JKW-IP Adaptor

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 13711 (28 13 00.01)

IP VIDEO INTERCOM ADAPTORS

Specifier Notes: This section covers Aiphone Corporation "JKW-IP" IP video intercom adaptors for use with Aiphone "JK Series" hands-free color video system. Consult Aiphone Corporation for assistance in editing this section for the specific application.

PART 1   GENERAL

1.1   SECTION INCLUDES

   A.   IP video intercom adaptors for use with hands-free color video system.

1.2   RELATED SECTIONS

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

   A.   Section 13710 (28 13 00) – Video Intercom and Access Control System: Aiphone JK Series hands-free color video system.

1.3 REFERENCES

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

1.4 SYSTEM DESCRIPTION – GENERAL

A.   Aiphone JKW-IP IP video intercom adaptors for use with Aiphone JK Series hands-free color video system.

B.   Aiphone JK Series Hands-Free Color Video System: Specified in Section 13710 (28 13 00) – Video Intercom and Access Control System.

C.   Maximum Number of Connected IP Video Intercom Adaptors in System: 20.

D.   Maximum Number of Connected PCs in System: 10.

1.5 SYSTEM DESCRIPTION – PC APPLICATION BASIC OPERATIONS – VIDEO INTERCOM FUNCTIONS

A.   By using PC Application, you can operate the following video intercom functions for video intercom system and synchronized devices (electronic door lock and other connected devices) connected to IP Video Intercom Adaptor.
   1.   Answering call from door station.
   2.   Door release.
   3.   Zoom/Wide, Pan and Tilt.
   4.   Adjust image.
   5.   Room-to-Room Communication: Communication with a master monitor station.
   6.   Entrance monitoring.
   7.   Sensor detection from connected equipment.
   8.   Option output from IP Video Intercom Adaptor.
   9.   Balloon notification.

B.   Answering Call From Door Station:
   1.   When there is a call from door station, call tone sounds and entranceway image is displayed on PC Application screen.
       a.   Corresponding "Adaptor" (IP Video Intercom Adaptor connected to calling door station) enters Selected status.
       b.   In this status, switch image display to Zoom screen/Wide screen by clicking ZOOM/WIDE button.
       c.   Screen is switched when Zoom/Wide or Pan and Tilt is operated from a master monitor station or another PC Application.
       d.   When call timer's set time (about 45 seconds) has elapsed, PC Application returns to standby status.

e. PC Application also returns to standby status when master monitor station answers call from door station.

f. Communication time depends on master monitor station settings.

g. Instant voice call function is not available in PC Application.

h. If check mark is removed from Call Tone in Event Action Settings, call tone will not sound.

i. Screen for image acquisition is displayed until image is displayed on PC Application screen.

j. When system is composed of multiple IP Video Intercom Adaptors, master monitor stations, door stations, and PCs.

    1) All PC Applications are called when there is a call from any door stations in system.

    2) When a master monitor station is communication with PC Application, and a call comes in from door station of master monitor station, only PC Application currently active is called.

k. When the following processes occur one after another, "1 CALL DOOR" and "COMMUNICATION" are displayed alternately in "Status" display section of Expanded Window.

    1) When there is a call from the door station of master monitor station while talking with master monitor station.

    2) When you click "OFF", image from calling door station is displayed and you can click TALK button to start communication.

l. Even if master monitor station does not have recording function, you can record using PC Application.

2. Click TALK button for call from door station.

a. Click TALK button to communicate, even if screen for image acquisition is displayed.

b. Communicate with door station.

c. Priority Transmission:

    1) While TALK button is clicked and held during communication with door station, transmissions from computer take priority.

    2) If TALK button is not clicked and held, it enters hands-free mode.

3. When communication is complete, click OFF button.

a. PC Application returns to standby status.

C. Door Release:

1. While being called from door station, talking, or monitoring, unlock door from PC Application by clicking DOOR RELEASE button on PC Application.

2. Click DOOR RELEASE button.

a. Door is unlocked while button is clicked and held.

b. When unlocked, DOOR RELEASE button turns red.

D. Zoom/Wide, Pan and Tilt:

1. Monitor screen of PC Application can be switched between wide picture and zoom picture.

a. Calling from door station.

b. Entrance monitoring.

c. Communicating with door station.

2. By using Pan and Tilt when zoom picture is displayed, wide picture can be split into 9 images and displayed as 1 picture.

