



SECTION 13712

VIDEO INTERCOM SYSTEM

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Hands-free/Handset color video intercom security system.

1.2 RELATED SECTIONS

- A. Section 16050 - Basic Electrical Materials and Methods.

1.3 REFERENCES

- A. American National Standards Institute (ANSI/TIA/EIA) 568 - Commercial Building Telecommunications Cabling Standard.
- B. International Organization for Standards (ISO) 9001:2000 - Quality Management Systems - Requirements.

1.4 SYSTEM DESCRIPTION

- A. The JM Series shall provide a large 7-inch (180 mm) touch screen monitor for clear visitor identification and easy operation control. The JM Series shall be installed at a maximum of 4 door locations and connected to a maximum of 8 inside locations with internal communication between stations. Connection to and integration of CCTV cameras for surveillance capabilities shall be available.
 - 1. The system shall be hard wired and constructed with a 2-wire communication system for the door stations and a Cat5e/6 communication system for the video locations system.
 - 2. Hearing Assistance: Provide T-Coil connection for hearing aids.
- B. Functional Components: As indicated on the drawings or as required to complete system.
 - 1. Master Station.
 - a. JM-4MED: Hands-free/Handset color video intercom master station.
 - 2. Sub Master Station:
 - a. JM-4HD: Hands-free/Handset color video intercom sub master station.
 - 3. Video Door Station:
 - a. JK-DA: PanTilt & Zoom video door station, surface mount.
 - b. JK-DV: PanTilt & Zoom vandal-resistant video door station, surface mount.
 - c. JK-DVF: PanTilt & Zoom vandal-resistant video door station, flush mount.
 - d. JM-DVF-AC: PanTilt & Zoom vandal-resistant video door station with

- access control keypad, flush mount.
- 4. Door Station:
 - a. GT-D: Audio only door station.
- 5. Long Distance/CCTV Adaptor:
 - a. JMW-BA: Long distance/CCTV adaptor.
- 6. Distribution Adaptor:
 - a. JM-8Z: Distribution adaptor.
- 7. Power Supply:
 - a. PS-2420UL: 24V DC Power supply.
- 8. Call Extension Speaker:
 - a. IER-2: Call extension speaker.
- 9. External Devices:
 - a. RY-3DL: Multiple door release adaptor.
 - b. AC-10S: Access control keypad, surface mount.
 - c. JK-DV + AC-10S: PanTilt & Zoom vandal-resistant video door station. Surface mounted with access control keypad.

C. System Design: Unless noted otherwise on drawings provide system layout as follows. Three wiring methods are possible; Station-to-Station, Centralized Wiring, or Combined Wiring, where both methods are employed in the same system.

1. Provide Station-to-Station Wiring: Directly connect a master station to a sub master station.
 - a. Maximum distance of farthest sub master from master station: 980 feet (300 m), cumulative.
 - b. Maximum distance between sub master stations in station-to-station wiring: 98 feet (30 m) when 3 stations are powered off 1 power supply, or 165 feet (50 m) when 2 stations powered off of 1 power supply.
2. Provide Centralized Wiring: Connect master stations, and sub master stations to a central wiring adaptor.
 - a. Maximum distance of farthest sub master from distribution adapter (JM-8Z): 165 feet (50 m).
 - b. Maximum distance of master from distribution adapter (JM-8Z): 650 feet (200 m).
 - c. Maximum cumulative distance of master and sub masters from distribution adapter (JM-8Z): 980 feet (300m).
3. Provide Combined Wiring: Connect a system using both station-to-station and centralized wiring to meet the requirements of the project.
 - a. Maximum distance between sub master stations in station-to-station wiring: 98 feet (30 m) when 3 stations are powered off 1 power supply, or 165 feet (50 m) when 2 stations powered off of 1 power supply.
 - b. Maximum distance of sub masters from distribution adapter (JM-8Z): 165 feet (50 m).
4. Provide Expanded Performance:
 - a. The wiring distance between the door and master stations by using the JMW-BA adaptor shall be a maximum distance of 980 feet (300 m).
 - b. Connect CCTV and Audio Door Station: Provide security camera connection using the JMW-BA adaptor. Provide for two way communication as indicated or scheduled with a GT-D audio device.
 - c. Alarm Inputs: The master station and all sub master stations shall send out an alarm notification when the sensor is triggered. Provide door/window contacts, water sensors, and PERS devices as indicated or scheduled.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Submit the following:
 - 1. Wiring Diagrams: Indicate wiring for each item of equipment and interconnections between items of equipment.
 - 2. Include manufacturer's names, model numbers, ratings, power requirements, equipment layout, device arrangement, complete wiring point-to-point diagrams, and conduit layouts.
- D. Installation and Operation Manuals:
 - 1. Submit manufacturer's installation and operation manual, including operation instructions and component wiring diagrams.
 - 2. Provide detailed information required for Owner to properly operate equipment.
- E. Warranty: Submit manufacturer's standard warranty.
- F. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- G. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: ISO 9001:2008 certified company.
- B. Installer Qualifications: Factory trained and experienced with system installations of scope and size required for the Project.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.
- C. Handling: Protect materials during handling and installation to prevent damage.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Aiphone Corp., which is located at: 1700 130th Ave. N. E. ; Bellevue, WA 98005; Toll Free Tel: 800-692-0200; Tel: 425-455-0510; Fax: 425-455-0071; Email: [request info \(info@aiphone.com\)](mailto:info@aiphone.com); Web: www.aiphone.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 HANDS-FREE/HANDSET COLOR VIDEO INTERCOM SYSTEM

