APARTMENT HOUSE INTERCOM SYSTEM

| MODELS; | VC-K | (Apartment station) |
	VC-0M, VC-1M, VC-2M	(Entrance station, 0-/1-/2-call)
	VC-4M, VC-6M, VC-8M	(Entrance station, 4-/6-/8-call)
	VC-10M	(Entrance station, 10-call)
	VCH-8, VCH-16	(Add-on call button panel, 8-/16-call)
	VC-26MY, VC-42MY	(One-paneled entrance station, horizontal type, 26-/42-call)
	VC-26MT, VC-58MT	(— do —, vertical type, 26-/58-call)

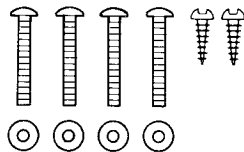## INSTRUCTIONS

VC-K   VC-10M   VCH-16
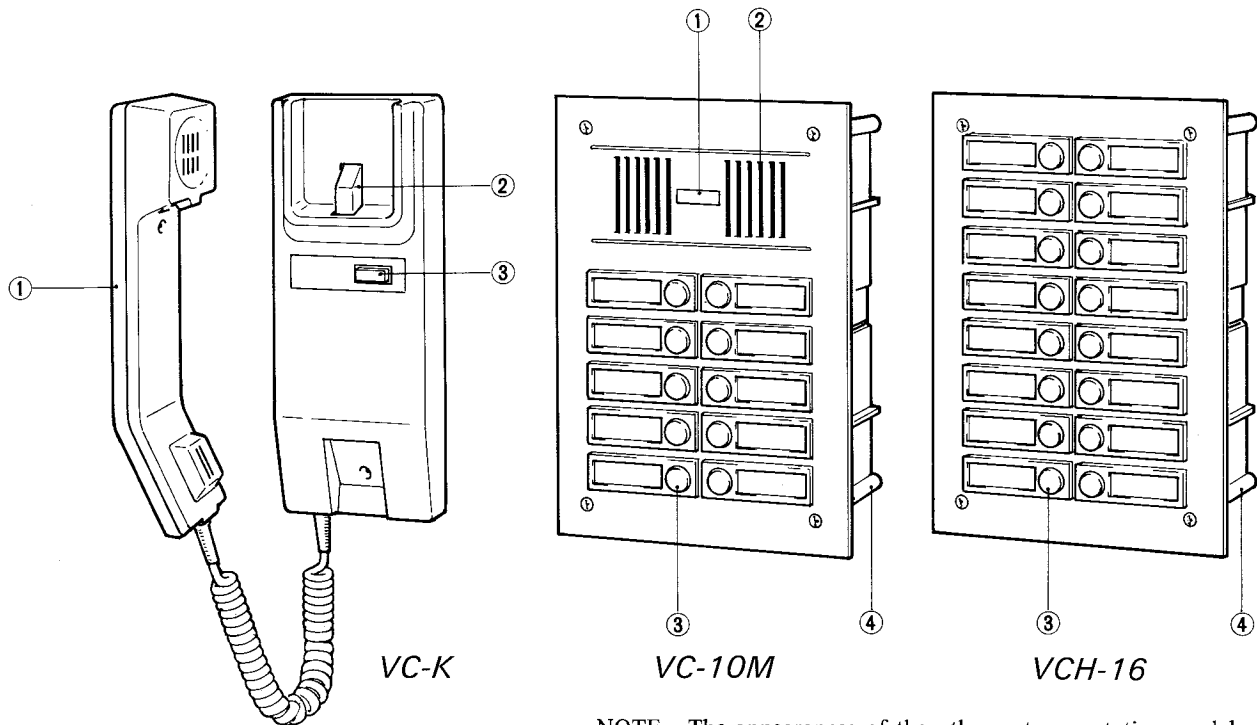
NOTE; The appearances of the other entrance station models are the same as VC-10M or VCH-16, except the number of call buttons.
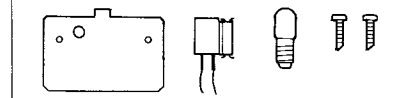
Screws for VC-K;
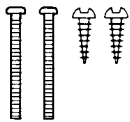
Screws, washers and directory illumination kit for VC-nM & VCH;

● Back illumination kit

(VCH-16 has two sets).

