Installation Manual

This manual includes Product Liability Precautions. Provide this manual to end user after installation.

IX-DF-2RA (Video Door Station)
IX-SS-2RA (Audio Only Door Station)

AIPHONE

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Introduction

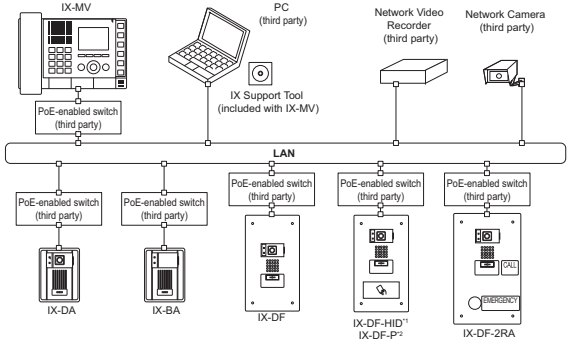
- Read this manual before installation and connection.
  Read the "Setting Manual" and "Operation Manual" included on the DVD-ROM that comes with the Master Station (IX-MV).
- Configure the system settings according to the "Setting Manual" after completing the installation and connection. The system will not function unless it has been properly configured.
- After installation, explain to the customer how to use the device, and be sure to provide the accompanying DVD-ROM that came with the Master Station (IX-MV).

Important

- **Perform the installation and connection only after fully understanding this device and the manual.**

Illustrations used in this manual may be different from the actual ones.

Example of System Configuration



Number of station registrations in address book

Product number	Product name	Number of station registrations in address book
IX-MV	Master Station	500 stations
IX-DA, IX-DF, IX-DF-HID-I*1, IX-DF-HID*1, IX-DF-2RA*1, IX-DF-PI*2, IX-DF-P*2	Video Door Station	20 stations*3
IX-BA, IX-SS, IX-SS-2RA*1	Audio Only Door Station	20 stations*3

*1 North America only
*2 Except North America
*3 Only Master Stations can be registered (Max. 20)

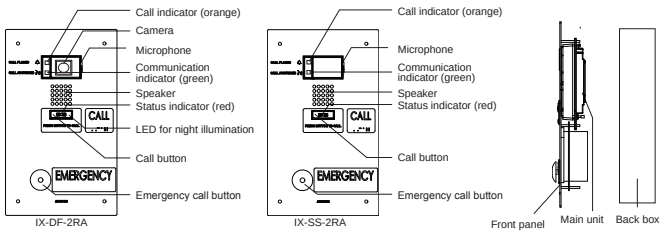
Indicators

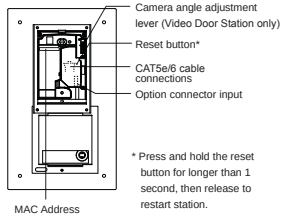
Refer to the separate "IX-DA & IX-BA Operation Manual" for indicators other than those listed.

: Light ON : Light OFF

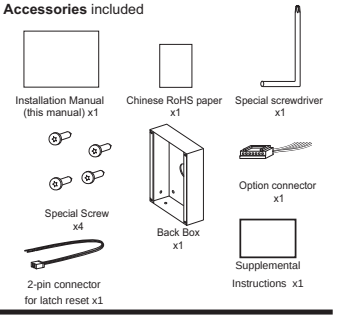
Name	Status (Pattern)		Explanation
Status indicator	Red flashing	Normal flashing (0.75 sec / 0.75 sec)	Booting
		Fast flashing (0.25 sec / 0.25 sec)	Device error
		Long interval flashing (0.5 sec / 4 sec)	Communication failure
		Long irregular flashing (1 sec / 0.25 sec / 0.25 sec / 0.25 sec / 0.25 sec / 0.25 sec)	Firmware version upgrading
		Short irregular flashing (1 sec / 0.25 sec / 0.25 sec / 0.25 sec)	Initializing
	Red light		Standby

Part Names and Accessories





Accessories included



Precautions

Warning

Negligence could result in **death or serious injury**.

