



## **KB Series**

Video Intercom and  
Access Control System

Architectural and Engineering  
Specifications

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## Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition*.

The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" after editing this section.

Section numbers are from *MasterFormat 1995 Edition*, with numbers from *MasterFormat 2004 Edition* in parentheses. Delete version not required.

### SECTION 13710 (28 13 00)

#### VIDEO INTERCOM AND ACCESS CONTROL SYSTEM

Specifier Notes: This section covers Aiphone Corporation "KB Series" color-tilt video entry system. Consult Aiphone Corporation for assistance in editing this section for the specific application.

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Color-tilt video entry system.

##### 1.2 RELATED SECTIONS

Specifier Notes: List numbers and titles of sections with work directly related to this section.

- A.

##### 1.3 REFERENCES

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

- A. ISO 9001:2008 – Quality Management Systems – Requirements.

#### 1.4 SYSTEM DESCRIPTION

Specifier Notes: Edit the system description and system operation as required for the project. Consult Aiphone Corporation for more information.

- A. System Description: Audio-video entry security intercom system supporting a maximum of 3 color video door stations and a maximum of 5 room stations with monitor with tilt camera control.
- B. Door Station Call-In:
  - 1. Press CALL button at a door station.
  - 2. At all room stations, chime tone sounds and image comes on.
  - 3. Move door station camera with TILT control button, if necessary.
  - 4. Lift handset on any room station.
  - 5. When finished, replace handset. Image turns off.
  - 6. Calling Inside with Direct Voice:
    - a. Momentarily depress CALL button on door station.
    - b. Speak toward video door station. After chime tone sounds, start speaking.
    - c. Inside room, after chime tone sounds and monitor shows image, outside voice audio is heard.
- C. Monitoring Door Station:
  - 1. While in standby, press MONITOR button.
  - 2. Both audio and image of door station 1 turn on for approximately 30 seconds.
  - 3. Move door station camera vertically, pressing either top or bottom edge of TILT control button.
  - 4. Press MONITOR button to view door station 2.
  - 5. Press MONITOR button third time to view door station 3.
  - 6. Press MONITOR button to end monitoring.
  - 7. When Another Room Station Calls-In During Monitoring:
    - a. View and hear door stations 1 to 3 hands free.
    - b. Room call-in starts with pre-tone, double tone for selective call or single tone for all call, ending monitoring mode.
    - c. Lift handset to connect with calling room station.
  - 8. When Another Door Station Calls-In During Monitoring:
    - a. While one door station is being viewed on monitor, another door station calls in.
    - b. When door station calls, chime is heard, and image changes to that of calling door station.
    - c. Lift handset to reply to door station.
- D. Internal Communication:
  - 1. Calling by Selective Call:
    - a. Lift handset and press a station selector button. ALL CALL button turns on.
    - b. Call by voice and communicate when called person replies hands free.
  - 2. Calling by All Call:

- a. Lift handset and press ALL CALL button. ALL CALL button flashes red.
- b. Call by voice and communicate when called person picks up to reply. ALL CALL button turns on.
- 3. Answering Selective Call:
  - a. Double pre-tone sounds and caller's voice is heard. ALL CALL button is steadily lit.
  - b. Without lifting handset, reply toward station microphone.
  - c. When conversation is complete, calling station hangs up handset.
- 4. Answering All Call:
  - a. Single pre-tone sounds and caller's voice is heard. ALL CALL button flashes.
  - b. Pick up handset on any station, as needed. ALL CALL button is steadily lit.
- 5. Receiving Door Station Call During Internal Communication:
  - a. Chime tone is heard through handset being used and image comes on.
  - b. Hang up both handsets to end internal communication.
  - c. Answering station picks up again to answer door station.

E. Transferring Door Station Call:

- 1. Transferring:
  - a. While communicating with door station, press selector button or ALL CALL button. Call-in LED begins flashing.
  - b. Call by voice and hear response from other door station. Inside audio cannot be heard at door station.
  - c. First person hangs up handset after transferring call to second person.
  - d. Transferred station presses MONITOR button to connect to door station. Door station call-in LED is steadily lit.
- 2. Receiving Transferred Call:
  - a. Sounds double pre-tone for selective call or single pre-tone for all call sounds and voice comes in.
  - b. Lift handset and okay to answer door station.
  - c. Holding handset, press MONITOR button to connect with door station.
- 3. Activating Door Strike:
  - a. When door station calls, pick up any handset to reply.
  - b. While channel is established, depress and hold down DOOR RELEASE button.