1 NAMES AND FUNCTIONS

VC-K;
① Handset
② Hook knob
③ Door release button

VC-10M, VCH-16;
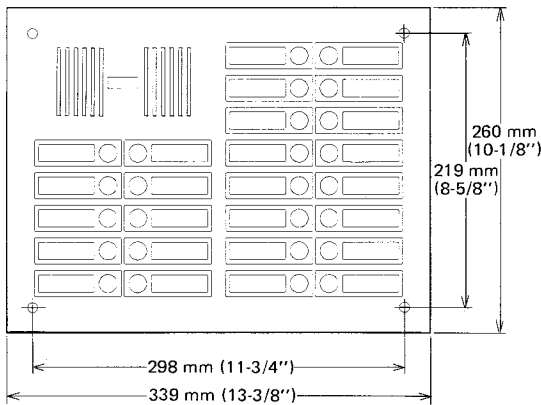① AIPHONE mark
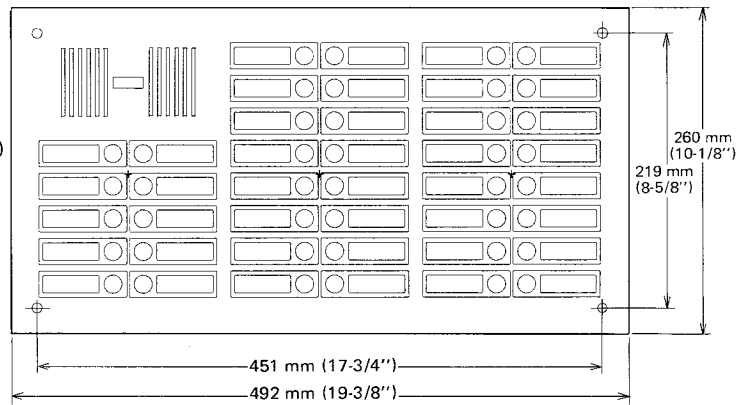② Speaker/mic unit
③ Call button with directory
④ Back box

2 SYSTEM FEATURES

* Loop-wiring system by 4 common plus 1 individual wires per station (3 + 1, if door release is not required).
* Maximum two VC-K stations per apartment.
* Seven entrance station models with 8- or 16-call add-on panels to meet small to larger apartments.
* Directory card back illumination.
* One-paneled entrance stations available, either vertical or horizontal type.
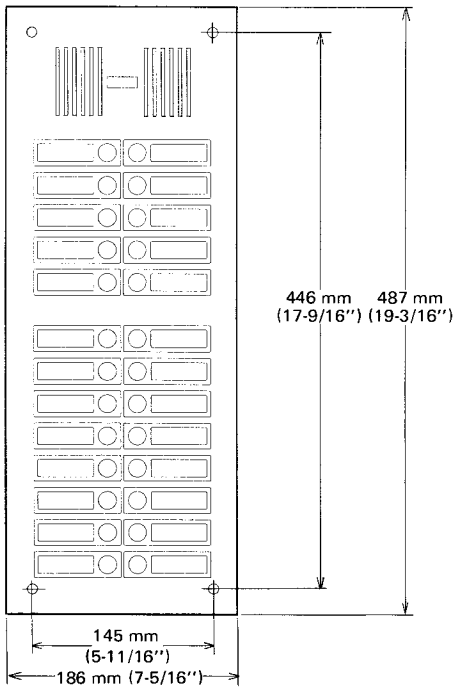* VC-BBX surface-mount back box for VC-nM & VCH panels.

VC-26MY

260 mm (10-1/8")
219 mm (8-5/8")
298 mm (11-3/4")
339 mm (13-3/8")

VC-42MY

260 mm (10-1/8")
219 mm (8-5/8")
451 mm (17-3/4")
492 mm (19-3/8")

VC-26MT

446 mm (17-9/16")　487 mm (19-3/16")
145 mm (5-11/16")
186 mm (7-5/16")

VC-58MT

446 mm (17-9/16")　487 mm (19-3/16")
298 mm (11-3/4")
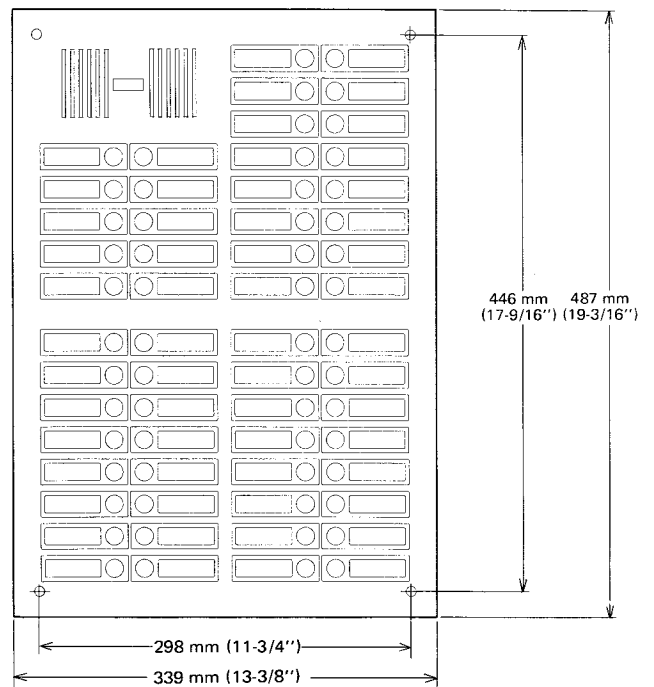339 mm (13-3/8")

NOTES;　The above drawings illustrate a full compliment of call buttons mounted on each panel.

