL-MOD is supported by PCD-Windows Quickloader download software version 6.0 or greater. For the panels listed above, the Quickloader software will support downloading through the Internet or an intranet, as well as the uploading of logs and other data.

The GEMC-NL-MOD includes high performance transient protection inside its enclosure. In addition, the GEMC-NL-MOD requires a software package to allow its configuration before use (the NL-MODCONFIG) to enable communications to the Central Station Receiver (NL-RCV-RMPCUL) to allow the receipt of alarms, status and supervisory data. See WI1754 for more information.

The GEMC-NL-MOD also includes four (4) user-definable inputs, allowing it to be used as an Internet-reporting device on any Fire Alarm Control Panel or Commercial Burglary Alarm.

SPECIFICATIONS

Electrical Ratings

Input Power: Nominal 12VDC, 85mA.

Note: 12V power must be supplied from GEMC-Series motherboard **AUX PWR** terminals. Available panel 12V combined auxiliary current is reduced by 85mA.

Output Power: PGM-style open collector (negative trigger) with a maximum sink current of 50mA. Wire only to power-limited circuits less than 14VDC.

MAXIMUM WIRE LENGTH

The GEMC-NL-MOD must be mounted inside the NAPCO Gemini GEMC-Series control panel enclosure. For Fire Alarm control panels, the GEMC-NL-MOD must be installed inside a separate UL 864 Listed enclosure. In addition, no more than 20 feet of conduit can be used if connected to a fire alarm control panel. **NOTE:** For a UL Supplemental Listing, the wire length (GEMC-NL-MOD to control panel) must be no more than 20 feet and the panel shall reside in the same room as the GEMC-NL-MOD with no intervening walls or barriers. **NOTE:** For best results when making RJ-45 cable assemblies, it is recommended to use an *AMP* Brand Professional crimping tool (part # 3-231652-0), and to always match the type of cable used (stranded or solid) with the correct type of RJ-45 plug.

SYSTEM REQUIREMENTS

System Hardware:

- Compatible Gemini C-Series Control Panel.
- W1077 harness (see wiring diagram).
- Access to the local area network.

NL-MODCONFIG Software:

- Windows® XP Professional or Windows® 2000. (Windows® XP Home Edition is **not** supported).

NL-RCV-RMPCUL Rack-Mount Receiver or NL-CSRCV Software (software not for UL installations):

- See WI1491 for the NL-RCV-RMPCUL installation and programming instructions.

PHYSICAL

Dimensions: 1½" x 7" x 4¾" (H x W x D)

AGENCY LISTINGS

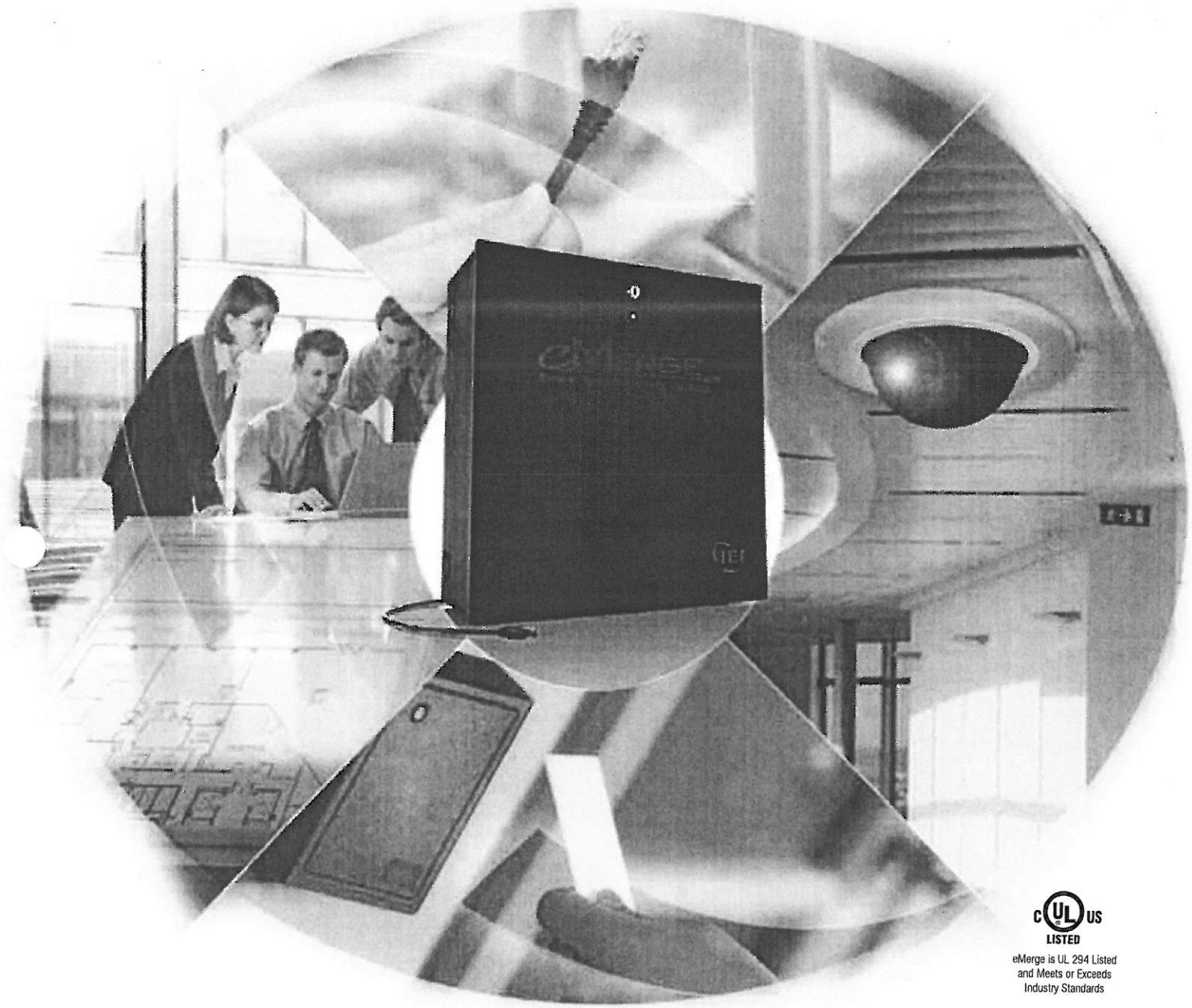
UL365: Police Station Alarm Units
UL609: Local Burglar Alarm Units and Systems
UL864 9th Edition: Commercial Fire
UL985: Household Fire Warning System Units
UL1023: Household Burglar Alarm System Units
UL1610: Central Station Burglar Alarm Units
NFPA 72 National Fire Alarm Code
Security Industry Association (SIA) False Alarm Reduction Standard CP-01
CSFM: California State Fire Marshall (Pending)
FM Approval: (Pending)
NYCFD: NYC Fire Department (Pending)

ORDERING INFORMATION

GEMC-NL-MOD: Internet Reporting Module, suitable for Commercial Fire and/or Burg applications.

Access Control Solutions For A Changing World™

Linear®
Building On Innovation.



c UL us LISTED

eMerge is UL 294 Listed and Meets or Exceeds Industry Standards

eMERGE™-50
Browser Managed Security Platform

eMERGE™-5000
Browser Managed Security Platform

The Integrated Security Management Solutions With Embedded Software

Innovative Architecture

Network Controller

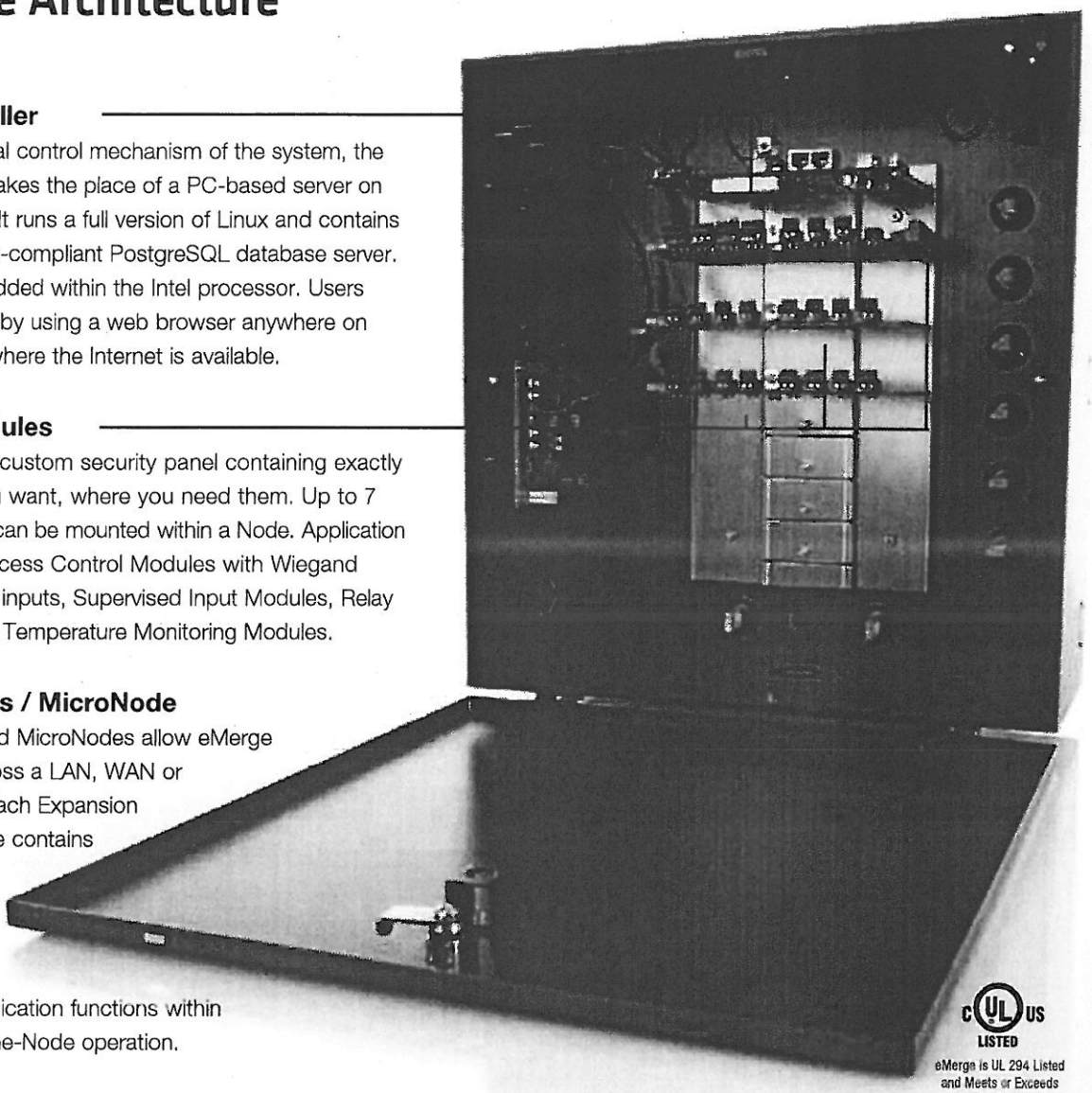
Serving as the central control mechanism of the system, the Network Controller takes the place of a PC-based server on older style systems. It runs a full version of Linux and contains a web server, ODBC-compliant PostgreSQL database server. All software is embedded within the Intel processor. Users access the software by using a web browser anywhere on the network, or anywhere the Internet is available.

Application Modules

Allow you to build a custom security panel containing exactly the components you want, where you need them. Up to 7 application modules can be mounted within a Node. Application modules include: Access Control Modules with Wiegand protocol card reader inputs, Supervised Input Modules, Relay Output Modules and Temperature Monitoring Modules.

Expansion Nodes / MicroNode

Expansion Nodes and MicroNodes allow eMerge to communicate across a LAN, WAN or the public Internet. Each Expansion Node and MicroNode contains a Node Card that communicates securely with the Network Controller and manages all application functions within the Node for fail-to-the-Node operation.



c UL us LISTED

eMerge is UL 294 Listed and Meets or Exceeds Industry Standards

The Convergence of Security and IT

In today's world, the same person frequently manages IT, physical security and networking. That's because the technologies of encryption, bandwidth, network integrity, firewall access and physical security have converged into a new and powerful networked environment.

Security managers today must understand network edge topology, zero footprint software, high speed networking, and the integration of databases, video and other related subsystems.

The complexities of today's security environments also create special opportunities for a product such as eMerge, with its native IP hardware technology. eMerge simplifies your IT security environment rather than complicating it.

Because eMerge does not require you to install any software or pull new wiring to any computer – you simply connect components to your data network and eMerge will recognize them – it has a zero footprint and provides control of a complete physical security environment through a web browser that is already on your PC.

eMerge changes the age-old equation of inflexible low-end security systems or over-featured, expensive high-end systems. Designed from the ground up to be a cost-effective complete solution, eMerge is a complete, scalable security management system compact enough to fit in a panel-sized box, yet powerful enough to integrate your access control, alarm monitoring and video in one system.

The **eMerge™50** and the **eMerge™5000** Browser Managed Security Platform from Linear, a trusted name in access control solutions, can lower the cost of ownership while increasing the value and functionality of your access control installation.

A Dramatic Leap Forward in Security Management

The time has come for a totally new innovation in the management and control of your security environment. Faster installations. No software. Geographic independence. Leverage existing network infrastructures. State-of-the-art communications.

Browser Managed

With its impressive array of powerful features, eMerge is a configurable, integrated security management and access control system. Now you can manage security functions for multiple facilities anywhere with an Internet connection.

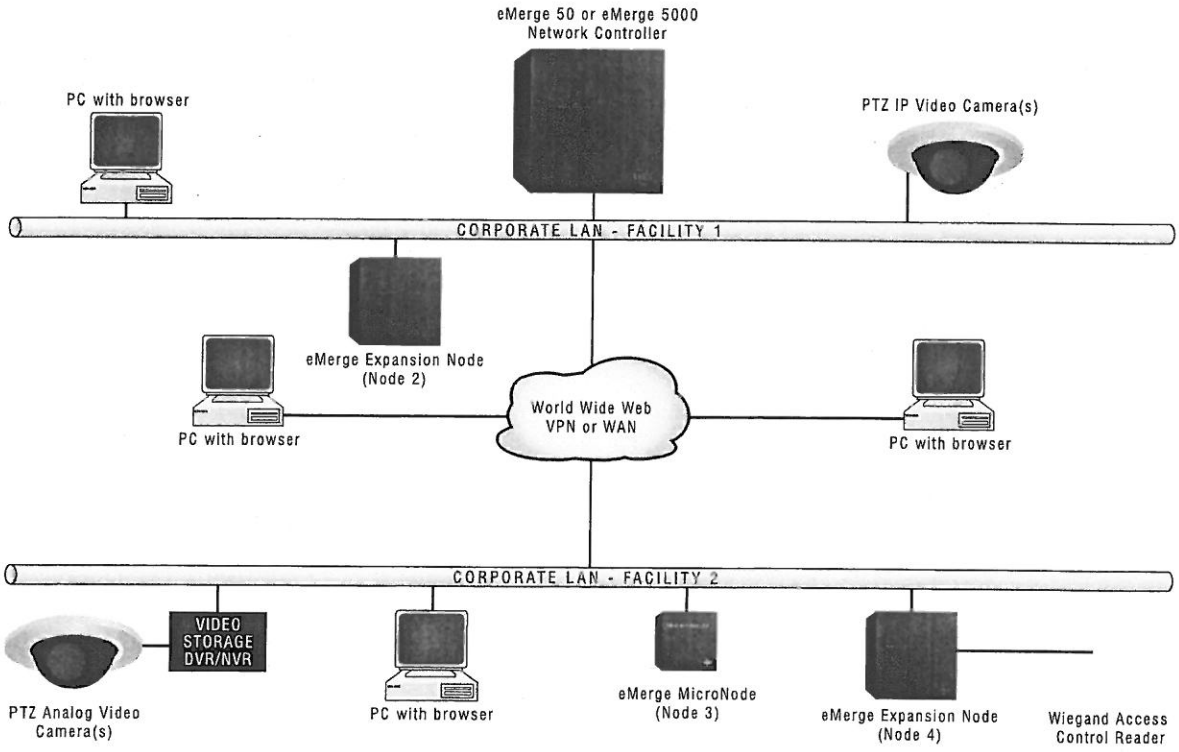
Because eMerge is a browser managed system, it has the enormous advantage of geographic autonomy. You are able to monitor and control multiple facilities from any web browser by connecting securely to the Internet. From any location in the world you can view live event logs, video and interactive floor plans in one view, remotely lock or unlock doors, arm or disarm burglar alarm systems, and initiate system-wide changes through Threat Level status. You can also lock down the system so that control is available only from inside a facility.

Network Appliance

eMerge is a network appliance. Everything you need to install and manage the system is embedded within the Network Controller. There's no server software, no client software, no gateways, no new communication wiring to install, no plug-in hardware adapters for connectivity, and no software compatibility issues to deal with.

The eMerge 50 is designed to bring the benefits of network architecture to basic access control applications. The eMerge 5000 handles a broad range of functions such as real time monitoring, elevator control and photo ID in one integrated package.

Installations for eMerge range in size from small, standalone facilities to distributed enterprises of remote sites.



Systems Integration with Browser Interface

eMerge provides powerful systems integration with an easy to use web browser interface. The Linux operating system, PostgreSQL database and web server, all embedded in eMerge, make it both easier to use and more powerful than legacy access control and security systems. eMerge employs state-of-the-art encryption and authentication technology to ensure secure communications. Standard industry wiring is employed throughout the system.

A Robust Feature Set

Real-time Monitoring
Monitoring Desktop allows real-time monitoring of critical system functions including interactive floor plan, live event log, event acknowledgment, video monitoring, user image verification and control of doors.

User Records
Easy and complete management of all system users is accomplished from one screen including access levels, card assignments, photo ID, personal information and password protected web access.

Access Control
All standard access control parameters are easily created and managed in a single view.

Regional Anti-passback with Occupancy Counting
eMerge now allows users to define access controlled regions that enforce either conventional timed anti-passback or hierarchical regional anti-passback with software tailgate detection. Occupancy counts are kept for each region, and users can program alerts when a region becomes empty or exceeds capacity.

Roll Call Reporting with Mustering Function
To aid in evacuation management. Version 3 includes a region-by-region roll call report. Any card reader or user with a Web browser can be used as a mustering station and multiple mustering stations can be used.

Live Video Monitoring
eMerge 5000 allows real-time video to be viewed. Cameras can be viewed individually, in quad views or picture-in-picture format. Cameras at different locations can easily be managed by the system and combined for viewing on a single screen. Version 3 significantly improves performance when large numbers of cameras are present on integrated video systems from Milestone Systems and ONSSI.

Log Annotations
System operators may now insert text annotations into the activity log as well as tag individual specific log entries with commentary.

LDAP Authentication
Version 3 supports authentication of system users via LDAP (Active Directory on Microsoft systems). Users may be selected on a person-by-person basis to be authenticated through LDAP or through the system's own password authentication method.

Interactive Information and Reports
eMerge includes many predefined reports along with an easy-to-use interface for generating custom reports. The proprietary English-based free-form report language makes the retrieval of specific information easy for inexperienced users. Other reports are even easier to specify, and many require no typing at all.

Custom Reports
Version 3 supports the creation of a variety of custom reports, allowing users to specify, add, change, or delete reports and choose a number of fields and range of events to create reports. Prompts can be added to any report, requiring the user to input data, such as a name. Reports can be automatically generated for designated users.

Threat Level Management
System parameters and business rules can be quickly changed with one click using Threat Level Management, including control of doors and access privileges.

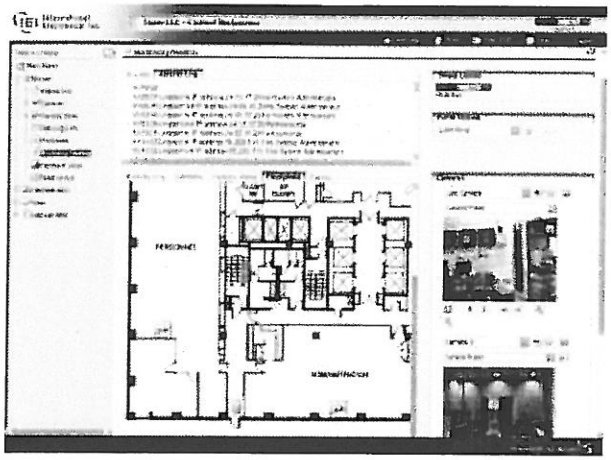
PostgreSQL Database
An object-relational database designed to have much lower maintenance and tuning requirements than proprietary databases. Has outstanding scalability and performance. Its SQL implementation strongly conforms to the ANSI-SQL 92/99 standards. It has full support for subqueries (including subselects in the FROM clause), read-committed and serializable transaction isolation levels.

CompactFlash Memory
Allows for full database backups rather than partial backups. Because CompactFlash (CF) is a non-volatile memory that does not require a backup battery, data is retained indefinitely. This type of memory provides faster, more robust, and a more scalable method of database backup.

The eMerge Advantage ...

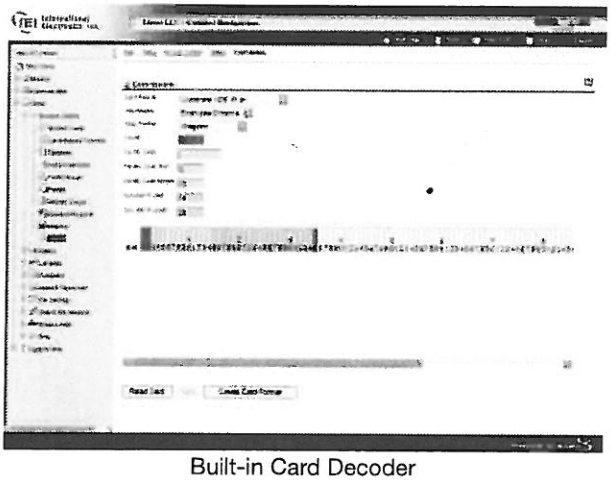
- A user interface securely accessed with a standard web browser under password control.
- Integrated management of access control, video, alarm and temperature monitoring from anywhere the Internet is available.
- Proven Red Hat Linux operating system embedded in the Intel processor ensures a stable platform.
- Pre- and post-image video capture at designated access control and alarm monitoring points.
- Intuitive dynamic floor plans for easy monitoring and control over complex facilities.
- Communications over existing networks or the Internet using easy to obtain, inexpensive equipment commonly found in most offices.

