AIPHONE

Communication Systems

GENERAL LINE CATALOG 2012

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AUDIO INTERCOM SYSTEM

ACCESSORIES

AIPHONE

Communication Systems for business, home and industry

Established In 1948

Aiphone has become the most respected and reliable brand of communication systems in the world. With headquarters in Nagoya and manufacturing in Toyota City, Central Japan, we export to over 60 countries. We expand ourselves along with a North American marketing, sales and distribution center near Seattle, Washington, and an European sales and distribution center in Lisses-Evry, France.

Systems For Every Application

Aiphone products range from simple do-it-yourself door answering units to sophisticated video entry security systems, complex microprocessor-based commercial systems, and luxury condo/apartment security/communication systems. They are unrivaled in design simplicity, technical excellence and reliability. With over 30 standard systems, and additional manufacturing by special order, we can create a system for virtually any intercom application.

Designed To Last

Every Aiphone system is the result of painstaking attention to detail: contemporary European style design, the finest quality hardware and circuitry, engineered, built and 100% pre-tested for sustained trouble-free service.

AIPHONE CO., LTD.
in Japan Headquarters

Toyota factory

ISO 9001

Aiphone is the first intercom manufacturer worldwide to receive ISO 9001 certification, and the only one selling in North America, An agency representing the International Standards Organization (ISO), headquartered in Geneva, Switzerland, graded Aiphone against guidelines for design and development, production, and product inspection and testing. ISO 9001 standards provide an immediate recognition of product quality almost anywhere in the world.

ISO 9001 Certified
JQA-0291
AIPHONE CO., LTD.

Winner Of The Deming Prize

Aiphone is the first and only intercom manufacturer to win the Deming Prize, the highest international award for quality control. Named in honor of Dr. W. Edwards Deming, the award honors firms worldwide which advance and maintain manufacturing quality.

Deming Prize

Acquisition of ISO 14001

ISO's Environmental Standards are a series of voluntary standards and guideline reference documents which include environmental management systems, eco-labeling, environmental auditing, life cycle assessment, environmental performance evaluation, and environmental aspects in products standards. In early 1998, our management team determined to acquire ISO-14001 approval as a company-wide project, and working committee was established at the same time. Since then, with our ongoing efforts and practice about environmental management standards, we have succeeded to acquire the approval.

Aiphone excludes the use of prohibited material from the product according to RoHS directive (2002/95/EC). Therefore, as of July 1, 2006, all the Aiphone products imported in EU will be fully complied with the RoHS directive.

ISO 14001 Certified
JQA-EM0453
Headquarters section
Toyota Factory
Taiho Site
AIPHONE CO., LTD.

AIPHONE CORPORATION
in USA

AIPHONE S.A.S.
in France

ENVIRONMENTAL REPORT

We will contribute to building a sustainable society while cultivating communications with a wide spectrum of our stakeholders.

Basic Environmental Philosophy

Based on our business philosophy of "Be Responsible for your job and don't cause of problems for others," we carry out our activities while harmonizing conservation of the global environment with our business operations.

Environmental Policy

The AIPHONE group aspires to be enterprises capable of making contributions to society by using communication and security technologies, conducting our environmental activities as follows:

(1) We will strive to minimize environmental loads to conserve the global environment in our activities of developing, producing, selling, and servicing our products.

(2) We will make our goals and objectives clear in our business activities, continuously evaluating the following items and thus improving them:

a) We will aim to become a recycling society and make efforts to promote the 3R's (Reduce, Reuse, and Recycle) and minimize waste.

b) We will not use harmful substances that cause environmental contamination.

c) We will strive to conserve energy to prevent global warming.

(3) We will conform to environment-related laws, regulations, and conventions while establishing voluntary standards to conserve the environment.

(4) Placing great value on communication, we will promote the manufacture of products friendly to both humans and the environment.

(5) We will conduct environmental audits in an effort to maintain and improve our environment management system.

(6) We will make our environmental policy thoroughly known to our employees and all those who work together with us.

(7) We will publicize this environmental policy to the general public.

Certificate of acquisition of ISO 14001 accreditation

This report is also posted on our website:
http://www.aiphone.net

Lineup

Aiphone provides you with a variety of security systems and intercoms from small to extensive IP network systems, so that you can choose the perfect solution for your security needs.

COLOR VIDEO ENTRY SECURITY **P1~**

MULTI-TENANT BUILDING ENTRY SECURITY **P25~**

INTEGRATED SECURITY & COMMUNICATION SYSTEM **P42~**

AUDIO ENTRY SECURITY **P59~**

AUDIO INTERCOM SYSTEM **P72~**

AIPHONE JK-1MED

REC ▶ ━0 MENU

CALL ZOOM WIDE ADJUST

MONITOR TALK OFF

AIPHONE GT-2C

MONITOR CALL MENU ADJUST ZOOM WIDE

STATUS TONE OFF

OPTION GUARD TALK OFF

Lineup

We have a variety of models such as JF, JA, KC, and AX. You can select the products

Wide and Zoom & PanTilt Hands-free Color Video Intercom

JK-1MD/JK-1MED

Wide and Zoom & PanTilt Hands-free Color Video Intercom

GT-2C-L /GT-2C

Hands-free Color Video Intercom

JF-1MD

Hands-free Color Video Intercom, Picture Memory

JF-2MED

COLOR VIDEO ENTRY SECURITY

Small security intercom systems with high quality monitors. High resolution videos give you the extra peace of mind to clearly and safely identify visitors.

Color

Innovative Wide View of
Approx. **170°**

With conventional series

Panoramic Wide Angle View

GT and JK provide effective security through using the innovative special wide angle camera feature that allows the user to have a panoramic view. People standing to the side or below the camera can easily be identified.
With the wide angle view, the GT and JK series can identify someone in a wheelchair, catch someone trying to hide from the camera, etc.

IP network

The JKW-IP is an easy to use network-based IP video intercom solution. It comes with the software that allows you to use your network-connected PC as a JK master unit. This allows you to better manage your door entry security.

JKW-IP

Picture Memory

The inside station automatically starts recording when a call is received from the entrance station. The user can also manually record conversation with visitors at any time by pressing the REC button.

suitable for your needs.

Hands-free Color Video Intercom, PanTilt, Picture Memory	Video Sentry Color Tilt	Video Sentry Color Tilt	Video Sentry Color Tilt	Hands-free Color Video Intercom
JA-2MECD/JA-2MCD	KCS-1ARD	KC-1GRD	KB-3MRD	AX
P13~	P15~	P17~	P19~	P21~

2

Wide and Zoom & PanTilt Hands-free Color Video Intercom

DOOR **1** ▶ **ROOM** **2** **JK-1MD/JK-1MED**
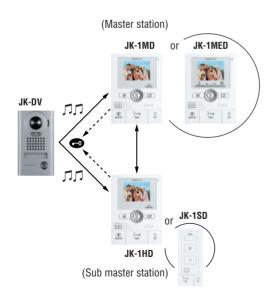
Features
- One door & two monitors (3-1/2 inch); room to room communication is available
- Streamlined & Thin design, only 27 mm thickness
- Vandal resistant video door stations are available
- Optional audio sub master station (JK-1SD)
- Total hands-free communication, auto-voice actuation

Door station

JK-DV
Wide and Zoom & PanTilt Vandal-resistant video door station, surface mount

or

JK-DVF
Wide and Zoom & PanTilt Vandal-resistant video door station, flush mount

or

JK-DA
Wide and Zoom & PanTilt video door station, surface mount

Power supply   PS-1820S   PS-1820UL → P.107

PT

2

2

Master station

Standard
Non-Picture memory

JK-1MD
Master station w/Wide and Zoom & PanTilt color monitor

or

Picture memory

JK-1MED
Master station w/Wide and Zoom & PanTilt color monitor & built-in picture memory.

PS18

2

4

IER-2
Call extension → P.105

Communication network

(Master station)

JK-1MD or **JK-1MED**

JK-DV

JK-1HD

or **JK-1SD**

(Sub master station)

PANORAMIC WIDE View
Everyone at the entrance can be identified by image from JK wide angle camera. The field of vision can be controled on Wide mode or Zoom mode from inside.

WIDE IMAGE   ZOOM IMAGE

Zoom & PanTilt
By pressing PanTilt button, the image of the PanTilt video door station can be adjusted to a more visible position from inside on the Zoom mode.

*The screen images are simulated graphics. They are images to express functions, and are different from the real one. Please understand it beforehand.

The design and specifications are subject to change without notice for improvement.

3

- "Talk" LED lights in red while speaking
- Visual monitoring with audio for 1 minute
- Built-in picture memory; Record visitor both automatically & manually (JK-1MED only)
- Instant voice call-in with image
- Press-to-talk operation available
- Press-to-talk restriction
- White LED illumination turns on in low-light conditions

- Backlight compensation by "ADJUST" button
- Full color video in low light situations w/o external illumination
- PanTilt and Zoom & Wide camera control
- Camera angle preset
- External input
- Option - Option button, press-to-talk setting, video signal output

Sub master station

or 4

JK-1SD
Audio sub master station

JK-1HD
Sub master station w/color monitor

Access Contorol → P.103

AC-10S
Access control keypad, surface mount

AC-10F
Access control keypad, flush mount

JK-DV + AC-10S

Lineup

JKW-BA
Long distance adaptor
→ P.5
*Max. 300m away from Master/sub to Door.
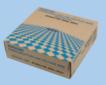
EL-12S
Electric door strike
→ P.105

JKW-IP
IP color video intercom adaptor
→ P.6

JK-DVF-AC
Vandal-resistant color video door station with access control keypad

**AE7090210B
AE7090210G**
AIPHONE approved product wire
→ P.108

Boxed sets

Standard

JKS-1AD: JK-1MD, JK-DA
JKS-1ADV: JK-1MD, JK-DV
JKS-1ADF: JK-1MD, JK-DVF

Picture memory

JKS-1AED: JK-1MED, JK-DA
JKS-1AEDV: JK-1MED, JK-DV
JKS-1AEDF: JK-1MED, JK-DVF

Add appropariate power supply

Unit dimensions

JK-1MED, JK-1MD, JK-1HD 185 135 27
JK-1SD 185 80 27
JK-DV 173 98 29.5 25
JK-DVF 209 135 45 8
JK-DVF-AC 295 144 45 8
JK-DA 129 97 35.5
AC-10S 125 98 33 25 55 68.5
IER-2 120 88 29 83.5
AC-10F 132 117 5 45 100

Image view area

JK-DA, JK-DV, JK-DVF

(WIDE)
approx. 105cm approx. 70cm approx. 90cm

(ZOOM)

(WIDE)
approx. 170°
approx. 200cm
approx. 105cm
approx. 95cm
150cm 50cm

(ZOOM & PanTilt)
approx. 225cm
approx. 85cm
Zoom (up)
approx. 70cm
Zoom (down)
approx. 85cm
approx. 75cm
150cm 50cm

50cm
approx. 90cm
approx. 130cm
approx. 10cm
Zoom (right)
approx. 10cm
approx. 130cm
Zoom (left)

Specifications

Power source	18V DC
Power supply	PS-1820S, PS-1820UL
Consumption	Max. 400mA (JF-1MED, JK-1MD). Max. 200mA (JK-1HD). Max. 120mA (JK-1SD)
Calling	Chime. Image & audio, approx. 45 sec.
Communication	Approx. 1 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more.
Video monitor	3.5 inch direct-view TFT color LCD.
Scanning line	525 lines
Video output	NTSC, 1Vp-p/75Ω
Night viewing	Up to 50cm from camera, with white LED projected, background beyond 50cm cannot be seen.
Door release	24V AC/DC, 500mA (N/O dry closure contact)
Option output	24V AC/DC, 1.6A (N/O dry closure contact)
Wiring	Door to master: 2-cond., mid cap, solid, non-shielded. Master to sub: 4-cond., mid cap, solid, non-shielded.
Wire type	AIPHONE approved product wire: AE7090210B, AE7090210G
Wiring distance	Master/sub to door: 50m (0.65mmø) 100m (1.0mmø) Master to IER-2: 75m (0.65mmø) 150m (1.0mmø)

Wide and Zoom & PanTilt Hands-free Color Video Intercom

Wiring

100m / 1.0mmø

JK-1MED
or
JK-1MD

JK-DV

JK-1HD

JK-1SD

2

4

2

2

IER-2

PS18

or 4

		DOOR1	SUB			SUB IN	
A1		A1	B1			B1	
A2		A2	B2			B2	

DOOR RELEASE
L
L

EL-12S

PT

CALL EXT   IER-2
S   1
S   E

DC18V   DC18V
+   +
−   −

+
− PS18

ON
OFF
Press-to-talk setting
switch (only JK-1MD)

PS18 :PS-1820S, PS-1820UL

PT :AC Transformer

Option
connector

V+	Brown	Video signal output
V-	Red	(NTSC, 1Vp-p/75 Ω)
SW	Orange	Option output
SW	Yellow	(AC/DC24V,1.6A
KS	Green	N/O dry closure contact)
KE	Blue	

External sensor input
⚠ Setting is required on JK-1MED.

External sensor input specification

	N/O or N/C dry closure contact
Input method	External sensor input (start signal only detection method)
Detection confirmation time	100 mS or more
Contact resistance	During N/O dry closure: Less than 700Ω During N/C dry closure: more than 3KΩ
Terminal short current	Less than 10 mA
Voltage between terminals	Less than 20V DC (when open between terminals)

Cable

Vinyl jacketed, PE(polyethylene) insulation cable is recommended. For other types of cables, normal operation and max. communication distance cannot be guaranteed.

Long distance adaptor for JK series

JKW-BA
Long distance adaptor
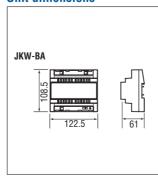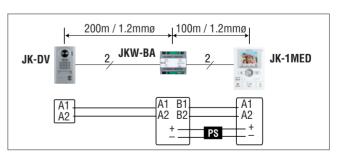
Features
• When JK series color video door station is more than 100m to max. 300m away.

Used for
JK-1MD, JK-1MED

Unit dimensions

JKW-BA

108.5

122.5   61

200m / 1.2mmø   100m / 1.2mmø

JK-DV   2   JKW-BA   2   JK-1MED

A1		A1	B1		A1
A2		A2	B2		A2
		+	PS		+
		−			−

Specifications

Power source	18VDC, PS-1820S, PS-1820UL of system or separate
Current consumption	95mA
Wiring	2 parallel wires to ea. door & master.
Wire type	AIPHONE approved product wire: AE7120230B or 1.0mmø to 1.2mmø. Vinyl jacketed, PE (polyethylene) insulation cable.
Wiring distance	JK door~JKW-BA 100m~200m(1.2mmø) JKW-BA~JK master/JK-1HD/JK-1SD 100m(1.2mmø) JKW-BA~PS 100m(1.2mmø)

IP color video intercom adaptor

DOOR	MASTER	PC
1 ►	**1**	-**10** JKW-IP

Max.20

JKW-IP
IP color video intercom adaptor

**Power supply
PS-1820S
PS-1820UL** → P.107

JK systems → P.3

PC

Features
- Use of local area networks (LANs) and wide area networks (Internet) allow PCs to be used as a JK master unit
- Combine up to 20 JK master/Door systems
- 10 PCs can communicate to 20 JK systems
- Allow a PC to function as a JK master
- Connected PC(s) control PanTilt, zoom and wide views of entryway
- Images or movies from entranceways can be recorded and played back at a PC
- Use headset (not included) for communication
- E-mail can be automatically sent to 10 e-mail addresses when called from door station
- Audio recording with manual video recording
- Communicate to and from JK masters
- A single port can be used for multi-purpose external input

Notice
- It may not be possible to use this product with certain network environments or PCs.
- To use this product via the Internet, a separate broadband connection and a router with a fixed IP address is required.
- To ensure proper function only use with approved routers. Refer our homepage for a list of approved routers which allow proper operations.
- Maintaining security at the computer(s) connected to the JKW-IP is the responsibility of the customer. Aiphone assumes no responsibility for any losses incurred as a result of improper PC, firewall or other security.
- It is recommended that you use a 100BASE-TX wired LAN as the network.

Application
A user friendly interface contains controls that match those on a JK-1MED.
This allows the PC to be controlled in the exact manner as a master monitor.

PC monitor
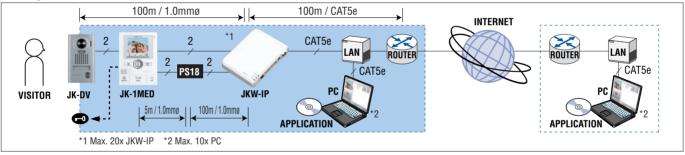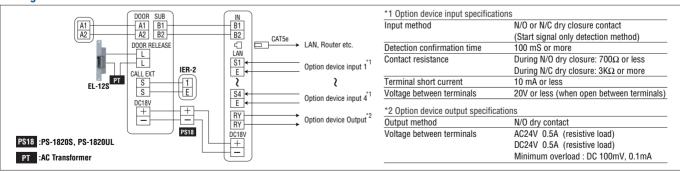
Wide and Zoom & PanTilt control from PC

Wide and Zoom & PanTilt button

Wide and Zoom
WIDE IMAGE   ZOOM IMAGE

PanTilt on Zoom mode
WIDE IMAGE   PanTilt on Zoom mode

Unlock the door after verifying visitor identity
Unlock

Video & Audio communication with entrance side by PC
VISITOR   Door Station

Room to room communication with master station (JK-1MED or JK-1MD)

Cabling

100m / 1.0mmø   100m / CAT5e

INTERNET

VISITOR | JK-DV | JK-1MED | PS18 | JKW-IP | CAT5e | LAN | ROUTER | ROUTER | LAN | CAT5e

CAT5e

PC
APPLICATION *2

PC
APPLICATION *2

5m / 1.0mmø   100m / 1.0mmø

*1 Max. 20x JKW-IP   *2 Max. 10x PC

Wiring

DOOR SUB	IN
A1 / A2	B1 / B2
DOOR RELEASE L / L	LAN
CALL EXT S / S	S1 / E
DC18V + / −	S4 / E
	RY / RY
	DC18V + / −

EL-12S   PT   IER-2   PS18

CAT5e → LAN, Router etc.
Option device input 1 *1
Option device input 4 *1
Option device Output *2

PS18 :PS-1820S, PS-1820UL
PT :AC Transformer

*1 Option device input specifications

Input method	N/O or N/C dry closure contact (Start signal only detection method)
Detection confirmation time	100 mS or more
Contact resistance	During N/O dry closure: 700Ω or less During N/C dry closure: 3KΩ or more
Terminal short current	10 mA or less
Voltage between terminals	20V or less (when open between terminals)

*2 Option device output specifications

Output method	N/O dry contact
Voltage between terminals	AC24V 0.5A (resistive load) DC24V 0.5A (resistive load) Minimum overload : DC 100mV, 0.1mA

Unit dimensions

JKW-IP

150
200   35.5

Specifications

Power source	18V DC
Power supply	PS-1820S, PS-1820UL
Consumption	Max. 200mA

System requirements

OS	Windows XP Home/Professional (SP3), Windows Vista Ultimate/Home/Business/Enterprise (SP1)/32-bit version/64-bit version Windows 7 Home Premium/Professional/Enterprise/Ultimate/32-bit version/64-bit version
PC system requirements	Processor: 2 GHz or faster System memory (RAM): 1 GB RAM or more Hard disk: 10 MB or more (additional space is needed for recording) Sound card: 8-bit full duplex, Direct Sound compatible Display: 1024 x 768 or greater Run-time: Microsoft®.NET Framework 2.0 or later Network: 10BASE-T/100BASE-TX Ethernet
Protocol	TCP/IPv4, UDP/IPv4, SIP, Others
Network bandwidth	320 k to 8 Mbps (per IP Video Intercom Adaptor)
Language	English, French, Spanish, German, Dutch, Italian, Japanese
Internet Explorer	Internet Explorer 6.0 or later (with Internet Options SSL 3.0 enabled)

6

Wide and Zoom & PanTilt Hands-free Color Video Intercom

DOOR		ROOM
1	▶	**4**

GT-2C-L/GT-2C

Features
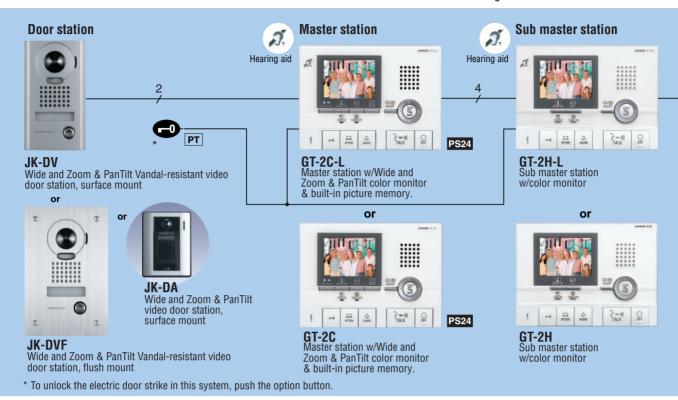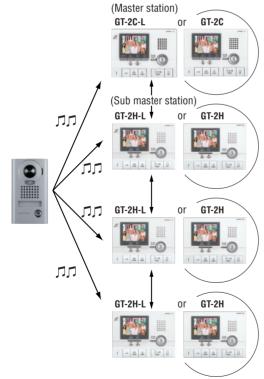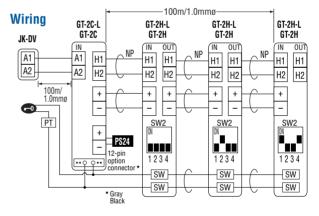- One door & four monitors (3-1/2 inch); room to room communication is available
- Vandal resistant video door stations are available
- Total hands-free communication, auto-voice actuation
- "Talk" LED lights in red while speaking
- Visual monitoring with audio

Door station

JK-DV
Wide and Zoom & PanTilt Vandal-resistant video door station, surface mount

or

JK-DVF
Wide and Zoom & PanTilt Vandal-resistant video door station, flush mount

or

JK-DA
Wide and Zoom & PanTilt video door station, surface mount

Master station — Hearing aid

GT-2C-L
Master station w/Wide and Zoom & PanTilt color monitor & built-in picture memory.

PS24

or

GT-2C
Master station w/Wide and Zoom & PanTilt color monitor & built-in picture memory.

PS24

Sub master station — Hearing aid

GT-2H-L
Sub master station w/color monitor

or

GT-2H
Sub master station w/color monitor

2

4

PT

*

* To unlock the electric door strike in this system, push the option button.

Communication network

(Master station)
GT-2C-L   or   GT-2C

(Sub master station)
GT-2H-L   or   GT-2H

GT-2H-L   or   GT-2H

GT-2H-L   or   GT-2H

The design and specifications are subject to change without notice for improvement.

Wiring

JK-DV

100m/1.0mmø

GT-2C-L / GT-2C | GT-2H-L / GT-2H | GT-2H-L / GT-2H | GT-2H-L / GT-2H

A1 / A2

IN: A1 / A2   H1 / H2   +/−   NP

IN / OUT: H1 / H2   +/−   NP

100m/1.0mmø

PT

PS24

12-pin option connector *

SW2 ON 1 2 3 4   SW / SW

* Gray Black

PANORAMIC WIDE View
Everyone at the entrance can be identified by image from wide angle camera. The field of vision can be controled on Wide mode or Zoom mode from inside.

