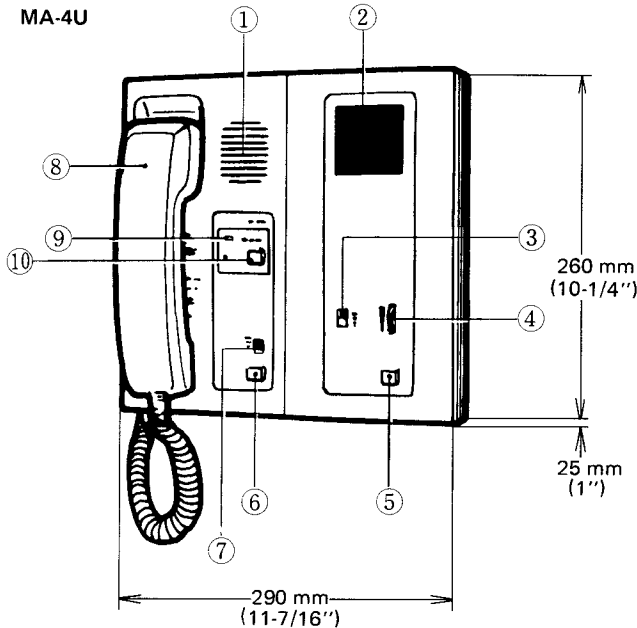


VIDEO INTERCOM SYSTEM

MODEL: MA-4U (*Master Room Station with Video Monitor*)

— INSTRUCTIONS —



NAMES AND FUNCTIONS

- ① Speaker
- ② Video monitor
- ③ Contrast control (3-level)
- ④ Brightness control
- ⑤ Monitor button
- ⑥ Door release button
- ⑦ Volume control for call tone and monitoring
- ⑧ Handset
- ⑨ Indicator LED for communication with door station
- ⑩ Call button for additional room station

FEAUTRES

- System may include up to 2 door stations (one MA-D/MA-DC with camera and one IB door station without camera) and up to 3 room stations (one MA-4U and 2 additional room stations, either MAH-1CD with video monitor or IBH-1CD without video monitor).
- Just one coaxial cable for calling, communication and picture between door station and MA-4U room station.
- Thin and compact design.
- Monitor button allows you to both see and hear outside, without picking up handset.
- Door release button activates electric door strike.
- Extension chime call speaker may be installed in system.

SPECIFICATIONS

- * Power source: DC-24V. Use PS-24M Power Supply Adaptor.
- * Current consumption: 1.3A maximum with illumination lamp.
0.9A maximum without illumination lamp.
0.25A in standby mode.
- * CRT (Cathode Ray Tube): 1.5 CRT (2.25 CRT through lens).
- * Resolution: Vertical more than 250 lines.
Horizontal more than 250 lines.
- * Carrier frequency: Transmission 6.5 MHz.; Reception 6.0 MHz.
- * Communication: Simultaneous with handset.
- * Calling: 2-stroke electronic chime from MA-D (or MA-DC) to MA-4U, MAH-1CD & IBH-1CD.
4-stroke electronic chime from IB door station to MA-4U, MAH-1CD & IBH-1CD.
Electronic tone between room stations: MA-4U and MAH-1CD (or IBH-1CD).
- * Wiring: One coaxial cable between MA-4U and MA-D plus a pair wire for illumination lamp.
One coaxial cable between MA-4U and MA-DC.
A pair of wires between MA-4U and IB door station (non-polarized).
One coaxial cable plus 9 wires between MA-4U and MAH-1CD.
6 wires between MA-4U and IBH-1CD.