Actual Browser Screen Shots

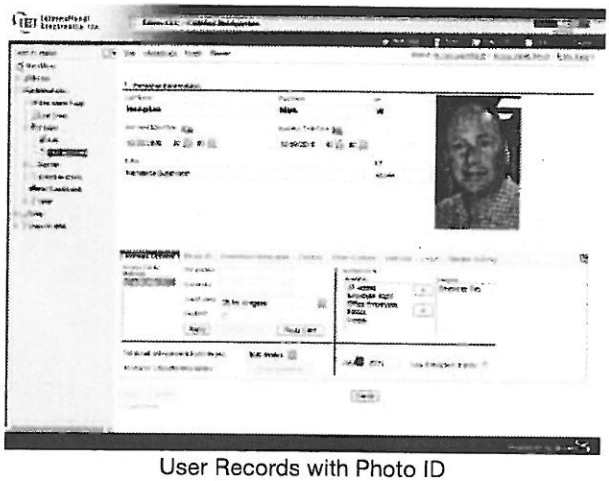


Real-time Monitoring

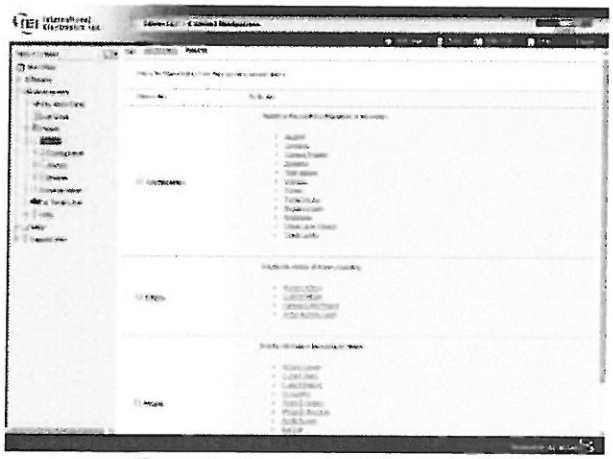
Live Video Monitoring



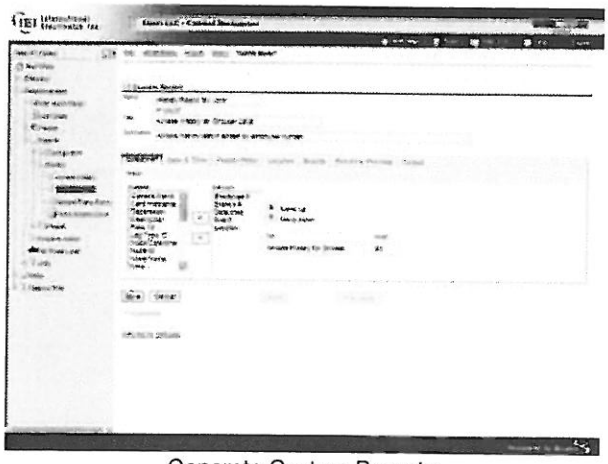
Built-in Card Decoder



User Records with Photo ID



Extensive Reporting Capabilities



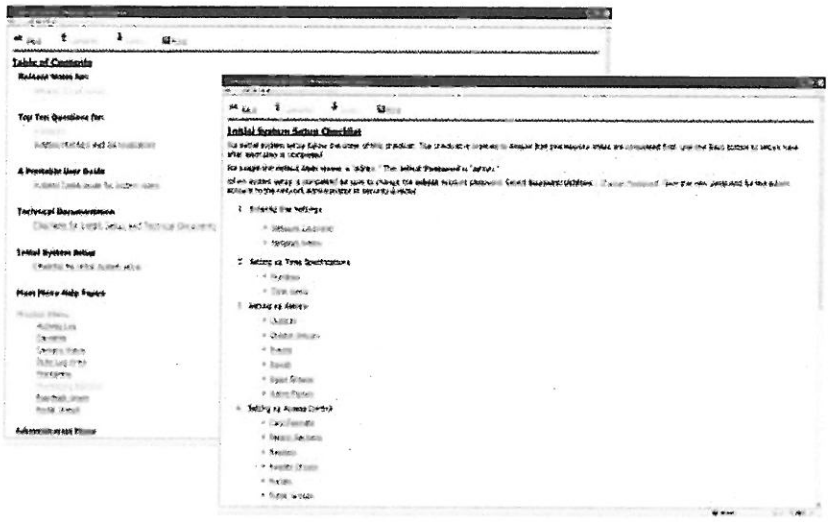
Generate Custom Reports

... Becomes Your Advantage

- Authenticated and encrypted information flow to protect system operation even over public network segments.
- Remote update of software to every level of the system, keeping all components up-to-date.
- Easy-to-configure panel architecture combining access control input and output modules.
- Powerful predefined and ad-hoc reports delivered from the integrated ODBC-compliant embedded database.
- Alerts delivered via e-mail, and even cell phones.
- Totally solid state construction for years of trouble-free service.
- Lower long-term cost of ownership.
- UL & ULC 294 Listed.

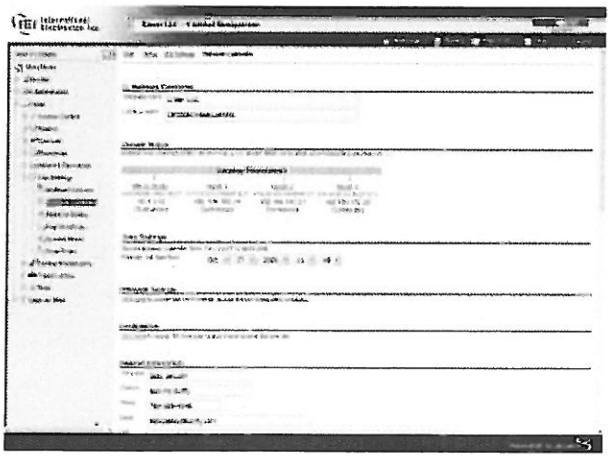
Designed for Easy Set-up and Support

The network architecture and browser interface of eMerge allow users to easily configure and service the system from in the building, across town, or across the country, using any computer with a web browser. Remote service is now a reality, permitting your service technician to troubleshoot a system without needing to travel on-site to the installation. And because eMerge has the software embedded in the system, it can be pre-programmed before installation or remotely programmed after installation.



Comprehensive Embedded Help File

The eMerge system contains a large, context sensitive help file that includes detailed information about all system features and functions with step-by-step setup instructions. Each help topic displays highlighted links to other related help file items.

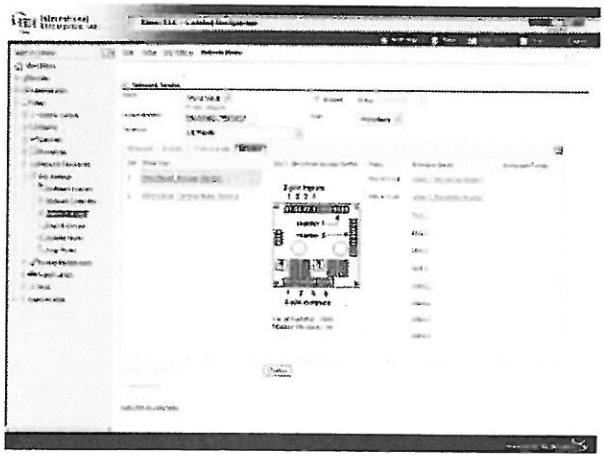


Easy Network Set-Up

IT managers are comfortable with eMerge because it's designed to work in their environment. A few pieces of information are all that are needed to put eMerge into action.

Remote Service

eMerge's network architecture allows remote service and software updates from any browser, anywhere.



Visual System Map

eMerge's system components are automatically identified and graphically displayed for easy reference and fast troubleshooting.

System Features

	eMerge 50	eMerge 5000
Access control readers	32	140
Maximum number of cameras	N/A	128
Maximum number of card holders	5,000	20,000
User photo	No	Yes
e-mail and SMS	Yes	Yes
NAS back-up	Yes	Yes
Burg interface (loops)	Yes	Yes
Video Management System (VMS)	No	Optional
Enterprise capable	Optional	Yes
Live Monitoring Bundle	No	Yes
Monitoring desktop, Floor plans, Alarm acknowledgement, Photo pop-up		
Badging	No	Optional
Elevator control	No	Yes
Threat levels	No	Yes
Application Programmable Interface (API)	Yes	Yes

eMerge Modules:

eMerge 50	Network Controller – 1 Access Control Module, power supply and enclosure
eMerge 5000	Network Controller – 1 Access Control Module, power supply and enclosure
eMerge EXN	Expansion Node – card, power supply, and enclosure
eMerge MicroNode	Compact Expansion Node – for Version 3 and later systems
eMerge ACM	Access Control Module – 2 readers, 4 inputs, 4 outputs
eMerge INP	Supervised Input Module – 8 inputs
eMerge OUT	Relay Output Module – 8 outputs
eMerge TMP	Temperature Input Module – 8 inputs

c UL us LISTED

eMerge is UL 294 Listed and Meets or Exceeds Industry Standards

Hardware and Software Specifications

Check with Linear's Web site (www.linearcorp.com) for updated specifications, lists of supported devices, and software updates.

Readers:	The eMerge Access Control Module (ACM) supports card readers that use the Wiegand Reader Interface
Operating System:	Red Hat Linux
Database Engine:	PostgreSQL (ODBC Compliant, API Enabled)
DBMS compatibility:	SQL, ODBC
e-mail support:	POP, SMTP
Encryption:	SSL, SHA-1
Network:	NTP, TCP/IP
Web:	http, https, xml
Processor:	Intel XScale-IXP425
Memory:	CompactFlash (CF) 2 GB

Readers, Keypads, and Accessories

Linear manufactures and supplies a complete range of proximity readers, keypads, power supplies, cards, and access credentials to complete your eMerge system. Visit **www.linearcorp.com** to view the latest available options.

Part Number Cross Reference

Several eMerge parts changed part numbers with the Version 3 product release. See below for part number reference.

Old P/N	New P/N	Systems & Nodes
0587001	230219	eMerge 50 System v3.3
0589001	230227	eMerge 50 System 110V v3.3
0587003	230220	eMerge 5000 System v3.3
0589003	230228	eMerge 5000 System 110V v3.3
0587004	230221	eMerge Expansion Node (EXN) v3.3
N/A	230229	eMerge Expansion Node (EXN) 110V v3.3
N/A	230222	eMerge MicroNode

Old P/N	New P/N	Modules
0580100-L	same	eMerge Access Control Module (ACM)
0580110	same	eMerge Supervised Input Module (INP)
0580120	same	eMerge Relay Output Module (OUT)
0580130	same	eMerge Temperature Input Module (TMP)
0587008	230338	eMerge Combo Board v3.3

IEI™ Now Part of Linear® Building On Innovation.

About Linear's IEI Brand

By addressing the demand for modern security and controlled access environments, Linear has tailored products that meet the requirements of an Internet-savvy and technology-driven marketplace. Central to Linear's philosophy is the belief that the market requires innovative access control solutions for a changing, demanding world.

In addition to the eMerge Browser Managed Security Platform, Linear produces and markets the IEI Brand of standalone access control systems and keypads, as well as access control locksets, network-based access control systems, and mobile fleet management systems. The company markets these products to the leading industry distribution, installation and vertical end-user companies worldwide.

For more information about Linear's IEI Brand, visit our Web site at:
www.linearcorp.com

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Building On Innovation.
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28 10 00 ATTACHMENT B1 – AIPHONE PRODUCT DATA

AIPHONE®

JK-DA/DV/DVF

Camera Door Stations for the JK & JM Series

DESCRIPTION:

The JK-DA is a surface mount plastic color video door station. The JK-DV is an aluminum die cast surface mount color video door station. The JK-DVF is a stainless steel flush mount color video door station. All of these units work with the JK & JM Series and connect to the master monitor using an 18AWG 2 conductor solid core cable. Each unit include a camera, microphone, speaker and call button. Tamper resistant screws are provided for mounting the JK-DV and JK-DVF units.

When the call button on the door station is pushed, the master station(s) ring and the video monitor comes on with the image from the door station's camera. The master station user will initiate communication. The person at the door station speaks hands-free.

The JK door stations can be located up to 330' from the master monitor using 18AWG 2 conductor solid core cable (Aiphone wire # 871802). Additional equipment is available to extend the wire distance up to 980' to the door (JKW-BA or JMW-BA long distance adaptor and 851602 cable).

FEATURES:

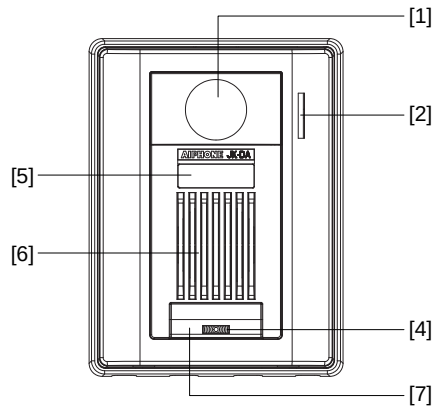
- Color video camera with audio intercom
- PanTilt Zoom camera lens
- 2-way hands-free voice communication with JK & JM master/sub stations
- Call button to initiate call to master(s)
- White LED illuminator for low light conditions
- Simple 2-conductor wiring
- Surface (JK-DA, JK-DV) or flush mount (JK-DVF) styles available
- 330' wiring distance to Master on 18AWG 2 conductor cable

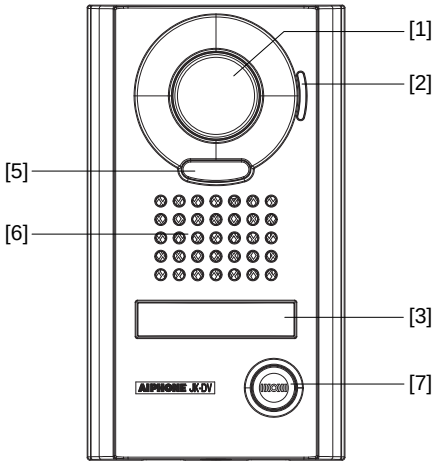
Aiphone Corporation
1700 130th Ave NE * Bellevue, WA 98005
Ph: (800) 692-0200 * Fax: (425) 455-0071
tech@aiphone.com

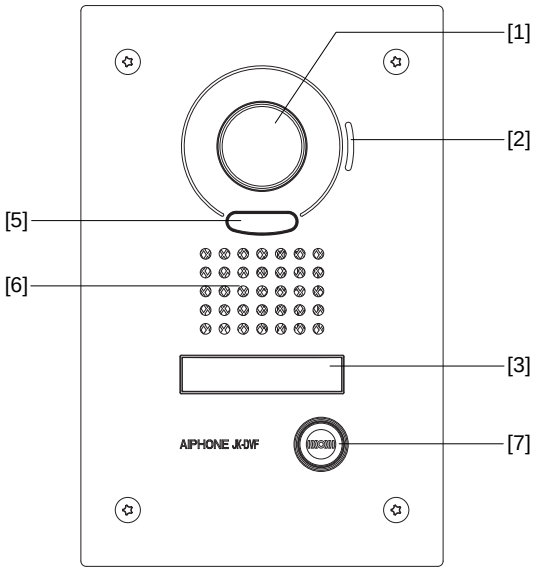
JK-DA/DV/DVF

Camera Door Stations for the JK & JM Series

FEATURE CALL-OUTS:







FEATURE CALL-OUT DEFINITIONS:

[1] Camera

[2] Microphone

[3] Directory Card (JK-DV & JK-DVF only)

[4] Red locator LED (JK-DA only)

[5] White LED illuminators

[6] Speaker

[7] CALL button

SPECIFICATIONS:

Power Source:	Supplied by Master
Communication:	Hands-free
Camera:	CMOS
Scanning lines:	525 lines
Min. illumination:	5 Lux at 1'6"
Wiring:	2-conductor, PE insulation, Aiphone wire #871802
Wiring Distance:	Door to master, 330'
Operating Temp:	14 – 140° F (-10 ~ 60° C)

Dimensions (HxWxD):

JK-DA	5-1/8" x 3-7/8" x 1-7/16" (129 x 97 x 35.5 mm)
JK-DV	6-13/16" x 3-7/8" x 1" (173 x 98 x 29.5 mm)
JK-DVF	8-¼" x 5-5/16" x 5/16" (209 x 135 x 8 mm)
JK-DVF back box	7-3/32" x 4-3/8" x 1-25/32" (180 x 110 x 45 mm)

Weight: (approx)	JK-DA: 0.42lbs (190g) JK-DV: 1.43lbs (650g) JK-DVF: 1.27lbs (580g) Back box: 1.0lbs (450g)

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tech@aiphone.com

28 10 00 ATTACHMENT B2 – AIPHONE PRODUCT DATA

AIPHONE®

JM-4HD

Sub-Master Station

DESCRIPTION:

The JM-4HD is a video sub master station for use with the JM-4MED master station. A maximum of 7 sub master stations can be used in the JM Series. The JM-4HD offers a 7" color touchscreen LCD and allows for handset (duplex) and hands-free (VOX) communication. This unit is equipped with a door release button for the user to allow visitor entry. The JM-4HD is also equipped with PTZ and brightness controls, giving the user control of the door station camera angle and camera lighting for better visibility.
The JM-4HD connects to either the master station or JM-8Z distribution unit using CAT-5e / CAT-6 cable.

JM-4HD FEATURES:

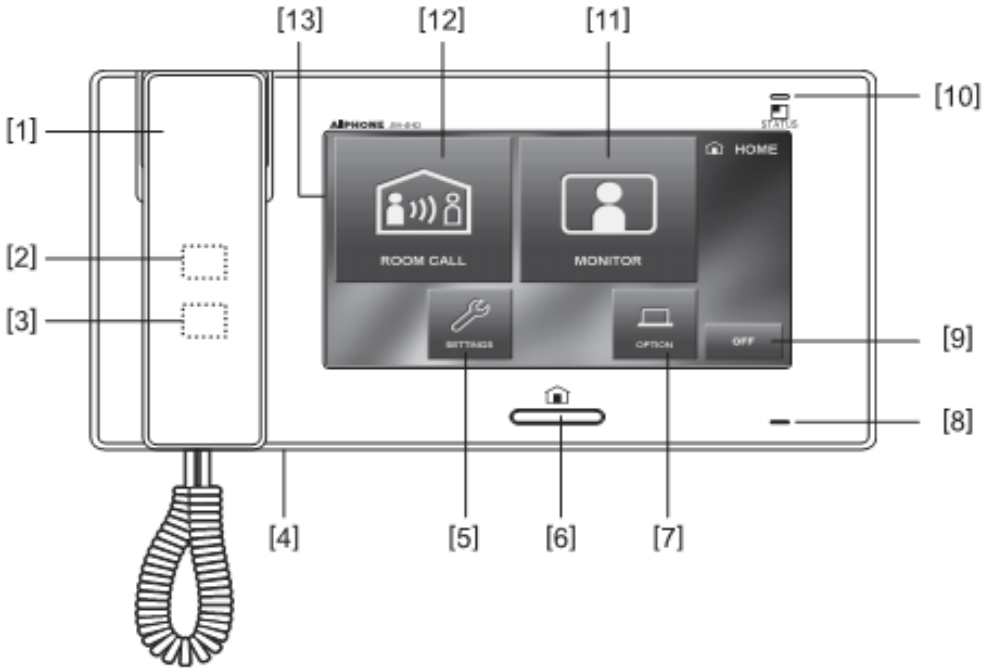
- 7" Color touchscreen LCD
- Hands-free (VOX) or handset communication
- Door release button
- Optional service button
- PTZ and brightness control
- Selectable call tones (8)
- Station partitioning with security code
- All Call to inside stations
- Door monitoring
- Continuous room monitoring

Aiphone Corporation
1700 130th AVE NE * Bellevue, WA 98005
Ph: (800) 692-0200 * Fax: (425) 455-0071
tech@aiphone.com

JM-4HD

Sub-Master Station

FEATURE CALL-OUT:



FEATURE CALL-OUT DEFINITIONS:

[1] Handset

[2] Speaker

[3] Hearing aid T-mode symbol

[4] Reset button

[5] Settings button (touchscreen)

[6] Home button

[7] Option button (touchscreen)

[8] Microphone

[9] Off button (touchscreen)

[10] Status LED

[11] Monitor button (touchscreen)

[12] Room call button (touchscreen)

[13] Color LCD touchscreen

SPECIFICATIONS:

Power Source:	24V DC - use PS-2420UL
Consumption:	200mA (max)
Communication:	
Handset	Simultaneous communication
Hands-free	Auto-voice actuation
Monitor:	7" TFT color touchscreen LCD
Pixels:	800 x 480
Mounting:	Surface wall mount or desk mount using MCW-S/A (sold separately)
Temperature:	32-104°F (0-40°C)
Dimensions:	5-11/16" H x 10-1/16" W x 1-7/8" D
Weight:	Approx. 1.72 lbs (780g)

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Ph: (800) 692-0200 * Fax: (425) 455-0071
tech@aiphone.com

28 10 00 ATTACHMENT B3 – AIPHONE PRODUCT DATA

AIPHONE®

JM-4MED
Master Station

DESCRIPTION:

The JM-4MED is a video master station with a 7" color touchscreen LCD. The JM-4MED offers handset (duplex) and hands-free (VOX) communication. This unit will support up to 4 door stations and 8 inside stations. All inside stations are equipped with a door release button for the user to allow visitor entry.
The JM-4MED is also equipped with PTZ and brightness controls, giving the user control of the door station camera angle and camera lighting for better visibility. Picture memory records up to 20 calls to internal memory and 1,000 calls to a removable SD / SDHC card (not included).
The JM-4MED connects to door stations using 18AWG, 2 conductor cable and connects to sub master stations using CAT-5e or CAT-6 cable.