WIDE IMAGE ⟷ ZOOM IMAGE

Zoom & PanTilt
By pressing PanTilt button, the image of the PanTilt video door station can be adjusted to a more visible position from inside on the Zoom mode.
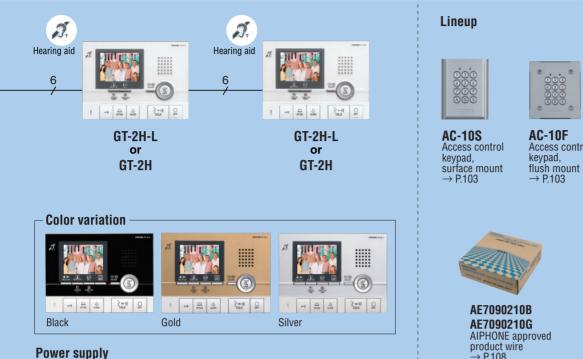
WIDE IMAGE   PanTilt on Zoom mode

*The screen images are simulated graphics. They are images to express functions, and are different from the real one. Please understand it beforehand.
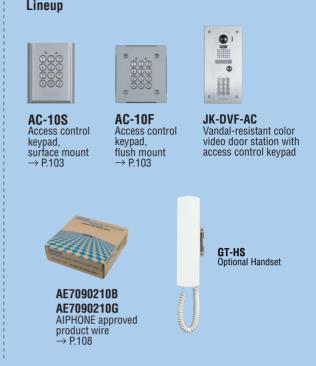
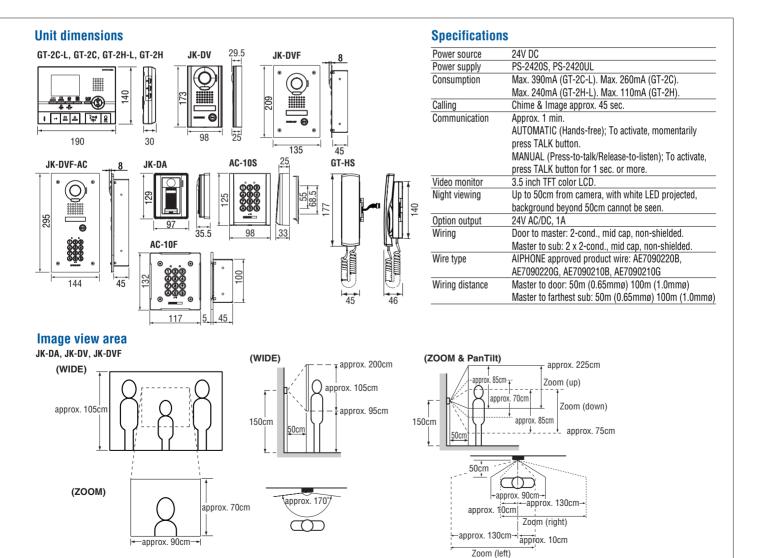- Built-in picture memory; Record visitor both automatically & manually
- Press-to-talk operation available
- White LED illumination turns on in low-light conditions
- Backlight compensation by "ADJUST" button
- Full color video in low light situations w/o external illumination
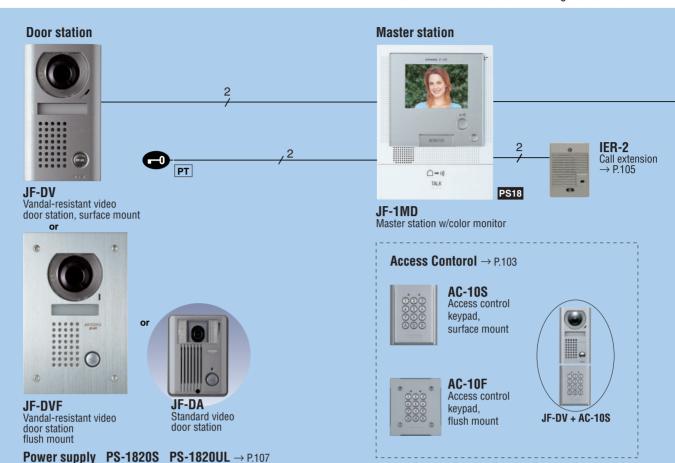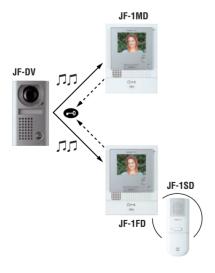- PanTilt and Zoom & Wide camera control
- Camera angle preset

Hearing aid

6

**GT-2H-L
or
GT-2H**

Hearing aid

6

**GT-2H-L
or
GT-2H**

Lineup

AC-10S
Access control keypad, surface mount → P.103

AC-10F
Access control keypad, flush mount → P.103

JK-DVF-AC
Vandal-resistant color video door station with access control keypad

Color variation

Black

Gold

Silver

**AE7090210B
AE7090210G**
AIPHONE approved product wire → P.108

GT-HS
Optional Handset

**Power supply
PS-2420S   PS-2420UL** → P.108

Unit dimensions

GT-2C-L, GT-2C, GT-2H-L, GT-2H   JK-DV   29.5   JK-DVF   8

190   140   30   173   98   25   209   135   45

JK-DVF-AC   8   JK-DA   AC-10S   25   GT-HS

295   144   45   129   97   35.5   125   98   33   55   68.5   177   140

AC-10F

132   117   5   45   100   45   46

Specifications

Power source	24V DC
Power supply	PS-2420S, PS-2420UL
Consumption	Max. 390mA (GT-2C-L). Max. 260mA (GT-2C). Max. 240mA (GT-2H-L). Max. 110mA (GT-2H).
Calling	Chime & Image approx. 45 sec.
Communication	Approx. 1 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more.
Video monitor	3.5 inch TFT color LCD.
Night viewing	Up to 50cm from camera, with white LED projected, background beyond 50cm cannot be seen.
Option output	24V AC/DC, 1A
Wiring	Door to master: 2-cond., mid cap, non-shielded. Master to sub: 2 x 2-cond., mid cap, non-shielded.
Wire type	AIPHONE approved product wire: AE7090220B, AE7090220G, AE7090210B, AE7090210G
Wiring distance	Master to door: 50m (0.65mmø) 100m (1.0mmø) Master to farthest sub: 50m (0.65mmø) 100m (1.0mmø)

Image view area
JK-DA, JK-DV, JK-DVF

(WIDE)

approx. 105cm

(ZOOM)

approx. 70cm

approx. 90cm

(WIDE)

approx. 200cm

approx. 105cm

approx. 95cm

150cm

50cm

approx. 170°

(ZOOM & PanTilt)

approx. 225cm

approx. 85cm   Zoom (up)

approx. 70cm

approx. 85cm   Zoom (down)

150cm

50cm

approx. 75cm

50cm

approx. 90cm

approx. 10cm   approx. 130cm

Zoom (right)

approx. 130cm   approx. 10cm

Zoom (left)

Hands-free Color Video Intercom

DOOR **1** ▶ **ROOM** **1+1** **JF-1MD**

Features
- One door & two monitors (3.5 inch); room to room communication is not available
- Total hands-free communication, auto-voice actuation
- Streamlined & Thin design, only 27 mm thickness
- Vandal resistant video door stations are available
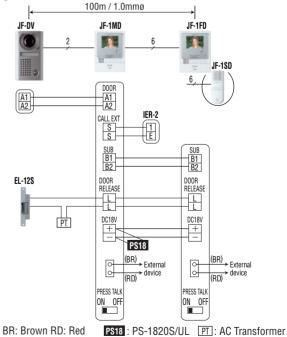- White LED illumination turns on in low-light conditions

Door station

JF-DV
Vandal-resistant video door station, surface mount

or

JF-DVF
Vandal-resistant video door station flush mount

or

JF-DA
Standard video door station

Power supply   PS-1820S   PS-1820UL → P.107

Master station

PS18

JF-1MD
Master station w/color monitor

IER-2
Call extension → P.105

PT

Access Contorol → P.103

AC-10S
Access control keypad, surface mount

AC-10F
Access control keypad, flush mount

JF-DV + AC-10S

Communication network

JF-1MD

JF-DV

JF-1SD

JF-1FD

Room-to-room communication is not available.

Wiring

100m / 1.0mmø

| JF-DV | JF-1MD | JF-1FD |

2   6

JF-1SD

6

A1 / A2 — DOOR A1 / A2

CALL EXT S / S — IER-2 1 / E

SUB B1 / B2 — SUB B1 / B2

EL-12S

DOOR RELEASE L / L — DOOR RELEASE L / L

PT

DC18V + / −   PS18   DC18V + / −

(BR) → External device (RD)   (BR) → External device (RD)

PRESS TALK ON OFF   PRESS TALK ON OFF

BR: Brown RD: Red   PS18 : PS-1820S/UL   PT : AC Transformer

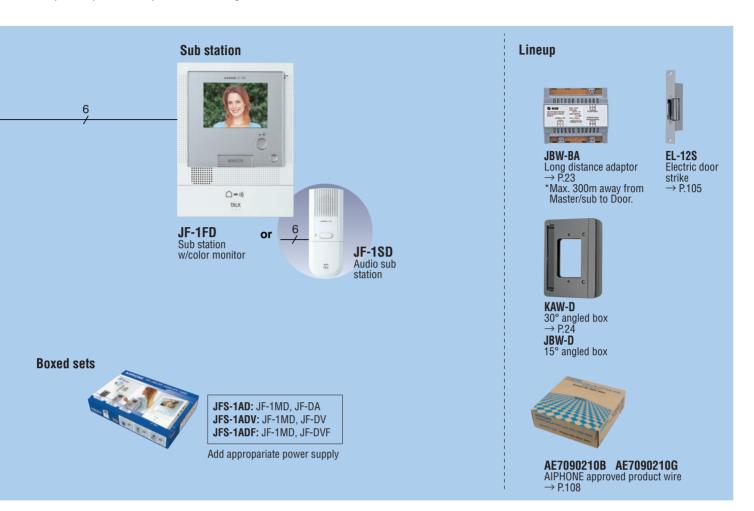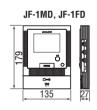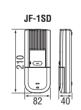### Cable

Vinyl jacketed, PE(polyethylene) insulation cable is recommended. For other types of cables, normal operation and max. communication distance cannot be guaranteed.
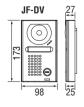
- Instant voice call-in with image
- Visual monitoring with audio for 1 minute
- Press-to-talk operation available
- Talk LED lights in red while speaking
- Optional audio sub station (JF-1SD)
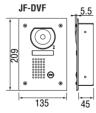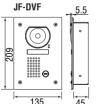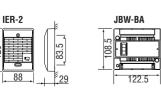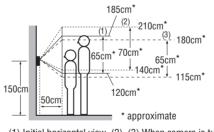- Option - Option button, press-to-talk setting

Sub station

6

JF-1FD
Sub station
w/color monitor

or

6

JF-1SD
Audio sub station

Lineup

JBW-BA
Long distance adaptor
→ P.23
*Max. 300m away from Master/sub to Door.

EL-12S
Electric door strike
→ P.105

KAW-D
30° angled box
→ P.24
JBW-D
15° angled box

AE7090210B   AE7090210G
AIPHONE approved product wire
→ P.108

Boxed sets

JFS-1AD: JF-1MD, JF-DA
JFS-1ADV: JF-1MD, JF-DV
JFS-1ADF: JF-1MD, JF-DVF

Add approapriate power supply

Unit dimensions

JF-1MD, JF-1FD
179
135
27

JF-1SD
210
82
40

JF-DV
27
173
98
25

JF-DVF
5.5
209
135
45

JF-DA
131
99
40

IER-2
120
88
83.5
29

JBW-BA
108.5
122.5
61

Image view area

JF-DA, JF-DV, JF-DVF

185cm*
(2)
210cm*
(1)
(3)
180cm*
65cm* 70cm*
65cm*
140cm*
115cm*
150cm
50cm
120cm*
50cm
95cm*

* approximate

(1) Initial horizontal view (2), (3) When camera is turned up or down (JF-DA only)

Specifications (JF-1MD)

Power source	18V DC
Power supply	PS-1820S, PS-1820UL
Consumption	Max. 450mA (JF-1MD). Max. 300mA (JF-1FD)
Calling	Chime. Image & audio, approx. 45 sec.
Communication	Approx. 1 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more.
Video monitor	3.5 inch direct-view TFT color LCD.
Scanning line	525 lines
Night viewing	Up to 30cm from camera, with white LED projected, background beyond 30cm cannot be seen.
Door release	24V AC/DC, 500mA (N/O dry closure contact)
Option output	24V AC/DC less than 1.6A (N/O dry closure contact)
Wiring	Door to master: 2-cond., mid cap, solid, non-shielded. Master to sub: 6-cond., mid cap, solid, non-shielded.
Wire type	AIPHONE approved product wire: AE7090210B, AE7090210G
Wiring distance	Master/Sub (farthest room station) to door: 50m (0.65mmø) 100m (1.0mmø) Master to IER-2: 75m (0.65mmø) 150m (1.0mmø)

10

Hands-free Color Video Intercom, Picture Memory
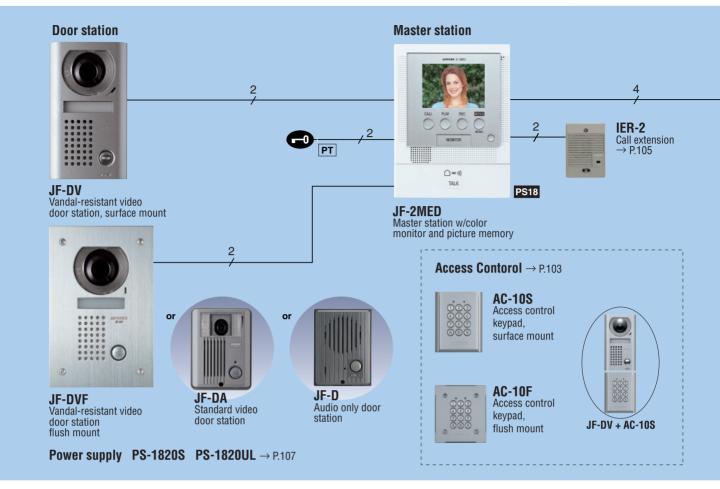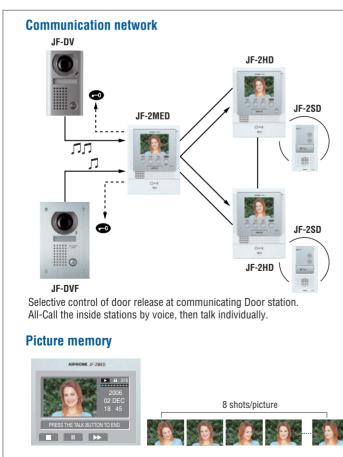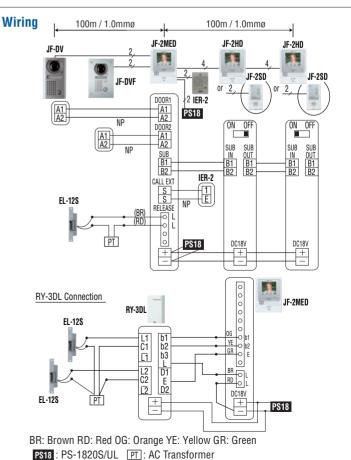
DOOR **2** ▶ **ROOM** **3** **JF-2MED**

Features
• Two doors & three monitors (3-1/2 inch)
• Total hands-free communication, auto-voice actuation
• Built-in picture memory; Record visitor both automatically & manually
• Voice memo; Internal short voice messages can be recorded and played back

Door station

JF-DV
Vandal-resistant video door station, surface mount

JF-DVF
Vandal-resistant video door station flush mount

or

JF-DA
Standard video door station

or

JF-D
Audio only door station

Power supply   PS-1820S   PS-1820UL → P.107

Master station

JF-2MED
Master station w/color monitor and picture memory

IER-2
Call extension → P.105

Access Contorol → P.103

AC-10S
Access control keypad, surface mount

AC-10F
Access control keypad, flush mount

JF-DV + AC-10S

Communication network

JF-DV

JF-2MED

JF-DVF

JF-2HD

JF-2SD

JF-2SD

JF-2HD

Selective control of door release at communicating Door station.
All-Call the inside stations by voice, then talk individually.

Picture memory

AIPHONE JF-2MED

3/16
2006
02 DEC
18 45

PRESS THE TALK BUTTON TO END

8 shots/picture

Wiring

100m / 1.0mmø   100m / 1.0mmø

JF-DV   JF-2MED   JF-2HD   JF-2HD

JF-DVF   JF-2SD   JF-2SD

IER-2

DOOR1 A1 A2
DOOR2 A1 A2
SUB B1 B2
CALL EXT S S
RELEASE L L

EL-12S

(BR)
(RD)

PT

PS18   DC18V   DC18V

ON OFF
SUB IN B1 B2
SUB OUT B1 B2

RY-3DL Connection

EL-12S

RY-3DL

JF-2MED

EL-12S

L1 C1 L1
L2 C2 L2

b1 b2 b3
D1 E D2

OG b1
YE b2
GR E

BR
RD L L

DC18V   PS18

PT

BR: Brown RD: Red OG: Orange YE: Yellow GR: Green
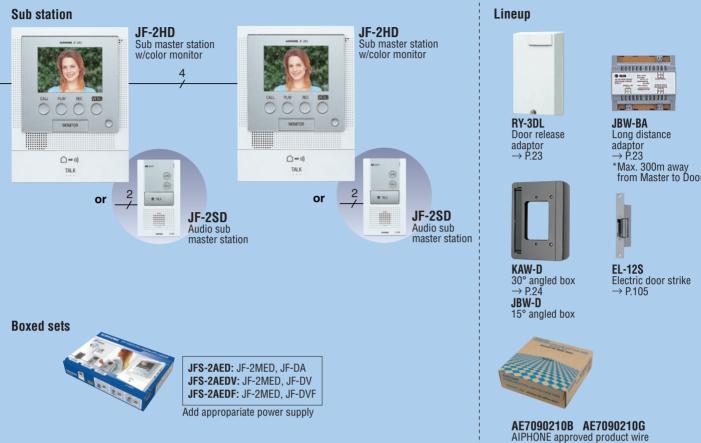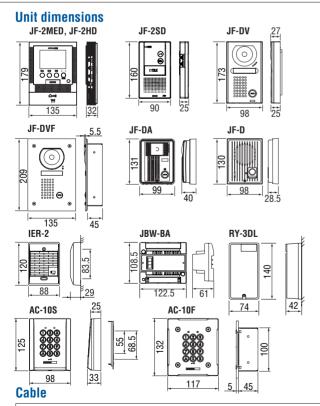**PS18** : PS-1820S/UL   **PT** : AC Transformer

- Message for entrance; Outgoing messages can be recorded and sent out at the door station manually
- Streamlined & Thin design, only 32 mm thickness
- Vandal resistant video door stations are available
- White LED illumination turns on in low-light conditions
- Visual monitoring with audio for 1 minute
- External sensor connectable for notifying and pictograph on monitor
- Instant voice call-in with image

- Different chimes to indicate which door is calling
- Press-to-talk operation available
- All-Call for internal communication
- Transfer of door station call to other inside stations
- Selective door release control (with RY-3DL)
- Optional audio sub master station (JF-2SD)
- Audio door station in lieu of 2nd video door station
- Option - Option button, Video signal (NTSC) output, External talk switch, press-to-talk restriction

Sub station

JF-2HD
Sub master station w/color monitor

4

or 2 **JF-2SD**
Audio sub master station

JF-2HD
Sub master station w/color monitor

or 2 **JF-2SD**
Audio sub master station

Lineup

RY-3DL
Door release adaptor
→ P.23

JBW-BA
Long distance adaptor
→ P.23
*Max. 300m away from Master to Door

KAW-D
30° angled box
→ P.24
JBW-D
15° angled box

EL-12S
Electric door strike
→ P.105

Boxed sets

JFS-2AED: JF-2MED, JF-DA
JFS-2AEDV: JF-2MED, JF-DV
JFS-2AEDF: JF-2MED, JF-DVF

Add appropariate power supply

AE7090210B   AE7090210G
AIPHONE approved product wire
→ P.108

Unit dimensions

JF-2MED, JF-2HD
179 / 135 / 32

JF-2SD
160 / 90 / 25

JF-DV
27 / 173 / 98 / 25

JF-DVF
5.5 / 209 / 135 / 45

JF-DA
131 / 99 / 40

JF-D
130 / 98 / 28.5

IER-2
120 / 88 / 83.5 / 29

JBW-BA
108.5 / 122.5 / 61

RY-3DL
140 / 74 / 42

AC-10S
125 / 98 / 33 / 25 / 55 / 68.5

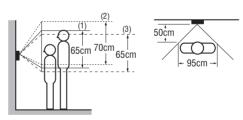AC-10F
132 / 117 / 5 / 45 / 100

Cable

Vinyl jacketed, PE(polyethylene) insulation cable is recommended. For other types of cables, normal operation and max. communication distance cannot be guaranteed.

Image view area

JF-DA, JF-DV, JF-DVF

(1) / (2) / (3) / 65cm / 70cm / 65cm / 50cm / 95cm

(1) Initial horizontal view (2), (3) When camera is turned up or down (JF-DA only)

Specifications (JF-2MED)

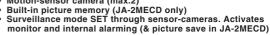|	
Power source	18V DC
Power supply	PS-1820S, PS-1820UL
Consumption	Max. 400mA (JF-2MED). Max. 220mA (JF-2HD)
Calling	Chime. Image & audio, approx. 45 sec.
Communication	Approx. 1 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more.
Video monitor	3-1/2 inch direct-view TFT color LCD.
Scanning line	525 lines
Night viewing	Up to 30cm from camera, with white LED projected, background beyond 30cm cannot be seen.
Door release	24V AC/DC, 500mA (N/O dry closure contact)
Wiring	Door to master: 2-cond., mid cap, solid, non-shielded. Master to sub: 4-cond., mid cap, solid, non-shielded.
Wire type	AIPHONE approved product wire: AE7090210B, AE7090210G
Wiring distance	Master to door: 50m (0.65mmø) 100m (1.0mmø) Master to farthest sub: 50m (0.65mmø) 100m (1.0mmø) Master to IER-2: 75m (0.65mmø) 150m (1.0mmø)

12

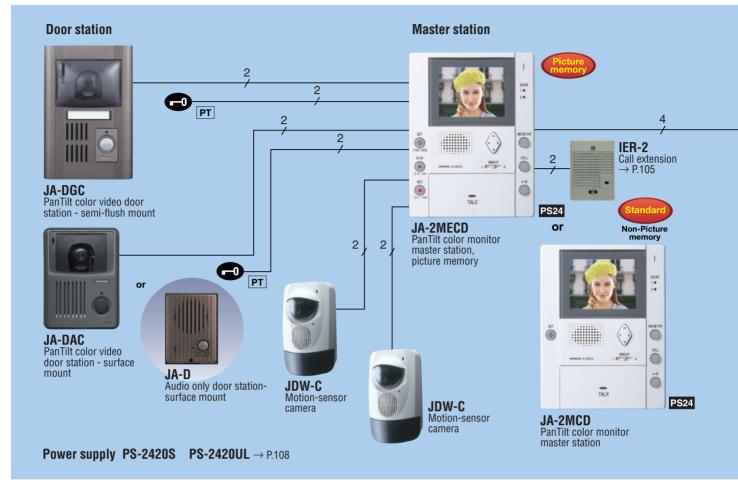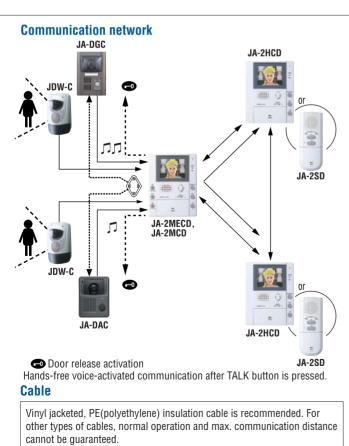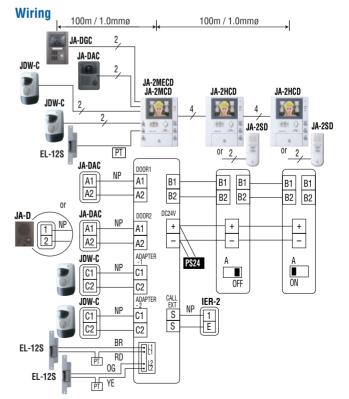# Hands-free Color Video Intercom, PanTilt, Picture Memory

DOOR **2** ▶ **ROOM** **3** **JA-2MECD/JA-2MCD**

Features
- Two color PanTilt Camera door stations, three inside monitor stations (4 inch LCD)
- Motion-sensor camera (max.2)
- Built-in picture memory (JA-2MECD only)
- Surveillance mode SET through sensor-cameras. Activates monitor and internal alarming (& picture save in JA-2MECD)

Door station

Master station

Picture memory

JA-DGC
PanTilt color video door station - semi-flush mount

JA-2MECD
PanTilt color monitor master station, picture memory

IER-2
Call extension → P.105

PS24

or

Standard

Non-Picture memory

JA-DAC
PanTilt color video door station - surface mount

JA-D
Audio only door station- surface mount

JDW-C
Motion-sensor camera

JDW-C
Motion-sensor camera

JA-2MCD
PanTilt color monitor master station

PS24

Power supply PS-2420S   PS-2420UL → P.108

Communication network

JA-DGC

JDW-C

JA-2HCD

or

JA-2SD

JA-2MECD, JA-2MCD

JDW-C

JA-DAC

JA-2HCD

or

JA-2SD

🔓 Door release activation
Hands-free voice-activated communication after TALK button is pressed.

Cable

Vinyl jacketed, PE(polyethylene) insulation cable is recommended. For other types of cables, normal operation and max. communication distance cannot be guaranteed.

Wiring

100m / 1.0mmø   100m / 1.0mmø

JA-DGC

JDW-C

JA-DAC

JA-2MECD JA-2MCD

JA-2HCD

JA-2HCD

JDW-C

JA-2SD

JA-2SD

EL-12S

PT

or   2

or   2

JA-DAC
| A1 | NP | DOOR1 | A1 |
| A2 | | | A2 |

JA-D   or

1
2   NP

JA-DAC
| A1 | NP | DOOR2 | A1 |
| A2 | | | A2 |

B1 B1 | B1 | B1 B1
B2 B2 | B2 | B2 B2

DC24V
+
−

PS24

A
OFF

A
ON

JDW-C
| C1 | NP | ADAPTER-1 | C1 |
| C2 | | | C2 |

JDW-C
| C1 | NP | ADAPTER-2 | C1 |
| C2 | | | C2 |

CALL EXT
S   NP
S

IER-2
1
E

EL-12S

BR

EL-12S

RD

OG

YE

PT

PT

L1
L2

Wiring for JA-2SD; Two wires only. + / − wires are not necessary.
B1,B2: marked with SUB IN , SUB OUT PS24 :PS-2420S/UL   PT :AC transformer
BR: Brown RD: Red OG: Orange YE: Yellow

13
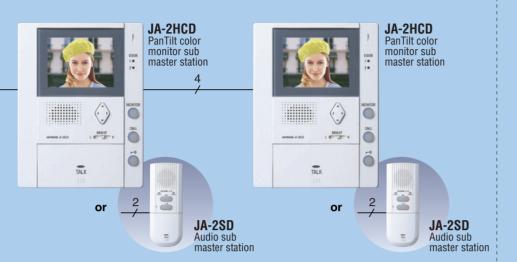
- Total hands-free communication, auto-voice actuation
- Instant voice call-in with image
- Press-to-talk available
- White LED illuminator turns on in low-light conditions
- All Call for internal communication
- Transfer of door station call to other inside stations
- Optional video (JA-2HCD) or audio (JA-2SD) sub stations
- Audio door station in lieu of JA video door station

- Talk LED lights in red while speaking
- Visual monitoring with audio through all cameras
- Two door release contacts for selective control
- Options:
  - Foot talk switch
  - Manual Talk switch restriction
  - RY-3DL for large door releases locally available
  - Video output to video device (NTSC)

Sub station

JA-2HCD
PanTilt color monitor sub master station

4

or 2

JA-2SD
Audio sub master station

JA-2HCD
PanTilt color monitor sub master station

4

or 2

JA-2SD
Audio sub master station

Lineup

KAW-D
30° angled box
→ P.24
JBW-D
15° angled box

AC-10S
Access control keypad, surface mount
→ P.103

JBW-BA
Long distance adaptor
→ P.23

AC-10F
Access control keypad, flush mount
→ P.103
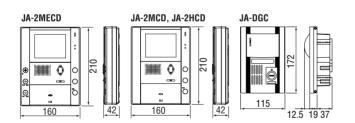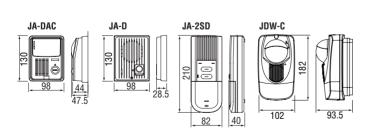
EL-12S
Electric door strike
→ P.105

AE7090210B
AE7090210G
AIPHONE approved product wire
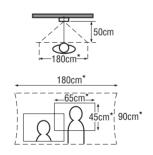→ P.108

Unit dimensions

JA-2MECD
210
160   42

JA-2MCD, JA-2HCD
210
160   42

JA-DGC
172
115
12.5 19 37

JA-DAC
130
98   44
     47.5

JA-D
130
98   28.5

JA-2SD
210
82   40

JDW-C
182
102   93.5

IER-2
120   83.5
88   29

JBW-BA
108.5
122.5   61

Image view area

JA-DAC, JA-DGC

220cm*
90cm*
130cm*
150cm
50cm
* approximate

50cm
180cm*
180cm*
65cm*
45cm* 90cm*
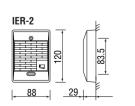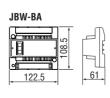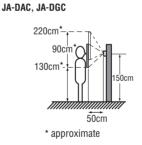
Max. pan-and-tilt view area: 90cm Vert., 180cm Horiz. (approx.)

