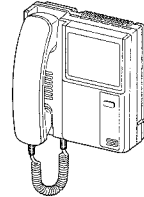


## DOOR SENTRY VIDEO ENTRY SECURITY INTERCOM

Model; **MK-1MD/A**, *Master station w/monitor*

### INSTALLATION & OPERATION MANUAL



This Manual and the Markings on the product contain various symbols in order that the product can be used safely and properly, and that the installer and user are protected from injury and property damage. The following precautions must be thoroughly read and understood before proceeding.

### **PRECAUTIONS ON INSTALLATION & WIRING**

#### **WARNING**


*Negligence could result in death or serious injury.*

#### **CAUTION**

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

#### Examples of Symbols;

##### **GENERAL PRECAUTIONS**

The  mark indicates caution statement (incl. danger and warning), which is specifically shown inside.


##### **GENERAL INSTRUCTIONS**

The  mark indicates contents which demands a specific action shown inside or attached.








##### **GENERAL PROHIBITIONS**




##### **DISMANTLING PROHIBITIONS**

##### **MOISTURE PROHIBITIONS**





The  mark indicates contents which prohibit a specific action shown inside or attached.

#### **Warning**

1. Do not connect any power source other than specified to terminals +, - on MK-1MD/A. Fire or damage to the unit could result. 
2. Do not open MK-1MD/A. High voltage is present inside, and it can cause electric shock. 
3. Do not change or alter MK-1MD/A. It can cause fire or electric shock. 
4. Make sure wires are connected properly before plugging in power supply. 
5. Keep the MK-1MD/A unit away from water or any other liquid. Fire or electric shock could result. 
6. Do not apply any forcible pressure on the video monitor. Damage may result. 
7. Keep AC cord and plug away from moisture or dust. 

8. Keep AC cord away from being marred or crushed. 
9. Do not plug or unplug with wet hands. 
10. Do not put any metal into MK-1MD/A through openings. It can cause fire, electric shock or unit damage. 

#### **Caution**

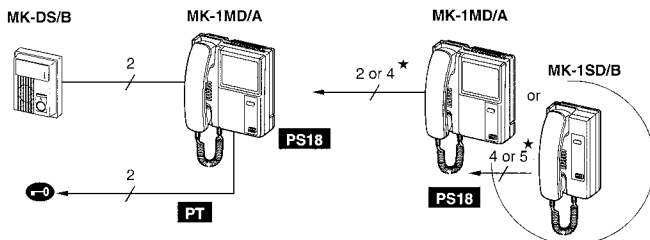
1. Do not install or make any wire terminations while power supply is plugged in. It can cause electrical shock or damage to the unit. 
2. Do not manually hold down hook switch to verify chime volume. It sounds very loud and can cause hearing damage. 
3. Mount MK-1MD/A on wall in a convenient location, but not where it could be bumped or jarred. 
4. In case of electrical storms, unplug power supply from AC outlet. It can cause fire, electric shock, or power surge damage.
5. Do not install MK-1MD/A components in any of the following locations, as it may cause the system to malfunction;
  - High or extreme cold temperature area: under direct sunlight, near equipment that varies in temperature, in front of air conditioner, inside a refrigerated area, etc.
  - Places subject to moisture or humidity extremes.
  - Places subject to environmental conditions, such as oil, dust, chemicals, salt, etc. 
  - Places subject to constant vibration or impact.
  - Places where noise generating devices such as TV or radio are close by.

#### **General Precautions**

1. MK-1MD/A equipment, except for MK-DS/B, is designed for indoor use only. Do not install outdoors.
2. MK-1MD/A system is not operational during a power failure.
3. In areas where broadcasting station antennas are close by, intercom system may be affected by radio frequency interference.
4. Keep all DC wiring at least 30cm, 20" away from AC 100~240V wiring, fluorescent lighting, or dimmer switches. Otherwise, cross AC wiring at a 90° angle.

# 1 SYSTEM OUTLINE & COMPONENTS

MKS-1E DOOR SENTRY is a set with one monitor and one video door station for audio and video door answering and door release. A second monitor or audio-only handset can be added.