3. Zoom/Wide Switching:

        a.   Click ZOOM/WIDE button when image is displayed on PC Application screen.

        b.   Screen switches between zoom picture and wide picture each time you click ZOOM/WIDE button.

   4.   Pan and Tilt Operation:

        a.   Click PAN AND TILT buttons while zoom picture is displayed.

        b.   Target image is displayed.

        c.   Move image diagonally by clicking PAN AND TILT diagonal buttons.

E.   Adjust Image:

   1.   If image displayed on PC Application screen is difficult to see, adjust image using ADJUST button.

   2.   Adjust backlight during day when bright background makes it difficult to see.

   3.   Make it brighter at night when it is darker.

   4.   If you click ADJUST button again while image is being adjusted, image is returned to status from before adjustments were made.

   5.   Discrimination between day and night is performed automatically by door station.

F.   Room-to-Room Communication (Communication With a Master Monitor Station):

   1.   Mutual calls and communication are possible between PC Application and master monitor station.

   2.   Receiving Call From/Communicating with Master Monitor Station:

        a.   Call Tone sounds when there is a call from master monitor station, and message is displayed in PC Application's MESSAGE display.

            1)   All PC Applications are called when there is a call from any of the master monitor stations in system.

            2)   If check mark is removed from Call Tone in Event Action Settings, call tone will not sound.

            3)   When master monitor station ends room-to-room communication, PC Application returns to standby status. This includes call timeouts.

        b.   When this happens, click TALK button.

            1)   Talk to master monitor station.

        c.   To end communication, click OFF button.

            1)   PC Application returns to standby status.

   3.   Calling/Communicating With Master Monitor Station:

        a.   To call master monitor station from PC Application, call all master monitor stations in system or call one specific master monitor station.

        b.   From "Adaptor" display in Expanded Window, select master monitor station-connected IP Video Intercom Adaptor to call.

        c.   Click CALL button.

            1)   Call master monitor station connected to IP Video Intercom Adaptor selected or call all master monitor stations.

            2)   When you call all master monitor stations, "CALLING TO ANOTHER ROOM ST" is displayed.

        d.   You can communicate when master monitor station starts communication.

            1)   When you are calling all master monitor stations, communicate with master monitor station which starts communication first.

            2)   Other master monitor stations enter standby mode.

        e.   To end communication, click OFF button.

            1)   PC Application returns to standby status.

G.   Entrance Monitoring:

1. Monitor door station from PC Application.
2. From "Adaptor" display in Expanded Window, select one door station-connected IP Video Intercom Adaptor to monitor.
   a. If Adaptor is selected, release it by clicking it again.
3. Click MONITOR button.
   a. Image from door station connected to selected Adaptor is displayed and audio is received.
   b. While monitoring, click TALK button to begin talking.
   c. At night, door station's LED for night illumination lights.
   d. Discrimination between day and night is performed automatically by door station.
4. To finish monitoring, click OFF button.
   a. PC Application returns to standby status.
   b. When monitor display time has elapsed, monitoring is automatically switched off and returns to standby status.

H. Sensor Detection From Connected Equipment:
1. You will be notified by PC Application if sensors connected to master monitor station and IP Video Intercom Adaptor are activated.
2. If sensor detects abnormality or connected call button is pressed, Sensor Detection Tone occurs.
3. Click OFF button.
   a. Sensor Detection Tone stops.
   b. Sensor Detection Tone can also be stopped in the following situations:
      1) IP Video Intercom Adaptor External Input: After 30 seconds, it stops automatically.
      2) Master Monitor Station External Input: Stopped by master monitor station. After 30 seconds, it stops automatically.
   c. If check mark is removed from Sensor Detection Tone in "Event Action Settings", Sensor Detection Tone will not occur.
   d. If sensors are activated during communication, Sensor Detection Tone will not occur.

I. Option Output From IP Video Intercom Adaptor:
1. Operate equipment connected to IP Video Intercom Adaptor from PC Application.
2. Click OPTION button.

J. Balloon Notification:
1. When event occurs, balloon notification is displayed on PC screen.
2. Balloon Notification Content:
   a. Calling From Door: Indicates call from door station.
   b. Calling From Room St: Indicates call from master monitor station.
   c. External Input: Indicates external input detection.
   d. Cannot Record, Space is Full: Displayed when there is not enough free space on hard disk drive.

1.6 SYSTEM DESCRIPTION – PC APPLICATION BASIC OPERATIONS – RECORDING FUNCTION

A. PC Application can record images from video intercom system connected to IP Video Intercom Adaptors automatically or manually.