Specifications (JA-2MECD, JA-2MCD, JA-2HCD, JA-2SD)

Power source	24V DC
Power supply	PS-2420S, PS-2420UL
Consumption	Max. 750mA(JA-2MECD).Max. 680mA(JA-2MCD). Max. 290mA(JA-2HCD). Max. 120mA(JA-2SD)
Calling	Chime. Image & audio, approx. 30 sec.
Communication	AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 2 sec. or until talk LED turns on.
Video monitor	4 inch direct-view TFT color LCD.
Scanning line	525 lines
Night viewing	White LED projected up to 30cm from camera.
Door release	24V AC/DC, 500mA (dry closure contact L, L)
Wiring	Parallel, station to station(non-twisted, non- shielded). Vinyl-jacket, PE insulation.
Wire type	AIPHONE approved product wire: AE7090210B, AE7090210G
Wiring distance	Master station ~ Door 50m(0.65mmø) 100m(1.0mmø) Master station ~ Motion sensor camera 50m(0.65mmø) 100m(1.0mmø) Master station ~ farthest sub 50m(0.65mmø) 100m(1.0mmø) Master station ~ IER-2 50m(0.65mmø) 100m(1.0mmø)

14

Video Sentry Color Tilt
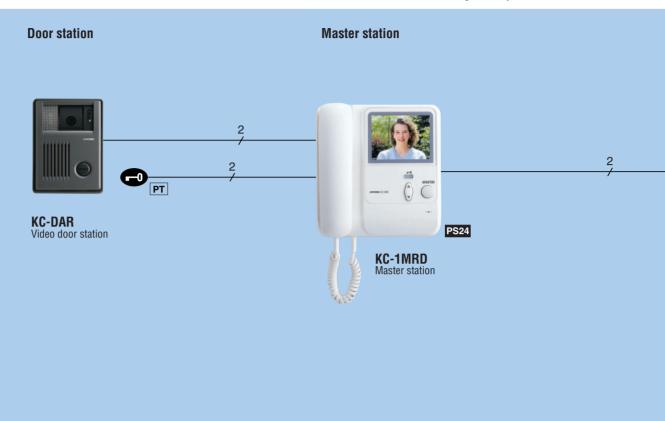
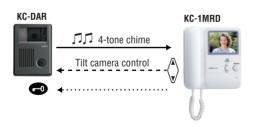**DOOR** **1** ▶ **ROOM** **1** KCS-1ARD

Features
- Clear and bright image with color TFT LCD monitor and DSP video door station
- TILT camera control
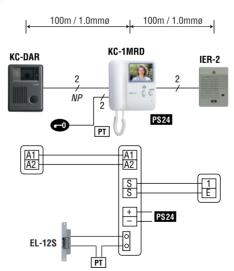- INSTANT ON audio & image of entry when called

Door station

Master station

KC-DAR
Video door station

2

2

PT

PS24

KC-1MRD
Master station

2

Power supply PS-2420S   PS-2420UL → P.108

Communication network

KC-DAR

♫♫ 4-tone chime

Tilt camera control

KC-1MRD

Wiring

100m / 1.0mmø   100m / 1.0mmø

KC-DAR   **KC-1MRD**   **IER-2**

2
NP
2

PT

2

PS24

| A1 | | A1 |
| A2 | | A2 |

S — 1
S — E

+ PS24
–

EL-12S

PT

- Run audio/video wires in a separate jacketed cable from door release wires.
- PS24 : PS-2420S/UL   PT : AC transformer

Cable

Vinyl jacketed, PE(polyethylene) insulation cable is recommended. For other types of cables, normal operation and max. communication distance cannot be guaranteed.

- Hands-free monitoring audio & image of door
- Video door station's white LED illumination automatically turns on in the darkness
- Locator LED backlight on CALL button

IER-2
Call extension
→ P.105

Boxed sets

KCS-1ARD: KC-DAR & KC-1MRD
add appropriate power supply

Lineup

KC-32EU
Picture memory
unit
→ P.23

KAW-D
30° angled box
→ P.24

AC-10S
Access control
keypad,
surface mount
→ P.103

EL-12S
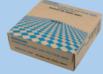Electric door
strike
→ P.105

KA-DGR PANEL
Stainless steel
housing
for KC-DAR

AC-10F
Access control
keypad,
flush mount
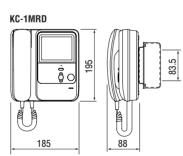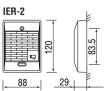→ P.103
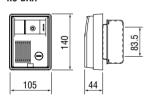
JBW-BA
Long distance
adaptor
→ P.23

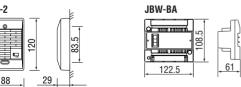**AE7090210B   AE7090210G**
AIPHONE approved
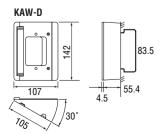product wire
→ P.108

Unit dimensions

KC-DAR

140
83.5
105   44

KC-1MRD

195
83.5
185   88

IER-2

120
83.5
88   29

JBW-BA

108.5
122.5   61

KAW-D

142
83.5
107   55.4
4.5
105   30°

KA-DGR PANEL

151
109   42

Image view area

KC-DAR

124cm *
235cm *
130cm
111cm *
50cm

50cm
60cm *

* approximate
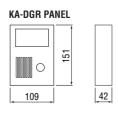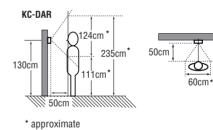
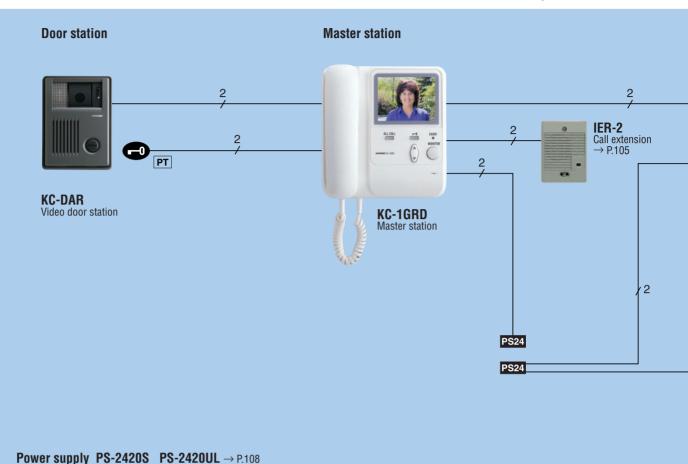## Specifications (KC-1MRD)

Power source	24V DC, 450mA. 50mA standby
Power supply	PS-2420S, PS-2420UL
Communication	Door calls in w/4-tone chime & image, 30 sec. timed. Lift handset to reply, 2-1/2 min. timed. In standby, press MONITOR to view and hear door.
Video monitor	4 inch TFT color LCD
Scanning lines	525 lines
Image view area	Approx. 60cm horiz., 111~235cm vert. at 130cm high and 50cm from camera.
Night viewing	White light projected up to 30cm from camera. The background scene beyond 30cm cannot be seen.
Door release	12V AC, 400mA.
Wiring	2 parallel wires to door, non-polarized.
Wire type	AIPHONE approved product wire: AE7090210B, AE7090210G
Wiring distance	KC-1MRD ~ door 50m(0.65mmø) 100m(1.0mmø) KC-1MRD ~ IER-2 50m(0.65mmø) 100m(1.0mmø)

Video Sentry Color Tilt
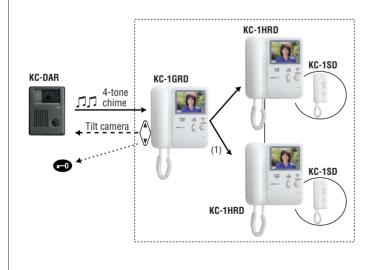
DOOR **1** ▶ **ROOM** **3** KC-1GRD

Features
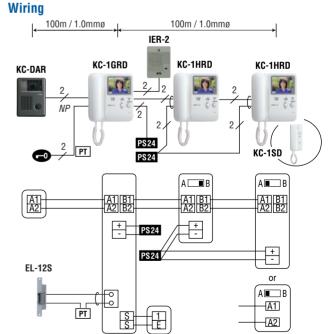- VIDEO SENTRY COLOR TILT 1 door - 3 monitors
- INSTANT ON door audio & video
- All call type room calling
- 100m distance between monitors, looped

Door station

KC-DAR
Video door station

[PT]

2

2

Master station

KC-1GRD
Master station

2

IER-2
Call extension
→ P.105

2

2

2

PS24

PS24

Power supply PS-2420S   PS-2420UL → P.108

Communication network

KC-DAR

4-tone chime

Tilt camera

KC-1GRD

KC-1HRD

KC-1SD

(1)

KC-1SD

KC-1HRD

(1) All call type voice calling (from any).
Communication on handsets individually.

Wiring

100m / 1.0mmø   100m / 1.0mmø

IER-2

KC-DAR   **KC-1GRD**   **KC-1HRD**   **KC-1HRD**

2   2   2   2

NP   2   2

2   PT   2   2

[PT]

PS24
PS24

KC-1SD

A ■ B   A ■ B

| A1 | | A1 | B1 | | A1 | B1 | | A1 | B1 |
| A2 | | A2 | B2 | | A2 | B2 | | A2 | B2 |

+ **PS24**   +
−   −

PS24

+
−

EL-12S

or

A ■ B
A1
A2

[PT]

S   1
S   E

• Run audio/video wires in a separate jacketed cable from door release wires.
PS24 : PS-2420S/UL   [PT] : AC transformer

Cable

Vinyl jacketed, PE (polyethylene) insulation cable is recommended. For other types of cables, normal operation and max. communication distance cannot be guaranteed.

- TILT camera control
- Hands-free monitoring audio & image of door
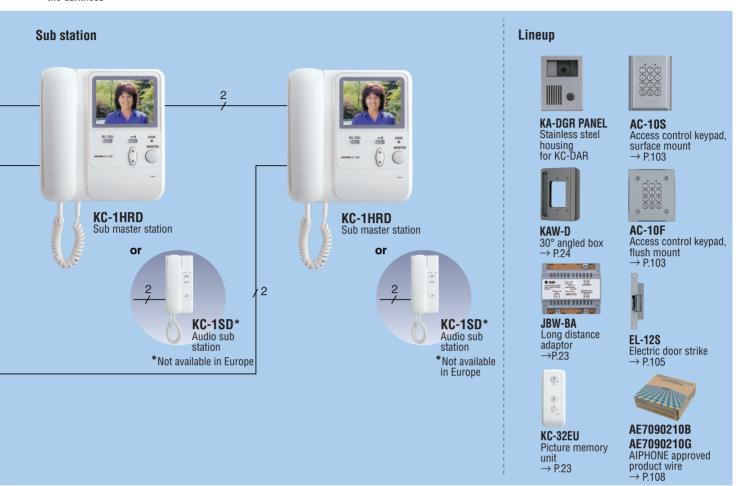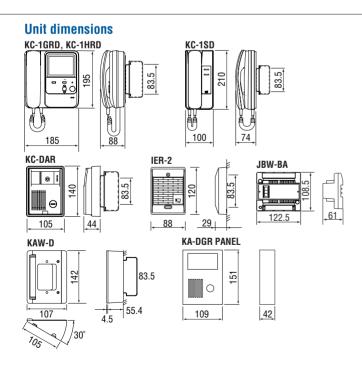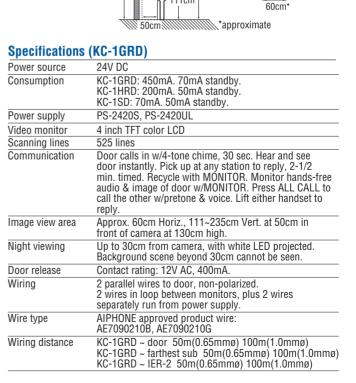- Video door station's white LED illumination automatically turns on in the darkness

Sub station

KC-1HRD
Sub master station

or

KC-1SD*
Audio sub station

*Not available in Europe

2

2

2

KC-1HRD
Sub master station

or

2

KC-1SD*
Audio sub station

*Not available in Europe

Lineup

KA-DGR PANEL
Stainless steel housing for KC-DAR

AC-10S
Access control keypad, surface mount
→ P.103

KAW-D
30° angled box
→ P.24

AC-10F
Access control keypad, flush mount
→ P.103

JBW-BA
Long distance adaptor
→P.23

EL-12S
Electric door strike
→ P.105

KC-32EU
Picture memory unit
→ P.23

**AE7090210B
AE7090210G**
AIPHONE approved product wire
→ P.108

Unit dimensions

KC-1GRD, KC-1HRD
195
83.5
185
88

KC-1SD
210
83.5
100
74

KC-DAR
140
83.5
105
44

IER-2
120
83.5
88
29

JBW-BA
108.5
122.5
61

KAW-D
142
83.5
107
55.4
4.5
30°
105

KA-DGR PANEL
151
109
42

Image view area

KC-DAR
130cm
124cm*
235cm*
111cm*
50cm
50cm
60cm*
*approximate

Specifications (KC-1GRD)

Power source	24V DC
Consumption	KC-1GRD: 450mA. 70mA standby. KC-1HRD: 200mA. 50mA standby. KC-1SD: 70mA. 50mA standby.
Power supply	PS-2420S, PS-2420UL
Video monitor	4 inch TFT color LCD
Scanning lines	525 lines
Communication	Door calls in w/4-tone chime, 30 sec. Hear and see door instantly. Pick up at any station to reply, 2-1/2 min. timed. Recycle with MONITOR. Monitor hands-free audio & image of door w/MONITOR. Press ALL CALL to call the other w/pretone & voice. Lift either handset to reply.
Image view area	Approx. 60cm Horiz., 111~235cm Vert. at 50cm in front of camera at 130cm high.
Night viewing	Up to 30cm from camera, with white LED projected. Background scene beyond 30cm cannot be seen.
Door release	Contact rating: 12V AC, 400mA.
Wiring	2 parallel wires to door, non-polarized. 2 wires in loop between monitors, plus 2 wires separately run from power supply.
Wire type	AIPHONE approved product wire: AE7090210B, AE7090210G
Wiring distance	KC-1GRD ~ door 50m(0.65mmø) 100m(1.0mmø) KC-1GRD ~ farthest sub 50m(0.65mmø) 100m(1.0mmø) KC-1GRD ~ IER-2 50m(0.65mmø) 100m(1.0mmø)

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Video Sentry Color Tilt

DOOR **3** ▶ **ROOM** **5** **KB-3MRD**

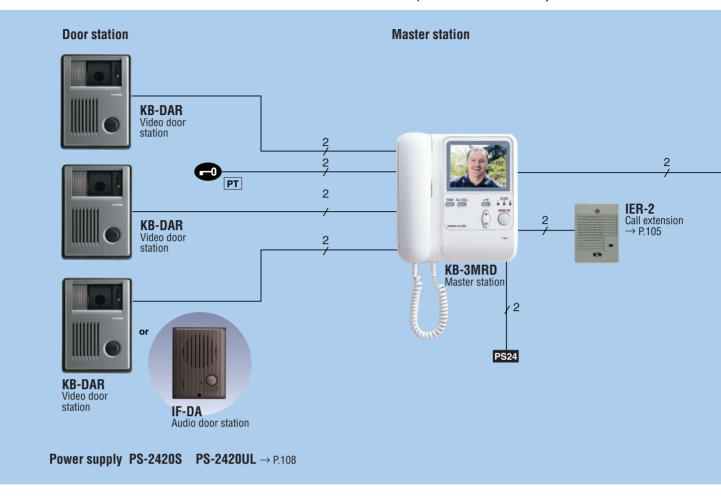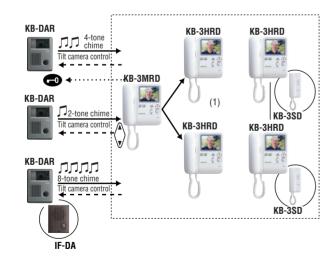## Features
- 3 doors & 5 monitors w/TILT camera control.
- INSTANT ON audio & image of door.
- Selective calling or All Call.
- Audio sub station in lieu of monitor.
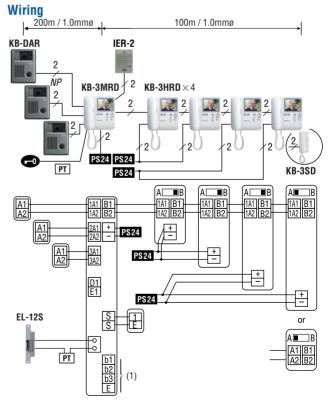- Optional audio door at 3rd entry.

Door station

KB-DAR
Video door station

PT

2
2
2
2
2

KB-DAR
Video door station

KB-DAR
Video door station

or

IF-DA
Audio door station

Master station

KB-3MRD
Master station

2
2

PS24

2
IER-2
Call extension → P.105

Power supply PS-2420S   PS-2420UL → P.108

Communication network

KB-DAR
4-tone chime
Tilt camera control

KB-DAR
2-tone chime
Tilt camera control

KB-DAR
8-tone chime
Tilt camera control

IF-DA

KB-3MRD

KB-3HRD   **KB-3HRD**
(1)
KB-3SD

KB-3HRD   **KB-3HRD**
KB-3SD

(1) Selective Call or All Call type voice calling (from any).
Communication on handsets individually.

Cable

Cable specified for wiring to both door and inside stations
- 0.65mmø to 1.2mmø dia.
- PE(polyethylene) insulation & vinyl jacketed cable
- Attenuation: less than -6.5dB at 10MHz./100m length.
- Solid copper conductor.
- Line impedance: ±75 ohm (less than 100 ohm at the highest).

Wiring

200m / 1.0mmø   100m / 1.0mmø

KB-DAR   **IER-2**

2
NP
2
2

KB-3MRD   2   **KB-3HRD** × 4
2   2   2   2
2
2   2   2   2

PT
PS24 PS24
PS24
KB-3SD

A ▣ B   A ▣ B   A ▣ B   A ▣ B   A ▣ B
A1   1A1 B1   1A1 B1   1A1 B1   1A1 B1   1A1 B1
A2   1A2 B2   1A2 B2   1A2 B2   1A2 B2   1A2 B2

A1   2A1 +   PS24
A2   2A2 −

PS24

A1   3A1
A2   3A2

+
−

D1
E1

+
−

EL-12S   S   1
S   E

PS24

or

PT   b1
b2   (1)
b3
E

A ▣ B
A1 B1
A2 B2

- D1, E1 : for IF-DA door station instead of third KB-DAR.
- Run audio/video wires in a separate jacketed cable from door release wires.

PS24 : PS-2420S/UL   **PT** : AC transformer   (1) External light control

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- Push chime or receiver volume control.
- Optional selective door release with RY-3DL.
- Hands-free monitoring audio & image of door.
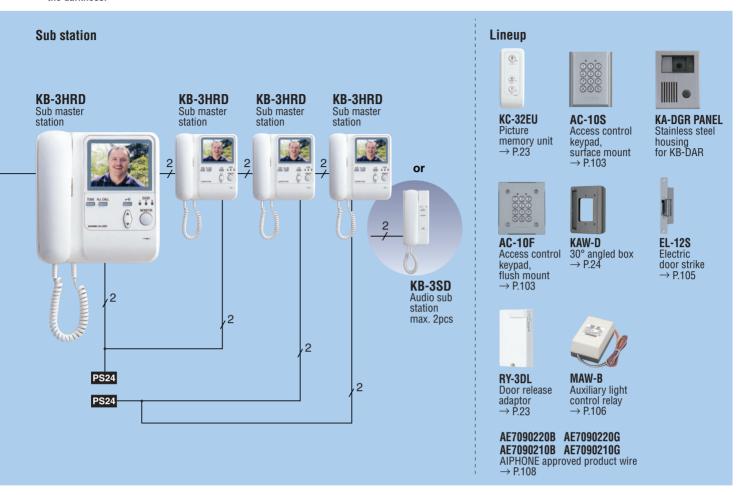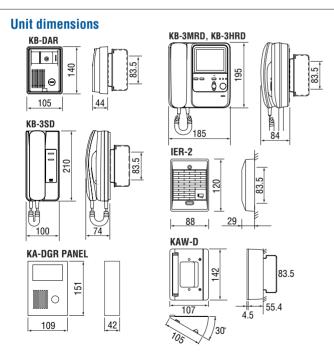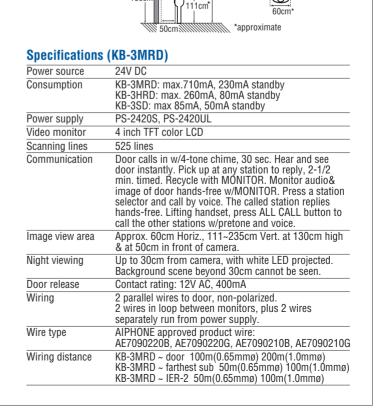- Video door station's white LED illumination automatically turns on in the darkness.

Sub station

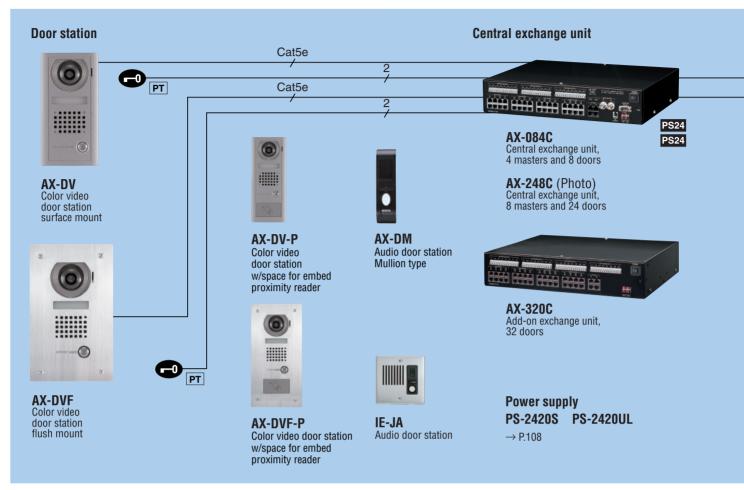**KB-3HRD**
Sub master station

KB-3HRD
Sub master station

KB-3HRD
Sub master station

KB-3HRD
Sub master station

or

2   2   2   2

PS24
PS24

2
2
2
2

KB-3SD
Audio sub station
max. 2pcs

Lineup

KC-32EU
Picture memory unit
→ P.23

AC-10S
Access control keypad, surface mount
→ P.103

KA-DGR PANEL
Stainless steel housing for KB-DAR

AC-10F
Access control keypad, flush mount
→ P.103

KAW-D
30° angled box
→ P.24

EL-12S
Electric door strike
→ P.105

RY-3DL
Door release adaptor
→ P.23

MAW-B
Auxiliary light control relay
→ P.106

AE7090220B   AE7090220G
AE7090210B   AE7090210G
AIPHONE approved product wire
→ P.108

Unit dimensions

KB-DAR
140
105   44
83.5

KB-3SD
210
100   74
83.5

KA-DGR PANEL
151
109   42

KB-3MRD, KB-3HRD
195
185   84
83.5

IER-2
120
88   29
83.5

KAW-D
142
107   30
105   4.5   55.4   83.5

Image view area

KB-DAR
124cm*
235cm*
130cm
111cm*
50cm
50cm
60cm*
*approximate

Specifications (KB-3MRD)

Power source	24V DC
Consumption	KB-3MRD: max.710mA, 230mA standby KB-3HRD: max. 260mA, 80mA standby KB-3SD: max 85mA, 50mA standby
Power supply	PS-2420S, PS-2420UL
Video monitor	4 inch TFT color LCD
Scanning lines	525 lines
Communication	Door calls in w/4-tone chime, 30 sec. Hear and see door instantly. Pick up at any station to reply, 2-1/2 min. timed. Recycle with MONITOR. Monitor audio& image of door hands-free w/MONITOR. Press a station selector and call by voice. The called station replies hands-free. Lifting handset, press ALL CALL button to call the other stations w/pretone and voice.
Image view area	Approx. 60cm Horiz., 111~235cm Vert. at 130cm high & at 50cm in front of camera.
Night viewing	Up to 30cm from camera, with white LED projected. Background scene beyond 30cm cannot be seen.
Door release	Contact rating: 12V AC, 400mA
Wiring	2 parallel wires to door, non-polarized. 2 wires in loop between monitors, plus 2 wires separately run from power supply.
Wire type	AIPHONE approved product wire: AE7090220B, AE7090220G, AE7090210B, AE7090210G
Wiring distance	KB-3MRD ~ door 100m(0.65mmø) 200m(1.0mmø) KB-3MRD ~ farthest sub 50m(0.65mmø) 100m(1.0mmø) KB-3MRD ~ IER-2 50m(0.65mmø) 100m(1.0mmø)

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Hands-free Color Video Intercom

MASTER **8** ▶ **DOOR** **120** **AX**

Features
- Up to 120 video entrance stations and 8 master stations
- All wired on CAT5e, homerun cabling
- Total hands-free, auto-voice actuation, communication or Press-to-talk operataion

Door station

AX-DV
Color video
door station
surface mount

AX-DVF
Color video
door station
flush mount

Cat5e

PT

Cat5e

PT

AX-DV-P
Color video
door station
w/space for embed
proximity reader

AX-DVF-P
Color video door station
w/space for embed
proximity reader

AX-DM
Audio door station
Mullion type

IE-JA
Audio door station

Central exchange unit

PS24
PS24

AX-084C
Central exchange unit,
4 masters and 8 doors

AX-248C (Photo)
Central exchange unit,
8 masters and 24 doors

AX-320C
Add-on exchange unit,
32 doors

Power supply
PS-2420S   PS-2420UL
→ P.108

Communication network

AX-8MV ↔ AX-8MV → AX-DV

AX-8MV

AX-DVF

AX-DM

Video signal

Monitor

←→ Calling & communication (w/video from door)
---▶ Door release

Wiring

300m | 300m

Door #1
AX-DV
RJ-45
Cat5e

Door #24
AX-DVF
RJ-45
Cat5e

AX-248C

2 PS24
2 PS24

Cat5e
RJ-45

Master #1
AX-8MV

Master #8
AX-8MV
Cat5e
RJ-45

Door #1
AX-DV
RJ-45
PT

Cat5e

Door #24
AX-DVF
Cat5e
RJ-45

AX-248C

PT

Cat5e
RJ-45

Master #1
AX-8MV

PS24
PS24

Cat5e
RJ-45

Master #8
AX-8MV

PS24 : PS-2420S, PS-2420UL   PT : AC transformer

- Two talk channels and two video channels
- Communication privacy
- Masters available with 3.5 inch color TFT LCD
- Selective door release
- Master-to-master selective calling and All Call
- Standard or Priority call levels from door stations