* Wiring distance:
Audio/Video;

Coaxial cable	3C-2V, RG-58/U or equivalent	5C-2V, RG-59/U or equivalent
Maximum distance	100 m	300 m
	330'	1000'

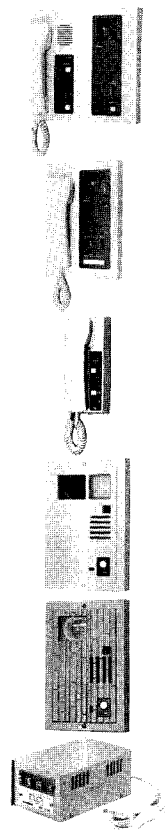
Illumination lamp;

Wire gauge	0.8 mm dia.	1.2 mm dia.	1.6 mm dia.
Max. distance	100 m	200 m	300 m

Wire gauge	20 AWG	16 AWG	14 AWG
Max. distance	330'	660'	1000'

- Up to 150 m (450') with 0.65 mm dia. wires (22 AWG) between MA-4U and IB door station without camera.
- Up to 75 m (230') with 5C-2V (RG-59/U) and 0.65 mm dia. (22 AWG) between MA-4U and the remotest MAH-1CD.
- Up to 75 m (230') with 0.65 mm dia. (22 AWG) between MA-4U and the remotest IBH-1CD.
- PS-24M power supply must be located close to MA-4U. Do not exceed 10 m with 1.2 m dia. wire (35' with 16 AWG).

COMPONENTS AVAILABLE FOR USE WITH YOUR MA-4U VIDEO INTERROOM SYSTEM



MA-4U: Master room station with video monitor and door release button. Replies to either door station and also allows calling and talking with other room stations.

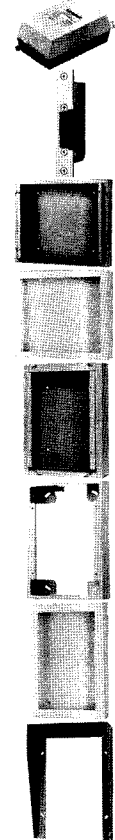
MAH-1CD: Additional room station with video monitor and door release button. Replies to either door station and also allows calling and talking with other room stations.

IBH-1CD: Additional room station with door release button, but without video monitor. Replies to either door station and also allows calling and talking with other room stations.

MA-D: Door station with camera, illumination lamp & beam sensor.

MA-DC: Door station with camera and beam sensor, but without illumination lamp.

PS-24M: Power supply adaptor, DC-24V, 1.5A. One required per system.



MAW-B: Relay box for additional light.

EL-9S: Electric door release.

MAW-JB: Flush mounting back box for MA-4U.

MAW-RB: Surface mounting back box for MA-4U.

MAW-J: Flush mounting back box for MA-D/MA-DC and MAH-1CD.

MAW-R: Surface mounting back box for MA-D/MA-DC.

MAW-RA: Surface mounting back box for MAH-1CD.

MAW-E: Hood for MA-D/MA-DC installation. Recommended when the unit is exposed to rain or strong light.

In addition to one MA-D/MA-DC door station with camera, the system may include one conventional intercom door station from below selection;



IB-DA: Door station with plastic cover (surface mount).

IB-RA: Door station with brown metal cover (semi-flush mount).

IB-RAG: — do —, with green metal cover.

IB-FY: Door station with aluminum cover (flush mount) (Not available in N. America).

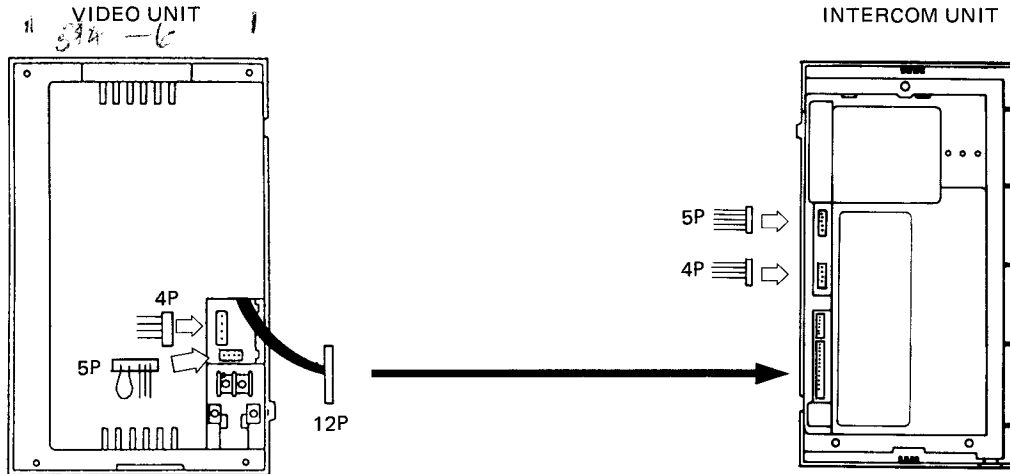


IB-JA: Door station with stainless steel cover (flush mount).