## 1.5 SUBMITTALS

- A. Comply with Section 01330 (01 33 00) – Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including installation instructions.
- 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.

## **1.6 QUALITY ASSURANCE**

- A. Manufacturer's Qualifications: ISO 9001:2008 certified company.

## **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 WARRANTY**

Specifier Notes: Aiphone Corporation warrants the KB Series color-tilt video entry system for two years from the date of Substantial Completion. Aiphone will warrant the KB Series for one additional year when Aiphone cable is used. Refer to the first Specifier Note in the Accessories article of this section.

Consult Aiphone Corporation for more information.

- A. Warranty Period: [Two] [Three] years from date of Substantial Completion.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURER**

- A. Aiphone Corporation, 1700 130th Avenue NE, Bellevue, Washington 98005. Toll Free (800) 692-0200. Phone (425) 455-0510. Fax (425) 455-0071. Website [www.aiphone.com](http://www.aiphone.com). E-mail [info@aiphone.com](mailto:info@aiphone.com).

### **2.2 VIDEO INTERCOM AND ACCESS CONTROL SYSTEM**

- A. Color-Tilt Video Entry System: Aiphone "KB Series".
- B. Master Station with Monitor: Model KB-3MRD.
  - 1. Description: Audio-video entry security intercom.
  - 2. Supports:
    - a. 3 color video door stations.
    - b. 5 room stations with monitor with TILT camera control.
  - 3. Power: 24 V DC, supplied by Model PS-2420UL, 1 per 2 monitors.
  - 4. Current Consumption:
    - a. Maximum: 860 mA.
    - b. Standby: 220 mA.
  - 5. Call-in from Door Stations:
    - a. Door Station 1: 4-stroke chime.

- b. Door Station 2: 2-stroke chime.
- c. Door Station 3: Fast 8-stroke chime.
- d. Pre-tone and voice for internal call, with adjustable volume.
- 6. Communication:
  - a. Simultaneous with handset.
  - b. Handset by initiating caller with hands-free reply from room station internally called.
- 7. Power switch.
- 8. Handset.
- 9. Microphone.
- 10. Speaker.
- 11. Video Monitor:
  - a. 4-inch direct-view TFT color LCD.
  - b. Scanning Lines: 525.
- 12. ALL CALL button.
- 13. MONITOR Button: Instantly turns on audio and video of door station, to monitor hands free, or to extend while communicating.
- 14. Station selector button.
- 15. Door release button.
- 16. Tilt Control Button: Move door camera vertically from 0 degrees to approximately 40 degrees.
- 17. Door call-in LED 1, 2, 3.
- 18. Screen brightness control.
- 19. Monitor Control: Adjust audio monitor volume of door station.
- 20. TONE Control Button: Adjusts chime tone and receive volumes.
- 21. Housing: ABS plastic.
- 22. Color: White.
- 23. Operating Temperature: 32 degrees F to 104 degrees F (0 degrees C to 40 degrees C).

Specifier Notes: Specify required sub master station models. Delete sub master station models not required.

- C. Sub Master Station with Monitor: Model KB-3HRD.
  - 1. Description: Audio-video sub room station.
  - 2. Supports: Maximum of 4 units per system, daisy chained from Model KB-3MRD.
  - 3. Power: 24 V DC.
  - 4. Current Consumption:
    - a. Maximum: 410 mA.
    - b. Standby: 80 mA.
  - 5. Call-in from Door Stations:
    - a. Door Station 1: 4-stroke chime.
    - b. Door Station 2: 2-stroke chime.
    - c. Door Station 3: Fast 8-stroke chime.
    - d. Pre-tone and voice for internal call, with adjustable volume.
  - 6. Communication:
    - a. Simultaneous with handset.
    - b. Hands-free simultaneous at room station internally called.
  - 7. Power switch.
  - 8. Handset.
  - 9. Microphone.

