

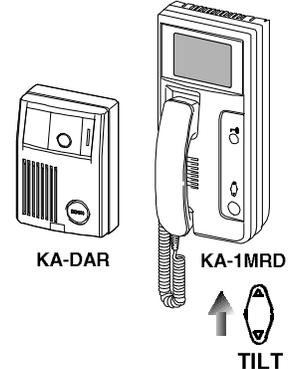
**VIDEO SENTRY TILT
COLOR & TILT VIDEO ENTRY SECURITY**

Models: **KAS-1ERD**, Set
KA-1MRD, Audio/monitor station

INSTALLATION MANUAL

! PRECAUTIONS ON INSTALLATION & WIRING

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.



! WARNING Negligence could result in death or serious injury.

! CAUTION Negligence could result in injury or damage to property.

Examples of Symbols;



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 KA-1MRD. Fire or damage to the unit could result.
2. Do not open KA-1MRD. High voltage is present inside, and it can cause electric shock.
-  3. Do not change or alter KA-1MRD. It can cause fire or electric shock.
4. Make sure wires are connected properly before plugging in power supply.
5. Keep the KA-1MRD unit away from water or any other liquid. Fire or electric shock could result.
6. Do not put any forcible strength on the video monitor. Damage may result.
7. Keep AC 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 KA-1MRD 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 in the handset, and can cause hearing damage.
3. Mount KA-1MRD 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 KA-1MRD 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. KA-1MRD equipment, except for KA-DAR, is designed for indoor use only. Do not install outdoors.
2. KA-1MRD 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.

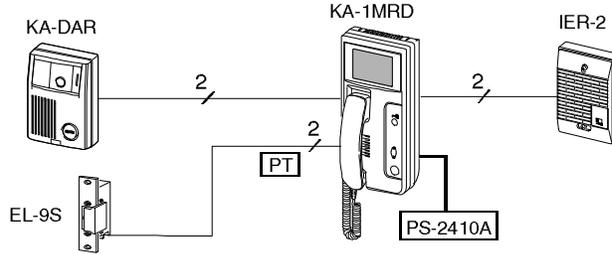
1 SYSTEM OUTLINE & COMPONENTS

KAS-1ERD is a Full-Color Video Door Answering System. The inside audio/monitor station is capable of tilting the door camera 0° to max. 40°. The set includes video door station, audio/monitor station and a 24V DC power supply. MK-1SD/B audio only sub station and call extension speaker IER-2 are optional.

Package Contents

- Boxed set KAS-1ERD
- Hexagonal wrench
- Packet of screws
- Installation & Operation Manual

Basic System



- PS24** : PS-24E, PS-24ME or PS-24A (in USA)
PT : AC transformer (PT-1210N in USA)

Boxed Sets & Power Supplies

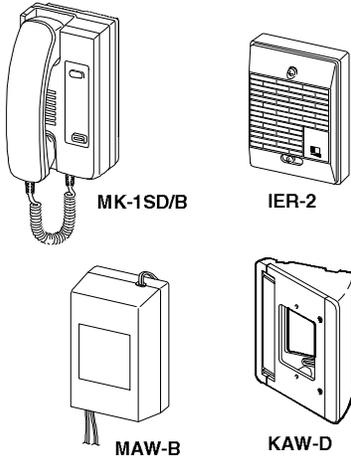
KA-DAR
Tilt color door station

KA-1MRD
Tilt color audio monitor station

PS-2410A
24V DC power supply

KAS-1ERD.D: Boxed set of KA-DAR, KA-1MRD & power supply PS-24E (220-240V).
KAS-1ERD.D: with power supply PS-2410A (120V AC)
KAS-1ERD.C: with power supply PS-24A (120V AC)
KAS-1ERD.D: with power supply PS-24ME (230V AC)

* KA-DAR & KA-1MRD are available with a boxed set only.