IB-NA: Door station with plastic cover (semi-flush mount).

MA-4U TERMINAL LOCATIONS



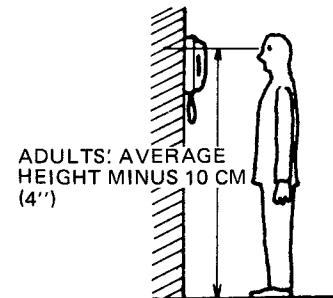
- 4P connector: Z^+ , Z^- , $+$, $-$
- 5P connector: 75 ohm jumper, U , B , E
- A : Terminal for coaxial cable to door station
- B : Terminal for coaxial cable to MAH-1CD
- 5P connector: to MAH-1CD (T , R , C , E)
 K unused
- 4P connector: to IB door station (1 , 2)
to door release (L , L)

INSTALLATION LOCATION REQUIREMENTS

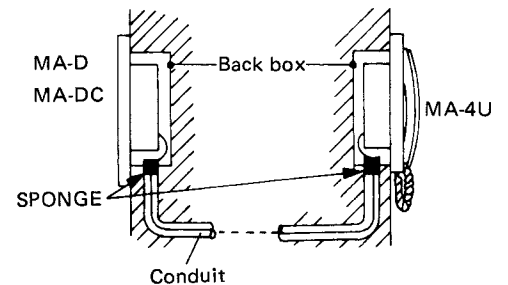
- (1) Avoid to install MA-4U room station in a place where it is exposed to direct sunlight, air conditioning heat, frost, high temperature, vapor, water, dust, iron dust, chemicals, etc.



- (2) Determine MA-4U installation height so that the center of the video monitor would be at the standard eye level: adults' average height minus 10 cm (4").

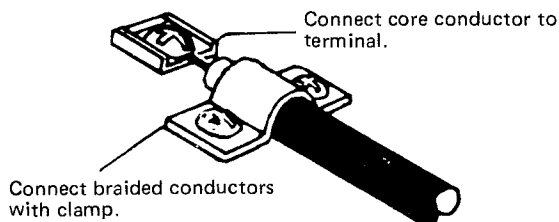
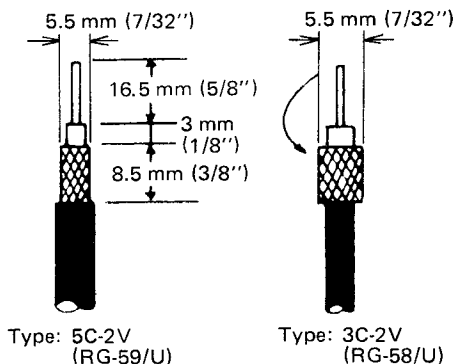


- (3) When using conduit for running cable, please put sponge or the like at both ends to avoid acoustic feedback through the conduit.