3 BEFORE YOU INSTALL AND OPERATE THE EQUIPMENT
— Prohibitions and precautions —

* Operation;
  1. DO NOT HOLD HOOK SWITCH DOWN WHILE PICKING UP HANDSET, THE CALL TONE SOUNDS THRU THE HANDSET RECEIVER ELEMENT AND COULD CAUSE HEARING DAMAGE.
  2. Common talk system. Your conversation with entrance station can be heard if other apartment station picks up handset.
  3. Calling & communication are not available between two room stations, if installed, in the same apartment.

* Installation;
  1. DO NOT CONNECT ANY TERMINAL ON ANY UNIT TO AC POWER LINES.
  2. Only one entrance station per system.

* Unit selection;
  The VC-K/VC-M models are not compatible with the existing models: VA-K/VAM-/VAM-A.

* Maintenance;
  1. Clean your VC-K station with a soft cloth dampened with neutral household cleanser. Never use thinner nor benzine, etc.
  2. Do not splash water on the entrance station by hose, etc.
 3. Call button unit can be replaced individually.

4 SYSTEM COMPONENTS

| MODELS	DESCRIPTION	QTY PER SYSTEM	REMARKS
● **Apartment station;** VC-K	Apartment station with DOOR RELEASE button. Wall-mount only.	One or two per apartment.	* Mounts on SINGLE-GANG BOX.
● **Entrance station;** VC-0M VC-1M VC-2M VC-4M VC-6M VC-8M VC-10M	Entrance station with back box. 0-call. – do –,　　1-call. – do –,　　2-call. – do –,　　4-call. – do –,　　6-call. – do –,　　8-call. – do –,　　10-call.	One per system.	* Mounts on the supplied back box. * BACK BOX DIMENSIONS: 　H: 230 mm (9-1/16") 　W: 156 mm (6-1/8") 　D: 68 mm (2-11/16") * Surface-mount back box VC-BBX is available.
VC-26MY VC-42MY VC-26MT VC-58MT	One-paneled entrance station with back box,　26-call. – do –,　　42-call. – do –,　　26-call. – do –,　　58-call.	One per system.	* Two to four back boxes can be united before flush-mounting to wall.
● **Add-On panel;** VCH-8 VCH-16	Add-on panel with 8 call buttons. – do –,　　16 buttons.	Any number.	* Install one PS-12S (or PS-12C) power supply for one VC-M plus up to two VCH, and an additional power supply for every three VCH.
● **Door release;** EL-9S RY-PA	Electric door release. AC 12V, 250 mA. Door release relay adaptor.	One per system. 1 pce.	 Contact rating for electric door release; Max. AC/DC 24V, 2.5A.
● **Power supply;** PS-12S PS-12A PS-12C	Power supply adaptor. AC110-125V, 220-240V. 50/60 Hz. Output: DC 12V, AC12V. – do –, DC 12V only. – do –, UL/CSA LISTED. DC 12V (for North America).	One for one VCM + two VCH. Additional for every three VCH.	* No additional power supply is required when the back illumination is not wired.
● **For additional audio call;** RY-PA	Relay adaptor for chime or buzzer.	One per room station.	Contact rating; Max. AC/DC 24V, 2.5A. * Chime or buzzer must be powered separately from the system.