## Package contents

Boxed set of MK-1MD/A, MK-DS/B and a power supply.  
 MKS-1E/BYC: with power supply PS-18YC/A,  
 MKS-1E/BYE: with power supply PS-18YE,  
 MKS-1E/B: without power supply,  
 or MK-1MD/A: Main audio/monitor station

- Mounting bracket
- Packet of screws
- Installation & Operation Manual

## Components available

• Video door station • Master & sub stations

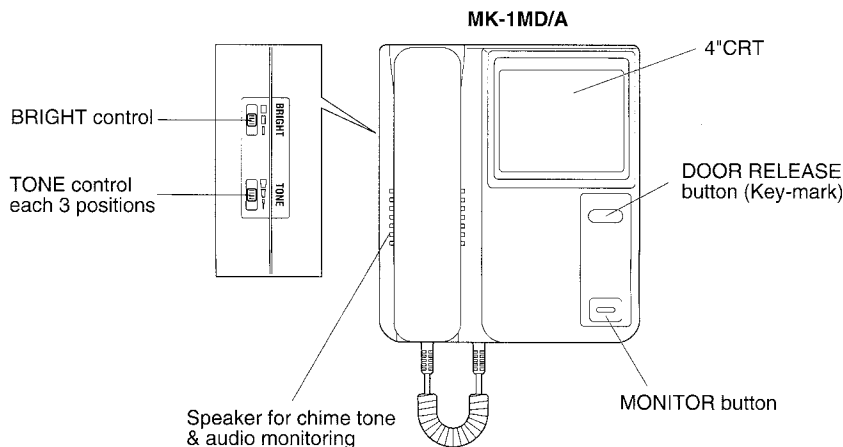
• Call extension • Door strike

• Power supply

MK-DS/B	MK-1MD/A	MK-1SD/B	IER-2	EL-9S	PS-18YC/A AC 120V, 50/60Hz or PS-18YE AC 220-240V, 50/60Hz.
Surface mount	Master station w/monitor	Audio sub station			PS-18ME AC 230V, 50/60Hz.

★ Second inside station: Either MK-1MD/A or MK-1SD/B.

# 2 NAMES AND FEATURES



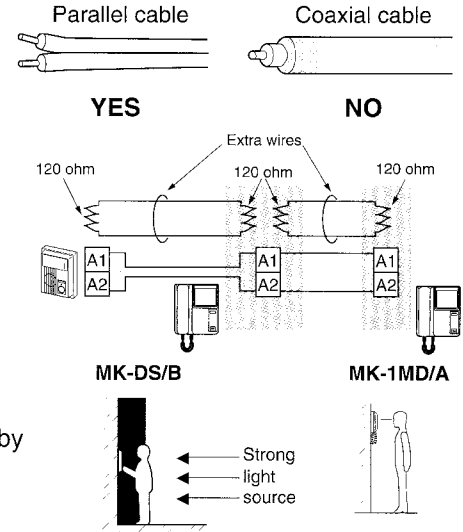
## Features

- ☆ One door and one monitor system, expandable with second audio/monitor or audio-only sub station.
- ☆ Wide angle door station: Views approximately 70cm vertically and 100cm horizontally (70°V x 90°H).
- ☆ Camera angle adjuster on MK-DS/B (Turns up camera angle by 14°).
- ☆ Max. 200m, 650' distance to door.

### 3 WIRING

#### ■ Cable requirements

- Use a parallel conductor cable. Coaxial cable should not be used.
- When existing chime wires are used, it is possible that the wires may contain AC voltage current. Locate and remove the bell transformer before actually connecting MK-DS/B.
- Extra pair(s) in the installed cable can affect the image quality, and must be terminated with a 120 ohm resistor at each end at both MK-DS/B and MK-1MD/A. Otherwise, double up the wires onto each terminal.



#### ■ Installation location

##### MK-DS/B

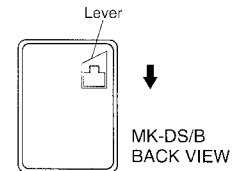
MK-DS/B employs CCD camera and the performance can be affected by bright direct light, such as strong sunlight, gate light, or street or porch light which comes directly into the camera lens.

##### MK-1MD/A

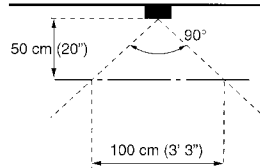
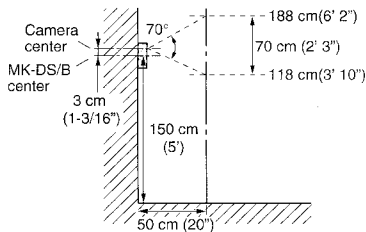
Mount the video monitor so that the center of the monitor screen comes to the eye level of the user.