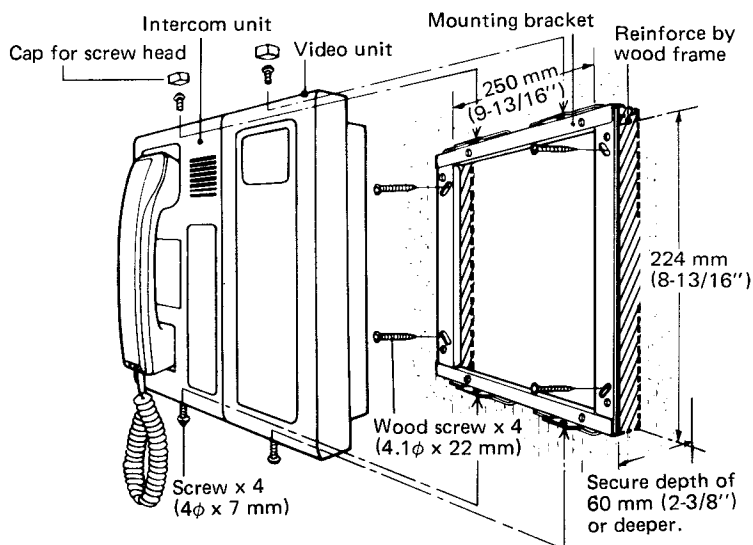


COAXIAL CABLE CONNECTION

- Please use 5C-2V, RG-59/U or equivalent.
Impedance: 75 ohm.
Observe the size of cable of 5.5 mm (7/32") thick as shown to be firmly secured by the clamp.
- When using 3C-2V, RG-58/U or equivalent, strip the insulation and fold back the braided conductors as shown to avoid shorting to core conductor.



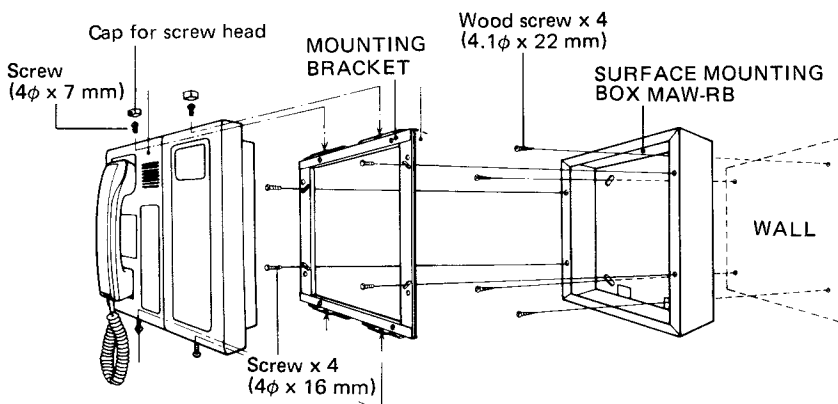
SEMI-FLUSH MOUNTING TO WALL



Note: Use MAW-JB back box when mounting MA-4U recessed to concrete wall in new construction.

- (1) Use the provided template to open a hole of H: 224 mm x W: 250 mm (8-13/16" x 9-13/16") securing depth of 60 mm (2-3/8") or deeper.
- (2) Provide backup wooden frame for securing mounting bracket.
- (3) Attach the mounting bracket to wall with 4 wood screws, so as to be fitted vertically to the floor.
- (4) Connect coaxial cable. After connecting cable by wire nuts, plug in connector (male) on MA-4U.
- (5) Fit the MA-4U intercom unit first and then Video unit to the mounting bracket. Attach top and bottom of each unit by 2 screws.
- (6) Hide the head of the upper screws by the caps provided.