- Scan monitoring:Hands-free audio/visual monitoring
- Video output from CEU and AX-8MV
- Integrate with CCTV, Access control etc.
- PC interface for programming and event logging
- Rack or wall mountable CEU
- Compatible with IE Series door stations
- Optional features: headset, footswitch, and PC remote control

Master station

Cat5e

AX-8MV
8-call color monitor master station

AX-8MV-W
(white)

Cat5e

AX-8M
8-call audio master station

AX-8MV, AX-16SW

AX-16SW
16-call add-on selector

Lineup

EL-12S
Electric door strike
→ P.105

AC-10S
Access control
keypad,
surface mount
→ P.103

AC-10F
Access control
keypad,
flush mount
→ P.103

Unit dimensions

AX-8MV(-W)

175 / 194 / 63

AX-8M

175 / 194 / 63

AX-16SW

175 / 86 / 63

AX-084C, AX-248C

420 / 426 / 88 / 85

AX-320C

420 / 426 / 88 / 85

AX-DV

195 / 100 / 25

AX-DV-P

245 / 100 / 25

AX-DVF

246 / 146 / 2 / 45

AX-DVF-P

295 / 146 / 2 / 45

AX-DM

160 / 43 / 22.5

IF-DA

130 / 98 / 28 / 1-gang

IE-JA

115 / 116 / 10 / 2-gang

Image view area

- AX-DV, AX-DVF, AX-DV-P, AX-DVF-P

185cm*
65cm*
120cm*
150cm
50cm
50cm
95cm*

* approximate

Specifications (AX)

Power source	24V DC, 2A (Two Power supplies per video system)
Power supply	PS-2420S, PS-2420UL
Current consumption	AX-084C: Video (Max.) 650mA, Audio (Max.) 700mA AX-248C: Video (Max.) 1150mA, Audio (Max.) 1250mA AX-320C: Video (Max.) 280mA, Audio (Max.) 180mA
Calling	Normal call: an intermittent tremolo Priority call: a rapid intermittent tremolo Approx. 10-600 sec. or infinite
Communication	AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more. Approx. 30-600 sec.
Video monitor	3.5 inch direct view TFT color LCD
Scaning lines	525 lines
Night viewing	Up to 30cm from camera, with white LED projected, background beyond 30cm cannot be seen.
Door release contact	24V AC/DC, 0.5A
Outside video output	AX-084C, 248C: NTSC standard 1Vpp (0.7-1.4Vpp) BNC x 2 Switching signal: Open collector output 24V DC, 30mA RJ-45 x 2 AX-8MV: NTSC standard 1Vpp (0.7-1.4Vpp)
Wiring	Homerun CAT5e wire to CEU
Wiring distance	CEU to door: 300m (CAT5e) CEU to master: 300m (CAT5e)

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Video Accessories

Picture memory unit

KC-32EU
Picture memory unit

KC-1GRD
Master station

KC-32EU
Picture memory unit

Features
- Easy add-on to present or new system, color or black & white
- 4 pictures in 1 frame (16 frames), 16, 32 or 60 individual picture save mode
- Max. 8 pictures stored in memory

Used for
KC-1MRD, KC-1GRD, KB-3MRD
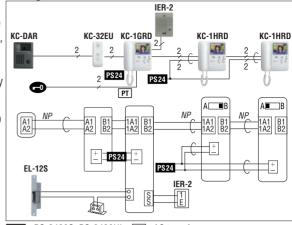
Unit dimensions

KC-32EU
195
83.5
80   54.5

Single-gang mounting

Wiring

IER-2
KC-DAR   KC-32EU   KC-1GRD   KC-1HRD   KC-1HRD
PS24
PS24
PT
EL-12S
IER-2

PS24 : PS-2420S, PS-2420UL   **PT** : AC transformer

Specifications (KC-32EU)

Power source	18V DC, 230mA, 24V DC, 160mA
Power supply	PS-2420S, PS-2420UL
Channel	One video door per unit
Wiring	2 parallel wires to door (NP).
	2 wires to Master (Polarized).
Wiring distance	KC-32EU to door 50m(0.65mmø) 100m(1.0mmø)
	KC-32EU to master 25m(0.65mmø) 5m(1.0mmø)
	KC-32EU to Power supply 10m(1.0mmø) (20m w/1.2mmø)

Long distance adaptor for color

JBW-BA
Long distance adaptor
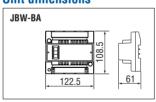
Features
- When JA or KC color video door station is more than 100m to max. 350m away, or JF color video door station is more than 100m to max. 300m away.
- One required for each door station.
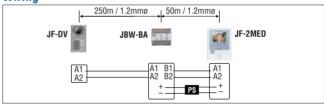
Used for
KC-1MRD, KC-1GRD
KC-32EU + KC-1ARD/KC-1GRD
JA-2MECD, JA-2MCD
JF-1MD, JF-2MED

Unit dimensions

JBW-BA
108.5
122.5   61

Wiring

250m / 1.2mmø   50m / 1.2mmø
JF-DV   JBW-BA   JF-2MED
PS

Specifications

Power source	18VDC, 24VDC PS-1820S, PS-1820UL, PS-2420S, PS-2420UL of system or separate
Current consumption	120mA
Wiring	2 parallel wires to ea. door & master.
Wire type	AIPHONE approved product wire: AE7120230B or 1.0mmø to 1.2mmø. Solid copper conductor PE insulation (not PVC).
Wiring distance	JA, KC door~JBW-BA 100m~300m(1.2mmø) JBW-BA~JA, KC master 50m(1.2mmø) JF door~JBW-BA 100m~250m(1.2mmø) JBW-BA~JF master/JF-1FD/JF-1SD 50m(1.2mmø) JBW-BA~PS 50m(1.2mmø)

Selective door release adaptor

RY-3DL
Door release adaptor
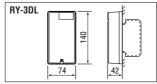
Features
- Selective door release with one button
- Door release contacts release the door where communication is established.
- Normally open contacts for electric strike. Normally closed contacts to work with magnetic locks.
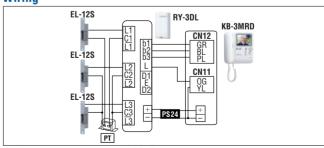
Used for
KB-3MRD, IE-2AD(U)
JF-2MED

Unit dimensions

RY-3DL
140
74   42

Wiring

EL-12S   RY-3DL
KB-3MRD
EL-12S   CN12
GR
BL
PL
EL-12S   CN11
OG
YL
PS24
PT

GR: Green BL: Blue PL: Purple OG: Orange YL: Yellow
PT : AC transformer   **PS24** : PS-2420S/UL

Specifications

Power source	12~24V DC, 30mA 12~16V AC, 60mA
Power supply	PS-2420S/UL; PS-1820S/UL; PS-1225S/UL; AC trans.
Relay contacts	Normally open output. 1A at 50V AC. 1A at 30V DC (for other types, use matching relay)
Wiring distance	Master to RY-3DL 50m(0.65mmø) 100m(1.0mmø) RY-3DL to EL-12S 50m(0.65mmø) 100m(1.0mmø)

30°angle box

KAW-D
30° angled box

Features
• 30° Angle Box for mounting video door station to position door camera to view visitors better.
• Designed for 1-gang surface mounting.

Used for
KC-DAR, KB-DAR

Unit dimensions

KAW-D

142
107
105
30°
83.5
4.5
55.4

Image view area

KAW-D
KC-DAR
30°
50cm
60cm*
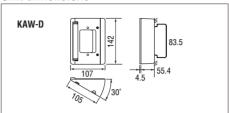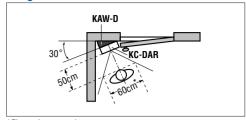
*Figure is approximate.

Relay
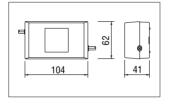
TAR-3
External signaling relay

Features
Allows integration of a doorbell, etc. to intercom. The device will be activated as long as handset is ringing. When the intercom is picked up, the device will no longer be activated.
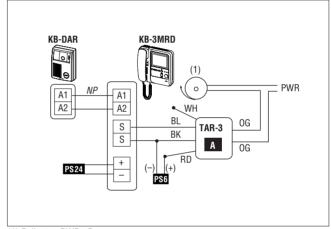
Used for
IE chime tone
IE-8MD
KC, KB series
AT-406
TB-SE(TC-M)
DB-1MD

Unit dimensions

62
104
41

Wiring

KB-DAR   KB-3MRD   (1)   PWR
A1   NP   A1   WH
A2   A2
          S   BL   TAR-3   OG
          S   BK   A
PS24   +   (−) (+) RD   OG
          −   PS6

(1) Bell, etc.   PWR : Power source
WH : White BL : Blue BK : Black(-) RD : Red(+) OG : Orange
PS6 : PS-0602D, PS-0602C

Specifications (TAR-3)

Power source	6V DC, supplied by PS-0602D, PS-0602C
Contact rating	0.3A, 240V AC
	1.0A, 24V DC
	Doorbell or buzzer must be AC operated or DC mechanical type only.

Hands-Free Color Video Multi-tenant Recording, Zoom & PanTilt features

GT System

The GT Series provides building complexes with high performance security & usability. A variety of models adapt to almost any type of building.

Wide and Zoom & PanTilt

With conventional series

Innovative Wide View of Approx. 170°

Panorama Wide Angle View
To provide effective security, the GT series features a wide angle camera that enables you to see an innovative panoramic view! People standing on sides and people of all heights can be easily identified.

Zoom
To see details, switch to Zoom mode. Switching between Wide and Zoom mode can be easily done at the press of a button.

PanTilt
PAN/TILT is available to change the camera angle in Zoom mode.

Recording

Automatic Recording
Works any time, even during your absence. Records 6 images per picture sequence. Up to 40 picture sequences can be recorded.

Manual Recording
Record picture as required. The recording starts when you press the REC button while monitoring or talking to a visitor.
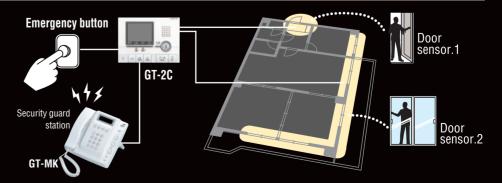
Playing
The play LED flashes when there are auto-recorded pictures.Press the PLAY button to play.

Security

Only the master station with the recording function can be connected with 3 security lines. It can also be connected with an emergency button. When sensing an input from the button, the alarm will be triggered after the set time.

Emergency button

Security guard station

GT-2C

GT-MK

Door sensor.1

Door sensor.2

* The design and specifications are subject to change without notice for improvement.

Building System with

High Degree of Usability for Visitors and Other Features

Audio & Visual Guidance

The Entrance Station features both audio and visual guidance, so any visitor knows the present situation. The audio guide is available in 6 languages (English, French, German, Spanish, Dutch, and Italian).

Audio guide

Call in progress. **Please speak now.** **Door open.**

GT-DA-L

GT-DM

Visual guide
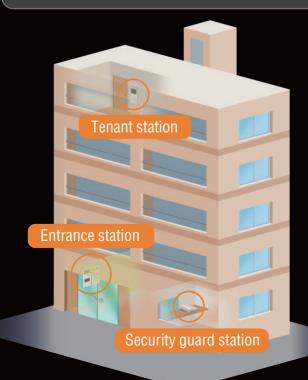
There are projections on the ✕ & ◎ buttons to help visually impaired visitors.

Supports Hearing Aid with T-mode

A T-coil mode is now available with the GT Series. If your hearing aid features T-mode, the sound from the GT room station is much clearer than other intercoms.

Doorbell connections

You can connect stations to your existing doorbell.

Doorbell

GT-2C

Up to 4 Internal Stations can be installed per tenant.

JK-DV   GT-2C   **+**   GT-2H   GT-2H   GT-2H

Capacity

Standard	Expanded
48	500

Tenant station

Hands-free color monitor tenant station
GT-2C-L

Capacity

Standard	Expanded
5	16

Entrance station

GT-DM

Capacity

Standard	Expanded
2	4

Security guard station

Tenant station

Entrance station

Security guard station

Security guard station **GT-MK**

Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

System Configuration

Standard system

5 Entrance stations
2 Security guard stations
48 Tenant stations

Divided cabling
with GT-4Z
Trunk line No.1

On the same trunk line, do not
have two wiring methods mixed,
Divided cabling with GT-4Z &
Monitor to monitor cabling

Monitor to monitor
cabling
Trunk line No.6

1Px2

1Px2   1Px2

1Px2   1Px2

GT-4Z

1Px2

JK-DV
or

Doorbell

GT-2C

PS24

GT-1C

Doorbell

1Px2

Doorbell

GT-1C

GT-2C

JK-DV
or

Doorbell

PS24

1Px2

1Px2

GT-2C

PS24

1Px2

1Px2   1Px2

1Px2   1Px2

GT-4Z

JK-DV
or

Doorbell

GT-2C

PS24

GT-1C

Doorbell

1Px2

Doorbell

GT-1C

GT-2C

JK-DV
or

Doorbell

PS24

GT-2C

PS24

JK-DV
or

Doorbell

1Px2

1Px2   1Px2

1Px2   1Px2

GT-4Z

1Px2

JK-DV
or

Doorbell

GT-2C

PS24

GT-1C

Doorbell

JK-DV
or

Doorbell

GT-2C

PS24

1Px2

GT-2H

1Px2

GT-2H

1Px2

GT-2H
Tenant

GT-2C

PS24

1Px2

No.2~5

1Px2

300m / 0.8mmø

150m / 0.8mmø

1Px2   1Px2

GT-BC   **GT-VBC**

PS24

PS24

1P

1P

1P

1P

PS24

1P

CCTV camera

**Power
supply**

Coaxial cable

GT-DM

~

GT-MK

GT-MK

Entrance Station : Max. 5

Security Guard Station : Max. 2

Wiring distance: Entrance station - Bus & Video control unit 300m
Video control unit - Farthest Video Tenant station 150m
(Expandable with additional Video control unit)
Bus control unit - Farthest Audio Tenant station 300m
Accumulated total Audio wiring distance 2,500m
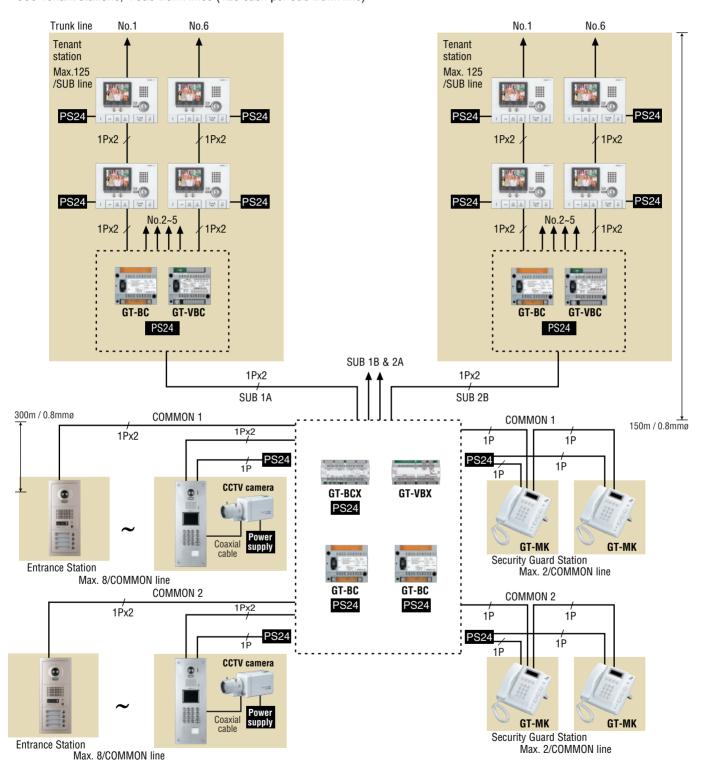
MULTI-TENANT BUILDING ENTRY SECURITY

27

Expanded system

16 Entrance stations, 2 common trunk lines (8 each per common line)
4 Security guard stations, 2 common trunk lines (2 each per common line)
500 Tenant stations, 4 sub trunk lines (125 each per sub trunk line)

Wiring distance: Entrance station - Expanded Bus & Expanded Video control unit 300m
Expanded Video control unit - Video Bus control unit 150m
Expanded Bus control unit - Bus control unit 300m
Accumulated total Audio wiring distance 2,500m/SUB line
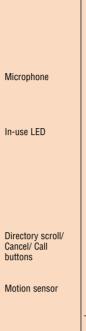
28

Entrance station

All-in-one type
Digital name scrolling

Color camera — Microphone
White light LED
Speaker — In-use LED
Display
Access control/ room number dialing keypad — Directory scroll/ Cancel/ Call buttons
— Motion sensor

GT-DM
Entrance station with camera with name scroll

Module type
Direct-select call button

Color camera
— White light LED
Zinc die-cast panel
Speaker
Guidance display — In-use LED
— Microphone
— Call button
— Directory card & cover

Audio Module

GT-DP
Audio panel
for GT-DA

GT-DP-L
Audio panel
for GT-DA-L

GT-DA
Audio module

GT-DA-L
Audio module
W / guide display

Camera Module

GT-VP
Camera panel

GT-VA
Camera module

Access control keypad module

GT-AC
Access control
keypad module

Option

GF-AP
Address panel

GT-AD
Address module

GF-BP
Blank panel

Specifications (GT-DM)

Power source	24V DC, supplied by PS-2420S, PS-2420UL
Video monitor	3.5 inch color LCD
Camera unit	Complementary metal oxide semiconductor (CMOS)
Communication	AUTOMATIC (Hands-free)
Mounting	Flush-mounting
Material	Stainless

Specifications (GT-DA, GT-VA)

Wiring	Two single-pair cable common
Type of cable	2-conductor cable solid copper & non-braided, polyethylene insulation, 0.65mm dia.~1.0mm dia.
Mounting	Box and front frame GF-2B, 3B and GT-4B, and GF-2F, 3F and GT-4F
Material	Fire-retardant plastic

Specifications (GT-SW, GT-10K, GT-AD)

Lighting	Yellow LED
Material	Fire-retardant plastic

Specifications (GT-NS)

Power source	24V DC, supplied by PS-2420S, PS-2420UL
Material	Fire-retardant plastic

Digital name scrolling

White light LED

Guidance display

VFD Display

Directory scroll/ Cancel/ Call buttons

Keypad illumination

Access control/ room number dialing keypad

- 170° range wide view camera
- Audio & visual guidance assists the visitor to know the present status and go on to the next step at ease.
- Searches of names and number using the keypad
- Customer programmable welcome messages can also be shown
- 6 languages (English, French, German, Spanish, Dutch & Italian) are available for audio guidance and messages on Guidance display
- White light LED illuminates the visitor automatically in low-light conditions

GT-4F
4-module front frame
GF-3F
3-module front frame
GF-2F
2-module front frame

GT-4B
4-module back box
GF-3B
3-module back box
GF-2B
2-module back box

Digital name scrolling module

GT-NSP-L
Display module panel

GT-NS
Digital name scroll display module

Front frame & back box

GF-10KP
10-key module panel

GT-10K
10-key module

Call switch Module

GF-1P
1-call panel

GF-2P
2-call panel
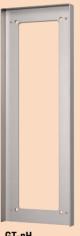
GF-3P
3-call panel

GF-4P
4-call panel

GT-SW
Call switch module

GT-nH
Rain hood
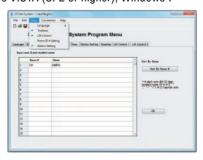
GT-nHB
Hooded surface-mount box

GF-nBA
Surface-mount box

Easy system setting on a PC
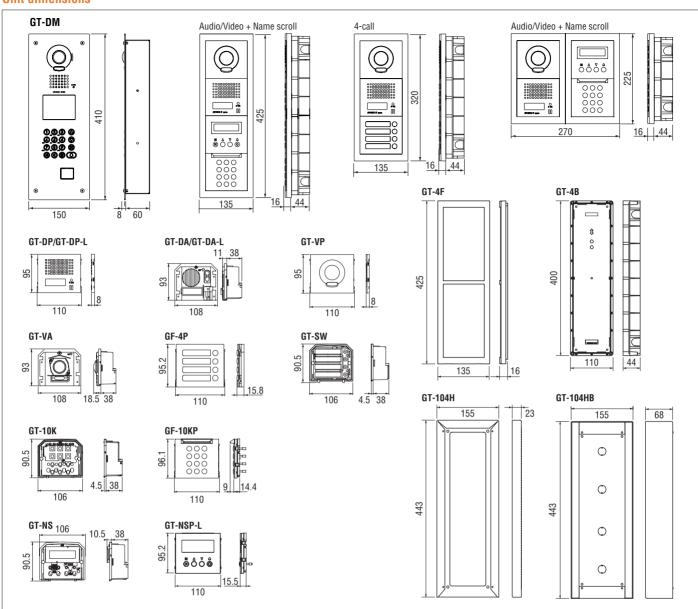
- Settings can be made from a PC by using the Setting Software.
- Connecting the unit and a PC via USB
- Supported OS: Windows XP (SP3 or higher), Windows VISTA (SP2 or higher), Windows 7
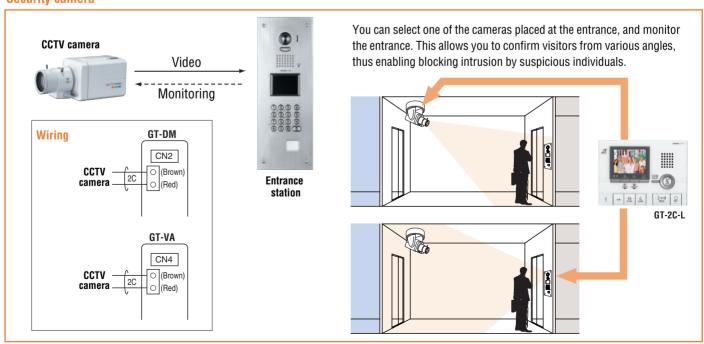
Unit dimensions

GT-DM

Audio/Video + Name scroll

4-call

Audio/Video + Name scroll

GT-DP/GT-DP-L

GT-DA/GT-DA-L

GT-VP

GT-4F

GT-4B

GT-VA

GF-4P

GT-SW

GT-10K

GF-10KP

GT-104H

GT-104HB

GT-NS

GT-NSP-L

Security camera

CCTV camera

Video

Monitoring

Wiring

GT-DM

CN2

CCTV camera — 2C — (Brown) / (Red)

GT-VA

CN4

CCTV camera — 2C — (Brown) / (Red)

Entrance station

You can select one of the cameras placed at the entrance, and monitor the entrance. This allows you to confirm visitors from various angles, thus enabling blocking intrusion by suspicious individuals.

GT-2C-L
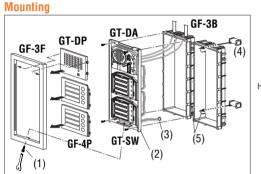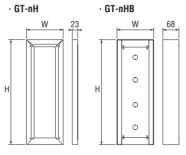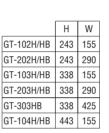
Entrance station components
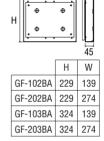
Number of calling button		4.	8.	12.	16.	20.	24.	25.~48.	GT-NS, GT-10K
(1)	GT-VA	1	1	1	1	1	1	For more than 7 × GT-SW, install additional power supply & special device required. Contact local AIPHONE distributor	1
	GT-VP	1	1	1	1	1	1		1
(2)	GT-DA(-L)	1	1	1	1	1	1		1
	GT-DP(-L)	1	1	1	1	1	1		1
(3)	GT-SW	1	2	3	4	5	6		—
	GF-4P	1	2	3	4	5	6		—
(4)	GF-3F	1	—	2	2	—	3		—
	GF-3B	1	—	2	2	—	3		—
(5)	GT-4F	—	1	—	—	2	—		1
	GT-4B	—	1	—	—	2	—		1
(6)	GF-BP	—	—	—	—	—	1		—
	GT-AD	—	—	1	—	1	—		—
	GF-AP								
(7)	GT-NS	—	—	—	—	—	—		1
	GT-NSP-L	—	—	—	—	—	—		1
	GT-10K	—	—	—	—	—	—		1
	GF-10KP	—	—	—	—	—	—		1

(1) Camera (2) Audio (3) Call switch (4) 3-module Front frame (5) 4-module Front frame (6) Option (7) Digital name scroll

Mounting

· GT-nH   · GT-nHB   · GF-nBA

	H	W
GT-102H/HB	243	155
GT-202H/HB	243	290
GT-103H/HB	338	155
GT-203H/HB	338	290
GT-303HB	338	425
GT-104H/HB	443	155

	H	W
GF-102BA	229	139
GF-202BA	229	274
GF-103BA	324	139
GF-203BA	324	274
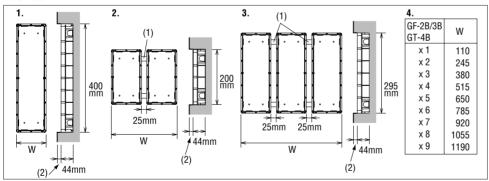
(1) Tamper-proof screw & screwdriver(supplied with GT-BC) (2) Module-mounting bracket(supplied with GF-3F)
(3) Internal wiring connector (4) Joint pipe(x2) (5) Cut out openings in advance.

Back box

GF-2B/3B GT-4B	W
x 1	110
x 2	245
x 3	380
x 4	515
x 5	650
x 6	785
x 7	920
x 8	1055
x 9	1190
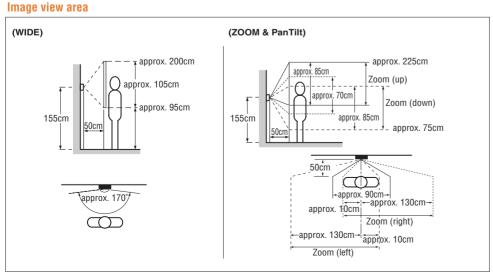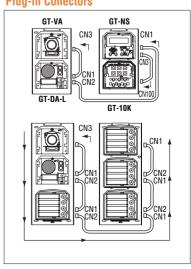
1. **One 4-module back boxes**
2. **Two 2-module back boxes**
3. **Three 3-module back boxes**
4. **Back box total width (mm)**

(1) Joint pipe(x2)
(2) Do not recess back box more than 15mm.