10. Speaker.
11. Video Monitor:
  - a. 4-inch direct-view TFT color LCD.
  - b. Scanning Lines: 525.
12. ALL CALL button.
13. MONITOR Button: Instantly turns on audio and video of door station, to monitor hands free, or to extend while communicating.
14. Station selector button.
15. Door release button.
16. Tilt Control Button: Move door camera vertically from 0 degrees to approximately 40 degrees.
17. Door call-in LED 1, 2, 3.
18. Screen brightness control.
19. Monitor Control: Adjust audio monitor volume of door station.
20. TONE Control Button: Adjusts chime tone and receive volumes.
21. Housing: ABS plastic.
22. Color: White.
23. Operating Temperature: 32 degrees F to 104 degrees F (0 degrees C to 40 degrees C).

D. Audio Sub Master Station: Model KB-3SD.

1. Description: Audio-only sub handset intercom.
2. Power, Approximate: 22 V DC, supplied by master station.
3. Current Consumption:
  - a. Maximum: 85 mA.
  - b. Standby: 50 mA.
4. Communication:
  - a. Simultaneous with handset.
  - b. Hands-free, simultaneous reply for internal call.
5. Privacy setting.
6. Handset.
7. Microphone.
8. Speaker.
9. ALL CALL Button:
  - a. Activates other station speakers with pre-tone and voice.
  - b. Button lights when function is operated.
10. Door Release Button:
  - a. Activates door strike at communicating door station.
  - b. Button lights when function is operated.
11. Door Call-in LED: Flashes when door station calls.
12. Volume Control Button: Adjusts chime tone and receive volumes.
13. Mounting: Single-gang surface mount.
14. Housing: ABS plastic.
15. Operating Temperature: 32 degrees F to 104 degrees F (0 degrees C to 40 degrees C).

E. Color-Tilt Video Door Station: Model KB-DAR.

1. Mounting: Single-gang surface mount.
2. Connect maximum of 3 per system.
3. Power, Approximate:
  - a. Maximum: 22 V DC, supplied by master station.
  - b. Standby: 12 V DC.

4. Current Consumption, Approximate:
  - a. Maximum: 260 mA.
  - b. Standby: 5 mA.
5. Communication: Simultaneous in open voice.
6. Microphone.
7. Speaker.
8. Camera: 1/4-inch color CCD.
9. Night Viewing:
  - a. Maximum of 1 foot (30 cm) in front of camera: White LED light projects maximum of 1 foot (30 cm) away.
  - b. Background over 1 foot (30 cm): Cannot be seen.
10. CALL button with locator LED.
11. Tamper-proof screw cover.
12. Weather resistant.
13. Housing: ABS plastic.
14. Color: Gray.
15. Operating Temperature: 14 degrees F to 140 degrees F (minus 10 degrees C to 60 degrees C).

F. Color-Tilt Video Door Station with Motion Detector Interface: Model KB-DAR-M.

1. Allows standard motion detector or activation device with normally open contact to be interfaced with door station.
2. When motion detector is tripped, camera shall turn on and chime will be heard at inside monitor stations, indicating there is activity near door station location.
3. Mounting: Single-gang surface mount.
4. Connect maximum of 3 to master station.
5. Power, Approximate:
  - a. Maximum: 22 V DC, supplied by master station.
  - b. Standby: 12 V DC.
6. Current Consumption, Approximate:
  - a. Maximum: 260 mA.
  - b. Standby: 5 mA.
7. Communication: Simultaneous in open voice.
8. Microphone.
9. Speaker.
10. Camera: 1/4-inch color CCD.
11. Night Viewing:
  - a. Maximum of 1 foot (30 cm) in front of camera: White LED light projects maximum of 1 foot (30 cm) away.
  - b. Background over 1 foot (30 cm): Cannot be seen.
12. CALL button with locator LED.
13. Tamper-proof screw cover.
14. Weather resistant.
15. Housing: ABS plastic.
16. Color: Gray.
17. Operating Temperature: 14 degrees F to 140 degrees F (minus 10 degrees C to 60 degrees C).

G. Audio Door Station: Model IF-DA.

1. Mounting: Surface mount to 1-gang box or ring, or directly to wall.
2. Cover: Plastic.
3. Weather resistant.



H. Audio Door Station: Model IE-JA.

Specifier Notes: Specify flush or surface mount.