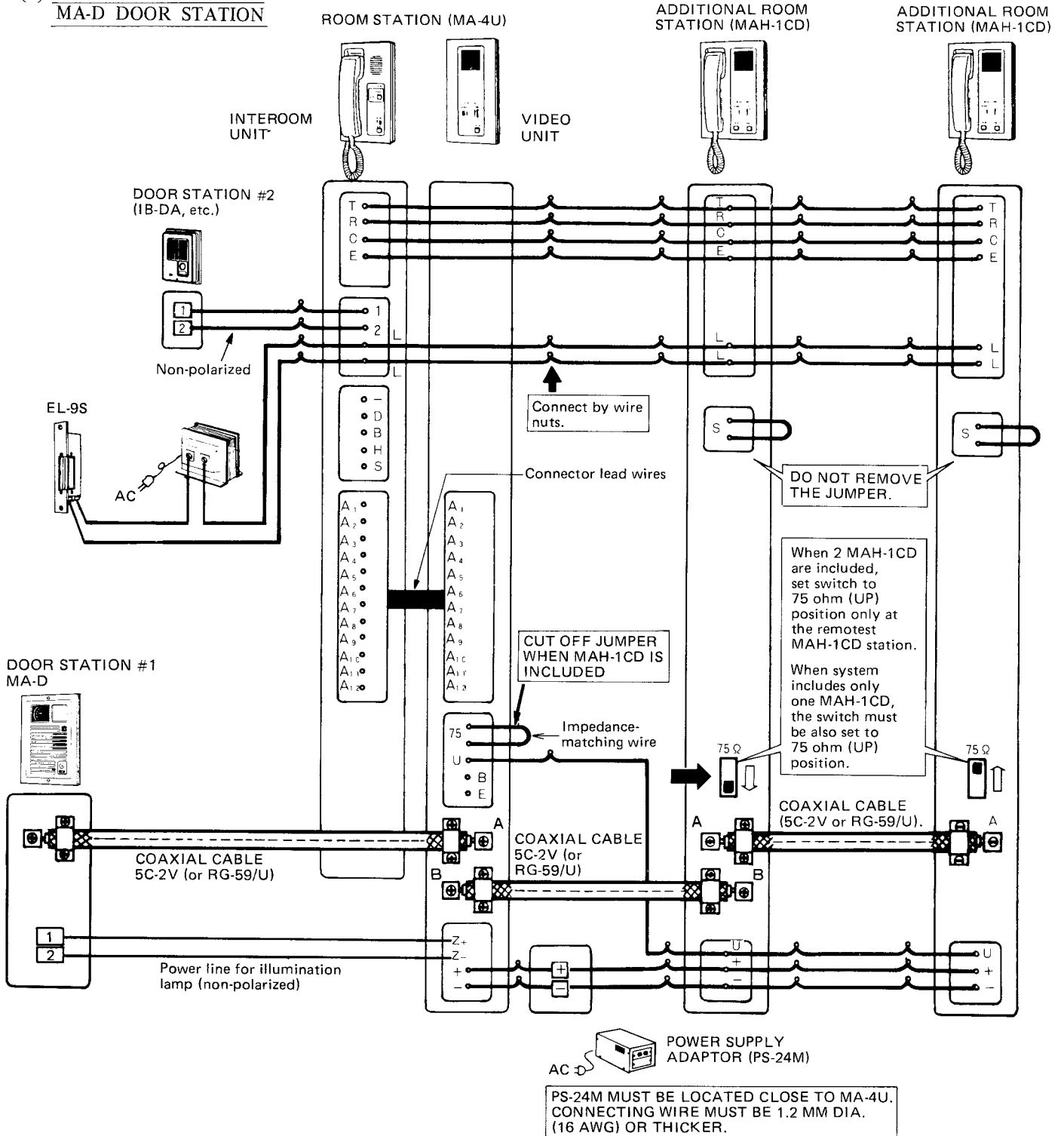
SURFACE MOUNTING TO WALL



- (1) Attach MAW-RB surface-mounting back box to wall with 4 wood screws.
- (2) Attach the mounting bracket to surface-mounting back box with 4 screws.
- (3) Connect coaxial cable. Remove connector (female) and connect to wires by wire nuts and plug in to connector (male) on MA-4U.
- (4) Fit MA-4U intercom unit first and then Video unit to the mounting bracket. Attach top and bottom of each unit by 2 screws.
- (5) Hide the head of the upper screws by the caps provided.