B. Auto Recording:
    1. When call is received from door station, entranceway images are recorded automatically.
    2. If there is call from another door station during communication, image displayed on PC Application is automatically recorded after communication ends.
    3. When communication with door station starts, Auto Recording stops.
    4. Auto Recording also stops when call from door station ends and you are returned to standby screen.
    5. When Auto Recording is set and call from door station ends, recording stops.
    6. Snapshot Recording When Auto Recording is Set:
        a. One snapshot image of entrance is recorded when call button at door station is pressed.
        b. Snapshot can also be recorded for second call from door station.
        c. If there is a call from door station during communication, snapshot of image displayed on PC Application is automatically recorded after communication ends.
    7. Video Recording When Auto Recording is Set:
        a. Video recording of entrance is made when call button at door station is pressed.
        b. Once above operation has been performed, video recording starts for image displayed on PC Application screen.
            1) If there is call from another door station during video recording, video recording is stopped.
        c. Stop video recording by clicking STOP button.
            1) Video recording stops when call from door station is answered.
            2) Video recording stops when call ends and you are returned to standby screen.

C. Manual Recording:
    1. Make snapshot recording or video recording of entrance when the following conditions are met:
        a. Calling from door station.
        b. Entrance monitoring.
        c. Communication with door station.
    2. Snapshot Recording:
        a. Record only one snapshot image of entrance manually when the following conditions are met:
            1) Calling from door station.
            2) Entrance monitoring.
            3) Communicating with door station.
        b. Click RECORD button while communicating with door station.
            1) Only one snapshot of image displayed on PC Application screen is recorded.
    3. Video Recording:
        a. Make video recording of entrance manually when the following conditions are met:
            1) Calling from door station.
            2) Entrance monitoring.
            3) Communicating with door station.
        b. When communication starts during video recording of monitoring, you can continue recording.
        c. When communication or monitoring ends, video recording stops.

   d. If Audio Recording is set, make video and audio recordings simultaneously when the following conditions are met:
    1) Entrance monitoring.
    2) Communicating with door station.
   e. Click RECORD button while communicating with door station.
    1) Starts video recording image displayed on PC Application screen.
    2) If you are video recording while receiving call from door station and there is a call from another door station, video recording is stopped.
    3) When you click TALK button while recording the monitoring, recording continues until set Communication time has elapsed or until OFF button is clicked.
   f. To stop video recording, click STOP button.
    1) When door station's monitoring time has elapsed, video recording is stopped.
    2) Video recording stops when communication with door station ends.

1.7 SYSTEM DESCRIPTION – PC APPLICATION BASIC OPERATIONS – PLAYBACK FUNCTION

A. In PC Application, you can playback, stop, pause, slow down playback, and fast forward recorded images.
  1. You can delete unnecessary recorded files.

B. Play Recorded Image:
  1. Click OPEN PLAY WINDOW button in Standard Window.
   a. Recorded file list is displayed.
  2. Enter target Adaptor and recording period (Start Date/End Date).
   a. List of recorded files corresponding to search conditions is displayed.
   b. Dates in recorded file list are displayed in reverse chronological order.
   c. Display data in recorded file list in order of Adaptor name or date by clicking either "Adaptor" or "Date".
   d. Name entered under Network Settings in Administrator Settings is displayed as Adaptor.
  3. Select recorded file.
  4. Select playback operation.
   a. Snapshot or video is displayed on PC Application screen.
   b. If audio has been recorded for video, audio is also played back.
   c. If you click another recorded file during playback, playback of recorded file stops.
   d. If call is received from door station or another room station during playback, playback of recorded file stops.
  5. Playback Operations List:
   a. PLAY Button: Selected recorded file is played back at normal speed.
    1) When playback reaches end of recorded file, file directly below recorded file is automatically played back.
    2) When playback ends for final recorded file in list, last frame of last file is displayed as paused screen.
    3) Under normal playback conditions, one snapshot recorded image is usually displayed for 2 seconds.
    4) If you click PLAY button during fast forward or slow playback, it returns to normal playback speed.
   b. STOP Button: Stops playback of recorded files.

           1)   When playback of recorded file is stopped, no image is displayed on screen.

      c.   PAUSE Button: Pauses recorded file currently being played back.

           1)   While paused, clicking PAUSE button again moves recorded images along one frame at a time.