JM-4MED FEATURES:

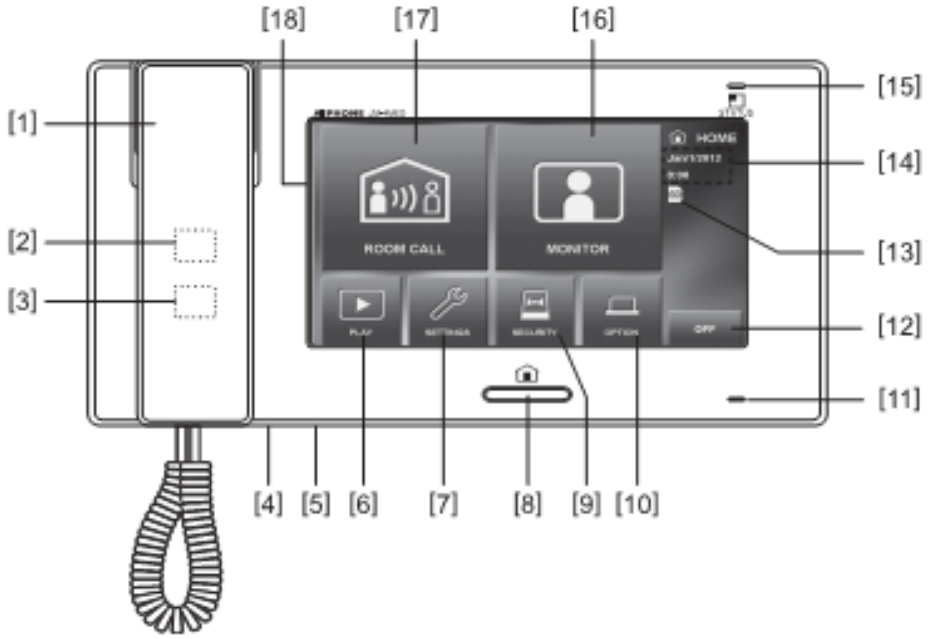
- 7" color touchscreen LCD
- Hands-free (VOX) or handset communication
- Camera position and zoom can be set for call-in
- Video out to DVR via supplied connector
- Picture Memory
  - Internal: 20 calls
  - SD / SDHC: 1,000 calls
- Door release button
- Optional service button
- Security inputs for alerting stations
- PTZ and brightness control
- Selectable call tones (8)
- Station partitioning with security code
- All Call to inside stations
- Door monitoring
- Continuous room monitoring

Aiphone Corporation
1700 130th AVE NE * Bellevue, WA 98005
Ph: (800) 692-0200 * Fax: (425) 455-0071
tech@aiphone.com

JM-4MED

Master Station

FEATURE CALL-OUT:



FEATURE CALL-OUT DEFINITIONS:

[1] Handset
[2] Speaker
[3] Hearing aid T-mode symbol
[4] Reset button
[5] SD / SDHC card slot
[6] Play button (touchscreen)
[7] Settings button (touchscreen)
[8] Home button
[9] Security button (touchscreen)
[10] Option button (touchscreen)
[11] Microphone
[12] Off button (touchscreen)
[13] SD card installed symbol
[14] Current date and time
[15] Status LED
[16] Monitor button (touchscreen)
[17] Room call button (touchscreen)
[18] Color touchscreen LCD

SPECIFICATIONS:

Power Source:	24V DC - use PS-2420UL
Consumption:	390mA (max)
Communication:	
Handset	Simultaneous communication
Hands-free	Auto-voice actuation
Monitor:	7" TFT color touchscreen LCD
Pixels:	800 x 480
Picture memory:	Internal: 20 External: 1,000 using SD / SDHC card (not included)
Picture protect:	Internal: 5 External: 100
Mounting:	Surface wall mount or desk mount using MCW-S/A (sold separately)
Temperature:	32-104°F (0-40°C)
Dimensions:	5-11/16" H x 10-1/16" W x 1-7/8" D
Weight:	Approx. 1.74 lbs (790g)

Aiphone Corporation
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Ph: (800) 692-0200 * Fax: (425) 455-0071
tech@aiphone.com

28 10 00 ATTACHMENT C – CLOSED CIRCUIT TV OVER FIBER OPTICS

OPERATION AND MAINTENANCE MANUAL
MODEL 9002/9002D RACK-MOUNTED CHASSIS

October 17, 2003

OPTELECOM, INC.
12920 Cloverleaf Center Drive
Germantown, MD 20874
Phone: 1.800.29.FIBER (1.800.293.4237)
Fax: 301.444.2299

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1.2 GENERAL DESCRIPTION

The Model 9002 is a 19" rack-mountable chassis that is the mounting frame for Optelecom's line of fiber optic interfaces for voice, video and data signals. The chassis has room for eighteen 0.8" wide interface cards and one plug-in power supply. Alternately, if two supplies are used for redundancy, there is room for fifteen such cards. Three status lights on the chassis give quick indication of the Power, System, and Network operating conditions. Movable mounting ears are provided and facilitate front or rear mounting configurations.

All units contain a power and control distribution bus along the rear of the chassis. DC power from the power supplies is distributed to the individual interface cards. The Model 9030 or 9050 power supplies provide the 6VDC required by the interface cards.

The Model 9911 or a 9941 xxxx Alarm, Diagnostic, and Control Card monitors the condition of the installed interface cards and provides reporting and control capability via a PC's serial communication port or the external.

Model 9002D is physically and electrically identical to the 9002, except for additional signal paths on the motherboard for operation with the Optelecom Series 9000 MPEG cards, 9923, and 9933. The 9002D may be used with any Optelecom Series 9000 card; however, the 9002 cannot be used in systems where the 9923 or 9933 MPEG cards are in use. All references in this manual for 9002 also apply to the 9002D.

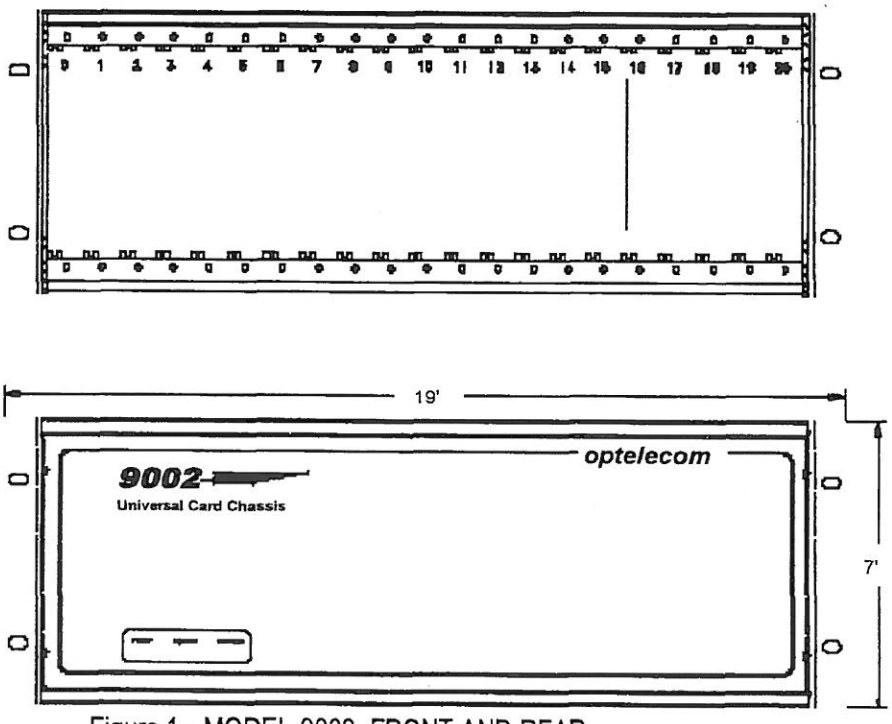


Figure 1 - MODEL 9002, FRONT AND REAR

1.2 GENERAL DESCRIPTION

The Model 9002 is a 19" rack-mountable chassis that is the mounting frame for Optelecom's line of fiber optic interfaces for voice, video and data signals. The chassis has room for eighteen 0.8" wide interface cards and one plug-in power supply. Alternately, if two supplies are used for redundancy, there is room for fifteen such cards. Three status lights on the chassis give quick indication of the Power, System, and Network operating conditions. Movable mounting ears are provided and facilitate front or rear mounting configurations.

All units contain a power and control distribution bus along the rear of the chassis. DC power from the power supplies is distributed to the individual interface cards. The Model 9030 or 9050 power supplies provide the 6VDC required by the interface cards.

The Model 9911 or a 9941 xxxx Alarm, Diagnostic, and Control Card monitors the condition of the installed interface cards and provides reporting and control capability via a PC's serial communication port or the external.

Model 9002D is physically and electrically identical to the 9002, except for additional signal paths on the motherboard for operation with the Optelecom Series 9000 MPEG cards, 9923, and 9933. The 9002D may be used with any Optelecom Series 9000 card; however, the 9002 cannot be used in systems where the 9923 or 9933 MPEG cards are in use. All references in this manual for 9002 also apply to the 9002D.

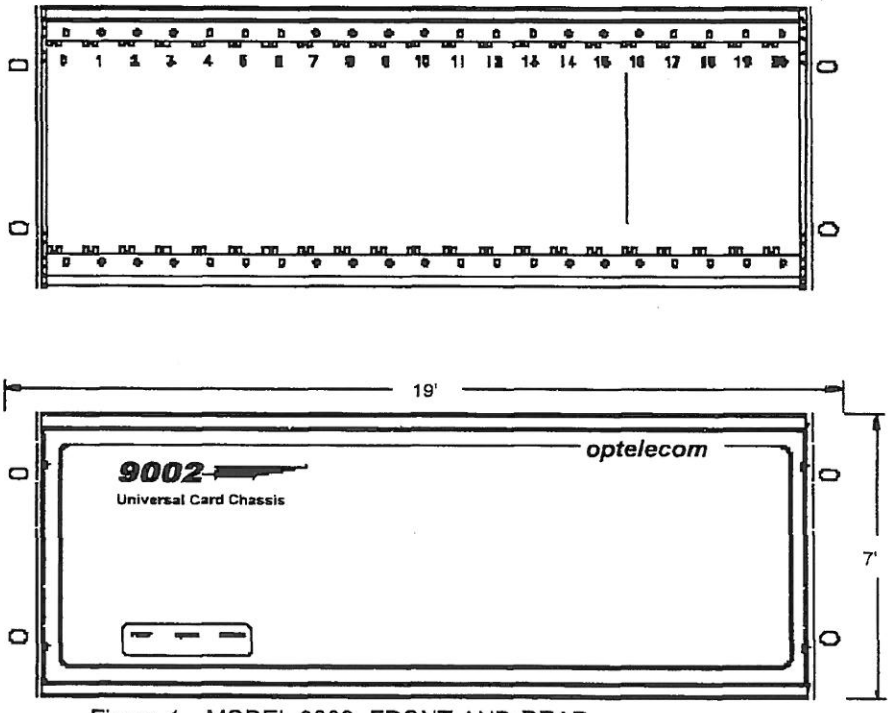


Figure 1 - MODEL 9002, FRONT AND REAR

3 MAINTENANCE

3.1 INTRODUCTION

This section provides preventive and corrective maintenance procedures for the System 9002 Rack Mountable Chassis. The procedure includes instructions for cleaning, troubleshooting, and repairing the unit.

3.2 PREVENTIVE MAINTENANCE

The following paragraphs contain the preventive maintenance information and procedures necessary to detect potential malfunctions and prevent failures that could degrade equipment performance. Refer to the instructions on MOUNTING to minimize heat build-up in the chassis.

3.3 CORRECTIVE MAINTENANCE

Corrective maintenance consists of noting front panel indicators (LEDs), analyzing these indicators, performing the troubleshooting procedures to isolate a malfunction to an interface card or other component, and then repairing or replacing the defective card.

3.3.1 TROUBLESHOOTING PROCEDURES

There are three indicator LEDs on the front of the chassis.

POWER	Off	No AC input power or all power supplies failed.
	Green	All power supplies in the chassis are operating OK. Output DC voltage in tolerance.
	Red	One power supply (in a two power supply chassis) has an alarm condition.
SYSTEM	Green	All interface cards in the system are operating OK (or are not designed with alarms).
	Red	At least one card in the chassis is in an alarm condition.
NETWORK	Green	A Model 9911 Alarm, Diagnostic and Control card is in the chassis. The LED will blink when the 9911 is communicating with a remote PC.

There are no special procedures to be followed in troubleshooting the Model 9002. Standard troubleshooting procedures in accordance with good engineering practices should be used. The DC voltage output of each power supply can be checked with a standard voltmeter with a DC voltage scale of approx. 10 VDC.

3.3.2 REPAIR AND REPLACEMENT

There are no special procedures or techniques to be followed in repairing or replacing the Model 9002. A good practice is to move cards into the replacement 9002 before removal of the defective 9002 from the rack marking each fiber as to its location and not disconnecting the electrical cables if at all possible.

1.3 PHYSICAL DESCRIPTION

1.3.1 CHASSIS

Dimensions	**Height**	**Width**	**Depth**
Inches	7.0	19	8
Centimeters	178	483	203
Weight	6 lb. (13.2 kg.)		
Construction	Painted aluminum sheet metal and extrusions		

1.3.2 CAPACITIES

One power supply	18 single-wide card slots	24 Amps, 144 Watts
Two power supplies	15 single-wide card slots	48 Amps, 288 Watts

1.3.3 INDICATORS POWER, SYSTEM, AND NETWORK

1.3.4 SPECIFICATIONS Based on use of 9030A, 9030AF, 9050A, and 9050AF Power Supplies

AC Power Input 110-240 VAC, 50-60 Hz @ 2.5 amps max. per power supply/600 watts max. per chassis

DC Power to the Backplane
9050A(F) 6VDC @ 24 amps maximum per supply
9030A(F) 6VDC @ 14 amps maximum per supply
Up to two power supplies may be installed in each chassis.

Compliant with NEMA TS-1 1989 edition.

Installation of this equipment must be done in accordance with all local and national electrical codes and requirements.

2 INSTALLATION

2.1 MOUNTING

All chassis come with two mounting ears for bolting into a standard EIA 19" rack or equipment cabinet. The ears can be located at the front, in the middle, or at the rear of the chassis depending on the needs of the specific installation.

There are four screw holes in the two mounting brackets by which to secure the chassis into the cabinet or rack.

The cards slide into the rear of the chassis. They electrically connect to the power bus and alarm and control bus via the 36-pin, 64-pin, or 96-pin connector at the back of the card slot.

The top and bottom of the chassis are perforated for convection cooling. Do not mount (or operate) the chassis with these perforations blocked. Power supplies can be mounted in any card slot. When many chassis are stacked one above the other it is good to stagger the locations of the power supplies so they are not lined up vertically.

2.2 CABLING

2.2.1 AC Power Cabling

The 110 VAC power is connected to the IEC-3 prong socket on the front of the power supply modules. A retaining clip is provided to prevent the power cable from accidentally being pulled out of the IEC socket. Mating AC power cords with a standard 3-prong plug on the other end are provided with the Power Supplies.

2.2.2 Alarm, Diagnostic, and Control Signal Connection

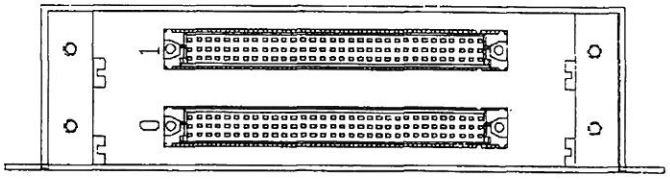
All the power supplies and many of the interface cards that fit the 9002 chassis can be remote accessed with a PC via the Model 9911 Alarm, Diagnostic, and Control card and associated software. Refer to the User's Manual for the Model 9911 for more information.

Optelecom-nkf

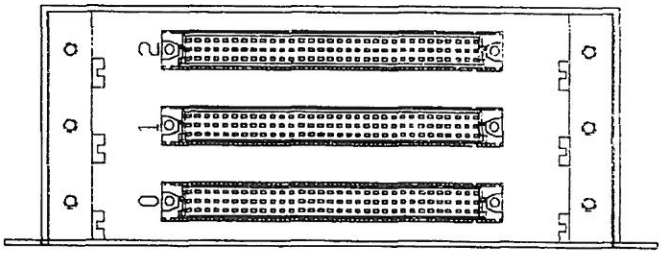
9000 Series
Installation and Operation Manual

Model 9003-2
Model 9003-3/-3D
Model 9003-6/-6D

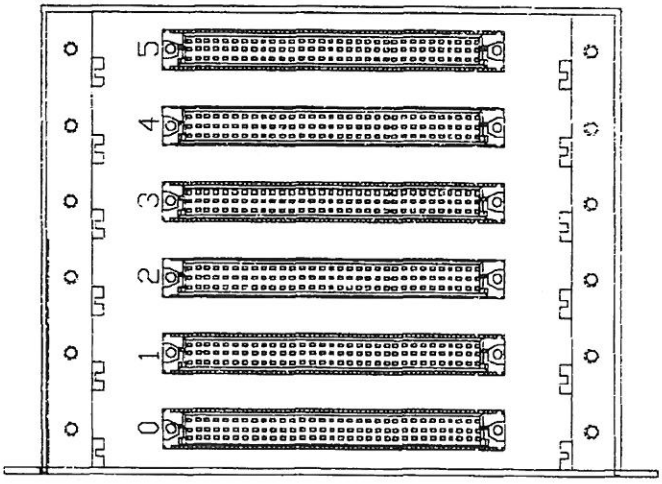
2-, 3-, and 6-Slot
Mini Chassis



9003-2



9003-3/-3D



9003-6/-6D

UM50256, Manual 9003-X, ECO22062, Rev. B

Functional Description

The 9003 series of mini-chassis are designed to house all versions of Series 9000 rack-mount cards. The model numbers designate different card capacities. Table 1 below provides a model number and capacity guide.

Series 9000 cards install in these mini-chassis in exactly the same manner as they do in the larger rack-mount 9002 and 9008 chassis. In addition, two of the 9003 mini-chassis models are available in the "D" model for support of the Series 9000 MPEG over IP cards.

These units are approximately 4 RU high (7.1 inches) and are designed to mount to a vertical surface. The chassis rely on natural convection airflow via ventilation holes in the top and bottom of the chassis. Installing the chassis horizontally defeats this functionality and may reduce the operating temperature range of installed cards and/or derate the MTBF due to increased card operating temperatures. If horizontal mounting is required, an optional base is available to support the chassis. Refer to Table 1 below for the part numbers of the optional bases.

Note: **It is important that the chassis be mounted vertically to assure adequate airflow for cooling.**

TABLE 1 — MODEL LISTING

Model Number	Digital Version	Number of Cards Supported	Optional Horizontal Mounting Base P/N	Recommended Power Supply(ies)
9003-2	N/A	2	23324-1	9010 (to 4 Amps)
9003-3	9003-3D	3	23324-2	9010 (to 4 Amps)
9003-6	9003-6D	6	N/A	9010 (to 4 Amps) 9020 (to 9 Amps)