1. Voltage is applied to parts within the equipment. Do not touch any parts that are not associated with the installation, wiring, or connection. Electric shock could result.
2. Do not dismantle or alter the unit. Fire or electric shock could result.
3. Keep the unit away from water or any other liquid. Fire or electric shock could result.
4. The unit is not explosion-proof. Do not install or use near gases or flammable materials. Fire or explosion could result.
5. Do not connect any terminal on the unit to an AC power line. Fire or electric shock could result.
6. Do not put any metal or flammable material into the unit through the openings. Fire, electric shock, or unit trouble could result.

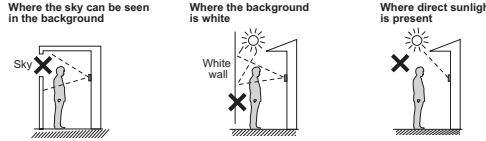
Caution

Negligence could result in **injury to people or damage to property**.

1. Do not install or make any wire terminations while power supply is plugged in. It can cause electrical shock or damage to the unit.
2. Before turning on power, make sure wires are not crossed or shorted. If not, fire or electric shock could result.
3. Do not install the unit in any of the following locations. Fire, electric shock, or unit trouble could result.
   - Places under direct sunlight or places near heating equipment that varies in temperature.
   - Places subject to dust, oil, chemicals, hydrogen sulfide (hot spring).
   - Places subject to moisture and humidity extremes, such as bathrooms, cellars, greenhouses, etc.
   - Places where the temperature is quite low, such as inside a refrigerated area or in front of an air conditioner.
   - Places subject to steam or smoke (near heating or cooking surfaces).
   - Where noise generating devices such as dimmer switches or inverter electrical appliances are close by.
   - Locations subject to extremely powerful electric fields.
4. When mounting the unit on a wall, install the unit in a convenient location, but not where it could be jarred or bumped. Injury could result.
5. Do not place or install the unit in the locations subject to frequent vibration or impact. If the unit falls, injury to people or damage to the unit could result.
6. Do not run wires between movable objects (doors, windows, etc.). It may cause malfunction.
7. Do not put anything on the unit or cover the unit with cloth, etc. Fire or unit trouble could result.
8. Be sure to perform a call test or check the chime volume with the handset on the hook. If you operate the hook switch with the handset on your ear, a sudden call etc. may arrive causing damage to your ear.

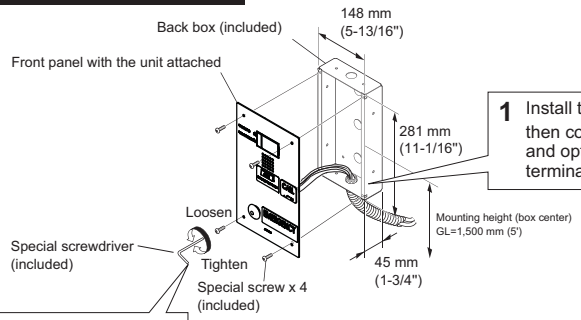
Notice

1. Aiphone assumes no responsibility for damages as a result of delayed or unusable services, which were due to failures in network equipment, communication services by Internet and cellular phone companies, line interruptions, communication failures, or inaccuracies or omissions in the transmission unit.
2. We will under no conditions be liable for damage that occurs due to the inability to communicate due to malfunctions, problems, or operational errors in this product.
3. If personal information leaked by eavesdropping or unauthorized access in the communication paths over the Internet, please be aware that Aiphone assumes no responsibility for the damages.
4. We will under no conditions be liable for any damages or losses resulting from this product's contents or specifications.
5. This manual was created by Aiphone Co., Ltd., all rights reserved. Copying a part of or this entire manual without prior permission from Aiphone Co., Ltd. is strictly forbidden.
6. Please note that this manual may be revised or changed without prior notice.
7. Please note that product specifications may be changed for the sake of improvement without prior notice.
8. Please be aware that it is the customer's responsibility to ensure that their computer is secure. We will under no conditions be liable for security failures.
9. This system is not intended for life support or crime prevention. It is just a supplementary means of conveying information. Aiphone will under no conditions be liable for loss of life or property which occurs while the system is being operated.
10. Keep the unit more than 1m (3.3') away from radio or TV set.
11. Install the unit in an area that will be accessible for future inspections, repairs, and maintenance.
12. If the unit is down or does not operate properly, unplug the power supply or turn off the POWER switches.
13. If it is used close to a cellular phone, the unit may malfunction.
14. The unit can be damaged if dropped. Handle with care.
15. The unit turns inoperative during power failure.
16. In areas where broadcasting station antennas are close by, the intercom system may be affected by radio frequency interference.
17. At a gate or porch illuminated by a fluorescent lamp, the picture may vary, but this is not a malfunction.
18. If stripes or fine patterns are reflected, outlines and colors shown may differ from actual people or backgrounds, but this is not a malfunction.
19. Warm-color lighting shining on the video door station may change the tint of the picture on the monitor.
20. When using fluorescent lights to illuminate the screen its colors may periodically change (color rolling), but this is not a malfunction.
21. The unit case may become a warm with use, but this is not a unit malfunction.
22. Warm air flowing from inside may interact with the temperature difference in the outside air to cause condensation to occur on the camera unit. It is recommended that you block the points from which warm air is flowing out, such as incoming line ports, in order to prevent condensation.
23. Keep the intercom wires more than 30cm (12") away from AC 100-240V wiring. AC induced noise and/or unit malfunction could result.
24. Door station is weather-resistant, but do not spray high-pressure water. Unit trouble could result.
25. Due to the nature of the camera built into the Video Door Station, external light and the surrounding environment may affect the projection quality of the TV monitor, so please avoid installing in the following locations.