- A. Color Video Intercom System: JM Series Intercom System as manufactured by Aiphone Corporation.
- B. Room Master Station: JM-4MED 7 inches (180 mm) Digital PTZ Video Master Station with Memory.
 - 1. The JM Series shall accommodate up to 4 Door Stations and 8 Master Stations in a single system.
 - 2. Provide icon driven One Touch Hands Free operation. Touch the screen to communicate with visitors using the built-in microphone and speaker or use the handset at any time during conversation for privacy.
 - 3. Operation: From Master Station. Provide the following.
 - a. Room Call: Touch screen icon to call a single sub master station or all sub master stations simultaneously.
 - b. Play: Touch screen icon to play recorded images from door stations.
 - c. Settings: Touch screen icon to program settings and adjustments.
 - d. Security: Touch screen icon to activate the security mode or to change security settings.
 - e. Monitor: Touch screen icon to monitor a door station or sub master station.
 - f. Option: Touch screen icon to activate the connected external device(s).
 - 4. Available Functions During Monitoring: Provide the following.
 - a. Pan-Tilt-Zoom/Wide camera control.
 - b. When monitoring is started, an image shall be shown in wide mode. Pan & Tilt and adjusting images shall be possible from the Master Station.
 - c. Door release shall be possible from the Master Station.
 - d. Volume control shall be possible from the Master Station.
 - e. Manual recording shall be possible from the Master Station.
 - f. If a CCTV camera is connected instead of a video door station at entrance, provide audio monitoring and communication via the GT-D.
 - 5. Physical Characteristics:
 - a. Power supply: DC 24V (from power supply).
 - b. Current Consumption: 390 mA.
 - c. Communication: Handset - Simultaneous communication.
 - d. Communication: Hands-free - Auto-voice actuation.
 - e. Ambient Temperature 32 degree F to 104 degree F (0 to 40 degrees C).
 - f. Monitor: 7 inches (180 mm) color LCD monitor.
 - g. Mounting: Wall mount.
 - h. Electrical box: 3-gang box
 - i. Material: Flame resistant ABS resin.
 - j. Color: White.
 - k. Dimensions: 5-11/16 inches H x 10-1/16 inches W x 1-7/8 inches D (145 mm by 255 mm by 48 mm).

- l. Weight: Approx. 1.74 lbs (790 g).
- C. Room Station (Sub Master Station): JM-4HD.
 - 1. Provide icon driven One Touch Hands Free operation. Touch the screen to communicate using the built-in microphone and speaker or use the handset at any time during conversation for privacy.
 - 2. Physical Characteristics:
 - a. Power supply: DC 24V (from power supply).
 - b. Current Consumption: 200 mA.
 - c. Communication: Handset - Simultaneous communication.
 - d. Communication: Hands-free - Auto-voice actuation.
 - e. Ambient Temperature: 32 degree F to 104 degrees F (0 to 40 degrees C).
 - f. Monitor: 7 inch color LCD monitor.
 - g. Electrical box: 3-gang box.
 - h. Material: Flame resistant ABS resin.
 - i. Color: White.
 - j. Dimensions: 5-11/16 inches H x 10-1/16 inches W x 1-7/8 inches D (145 mm by 255 mm by 48 mm).
 - k. Weight: Approx. 1.74 lbs (790 g).
- D. Door/Entrance Station: JK-DA/JK-DV (JK-DVF/JK-DVF-AC)
 - 1. The JM-4MED shall automatically record images. Recording starts approximately 2 seconds after receiving a call.
 - 2. 170 degree wide angle and 100 degree vertical angle camera to minimize blind spots, ensuring a clear view of the door station area.
 - 3. Zoom for Clarity/ Pantilt for Control:
 - a. Video door stations feature a wide angle camera to observe more activity behind the door. In addition, digital PanTilt and Zoom can focus on an area for greater detail.
 - b. Oversized buttons and intuitive icons allow for quick navigation and control. Conventional push buttons shall not be permitted.
 - c. Equipped with an advanced light adjustment feature to compensate for varying light levels. If a picture is too dark, increase of the brightness level at the door station shall be controlled at the master station.
 - 4. Record Images of Visitors:
 - a. After a call is placed, the JM Series records 6 images per call to internal memory.
 - b. Provide an SD / SDHC card (not included) as the primary storage location, with which recording frequency increases to 4 pictures per second for up to 10 seconds per call.
 - c. Provide documentation of outside disturbances by manually recording them at any time.
 - 5. Physical Characteristics:
 - a. Operating Temperature: 14 degrees F to 140 degrees F (-10 to 60 degrees C).
 - b. Dimensions:
 - 1) JK-DA 5-1/8 inches x 3-7/8 inches x 1-9/16 inches (131 x 99 x 40 mm).
 - 2) JK-DV 6-13/16 inches x 3-7/8 inches x 1 inch (173 x 98 x 25 mm).
 - 3) JK-DVF 8-1/4 inches x 5-5/16 inches x 7/32 inch (209 x 135 x 5.5 mm).
 - 4) JK-DVF back box 7-3/32 inches x 4-3/8 inches x 1-25/32 inches (180 x 110 x 45 mm)
 - c. Power Supply: DC 24V (from master station).