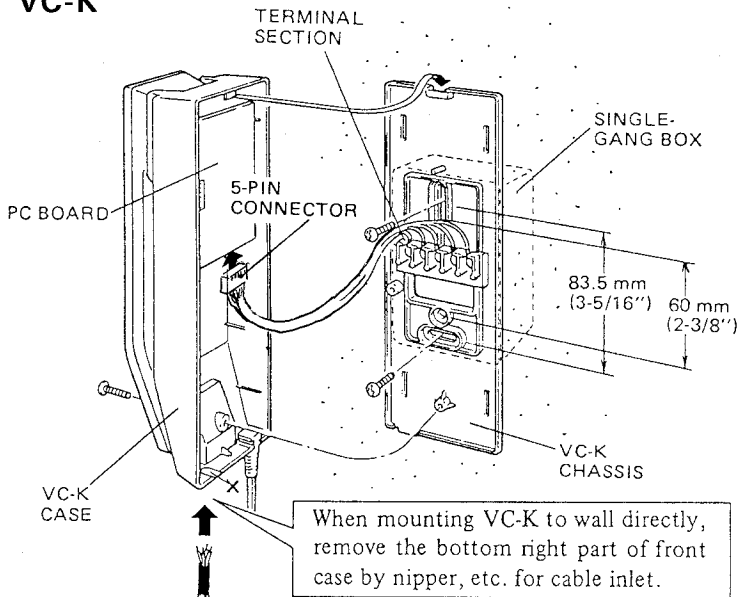# 5 INSTALLATION

(1) ACTUAL TERMINAL LOCATION

VC-K INSIDE VIEW

1 2 3 4 B
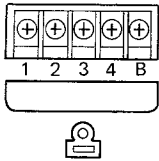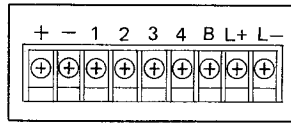
VC-M PANEL BACK VIEW

+ − 1 2 3 4 B L+ L−

1	: for communication (VC-K to entrance station)
2	: for communication (Entrance station to VC-K)
3	: for grounding
4	: for door release
B	: for call signal
+ , −	: for power supply (DC 12V)
L+ , L−	: for RY-PA or DC 12V door release.

(2) WALL-MOUNTING INSTALLATION

VC-K

TERMINAL SECTION

PC BOARD

5-PIN CONNECTOR

SINGLE-GANG BOX

83.5 mm (3-5/16") 60 mm (2-3/8")

VC-K CHASSIS

VC-K CASE

When mounting VC-K to wall directly, remove the bottom right part of front case by nipper, etc. for cable inlet.

(1) Separate front case from chassis by removing a screw and 5-pin connector.
(2) Attach the chassis to either SINGLE-GANG BOX or wall directly.
(3) Connect wires to terminals on chassis.
(4) Reattach the female connector to receptacle on PC board.
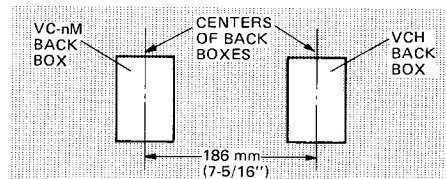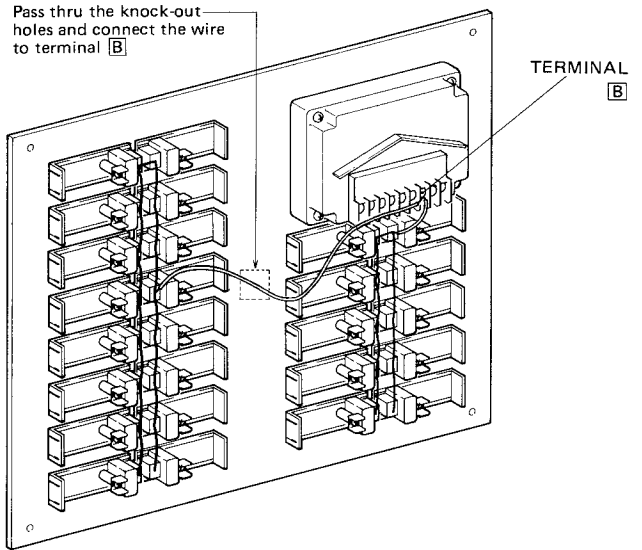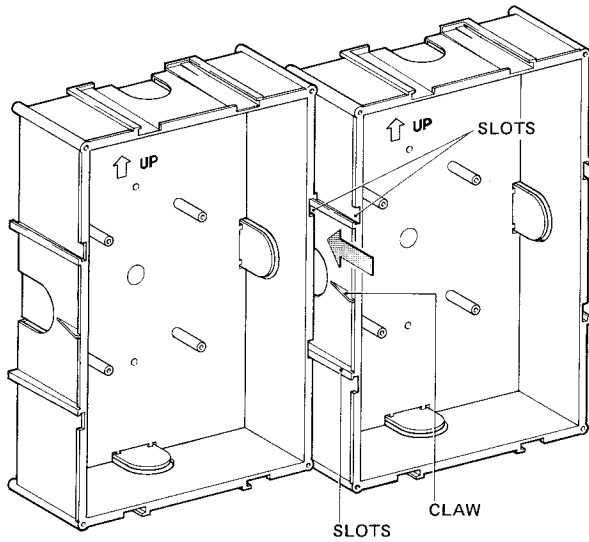   Be careful with the sharp pins.
(5) Remount the front case.