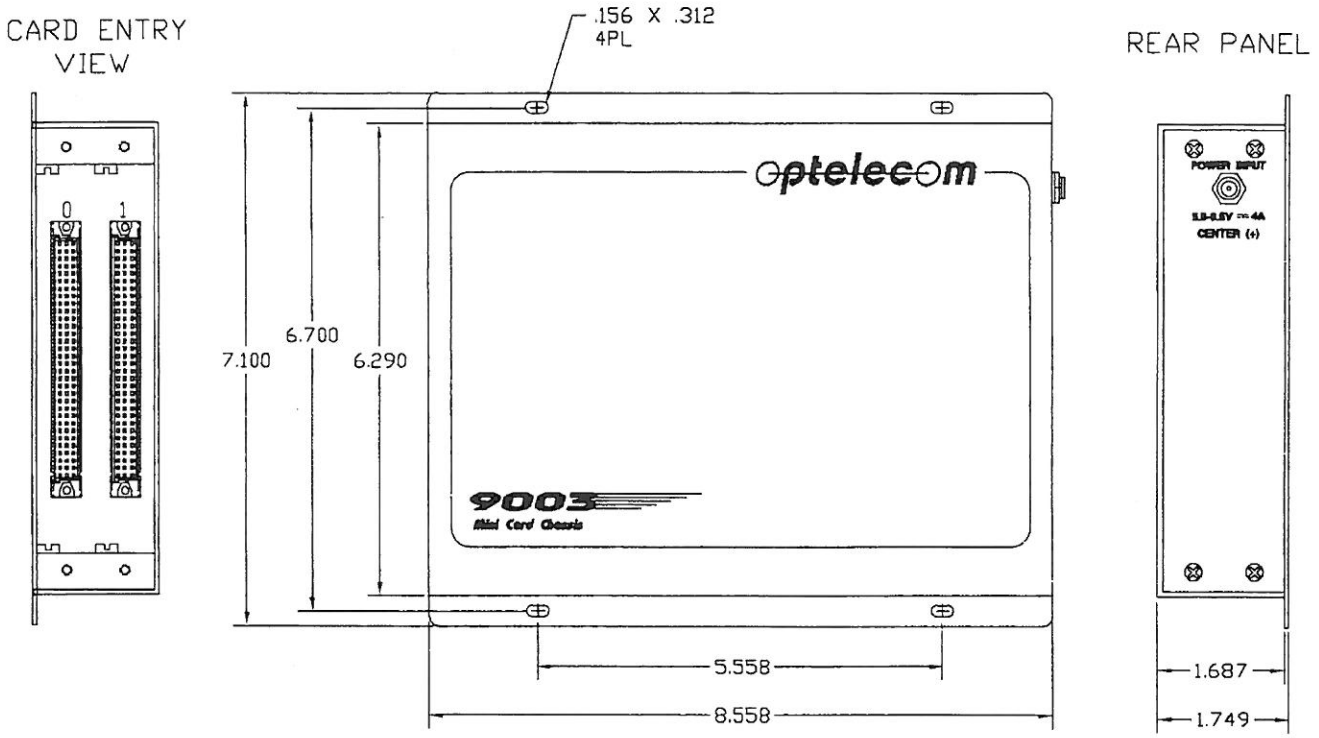


FIGURE 1 — 9003-2/2D

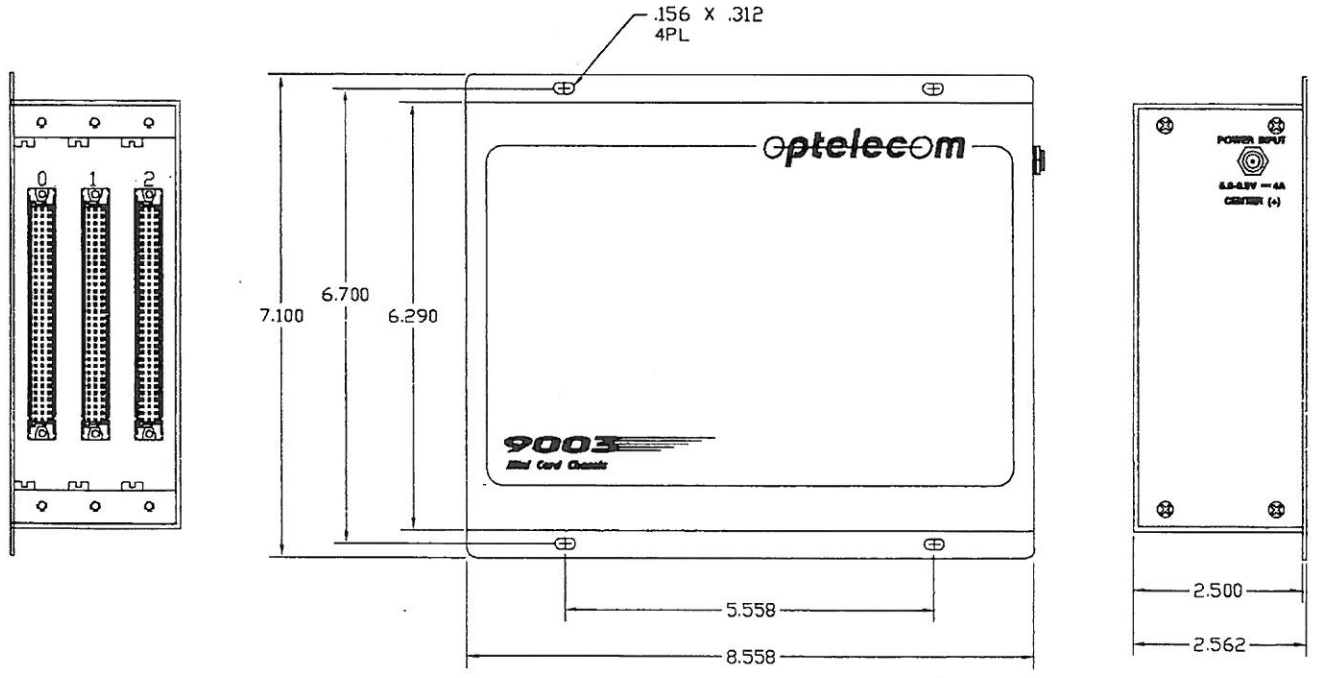


FIGURE 2 — 9003-3/3D

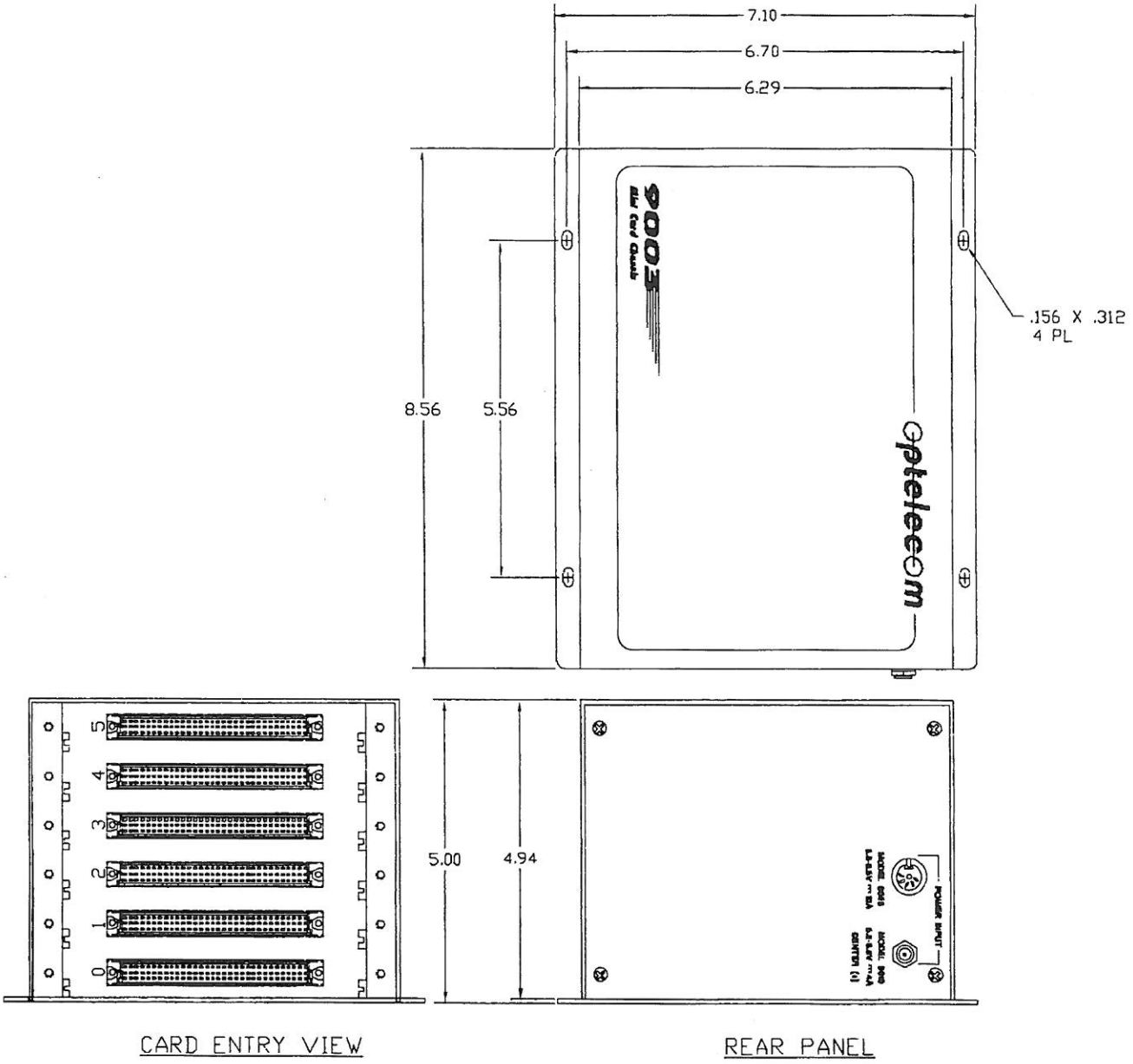


FIGURE 3 — 9003-6/6D

TABLE 1 — CHASSIS CARD CAPACITY	
Model Number	**Card Slots**
9003-2	2
9003-3 and 9003-3D	3
9003-6 and 9003-6D	6

For all chassis, the slot numbering convention is ***slot 1 is on the left*** when facing the card insertion side of the chassis.

NOTE: Only an approved external SELV source capable of providing 6VDC at 4 amps or 6VDC at 9 amps may be used to power this equipment. The SELV source used must provide reinforced insulation from the mains for the chassis. Furthermore, the approved SELV source must contain an AC power disconnect device for the equipment that is positioned within easy reach of the operator's position for the chassis.

Power Requirements

The table below lists the power requirements for each of the Chassis.

Chassis	Voltage	Current*	Connector
9003-2	6VDC	4 amps max.	Coaxial
9003-3 and 9003-3D	6VDC	4 amps max.	Coaxial
9003-6 and 9003-6D	6VDC	4 amps max.	Coaxial
		9 amps max.	6-pin DIN

*Maximum current @ 50° C

Power Supplies

Optelecom offers power supplies for all products; the recommended supplies are selected to match normal operational conditions that are specified in individual data sheets. Special applications may require a different recommendation; in those instances, contact the factory for assistance.

In-Line or Wall Module Supplies

These units are connected to standalone communication modules. All wall-mounted supplies plug directly into a standard 110 VAC/60 Hz wall outlet, convert the AC voltage to DC, and connect to the communication module through a pigtail wire that is terminated in a specific connector selected to match a specific module connector. In-line supplies will accept input power from a 110 to 240 VAC/50-60 Hz source and are equipped with a standard IEC power input cable that is selected to match the specific power source plug configuration.

Configuration and Connection Guide

Card Insertion

All pluggable cards can be inserted in any slot of the chassis without affecting their functionality and can also be "hot swapped" (inserted and removed without turning off the chassis power) without affecting the operation of other cards in the chassis. After the card is fully seated, the top and bottom retaining screws should be hand-tightened to secure the card. Open slots should be covered with the 9996 one-slot or 9998 three-slot blank covers to maintain emission and safey approvals.

Power Connection

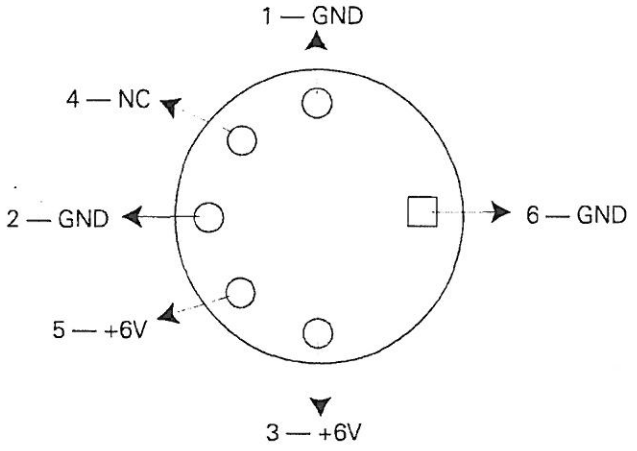
Model 9003 versions are connected to their in-line power supplies at the rear of the chassis. The Model 9010 power module uses a miniature, right-angle, coaxial female power plug; the Model 9020 uses a 6-pin DIN female plug for chassis connection. The 110-240 VAC/50-60 Hz main power is connected through a standard IEC AC line power cord. Various power cords are available for non-U.S. applications; please consult the factory.

A. 9010 Power Supply Connection

6VDC coaxial input connection
Center +
Outside –

B. 9020 Power Supply Connection

6VDC 6-pin DIN input connection

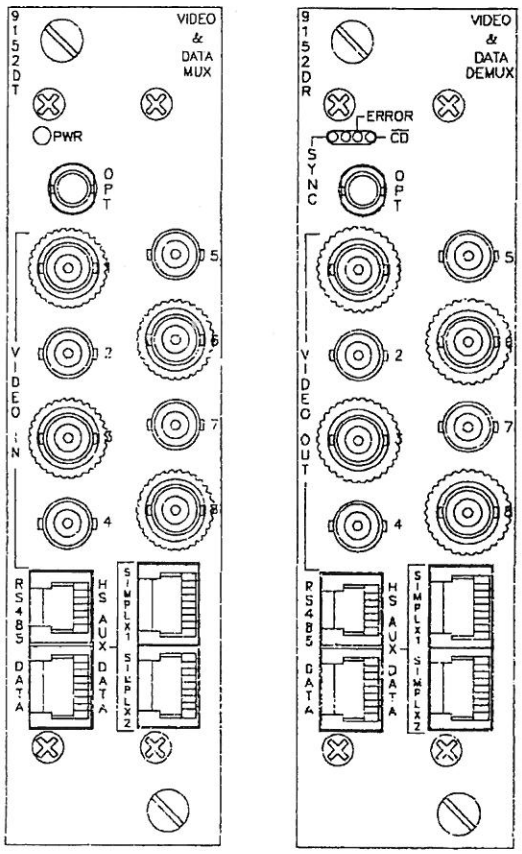


Optelecom-nkf

9000 Series
Installation and Operation Manual

Model 9152DT
Model 9152DR

Digital Eight Channel Video/Five Channel Data Multiplexer/Transmitter and Receiver/Demultiplexer Cards



UM50243, Manual 9152DT/DR, ECO 21529, Rev. D

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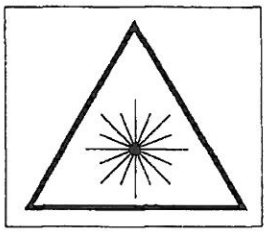
Safety Instructions

Note 1 This product contains a Class IIIb laser or LED fiber optic emitter. The following safety precautions apply.

Warning: Do not disconnect the fiber optic connector while the unit is powered up. Exposure to Class IIIb invisible optical radiation is possible when the fiber optic connector is disconnected while the unit is powered up.

All laser versions have one of two **DANGER** labels, shown below, found either on the front panel and/or on the edge of the circuit card containing the laser, near the fiber optic connector.

DANGER
Invisible Laser Radiation
When Open AVOID DIRECT
EXPOSURE TO BEAM



Caution: Using controls, making adjustments, or performing operations other than those specified may result in hazardous radiation exposure. Exposure for only seconds may cause permanent eye damage as well as other injuries.

Note 2 This assembly contains parts sensitive to damage by electrostatic discharge (ESD). Use ESD precautionary procedures when touching, removing, or inserting parts or assemblies.

Functional Description

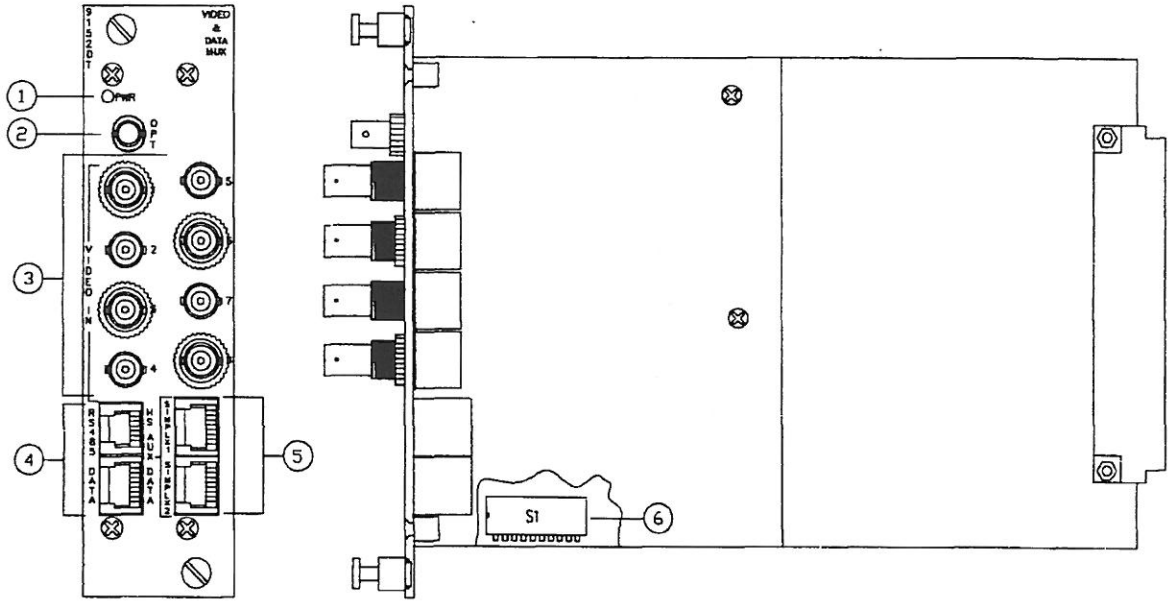
The Model 9152DT Multiplexer/Transmitter combines eight composite video baseband signals by implementing a 10-bit linear analog-to-digital conversion on each signal at a 15 MHz rate, combining the signals with five input data signals using Time Division Multiplexing (TDM) techniques and transmitting the data via one optical fiber.

The Model 9152DR receives the optical signal from the transmitter, separates the composite data into eight digital video data streams and five data streams, does an digital-to-analog conversion of the eight video data streams yielding eight composite video outputs and five data outputs.

The 9152DT and 9152DR are compatible with the 9000 series card chassis, occupies two card slots each, and operate on 6 VDC from the appropriate chassis power supply.

9152DT Indicator, Connector, and Dipswitch Locations and Function

FIGURE 1



1. **POWER INDICATOR**
   When illuminated, the ***green*** LED indicates that the card is receiving power from the power supply.

2. **OPTICAL OUTPUT PORT**
   The optical fiber cable connector is connected to this port for transmission of the optical signal to the 9152DR receiver/demux.

3. **VIDEO INPUT CONNECTORS (EIGHT)**
   Compatible with BNC connected coaxial cables, these connectors accept the eight video input signals.

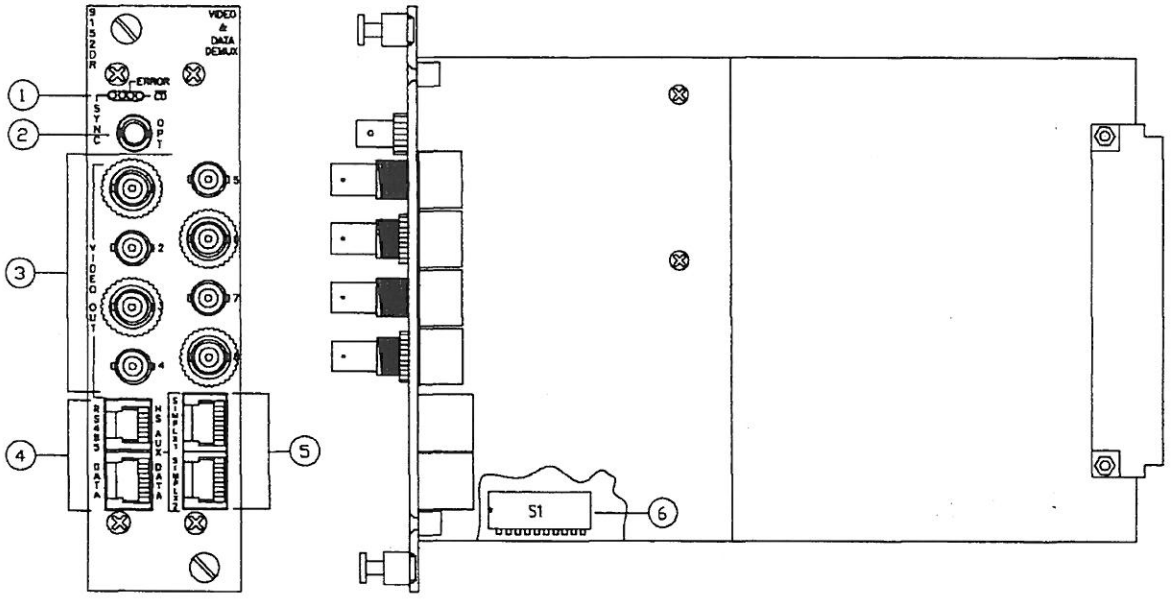
4. **SIMPLEX DATA INPUT CONNECTORS (TWO)**
   A. The RJ45 "DATA" port accepts two input data signals, one RS232 and one switch-selectable RS422, RS485, or Manchester (biphase) signal.
   B. The RJ12 "RS485" port accepts the input of an RS485-compatible data signal.

5. **SIMPLEX HS AUX DATA INPUT PORTS**
   Each of these two RJ45 ports interface with a Model 9961-C or 9962-C Option Module Mux/Demux, providing for the transmission of its composite data output signal via the 9152DT to the 9152DR. By using up to two Model 9962-C Option Modules connected via the HS ports, up to 32 channels of audio or up to 16 channels of data may be transmitted in addition to the 8 video channels over the same optical fiber. The shielded Cat5/6e cable connecting the two HS Aux Data ports should not exceed 4 feet (1.3m).

6. **DATA INTERFACE CONFIGURATION DIPSWITCH**
   This ten-position dipswitch allows the user to select the desired data interface compatibility of the configurable input on the "DATA" port.

9152DR Indicator, Connector, and Dipswitch Locations and Function

FIGURE 2



1. **STATUS INDICATORS**
   a. SYNC — When illuminated, this ***green*** LED indicates that the data demultiplexer is receiving a good signal and is synchronized with the multiplexer.
   b. ERR — When illuminated, this ***yellow*** LED indicates that there are errors being detected in the received optical data stream.
   c. $\overline{CD}$ — When illuminated, this ***red*** LED indicates that the receiver is not receiving sufficient optical power to operate. (The optical carrier is not being displayed.) For the LHS version, this LED is not functional.

2. **OPTICAL INPUT PORT**
   The optical fiber cable connector is connected to this port to receive the optical signal from the 9152DT mux/transmitter.

3. **VIDEO OUTPUT CONNECTORS (EIGHT)**
   Compatible with BNC connectors, these connectors output the eight received video signals.

4. **SIMPLEX DATA OUTPUT CONNECTORS (TWO)**
   A. The RJ45 "DATA" port outputs two data signals, one RS232 and one switch-selectable RS422, RS485, or Manchester (biphase) signal.
   B. The RJ12 "RS485" port outputs an RS485-compatible data signal.

5. SIMPLEX HS AUX DATA OUTPUT PORTS

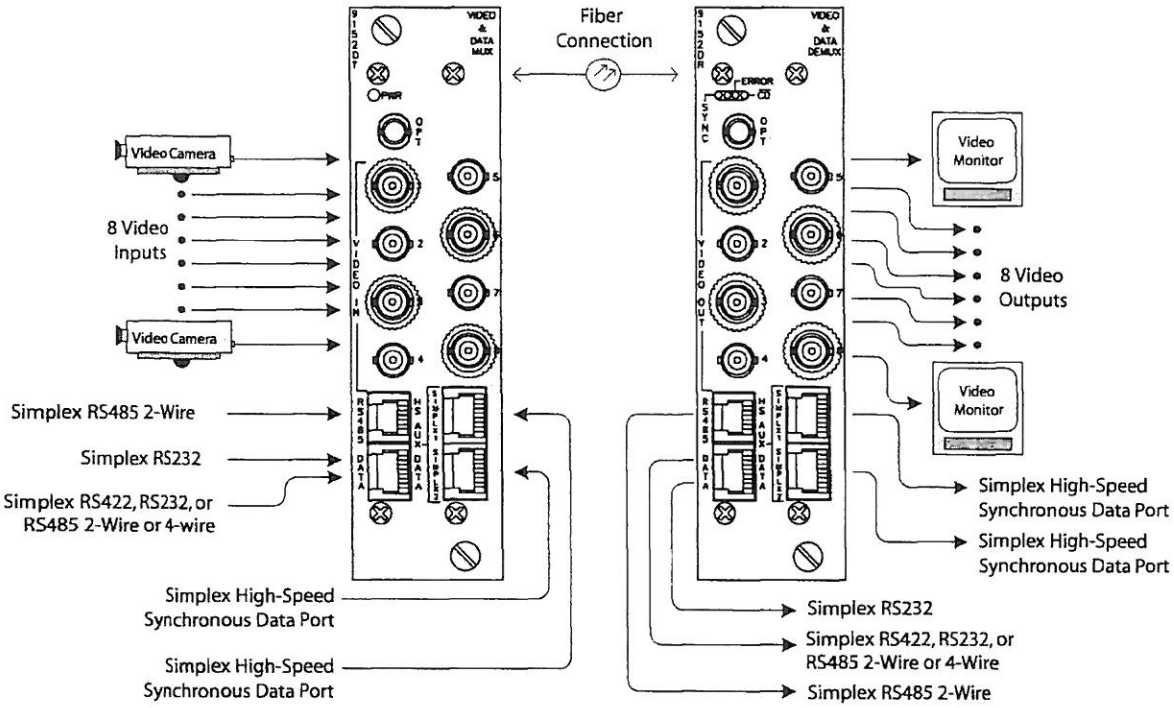
Each of these two RJ45 ports on the 9152DR interface with a Model 9961-C or 9962-C Auxiliary Audio/Data Mux/Demux cards to transport the multiplexed composite data transmitted via the 9152DT from the HS AUX Data Input Ports. These high-speed ports greatly expand the transmission capability of the 9152DT/9152DR pair. The shielded Cat5/6e cable connecting the two HS Aux Data ports should not exceed 4 feet (1.3m).

6. DATA INTERFACE SELECT DIPSWITCH

This ten-position dipswitch allows the user to select the desired data interface compatibility of the configurable data output on the "DATA" port.

9152DT/9152DR Configuration and Connection Guide

FIGURE 3



To install, connect the video inputs to the 9152DT, connect the video monitors or other video receptors to the 9152DR, and connect an appropriate optical fiber between the 9152DT and 9152DR optical ports. Connect data signal sources or destinations, as required, to the "DATA" and "RS485" ports per the following Built-In Data Connection section. If the Model 9961-C or 9962-C add-on option interface module mux/demux host units are to be used, plug the CAT-5/6e data cable from the unit(s) into the HS AUX data port(s) as required. The shielded Cat5/6e cable connecting the HS Data ports to accessory cards should not exceed 4 feet (1.3m) in length.