How to Install

Installation of Door Station



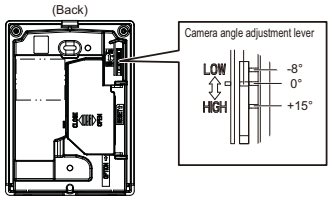
1 Install the back box in the wall, and then connect the CAT5e/6 cable and option wires to the unit with the terminal cover open.

2 Fasten the front panel to the back box with the special screws.

Imaging Range and Mounting Location (IX-DF-2RA only)

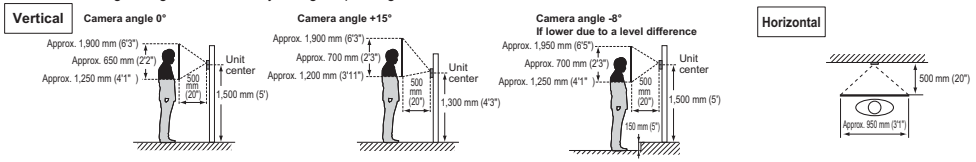
Imaging Position Settings

The camera angle can be adjusted up or down (-8°, 0°, +15°) using the camera angle adjustment lever.
Set it to the optimal level.



Wall Mounting

The indicated range is a guideline that may change depending on the installation environment.



When light enters the camera, the monitor screen may flicker brightly or the subject may become dark. Try to prevent strong lighting from entering the camera directly.

FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, then user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

How to Connect

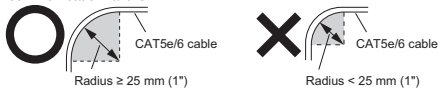
Connection Precautions

Cable

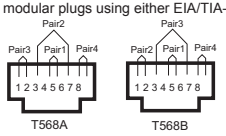
The cable is not included with the product.

About the CAT5e/6 cable

- **Use a straight cable when connecting between equipment.**
- Do not use a CAT5e/6 cable with a bending angle of less than a 25 mm (1") radius. A radius of less than 25 mm (1") could cause a communication failure.



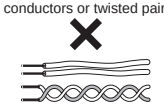
- Do not peel the jacket off the CAT5e/6 cable any more than is necessary.
- Attach the RJ45 modular plugs using either EIA/TIA-568A or 568B.



- **Use the LAN tester to confirm conduction before connecting the CAT5e/6 cable.**

Cable precautions

- Do not use separate conductors or twisted pair cables.



- Do not use an odd number cable.