Optional Components

Model	Description	Functions
MK-1SD/B	Audio only sub station.	One per KA-1MRD. Cannot call each other.
IER-2	Call extension speaker	One per inside station.
EL-9S	Electric door release. 12V AC, 0.35A.	Requires an AC transformer (PT-1210N in USA)
MAW-B	Auxiliary light control relay. 24V DC sourced.	External light turns on when KA-DAR call button or inside monitor button is pressed.
KAW-D	30° Angle Box.	Single-gang surface mounting.

FEATURES

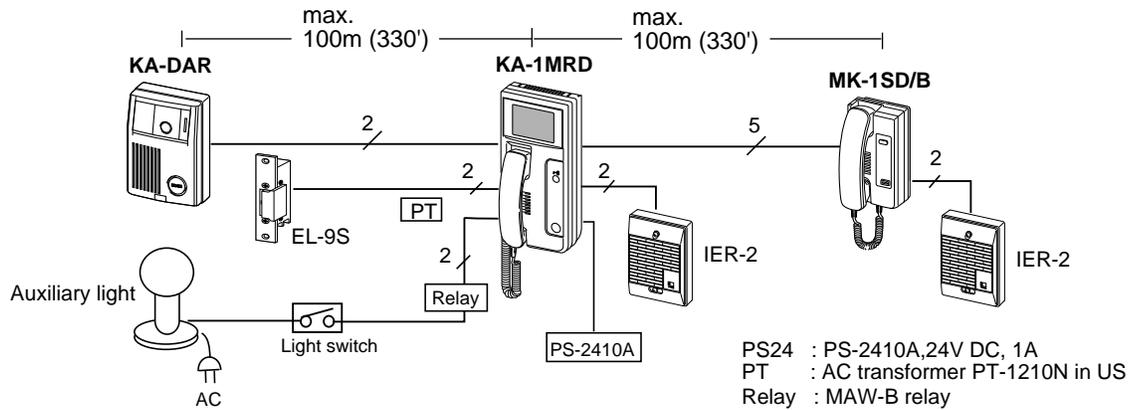
- Tilt control of camera added to the Color Video Entry Security and Access Control system.
- Hear and See before answering (Instant-On feature).
- Clear and bright image with color TFT(*1) LCD monitor and DSP video door station.
- Handsfree audio/video monitoring.
- White LED light turns on automatically, illuminating a caller up to 50cm, 20" away.
- Expandable with MK-1SD/B audio only sub station.
- Call extension speaker IER-2 connected to each inside station.
- Auxiliary light can be controlled via MAW-B relay.
- Up to 100m, 330' with standard 2-conductor parallel cable.

(*1) TFT= Thin Film Transistor
 (*2) DSP= Digital Signal Processor

2 INSTALLATION

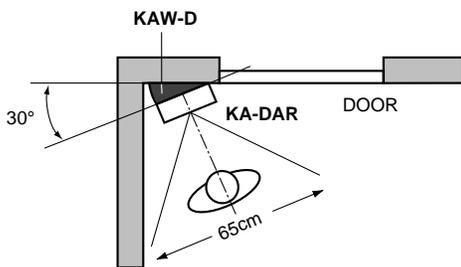
Fully expanded system

KA-1MRD one camera and one monitor system can be expanded with MK-1SD/B audio only handset, with both capable of answering and releasing the door. Call extension speaker IER-2 can be attached to each room station.



Wiring

1. Cabling Keep audio/video wires at least 30cm, 1' away from any AC power lines, fluorescent and dimmer switches to avoid noise interference.
2. Type of cable Use a parallel cable for connecting door station KA-DAR. Do not use coaxial cable, individual wires, or shielded cable.
3. Existing cable When existing cable for chime is used, be sure to locate and disconnect the bell transformer. If unused wires exist in the cable, terminate each extra pair with a 120W resistor at each end (also in the cable to audio only station).
4. Cable specifications
 - (1) 0.65mm to 1.2mm (22AWG to 16AWG)
 - (2) Vinyl jacketed and PE(polyethylene) insulation.
For other types, limit use for distance up to 30m, 100'.
 - (3) Single core conductor. If stranded, solder the end of conductor.
5. KA-DAR mounting location
 - (1) KA-DAR door station employs CCD video camera, which is affected by strong light, such as direct sunlight, porch light or street light which come directly into camera lens.
 - (2) **30° Angle Box KAW-D**
KAW-D surface-mounts on wall (single-gang size). KAW-D can be used to angle the KA-DAR 30° toward the door. Reversible design allows KA-DAR on either side of door.