Image view area

(WIDE)

(ZOOM & PanTilt)

Interconnecting Modules with Plug-in Conectors

Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

Hands-free color monitor tenant station w/ picture memory

Picture memory

🦻 Hearing aid

GT-2C-L
Color variation
Gold: GT-2C-L-GD/Silver: GT-2C-L-SL
Black: GT-2C-L-BK

GT-2C
Color variation
Gold: GT-2C-GD/Silver: GT-2C-SL
Black: GT-2C-BK

or

Option
Max. 3 sub master monitor stations (GT-2H-L or GT-2H) can be connected (total of 4 per room)

🦻 Hearing aid

GT-2H(-L)
Color variation
Gold: GT-2H(-L)-GD
Silver: GT-2H(-L)-SL
Black: GT-2H(-L)-BK

or

w/o picture memory

🦻 Hearing aid

or

GT-1C-L
Color variation
Gold: GT-1C-L-GD/Silver: GT-1C-L-SL
Black: GT-1C-L-BK

GT-1C
Color variation
Gold: GT-1C-GD/Silver: GT-1C-SL
Black: GT-1C-BK

Option
Max. 3 additional stations (*) can be connected (total of 4 per room)

(*) Max. 1 additional monitor station can be installed (GT-1C, GT-1C-L or GT-1M-L).
Max. 3 additional audio stations can be installed (GT-1A or GT-1D).
If 1 additional monitor is installed, max. 2 additional audio stations can be installed.

Common items
Optional Handset

GT-HS

Color variation

GOLD

(GT-2C-L-GD)

SILVER

(GT-2C-L-SL)

BLACK

(GT-2C-L-BK)

*All models of hands-free color video tenant stations are also available in gold, silver and black.

Features (GT-2C-L, GT-2C)

Exclusive functions available for GT-2C-L/GT-2C (In addition to GT-1C(-L))
- Video recording from an entrance station or video door station
- Sensors (commercially available) can be connected for security
- Up to 4 monitor stations can be linked per Tenant
- Individual Video door station/audio door station can be connected.
- Internal call and communication

Other basic functions
- Refer to the features for the GT-1C-L/GT-1C. Items listed in the corresponding section can be used as common basic functions.
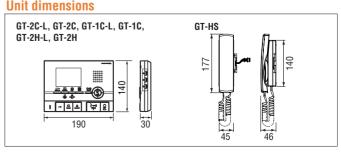
Features (GT-1C-L, GT-1C)
- Zoom/wide and pan & tilt video monitoring function
- 3.5 inch LCD for operation and video monitoring
- Hands-free communication, auto-voice actuation
- Press-to-talk communication is available
- Video image adjusting function
- Monitoring an entrance station or video door station
- Lighting control for a call from entrance station
- Releasing door lock
- Security guard call
- Auto-entry (Doctor call)
- Optional handset for private communication

Specifications (GT-2C-L, GT-2C, GT-1C-L, GT-1C, GT-2H-L, GT-2H)

Power source	GT-2C-L, GT-2C: 24V DC, supplied by PS-2420S/UL GT-2H-L, GT-2H: 24V DC, supplied by GT-2C-L, GT-2C
	GT-1C-L, GT-1C: 24V DC, supplied from Bus control unit, GT-BC & GT-VBC
Video monitor	3.5 inch TFT color LCD
Wiring	Two Single –pair cables common
Mounting	Wall-mounting only
Material	Fire-retardant plastic

Unit dimensions

GT-2C-L, GT-2C, GT-1C-L, GT-1C, GT-2H-L, GT-2H

GT-HS

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Color monitor tenant station

GT-1M-L
Monitor tenant station

Hearing aid

Features (GT-1M-L)
- 3.5 inch LCD for operation and video monitoring
- Lighting control for a call from entrance station
- Monitoring an entrance station
- Releasing door lock
- Security guard call
- Auto-entry (Doctor call)
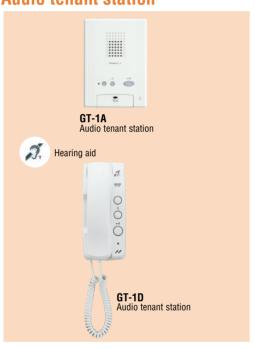
Specifications (GT-1M-L)

Power source	24V DC, supplied from Bus control unit, GT-BC & GT-VBC
Video monitor	3.5 inch color LCD
Wiring	Two Single-pair cables common
Mounting	Wall-mounting only
Material	Fire-retardant plastic

Unit dimensions

GT-1M-L

Audio tenant station

GT-1A
Audio tenant station

Hearing aid
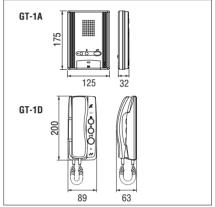
GT-1D
Audio tenant station

Features (GT-1A, GT-1D)
- Lighting control for a call from entrance station
- Monitoring an entrance station
- Releasing door lock
- Auto-entry (Doctor call)

Unit dimensions

GT-1A

GT-1D
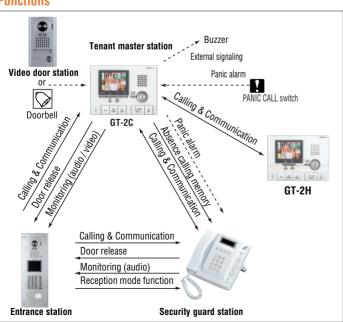
Specifications (GT-1A)

Power source	24V DC, supplied from Bus control units GT-BC
Wiring	Single-pair cable common
Mounting	Wall-mounting only
Material	Fire-retardant plastic
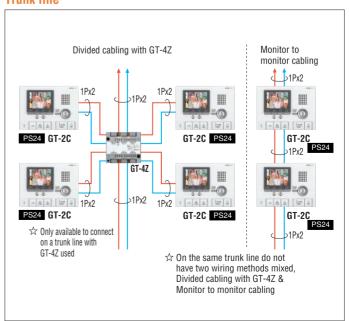
Specifications (GT-1D)

Power source	24V DC, supplied from Bus control unit GT-BC
Wiring	Single-pair cable common
Mounting	Wall-mounting only
Material	Fire-retardant plastic

Functions

Trunk line

☆ Only available to connect on a trunk line with GT-4Z used

☆ On the same trunk line do not have two wiring methods mixed, Divided cabling with GT-4Z & Monitor to monitor cabling

Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

Video door station

JK-DA
Wide and Zoom & PanTilt video door station, surface mount

JK-DV
Wide and Zoom & PanTilt Vandal-resistant video door station, surface mount

JK-DVF
Wide and Zoom & PanTilt Vandal-resistant video door station, flush mount

Features

- 170° range wide view camera
- Directory card with backlight (JK-DV, JK-DVF)
- White light LED illuminates the visitor automatically in low-light conditions

Specifications (JK-DA, JK-DV, JK-DVF)

Power source	Supplied from Tenant station
Type of communication	Open voice hands-free communication
Camera	1/4 inch color CMOS
Minimum illumination	5 Lux
Camera angle	Wide: 170° (approx.)(Horizontal)
Mounting	JK-DA, JK-DV: Surface wall mount (Directly to wall or electrical box) JK-DVF: Flush mount
Material	JK-DA: Fire-retardant PC + ABS plastic JK-DV: Zinc diecasting JK-DVF: Front panel Stainless steel

Unit dimensions

JK-DA   JK-DV   29.5   JK-DVF   8
129   173   209
97   98   25   135   45
35.5

Image view area
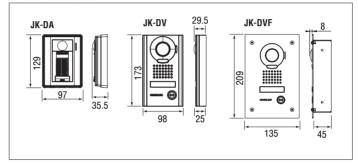
Refer to the descriptions for the image view area.
→ P.4

Door station
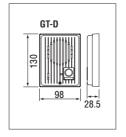
GT-D
Audio only door station

Specifications

Power source	Supplied from Tenant station
Type of Communication	Open voice hands-free communication
Mounting	Surface wall mount
Material	Fire-retardant PC + ABS plastic

Unit dimensions

GT-D
130
98   28.5

Security guard station

GT-MK
Security guard station

GFW-S
Desk-top stand
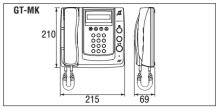
Features
- Call to tenant station
- Digital display shows name of tenant & number
- Entrance station call-ins made to the indoor unit can be automatically forwarded to the security guard station.
- Absence call-in memory stored with Callback
- Option
  Doorbell at door with different call tone
  User-optional device can be controlled with SERVICE button, such as
  -light on and off at entry way to elevator
- Receive a Panic call from tenant station

Unit dimensions

GT-MK

210, 215, 69

Specifications (GT-MK)

Power source	24V DC, supplied by PS-2420S, 2420UL
VFD display	Max. 16 letters for names; English (Up to 32 characters can be registered.), French, German, Spanish, Dutch & Italian
Wiring	2 single-pair cables
Type of cable	2-conductor cable solid copper & non-braided, polyethylene insulation, 0.65mm dia.~1.0mm dia.
Mounting	Wall-mounting or Desk-top mounting on GFW-S
Material	Fire-retardant plastic

Control units

GT-BC
Bus control unit
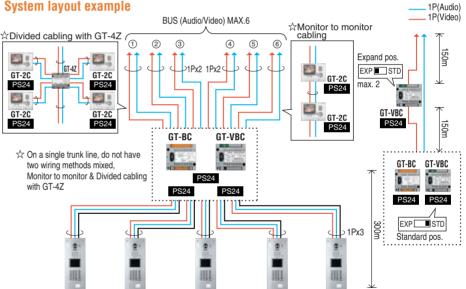
GT-VBC
Video Bus control unit, expander video control

GT-4Z
Video 4-zone divider

System layout example

Wire type
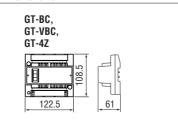
AIPHONE approved product wire: AE7090220B, AE7090220G AE7090210B, AE7090210G or
2-conductor cables solid copper & non-braided, polyethylene insulation, 0.65mm ~ 1.0mm dia.

Wiring distance

	Distance (Diameter of wires)
GT-BC, GT-VBC to Farthest Entrance station	300m(0.8mm)
GT-BC, GT-VBC to Farthest Video tenant station	150m(0.8mm) Expandable 150m with additional GT-VBC & Power supply
GT-BC, GT-VBC to Farthest Audio tenant station	300m(0.8mm)
GT-BC, GT-VBC to each Power supply	5m(0.8mm)
Accumulated Audio lines (R1, R2) Total wiring distance	2,500m(0.8mm)

Unit dimensions

GT-BC, GT-VBC, GT-4Z

108.5, 122.5, 61

Specifications (GT-BC, GT-VBC)

Power source	24V DC, supplied by PS-2420S, 2420UL
Consumption	900mA.
Wiring	Single-pair cable common
Housing	Fire-retardant plastic

Specifications (GT-4Z)

Wiring	Two Single-pair cables common
Material	Fire-retardant plastic

Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

Expanded control units

GT-BCX
Expanded Bus control unit

GT-VBX
Expanded video control unit
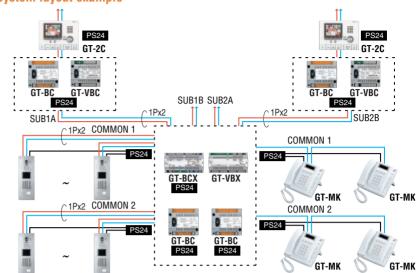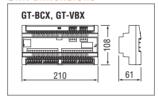
Features
• Expandable to max. 500 Tenant stations, 16 Entrance stations, and 4 Security guard stations

System layout example

PS24 GT-2C
GT-BC GT-VBC
PS24
SUB1A
1Px2
SUB1B SUB2A
1Px2
SUB2B

PS24 GT-2C
GT-BC GT-VBC
PS24

1Px2 COMMON 1
PS24
~
GT-BCX GT-VBX
PS24

1Px2 COMMON 2
PS24
~
GT-BC GT-VBC
PS24 PS24

COMMON 1
PS24
GT-MK GT-MK

COMMON 2
PS24
GT-MK GT-MK

• COMMON trunk line: Requires one each of GT-BC & Power supply
• COMMON trunk line: Max. 8 Entrance stations & 2 Security guard stations
• SUB COMMON trunk line: Max. 125 Tenant stations

Unit dimensions

GT-BCX, GT-VBX

108
210
61
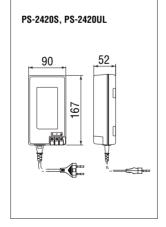
Specifications (GT-BCX, GT-VBX)

Power source	GT-BCX: 24V DC, supplied by PS-2420S or 2420UL.
	GT-VBX: Supplied from GT-BCX
Wiring	Single-pair cable common
Material	Fire-retardant plastic

Power supply

**PS-2420S
PS-2420UL**

Unit dimensions

PS-2420S, PS-2420UL

90
52
167

Specifications (PS-2420S, PS-2420UL)

Input voltage & Capacity	100-240V AC, 50/60Hz
	60W/100-125VA
Output voltage	24V DC, 2A

Option

GT-RY
External signaling
relay entrance light,
external buzzer

W-DIN11
DIN mounting rail
for GT-BC, GT-VBC, GT-4Z

AC-10S
Access control
keypad,
surface mount
→ P.103

AC-10F
Access control
keypad,
flush mount
→ P.103

**AE7090220B AE7090220G
AE7090210B AE7090210G**
AIPHONE approved product wire
→ P.108

MULTI-TENANT BUILDING ENTRY SECURITY

GT Lift control adaptor

GTW-LC
Lift control adaptor
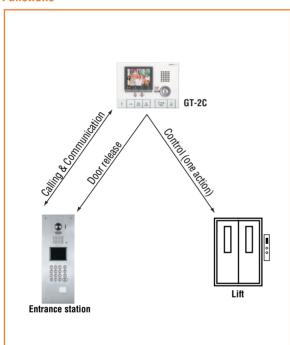
Features

• Lift is controllable from tenant station while communicating with entrance station.
When door release button is pressed, electric door strike is activated and simultaneously output signal is transmitted to the lift controller or the access controller. The access is authorised only to the floor of communicated tenant station.
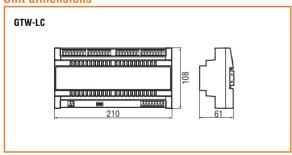
• Selectable dry contact: Normally Open or Normally Closed

• System set up data is programmable on your PC

* GT-BCX is required to use GTW-LC.

Functions

Unit dimensions

GTW-LC

Specifications
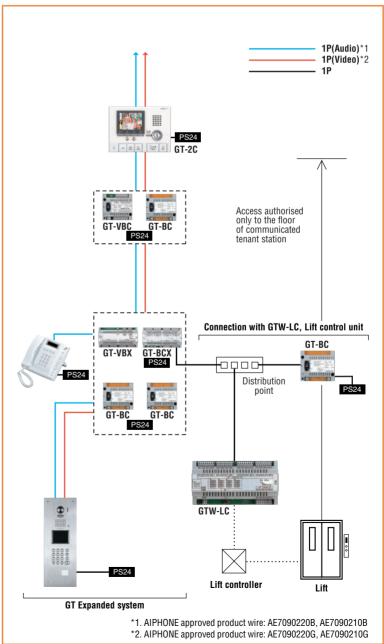
Power source	Supplied by GT-BC	
Relay	Output	20
	Contact rating	24V AC/DC, 0.5A
		N/O or N/C dry contact
	Operating time	From 1 to 600 seconds
Wiring	Single-pair cable	
Material	Fire-retardant plastic	

Cabling

*1. AIPHONE approved product wire: AE7090220B, AE7090210B
*2. AIPHONE approved product wire: AE7090220G, AE7090210G

PS24 : PS-2420S, 2420UL

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MULTI-TENANT BUILDING ENTRY SECURITY

Cabling

Standard system

Capacity
5 Entrance stations
2 Security guard stations
48 Tenant stations

	1P(Audio)*1
	1P(Video)*2
	1P

Divided cabling with GT-4Z

Trunk line No.1

1Px2   1Px2
1Px2   1Px2

GT-4Z

1Px2

JK-DV   GT-2C   JK-DV   GT-2C   Monitor to monitor cabling

Trunk line No.2

or   PS24   PS24   or   GT-2C

Doorbell   GT-4Z   Doorbell   PS24

1Px2   1Px2

1Px2   1Px2   1Px2

JK-DV   JK-DV

1Px2

or   GT-2C   GT-2C   GT-2H   GT-2H   GT-2H   GT-2C

Doorbell   GT-2C   PS24   PS24   PS24

Max. 4 internal stations can be linked per Tenant

1Px2   1Px2

On the same trunk line, do not have two wiring methods mixed,
Monitor to monitor & Divided cabling with GT-4Z

1Px2

Trunk line
No. 3 to 6

1Px2

Distribution
point   R1   R2   PS24

GT-BC   GT-VBC

1Px2

Entrance
No. 2 to 5

Light control
Timer   GT-RY   1Px2   1P   1P   1P

1P   1P

AC   1Px2   1P

Light   CCTV camera   Doorbell

Door release   GT-MK   PS24   GT-MK

Door release   Security guard station   Security guard station

Entrance station   PS24   Entrance station   Coaxial cable   Power
supply

Cable: 1P x 2, 2-conductor cable solid copper & non-braided, polyethylene insulation

Wiring

Divided cabling with GT-4Z

Trunk line No.1

Monitor to monitor cabling

Trunk line No.2

Terminate the last GT-4Z

*1. AIPHONE approved product wire: AE7090220B, AE7090210B
*2. AIPHONE approved product wire: AE7090220G, AE7090210G

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Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

Compatibility with the existing system

The GT system follows the GH trunk line. Both systems can be mixed for call and communication performance, however the use of some functions are restricted. Some functions are enabled on a single station, and some depends on the system.

Main functions that are enabled on a single station

GT-2C-L, GT-2C

- Recording function
- 3 add-on master stations
- Individual door station
- Selectable call-in tones (5 tones)
- Security or general purpose call

GT-1C-L, GT-1C

- Selectable call-in tones (2 tones)

GT-1M-L

- Handset T-mode communication

GT-1D

- Handset T-mode communication

New entrance station

- Audio guidance
- Room number search in numerical order
- Night illumination normally-off
- The external door release button

GT-MK

- Handset T-mode communication
- External output setting
- Call-restricting function
- Room number search in numerical order

Main functions that depend on the system and the old GH and new GT system compatibility list

Existing GH and new GT system compatibility list	The existing GH entrance stations and the new GT system	The existing GH security guard stations and the new GT system	The existing GH tenant stations and the new GT system	The new GT entrance stations and the existing GH system	The new GT security guard stations and the existing GH system	The new GT tenant stations and the existing GH system
Zoom/wide and pan & tilt	—	✓	—	—	—	—
Video image adjusting function for viewability	—	✓	—	—	—	—
Calling a security guard station individually (that has the recording function only)	✓	✓	—	—	—	✓
Absence call-in records from the security guard station (that has the recording function only)	✓	—	—	—	—	—
Releasing the door while being called-in	—	✓	—	—	—	—
Confirmation sound and LED indication at link setting	—	—	—	—	—	—
Switching the security camera	—	✓	✓	✓	—	—

*Transferring link setting information from the new system to the old system is not possible.

INTEGRATED SECURITY & COMMUNICATION SYSTEM

Innovative network-based security management systems. Manage not only your door entry security, but also internal communication through one system via a local network or the internet to dramatically improve security efficiency.

Find Out the Solutions for Your Security Needs.

Large Corporations
Protect staff by giving them the advantage to safely confirm the identity of visitors and vendors before granting access into the building.

Airports
Communications between several departments at separated places can be smoothly realized.

Schools
Broadcast messages throughout the school or to a particular classroom with the choice of either a hands-free or handset reply.

Shopping Mall
Internal communication between tenants can be easily done. It contributes to prompt action in emergency conditions, such as quick call to a disaster control center.

Hospitals
Increase staff efficiency by controlling various entrances from a central location. Easily transfer responsibilities to another location or individual.

Parking Garages
Assist visitors and monitor multiple garage entrances from remote locations during or after hours.

Lineup

Security IP Video Intercom System
IS system

Integratable Audio & Video Security
AX system

Security IP Video Intercom System

IS System

IS Series is a network-based IP intercom system that can make centralized security management simple and easy.
Ideal for both small and large facilities.

Used as IP network system

IS Series can be used as a local network security system in a facility, or as an IP network security system that can manage more than one facility from a control center.

IP network system image

Hardwired network system

Hardwired network system

IS-IPMV

The Audio Sub Station is available.

You can choose the Audio Sub Station. The Audio Sub Station can be selected from 3 types, a handset type or hands-free type.

IS-RS   **IS-SS**   **IS-SS-2G**

Your PC can be used as the Master Station (IS-SOFT).

You can use your PC just like the Master Station by installing the IS software.
* It may not be available depending on your PC or OS version.

Panoramic wide angle view and Zoom & PanTilt for higher security

To provide effective security, IS series features a wide angle camera that enables you to see an innovative panoramic view! People standing on sides and people of all heights can be easily identified.

170° viewing angle
The IS Series features a wide angle camera with PanTilt & Zoom function.

With conventional series

Innovative Wide View of Approx. 170°

Other Functions

Schedule Chime
Program daily Chime by day, week, month, Create different schedules for holidays, breaks, or after hours.

Forward Unanswered Calls Automatically
If a master station is not answered, have the calling forwarded to another master station.

Emergency Broadcasts
Create zones easily to broadcast emergency announcements quickly.

Create Unique System Settings
Save system settings, then export and upload them to another system.

Customize Sounds
Load up to 15 Pre-recorded messages or sound source.

Transfer Video Calls
Call-ins from a video door station can be transferred to any standard or PC master station on the network for easy identification.

Browser Based Set-up
Simply use a browser to get on line and set-up, change, or customize the IS systems.

Paging
You can make a paging from the Master Station to other Master Stations, Door Stations, and Room Sub Stations.

Hardwired system **20**	IP system x**160**/site	**Master Stations**	Hardwired system **20**	IP system x**160**/site	**Video Door Stations**	Hardwired system **120**	IP system x**960**/site	**Audio Stations**

IS-MV   IS-DV   IS-DVF   IS-RS   IS-SS

IP system x**32**/site	**IP Master Stations**	IP system x**32**/site	**IP Door Stations**	IP system x**31**/site	**PC Master Stations Application**

IS-IPMV   IS-IPDV   IS-IPDVF   IS-SOFT

The maximum number of each unit connectable to a standard (IP) system differs from the system configuration.
* Depending on combinations, the number above may not be applied.

Security IP Video Intercom System

System Configuration

WAN system

Site.1

IS-IPMV

IS-IPDV

IS-SOFT

PS24

PS24

100m

100m

Hub

100m

Router

Site.2

IS-IPMV

IS-SOFT

PS24

Hub

Router

Internet

Router

Hub

Site.4

Hardwired system

100m

IS-IPC

IS-PU

10m

IS-CCU

IS-PU

150m

300m

IS-RS

IS-DV

300m

300m

IS-MV

IS-DV

300m

300m

IS-MV

IS-SS

Hardwired system

IS-IPC

IS-PU

IS-CCU

IS-PU

IS-MV

IS-DV

IS-MV

IS-DV

IS-RS

IS-SS

Hardwired system

Site.3

WAN system
LAN system
Hardwired system

IS-IPMV — PS24
IS-IPMV — PS24
IS-IPDV — PS24
IS-SOFT

Hub
Router

Router

Router

Site.5

Hub

100m

100m

Hardwired system

IS-IPC

IS-PU

IS-CCU

IS-PU

IS-MV

IS-DV

IS-MV

IS-DV

IS-RS

IS-SS

IS-IPMV — PS24
IS-IPDV — PS24

Site..

PS24 : PS-2420S, PS-2420UL
IS-PU : IS-PU-UL, IS-PU-S

INTEGRATED SECURITY & COMMUNICATION SYSTEM

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Security IP Video Intercom System

System Configuration

Site system

Internet

WAN system
LAN system
Hardwired system

Router

Site

Hub

100m

Hardwired system

IS-IPC

100m

100m

100m

PS24

PS24

IS-IPMV

IS-IPDV

IS-SOFT

IS-PU

10m

IS-CCU

IS-PU

| IP master station ~Max.**32** | IP door station ~Max.**32** | PC IP master station ~Max.**31** |

| Hardwired system x Max.**8** | Up to 32 IP units (including the IP control unit(s)) can be connected in a site. |

150m

300m

IS-RS

IS-DV

300m

300m

IS-MV

IS-DV

| Master station ~Max.**160** | Video door station ~Max.**160** | Audio station ~Max.**960** |

300m

300m

IS-MV

IS-SS

PS24 : PS-2420S, PS-2420UL

IS-PU : IS-PU-UL, IS-PU-S

System Configuration

Hardwired system

Maximum number of each unit connectable to a hardwired system

Category	Model name	Type	Max. number
Control unit	IS-CCU	Central control unit	1
	IS-SCU	Add-on control unit	2
	IS-RCU	Room sub control unit	4
Master station	IS-MV	Color monitor master station	20
Sub station	IS-DV	Vandal resistant video door station (surface-mount)	20
	IS-DVF	Vandal resistant video door station (flush-mount)	
	IS-SS(-2G)	Vandal resistant door station (flush-mount)	
	IS-RS	Room sub station*1	120

*1: You can use vandal resistant door stations (IS-SS or IS-SS-2G) instead of room sub stations (IS-RS).