VC-nM

SCREW (x4)
WASHER (x 4)

156 mm (6-1/8")

COMMON WIRES

CALL BUTTON

INDIVIDUAL WIRE

230 mm (9-1/16")

VC-nM FRONT PANEL

BACK BOX

68 mm (2-11/16") or more
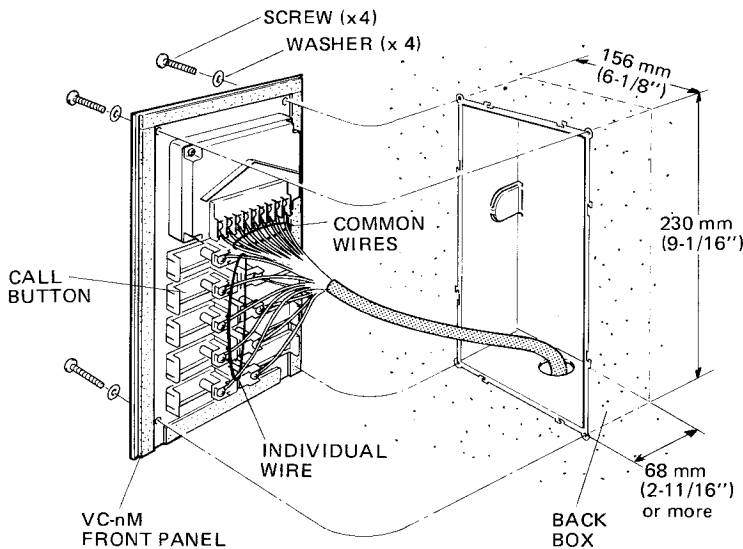
(1) Cut out a hole in the wall of H: 230 mm (9-1/16") x W: 156 mm (6-1/8"), securing depth of 68 mm (2-11/16").
(2) Pass cable thru either of knock-out holes and connect wires to terminals on back of front panel.
(3) Attach the front panel to back box with the supplied 4 screws.

NOTE; Be careful that the connected wires should be put to either side neatly, in order not to create shadows by the directory card illumination.
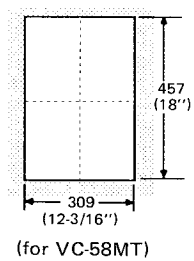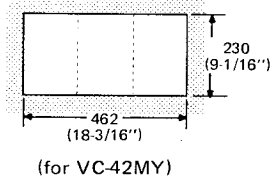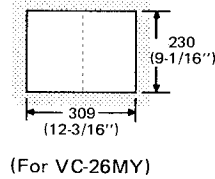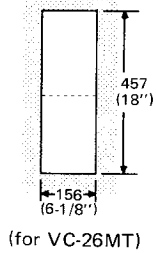
When mounting VC-nM and VCH unit(s), put back boxes in the wall with 186 mm (7-5/16") interval between two box centers.

VC-nM BACK BOX

CENTERS OF BACK BOXES
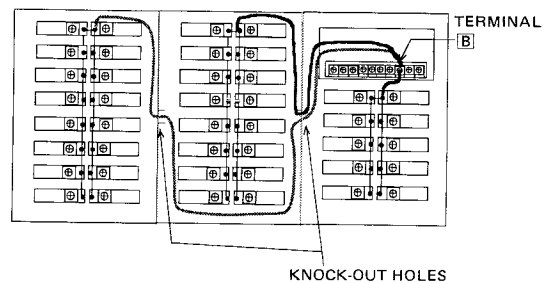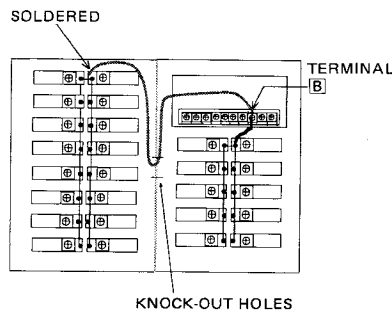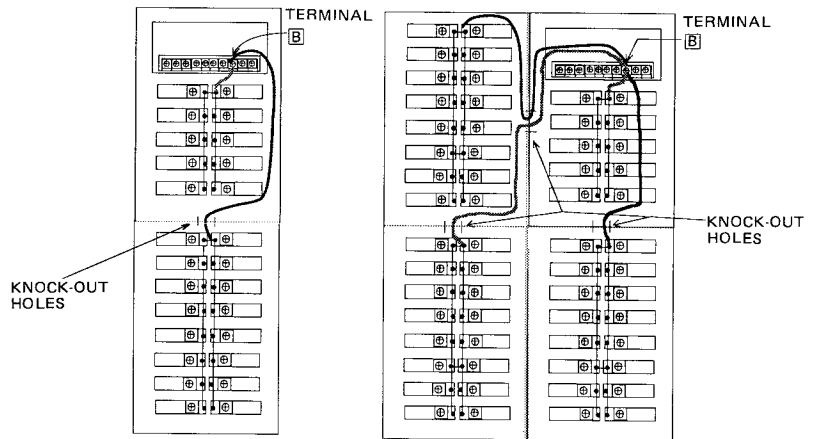
VCH BACK BOX