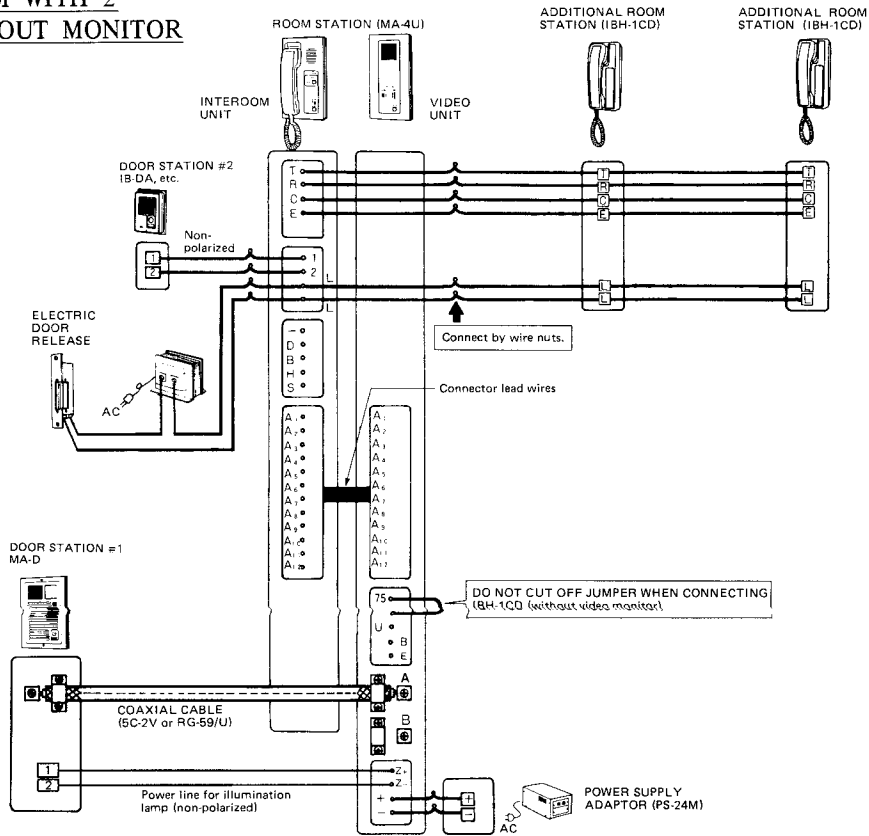
WIRING DIAGRAM

(1) MA-4U SYSTEM WITH MA-D DOOR STATION

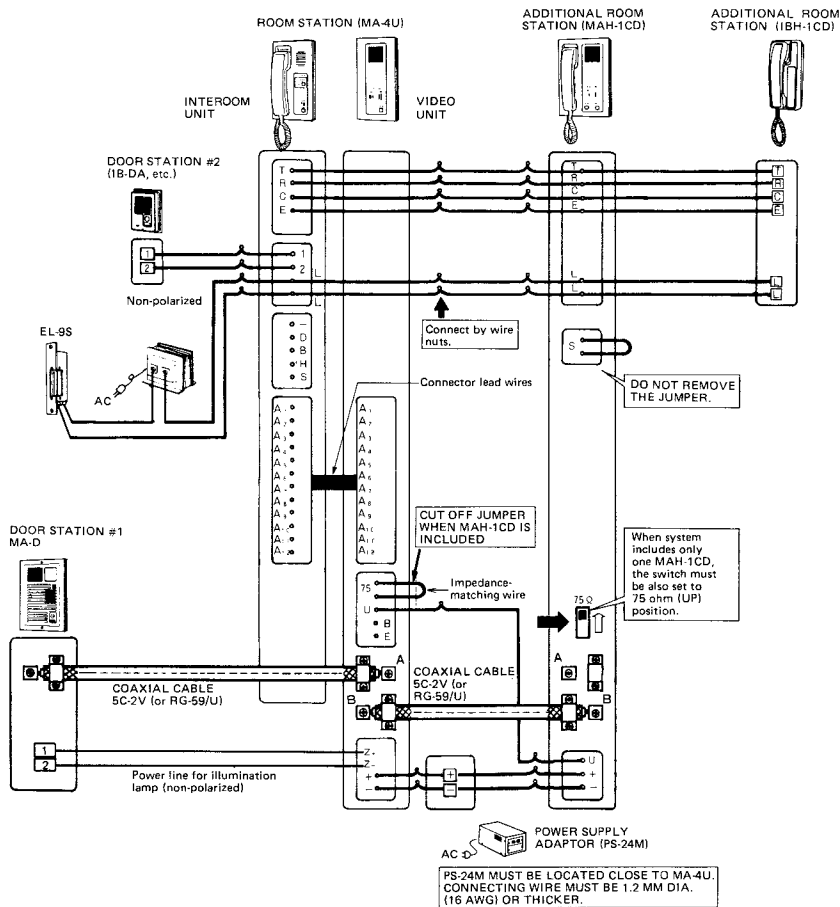


WIRING DIAGRAM

(2) MA-4U SYSTEM WITH 2 IBH-1CD WITHOUT MONITOR



(3) MA-4U SYSTEM WITH ONE EACH MAH-1CD AND IBH-1CD

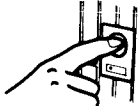


OPERATIONS

• CALLING FROM DOOR STATION

Momentarily depress CALL button.