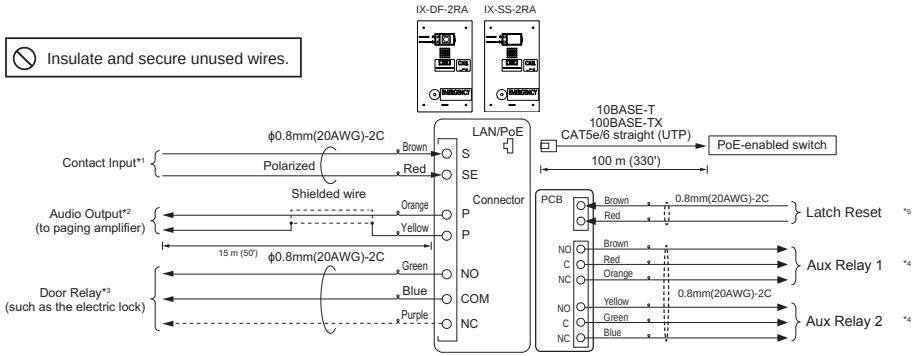


- The RJ45 connector with cover cannot be connected to CAT5e/6 cable terminals for Master Station or Door Stations. Use cables without covers on the connectors.



- Do not pull the CAT5e/6 cable or apply excessive load.

Wiring Connection



***1 Contact Input Specifications**

Input method	Form C dry contact (N/O or N/C)
	Level detection method
Fixed detection time	200 msec or more
Contact resistance	Maximum closure resistance: 700 Ω or less Minimum open resistance: 3 kΩ or more
Terminal short-circuit current	10 mA or less
Voltage between the terminals	DC 5V or less (between open terminals)

***2 Audio Output Specifications**

Output impedance	600 Ω
Output audio level	300 mVrms (600 Ω when terminated)

***3 Door Relay Output Specifications**

Output method	Form C dry contact (N/O or N/C)
Voltage between the terminals	AC 24V, 0.5A (resistive load) DC 24V, 0.5A (resistive load) Minimum load (AC/DC): 100 mV, 0.1 mA

***4 Aux Relay Output Specifications**

Output method	Form C dry contact (N/O or N/C)
Voltage between the terminals	AC 24V, 0.5A (resistive load) DC 24V, 0.5A (resistive load) Minimum load (DC): 10 mV, 0.01 mA

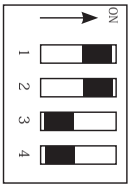
***5 Latch Reset Specifications**

Input method	Dry contact (N/O)
Contact resistance	Maximum closure resistance: 700 Ω or less
Terminal short-circuit current	10mA or less
Voltage between the terminals	DC 5V or less (between open terminals)

IX-DF-2RA / IX-SS-2RA Supplemental Instructions

Default Settings:
*Contact Input ..... Set to "Call"
***Output Specification** ..... Set to "Contact Input Call / Communication State"

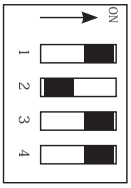
DIP SWITCH "SW2" Settings (Relay PCB Dip Switch)



	Call Button		Emergency Button		Monitoring	Door Release State
	Calling	Talking	Calling	Talking		
Door Relay State	OFF	OFF	ON	ON	OFF	OFF
AUX RY1 State	ON	ON	ON	ON	ON	OFF
AUX RY2 State	OFF	ON	OFF	ON	ON	OFF

Door Release Settings:
*Contact Input ..... Set to "Call"
***Output Specification** ..... Set to "Door Release"

DIP SWITCH "SW2" Settings (Relay PCB Dip Switch)

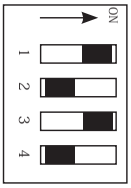


	Call Button		Emergency Button		Monitoring	Door Release State
	Calling	Talking	Calling	Talking		
Door Relay State	OFF	OFF	OFF	OFF	OFF	ON*
AUX RY1 State	ON	ON	ON	ON	ON	OFF
AUX RY2 State	OFF	OFF	ON	ON	OFF	OFF

*Door Release Operation Tone must be set to "Operation sound".

Manual Reset Settings:
*Contact Input ..... Set to "Call"
***Output Specification** ..... Set to "Contact Input Call / Communication State"

DIP SWITCH "SW2" Settings (Relay PCB Dip Switch)

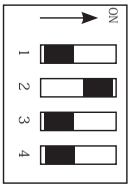


	Call Button		Emergency Button		Monitoring	Door Release State
	Calling	Talking	Calling	Talking		
Door Relay State	OFF	OFF	ON	ON	OFF	OFF
AUX RY1 State	ON	ON	ON	ON	ON	OFF
AUX RY2 State	OFF	OFF	ON	ON*	OFF	OFF

*AUX RY2 remains "ON" (latched) until Reset Connector "CN7" on PCB is shorted.