1. Mounting: [Flush mount in standard 2-gang box] [Surface mount by adding Model SBX-2G].

Specifier Notes: Specify faceplate material.

2. Faceplate: [Stainless steel] [Brass, add ICP-BR panel] [Antique brass, add Model ICP-AB panel].
3. Weather resistant.

I. Audio Door Station: Model IE-SS.

Specifier Notes: Specify flush or surface mount.

1. Mounting: [Flush mount in standard 2-gang box] [Surface mount by adding Model SBX-2G].
2. Faceplate: Stainless steel.
3. Vandal resistant.
4. Weather resistant.

J. Audio Door Station: Model IE-SSR.

Specifier Notes: Specify flush or surface mount.

1. Mounting: [Flush mount in standard 2-gang box] [Surface mount by adding Model SBX-2G].
2. Faceplate: Stainless steel.
3. Call Button: Red mushroom.
4. Vandal resistant.
5. Weather resistant.

K. Accessory Station: Model HID-SS.

1. Card Reader: Embedded "HID ProxPoint Plus".

Specifier Notes: Specify flush or surface mount. When surface mounting Models IE-SS or IE-SSR with Model HID-SS, specify Model SBX-2BH for horizontal mounting or Model SBX-2BV for vertical mounting.

2. Mounting: [Flush mount in standard 2-gang box] [Surface mount by adding Model SBX-2G].
3. Vandal resistant.
4. Weather resistant.

## 2.3 ACCESSORIES

Specifier Notes: Aiphone Corporation has tested and approved the following cables for the KB Series color-tilt video entry system. Since the KB Series transmits its audio and video signals digitally, it is imperative the proper cable is used.

- A. Cables: Install color-tilt video entry system with the following cables, without exception:
  - 1. Aiphone "871802".
  - 2. West Penn "D990".

Specifier Notes: Specify required accessories. Delete accessories not required. Consult Aiphone Corporation for more information.

- B. Call Extension Speaker: Model IER-2.

Specifier Notes: When using electric door strikes not manufactured by Aiphone Corporation, specify door release adaptor Model RY-3DL or Form C door release relay Model RY-24L.

- C. Electric Door Release: Model EL-9S or door strike suitable for door being released.
  - 1. 12 V AC, 350 mA.
- D. Form C Door Release Relay: Model RY-24L.
  - 1. 1 door.
- E. Selective Door Release Relay: Model RY-3DL.
  - 1. Mounting: Single-gang surface mount.
  - 2. Maximum of 3 doors.
- F. Picture Memory Unit: Model KC-32EU.
  - 1. Memory: Maximum 60 images.
  - 2. Power Source: 24 V DC.
- G. Auxiliary Light Control Relay: Model MAW-B.
  - 1. External light turns on when Model KB-DAR call button or inside monitor button is pressed.
  - 2. Power Source: 24 V DC.
- H. 30-Degree Angle Box for Model KB-DAR: Model KAW-D.
  - 1. Mounting: Single-gang surface mount.
- I. Stainless Steel Panel for Model KB-DAR: Model KA-DGR PANEL.
  - 1. Mounting: Single-gang surface mount.
- J. Stainless Steel Flush Mount Kit for Model KB-DAR: Model KA-FSH.
  - 1. Mounting: Flush mount with backbox.
  - 2. Faceplate: Stainless steel.
  - 3. [Weather protection hood.]
- K. Video Modulator Adaptor: Model KBW-M.

1. Converts signal of standard CCTV camera to 2-wire signal, compatible with color-tilt video entry system.
2. Allows use of color camera on video input on color-tilt video entry system, viewable from any monitor in system.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Examine areas to receive color-tilt video entry 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 INSTALLATION**

- A. Install color-tilt video entry system in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Mount equipment plumb, level, square, and secure.
- C. Do not apply joint sealants around door stations.

### **3.3 ADJUSTING**

- A. Adjust color-tilt video entry system for proper operation in accordance with manufacturer's instructions.

### **3.4 DEMONSTRATION AND TRAINING**

- A. Demonstration:
  1. Demonstrate that color-tilt video entry 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 color-tilt video entry 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.

### **3.5 PROTECTION**

- A. Protect installed color-tilt video entry system from damage during construction.

**END OF SECTION**