Connect wires, attach back frame to KAW-D and remount KA-DAR.

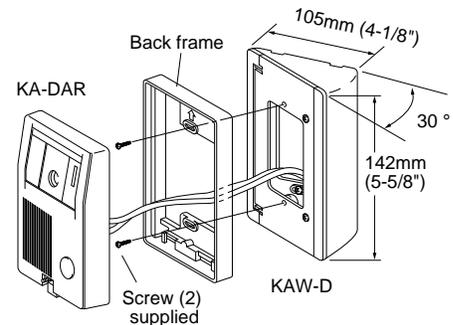
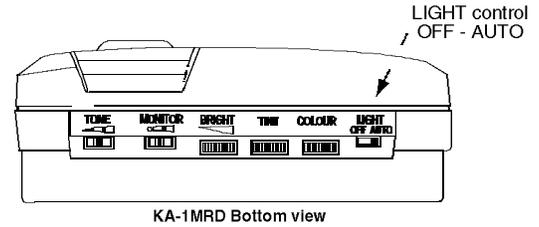


Image viewing area

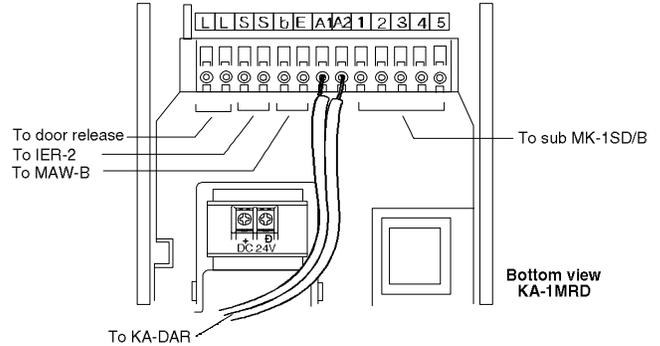
White light illuminator

On bottom of KA-1MRD, move the LIGHT control to right AUTO position. When the ambient light becomes dark, the white light turns on automatically. When call button on KA-DAR or MONITOR button on KA-1MRD is depressed, the illuminators project to the caller up to 50cm, 20" from the camera. Background scene of more than 50cm, 20" will not be seen.



Actual terminal locations

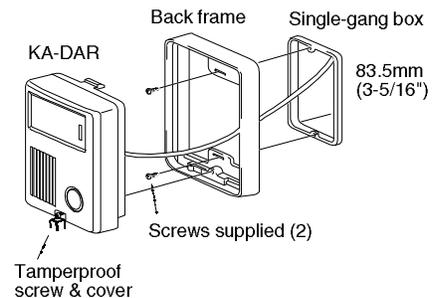
KA-1MRD has connecting terminals on the back of the unit. Insert each conductor into the terminal until it locks firmly.



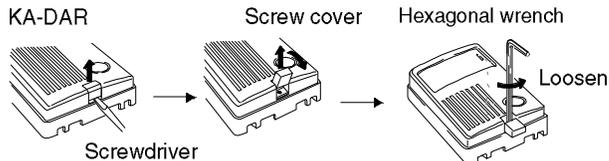
4 MOUNTING

KA-DAR

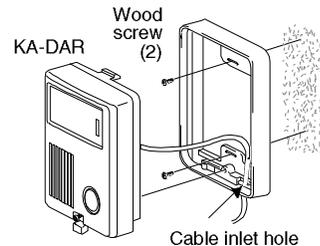
1. Pull the tamperproof screw cover out and downward to expose screw.
2. Loosen tamperproof screw with the hexagonal wrench (supplied).
3. Mount the back frame to single-gang box.
4. Connect the wires, and mount the KA-DAR to back frame, aligning on top.
5. Fasten the screw and remount the screw cover.