186 mm (7-5/16")

VC-nMY, VC-nMT

Pass thru the knock-out holes and connect the wire to terminal B

⬆ UP
⬆ UP SLOTS

TERMINAL B

CLAW
SLOTS

To install one-paneled VC-M back boxes into the wall;

457
(18")

156
(6-1/8")

(for VC-26MT)

230
(9-1/16")

309
(12-3/16")

(For VC-26MY)

230
(9-1/16")

462
(18-3/16")

(for VC-42MY)

457
(18")
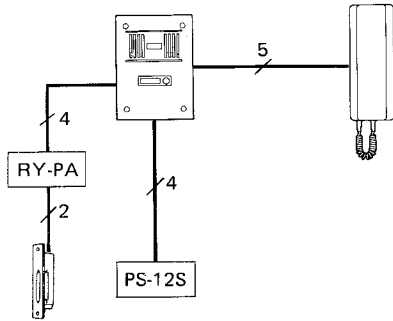
309
(12-3/16")

(for VC-58MT)

As shown, connect two, three or four back boxes by sliding into the slots each other, until firmly locked by the claw.

Make sure that all the boxes are put together with the UP mark pointing upward.

To pass wiring cable, open knock-out holes in the boxes, which are also necessary for passing jumper wire from each call button block to terminal B on back of SP/mic. unit, as shown in the right.
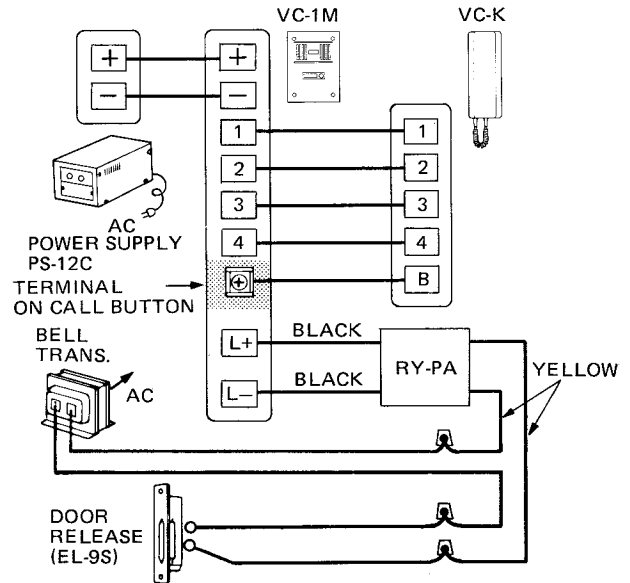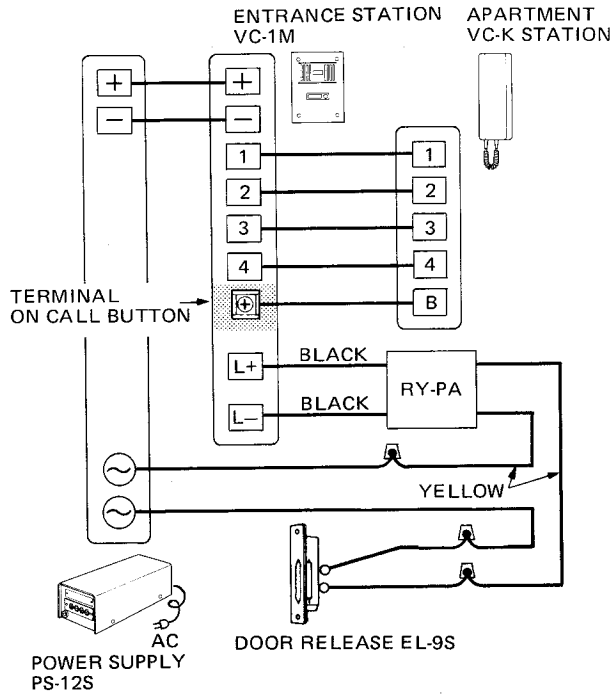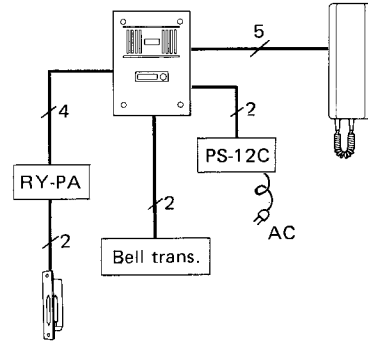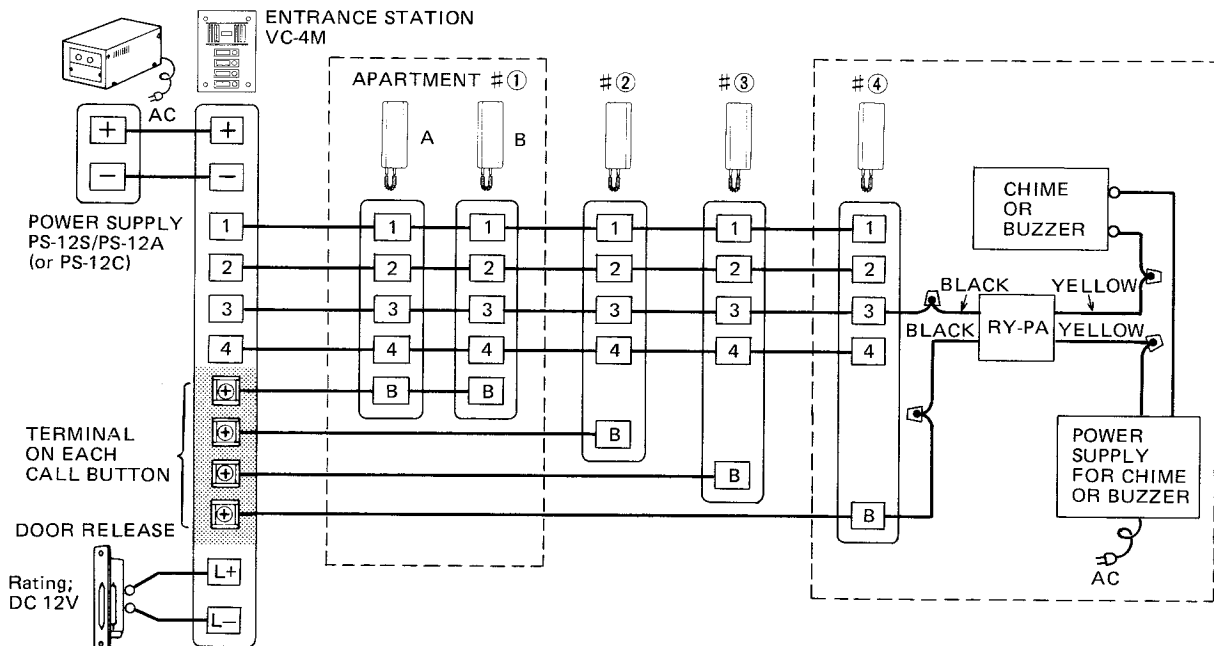
TERMINAL B