Built-In Data Connection and Configuration

DATA AND RS485 PORTS

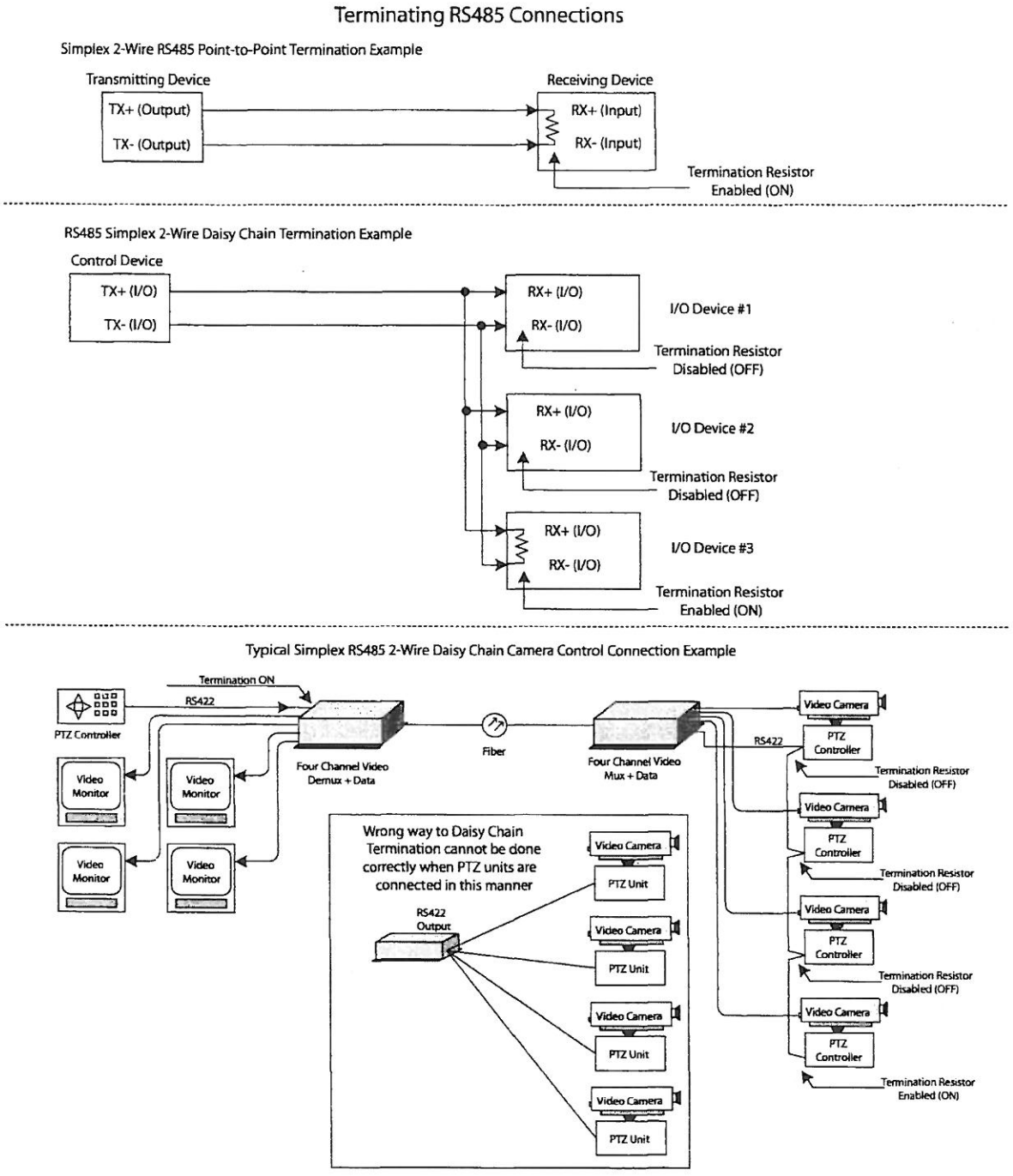
There are four data interface ports on the 9152DT and 9152DR. Two of them are the "DATA" port and the "RS485" port that are primarily used for the transmission of RS232, RS422, RS485 or Manchester (biphase) PTZ data.

The "DATA" port supports two data channels, one a full-time RS232 channel and the other a configurable data channel that is dipswitch programmable for RS422, RS485 2- or 4-wire, or Manchester operation. Both channels are implemented via the RJ45 connector marked "data". The RS232 channel is a dedicated channel. There are no dipswitch settings associated with or required for operation of this channel. The configurable channel must be programmed by setting dipswitch S1 on the board for proper operation. Refer to Table 1 for switch settings and to Table 2 and Figures 4, 5, 6, and 7 for connection and pinout information. Refer to the section on termination to determine when the terminations should be enabled (ON) and when it should be disabled (OFF).
The "RS485" port supports a dedicated 2-wire RS485 channel. The only dipswitch setting required for this port is the termination setup. Tables 1 (above) and 3 contain switch setting and pinout information. Connection information is found in Figures 8 and 9. Refer to the next section on Termination Rules to determine when the terminations should be enabled (ON) and when it should be disabled (OFF).

TABLE 1 — SWITCH SETTINGS

Port	Data Type	Termination applies to 9152DT only	Dipswitch									
			1	2	3	4	5	6	7	8	9	10
DATA Port (RJ45)	RS422	Terminated			On	On	On	On	On	Off	Off	Off
		Unterminated			Off	On	On	Off	Off	Off	Off	Off
	RS485 4-Wire	Terminated			On	On	On	On	On	Off	On	Off
		Unterminated			Off	On	On	Off	Off	Off	On	Off
	RS485 2-Wire	Terminated			On	On	On	On	On	Off	On	On
		Unterminated			Off	On	On	Off	Off	Off	On	On
	Manchester			On	Off	Off	On	On	On	Off	Off	
RS485 Port (RJ12)	RS485 2-Wire	Terminated	On	On								
		Unterminated	Off	Off								

FIGURE 7

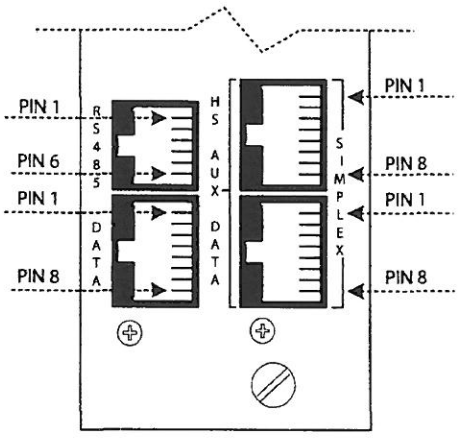


HS AUX DATA PORTS

In addition to the "DATA" and "RS485" ports on both the DT and DR units, there are two HS AUX DATA INPUT ports on the 9152DT and two HS AUX DATA OUTPUT ports on the 9152DR. Each of these ports is capable of carrying asynchronous RS422 data at rates from DC to 1.5 Mbps (10X oversampled) in one direction from the transmitter (9152DT) to the receiver (9152DR). These ports can carry synchronous data utilizing the 15 MHz Transmit Clock and Receive Clock outputs provided.

Although these ports can be used for general purpose RS422 applications, they are primarily configured to support the Model 9961-C Four Channel and 9962-C Eight Channel Auxiliary Data/Audio Mux/Demux Cards. When mated with the host Model 9152D units, these cards operate in simplex mode supporting either four or eight Data/Audio Option Modules. To install, connect a straight through Category 5 jumper cable (provided with the 996X-C) from the 9961-C or 9962-C to either of the HS AUX DATA PORTS on both the 9152DT and 9152DR. This provides the separate mux/demux card access to the significant data transmission capability of the 9152DT/DR to transport its data without using extra optical fibers. The shielded Cat5/6e cable used should not exceed 4 feet (1.3m).

FIGURE 8



RS485, Data, and
High-Speed Simplex Ports

OPTICAL

Tx Type	LDS	LD	LD	LDH	LDH	LD3	LD3	LD3(X)[1]	LD3(X)[1]
Tx Wavelength	850	1310	1310	1310	1310	1550	1560	1270-1610	1270-1610
Mating Rx Type	S	L	LHS	L	LHS	L	LHS	L	LHS
Power Out – 50 µm	–5	–4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Power Out – 62.5 µm	–5	–4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Power Out – 9 µm	N/A	–4	–4	0	0	0	0	0	0
Rx Optical Input Sens. – 50 µm	–19	–24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rx Optical Input Sens. – 62.5 µm	–19	–24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rx Optical Input Sens. – 9 µm	N/A	–24	–32	–24	–32	–24	–32	–24	–32
Rx Maximum Optical Input		–3	–10	–3	–10	–3	–10	–3	–10
Link Budget – 50 µm	14	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Link Budget – 62.5 µm	14	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Link Budget – 9 µm	N/A	20	28	24	32	24	32	24	32
Estimated Distance – 50 µm[2,3]	1.0	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Estimated Distance – 62.5 µm[2,3]	0.6	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Estimated Distance – 9 µm[2]	N/A	48	71	60	82	84	116	48-84	71-116

[1] *Replace X with A through W to represent CWDM wavelengths per the table below.*
[2] *Range based on losses of 3.0 dB/km @ 850 nm or 1.0 dB/km @ 1310 nm for 62.5/125 multimode fiber, 0.35 dB/km @ 1310 nm or 0.25 dB/km @ 1550 nm for singlemode fiber, and includes a 3 dB safety factor.*
[3] *Range limited by fiber bandwidth on multimode fiber versions; estimates based on 300 MHz/km fiber specification.*

CWDM Letter Code	Wavelength	CWDM Letter Code	Wavelength
A	1470	N	1290
B	1490	P	1310
C	1510	Q	1330
D	1530	R	1350
E	1550	S	1370
F	1570	T	1390
G	1590	U	1410
H	1610	V	1430
M	1270	W	1450

VIDEO

Video Format	NTSC, PAL, SECAM
Voltage	1V p-p, 75Ω
Bandwidth	2Hz to 6.5 MHz
Differential Gain	≤0.7% typ.
Differential Phase	≤0.7° typ.
Video SNR	≥67 dB over usable fiber range (weighted per RS250 standard)
Encoding	10 bit Linear PCM
Sampling Rate	15 MHz
Bit Rate Over Fiber	1.44 GBps

DATA TRANSMISSION BY PORT

Data Port	
Connector	RJ45
Function	Simplex RS232 plus switch-selectable RS422 or RS485
Data Rate	DC to 115.2 kbps
RS485 Port	
Connector	RJ12
Function	Simplex RS485
Data Rate	DC to 115.2 kbps
HS AUX DATA Port (2)	
Connector	RJ45
Function	Simplex RS422
Data Rate	DC to 1.5 MBps, asynchronous 15 MBps, synchronous

POWER

Requirements	1.4A @ 6VDC
Source	Chassis backplane

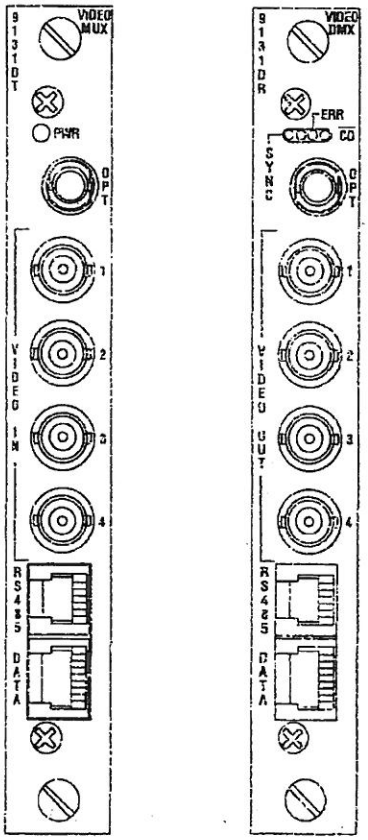
PHYSICAL

Dimensions (in inches)	6.15 H x 1.6 W x 8.6 D
Weight (in pounds)	1.01

Optelecom-nkf

9000 Series
Installation and Operation Manual

Model 9131DT
Model 9131DR



Digital Four Channel Video/Three Channel Data Multiplexer/Transmitter and Receiver/Demultiplexer Cards

For the high quality transmission of four channels of composite baseband video and three channels of data in one direction over one optical fiber

UM50245, Manual 9131DT/DR, ECO 21935, Rev. C

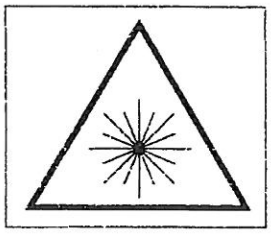
Safety Instructions

Note 1 This product contains a Class IIIb laser or LED fiber optic emitter. The following safety precautions apply.

Warning: Do not disconnect the fiber optic connector while the unit is powered up. Exposure to Class IIIb invisible optical radiation is possible when the fiber optic connector is disconnected while the unit is powered up.

All laser versions have one of two **DANGER** labels, shown below, found either on the front panel and/or on the edge of the circuit card containing the laser, near the fiber optic connector.

DANGER
Invisible Laser Radiation
When Open AVOID DIRECT
EXPOSURE TO BEAM



Caution: Using controls, making adjustments, or performing operations other than those specified may result in hazardous radiation exposure. Exposure for only seconds may cause permanent eye damage as well as other injuries.

Note 2 This assembly contains parts sensitive to damage by electrostatic discharge (ESD). Use ESD precautionary procedures when touching, removing, or inserting parts or assemblies.

Table of Contents

Functional Description

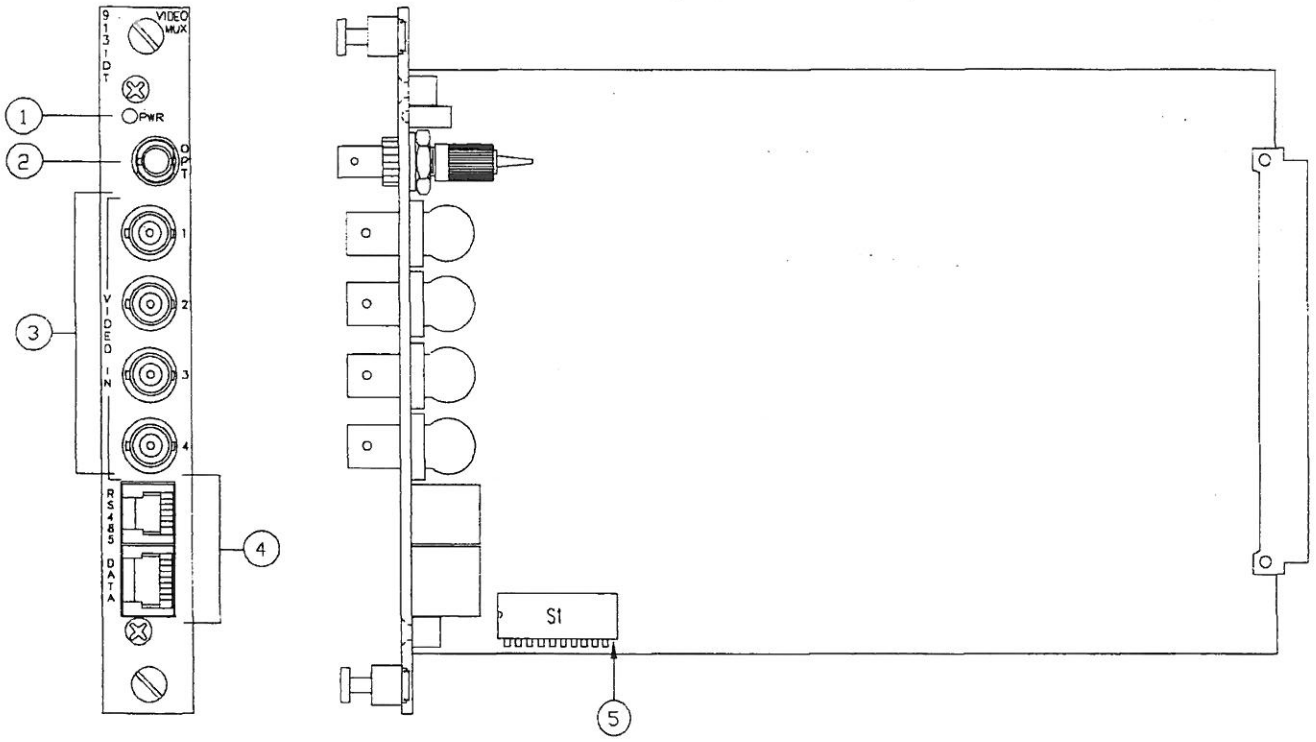
The Model 9131DT Multiplexer/Transmitter combines four composite video baseband signals by implementing a 10-bit linear analog-to-digital conversion on each video signal at a 15 MHz rate, combining the signals with three input data signals using Time Division Multiplexing (TDM) techniques and transmitting the data via one optical fiber.

The Model 9131DR receives the optical signal from the transmitter, separates the composite data into four digital video data streams and three data streams, does an digital-to-analog conversion of the four video data streams yielding four composite video outputs and three data outputs.

The 9131DT and 9131DR are compatible with the 9000 series card chassis, occupy one card slot each, and operate on 6 VDC from the appropriate chassis power supply.

9131DT Indicator, Connector, and Dipswitch Locations and Function

FIGURE 1



1. **POWER INDICATOR**
   When illuminated, the ***green*** LED indicates that the card is receiving power from the power supply.

2. **OPTICAL OUTPUT PORT**
   The optical fiber cable connector is connected to this port for transmission of the optical signal to the 9131DR receiver/demux.

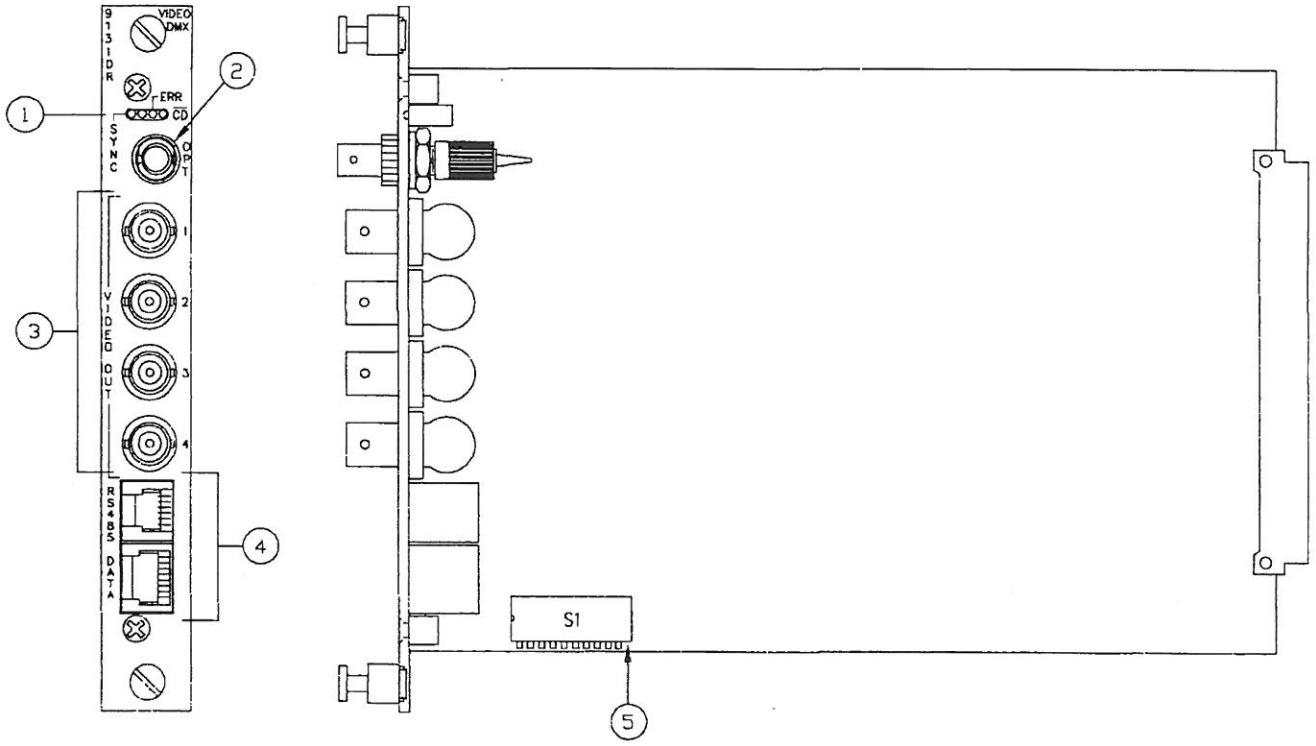
3. **VIDEO INPUT CONNECTORS (FOUR) (75Ω)**
   Compatible with BNC connected coaxial cables, these connectors accept the four video input signals.

4. **DATA INPUT CONNECTORS (TWO)**
   a. The RJ45 "DATA" port accepts two input data signals, one RS232 and one switch-selectable RS422, RS485, or Manchester (biphase) signal.
   b. The RJ12 "RS485" port accepts the input of an RS485-compatible data signal.

5. **DATA INTERFACE CONFIGURATION DIPSWITCH**
   This ten-position dipswitch allows the user to select the desired data interface compatibility of the configurable input on the "DATA" port.

9131DR Indicator, Connector, and Dipswitch Locations and Function

FIGURE 2



1. **STATUS INDICATORS**
   a. SYNC — When illuminated, this ***green*** LED indicates that the data demultiplexer is receiving a good signal and is synchronized with the multiplexer.
   b. ERR — When illuminated, this ***yellow*** LED indicates that there are errors being detected in the received optical data stream.
   c. $\overline{\text{CD}}$ — When illuminated, this ***red*** LED indicates that the optical receiver is not receiving sufficient optical power to operate. (The optical carrier is not detected.)

2. **OPTICAL INPUT PORT**
   The optical fiber cable connector is connected to this port to receive the optical signal from the 9131DT mux/transmitter.

3. **VIDEO OUTPUT CONNECTORS (FOUR) (75Ω)**
   Compatible with BNC connectors, these connectors output the four received video signals.

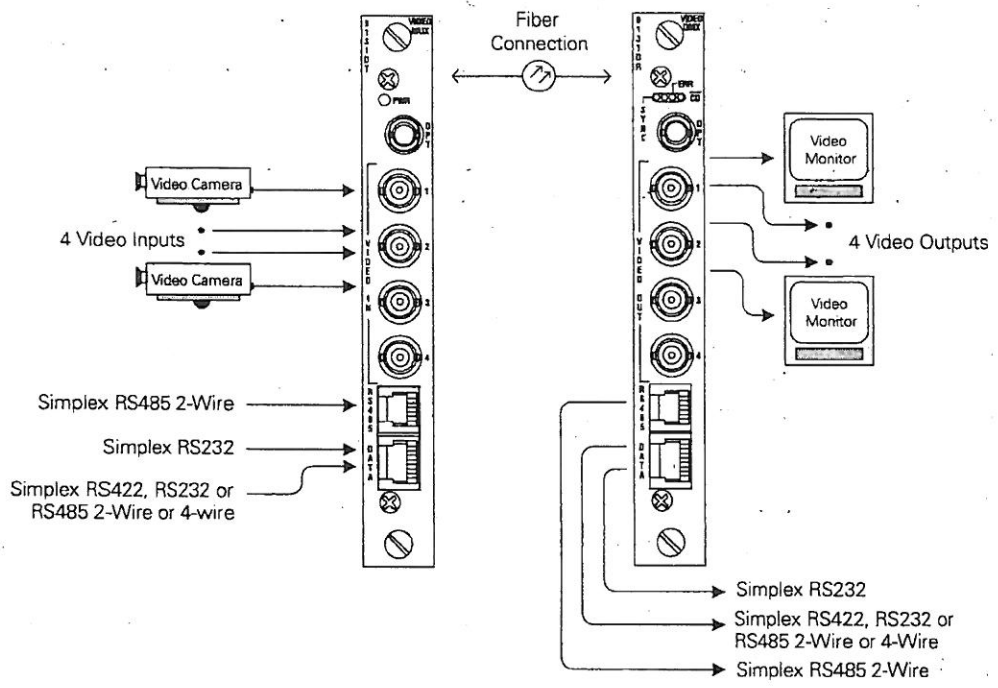
4. **DATA OUTPUT CONNECTORS (TWO)**
   a. The RJ45 "DATA" port outputs two data signals, one RS232 and one switch-selectable RS422, RS485, or Manchester (biphase) signal.
   b. The RJ12 "RS485" port outputs an RS485-compatible data signal.