Optional Settings:
*Contact Input ..... Set to "Call"
***Output Specification** ..... Set to "Contact Input Call / Communication State"

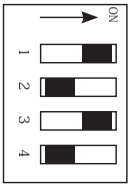
DIP SWITCH "SW2" Settings (Relay PCB Dip Switch)



	Call Button		Emergency Button		Monitoring	Door Release State
	Calling	Talking	Calling	Talking		
Door Relay State	OFF	OFF	ON	ON	OFF	OFF
AUX RY1 State	ON	OFF	ON	OFF	OFF	OFF
AUX RY2 State	OFF	ON	OFF	ON	ON	OFF

Door Release & Manual Reset Settings:
*Contact Input ..... Set to "Call"
***Output Specification** ..... Set to "Door Release"

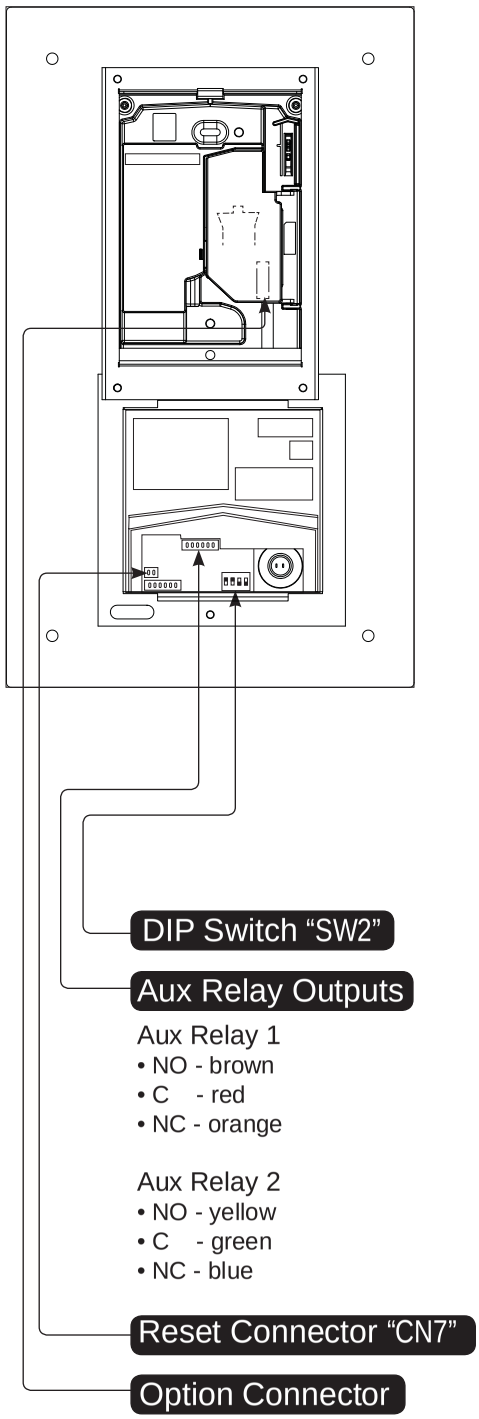
DIP SWITCH "SW2" Settings (Relay PCB Dip Switch)



	Call Button		Emergency Button		Monitoring	Door Release State
	Calling	Talking	Calling	Talking		
Door Relay State	OFF	OFF	OFF	OFF	OFF	ON*
AUX RY1 State	ON	ON	ON	ON	ON	OFF
AUX RY2 State	OFF	OFF	ON	ON**	OFF	OFF

*Door Release Operation Tone must be set to "Operation sound".
**AUX RY2 remains "ON" (latched) until Reset Connector "CN7" on PCB is shorted.

Dip Switch "SW2" and Contact Locations



***** Contact Input and Output Specification is set to desired state using the IX Support Tool while programming the door station.