PT : AC transfarmer
IS-PU : IS-PU-UL, IS-PU-S

Security IP Video Intercom System

IP Master station

IS-IPMV
IP master station w/Wide and Zoom & PanTilt color monitor
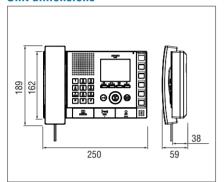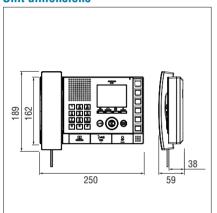
Features
- Directly connectable to an IP network
- 3.5 inch display for operation and video monitoring
- A variety of display modes designed for assisting your operation
- Hands-free, press-to-talk or handset audio communication
- Direct voice call from master station to another station
- System settings are possible on the connected PC
- Various setting items for customizing your master station
- Zoom/wide and pan & tilt video monitoring function
- Video image adjusting function
- Call or communication transferring to another master station
- Paging or chime paging to the registered zones and / or stations
- Monitoring a single station or scan-monitoring up to 20 pre-programmed stations
- Either power supply unit (PS-2420S / UL)or PoE
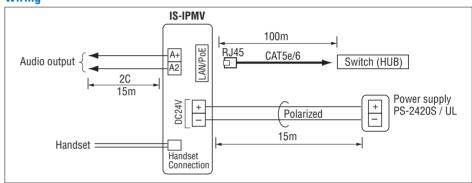
Specifications (IS-IPMV)

Power source	PS-2420S, PS-2420UL, or PoE
Current consumption	Max. 65mA (PoE) Max. 130mA (when power supply unit is used)
Communication	Handset: simultaneous communication (When press-to-talk (PTT) is not set)
	Hands-free: auto-voice actuation or Press-to-talk (PTT)
Monitor	3.5 inch color LCD monitor
Mounting	Desktop use (with or without desktop stand) or wall-mounting
Material	Flame resisting ABS resin

Unit dimensions

Wiring

IP Video door station

IS-IPDV
Wide and Zoom & PanTilt Vandal-resistant IP video door station, surface mount
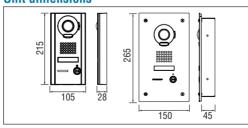
IS-IPDVF
Wide and Zoom & PanTilt Vandal-resistant IP video door station flush mount

Features
- Directly connectable to an IP network
- Approx. 170° range wide view video camera
- Door release output
- Directory card with backlight
- White light LED to illuminate the visitor automatically at night
- System settings are possible on the connected PC
- Calling up to 20 preprogrammed master stations all together
- Remote site calling and communicating capability
- Either power supply unit (PS-2420S / UL)or PoE
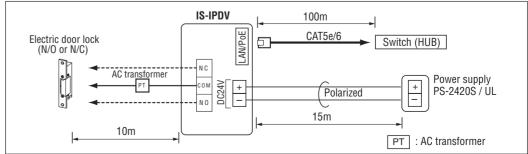
Specifications (IS-IPDV, IS-IPDVF)

Power source	PS-2420S, PS-2420UL, or PoE
Current consumption	Max. 85mA (PoE) Max. 160mA (when power supply unit is used)
Communication	Open voice hands-free communication
Camera	1/4-inch color CMOS
Minimum illumination	5 Lux
Camera angle	Wide: approx. 170° (horizontal)
Mounting	IS-IPDV: Surface-wall mount (directly to wall) IS-IPDVF: Flush-mount
Material	Front panel: aluminum die-cast (IS-IPDV) stainless steel(IS-IPDVF) Main unit: flame resisting PC+ABS resin

Unit dimensions

Image view area

Refer to the descriptions for the image view area.
→ P.4

Wiring

PT : AC transformer

PC application

IS-SOFT
PC application

PC monitor

Features

- PC software with full master station functions
- 7 languages (English, French, Spanish, German, Dutch, Italian & Japanese) are selectable for displaying windows
- Various settings are possible from 9 setting windows
- Play window for searching for and playing back recorded files
- Up to 24 speed dials are available
- Records video and audio from video door stations
- A still picture or video of visitor can be recorded
- Either headset (not included) or handset (not included) can be used for communication
- Hands-free or press-to-talk communication is possible with a headset

System requirements

OS	Windows XP Home/Professional (SP3)/32-bit version, Windows Vista Ultimate/Home/Business/Enterprise (SP2)/32-bit version/64-bit version Windows 7 Home Premium/Professional/Enterprise/Ultimate/32-bit version/64-bit version
PC system requirements	Processor: 2 GHz or faster System memory (RAM): 1 GB RAM or more Hard disk: 10 MB or more (additional space is needed for recording) Sound card: 8-bit full duplex, Direct Sound compatible Display: 800 x 600 or higher 1024 x 768 or higher 1920 x 1200 or higher Run-time: Microsoft®.NET Framework 4.0 or later Network: 10BASE-T/100BASE-TX Ethernet
Protocol	TCP/IPv4, UDP/IPv4, SIP, Others
Network bandwidth	320 k to 8 Mbps

Video & Audio communication with entrance side by PC

Talk button

VISITOR Door Station

Wide and Zoom & PanTilt control from PC

Wide and Zoom

WIDE IMAGE   ZOOM IMAGE

PanTilt on Zoom mode

Wide and Zoom & PanTilt button

Unlock the door after verifying visitor identity

Unlock

Door release button

Room to room communication with master station

Call button

IP Control unit

IS-IPC
IP control unit

Features
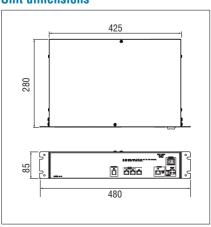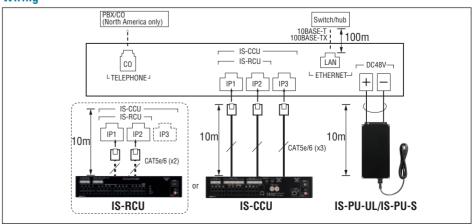
- Configures a standard (IP) system connecting with an IP network
- Connectable with either a central control unit (IS-CCU) or room sub control unit (IS-RCU)
- System settings are possible on the connected PC
- Chime and transfer schedule can be set
- System setting data can be downloaded or uploaded
- Time correction function synchronized with a PC or NTP server
- Daylight saving time is available
- Either rack-mounting (into 19-inch rack) or wall-mounting is possible

Specifications (IS-IPC)

Power source	48V DC (supplied from IS-PU)
Current consumption	Max. 105mA
Talk channels · Video channels, other channels	2 talk & 2 constrained video channels,1 chime,
Central control unit	Max. 1
Room sub control unit	
LAN	Ethernet (10 BASE-T, 100 BASE-TX)
Mounting rack-mount	(19-inch, 2U rack) or wall-mount
Material	Steel plate

Unit dimensions

425
280
85
480

Wiring

PBX/CO (North America only)

Switch/hub

10BASE-T 100BASE-TX

100m

IS-CCU
IS-RCU

LAN

DC48V

CO

TELEPHONE

IP1 IP2 IP3

ETHERNET

IS-CCU
IS-RCU

IP1 IP2 IP3

10m

CAT5e/6 (x2)

IS-RCU

or

10m

CAT5e/6 (x3)

IS-CCU

10m

IS-PU-UL/IS-PU-S

Security IP Video Intercom System

Master station

IS-MV
Master station w/Wide and Zoom & PanTilt color monitor

Features
- 3.5 inch display for operation and video monitoring
- A variety of display modes designed for assisting your operation
- Hands-free, press-to-talk or handset audio communication
- Direct voice call from master station to another station
- System settings are possible on the connected PC
- Various setting items for customizing your master station
- Zoom/wide and pan & tilt video monitoring function
- Video image adjusting function
- Call or communication transferring to another master station
- Paging or chime paging to the registered zones and/or stations
- Monitoring a single station or scan-monitoring up to 20 pre-programmed stations
- Remote site calling and communicating capability (required IS-IPC)
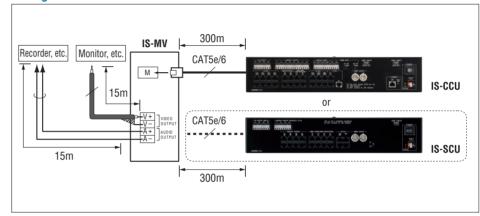
Specifications (IS-MV)

Power source	Supplied from the central control unit or add-on control unit
Communication	Handset: simultaneous communication (When press-to-talk (PTT) is not set)
	Hands-free: auto-voice actuation or Press-to-talk (PTT)
Monitor	3.5 inch color LCD monitor
Mounting	Desktop use (with or without desktop stand) or wall-mounting
Material	Flame resisting ABS resin

Unit dimensions

Wiring

Video door station

IS-DV
Wide and Zoom & PanTilt Vandal-resistant video door station, surface mount
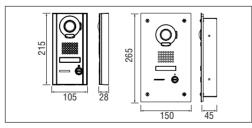
IS-DVF
Wide and Zoom & PanTilt Vandal-resistant video door station flush mount

Features
- Approx. 170° range wide view video camera
- Door release output
- Directory card with backlight
- White light LED to illuminate the visitor automatically at night
- Calling up to 20 pre-programmed master stations all together
- Remote site calling and communicating capability (required IS-IPC)
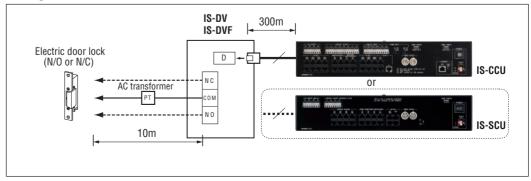
Specifications (IS-DV, IS-DVF)

Power source	Supplied from the central control unit or add-on control unit
Communication	Open voice hands-free communication
Camera	1/4-inch color CMOS
Minimum illumination	5 Lux
Camera angle	Wide: approx. 170° (horizontal)
Mounting	IS-DV: Surface-wall mount (directly to wall) IS-DVF: Flush-mount
Material	Front panel: aluminum die-cast (IS-DV) stainless steel(IS-DVF) Main unit: flame resisting PC+ABS resin

Unit dimensions

Image view area

Refer to the descriptions for the image view area.
→ P.4

Wiring

INTEGRATED SECURITY & COMMUNICATION SYSTEM

Audio station

IS-RS
Room sub station

IS-SS
Vandal resistant
door station,
flush mount

NEW Available 3rd
Quarter 2012

IS-SS-2G
Vandal resistant
door station,
flush mount
2-gang mounting
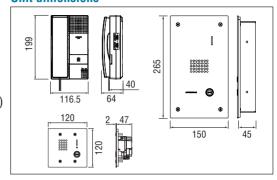
Features
- Calling up to 20 pre-programmed master stations all together
- Remote site calling and communicating capability (required IS-IPC)
- Electric door strike can be connected.
- External speaker can be connected (IS-RS only)
- Option input and option output (IS-RS and IS-SS-2G)

Specifications (IS-RS)

Power source	Supplied from the central control unit, add-on control unit or room sub control unit
Communication	Handset: simultaneous communication Hands-free: auto-voice actuation or Press-to-talk (PTT)
Mounting	Surface-wall mount (directly to wall or electrical box)
Material	Flame resisting ABS resin
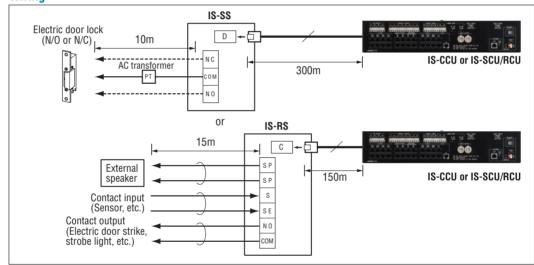
Unit dimensions

Specifications (IS-SS, IS-SS-2G)

Power source	Supplied from the central control unit, add-on control unit or room sub control unit
Communication	Open voice hands-free communication
Mounting	Flush-mount
Material	Front panel: stainless steel Main unit: flame resisting PC+ABC resin

Wiring

Control unit

IS-CCU
Central control unit

IS-SCU
Add-on control unit

IS-RCU
Room sub control unit

Features (IS-CCU)
- Configures a local system with up to 2 add-on control units, 4 room sub control units, in total 20 master stations, 120 sub stations and 28 PA outputs
- 4 PA outputs, 2 chime inputs, 2 video outputs
- System settings are possible on the connected PC
- Up to 3 M Bytes of audio files can be uploaded for sound source
- Chime and transfer schedule can be set
- 3 triggered actions selectable for contact input
- 5 trigger conditions selectable for contact output
- System setting data can be downloaded or uploaded
- Time correction function synchronized with a PC or NTP server
- Daylight saving time is available
- Either rack-mounting (into 19-inch rack) or wall-mounting is possible
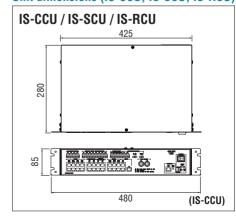
Features (IS-SCU)
- Adds up to 8 master stations and 8 sub stations in a local system
- 4 PA outputs
- 4 trigger conditions selectable for contact output
- Either rack-mounting (into 19-inch rack) or wall-mounting is possible

Features (IS-RCU)
- Connectable with up to 30 sub stations
- Connectable with either an IP control unit (IS-IPC) or central control unit (IS-CCU)
- 4 PA outputs
- 4 trigger conditions selectable for contact output
- Either rack-mounting (into 19-inch rack) or wall-mounting is possible

Unit dimensions (IS-CCU, IS-SCU, IS-RCU)

IS-CCU / IS-SCU / IS-RCU

Security IP Video Intercom System

Specifications (IS-CCU)
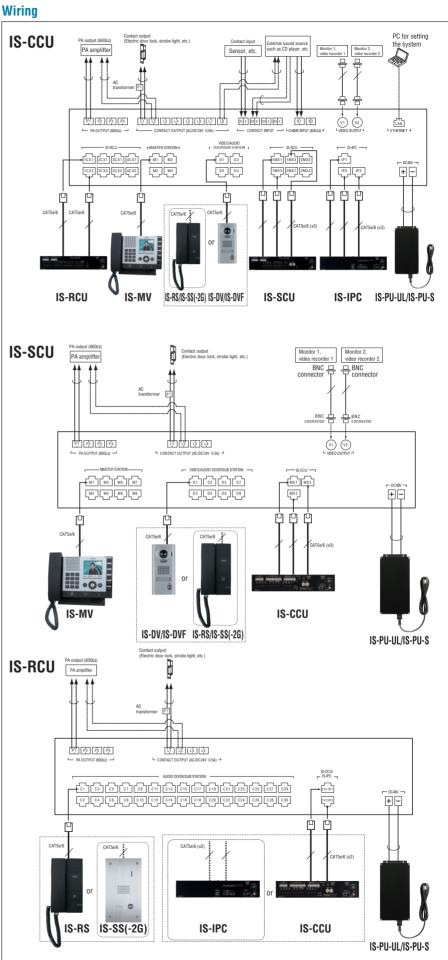
Power source	48V DC (supplied from the power supply unit)
Current consumption	Max. 0.8A
Talk channels · Video channels	Local system: 2 talk & 2 video channels, 1 chime
Master station(s)	Max. 4
Video door station(s) Audio door station(s) Room sub station(s)	Max. 4
Add-on control unit	Max. 2
Room sub control unit	Max. 4
IP control unit	Max. 1
Video output	NTSC BNC (Video channel 1,2)
Mounting	Rack-mount (19-inch, 2U rack) or wall-mount

* The system setting tool is compliant with Windows XP, Windows VISTA and Windows 7.

Specifications (IS-SCU)

Power source	48V DC (supplied from the power supply unit)
Current consumption	Max. 1.2A
Talk channels · Video channels	Local system: 2 talk & 2 video channels, 1 chime
Master station(s)	Max. 8
Video door station(s) Audio door station(s) Room sub station(s)	Max. 8
Video output	NTSC BNC (Video channel 1,2)
Mounting	Rack-mount (19-inch, 2U rack) or wall-mount

Specifications (IS-RCU)

Power source	48V DC (supplied from the power supply unit)
Current consumption	Max. 1.8A
Talk channels	Local system: 2 talk channels, 1 chime
Audio door station(s) Room sub station(s)	Max. 30
Mounting	Rack-mount (19-inch, 2U rack) or wall-mount
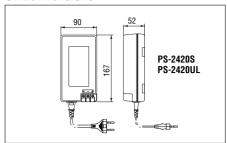
Wiring

IS-CCU

IS-SCU

IS-RCU

Power supply

PS-2420S
PS-2420UL

Specifications
(PS-2420S, PS-2420UL)

Input voltage & Capacity	100-240V AC, 50/60Hz
	60W/100-125VA
Output voltage	24V DC, 2A

Unit dimensions

PS-2420S
PS-2420UL

90
52
167

IS-PU-UL
IS-PU-S
Power supply unit
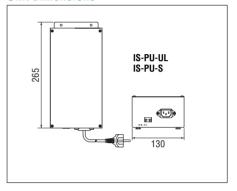
Features
• Either rack-mounting (into 19-inch rack) or wall-mounting is possible by using the optional IS-RACK

Specifications

Power source	AC 100 - 240V, 50/60Hz.
Power consumption	120W
Output voltage	DC 48V
Output current	2.1A
Mounting	Wall-mount or rack-mount (IS-RACK)
Material	Steel plate

Unit dimensions

IS-PU-UL
IS-PU-S

265
130

Functional Specification

Features \ Item	Video Door Station	Audio Station	Master Station	IP Video Door Station	IP Master Station	PC application
Hands-free	✓	✓	✓	✓	✓	✓
Press-to-talk	—	—	✓	—	✓	✓
Handset	—	✓	✓	—	✓	—
Talk transfer	—	—	✓	—	✓	✓
Video identification at door call	—	—	✓	—	✓	✓
Answering to door call	—	—	✓	—	✓	✓
Door release (contact output)	—	—	✓	—	✓	✓
Call forwarding on door call	—	—	✓	—	✓	✓
Absence transfer on door call	—	—	✓	—	✓	✓
Zone page to door station	—	—	✓	—	✓	✓
Direct Voice call and talk-back	—	—	✓	—	✓	✓
Monitor of door camera image / audio	—	—	✓	—	✓	✓
Answering to master call	✓	✓	✓	✓	✓	✓
Answering to PC master call	✓	✓	✓	✓	✓	✓
Zone paging	—	—	✓	—	✓	✓
Zone chime of external sound source	—	—	✓	—	✓	✓
Zone chime of internal sound source	—	—	✓	—	✓	✓
E-mail at set trigger (small number of addresses)	✓	✓	—	✓	—	—
Video output	—	—	✓	—	—	—

Integratable Audio & Video Security

Master station

AX-8MV
8-call color monitor master station

AX-8MV-W
(white)

AX-8M
8-call audio master station

AX-16SW
16-call add-on selector

AX-8MV, AX-16SW

Central exchange unit

AX-084C
Central exchange unit,
4 masters and 8 doors

AX-248C (Photo)
Central exchange unit,
8 masters and 24 doors

AX-320C
Add-on exchange unit,
32 doors
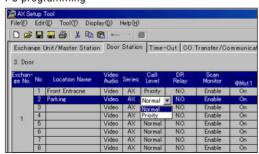
Power supply
PS-2420S   PS-2420UL
→ P.108

Features
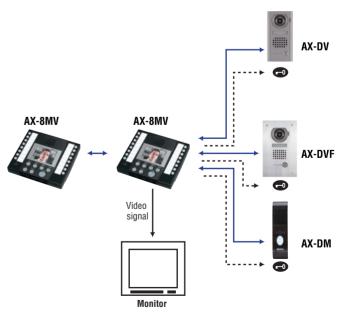
- Up to 120 video entrance stations and 8 master stations
- All wired on CAT5e, homerun cabling
- Total hands-free, auto-voice actuation, communication or Press-to-talk operataion
- Two talk channels and two video channels.
- Communication privacy
- Masters available with 3.5 inch color TFT LCD
- Selective door release
- Master-to-master selective calling and All Call
- Standard or Priority call levels from door stations
- Scan monitoring: Hands-free audio/visual monitoring
- Video output from CEU and AX-8MV
- Integrate with CCTV, Access control etc.
- PC interface for programming and event logging
- Rack or wall mountable CEU
- Compatible with IE Series door stations
- Optional features: headset, footswitch, and PC remote control

PC programming

AX Setup Tool

File(F) Edit(E) Tool(T) Display(D) Help(H)

Exchange Unit/Master Station | Door Station | Time-Out | CO Transfer/Communicat

3. Door

Exchange No.	No.	Location Name	Video Audio	Series	Call Level	DR Relay	Scan Monitor	@Mst.1
1	1	Front Entracne	Video	AX	Priority	N.O.	Enable	On
	2	Parking	Video	AX	Normal	N.O.	Enable	On
	3		Video	AX	Normal	N.O.	Enable	On
	4		Video	AX	Priority	N.O.	Enable	On
	5		Video	AX	Normal	N.O.	Enable	On
	6		Video	AX	Normal	N.O.	Enable	On
	7		Video	AX	Normal	N.O.	Enable	On
	8		Video	AX	Normal	N.O.	Enable	On

Communication network

AX-8MV   **AX-8MV**

AX-DV

AX-DVF

AX-DM

Video signal

Monitor

⟷ Calling & communication (w/video from door)

- - -▸ Door release

INTEGRATED SECURITY & COMMUNICATION SYSTEM

Door station

AX-DV
Color video
door station
surface mount

AX-DV-P
Color video
door station
w/space for embed
proximity reader
surface mount

AX-DVF
Color video door station
flush mount

AX-DVF-P
Color video door station
w/space for embed
proximity reader
flush mount

AX-DM
Audio door station
Mullion type

IF-DA
Audio door station

IE-JA
Audio door station

Lineup

EL-12S
Electric door strike
→ P.105

AC-10S
Access control
keypad,
surface mount
→ P.103

AC-10F
Access control
keypad,
flush mount
→ P.103

System Integration

Video signal

Security Integration Software

AX System
AX-8MV
AX-DV
AX-084C

System log

PC

Remote
door release

Switch
camera

Video
signal

CCTV System
Camera   Monitor   VCR

Calling &
Communication
with video

Door
release

AX-DVF-P

Door
release

Door
release
history

Card ID

Remote door release

**Access
Control
System**

Cabling

300m   300m

AX-8MV

AX-8MV

CAT5e

AX-DV

CAT5e

AX-084C

CAT5e

PS24
PS24

CAT5e

AX-DVF

CAT5e

AX-DM

Monitor

RS232C

**Access
Control
System**

PC

**CCTV
Switcher**

Camera

Monitor

VCR

Integratable Audio & Video Security

Wiring

300m 300m

AX-DV Cat5e 2

AX-248C

AX-8MV

AX-8MV

AX-DVF Cat5e 2

Cat5e

2 PS24
PS24
2

AX-8M

AX-DM Cat5e 2

Cat5e

Door #1
AX-DV

Cat5e
RJ-45

EL-12S

PT

Door #2
AX-DVF

Cat5e
RJ-45

EL-12S

PT

AX-248C

PC

Cat5e

RJ-45

Master #1
AX-8MV

Brown	Video +
Red	Video −
Yellow	
Orange	IER-2
Green	
Blue	Foot switch

POWER

VIDEO OUTPUT
V1 V2

LOG/SETTING
RS-232C

POWER

Master #2
AX-8MV

RJ-45

STRIP LENGTH

This is not a computer peripheral.
Do NOT connect to LAN network.

DOOR RELEASE RELAY

VCH1 VCH2

CO
TEL.ADAPTOR

Door #24
AX-DM

Red
Brown

3(White green)
6(Green)
7(White brown)
8(Brown)

1
2
4
5

Cat5e

PS24
PS24

Cat5e

Master #8
AX-8M

Cat5e

RJ-45

EL-12S

PT

PS24 : PS-2420S, PS-2420UL   **PT** : AC transformer

Mounting locations

Master station

Install the video master station in a place where the screen is not exposed to direct sunlight.

Video door station

Do not install a video door station in any of the following locations where lighting or the ambient environment could impact the display on the video master station due to the characteristics of the door station's camera.
1. Locations subject to direct sunlight
2. Under street lights or door lights
3. Other locations subject to strong lighting conditions

Components

AX-DV	AX-DVF	AX-DM	AX-8MV (AX-8M audio only)	AX-16SW	AX-084C or AX-248C	AX-320C

Number of door stations	Number of master stations	Number of add-on selectors per master	Number of central exchange unit		Number of add-on exchange units
			AX-084C	AX-248C	
1 ~ 8	up to 4	—	1	—	—
9 ~ 24	up to 8	1	—	1	—
25 ~ 40	up to 4	2	1	—	1
41 ~ 56	up to 8	3	—	1	1
57 ~ 72	up to 4	4	1	—	2
73 ~ 88	up to 8	5	—	1	2
89 ~ 104	up to 4	6	1	—	3
105 ~ 120	up to 8	7	—	1	3

NOTE: Use the AX-248C for systems with more than 4 master stations (may effect the required quantity of AX-320C).
2 pcs of power supplies are required for video system.

Unit dimension

AX-8MV(-W)   AX-8M

175   194   63   175   194   63

AX-16SW   AX-084C, AX-248C   AX-320C

175   86   63   420   426   88 85   420   426   88 85

AX-DV   AX-DV-P   AX-DVF

195   100   25   245   100   25   246   146   2 45

AX-DVF-P   AX-DM   IF-DA

295   146   2 45   160   43   22.5   130   98   28   1-gang

IE-JA

115   116   10   2-gang

Image view area

• AX-DV, AX-DVF
  AX-DV-P, AX-DVF-P

185cm*
65cm*
120cm*
150cm
50cm
50cm
95cm*

* approximate

Specifications
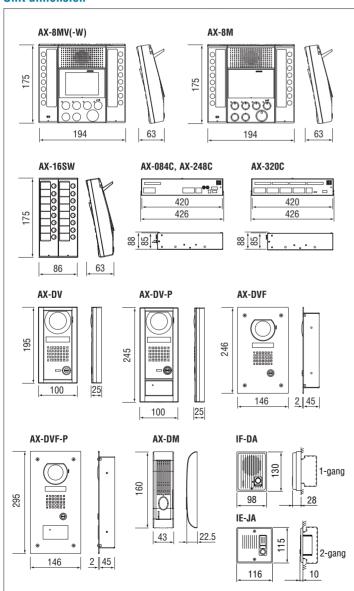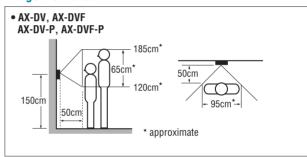
Power source	24V DC, 2A (Two Power supplies required per video system)
Power supply	PS-2420S, PS-2420UL
Current consumption	AX-084C: Video (Max.) 650mA, Audio (Max.) 700mA
	AX-248C: Video (Max.) 1150mA, Audio (Max.) 1250mA
	AX-320C: Video (Max.) 280mA, Audio (Max.) 180mA
Calling	Normal call: an intermittent tremolo
	Priority call: a rapid intermittent tremolo
	Approx. 10-600 sec. or infinite
Communication	AUTOMATIC (Hands-free); To activate, momentarily press TALK button.
	MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more.
	Approx. 30-600 sec.
Video monitor	3.5 inch direct view TFT color LCD
Scaning lines	525 lines
Night viewing	Up to 30cm from camera, with white LED projected, background beyond 30cm cannot be seen.
Door release contact	24V AC/DC, 0.5A
Outside video output	AX-084C, 248C: NTSC standard 1Vpp (0.7-1.4Vpp)
	BNC x 2
	Switching signal: Open collector output
	24V DC, 30mA
	RJ-45 x 2
	AX-8MV: NTSC standard 1Vpp (0.7-1.4Vpp)
Wiring	Homerun CAT5e wire to CEU
Wiring distance	CEU to door: 300 m (CAT5e)
	CEU to master: 300 m (CAT5e)

INTEGRATED SECURITY & COMMUNICATION SYSTEM

58

AUDIO ENTRY SECURITY

Audio based security intercoms for those who want a simple security solution.