#### ■ When camera height is too low

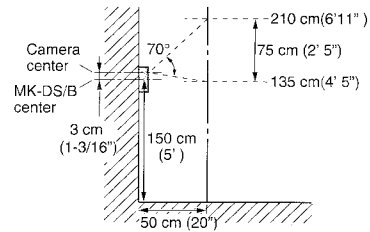
MK-DS/B is equipped with a camera-angle adjuster on the back of the unit. Pull the lever down to adjust the camera angle upward by 14°.



#### • When camera is positioned horizontally;



#### • When camera angle is upwardly adjusted;



\* All figures are approximate.

#### ■ When installing a second station

MK-1MD/A may have a sub station, either the same MK-1MD/A monitor or MK-1SD/B handset. Locate the second station within each permitted distance as per diagrams on the right. In both cases, wire second inside station directly to first inside station.

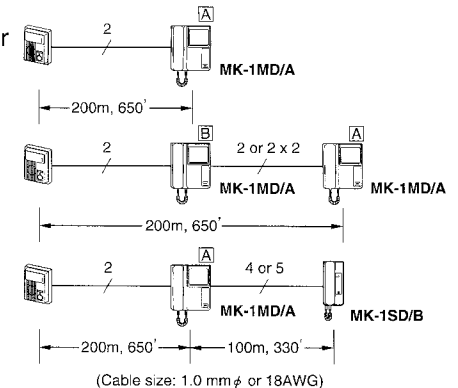
- **Video-impedance matching (on SW1):** In dual monitor system only, change initial A setting to B (HIGH) position on first MK-1MD/A station.

#### ■ Call extension

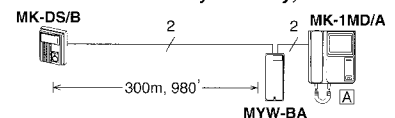
To hear the chime in a remote location, install an IER-2 speaker with 2 wires(non-polarized) from any inside station. One IER-2 per station.

#### ■ Door strike

MK-1MD/A station provides a dry closure contact for door strike. Use Aiphone's EL-9S, AC 12V, powered by AC transformer (PT-1210N in USA), or a strike appropriate for the door.



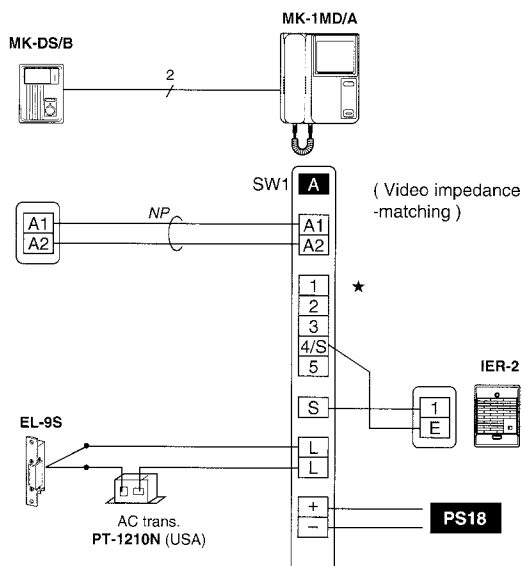
- For one MK-1MD/A system only;



★ Cable specs: Refer to the MYW-BA manual.

## ■ Wiring diagrams

### ● Single MK-1MD/A system



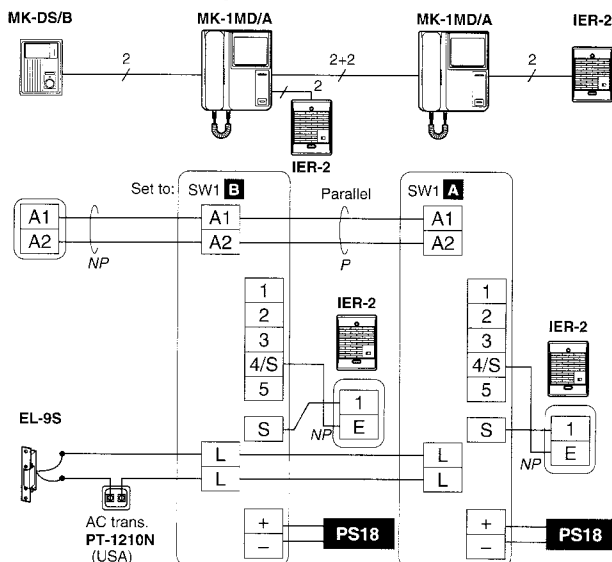
★ Terminals 1~5 are for MK-1SD/B audio station.