5. **DATA INTERFACE SELECT DIPSWITCH**
   This ten-position dipswitch allows the user to select the desired data interface compatibility of the configurable data output on the "DATA" port.

9131DT/9131DR Configuration and Connection Guide

To install, connect the video inputs to the 9131DT, connect the video monitors or other video receptors to the 9131DR, and connect an appropriate optical fiber between the 9131DT and 9131DR optical ports. Connect data signal sources or destinations, as required, to the "DATA" and "RS485" ports per the following Built-In Data Connection section.

FIGURE 3



Built-In Data Connection and Configuration

There are two port interfaces on the 9131DT and 9131DR, the "DATA" port and the "RS485" port.

The "DATA" port supports two data channels, one a full-time RS232 channel and the other a configurable data channel that is dipswitch programmable for RS422, RS485 2- or 4-wire, or Manchester operation. Both channels are implemented via the RJ45 connector marked "data". The RS232 channel is a dedicated channel. There are no dipswitch settings associated with or required for operation of this channel. The configurable channel must be programmed by setting dipswitch S1 on the board for proper operation. Refer to Table 1 for switch settings and to Table 2 and Figures 4, 5, 6, and 7 for connection and pinout information. Refer to the section on termination to determine when the terminations should be enabled (ON) and when it should be disabled (OFF).

TABLE 1 – SWITCH SETTINGS

Port	Data Type	Termination	Dipswitch									
			1	2	3	4	5	6	7	8	9	10
DATA Port (RJ45)	RS422	Terminated			On	On	On	On	On	Off	Off	Off
		Unterminated			Off	On	On	Off	Off	Off	Off	Off
	RS485 4-Wire	Terminated			On	On	On	On	On	Off	On	Off
		Unterminated			Off	On	On	Off	Off	Off	On	Off
	RS485 2-Wire	Terminated			On	On	On	On	On	Off	On	On
		Unterminated			Off	On	On	Off	Off	Off	On	On
	Manchester				On	Off	Off	On	On	On	Off	Off
RS485 Port (RJ12)	RS485 2-Wire	Terminated	On	On								
		Unterminated	Off	Off								

Operation with PixelVue PC/Windows System Management Software

The 9131DT and 9131DR permit alarm and diagnostic management via the PixelVue PC/Windows System Management Software. To do this requires the installation of a Model 9911 (RS232/RS485) Network Interface Card in the same chassis with the 9131DT or 9131DR.

The 9131s supply the following information via the management system:

9131DT

1. Video Input Present/Not Present at each of the four video inputs
2. Optical Emitter Drive Current

9131DR

1. Video Output Present/Not Present at each of the four video outputs
2. Received Optical Power
3. Demux In/Not In Sync

Specifications for the 9131DT and 9131DR

OPTICAL

Transmitter Version		LDS	LDL	LD	LDH	LD3	LD3X[1]
Wavelength (nm)	Fiber	850	1310	1310	1310	1550	1470-1610
Receiver Version	Size	S	LM	L	L	L	L
Tx Optical Power Output (dB) minimum	50/125	N/A	–4	–4	N/A	N/A	N/A
	62.5/125	–6	–4	–4	N/A	N/A	N/A
	09/125	N/A	N/A	–4	0	0	0
Rx Optical Input Sens. (dB) for proper operation	50/125	–20	N/A	–29	N/A	N/A	N/A
	62.5/125	–20	–29	–29	N/A	N/A	N/A
	09/125	N/A	N/A	–29	–29	–29	–29
Rx Max. Optical Input		–3	1	1	1	1.	1
Link Budget	50/125	14	N/A	25	N/A	N/A	N/A
	62.5/125	14	25	25	N/A	N/A	N/A
	09/125	N/A	N/A	25	29	29	29
Estimated Range (km)[2, 3]	50/125	N/A	8	1.8	N/A	N/A	N/A
	62.5/125	1.2	8	1.8	N/A	N/A	N/A
	09/125	N/A	N/A	62	74	104	74–104

[1] *Replace X with A through H to represent CWDM wavelengths per the table below.*
[2] *Range based on losses of 3.0 dB/km @ 850 nm or 1.0 dB/km @ 1310 nm for 62.5/125 multimode fiber, 0.35 dB/km @ 1310 nm or 0.25 dB/km @ 1550 nm for singlemode fiber, and includes a 3 dB safety factor.*
[3] *Range limited by fiber bandwidth on multimode fiber versions; estimates based on 300 MHz/km fiber specification.*

CWDM Letter Code	Wavelength
A	1470
B	1490
C	1510
D	1530
E	1550
F	1570
G	1590
H	1610
M	1270

CWDM Letter Code	Wavelength
N	1290
P	1310
Q	1330
R	1350
S	1370
T	1390
U	1410
V	1430
W	1450

VIDEO

Video Format	NTSC, PAL, SECAM
Voltage	1V p-p, 75Ω
Bandwidth	2 Hz to 6.5 MHz
Differential Gain	≤0.7% typ.
Differential Phase	≤0.7° typ.
Video SNR	≥67 dB over usable fiber range (weighted per RS250 standard)
Encoding	10 bit Linear PCM
Sampling Rate	15 MHz
Bit Rate Over Fiber	720 MBps

DATA TRANSMISSION BY PORT

Data Port

Connector	RJ45
Function	Simplex RS232 plus switch-selectable RS422 or RS485 (DC to 115.2 kbps)

RS485 Port

Connector	RJ12
Function	Simplex RS485 (DC to 115.2 kbps)

POWER

Requirements	1A @ 6 VDC
Source	Chassis backplane.

PHYSICAL

Dimensions (in inches)	6.15 H x 0.8 W x 8.6 D
Weight (in pounds)	0.6

ENVIRONMENTAL

Operating Temperature	–40° C to +74° C
Storage Temperature	–55° C to +85° C
Relative Humidity	0 to 95% noncondensing

QUALITY/CERTIFICATIONS

Compliance	CE, FCC Part 15, Class A
MTTF	Consult factory

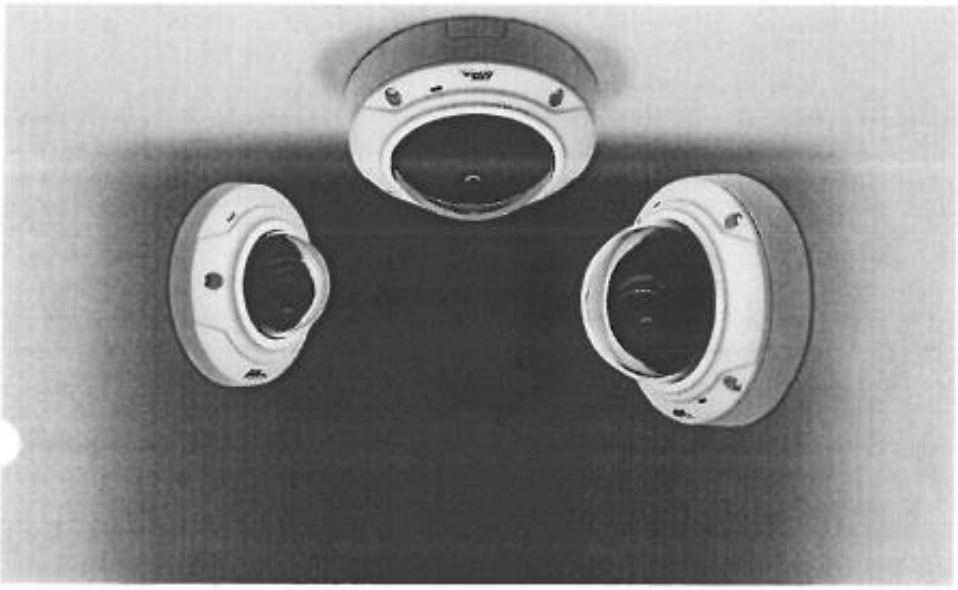
28 23 00 ATTACHMENT A – CCTV PRODUCT DATA

AXIS COMMUNICATIONS

DATASHEET

AXIS M30 Network Camera Series

Fixed mini domes with HDTV and 360°/180° panoramic views.



- > Compact, vandal- and dust-resistant design
- > Wide angle and 360°/180° panoramic views
- > HDTV video quality
- > Easy, flexible installation
- > Edge storage

AXIS M30 Series addresses the market's need for affordably priced, highly discreet and easy-to-install indoor fixed domes with HDTV performance and 360°/180° panoramic views. They are ideal for retail stores, hotels, schools and offices with tight budgets for video surveillance.

Providing superb video quality, AXIS M30 cameras range from the palm-sized AXIS M3004-V and AXIS M3005-V with HDTV performance, to the wide-angle AXIS M3006-V with 3-megapixel resolution, and AXIS M3007-PV, a 5-megapixel fixed dome that provides a 360° view when ceiling mounted or 180° view when wall mounted.

AXIS M30 cameras are vandal- and dust-resistant, and can be mounted on walls or ceilings. AXIS M3004-V/M3005-V/M3006-V cameras have a 3-axis camera angle adjustment for flexible installation. The three cameras also support Corridor Format for vertically oriented video streams that maximize coverage of areas such as corridors, hallways or aisles. All AXIS M30 cameras come focused at delivery.

AXIS M30 cameras support AXIS Camera Application Platform for intelligent video applications such as people counting. AXIS M3006-V and AXIS M3007-PV have substantial capacity for video analytics.

The cameras offer a convenient video management solution with their built-in microSDHC memory card slot for edge storage and support for software such as the complimentary AXIS Camera Companion.

Simplifying installation, AXIS M30 cameras come with a 2 m (6.6 ft.) network cable and are powered using Power over Ethernet (IEEE 802.3af).

HDTV NETWORK VIDEO

ONVIF

Affordable, compact and easy-to-install fixed domes with superb video quality

HDTV and multi-megapixel models

AXIS M30 cameras share a discreet form factor and are designed for quick and easy installation. The models—with different viewing angles, resolution, frame rate and intelligent video capacity—have been optimized to provide best-in-class performance for the different application needs of price-sensitive customers.

AXIS M3007-PV has a 5-megapixel sensor that enables detailed, high-quality 360° and 180° panoramic views. AXIS M3006-V not only supports HDTV 1080p but can also provide 3-megapixel video streams with 50% more resolution than HDTV 1080p. With a 134° angle of view, AXIS M3006-V can provide full coverage of an area when installed near a corner. Meanwhile, the palm-sized AXIS M3004-V and AXIS M3005-V provide the smallest form factor. AXIS M3004-V supports full frame rate 1-megapixel/HDTV 720p performance, while AXIS M3005-V delivers HDTV 1080p with more than double the resolution of HDTV 720p.

AXIS M3006-V: corner view

Digital PTZ and multi-view streaming

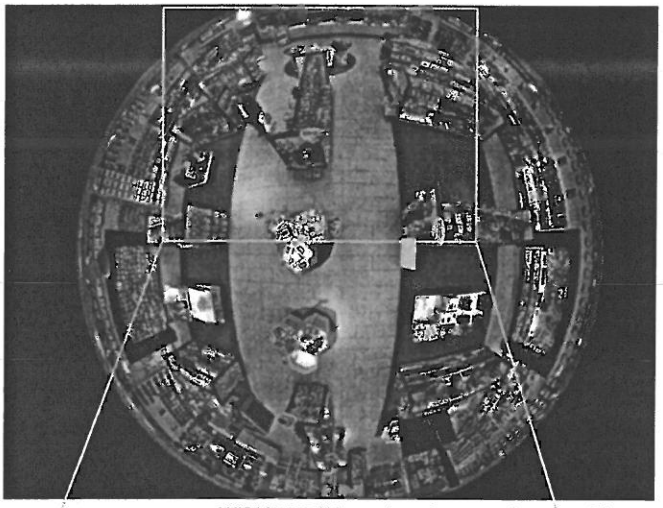
The digital pan/tilt/zoom functionality in all AXIS M30 cameras can be seen as enabling the cameras to have a "digital varifocal lens" that allows the cameras' angle of view to be adjusted remotely after the physical installation. This functionality is especially useful with AXIS M3006-V because of its wide angle of view and high resolution.

When digital PTZ is used together with multi-view streaming in AXIS M3006-V, different areas of a scene can be cropped from the full view and streamed simultaneously for viewing or recording. Multi-view streaming simulates several virtual cameras and can help minimize the bit rate and storage needs.

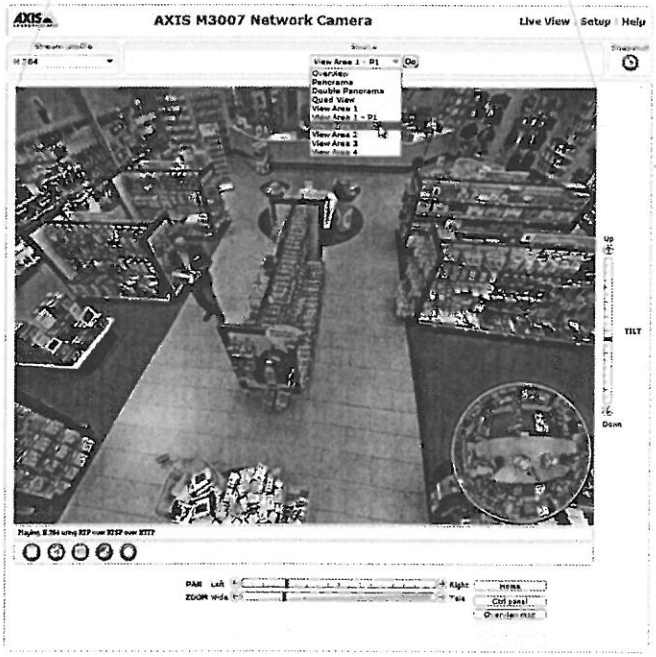
360°/180° fixed domes

AXIS M3007-PV is a 360°/180° fixed dome that can cover an area of more than 650 m² (7,000 sq. ft.). It can be used to help detect activities, track the flow of people and improve area management.

AXIS M3007-PV supports several viewing modes: 360° overview and dewarped views such as panorama, double panorama and quad views. The quad view mode is suitable, for instance, when the camera is positioned at an intersection of corridors. The camera also provides view area modes where users can digitally pan, tilt and zoom in on areas of interest.



AXIS M3007-PV: overview of a 240 m² (2,600 sq. ft.) area



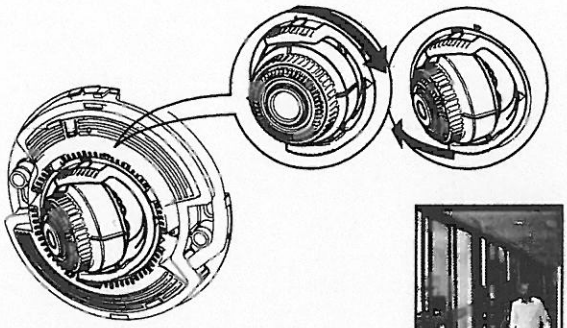
AXIS M3007-PV: view area mode with digital pan/tilt/zoom functionality

3-axis camera angle adjustment

AXIS M3004-V/M3005-V/M3006-V cameras have a 3-axis camera angle adjustment that enables users to:

> mount the cameras on walls or ceilings
> easily adjust the cameras' direction
> easily level the image
> get vertically oriented video streams (Axis' Corridor Format)

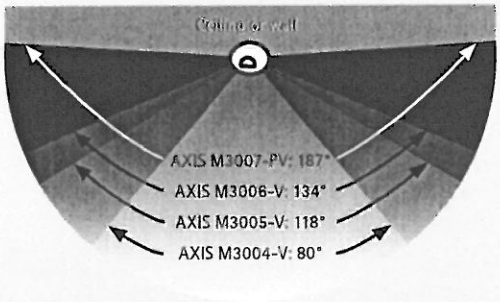
Axis' Corridor Format is achieved when the 3-axis camera angle adjustment is used together with the camera interface's ability to rotate the image. The format optimizes the coverage of areas such as aisles, hallways and corridors, maximizing image quality while eliminating bandwidth and storage waste.



9:16 Corridor Format

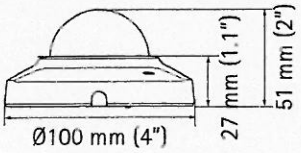
Comparison of viewing angles

Horizontal angle of view

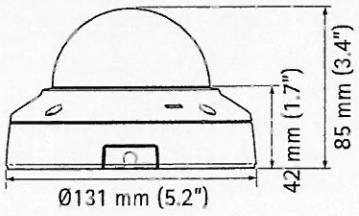


Approx. field of view comparison

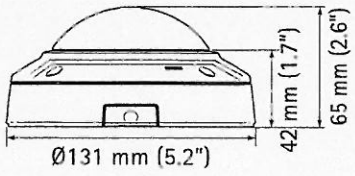
Dimensions



AXIS M3004-V/M3005-V



AXIS M3006-V



AXIS M3007-PV

Optional accessories

White/black skin for the camera casing

Optional lens and focus tool for AXIS M3004-V and AXIS M3005-V

AXIS T91A Camera Holders 3/4" or 1.5" NPS for AXIS M3006-V/M3007-PV

AXIS P8221 Network I/O Audio Module

AXIS Camera Companion (included), AXIS Camera Station and video management software from Axis' Application Development Partners (not included). See www.axis.com/products/video/software/

www.axis.com

48492/EN/R2/1211

Technical Specifications – AXIS M30 Network Camera Series

Camera	
Models	AXIS M3004-V: 1 MP resolution/HDTV 720p **AXIS M3005-V: 2 MP resolution/HDTV 1080p** AXIS M3006-V: 3 MP resolution/HDTV 1080p AXIS M3007-PV: 5 MP resolution, 360°/180° *Note: AXIS M3011 and AXIS M3014 are handled separately from the new AXIS M30 Series*
Image sensor	**AXIS M3004-V:** 1/4" progressive scan RGB CMOS **AXIS M3005-V:** 1/2.7" progressive scan RGB CMOS **AXIS M3006-V:** 1/3.6" (effective) progressive scan RGB CMOS **AXIS M3007-PV:** 1/3.2" progressive scan RGB CMOS
Lens	M12 mount, F2.8, fixed iris, megapixel resolution **AXIS M3004-V:** 2.8 mm, 80° horizontal angle of view **AXIS M3005-V: 2.8 mm, 118° horizontal angle of view** **AXIS M3006-V:** 1.6 mm, 134° horizontal angle of view **AXIS M3007-PV:** 1.3 mm, 187° horizontal angle of view
Light sensitivity	**AXIS M3004-V/M3005-V:** 1.5 - 100000 lux, F2.8 **AXIS M3006-V/M3007-PV:** 0.6 - 200000 lux, F2.8
Shutter time	**AXIS M3004-V/M3005-V:** 1/8000 s to 1/6 s **AXIS M3006-V/M3007-PV:** 1/24000 s to 2 s
Camera angle adjustment	**AXIS M3004-V/M3005-V:** Pan ±175°, tilt ±45°, rotation ±175° **AXIS M3006-V:** Pan ±180°, tilt 0-45°, rotation ±178° **AXIS M3007-PV:** Rotation ±180°
Video	
Video compression	H.264 Main Profile (MPEG-4 Part 10/AVC), Motion JPEG **AXIS M3006-V/M3007-PV:** Also H.264 Baseline Profile
Resolutions	**AXIS M3004-V:** 1280x800 (1 MP) to 320x240 **AXIS M3005-V:** 1920x1080 (HDTV 1080p) to 320x240 **AXIS M3006-V:** 2048x1536 (3 MP) to 160x120 **AXIS M3007-PV:** 2592x1944 (5 MP) to 160x120
Frame rate H.264/Motion JPEG	**AXIS M3004-V/M3005-V:** 25/30 fps with power line frequency 50/60 Hz **AXIS M3006-V:** 3 MP capture mode: 16/20 fps with power line frequency 50/60 Hz HDTV 1080p (1920x1080) and 2 MP 4:3 (1600x1200) capture modes: 25/30 fps with power line frequency 50/60 Hz **AXIS M3007-PV:** 12 fps in 360° overview and panoramic views
Video streaming	Multiple, individually configurable streams in H.264 and Motion JPEG Controllable frame rate and bandwidth VBR/CBR H.264
Multi-view streaming	**AXIS M3006-V:** Up to 8 individually cropped out view areas. When streaming 4 view areas and 1 overview in VGA resolution, the frame rate is 16/20 fps per stream with power line frequency 50/60 Hz (3 MP capture mode) **AXIS M3007-PV:** 360° overview, panorama, double panorama, quad view. Up to 4 individually cropped out and dewarped view areas. When streaming 4 dewarped view areas and one 360° overview in VGA resolution, the frame rate is 10 fps per stream
Pan/Tilt/Zoom	**AXIS M3004-V/M3005-V:** Digital PTZ **AXIS M3006-V:** Digital PTZ, preset positions, guard tour **AXIS M3007-PV:** Digital PTZ with dewarping, preset positions, guard tour
Image settings	Compression, color, brightness, sharpness, contrast, white balance, exposure control, backlight compensation, wide dynamic range - dynamic contrast, text and image overlay, privacy mask, mirroring of images **AXIS M3006-V/M3007-PV:** Exposure zones, fine-tuning of low light behavior **AXIS M3004-V/M3005-V/M3006-V:** Rotation: 0°, 90°, 180°, 270°, including Corridor Format **AXIS M3007-PV:** Rotation: 0°, 180°

Network	
Security	Password protection, IP address filtering, HTTPS* encryption, IEEE 802.1X network access control, digest authentication, user access log
Supported protocols	IPv4/v6, HTTP, HTTPS*, SSL/TLS*, QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP, SNMPv1/v2c/v3(MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS
System integration	
Application Programming Interface	Open API for software integration, including VAPIX® and AXIS Camera Application Platform from Axis Communications, available at www.axis.com AXIS Video Hosting System (AVHS) with One-Click Camera Connection **AXIS M3004-V/M3005-V/M3006-V:** ONVIF, specification available at www.onvif.org
Intelligent video	Video motion detection, active tampering alarm AXIS Camera Application Platform enabling installation of additional applications (In AXIS M3007-PV, additionally installed applications can be used in the 360° overview mode only)
Event triggers	Intelligent video, edge storage events
Event actions	File upload: FTP, HTTP, network share and email Notification: email, HTTP and TCP Video recording to edge storage Pre- and post-alarm video buffering **AXIS M3006-V/M3007-PV:** Go to PTZ preset, guard tour
Data streaming	Event data
Built-in installation aid	Pixel counter
General	
Casing	IP42 water- and dust-resistant, IK08 impact-resistant casing; casing color: white NCS S 1002-B; encapsulated electronics **AXIS M3004-V/M3005-V:** Polycarbonate/ABS casing **AXIS M3006-V/M3007-PV:** Aluminum and polycarbonate/ABS casing
Memory	**AXIS M3004-V/M3005-V:** 256 MB RAM, 128 MB Flash **AXIS M3006-V/M3007-PV:** 512 MB RAM, 128 MB Flash
Power	Power over Ethernet IEEE 802.3af **AXIS M3004-V:** Class 1, max. 2.2 W **AXIS M3005-V:** Class 1, max. 2.7 W **AXIS M3006-V:** Class 2, max. 4.5 W **AXIS M3007-PV:** Class 2, max. 4.6 W
Connectors	Male RJ-45 10BASE-T/100BASE-TX PoE on a 2 m (6.6 ft.) network cable
Edge storage	MicroSD/microSDHC/microSDXC slot supporting memory card up to 64 GB (card not included); support for recording to network share (network-attached storage or file server)
Operating conditions	Humidity 15 - 85% RH (non-condensing) **AXIS M3004-V/M3006-V/M3007-PV:** 0 °C to 45 °C (32 °F to 113 °F) **AXIS M3005-V:** 0 °C to 40 °C (32 °F to 104 °F)
Approvals	EN 55022 Class B, EN 61000-6-1, EN 61000-6-2, EN 55024, FCC Part 15 Subpart B Class B, ICES-003 Class B, VCCI Class B, C-tick AS/NZS CISPR 22, KCC Class B, IEC/EN/UL 60950-1, IEC 60529 IP42, IEC 62262 Class IK08
Weight	**AXIS M3004-V/M3005-V:** 200 g (0.44 lb.) **AXIS M3006-V:** 640 g (1.4 lb.) **AXIS M3007-PV:** 610 g (1.4 lb.)
Included accessories	Drill hole template, Installation Guide, Installation and Management Software CD, Windows decoder 1-user license, Torx L-key

** This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (www.openssl.org)*

More information is available at www.axis.com

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DATASHEET

AXIS P33 Network Camera Series – Outdoor models

Fixed domes for any environment with remote focus and zoom.