At MA-D or MA-DC



Sounds DING-DONG at all the room stations.

At IB-DA, etc.



Sounds DING-DONG, DING-DONG at all the room stations.

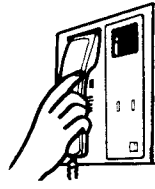
* After room station replies, talk handsfree.

After chime sounds, pick up handset and reply.



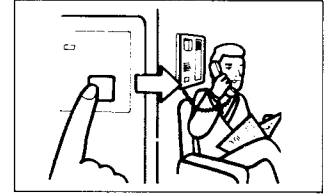
- * Chime sound distinguishes which door station has called.
- * After chime sounds, pick up handset and talk to the person in the picture.
- * Timer circuit automatically shuts off communication approximately one minute after you pick up handset. You can turn on the circuit again by depressing the monitor button.
- * Communication indicator LED gets lit when you pick up handset, at your MA-4U station.

After conversation, hang up handset.



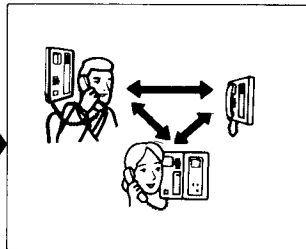
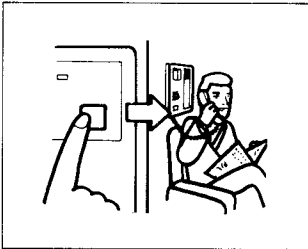
- * Replace handset onto the cradle properly. The handset, if dropped or struck, may be damaged.

• TRANSFERRING A CALL FROM DOOR TO ANOTHER ROOM STATION



- * Ask the visitor to wait for a moment. Depress ROOM CALL button to call the second room station.
- * After you hang up handset, the transferred station may reply to door station, by momentarily hanging up handset.
- * When the second room station does not answer, momentarily hang up handset to resecure communication with door station.

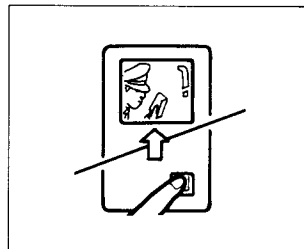
• COMMUNICATION BETWEEN ROOM STATIONS



- * To call other room station, pick up handset and depress ROOM CALL button.
- * When you see LED lit on your MA-4U station, other room station is communicating with door station. Please call later.
- * During conversation, an incoming call from door station is heard softly through your handset. Hang up handset at both stations and either station may pick up handset again to reply to door station.

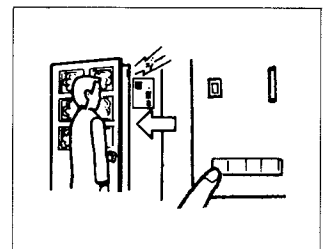
- * When system includes 3 room stations, please call each station by different signal, i.e. to call kitchen by - - - - to call bedroom by - - - - to call living room by - . - . - . -

• MONITORING THE DOOR STATION



- * Momentarily depress MONITOR button and picture and sound come ON. You can watch and hear the outside without picking up handset.
- * In the monitoring mode, the room station can not be heard at the door station. You may pick up handset for talking to door station, if necessary.
- * MA-4U and MAH-1CD stations can receive a call from door station while monitoring.
- * Approximately one minute after MONITOR button is depressed, the system turns back to standby mode automatically.
- * When you need to stop monitoring, pick up handset once and hang up.