NP: Non-polarized P: Polarized. : Parallel cable

**PS18** : PS-18YC/A, PS-18YE, PS-18ME or specified

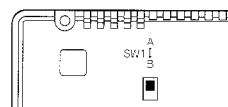
⚠ Do not run door release & audio/video wires in the same jacketed cable.

### ● Two-monitor system



### ■ Video-impedance matching

The SW1, initially set to A position, must not be changed except to B position on the first MK-1MD/A station of 2-monitor system.



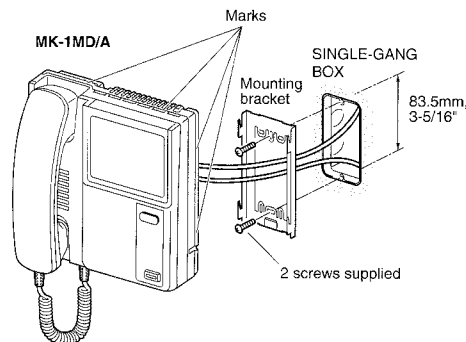
MK-1MD/A Back view

## 4 MOUNTING

### ■ MK-1MD/A

On back of the unit, mounting bracket is attached.

1. Mount the bracket to single-gang box or wall.
2. On the back, terminate parallel wires on A1, A2 terminals.
3. Connect 18V DC output wires from power supply.
4. Mount MK-1MD/A monitor onto the bracket, aligning at marks.  
Pull down until it firmly locks.
5. Plug power supply into an open AC outlet.

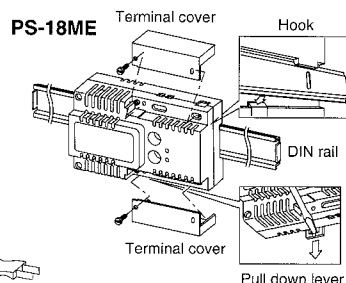
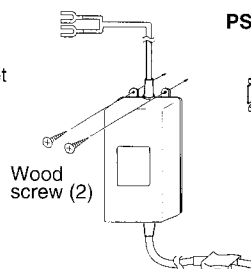
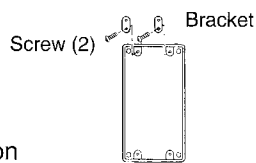


### ■ PS-18YC/A(AC 120V), PS-18YE (AC 220-240V), PS-18ME(AC 230V)

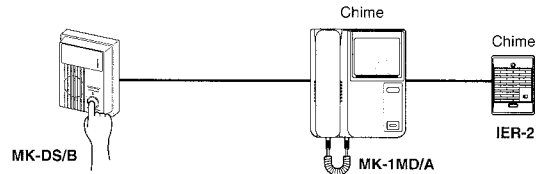
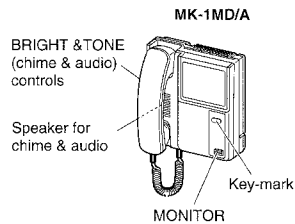
Install the power supply within 1.9m, 6'3" of the monitor.

Do not attempt to extend the DC side of the power supply. If necessary, extend the AC side with an extension cord.

PS-18YC/A  
or PS-18YE



## 5 OPERATIONS on MK-1MD/A



### ■ Receiving a door call:

When call button is pushed on MK-DS/B, it activates 4-tone chime and image on video monitor(s). Simply lift handset to reply within 30 seconds.

### ■ Communication:

The communication is timed for 2-1/2 minutes. Press MONITOR button to extend another 2-1/2 minutes.

★ Monitor image times out in 30 seconds after called.

### ■ Audio / visual monitoring:

In standby mode, press MONITOR button to activate both audio & video of door station. Audio is heard through open voice speaker. Press MONITOR button again to end monitoring, or turns off in approx. 2-1/2 minutes.