- > Exceptional image quality including 5MP and HDTV
- > WDR with dynamic capture
- > Lightfinder technology
- > Remote focus and zoom
- > P-Iris control
- > IK10 impact-resistant, outdoor-ready models

AXIS P33 Network Cameras constitute a series of indoor and outdoor-ready fixed domes. These cameras are ideal for unobtrusive video surveillance, day and night, in exposed areas such as airports, subways, retail stores, bank buildings, schools and university campuses. This document covers the outdoor models of AXIS P33 Series.

AXIS P33 Series offers models with exceptional image quality from SVGA resolution up to 5 megapixel, including SMPTE standard compliant HDTV 720p and 1080p video. AXIS P33 Series provides multiple, individually configurable H.264 and Motion JPEG video streams.

The SVGA and HDTV 720p models support Axis' Lightfinder technology, which make these cameras extremely sensitive to low light. AXIS P3384-VE that additionally supports wide dynamic range (WDR) with 'dynamic capture', provides outstanding video quality in the most demanding conditions with strong variations in light. The 5 megapixel model, AXIS P3367-VE, can cover a large area with exceptional detail and light sensitivity. All AXIS P33 models support P-Iris control for optimal image clarity.

The remote focus capability allows for convenient installation, eliminating hands-on focusing at the camera. The remote zoom and pixel counter features ensure that the camera's angle of view is optimized for the area to be monitored and the required pixel resolution.

AXIS P33 Series provides multiple, individually configurable H.264 and Motion JPEG video streams. All AXIS P33 cameras offer digital pan/tilt/zoom and the 3-megapixel and 5-megapixel models additionally provide multi-view streaming.

The weatherproof AXIS P33-VE cameras have low, environmental-friendly power consumption, supplied by standard Power over Ethernet (IEEE 802.3af) and operate in extreme temperatures from -40 °C to 55 °C (-40 °F to 131 °F).

HDTV NETWORK VIDEO

ONVIF

Fixed domes designed for efficient installation

Outdoor-ready models of AXIS P33 Series are the perfect choice for a wide range of demanding video applications. AXIS P33 Network Cameras are designed for professional video surveillance with easy and reliable installation in focus.

Outdoor-ready installation for extreme temperatures

The outdoor models of AXIS P33 Series are specially designed for reliable, vandal-resistant and weatherproof installation, with pre-installed heater and fan, and an integrated dehumidifying membrane eliminating any humidity caught in the camera casing during installation. These cameras come with a 5 m (16 ft.) Ethernet cable with a pre-mounted, specially designed gasket, enabling flush wall mounting and requiring no additional sealant. A weather shield is also included for effective protection against reflections from sunlight, or build-ups of rain or snow. A wide range of optional mounting kits are available, for example for mounting on a wall, pole or corner.

Lightfinder technology

The SVGA and HDTV 720p models of AXIS P33 Series incorporate Axis' unique Lightfinder technology. The outstanding light sensitivity, with maintained colors even in very poor lighting conditions, is obtained by a combination of Axis' expertise in image processing, system-on-chip development and selection of the best optical components.
For more on Lightfinder technology, go to:
www.axis.com/corporate/corp/tech_papers.htm

Wide dynamic range – dynamic capture

AXIS P3384-VE that supports WDR with 'dynamic capture' is ideal for surveillance in areas with strong variations in light, for instance in tunnel passages, and other areas where the sunlight creates both very bright zones and dark shadows. AXIS P3384-VE enables easy and clear identification of people and objects both in bright and dark areas.

P-Iris control

AXIS P33 Series features the advanced precise iris control that comprises a special P-Iris lens, together with dedicated software in the camera, to set the best iris position for optimal depth of field, resolution, image contrast and clarity. Good depth of field implies that objects at different distances from the camera are in focus simultaneously.
For more on P-Iris and iris control, go to:
www.axis.com/corporate/corp/tech_papers.htm

Easy installation with remote focus and zoom

AXIS P33 Network Cameras offer unique installation capabilities including remote focus and zoom. The remote focus feature enables convenient focusing over the network, eliminating the need for hands-on fine-tuning at the camera. The remote zoom functionality ensures that the camera's angle of view is optimized for the area to be monitored.

Unique pixel counter feature

The unique pixel counter offered in Axis cameras allows the installer to easily verify that the camera installation fulfills any regulatory or specific customer requirements on pixel resolution, ensuring, for instance, that there are enough pixels in the human face for facial identification.

Technical Specifications – AXIS P33 Network Camera Series, outdoor models

Camera	
Outdoor models	**AXIS P3363-VE:** SVGA, Lightfinder **AXIS P3364-VE:** 1 MP, Lightfinder 6 mm and 12 mm as suffix refers to lens model **AXIS P3384-VE:** 1 MP, WDR - dynamic capture, Lightfinder **AXIS P3346-VE:** 3 MP, multi-view streaming **AXIS P3367-VE:** 5 MP, multi-view streaming *Note: All models are vandal resistant and support audio and I/O ports*
Image sensor	**AXIS P3363-VE:** Progressive scan RGB CMOS 1/3" **AXIS P3364-VE:** Progressive scan RGB CMOS 1/3" **AXIS P3384-VE:** Progressive scan RGB CMOS 1/3" **AXIS P3346-VE:** Progressive scan RGB CMOS 1/3" (effective) **AXIS P3367-VE:** Progressive scan RGB CMOS 1/3.2"
Lens	Varifocal, remote focus and zoom, IR corrected, P-Iris control, megapixel resolution **AXIS P3363-VE/P3364-VE 6 mm:** 2.5-6 mm, 105° - 49° view*, F1.2 **AXIS P3363-VE/P3364-VE 12 mm:** 3.3-12 mm, 82° - 24° view*, F1.4 **AXIS P3384-VE:** 3-9 mm, 84° - 30° view*, F1.2 **AXIS P3346-VE:** 3-9 mm, 84° - 30° view*, F1.2 **AXIS P3367-VE:** 3-9 mm, 84° - 30° view*, F1.2 *horizontal angle of view
Day and night	Automatically removable infrared-cut filter
Minimum illumination	**AXIS P3363-VE/P3364-VE 6 mm:** Color: 0.1 lux, F1.2, B/W: 0.02 lux, F1.2 **AXIS P3363-VE/P3364-VE 12 mm:** Color: 0.15 lux, F1.4, B/W: 0.03 lux, F1.4 **AXIS P3384-VE:** Color: 0.5 lux, F1.2, B/W: 0.08 lux, F1.2 with dynamic capture Color: 0.15 lux, F1.2, B/W: 0.03 lux, F1.2 with Lightfinder **AXIS P3346-VE:** Color: 0.5 lux, F1.2, B/W: 0.08 lux, F1.2 **AXIS P3367-VE:** Color: 0.2 lux, B/W: 0.04 lux, F1.2
Shutter time	**AXIS P3363-VE/P3364-VE:** 1/24500 s to 2 s with power line frequency 50 Hz, 1/29500 s to 2 s with power line frequency 60 Hz **AXIS P3384-VE:** Dynamic capture: 1/192 s to 1/37 s with power line frequency 50 Hz, 1/231 s to 1/44 s with power line frequency 60 Hz; Lightfinder: 1/24500 s to 2 s with power line frequency 50 Hz, 1/29500 s to 2 s with power line frequency 60 Hz **AXIS P3346-VE:** 1/35500 s to 1/6 s **AXIS P3367-VE:** 1/28000 s to 2 s
Camera angle adjustment	**AXIS P3363-VE/P3364-VE:** Pan 360°, tilt 170°, rotation 340° **AXIS P3384-VE/P3346-VE/P3367-VE:** Pan 360°, tilt 160°, rotation 340°
Video	
Video compression	H.264 Baseline and Main Profile (MPEG-4 Part 10/AVC) Motion JPEG
Resolutions	**AXIS P3363-VE:** 800x600 (SVGA) to 160x90 **AXIS P3364-VE:** 1280x960* (approx. 1.3 MP) to 160x90 **AXIS P3384-VE:** 1280x960* (approx. 1.3 MP) to 160x120 **AXIS P3346-VE:** 2048x1536 (3 MP) to 160x90 **AXIS P3367-VE:** 2592x1944 (5 MP) to 160x90 *1400x1050 (1.4 MP) scaled resolution available via VAPIX®
Frame rate H.264/ Motion JPEG	**AXIS P3363-VE/P3364-VE/P3384-VE:** 25 fps with power line frequency 50 Hz, 30 fps with power line frequency 60 Hz **AXIS P3346-VE:** 3 MP capture mode: 20 fps in all resolutions; HDTV 1080p (1920x1080) and 2 MP 4:3 (1600x1200) capture modes: 30 fps in all resolutions **AXIS P3367-VE:** 5 MP capture mode: 12 fps in all resolutions; and capable of all AXIS P3346-VE capture modes
Video streaming	Multiple, individually configurable streams in H.264 and Motion JPEG Controllable frame rate and bandwidth VBR/CBR H.264
Multi-view streaming	**AXIS P3346-VE/P3367-VE:** Up to 8 individually cropped out view areas **AXIS P3346-VE:** When streaming 4 view areas and 1 overview in VGA resolution, the frame rate is 20 fps per stream (3 MP capture mode) **AXIS P3367-VE:** When streaming 4 view areas and 1 overview in VGA resolution, the frame rate is 12 fps per stream (5 MP capture mode) or 20 fps per stream (3 MP capture mode)
Pan/Tilt/Zoom	Digital PTZ, preset positions, guard tour
Image settings	Compression, color, brightness, sharpness, contrast, white balance, exposure control, exposure zones, backlight compensation, WDR - dynamic contrast, fine tuning of low light behavior Rotation: 0°, 90°, 180°, 270°, including Corridor Format Text and image overlay, privacy mask, mirroring of images **AXIS P3384-VE:** WDR - dynamic capture: Up to 120 dB (0.5 - 500,000 lux) depending on scene
Audio	
Audio streaming	Two-way
Audio compression	AAC LC 8/16 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz Configurable bit rate
Audio input/ output	External microphone input or line input, line output
Network	
Security	Password protection, IP address filtering, digest authentication, user access log, IEEE 802.1X** network access control, HTTPS** encryption
Supported protocols	IPv4/v6, HTTP, HTTPS**, SSL/TLS**, QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP™, SNMPv1/v2c/v3(MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS
System integration	
Application Programming Interface	Open API for software integration, including the ONVIF specification available at www.onvif.org, as well as VAPIX® and AXIS Camera Application Platform from Axis Communications, specifications available at www.axis.com Support for AXIS Video Hosting System (AVHS) with One-Click Camera connection
Intelligent video	Video motion detection, active tampering alarm, audio detection Support for AXIS Camera Application Platform enabling installation of additional applications
Event triggers	Intelligent video, external input, edge storage events
Event actions	File upload: FTP, HTTP, network share and email Notification: email, HTTP and TCP External output activation Video and audio recording to edge storage Pre- and post-alarm video buffering Play audio clip PTZ preset, guard tour
Data streaming	Event data
Built-in installation aids	Remote zoom, remote focus, pixel counter

*** This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (www.openssl.org)*

48505/EN/R2/1211

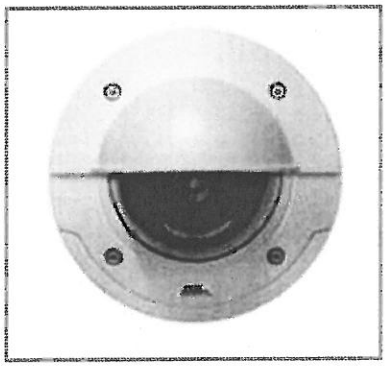
Technical Specifications (cont.) – AXIS P33 Network Camera Series, outdoor models

General	
Casing	Polycarbonate transparent cover Aluminum inner camera module with encapsulated electronics Color: white NCS S 1002-B IP66- and NEMA 4X-rated, IK10 impact-resistant casing with aluminum base and dehumidifying membrane
Memory	256 MB RAM, 128 MB Flash **AXIS P3367-VE:** 512 MB RAM, 128 MB Flash
Power	Power over Ethernet IEEE 802.3af **AXIS P3363-VE/P3364-VE/P3384-VE/P3367-VE:** Class 3; max 12.1 W **AXIS P3346-VE:** Class 3; max 12.8 W
Connectors	RJ-45 10BASE-T/100BASE-TX PoE Terminal block for 1 alarm input and 1 output 3.5 mm mic/line in, 3.5 mm line out

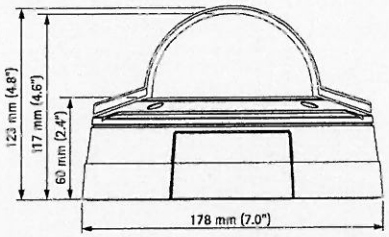
Edge storage	SD/SDHC/SDXC slot supporting memory card up to 64 GB (card not included) Support for recording to network share (network-attached storage or file server)
Operating conditions	-40 °C to 55 °C (-40 °F to 131 °F) Humidity 10 - 100% RH (condensing)
Approvals	EN 50121-4, EN 55022:2006+A1 Class B, EN 55024, EN 61000-6-1, EN 61000-6-2, EN/IEC/UL 60950-1, EN/IEC/UL 60950-22, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-64, IEC 60068-2-78, IEC 60529 IP66, NEMA 250 Type 4X, IEC 62236-4, IEC 62262 IK10, FCC Part 15 Subpart B Class B, ICES-003 Class B digital, VCCI, Class B, ITE, C-tick AS/NZS CISPR 22, KN 22, KN 24
Included accessories	Installation Guide, Installation and Management Software CD, Windows decoder 1-user license, connector kit, weather shield, mounting bracket, 5 m (16 ft.) network cable with pre-mounted gasket, smoked transparent cover

More information is available at www.axis.com

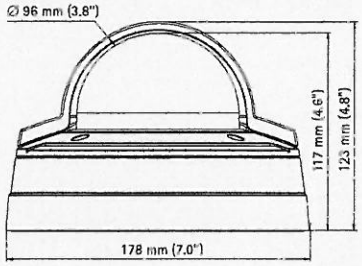
Dimensions and weight – AXIS P33 Network Camera Series, outdoor models



AXIS P3363-VE, AXIS P3364-VE
Weight: 1.5 kg (3.3 lb.) with weather shield



AXIS P3384-VE, AXIS P3346-VE, AXIS P3367-VE
Weight: 1.7 kg (3.7 lb.) with weather shield



Accessories – AXIS P33 Network Camera Series, outdoor models

Optional accessories for outdoor models

Pendant adapter kit including weather shield

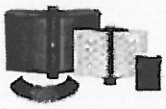
AXIS T91A Brackets

Wall

Corner

I/O audio cable, 5 m (16 ft.)

Axis illuminators



Cable shield including AXIS P33-VE 3/4" NPS adapter

Video management software

AXIS Camera Companion (included), AXIS Camera Station and video management software from Axis' Application Development Partners (not included). For more information, see www.axis.com/products/video/software

AXIS COMMUNICATIONS

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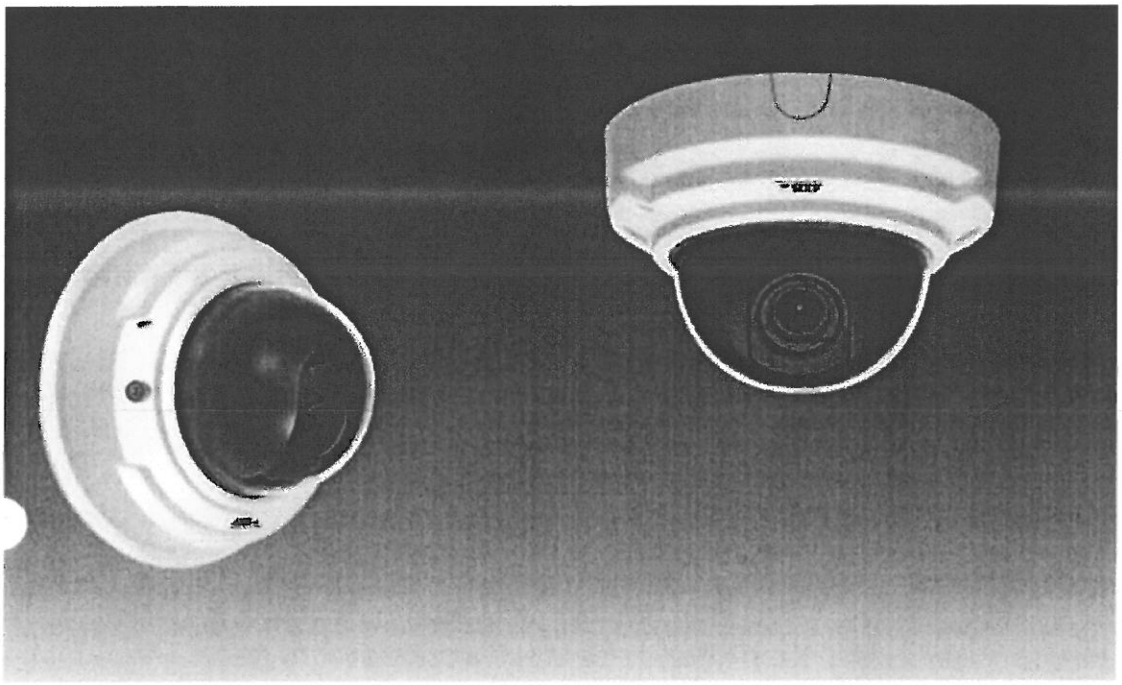
DATASHEET

AXIS P33 Network Camera Series – Indoor models

Fixed domes for any environment with remote focus and zoom.



- > Exceptional image quality including 5MP and HDTV
- > WDR with dynamic capture
- > Lightfinder technology
- > Remote focus and zoom
- > P-Iris control
- > IK10 impact resistance

AXIS P33 Network Cameras constitute a series of indoor and outdoor-ready fixed domes. These cameras are ideal for unobtrusive video surveillance, day and night, in exposed areas such as airports, subways, retail stores, bank buildings, schools and university campuses. This document covers the indoor models of AXIS P33 Series.

AXIS P33 Series offers models with exceptional image quality from SVGA resolution up to 5 megapixel, including SMPTE standard compliant HDTV 720p and 1080p video. AXIS P33 Series provides multiple, individually configurable H.264 and Motion JPEG video streams.

The SVGA and HDTV 720p models support Axis' Lightfinder technology, which make these cameras extremely sensitive to low light. AXIS P3384-V that additionally supports wide dynamic range (WDR) with 'dynamic capture', provides outstanding video quality in the most demanding conditions with strong variations in light. The 5 megapixel model, AXIS P3367-V, can cover a large area with exceptional detail and light sensitivity. All AXIS P33 models support P-Iris control for optimal image clarity.

The remote focus capability allows for convenient installation, eliminating hands-on focusing at the camera. The remote zoom and pixel counter features ensure that the camera's angle of view is optimized for the area to be monitored and the required pixel resolution.

AXIS P33 Series provides multiple, individually configurable H.264 and Motion JPEG video streams. All AXIS P33 cameras offer digital pan/tilt/zoom and the 3-megapixel and 5-megapixel models additionally provide multi-view streaming.

AXIS P33 Series has low, environmental-friendly power consumption, supplied by standard Power over Ethernet (IEEE 802.3af).

HDTV NETWORK VIDEO

ONVIF

Fixed domes designed for efficient installation

Indoor models of AXIS P33 Series are the perfect choice for a wide range of demanding video applications. AXIS P33 Network Cameras are designed for professional video surveillance with easy and reliable installation in focus.

Lightfinder technology

The SVGA and HDTV 720p models of AXIS P33 Series incorporate Axis' unique Lightfinder technology. The outstanding light sensitivity, with maintained colors even in very poor lighting conditions, is obtained by a combination of Axis' expertise in image processing, system-on-chip development and selection of the best optical components.
For more on Lightfinder technology, go to:
www.axis.com/corporate/corp/tech_papers.htm

Wide dynamic range – dynamic capture

AXIS P3384-V that supports WDR with 'dynamic capture' is ideal for surveillance in areas with strong variations in light, for instance close to large windows and entrances, where the sunlight creates both very bright zones and dark shadows. AXIS P3384-V enables easy and clear identification of people and objects both in bright and dark areas.

P-Iris control

AXIS P33 Series features the advanced precise iris control that comprises a special P-Iris lens, together with dedicated software in the camera, to set the best iris position for optimal depth of field, resolution, image contrast and clarity. Good depth of field implies that objects at different distances from the camera are in focus simultaneously.
For more on P-Iris and iris control, go to:
www.axis.com/corporate/corp/tech_papers.htm

Easy installation with remote focus and zoom

AXIS P33 Network Cameras offer unique installation capabilities including remote focus and zoom. The remote focus feature enables convenient focusing over the network, eliminating the need for hands-on fine-tuning at the camera. The remote zoom functionality ensures that the camera's angle of view is optimized for the area to be monitored.

Unique pixel counter feature

The unique pixel counter offered in Axis cameras allows the installer to easily verify that the camera installation fulfills any regulatory or specific customer requirements on pixel resolution, ensuring, for instance, that there are enough pixels in the human face for facial identification.

Mounting options

AXIS P33 Series offers a wide range of optional kits for indoor installations, for example, for mounting on a wall, pole or corner. The IP51-rated drop ceiling mount kit protects the camera from condensation and dust that may exist in the plenum space above the drop ceiling. They include a smoked transparent cover as an alternative to the clear cover, for additional flexibility.