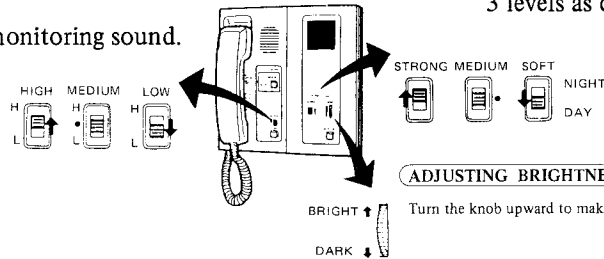
• RELEASING DOOR LOCK



- * Depress and hold down electric door release button.
- * While the door release button is held down, the door release will remain open, and a buzzing sound is heard at the door.

ADJUSTING CALL TONE VOLUME

- * Call tone volume can be adjusted to 3 levels as desired.
- * Adjusts both call tone and monitoring sound.



ADJUSTING CONTRAST

- * The picture contrast may be adjusted to 3 levels as desired.

ADJUSTING BRIGHTNESS

BRIGHT ↑ Turn the knob upward to make picture brighter.
DARK ↓

- Notes: (1) To obtain the best picture, please set contrast switch to DAY position during daytime, and to NIGHT position during the night, and then adjust brightness.
- (2) NEVER HOLD HOOK SWITCH DOWN, WHILE YOU PICK UP HANDSET. IF CALLED FROM DOOR JUST AT THAT MOMENT, THE CHIME WILL BE ANNOUNCED LOUDSPEAKING THRU HANDSET AND WOULD RUPTURE YOUR EARDRUM.
- (3) Do not keep MONITOR button in depressed position by tape, etc., which may cause damage.

TROUBLE-SHOOTING GUIDE

No.	MODE OF TROUBLE	LOOK FOR
1	Unit totally dead.	<ul style="list-style-type: none"> * Power supply not plugged. * Connector leads to power supply disconnected. * Short in connector leads to power supply.
2	Cannot call and communicate, and picture tube lights, but no picture.	<ul style="list-style-type: none"> * Inferior connector of coaxial cable at the terminal end. * Short in coaxial cable connections at the terminal end. * Break in coaxial cable. * Coaxial cable disconnected. * Defective door station (in camera).
3	Can call and communicate, and picture tube lights, but no picture.	<ul style="list-style-type: none"> * The shutter has closed to protect the vidicon in the camera from direct sunlight . . . this is normal operation, not a fault. * Defective door station (in camera).
4	Can call and communicate, but picture tube remains dark.	<ul style="list-style-type: none"> * Defective room station (in video monitor).
5	Cannot call from door station.	<ul style="list-style-type: none"> * Defective door or room station.
6	Picture is okay, but no audio signal.	<ul style="list-style-type: none"> * Defective door or room station.
7	Inferior sensitivity and contrast of picture tube.	<ul style="list-style-type: none"> * Worn-out vidicon (A general life of vidicon is approximately 3 years in normal application).
8	Fuzziness in bright area.	
9	Spots in picture.	
10	"Negative" image (reversal of black and white).	<ul style="list-style-type: none"> * Worn-out picture tube (A general life of picture tube is approximately 4 years in normal application).

CAUTIONS

- * DO NOT OPEN THE BACK COVER OF THE MA-4U UNIT, WITHOUT FIRST REMOVING PLUG OF PS-24M POWER SUPPLY FROM AC OUTLET. The high voltage is loaded on the monitor unit inside.
- * Do not connect any terminal on MA-4U to AC power lines.
- * NEVER HOLD HOOK SWITCH DOWN, WHILE YOU PICK UP HANDSET. IF CALLED FROM DOOR JUST AT THAT MOMENT, THE CHIME WILL BE ANNOUNCED LOUDSPEAKING THRU HANDSET AND WOULD RUPTURE YOUR EARDRUM.
- * Avoid to run the coaxial cable thru doors or windows or between furniture, which may pinch coaxial cable.
- * Please handle MA-4U unit with utmost care. The unit, if dropped or struck, may be damaged.

WARRANTY

Aiphone warrants its products to be free from defects of material and workmanship under normal use and service for a period of one year 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.