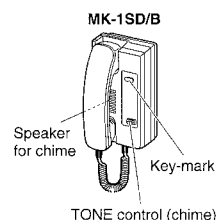
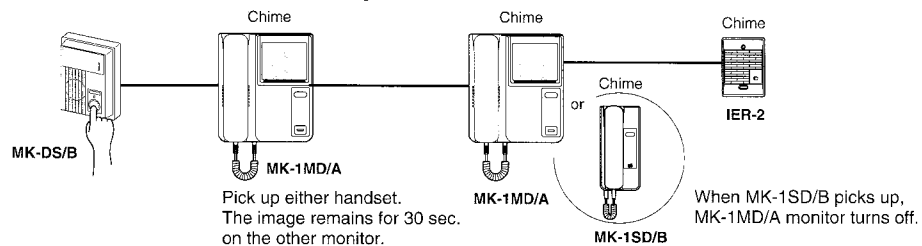
### ■ Call extension speaker

IER-2 allows the chime to be heard at a remote location. Volume is adjustable to 3 positions.

### ■ Controls

On MK-1MD/A:  
MONITOR (on front).  
BRIGHT & TONE, chime & audio volume, each 3 positions (on left side).

### ■ Second Audio/monitor or Audio-only station



The second inside station operates exactly the same as first inside station. MK-1SD/B can be used for door answering and door strike. There is no calling between the inside stations.

★ If someone at hearing the other station is answering the door, hang up handset.

## 6 TECHNICAL PRECAUTIONS

- **Temperature:** MK-1MD/A is rated to operate between temperatures 0°C ~ 40°C (+32°F ~ +104°F).
- It takes approx. one second for system to recycle.
- Image may vary when the Key-mark button is held down to activate door strike. This is not a malfunction.
- Do not operate MONITOR button and plug in at the same time. It will create a continuous high-pitched tone, and can be reset by momentarily unplugging power supply.
- **Cleaning:** Clean MK-1MD/A with a soft cloth dampened with neutral household cleanser. Do not use any abrasive cleaner or cloth.

## 7 SPECIFICATIONS

- Power source: MK-1MD/A: DC 18V, 0.8A. 0.04A DC (standby).
- Power supply: PS-18YC/A, AC 120V, 50/60Hz. Output: 1.2A  
PS-18YE, AC 220-240V, 50/60Hz. Output: 1.2A  
PS-18ME, AC 230V, 50/60Hz. Output: 0.9A
- Image viewing area;  
When camera is in horizontal position: 70cm V x 100cm H (2'3" V x 3'3" H)(approx.)  
When camera is upwardly adjusted; 75cm V x 100cm H (2'5" V x 3'3" H)(approx.)
- Communication: Call-in: Image is on 30 sec.  
Communication: 2-1/2 min. timed.  
Extend with MONITOR button.  
Common talk between rooms (hang up either handset)  
CCD camera with infrared LEDs.  
4 inch direct view flat CRT  
525 lines.  
Less than 1 Lux at 50cm, 20" distance.  
AC 12V, 0.4A (dry closure contact EL, EL).  
2 wires parallel, non-polarized (Aiphone #841802 in USA).  
MK-1MD/A to MK-DS/B;
- MK-DS/B camera unit:
- MK-1MD/A monitor:
- Scanning lines:
- Minimum illumination;
- Door release contact capacity:
- Wiring;
- Wiring distance:

0.65mm $\phi$	1.0mm $\phi$	22AWG	18AWG
100m	200m	330'	650'

- Dimensions & weight:

Models	H	W	D (mm)	Weight (approx.)
MK-DS/B	130	98	37.5	230g
MK-1MD/A	210	186	78	1,130g
MK-1SD/B	210	100	74	415g

H	W	D	Weight (approx.)
5-1/8"	3-7/8"	1-1/2"	0.51 lbs.
8-1/4"	7-5/16"	3-1/16"	2.49 lbs.
8-1/4"	4"	3"	0.91 lbs.

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, the user is encouraged to try to correct the interference by one or more of the following measures:

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

### WARRANTY

Aiphone warrants its products to be free from defects of material and workmanship under normal use and service for a period of two years after delivery to the ultimate user and will repair free of charge or replace at no charge, should it become defective upon which examination shall disclose to be defective and under warranty. Aiphone reserves unto itself the sole right to make the final decision whether there is a defect in materials and/or workmanship; and whether or not the product is within the warranty.

This warranty shall not apply to any Aiphone product which has been subject to misuse, neglect, accident, or to use in violation of instructions furnished, nor extended to units which have been repaired or altered outside of the factory. This warranty does not cover batteries or damage caused by batteries used in connection with the product.

This warranty covers bench repairs only, and any repairs must be made at the shop or place designated in writing by Aiphone.

Aiphone will not be responsible for any costs incurred involving on site service calls.

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