           2)   When playback of final frame of recorded file is paused and you click PAUSE button again, first frame of recorded file directly below current file is displayed.

      d.   SLOW Button: Recorded file is played back at about one quarter of normal speed.

      e.   FAST FORWARD Button: Recorded file is played back at about 4 times normal speed.

      f.   PRIOR FILE Button:

           1)   During Normal Playback: Replays recorded file currently being played back from beginning.

           2)   During Stop: Recorded file one line above currently selected file is selected.

           3)   During Pause: First frame of recorded file currently being paused is displayed. If first frame of recorded file is paused, then first frame of recorded file directly above current file is displayed.

           4)   During Slow: Replays recorded file currently being played back in slow motion from beginning.

           5)   During Fast Forward: Replays recorded file currently being played back in fast forward from beginning.

      g.   NEXT FILE Button:

           1)   During Normal Playback: Recorded file directly below file currently being played is played back.

           2)   During Stop: Recorded file one line below currently selected file is selected.

           3)   During Pause: First frame in recorded file directly below file currently being paused is displayed. If first frame of recorded file is paused, then first frame of recorded file directly below current file is displayed.

           4)   During Slow: Recorded file directly below file currently playing is played back in slow motion from beginning.

           5)   During Fast Forward: Recorded file directly below file currently playing is played back in fast forward from beginning.

  C.   Deleting Recorded File:

      1.   Delete unnecessary recorded files.

      2.   Open Aiphone_JKW_Rec.

        a.   If you selected different directory during installation, open appropriate directory.

        b.   Folder name is date of recording.

      3.   Select recorded file.

      4.   Right click and select Delete.

        a.   Recorded file is deleted.

1.8   SYSTEM DESCRIPTION – PC APPLICATION BASIC OPERATIONS – SENDING EMAIL

  A.   Send emails to computer, PDA, or cell phone whenever door call, sensor detection, or system start up occurs.

> 1. To send email from IP Video Intercom Adaptor, first setup valid email address and email server.
> 2. Timing of Transmitted Email:
>   a. When there is call from door station.
>   b. When master monitor station detects external (sensor) input.
>   c. When IP Video Intercom Adaptor detects external (sensor) input.
>   d. When system starts up.
> 3. Above listed events which have occurred in previous 60 seconds are summarized and sent in email.
> 4. Snapshot (QVGA JPEG) is attached to email when door call occurs.

1.9 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.

1.10 QUALITY ASSURANCE

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

1.11 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.

1.12 WARRANTY

A. Warranty Period: Two 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. E-mail info@aiphone.com.

2.2 IP VIDEO INTERCOM ADAPTORS

A. IP Video Intercom Adaptors for Aiphone JK Series Hands-Free Color Video System: Aiphone JKW-IP.
   1. Operating System
      a. 32-bit Microsoft Windows XP (SP2)
      b. 32-bit Microsoft Windows Vista Ultimate/Home/Business/Enterprise(SP1)
   2. Power: 18 V DC.
   3. Current Consumption:
      a. Standby: 110 mA.
      b. Maximum: 200 mA.
   4. Communication: Hands-free/priority transmission.
   5. Image:
      a. Format: JPEG.
      b. Resolution: 320 by 240 (QVGA).
   6. Network:
      a. Interface: 10BASE-T/100BASE-TX Ethernet.
      b. Protocol: TCP/IP, UDP/IP, SIP.
   7. Environment:
      a. Bandwidth: 320 K to 8 Mbps (per IP Video Intercom Adaptor).
      b. Operating Temperature: 32 to 104 degrees F (0 to 40 degrees C).
   8. Dimensions:
      a. Height: 7-7/8 inches (200 mm).
      b. Width: 5-15/16 inches (150 mm).
      c. Depth: 1-7/16 inches (35.5 mm).
   9. Weight: 0.82 lb (370 g).
   10. Color: White.

B. IP Video Intercom Adaptors Components:
   1. Power Switch: Turns power on or off.
   2. Power Terminal (18 V DC): Connects power cable.
   3. Master Monitor Station Connection Terminal: Connects to master monitor station.
   4. Option Output Terminal: Connects output signals for option units.
   5. Sensor Input 1, 2, 3, and 4 Terminals: Connects to buttons and sensors for option units.
   6. LAN Port: Connects networking unit, such as router.
   7. Default Setting Switch: When pressed for 5 seconds or more, IP Video Intercom Adaptor settings are returned to their default (factory) settings.
   8. MAC address.
   9. LAN ACT Indicator (Orange):
      a. Lit: Normal operation, when connected to network.
      b. Blinking: Exchanging information with LAN port.
      c. Off: Network connection abnormality.
   10. Status Indicator (Orange):

a. Lit: Normal operation.
b. Blinking:
   1) Starting up.
   2) When default setting switch is pressed and held for 5 seconds or more.
11. Power Indicator (Green):
a. Lit: Power is on.
b. Blinking: Abnormality in communication with master monitor station.
c. Off: Power is off.