TERMINAL B

KNOCK-OUT HOLES

KNOCK-OUT HOLES

SOLDERED

TERMINAL B

KNOCK-OUT HOLES

TERMINAL B

KNOCK-OUT HOLES

6 WIRING DIAGRAMS

## (1) WHEN USING AC-OPERATED DOOR RELEASE;

For North America only;

ENTRANCE STATION VC-1M   APARTMENT VC-K STATION

TERMINAL ON CALL BUTTON

BLACK

BLACK

RY-PA

YELLOW

AC POWER SUPPLY PS-12S

DOOR RELEASE EL-9S

VC-1M   VC-K

AC POWER SUPPLY PS-12C

TERMINAL ON CALL BUTTON

BELL TRANS.

AC

BLACK

BLACK

RY-PA

YELLOW

DOOR RELEASE (EL-9S)

No. 3   No. 4   CHIME BUZZER

6   5   2   RY-PA   PS   AC

No. 1   No. 2

6   5

4 + n

AC

ENTRANCE STATION
VC-4M

APARTMENT #①   #②   #③   #④

A   B

POWER SUPPLY
PS-12S/PS-12A
(or PS-12C)

1
2
3
4

CHIME
OR
BUZZER

BLACK   YELLOW

BLACK   RY-PA   YELLOW

TERMINAL
ON EACH
CALL BUTTON

DOOR RELEASE

Rating;
DC 12V

L+
L−

POWER
SUPPLY
FOR CHIME
OR BUZZER

AC

NOTES; ① In APARTMENT # ① , two room stations can be signalled by tone simultaneously, when called by entrance station. Calling is not available between room stations A and B.

② DC-operated door release can be connected to ⎡L+⎤ , ⎡L−⎤ terminals directly.