AIPHONE
DB-1MD

CALL

Hands-Free

DB SYSTEM

Hands-Free Communication in Any Place.

2-Wire System for Simple Installation.

Lineup

Hands-free Two-Wire Electric Lock Door Phone **DB-1MD**	Two-Wire Electric Lock Door Phone **DA-1AS & DA-4DS**	Chime Tone Intercom **C-123L/A**	Chime Tone Intercom **TCS-MH**
P60 P63	P61 P62	P65	P66
Chime Tone Intercom **IE-1AD(U)**	Chime Tone Intercom **IE-1GD(U)**	Chime Tone Intercom **IE-2A2DU**	Chime Tone Intercom **IE-8MD**
P67	P68	P69	P70

Hands-free Two-Wire Electric Lock Door Phone

DOOR **1** ▶ **ROOM** **5** **DB-1MD**

Request to exit/entry button

Kit box (**DBS-1A**)

DA-1DS
Door station, silver

DB-1MD
Master station

PT

2 — 2 Polarized — 2

DB-1SD
Sub master station

PT

4 — 4 / 2 — 4 — 4 / 2

DB-1SD **DB-1SD** **PT** **DB-1SD**

2

IER-2
Call extension

or

TAR-3
External signaling relay

Buzzer etc

Kit box DBS-1A
DA-1DS
DB-1MD
PT-1211C or PT-1211D

PT : AC transformer **PT-1211C**, **PT-1211D** → P.107

Lineup

EL-12S
Electric door strike → P.105

AC-10S
Access control keypad, surface mount → P.103

IER-2
Call extension → P.105

AC-10F
Access control keypad, flush mount → P.103

DAW-P
Door station mounting plate

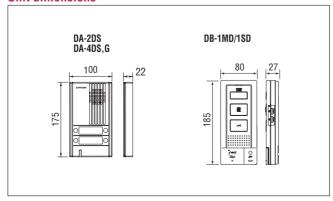**TAR-3**
External signaling relay → P.71

Features

- Door release wired from door station, without additional transformer
- Two-wire system including door release
- Total hands-free communication, auto-voice actuation
- Press-to-talk operation available
- Up to 5 inside stations
- All call for internal communication
- User-optional function button
- Call tone MUTE with indicator
- Call extension sounder
- Directory backlighting
- Continuous chime tone (approx. 4 seconds)

Communication network

DA-1DS **DB-1MD** **DB-1SD** **DB-1SD**

DB-1SD **DB-1SD**
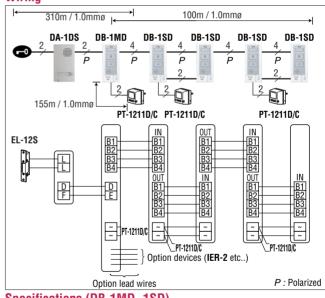
Press "call" button to ring inside station (s).

Unit dimensions

DA-1DS
100
22
175

DB-1MD/1SD
80
27
185

Wiring

310m / 1.0mmø   100m / 1.0mmø

DA-1DS **DB-1MD** **DB-1SD** **DB-1SD** **DB-1SD** **DB-1SD**

2 — 2 P — 4 P — 4 P — 4 P — 4 P / 2

155m / 1.0mmø

2 **PT-1211D/C** 2 **PT-1211D/C** 2 **PT-1211D/C**

EL-12S

L L
D F

IN: B1 B2 B3 B4 / OUT: B1 B2 B3 B4

D E

OUT: B1 B2 B3 B4 / IN: B1 B2 B3 B4

IN: B1 B2 B3 B4 / OUT: B1 B2 B3 B4

IN: B1 B2 B3 B4

~ ~ **PT-1211D/C**   ~ ~ **PT-1211D/C**   ~ ~ **PT-1211D/C**

} Option devices (**IER-2** etc..)

Option lead wires   *P* : Polarized

Specifications (DB-1MD, 1SD)

Power source	15V AC
AC transformer	PT-1211C, PT-1211D
Communication	Approx. 1 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more.
Door release	EL-12S or others (More than (AC) 70Ω, AC 9.5 ~ 20V)
Option contact (AC/DC)	Voltage Max. : 24V, Min. : 1V Current Max. : 1.6A, Min. : 10mA
Wiring	2 wires, throughout AC trans - Master - Door - Door release
Wiring distance	PT-1211C/D ~ Door rlse. 110m(0.65mmø) 200m(0.8mmø) 310m(1.0mmø) PT-1211C/D ~ DB-1MD 55m(0.65mmø) 100m(0.8mmø) 155m(1.0mmø) DB-1MD ~ farthest DB-1SD 100m(0.65 ~ 1.0mmø)

Two-Wire Electric Lock Door Phone

1 ▶ 1 DA-1AS

Boxed set

DA-1AS
Kit box (silver color)

DA-1AG
Kit box (gray color)

DA-1DS
Door station
silver panel

DA-1MD
Master station

Door station
gray panel

DA-1MD
Master station

*Add an appropriate power supply.

*Add an appropriate AC transformer.

PT : AC transformer
PT-1211D PT-1211C → P.107

Lineup

EL-12S
Electric door
strike
→ P.105

AC-10S
Access control
keypad,
surface mount
→ P.103

DAR-1
Call extension

AC-10F
Access control
keypad,
flush mount
→ P.103

DAW-P
Door station
mounting plate
(83.5mm)

Features
- Two-wire system including door release
- Door release wired to door station, requiring no power transformer
- User-optional function button
- Call tone MUTE with indicator
- Call extension sounder

Communication network

Door station   **DA-1MD**   **DAR-1**
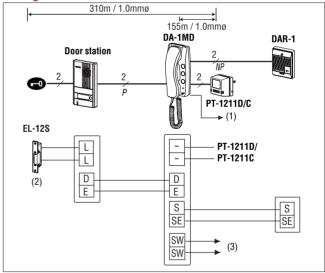
Hold down "CALL" button to ring inside station.

Unit dimensions

Door station
100
22
175

DA-1MD
89
61
200

Wiring

310m / 1.0mmø
155m / 1.0mmø

Door station   **DA-1MD**   **DAR-1**

2   2   2   NP
P
PT-1211D/C
(1)

EL-12S
L
L
D
E
(2)

~   **PT-1211D/**
~   **PT-1211C**
D
E
S
SE   S
SE
SW
SW   (3)
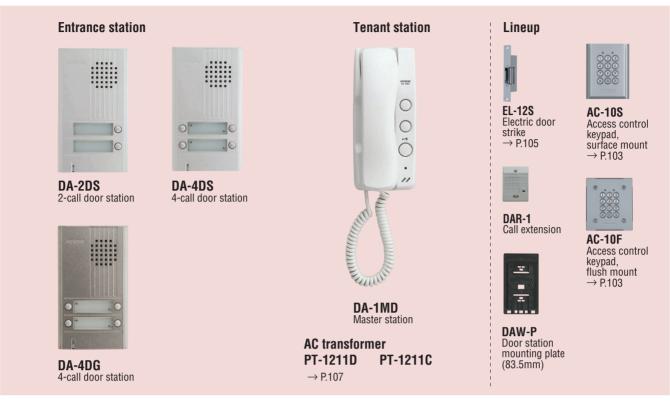
- Place PT-1211D/C inside electrical enclosure and connect to breaker, less than 16A.
- Do not use PT-1211D/C for any other equipment.
- Terminals SW, SW; Dry-closure contact 18V AC, 40mA to connect user-optional function (Gate, Light, Garage, Proximity Access Control, etc.)
(1) External device Relay/Controller
(2) Door release (16V AC, 20Ω or more)
(3) User-optional function (18V AC, 40mA)

Specifications (DA-1AS, G)

Power source	15V AC
Power supply	PT-1211D, PT-1211C
Communication	Press and hold down Button to call.
Wiring	2 wires, throughout system: AC trans - Master - Door- Door release
Wiring distance	PT-1211D/C ~ Door rlse. 110m(0.65mmø) 200m(0.8mmø) 310m(1.0mmø) PT-1211D/C ~ DA-1MD 55m(0.65mmø) 100m(0.8mmø) 155m(1.0mmø)

AUDIO ENTRY SECURITY

Two-Wire Electric Lock Door Phone

DA-4DS

Entrance station

DA-2DS
2-call door station

DA-4DS
4-call door station

DA-4DG
4-call door station

Tenant station

DA-1MD
Master station

AC transformer
PT-1211D   PT-1211C
→ P.107

Lineup

EL-12S
Electric door strike
→ P.105

DAR-1
Call extension

DAW-P
Door station mounting plate (83.5mm)

AC-10S
Access control keypad, surface mount
→ P.103

AC-10F
Access control keypad, flush mount
→ P.103
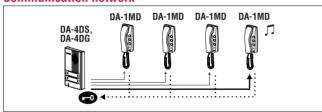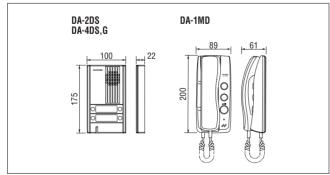
Features
- Two-wire system
- Door release wired to door station, requiring no power transformer
- User-optional function button
- Call tone MUTE with indicator
- Call extension sounder

Communication network

DA-4DS, DA-4DG

DA-1MD DA-1MD DA-1MD DA-1MD
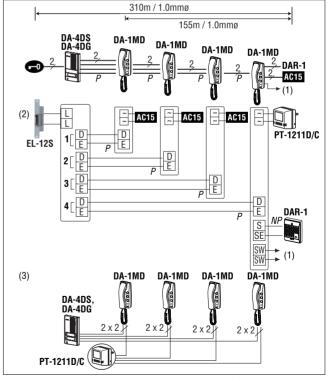
Electronic tone. Direct select ring.

Unit dimensions

DA-2DS DA-4DS,G

100   22
175

DA-1MD

89   61
200

Wiring

310m / 1.0mmø
155m / 1.0mmø

DA-4DS DA-4DG   DA-1MD DA-1MD DA-1MD DA-1MD DAR-1 AC15

(2) EL-12S

AC15 AC15 AC15

PT-1211D/C

DAR-1

(3) DA-4DS, DA-4DG

DA-1MD DA-1MD DA-1MD DA-1MD

2 x 2   2 x 2   2 x 2   2 x 2

PT-1211D/C
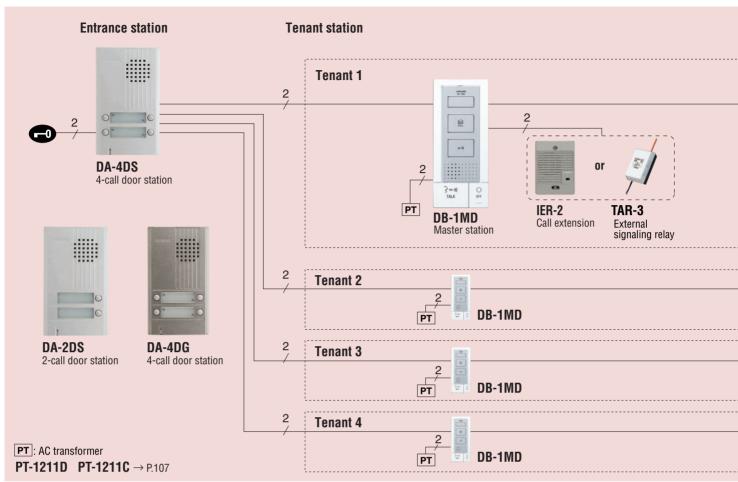
(1) Ext. device Relay/Controller : User-optional function(AC18V, 40mA)   (2) Door release : EL-12S or 16V AC, 20 Ω or more   (3) **When a single common power supply is used**

Specifications (DA-4DS, G)
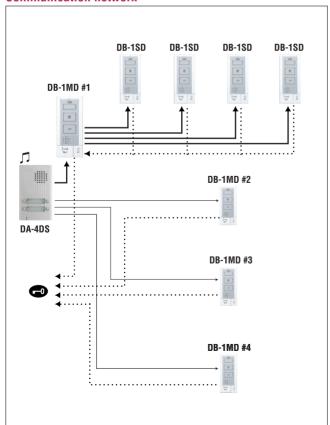
Power source	15V AC
Power supply	PT-1211D, PT-1211C
Communication	Press and hold down Button to call.
Wiring	2 wires, throughout system: AC trans - Master - Door - Door rlse.
Wiring distance	PT-1211D/C ~ Door rlse. 110m(0.65mmø) 200m(0.8mmø) 310m(1.0mmø) PT-1211D/C ~ DA-1MD 55m(0.65mmø) 100m(0.8mmø) 155m(1.0mmø)

AUDIO ENTRY SECURITY

62

Hands-free Two-Wire Electric Lock Door Phone

Entrance station

Tenant station

DA-4DS
4-call door station

DA-2DS
2-call door station

DA-4DG
4-call door station

Tenant 1

2

2

2

DB-1MD
Master station

IER-2
Call extension

or

TAR-3
External
signaling relay

2

Tenant 2

2

DB-1MD

2

Tenant 3

2

DB-1MD

2

Tenant 4

2

DB-1MD

PT : AC transformer
PT-1211D   PT-1211C → P.107

Communication network

DB-1SD   **DB-1SD**   **DB-1SD**   **DB-1SD**

DB-1MD #1

DA-4DS

DB-1MD #2

DB-1MD #3

DB-1MD #4

Wiring

310m / 1.0mmø   100m / 1.0mmø

Tenant 1

DB-1MD   **DB-1SD**   **DB-1SD**   **DB-1SD**   **DB-1SD**

2   4   4   4   4
P   P   P   P   P
2   2

DA-4DS

155m /
1.0mmø

PT-1211D/C   **PT-1211D/C**   **PT-1211D/C**

2

Tenant 2

Tenant 3

Tenant 4

Tenant 1

EL-12S

L

1   D
E

D
E

IN
B1
B2
B3
B4
OUT
B1
B2
B3
B4

OUT
B1
B2
B3
B4
IN
B1
B2
B3
B4

IN
B1
B2
B3
B4
OUT
B1
B2
B3
B4

IN
B1
B2
B3
B4

~   ~
PT-1211D/C

PT-1211D/C   **PT-1211D/C**

Option devices (**IER-2** etc..)

Option connectors.

2   D
E   Tenant 2

3   D
E   Tenant 3

4   D
E   Tenant 4

P : Polarized

AUDIO ENTRY SECURITY

63

	4		4		4		4	

DB-1SD Sub master station   **DB-1SD**   **DB-1SD**   **DB-1SD**

PT   2   **PT**   2

| 4 | 4 |
| 2 | 2 |

Same as the above

PT

| 4 | 4 |
| 2 | 2 |

Same as the above

PT

| 4 | 4 |
| 2 | 2 |

Same as the above

PT

EL-12S
Electric door strike → P.105

AC-10S
Access control keypad, surface mount → P.103

IER-2
Call extension → P.105

AC-10F
Access control keypad, flush mount → P.103

DAW-P
Door station mounting plate

TAR-3
External signaling relay → P.71

Features

- Door release wired from door station, without additional transformer
- Two-wire system including door release
- Total hands-free communication, auto-voice actuation
- Press-to-talk operation available
- Up to 5 inside stations in each tenant
- All call for internal communication
- User-optional function button
- Call tone MUTE with indicator
- Call extension sounder
- Directory backlighting
- Continuous chime tone (approx. 4 seconds)

Specifications (DA-4DS, G)

Power source	15V AC
Power supply	PT-1211D, PT-1211C
Communication	Press and hold down Button to call.
Wiring	2 wires, throughout system: AC trans - Master - Door - Door rlse.

Specifications (DB-1MD, 1SD)

Power source	15V AC
AC transformer	PT-1211C, PT-1211D
Communication	Approx. 1 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more.
Door release	EL-12S or others (More than (AC) 70Ω, AC 9.5 ~ 20V)
Option contact (AC/DC)	Voltage Max. : 24V, Min. : 1V Current Max. : 1.6A, Min. : 10mA
Wiring	2 wires, throughout AC trans - Master - Door - Door release
Wiring distance	PT-1211C/D ~ Door rlse. 110m(0.65mmø) 200m(0.8mmø) 310m(1.0mmø) PT-1211C/D ~ DB-1MD 55m(0.65mmø) 100m(0.8mmø) 155m(1.0mmø) DB-1MD ~ farthest DB-1SD 100m(0.65 ~ 1.0mmø)

Unit dimensions

DA-2DS
DA-4DS, G

100   22

175

DB-1MD/1SD

80   27

185

AUDIO ENTRY SECURITY

64

Chime Tone Intercom

DOOR 1 ▸ **ROOM** 1 **C-123L/A**

Door station

C-D
Door station

Master station

C-ML/A
Master station

Lineup

AC-10S
Access control keypad,
surface mount
→ P.103

AC-10F
Access control keypad,
flush mount
→ P.103

EL-12S
Electric door
strike
→ P.105

Boxed set

C-123L/A
Chime-Com boxed set
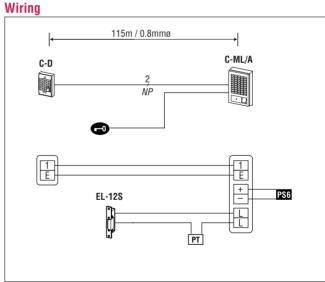
Power supply
PS-0602D   **PS-0602C** or Batteries
→ P.107

Features
- Open voice door answering with door release control
- Adjustable communication volume
- Automatically turns off
- Battery or DC power supply
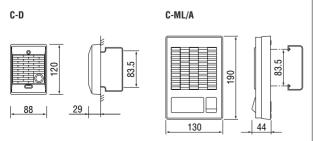
Communication network

Unit dimensions

C-D   120   88   29   83.5

C-ML/A   190   130   44   83.5

Wiring

115m / 0.8mmø

C-D   C-ML/A
2
NP

1
E

EL-12S

1
E

+
−   PS6

L
L

PT

PT : AC transformer   PS6 : PS-0602D, PS-0602C

Specifications (C-123L/A)

Power source	6V DC, 85mA
Power supply	PS-0602D, PS-0602C or Batteries "C"(SUM-2) x 4 pcs.
Communication	Door calls in w/2-tone chime, not adjustable. Press TALK button to reply, release to listen. Power automatically shuts off circuit.
Wiring	2 parallel wires to door, non-polarized (+ 2 for EL-12S).
Wiring distance	Master to door 75m(0.65mmø) 115m(0.8mmø)

Chime Tone Intercom

DOOR		ROOM
1	▶	**1**

TCS-MH

Door station

Master station

TC-DC
Door station

Boxed set

TCS-MH
Chime-Phone set

TC-MH
Master station
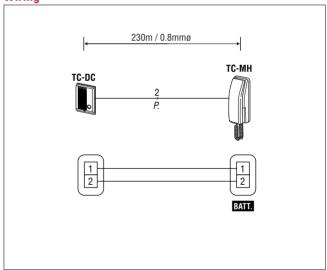
Features
- Chime-phone intercom set, battery-operated
- Adjustable chime volume
- Battery status indicator
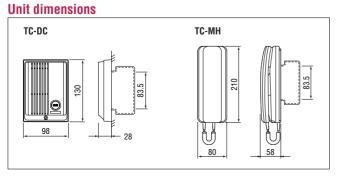
Communication network

Unit dimensions

TC-DC

130
98
83.5
28

TC-MH

210
83.5
80
58

Wiring

230m / 0.8mmø

TC-DC   TC-MH

2
P.

1
2

1
2

BATT.

BATT. : Batteries   P. Polarized

Specifications (TCS-MH)

Power source	6V DC, 70mA
Power supply	Batteries "AA"(SUM-3) x 4 pcs
Communication	Door calls in w/2-tone chime, adjustable. Pick up to reply.
Wiring	2 parallel wires, polarized.
Wiring distance	TC-MH to door 150m(0.65mmø) 230m(0.8mmø)

AUDIO ENTRY SECURITY

66

Chime Tone Intercom

DOOR **1** ▶ **ROOM** **1** **IE-1AD(U)**

Door station	Master station	Lineup

Door station

IF-DA
Door station
→ P.71

Power supply
12~24V DC power supply
12~16V AC transformer

Master station

IE-1AD(U)
Master station

Lineup

EL-12S
Electric door
strike
→ P.105

IER-2
Call extension
→ P.105

AC-10S
Access control
keypad,
surface mount
→ P.103

AC-10F
Access control
keypad,
flush mount
→ P.103

TAR-3
External signaling
relay
→ P.71
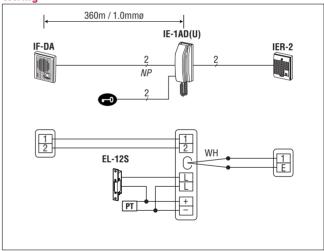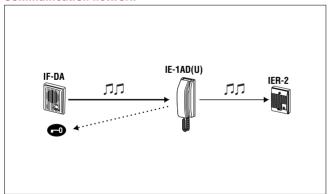
Features
- Chime tone intercom for 2 locations
- Door release button
- AC or DC power source

Communication network

Unit dimensions

IF-DA
130
83.5
98
28

IE-1AD(U)
210
83.5
80
58

Wiring

360m / 1.0mmø

IF-DA   IE-1AD(U)   IER-2

EL-12S   WH
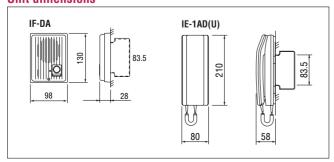
- Run audio wires in a separate jacketed cable from door release wires.
- PT : AC transformer   WH : White(2)

Specifications (IE-1AD(U))

Power source	12~16V AC, 180mA
	12~24V DC, 160mA
Power supply	AC transformer (for IE & EL-12S), PS-1225S/UL.
Communication	Door calls in w/4-tone chime, adjustable. Pick up handset to reply.
Door release	Contact rating: 24V AC/DC, 500mA
Wiring	2 parallel wires, non-polarized (+2 for EL-12S)
Wiring distance	IE-1AD(U) to door 150m(0.65mmø) 360m(1.0mmø)

Chime Tone Intercom

Door station

IE-JA
Door station
→ P.71

Power supply
12~24V DC power supply or
12~16V AC transformer

Master station

IE-1GD(U)
Master station

Sub station

IEH-1CD
Sub master station

Lineup

EL-12S
Electric door
strike
→ P.105

AC-10S
Access control
keypad,
surface mount
→ P.103

IER-2
Call extension
→ P.105

AC-10F
Access control
keypad,
flush mount
→ P.103

TAR-3
External signaling
relay
→ P.71

Features

- 3-station chime tone intercom with one door
- Door release button
- All call type room calling
- Chime tone cutout at sub station
- AC or DC power source

Communication network
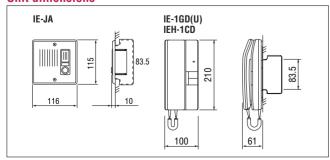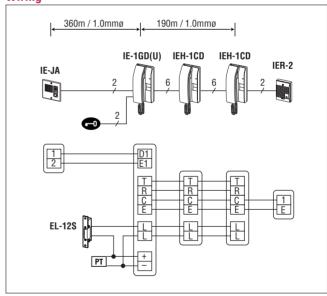
All Call type calling with pretone & voice

Unit dimensions

Wiring

- Run audio wires in a separate jacketed cable from door release wires.
- PT : AC transformer

Specifications (IE-1GD(U))

Power source	12~16V AC, 200mA 12~24V DC, 200mA
Power supply	AC transformer 12~16V, 550mA (for both IE & EL-12S), PS-1225S/UL
Communication	Door calls in w/4-tone chime to all stations. Chime can be cut out at sub(s). Pick up any station to reply. Press CALL to call other inside stations with pretone & voice.
Door release	Contact rating: 24V AC/DC, 500mA
Wiring	2 parallel wires to door, non-polarized. 6 wires in loop, between rooms.
Wiring distance	IE-1GD(U) to door 150m(0.65mmø) 360m(1.0mmø) Between rooms 75m(0.65mmø) 190m(1.0mmø)

AUDIO ENTRY SECURITY

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Chime Tone Intercom

2 ▶ 3 IE-2A2DU

Door station	Master station		Sub station	Lineup

IE-JA
Door station
→ P.71

IF-DA
Door station
→ P.71
Power supply
12~24V DC power supply
12~16V AC transformer

IE-2A2DU
Master station, 2 door releases

IE-2AD(U)
Master station

IEH-1CD
Sub master station

IEH-1C2D
2 door release

EL-12S
Electric door strike
→ P.105

IER-2
Call extension
→ P.105

AC-10S
Access control keypad, surface mount
→ P.103

AC-10F
Access control keypad, flush mount
→ P.103

TAR-3
External signaling relay
→ P.71

Features
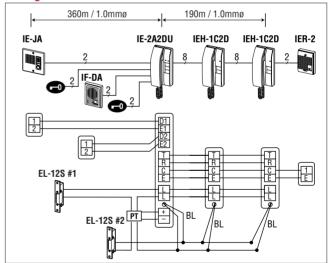
• 3-station chime tone intercom
• 2 door stations w/door release
• All call type room calling
• Chime tone cutout at sub station
• Door selective monitoring at master station
• AC or DC power source

Communication network

All call type voice calling between rooms
(*1) Available in IE-2A2DU or IE-2AD(U) w/RY-3DL

Unit dimensions

Wiring
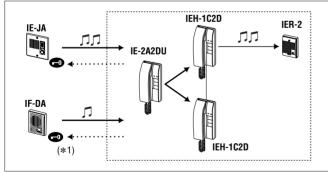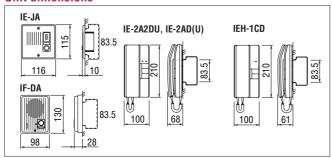
BL : Blue(2)   PT : AC transformer

Specifications (IE-2A2DU)

Power source	12~16V AC, 200mA 12~24V DC, 200mA
Power supply	AC transformer 12~16V AC, 550mA (for both IE & EL-12S). PS-1225S/UL
Communication	Door calls in w/4- or 2-tone chime to all stations, 45 sec. Chime can be cut out at sub. Pick up any station handset to reply. Press CALL to call other stations with pretone & voice.
Door release	Contact rating: 24V AC/DC, 500mA
Wiring	2 parallel wires, non-polarized. 6 wires in loop, rooms.
Wiring distance	IE-2A2DU to door 150m(0.65mmø) 360m(1.0mmø) Between rooms 75m(0.65mmø) 190m(1.0mmø)

Chime Tone Intercom

DOOR **ROOM**
2 ▶ 6 IE-8MD

Door station	Master station	Sub station	Lineup

IE-JA
Door station
→ P.71

IF-DA
Door station
→ P.71

Power supply
PS-1225S PS-1225UL → P.107
PS-1820S PS-1820UL → P.107

IE-8MD
6-call master

IE-8HD
6-call sub master

EL-12S
Electric door strike
→ P.105

TAR-3
External signaling relay
→ P.71

RY-AC/A
External signaling relay
→ P.105

AC-10S
Access control keypad, surface mount
→ P.103

AC-10F
Access control keypad, flush mount
→ P.103
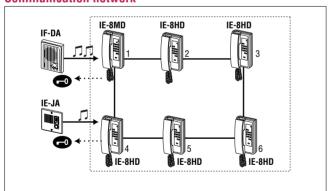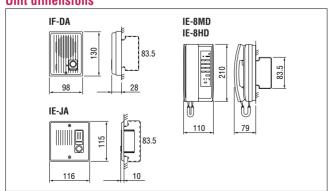
Features
- Expandable to 6-station system
- Selective or All Call between inside stations
- Door select and monitor button (on IE-8MD only)
- AC or DC power source
- Selective door release control
- Chime tone cutout on inside stations, selectable

Communication network
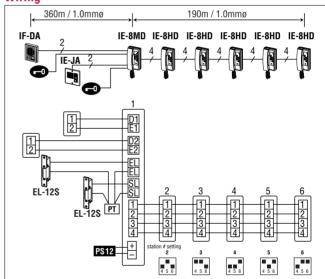
Internal communication by Selective Call or All Call. Chime tone can be muted at each station selectively.