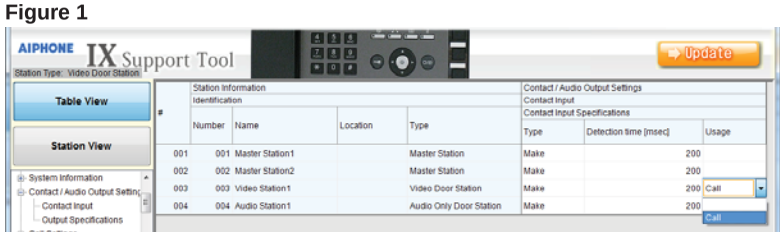
IX Support Tool

The IX Emergency station is to be programmed to call designated master(s) via the red mushroom button at a higher priority. The mushroom button can call different masters than the standard call button calls. This procedure shows how to set up the emergency call button only. Station Association for all stations will need to be done prior to completing these steps. Refer to the IX Support Tool Setting Manual for complete programming instructions.

Use the IX Support Tool in the Table View.

The usage for the contact input of the station will need to be set to call. Expand **Contact / Audio Output Settings** and select **Contact Input** from the menu on the left. Use the drop down under "Usage" and select **Call** for the appropriate station (figure 1). Press the Update button to save changes.

Figure 1



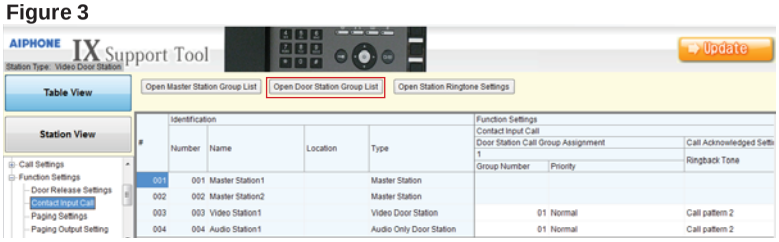
The contact output specifications will need to be set for contact input call / communication state. Select **Output Specifications** from the menu on the left. Use the drop down under "Usage" and select **Contact Input Call / Communication State** for the appropriate station (figure 2). Press the Update button to save changes.

Figure 2



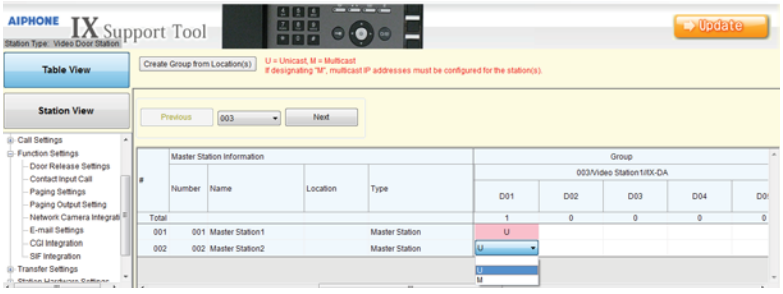
In order for the mushroom button push to be able to call the master(s), a door station group will need to be created. Expand **Function Settings** from the menu on the left and select **Contact Input Call**. Click on the **Open Door Station Group List** button at the top of the page (figure 3).

Figure 3



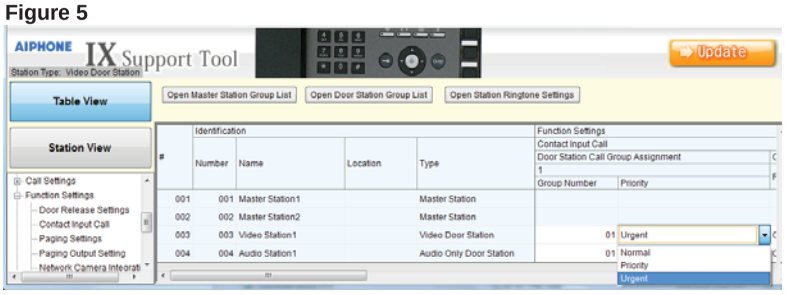
Once in the door station group list, scroll right to the appropriate door station and use the drop down to select "U" for Unicast or "M" for Multicast for each master station this door needs to call. It is recommended that Group D01 be set (figure 4). Press the Update button to save changes.

Figure 4



Select **Contact Input Call** again from the menu on the left. Using the drop down under Group Number, select the group that was created in the previous step. Using the drop down under Priority, select the priority level at which the mushroom button is to place a call (figure 5). Press the Update button to save changes.

Figure 5



Once all steps have been completed, the door station will need to be updated with the new settings. From the File Menu, select **Upload Settings To Station.** Check the box beside the station that has been updated and click Start Upload. The status menu will display the result of the upload.