③ For call extension, use either chime or buuzzer locally available, rated less than DC 24V, 2.5A.

DIRECTORY CARD BACK ILLUMINATOR INSTALLATION

To; ⎡+⎤⎡−⎤ (on VC-nM)

⇧ UP

Red   Black

BACK
BOX

"A"

OR

"B"
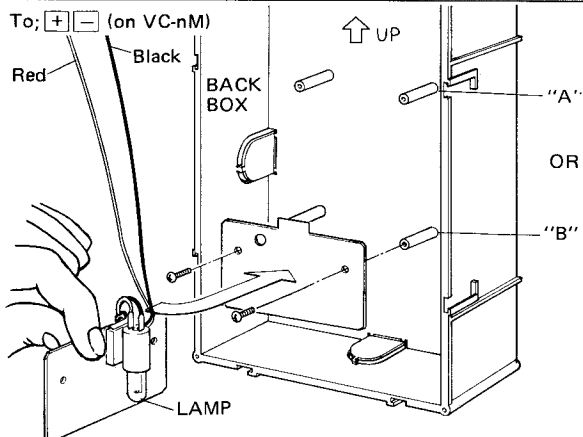
LAMP

ATTACH THE PLATE TO "A" OR "B" POSITION WITH
2 SCREWS SUPPLIED, WITH LAMP DOWNWARD.
NOTE; VC-1M~VC-10M & VCH-8; Use position B.
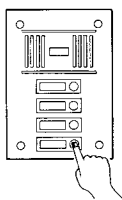VCH-16; Use positions A and B.

REPLACING CALL BUTTON UNIT

② ① Desolder

④ PUSH

③ DETACH
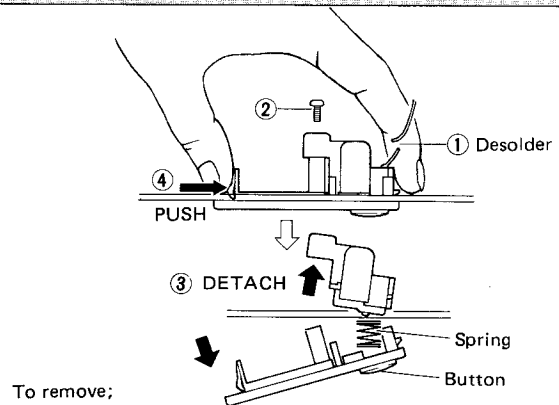
Spring

Button

To remove;
① Desolder the bus wire.
② Unscrew the terminal.
③ Detach the switch unit.
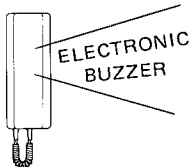④ Push the claw.
Be careful not to lose the spring and button.

7 OPERATIONS

ENTRANCE STATION   APARTMENT STATION

Depress CALL button of corresponding apartment. After apartment station replies, talk handsfree.
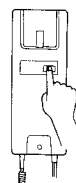
Electronic buzzer sounds at (two) room station(s). (and at call extension, if installed.)

Pick up handset to reply.

Depress and hold Door RELEASE button to activate door release.

8 SPECIFICATIONS

* Power source: DC 12V. Use PS-12S or PS-12A (or PS-12C in North America) power supply.
* Current consumption: 80 mA (at intercom).
                          100 mA (at lamp).
* Calling: Electronic buzzer tone (Frequency; Approx. 600 Hz.)
* Talk channel: Single channel, common talk system.
* Wiring: 4 wires in common + 1 individual per apartment (3 wires plus 1, if door release is not included).
* Wiring distance: (Line resistance; Max. 35 ohm looped).
  * Between VC-M & VC-K;

Diameter	0.6 mm	0.65 mm	0.8 mm	1.0 mm
Distance	280 m	330 m	500 m	800 m
AWG	—	22 AWG	20 AWG	18 AWG
Distance	—	1,100'	1,650'	2,500'

  * Between power supply and door station; (Line resistance: Max. 4 ohm looped)

Diameter	0.6 mm	0.65 mm	0.8 mm	1.0 mm
Distance	30 m	40 m	60 m	90 m
AWG	—	22 AWG	20 AWG	18 AWG
Distance	—	125'	190'	280'

* Dimensions;

	Height	Width	Depth
VC-M panel	260 mm (10-1/4")	186 mm (7-5/16")	2 mm (5/64")
VC-M back box	230 mm (9-1/16")	156 mm (6-1/8")	68 mm (2-11/16")
VC-K	210 mm (8-1/4")	80 mm (3-1/8")	61 mm (2-3/8")
VC-BBX	264 mm (10-3/8")	190 mm (7-1/2")	52 mm (2-1/16")