· Open the screw cover

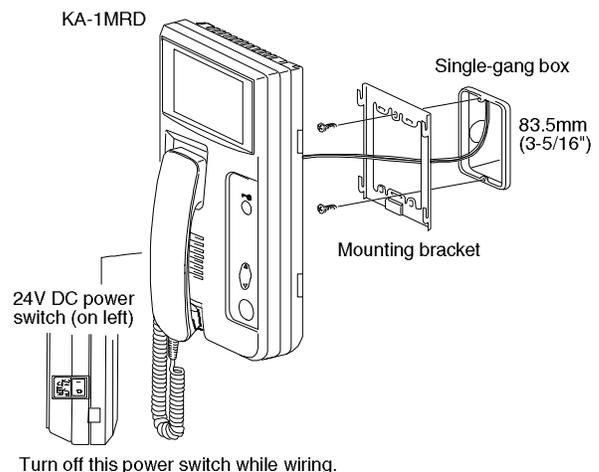


· Surface wall mounting



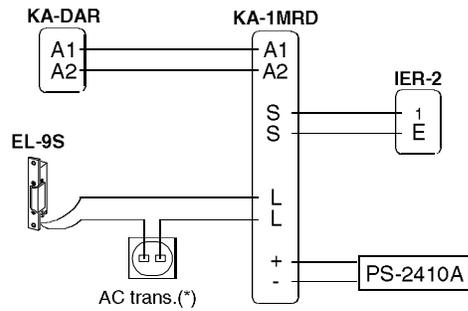
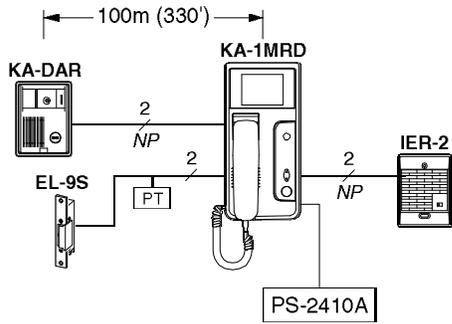
KA-1MRD

1. Remove the mounting bracket attached on back of KA-1MRD.
2. Mount the bracket to single-gang box.
3. Connect 2 wires non-polarized of KA-DAR on the back of KA-1MRD (A1, A2).
4. Connect two wires of power supply (+, -).
5. Aligning with the marks, insert the prongs of the bracket in the holes of KA-1MRD and pull downward until it locks.
6. It is suggested that the KA-1MRD is mounted in such a manner that the upper part of the monitor is at the height of approximately 160cm, 5'3" from the floor.



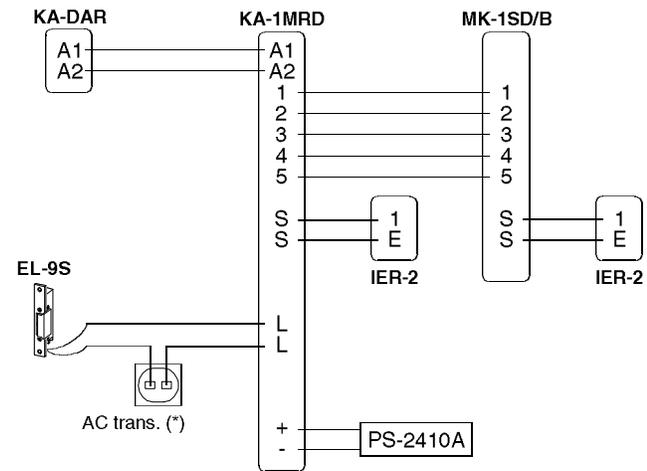
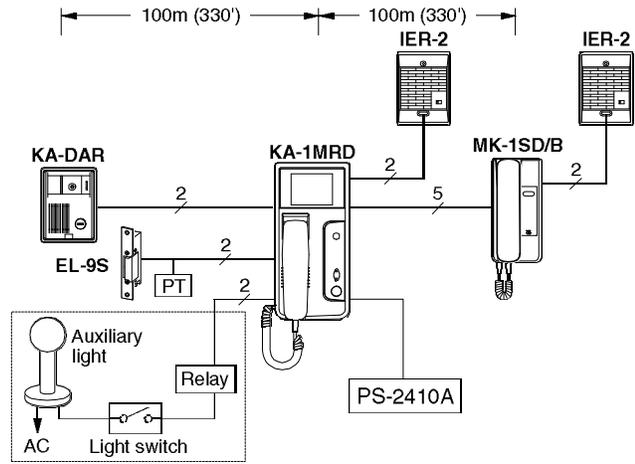
WIRING DIAGRAMS