2.3   PC APPLICATION WINDOW NAMES

A. Standard Window: Setting operations can be performed as follows:
1. MINIMIZE Button: Minimizes PC application window.
2. EXPAND WINDOW Button: Switches to expanded window.
3. CLOSE Button: Closes PC application.
4. Sensor Display: Displays status of incoming signals from option units.
5. Date Display: Displays date set in computer.
6. Screen: Displays images from door station.
7. Message Display: Displays message when function is operated.
8. OPTION Button: Operates option unit.
9. DOOR RELEASE Button: Releases electronic door lock.
10. CALL Button: Calls master monitor station.
11. ADJUST Button: Adjusts image to make it easier to see when there is backlight in day or when it is dark.
12. PAN AND TILT Button: Operates pan and tilt on zoom screen.
13. ZOOM/WIDE Button: Switches door station image between wide and zoom.
14. MONITOR Button: Displays images from door station on screen.
15. TALK Button: Starts communication.
16. OFF Button: Turns off talk, monitor, and call.
17. RECORD/STOP Button:
    a. Records displayed image on hard disk drive (HDD).
    b. Stops recording.
18. OPEN PLAY WINDOW Button: Plays back images recorded on PC.
19. PC SETTING Button: Opens PC application settings window.
20. Version Display: Displays PC application version.

B. Expanded Window: Setting operations can be performed as follows:
1. MINIMIZE Button: Minimizes PC application window.
2. STANDARD WINDOW Button: Switches to standard window.
3. CLOSE Button: Closes PC application.
4. Sensor Display: Displays status of incoming signals from option units.
5. Date Display: Displays date set in computer.
6. Screen: Displays images from door station.
7. Message Display: Displays message when function is operated.
8. OPTION Button: Operates option unit.
9. DOOR RELEASE Button: Releases electronic door lock.
10. CALL Button: Calls master monitor station.
11. ADJUST Button: Adjusts image to make it easier to see when there is backlight in day or when it is dark.
12. PAN AND TILT Button: Operates pan and tilt on zoom screen.
13. ZOOM/WIDE Button: Switches door station image between wide and zoom.

14. MONITOR Button: Displays images from door station on screen.
15. TALK Button: Starts communication.
16. OFF Button: Turns off talk, monitor, and call.
17. RECORD/STOP Button:
    a. Records displayed image on hard disk drive (HDD).
    b. Stops recording.
18. OPEN PLAY WINDOW Button: Plays back images recorded on PC.
19. PC SETTING Button: Opens PC application settings window.
20. Version Display: Displays PC application version.
21. Number Display:
    a. Displays adaptor number.
    b. Selects adaptor.
22. Adaptor Display:
    a. Displays adaptor name.
    b. Displays MAC address, if no name is set.
23. Status Display: Displays adaptor status.
    a. Red:
        1) 1 Call Door: Displayed when there is a call from door station.
    b. Green:
        1) Communication: Displayed during communication.
        2) Monitor: Displayed during monitoring.
    c. Orange:
        1) 1 Call Room Station: Displayed when there is a call from master monitor station.
        2) Call: Displayed when there is a call from PC application.
    d. Gray:
        1) No Display: Encryption key not acquired (during standby).
    e. Blue:
        1) No Display: Displayed during standby.
24. Sensor Display: Displays status of incoming signals from option units.
25. DOWN AND UP ARROW Buttons: Changes order of adaptor display.
26. SETTINGS Button: Opens settings window for adaptor.

PART 3   EXECUTION

3.1   EXAMINATION

A. Examine areas to receive IP video intercom adaptors.

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 IP video intercom adaptors in accordance with manufacturer's instructions at locations indicated on the Drawings.

B. Mount IP video intercom adaptors plumb, level, square, and secure.

3.3 ADJUSTING

A.   Adjust IP video intercom adaptors for proper operation in accordance with manufacturer's instructions.

3.4 DEMONSTRATION AND TRAINING

A.   Demonstration:
1.   Demonstrate that IP video intercom adaptors function 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 IP video intercom adaptors.
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 IP video intercom adaptors from damage during construction.

END OF SECTION