Technical specifications – AXIS P33 Network Camera Series, indoor models

Camera

Indoor models	**AXIS P3353:** SVGA, Lightfinder, tamper resistance **AXIS P3354:** 1 MP, Lightfinder, tamper resistance **AXIS P3363–V:** SVGA, Lightfinder, vandal resistance, audio, I/O ports **AXIS P3364–V: 1 MP, Lightfinder, vandal resistance, audio, I/O ports 6 mm and 12 mm as suffix refers to lens model** **AXIS P3384–V: 1 MP, WDR – dynamic capture, Lightfinder, vandal resistance, audio, I/O ports** **AXIS P3346:** 3 MP, multi-view, audio, I/O ports **AXIS P3346–V:** 3 MP, multi-view, vandal resistance, audio, I/O ports **AXIS P3367–V:** 5 MP, multi-view, vandal resistance, audio, I/O ports *Note: AXIS P3301/-V and AXIS P3304/-V are not part of AXIS P33 Series*
Image sensor	**AXIS P3353/P3363–V:** Progressive scan RGB CMOS 1/3" **AXIS P3354/P3364–V:** Progressive scan RGB CMOS 1/3" **AXIS P3384–V:** Progressive scan RGB CMOS 1/3" **AXIS P3346/–V:** Progressive scan RGB CMOS 1/3" (effective) **AXIS P3367–V:** Progressive scan RGB CMOS 1/3.2"
Lens	Varifocal, remote focus and zoom, IR corrected, P-Iris control, megapixel resolution **AXIS P3353/P3354/P3363–V/P3364–V 6 mm:** 2.5–6 mm, 105° – 49° view*, F1.2 **AXIS P3353/P3354/P3363–V/P3364–V 12 mm:** 3.3–12 mm, 82° – 24° view*, F1.4 **AXIS P3384–V:** 3–9 mm, 84° – 30° view*, F1.2 **AXIS P3346/–V:** 3–9 mm, 84° – 30° view*, F1.2 **AXIS P3367–V:** 3–9 mm, 84° – 30° view*, F1.2 *horizontal angle of view
Day and night	Automatically removable infrared-cut filter
Minimum illumination	**AXIS P3353/P3354/P3363–V/P3364–V 6 mm:** Color: 0.1 lux, F1.2, B/W: 0.02 lux, F1.2 **AXIS P3353/P3354/P3363–V/P3364–V 12 mm:** Color: 0.15 lux, F1.4, B/W: 0.03 lux, F1.4 **AXIS P3384–V:** Color: 0.5 lux, F1.2, B/W: 0.08 lux, F1.2 with dynamic capture Color: 0.15 lux, F1.2, B/W: 0.03 lux, F1.2 with Lightfinder **AXIS P3346/–V:** Color: 0.5 lux, F1.2, B/W: 0.08 lux, F1.2 **AXIS P3367–V:** Color: 0.2 lux, B/W: 0.04 lux, F1.2
ıutter time	**AXIS P3353/P3354/P3363–V/P3364–V:** 1/24500 s to 2 s with power line frequency 50 Hz, 1/29500 s to 2 s with power line frequency 60 Hz **AXIS P3384–V:** Dynamic capture: 1/192 s to 1/37 s with power line frequency 50 Hz, 1/231 s to 1/44 s with power line frequency 60 Hz; Lightfinder: 1/24500 s to 2 s with power line frequency 50 Hz, 1/29500 s to 2 s with power line frequency 60 Hz **AXIS P3346/–V:** 1/35500 s to 1/6 s **AXIS P3367–V:** 1/28000 s to 2 s
Camera angle adjustment	**AXIS P3353/P3354/P3363–V/P3364–V:** Pan 360°, tilt 170°, rotation 340° **AXIS P3346/P3384–V/P3346–V/P3367–V:** Pan 360°, tilt 160°, rotation 340°

Video

Video compression	H.264 Baseline and Main Profile (MPEG-4 Part 10/AVC) Motion JPEG
Resolutions	**AXIS P3353/P3363–V:** 800x600 (SVGA) to 160x90 **AXIS P3354/P3364–V:** 1280x960* (approx. 1.3 MP) to 160x90 **AXIS P3384–V:** 1280x960* (approx. 1.3 MP) to 160x120 **AXIS P3346/–V:** 2048x1536 (3 MP) to 160x90 **AXIS P3367–V:** 2592x1944 (5 MP) to 160x90 *1400x1050 (1.4 MP) scaled resolution available via VAPIX®
Frame rate H.264/ Motion JPEG	**AXIS P3353/P3354/P3363–V/P3364–V/P3384–V:** 25 fps with power line frequency 50 Hz, 30 fps with power line frequency 60 Hz **AXIS P3346/–V:** 3 MP capture mode: 20 fps in all resolutions, HDTV 1080p (1920x1080) and 2 MP 4:3 (1600x1200) capture modes: 30 fps in all resolutions **AXIS P3367–V:** 5 MP capture mode: 12 fps in all resolutions; and capable of all AXIS P3346/-V capture modes
Video streaming	Multiple, individually configurable streams in H.264 and Motion JPEG Controllable frame rate and bandwidth VBR/CBR H.264
Multi-view streaming	**AXIS P3346/P3346–V/P3367–V:** Up to 8 individually cropped out view areas **AXIS P3346/–V:** When streaming 4 view areas and 1 overview in VGA resolution, the frame rate is 20 fps per stream (3 MP capture mode) **AXIS P3367–V:** When streaming 4 view areas and 1 overview in VGA resolution, the frame rate is 12 fps per stream (5 MP capture mode) or 20 fps per stream (3 MP capture mode)
Pan/Tilt/Zoom	Digital PTZ, preset positions, guard tour
Image settings	Compression, color, brightness, sharpness, contrast, white balance, exposure control, exposure zones, backlight compensation, WDR – dynamic contrast, fine tuning of low light behavior Rotation: 0°, 90°, 180°, 270°, including Corridor Format Text and image overlay, privacy mask, mirroring of images **AXIS P3384–V:** WDR – dynamic capture: Up to 120 dB (0.5 – 500,000 lux) depending on scene

Audio (AXIS P3363–V/P3364–V/P3384–V/P3346/–V/P3367–V)

Audio streaming	Two-way
Audio compression	AAC LC 8/16 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz Configurable bit rate
Audio input/ output	External microphone input or line input, line output Built-in microphone (can be disabled)

Network

Security	Password protection, IP address filtering, digest authentication, user access log, IEEE 802.1X** network access control, HTTPS** encryption
Supported protocols	IPv4/v6, HTTP, HTTPS**, SSL/TLS**, QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP™, SNMPv1/v2c/v3(MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS

System integration

Application Programming Interface	Open API for software integration, including the ONVIF specification available at www.onvif.org, as well as VAPIX® and AXIS Camera Application Platform from Axis Communications, specifications available at www.axis.com Support for AXIS Video Hosting System (AVHS) with One-Click Camera connection
Intelligent video	Video motion detection, active tampering alarm Support for AXIS Camera Application Platform enabling installation of additional applications **AXIS P3363–V/P3364–V/P3384–V/P3346/–V/P3367–V:** Audio detection
Event triggers	Intelligent video, edge storage events **AXIS P3363–V/P3364–V/P3384–V/P3346/–V/P3367–V:** External input
Event actions	File upload: FTP, HTTP, network share and email Notification: email, HTTP and TCP Video recording to edge storage Pre- and post-alarm video buffering PTZ preset, guard tour **AXIS P3363–V/P3364–V/P3384–V/P3346/–V/P3367–V:** External output activation, audio recording to edge storage, play audio clip
Data streaming	Event data
Built-in installation aids	Remote zoom, remote focus, pixel counter

** *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (www.openssl.org)*

45847/EN/R3/1211

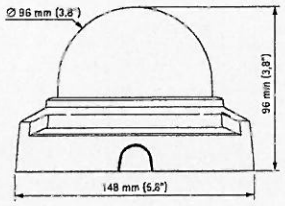
Technical Specifications (cont.) – AXIS P33 Network Camera Series, indoor models

General	
Casing	Polycarbonate transparent cover Aluminum inner camera module with encapsulated electronics Color: White NCS S 1002-B **AXIS P3353/P3354/P3346:** Tamper-resistant polycarbonate casing **AXIS P3363-V/P3364-V/P3384-V/P3346-V/P3367-V:** IK10 impact-resistant casing with aluminum base
Memory	256 MB RAM, 128 MB Flash **AXIS P3367-V:** 512 MB RAM, 128 MB Flash
Power	Power over Ethernet IEEE 802.3af **AXIS P3353/P3354/P3363-V/P3364-V:** Class 2; max 5.9 W **AXIS P3384-V:** Class 2; max 5.9 W **AXIS P3346/-V:** Class 2; max 6.4 W **AXIS P3367-V:** Class 2; max 6.2 W
Connectors	RJ-45 10BASE-T/100BASE-TX PoE **AXIS P3363-V/P3364-V/P3384-V/P3346/-V/P3367-V:** Terminal block for 1 alarm input and 1 output, 3.5 mic/line in, 3.5 mm line out
Edge storage	SD/SDHC/SDXC slot supporting memory card up to 64 GB (card not included) Support for recording to network share (network-attached storage or file server)
Operating conditions	0 °C to 50 °C (32 °F to 122 °F) Humidity 10 - 85% RH (non-condensing)
Approvals	EN 55022:2006+A1 Class B, EN 55024, EN 61000-6-1, EN 61000-6-2, EN/IEC/UL 60950-1, FCC Part 15, Subpart B Class B, ICES-003 Class B digital, VCCI, ITE, C-tick AS/NZS CISPR 22, KN 22, KN 24, AS/NZS CISPR 22, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-64, IEC 60068-2-78 **AXIS P3363-V/P3364-V/P3384-V/P3346-V/P3367-V:** IEC 62262 IK10
Included accessories	Installation Guide, Installation and Management Software CD, Windows decoder 1-user license, smoked transparent cover **AXIS P3363-V/P3364-V/P3384-V/P3346/-V/P3367-V:** Connector kit

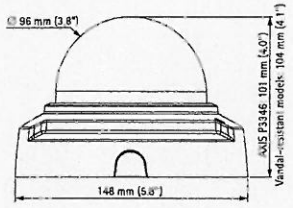
More information is available at www.axis.com

Dimensions and weight – AXIS P33 Network Camera Series, indoor models

AXIS P3353 and AXIS P3354
Weight: 430 g (0.9 lb.)
AXIS P3363-V/P3364-V
Weight: 650 g (1.4 lb.)



AXIS P3346
Weight: 490 g (1.1 lb.)
AXIS P3384-V/P3346-V/P3367-V
Weight: 700 g (1.6 lb.)



Accessories – AXIS P33 Network Camera Series, indoor models

Optional accessories for indoor models

IP51-rated drop-ceiling mount kit with transparent or smoked cover

Mounting bracket

Pendant adapter kit

AXIS T91A Brackets

Video management software

AXIS Camera Companion (included), AXIS Camera Station and video management software from Axis' Application Development Partners (not included). For more information, see www.axis.com/products/video/software

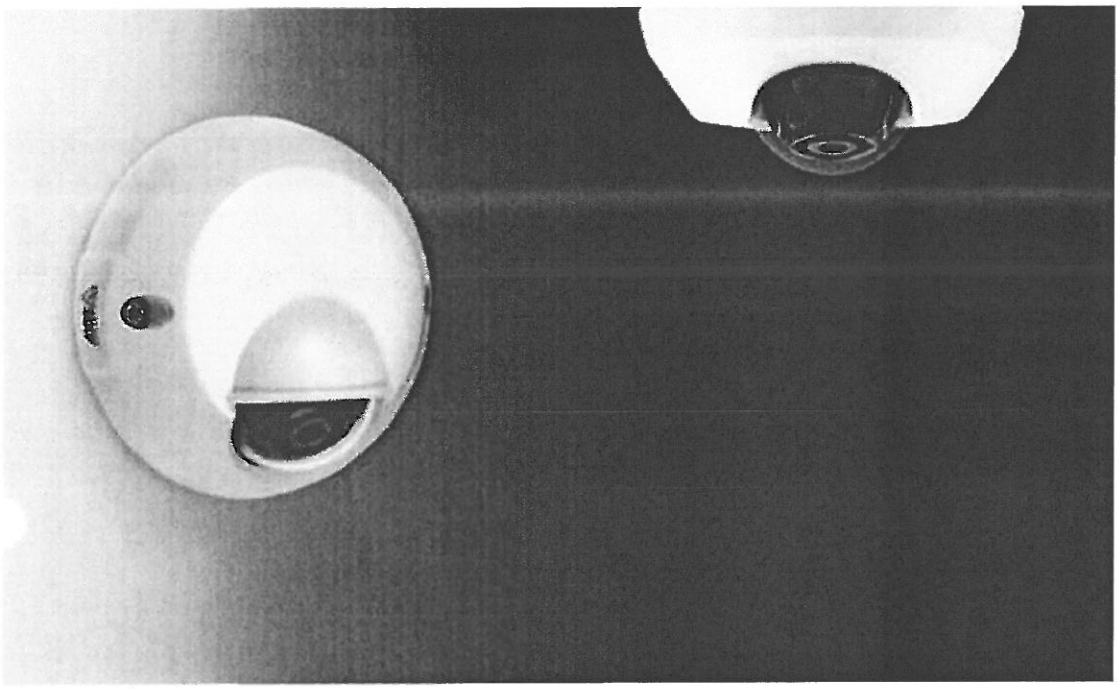
AXIS COMMUNICATIONS

AXIS COMMUNICATIONS

DATASHEET

AXIS M31-VE Network Camera Series

Affordable and ultra-discreet outdoor fixed domes.



- > Flat, discreet design
- > Excellent video quality including HDTV 720p and H.264
- > Vandal resistant
- > Tampering alarm
- > Quick installation including Power over Ethernet

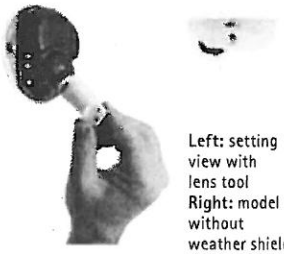
The palm-sized AXIS M31-VE Network Cameras are cost-effective, ultra-discreet fixed domes for monitoring outdoor entrance areas of stores, restaurants, hotels, banks and offices.

Designed for placement near the entrance of buildings, AXIS M31-VE cameras are encased in a UV-resistant casing with a weather shield and have protection against rain, snow, sun and dust. They can operate in temperatures from 50 °C (122 °F) down to -20 °C (-4 °F). The cameras are also vandal-resistant and can detect tampering attempts such as blocking or spray-painting.

Providing excellent quality video at full frame rate, the camera series consists of AXIS M3113-VE with SVGA resolution and AXIS M3114-VE, which supports 1 megapixel and HDTV 720p. Models without the weather shield, which provide a greater tilt range, are suitable for ceiling-mount installations where the shield is not required, such as in a cold storage room or under a porch.

AXIS M31-VE cameras are designed for quick installation. The desired viewing direction and a leveled image can be easily achieved by using the supplied lens tool. The tool can also be used to exchange and focus the lens when a lens with a different angle of view is required.

The cameras provide a pixel counter for verifying that the pixel resolution of an object meets specific requirements. Power over Ethernet support further simplifies installation since only one cable is needed for carrying power and video.



Left: setting view with lens tool
Right: model without weather shield

HDTV NETWORK VIDEO

ONVIF

www.axis.com

44157/EN/R2/1207

Technical specifications – AXIS M31-VE Network Camera Series

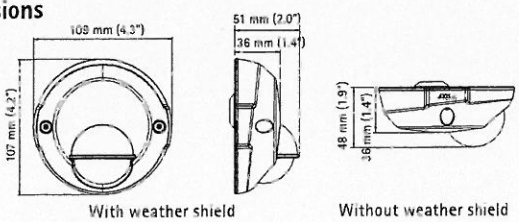
Camera	
Models	AXIS M3113-VE: SVGA resolution, weather shield, 2.9 mm lens AXIS M3113-VE Nocap: SVGA, no weather shield, 2.9 mm lens **AXIS M3114-VE: 1 MP, weather shield, 2.9 mm lens** AXIS M3114-VE Nocap: 1 MP, no weather shield, 2.9 mm lens AXIS M3114-VE Nocap 2 mm: 1 MP, no weather shield, 1.97 mm lens
Image sensor	1/4" progressive scan RGB CMOS
Lens	M12 mount, fixed iris, megapixel resolution AXIS M3113-VE/Nocap: 2.9 mm, 66° view*, F2.0 AXIS M3114-VE/Nocap: 2.9 mm, 80° view*, F2.0 AXIS M3114-VE Nocap 2 mm: 1.97 mm, 105° view*, F3.0 *horizontal angle of view
Light sensitivity	AXIS M3113-VE/Nocap, AXIS M3114-VE/Nocap: 1 - 100000 lux, F2.0 AXIS M3114-VE Nocap 2 mm: 1 - 100000 lux, F3.0
Shutter time	1/24 500 s to 1/6 s
Camera angle adjustment	AXIS M31-VE: Pan ± 30°, tilt 0° - 65°, rotation ± 180° AXIS M31-VE Nocap: Pan ± 30°, tilt 0° - 90°, rotation ± 180°
Video	
Video compression	H.264 (MPEG-4 Part 10/AVC) Motion JPEG
Resolutions	AXIS M3113-VE/Nocap: 800x600 to 160x90 AXIS M3114-VE (all models): 1280x800* to 160x90 *1440x900 (1.3 MP) scaled resolution available via VAPIX®
Frame rate H.264/Motion JPEG	30 fps in all resolutions
Video streaming	Multiple, individually configurable streams in H.264 and Motion JPEG Controllable frame rate and bandwidth VBR/CBR H.264
Pan/Tilt/Zoom	Digital PTZ, preset positions, guard tour
Image settings	Compression, color, brightness, sharpness, contrast, white balance, exposure control, exposure zones, backlight compensation, wide dynamic range - dynamic contrast, fine tuning of behavior at low light, mirroring of images Rotation: 0°, 90°, 180°, 270°, including Corridor Format Text and image overlay, privacy mask
Network	
Security	Password protection, IP address filtering, digest authentication, HTTPS encryption**, IEEE 802.1X**, user access log
Supported protocols	IPv4/v6, HTTP, HTTPS**, SSL/TLS**, QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP™, SNMPv1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS

System integration	
Application Programming Interface	Open API for software integration, including VAPIX® and AXIS Camera Application Platform; specifications at www.axis.com ONVIF, specifications at www.onvif.org AXIS Video Hosting System (AVHS) with One-Click Camera connection
Intelligent video	Video motion detection, active tampering alarm, AXIS Camera Application Platform
Event triggers	Intelligent video
Event actions	File upload: FTP, HTTP, network share and email; notification: email, HTTP and TCP; external output activation; video recording to edge storage; pre- and post-alarm video buffering
Data Streaming	Event data
Built-in installation aids	Pixel counter
General	
Casing	IP66-, IP67- and NEMA 4X-rated, IK08 impact-resistant aluminum and polycarbonate casing; dehumidifying membrane; captive screws AXIS M31-VE: with weather shield AXIS M31-VE Nocap: without weather shield
Memory	128 MB RAM, 128 MB Flash
Power	Power over Ethernet IEEE 802.3af Class 1, max. 3.2 W
Connectors	Male RJ-45 10BASE-T/100BASE-TX PoE on a 3 m (9.8 ft.) network cable
Edge storage	Support for recording to network share (Network Attached Storage or file server)
Operating conditions	-20 °C to 50 °C (-4 °F to 122 °F) Humidity 15 - 100% RH (condensing)
Approvals	EN 55022 Class B, EN 60950-22, EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2, EN 55024, ICES-003 Class B, FCC Part 15 Subpart B Class B, VCCI Class B C-tick AS/NZS CISPR 22, EN 60950-1 IEC 60721-3-4 Class 4K3 (temperature range -20°C to 50°C) IEC 60529 IP66/IP67, NEMA 250 Type 4X IEC 62262 Class IK08
Weight	330 g (0.73 lb.)
Included accessories	Lens tool, top cover tool, drill hole template, mounting adapter, Installation Guide, Installation and Management Software CD, Windows decoder 1-user license

***This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (www.openssl.org)*

More information is available at www.axis.com

Dimensions



With weather shield | Without weather shield

Included accessories (see further details in the table above)

Lens tools
- For 2.9 mm and optional lenses
- For 2 mm lens

Top cover tool

Adapter for surface cable mounting

Optional accessories

M12 mount lenses (not applicable for AXIS M3114-VE Nocap 2 mm)

AXIS T90A White LED Illuminators

AXIS T8414 Installation Display

AXIS Camera Companion (included), AXIS Camera Station and video management software from Axis' Application Development Partners (not included). For more information, see www.axis.com/products/video/software

AXIS COMMUNICATIONS

28 23 00 – SECURITY CAMERA MODEL and APPLICATION CHART – ATTACHMENT B

AXIS Cameras Based on Application

Interior Entry Ways, Lobbies, Doors, and High Glass Vestibules (Built-in Microphones)

MARK	PART #	MODEL #	RESOLUTION	MIC/NO MIC	FOV DEGREE	BEST USE
A	WCPS0586-001-KIT	P3365-V	1080P		100	High Light Glass, Doors, Entries, Office Camera with MIc
A1	WCPS0954-001-KIT	P3225-LV MK II	1080P	NO MIC	92	Indoor Extreme High Light Capable and IR for Low Light Applications to 100’

Long Hallways, Wide Views, and 4 way Intersections – Perfect in Normal Lighting Conditions (No High Glass Vestibules or entry ways) No Microphone

MARK	PART #	MODEL #	RESOLUTION	MIC/NO MIC	FOV DEGREE	BEST USE
B	WCPS0804-001-KIT	M3045-V	1080P	NO MIC	106	106 degree Wide shot – Corridors and short halls effective with natural light, face toward door
C	WCPS0806-001-KIT	M3046-V	4MP	NO MIC	128	136 degree Wide shot, NOT effective if point at natural light, face away from door
D	WCPS0515-001-KIT	M3007-PV	5MP	NO MIC	180/360	180/360 degree – Media centers, Cafeterias, Intersections
E	WCPS0548-001-KIT	M3037-PVE	5MP	NO MIC	180/360	180/360 degree – Outdoor Day/Night Lighting for outdoor Intersections, provide with heater

Outdoor Wide Area Coverage 180/360 or Small Area in Normal or Low Light IR included (Not recommended for High Glass Vestibules, Entry Ways, Microphone Applications)

MARK	PART #	MODEL #	RESOLUTION	MIC/NO MIC	FOV DEGREE	BEST USE
F	WCPS0556-001-KIT	M3027-PVE	5MP	NO MIC	180/360	Outdoor under awnings, Parking Deck, 180 Degree

Outside Cameras High Resolution, or Low Light Areas Like Parking, Playgrounds, Boiler Areas, Doors

MARK	PART #	MODEL #	RESOLUTION	MIC/NO MIC	FOV DEGREE	BEST USE
G	WCPS0874-001-KIT	Q3505-VE MK2	2MP	NO MIC	105	WDR – Forensic Capture – High Light and Low Light Application

MARK	PART #	MODEL #	BEST USE
H	WCPS5504-821	T91D61	WALL MOUNT, USE WITH ALL EXTERIOR CAMERAS

32 10 00 - ATTACHMENT A – WESTERN WAKE COUNTY TRIASSIC BOUNDRY MAP