- d. Current Consumption: 90 mA.
 - e. Mounting:
 - 1) JK-DA: Surface mount to 2x4 electrical box.
 - 2) JK-DV: Surface mount direct to surface.
 - 3) JK-DVF: Flush mount with included back box.
 - f. Weight:
 - 1) JK-DA: 0.46 lbs (210g).
 - 2) JK-DV: 1.3 lbs (550g).
 - 3) JK-DVF: 1.2 lbs (550g).
 - 4) Back Box: 0.95 lbs (430g).
- E. Power Supply: PS-2420UL, 24V DC Power supply.
- F. Call Extension Speaker: IER-2, Call extension speaker
- G. External Devices:
 - 1. RY-3DL: Multiple (3) door release adaptor.
 - 2. AC-10S: Access control keypad, surface mount.
 - 3. JK-DV + AC-10S: PanTilt & Zoom vandal-resistant video door station. Surface mounted with access control keypad.
- H. Long Distance Adaptor: JMW-BA
 - 1. Power Supply: DC 24V (from power supply)
 - 2. Current Consumption: 90 mA
 - 3. Operating Temperature: 32 degree F to 104 degrees F (0 to 40 degrees C).
 - 4. Mounting: Wall-mount
 - 5. Weight: Approx. 7 oz (200 g).
- I. Distribution Adaptor: JM-8Z.
 - 1. Power Supply: DC 24V (from power supply)
 - 2. Current Consumption: 90 mA
 - 3. Operating Temperature: 32 degree F to 104 degrees F (0 to 40 degrees C).
 - 4. Mounting: Wall-mount.
 - 5. Weight: Approx. 7.5 oz (210 g).

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive integrated security and communication system.
- B. Notify Architect of conditions that would adversely affect installation or subsequent use.
- C. Do not begin installation until unacceptable conditions are corrected.

3.2 PREPARATION

- A. Verify the following compliance before starting installation.
 - 1. All units, except for the entrance station and tenant door station, are designed for indoor use only. Do not use outdoors.
 - 2. The unit turns inoperative during power failure.
 - 3. In areas where broadcasting station antennas are close by, intercom system may be affected by radio frequency interference.
 - 4. Keep the intercom wires at least 1 foot (30 cm) away from strong electrical wiring (AC 100-240 V) including, in particular, wiring for inverter electrical appliances. Noise and malfunction could result.

5. Keep the unit more than 3.3 feet (1 m) away from radio or TV set.
6. If a strong light shines on the main unit screen, the picture may turn white or only silhouettes will be visible.
7. Other manufacturer's devices (such as sensor, detectors, door releases) used with this system, comply with the manufacturer's installation requirements.
8. The LCD panel is manufactured with very high precision techniques, inevitably will have a very small portion of its picture elements always lit or not lit at all. This is not considered a unit malfunction. Please be aware of this in advance.

3.3 INSTALLATION

- A. Install integrated security and communication system in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Mount equipment plumb, level, square, and secure. For video entrance stations and video door stations, comply with manufacturer's design requirements to provide optimum picture quality of station monitoring.

3.4 SET-UP AND ADJUSTING

- A. Adjust integrated security and communication system for proper operation in accordance with manufacturer's instructions.

3.5 DEMONSTRATION AND TRAINING

- A. Demonstration:
 1. Demonstrate that integrated security and communication system functions properly.
 2. Perform demonstration at final system inspection by qualified representative of manufacturer.
- B. Instruction and Training:
 1. Provide instruction and training of Owner's personnel as required for operation of integrated security and communication system.
 2. Provide hands-on demonstration of operation of system components and complete system, including user-level program changes and functions.
 3. Provide instruction and training by qualified representative of manufacturer.

3.6 PROTECTION

- A. Protect installed integrated security and communication system from damage during construction.

END OF SECTION