Basic system



(*) PT-1210N (in USA)

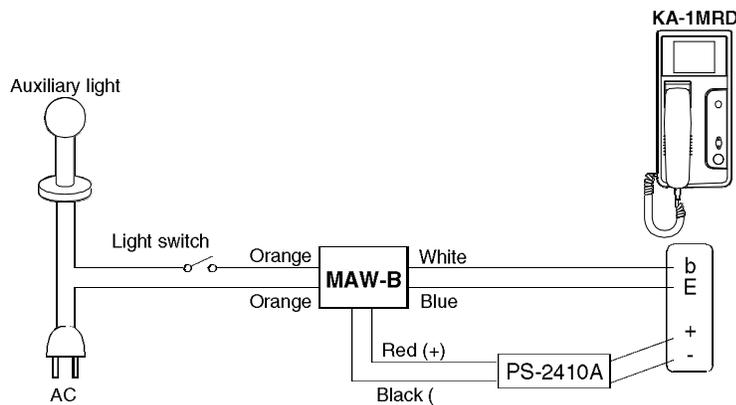
System with Options



Relay MAW-B

(*) PT-1210N (in USA)

Auxiliary lamp control



4 TECHNICAL PRECAUTIONS

Operating temperature:

KA-DAR: -10°C ~ 60°C (14° ~ 140°F)
KA-1MRD: 0°C ~ 40°C (32°F ~ 104°F)

LCD monitor

The high precision LCD is supposed to have more than 99.99% of effective picture elements. It is inevitable, however, that picture elements back or steadily lit at ratio of less than 0.01%. The LCD monitor looks dark in the bright sunlit area, etc. Adjust BRIGHT control to high position to increase monitor luminosity, or reduce ambient lighting.

- When holding handset close to video monitor, the image may vary, but this is not a malfunction.
- KA-1MRD unit surface becomes warm when it is powered on, but this is not a malfunction.
- Strong light, such as direct sunlight, etc. may cause silhouette on the monitor, but this is not a malfunction.
- When outside temperature lowers sharply after rainfall, the inside of the camera may fog up slightly, causing a blurry picture, but this is not a malfunction. Normal operation will be restored when moisture evaporates.
- Do not apply any caulking sealant around video door station. The openings at the bottom will help rain and moisture to dissipate.

Cleaning

Clean KA-1MRD and KA-DAR with a soft cloth dampened with neutral household cleanser. Never use any harsh cleaner or cloth. Do not spray high-pressure water on KA-DAR.

5 SPECIFICATIONS (KA-1MRD)

· Power source:	DC 24V
· Current consumption:	700mA max. . 45mA in standby
· Power supply:	Use PS-2410A power supply
· Call-in:	4-tone chime with adjustable volume
· Call-in image:	45 sec. timed (approx.)
· Communication:	Handset, simultaneous
· Communication image:	2-1/2 min. timed (approx.)
· Camera:	1/4 inch Color CCD w/DSP (Digital Signal Processor)
· Image viewing area:	76.5° Horiz., 58.5° Vert. at 50cm (20") in front of camera 79cm H. x 56cm V. (2'7"H x 1'10"V).
· Video-monitor:	4 inch TFT colored LCD
· Key-button contact:	DC or AC 24V, 500mA.
· Wiring:	2 parallel, non-twisted wires to door, non-polarized