Unit dimensions

Wiring
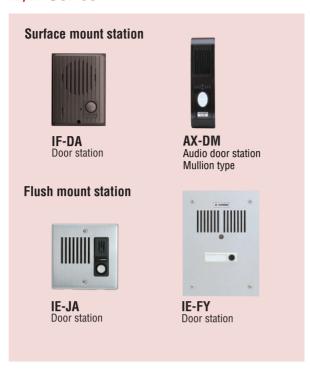
PT : AC transformer   PS12 : PS-1225S/UL   PS18 : PS-1820S/UL or AC transformer

Specifications (IE-8MD)
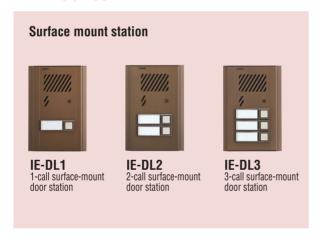
Power source	12~16V AC, 900mA 12~18V DC, 500mA
Power supply	**Intercom only**; 12V or 18V DC power supply. AC transformer 12V AC, 10VA or 16V AC, 14VA w/no load voltage 20V or less. **Intercom + EL-12S**; 12V AC, 10VA only
Communication	Door calls in w/4- or 2-tone chime and LED, 45 sec. Pick up any handset to reply. Press 1 ~ 6 to call other station with pretone and voice or All Call. Single channel, common talk system.
Door release	Contact rating: 24V AC/DC, 350mA
Wiring	2 parallel wires, to door. 4 wires in loop, between rooms.
Wiring distance	IE-8MD to door 150m(0.65mmø) 360m(1.0mmø) Rooms 75m(0.65mmø) 190m(1.0mmø)

AUDIO ENTRY SECURITY

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Audio Door Stations

IE/IF Series

Surface mount station

IF-DA
Door station

AX-DM
Audio door station
Mullion type

Flush mount station

IE-JA
Door station

IE-FY
Door station

Unit dimensions

IF-DA
130
83.5
98
28

AX-DM
160
43
22.5

IE-JA
115
83.5
116
10

IE-FY
220
160
128
66
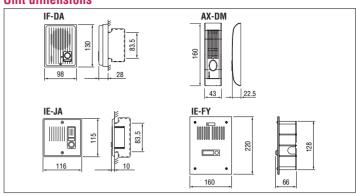
Specifications

Wiring	2 parallel wires to master, non-polarized
Wiring distance	150m(0.65mmø) 230m(0.8mmø) 360m(1.0mmø)

Features
- Weather resistant audio door stations
- Hands-free communication
- Call button rings chime or tone at inside station

Some applications
- At multiple doors
  w/TB-AD10
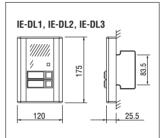
Used for
IE-1AD(U), IE-1GD(U),
IE-2AD(U), IE-8MD,
TD-nH/B w/DE-UR
(n=3, 6, 12 & 24)
TC-M w/TB-AD1
TC-M w/TB-AD10
AX

IE-DL Series

Surface mount station

IE-DL1
1-call surface-mount
door station

IE-DL2
2-call surface-mount
door station

IE-DL3
3-call surface-mount
door station

Unit dimensions

IE-DL1, IE-DL2, IE-DL3
175
83.5
120
25.5

Specifications

Power source	12~16V AC, 140mA or 12~24V DC, 140mA
Communication	Press CALL to ring a flat station. Talk hands-free after the inside station replies.
Wiring	4 to 8 wires, polarized.
Wiring distance	150m(0.65mmø) 230m(0.8mmø) 360m(1.0mmø)

Features
- 1~3-call surface-mount door station with aluminum panel.
- Directory back illumination.
- AC/DC power source.
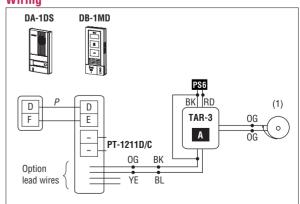
Used for
IE-1AD(U), IE-1GD(U),
IE-2AD(U), IE-2A2DU,
IE-8MD, TD-nH/B w/DE-UR
(n=3, 6, 12 & 24)

Accessories

Relay

TAR-3
External signaling relay

Unit dimensions

62
104
41

Features
Allows integration of a doorbell, etc. to intercom. The device will be activated as long as handset is ringing. When the intercom is picked up, the device will no longer be activated.

Used for
DB-1MD
IE chime tone
IE-8MD
KC, KB series
AT-406
TB-SE(TC-M)

Specifications (TAR-3)

Power source	6V DC, supplied by PS-0602D, PS-0602C
Contact rating	0.3A, 240V AC 1.0A, 24V DC
	Doorbell or buzzer must be AC operated or DC mechanical type only.

Wiring

DA-1DS   **DB-1MD**

D
F
P
D
E
~
~
PT-1211D/C
Option
lead wires
OG   BK
YE   BL

PS6
BK RD
TAR-3
A
OG
OG
(1)

(1) Bell, etc. PWR : Power source
BL : Blue BK : Black(-) RD : Red(+) OG : Orange YE : Yellow
PS6 : PS-0602D, PS-0602C

AUDIO INTERCOM SYSTEM

Audio intercom systems for a variety of facilities where effective communication is needed.

Lineup

Open Voice Intercom **LEM system**	Open Voice Intercom **LEF system**	Hands-free Intercom **DB-1MD**
P73~	P75~	P79

Handset Intercom **AT-406**	Handset Intercom **YAZ-90-3W**	Handset Intercom **TD-H/B**	Security Window Intercom **IMU-100**	Master / Sub Intercom **TC-M**
P79	P80	P81~	P83~	P85~

Market-Com **MC-60/4A**	Mid-Power Intercom **MP-S**	High-Power Intercom **AP-M**	Master / Sub Intercom **NEM**	Nurse Call **NHX**
P88	P89	P90	P91~	P97~

Open Voice Intercom

LEM-1DL

Door station

LE-D
Sub station
→ P.78

LE-DA
Sub station
→ P.78

EL-12S
Electric door strike
→ P.105

LE-DL
Sub station
→ P.78

Master station

LEM-1DL
Master station

Power supply
PS-1225S   PS-1225UL
→ P.107

Lineup

AC-10S
Access control keypad, surface mount
→ P.103
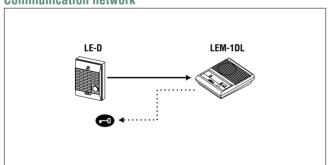
AC-10F
Access control keypad, flush mount
→ P.103
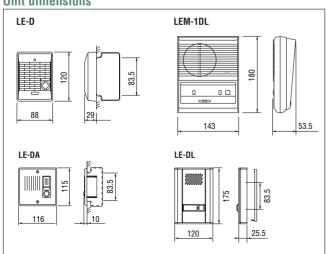
Features

- Single door open voice access control system
- Adjustable tarnsmit (front) and tone volumes
- AC/DC power supply

Communication network

Unit dimensions

LE-D
120
88
83.5
29

LEM-1DL
180
143
53.5

LE-DA
115
83.5
116
10

LE-DL
175
83.5
120
25.5

Wiring

(1)
300m / 0.8mmø

LE-D   **LEM-1DL**
2
2

EL-12S
(12V AC, 125mA)

1 E
1 E
EL EL
+ −   PT

(2)
LE-D   **LEM-1DL**
2
2

EL-12S

1 E
1 E
EL EL
PWR
+ −   PT / PS12
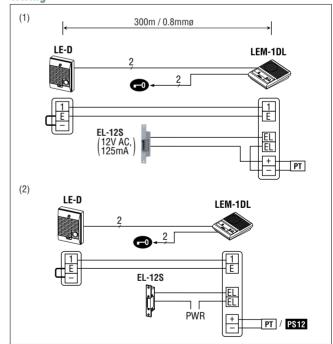
(1) Using EL-12S door release
(2) Using door release of other manufacture rated : 30V AC/DC, 1A max.
 Do not remove shorting link on LE-D.   PWR : Power source
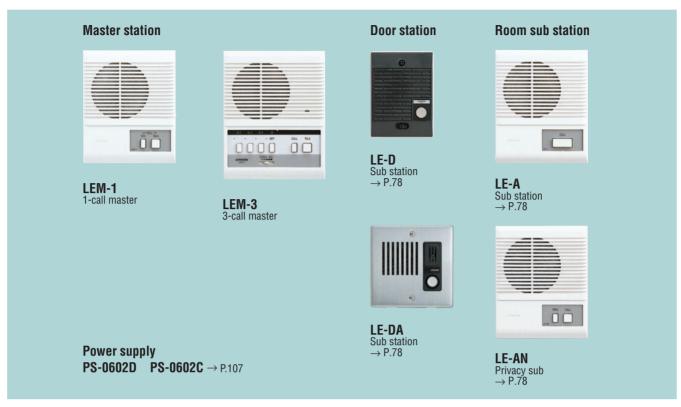
Specifications (LEM-1DL)

Power source	12~16V AC, 4VA 12~24V DC, 200mA (24V)
Power supply	AC transformer, PS-1225S, PS-1225UL
Communication	When called by tone, press TALK to reply. Press door release button to release door, and press OFF for standby.
Wiring	2 wires, non-polarized (+2 for EL-12S)
Wiring distance	LEM-1DL to door 200m(0.65mmø) 300m(0.8mmø)

AUDIO INTERCOM SYSTEM

Open Voice Intercom

Master station

LEM-1
1-call master

LEM-3
3-call master

Door station

LE-D
Sub station
→ P.78

LE-DA
Sub station
→ P.78

Room sub station

LE-A
Sub station
→ P.78

LE-AN
Privacy sub
→ P.78

Power supply
PS-0602D PS-0602C → P.107
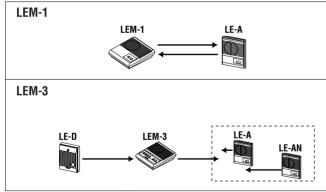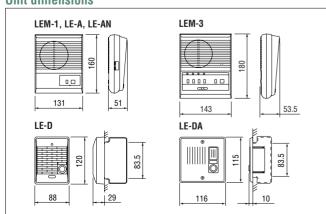
Features
- Open voice communication
- Push-to-talk at master, hands free at remote
- LE sub stations: either door station or room sub station
- Voice volume control

Communication network

LEM-1

LEM-1   LE-A

LEM-3

LE-D   LEM-3   LE-A
                         LE-AN
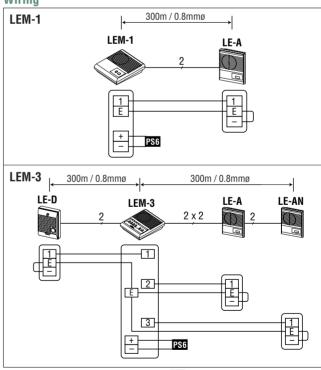
LEM-1; Tone or voice. LEM-3; Selective call w/tone or voice. Tone and LED from sub

Unit dimensions

LEM-1, LE-A, LE-AN

160
131   51

LEM-3

180
143   53.5

LE-D

120
88   29   83.5

LE-DA

115
116   10   83.5

Wiring

LEM-1   300m / 0.8mmø

LEM-1   2   LE-A

1   1
E   E
−   −
+
−   PS6

LEM-3   300m / 0.8mmø   300m / 0.8mmø

LE-D   2   LEM-3   2 x 2   LE-A   2   LE-AN

1
E
−

1
2
E
3
+
−   PS6

1
E
−

1
E
−

★ Do not remove shorting link on subs.   **PS6** : PS-0602D, PS-0602C

Specifications (LEM)

Power source	6V DC, 200mA
Power supply	PS-0602D, PS-0602C
Communication	Sub calls in w/tone and LED, 20 sec. Depress selector button and press or release TALK button. Sub called by tone or voice. Reply hands-free.
Output	350mW output, adjustable
Wiring	2 parallel wires per sub, non-polarized
Wiring distance	LEM to sub 200m(0.65mmø) 300m(0.8mmø)

AUDIO INTERCOM SYSTEM

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Open Voice Intercom

11 LEF

Master station

LEF-3
3-call master

LEF-3L
3-call master w/
door release button

Master station

LEF-5
5-call master

LEF-5W
5-call master
w/terminal box

LEF-10
10-call master

LEF-10W
10-call master
w/terminal box
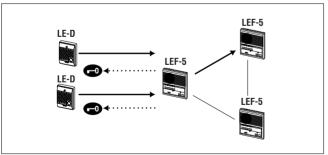
LEF-10S
10-call master (all call)
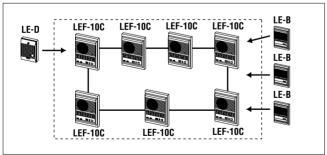
Power supply
PS-1225S   PS-1225UL → P.107

Features
- Intermixable system with any number of masters and subs to max. capacity
- Selective calling from any master with hands-free reply
- LEF surface and LEF-C semi-flush units can be intermixed
- Variety of sub stations are available
- Weather-resistant door stations (any number) with selective door release
- System options: PanTilt door/monitor(s), All Call/Music/Chime
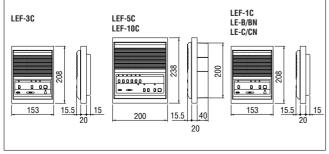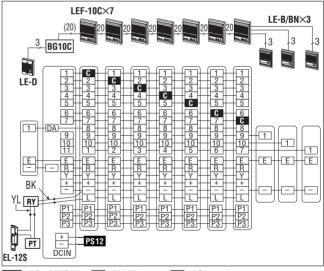- Selective door release with LEF-5/10/10S (w/RY-PA)

Communication network
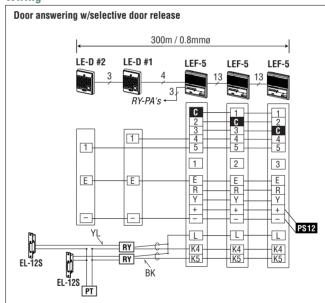
Selective call between inside stations. Answering & releasing door from any inside station

Cabling

Models	Capacity	Cable
LEF-3	4 stations	9 wires
LEF-5	6 stations	11 wires (+5: K1~K5*)
LEF-10	11 stations	17 wires (+10: K1~K10*)
LEF-10S	11 stations	20 wires (+10: K1~K10*)

- K1 ~K10: Control terminals for video, door release.
- LEF-3 does not have L terminal.
- Door & inside sub stations can ring 2 or 3 LEF masters.
- LEF All-master trunk cable=5 (or 6) common + no.of LEF (& subs)

Wiring

Door answering w/selective door release

300m / 0.8mmø

PS : PS-1225S, PS-1225UL   **PT** : AC transformer
Terminal 4 : for LE-D #1, Terminal 5 for LE-D #2.
YL : Yellow(2) BK : Black(2).

Door station

LE-D
Sub station
→ P.78

LE-DA
Sub station
→ P.78

Room sub station

LE-A
Sub station
→ P.78

LE-AN
Privacy sub
→ P.78

LE-A3
3-call sub
→ P.78

LE-AN3
3-call privacy sub
→ P.78

LEF-20(S)*, 20-call master (photo)
LEF-30(S)*, 30-call master
LEF-40(S)*, 40-call master
*Not available in Europe, Australia,
nor New Zealand

All call, music & chime

BG-10C
All call, chime & music
adaptor
→ P.78

Lineup

EL-12S
Electric door
strike
→ P.105

AC-10S
Access control
keypad,
surface mount
→ P.103

RY-PA
Door release relay
→ P.105

LEW-5
LEF-5 terminal
box

LEW-10
LEF-10 terminal
box

LEW-10S
LEF-10S terminal
box
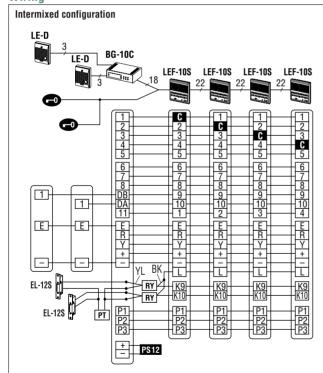
AC-10F
Access control
keypad,
flush mount
→ P.103

Wiring

Intermixed configuration
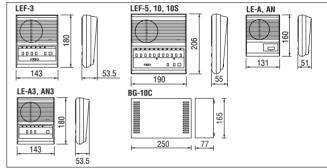
3 wires per sub. Run 3 wires to subs individually, or use multi-conductor cable to wire multiple subs (2 common + 1 per sub).
• LE-D call-in chimes on LEF stations.
• Only LEF-10S station can transmit all call.
• Match door release control terminals (Kn) with door selector #10 with K10, #9 with K9.
★ Remove a shorting link on LE subs.
PS12 : PS-1225S, PS-1225UL   **PT** : AC transformer   **RY** : RY-PA

Unit dimensions

Specifications (LEF)
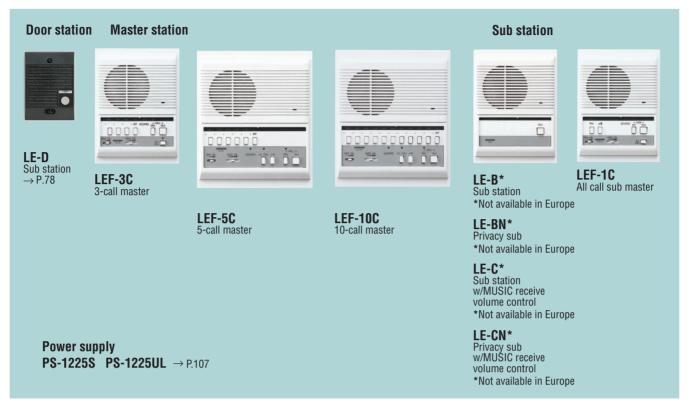
Power source	12V DC, 300mA per LEF station.
Power supply	PS-1225S, PS-1225UL
Communication	Sub calls in w/(chime) tone & LED, 20 sec. Depress the LED lit selector button. Use TALK/LISTEN switch. Master calls in w/tone or voice (no LED lit). Reply hands-free. To call, depress a selector, and call by voice or tone.
Door release	Contact: 30V DC, 0.1A (resistance load).
Selector switch	Contact: 12V DC, 30mA.
Wiring	5 wires common + no .LEF (& subs) (all-master system) 2 wires per sub (single-master system). * E to - link remains attached. LE subs: 3 wires with the link removed (when intermixed)
Wiring distance	Farthest LEF's 200m(0.65mmø) 300m(0.8mmø)

Specifications (BG-10C)

|	
Power source	12V DC, 2.5A (music max. output). 1.5A(music, chime & all call). 0.1A standby
All call transmit	From LEF-3C, 5C, 10C & LEF-1C and LEF-10S
All call receive	All LEF master station, and LE-C, CN
Chime tone transmit	AUX R, E and AUX L, E
Controls	Music on/off. 11 selector switches of music & chime, chime only or off.
Wiring	19 wires max. BG-10C to LEF-10C. 3 wires to each LE-D, DA.
Wiring distance	BG-10C to LEF-C 150m(0.65mmø). 230m(0.8mmø) LE-D/DA to BG-10C 200m(0.65mmø). 300m(0.8mmø).

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Open Voice Intercom

Door station   Master station   Sub station

LE-D
Sub station
→ P.78

LEF-3C
3-call master

LEF-5C
5-call master

LEF-10C
10-call master

LE-B*
Sub station
*Not available in Europe

LE-BN*
Privacy sub
*Not available in Europe

LE-C*
Sub station
w/MUSIC receive
volume control
*Not available in Europe

LE-CN*
Privacy sub
w/MUSIC receive
volume control
*Not available in Europe

LEF-1C
All call sub master

Power supply
PS-1225S   PS-1225UL → P.107

Features

- Intermixable system with any number of masters and subs to max. capacity
- Selective calling from any master with hands-free reply
- LEF surface and LEF-C semi-flush units can be intermixed
- Variety of sub stations are available
- Weather-resistant door stations (any number) with selective door release
- System options: PanTilt door/monitor(s), All Call/Music/Chime
- Selective door release with LEF-5/10/10S (w/RY-PA)

Communication network

Intermixed configuration
Internal communication by Selective call. Sub calls in with tone & LED 20 sec.

Unit dimensions

Wiring

PS12 : PS-1225S/UL   **RY** : RY-PA relay   **PT** : AC transformer
BK : Black(2)   YL : Yellow(2)

Specifications (LEF-C)
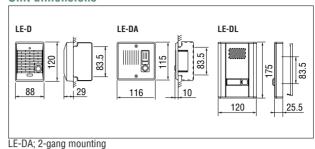
Power source	12V DC, 300mA per station.
Power supply	PS-1225S, PS-1225UL
Communication	Sub/door calls in w/tone & LED, 20 sec. Depress the LED lit selector button. Depress TALK/LISTEN switch. The LED stays lit while in use. Single talk channel w/OCCUPIED lit.
Output	800mW at 20Ω (receive). 500mW at 20Ω (transmit).
Door release	Contact: 110V AC, 1A. 24V DC, 1A. (on RY-PA output).
Selector switch	Contact: 12V DC, 1A. (K terminals)
Wiring	5 or 6 common + no. all stations
Wiring distance	Farthest LEF-C's 200m(0.65mmø) 300m(0.8mmø)

LE Sub stations & Accessories

Weather-resistant sub

LE-D
Sub station

LE-DA
Sub station

LE-DL
Sub station

Unit dimensions

LE-D
120
88
29
83.5

LE-DA
115
116
10
83.5

LE-DL
175
120
25.5
83.5

LE-DA; 2-gang mounting

Room sub

LE-A
Sub station

LE-AN
Privacy sub

Unit dimensions

LE-A, AN
160
131
51
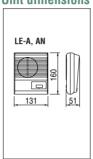
Semiflush mount sub

*Not available in Europe

LE-B
Sub station

LE-C
Sub station

LE-BN
Privacy sub

LE-CN
Privacy sub

LE-C & LE-CN: w/MUSIC receive volume control

3-call sub

LE-A3
3-call sub

LE-AN3
3-call privacy sub

Unit dimensions

LE-A3, AN3
180
143
53.5

All call sub master
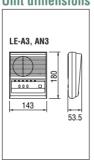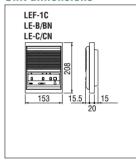
LEF-1C
All call sub master

Unit dimensions

LEF-1C
LE-B/BN
LE-C/CN
208
153
15.5
15
20
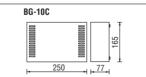
All call/music/chime adaptor

BG-10C
All call, chime & music adaptor

Unit dimensions

BG-10C
165
250
77

Specifications (BG-10C)

Power source	12V DC, 2.5A (music max. output). 1.5A(music, chime & all call). 0.1A standby
All call transmit	From LEF-3C, 5C, 10C & LEF-1C and LEF-10S
All call receive	All LEF master station, and LE-C, CN
Chime tone transmit	AUX R, E and AUX L, E
Controls	Music on/off. 11 selector switches of music & chime, chime only or off.
Wiring	19 wires max. BG-10C to LEF-10C. 3 wires to each LE-D, DA.
Wiring distance	BG-10C to LEF-C 150m(0.65mmø). 230m(0.8mmø) LE-D/DA to BG-10C 200m(0.65mmø). 300m(0.8mmø).

AUDIO INTERCOM SYSTEM

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Hands-free Intercom
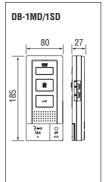
DB-1MD
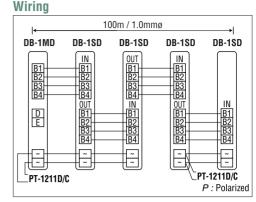
Features
- Total hands-free communication, auto-voice actuation
- Press-to-talk operation available
- Up to 5 stations
- All call for internal communication

DB-1MD
Master station

DB-1SD
Sub master station

DB-1SD

DB-1SD

DB-1SD

PT : AC transformer **PT-1211C**, **PT-1211D** → P.107

Unit dimensions
DB-1MD/1SD

80 / 27 / 185

Wiring
100m / 1.0mmø

DB-1MD | DB-1SD | DB-1SD | DB-1SD | DB-1SD

PT-1211D/C

PT-1211D/C

P : Polarized

Specifications (DB-1MD, 1SD)

Power source	15V AC
AC transformer	PT-1211C, PT-1211D
Communication	Approx. 10 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button twice.

Wiring distance	PT-1211C/D ~ DB-1MD 55m(0.65mmø) 100m(0.8mmø) 155m(1.0mmø) DB-1MD ~ farthest DB-1SD 100m(0.65 ~ 1.0mmø)

Handset Intercom

AT-406
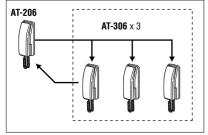
Features
- Handset master-sub intercom w/2 additional subs (optional)
- Battery status LED
- Batteries or DC power supply
- Buzzer or bell activation (optional)

Master station

Master station

Sub station

AT-306
Sub station

Boxed set

AT-406
Boxed set (white color)

AT-406P
Display pack

AT-406B/A
Boxed set (charcoal gray)

Power supply
PS-0602D   **PS-0602C** or Batteries → P.107

Lineup

TAR-3
External signaling relay
→ P.106

Communication network

AT-206

AT-306 x 3
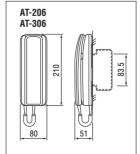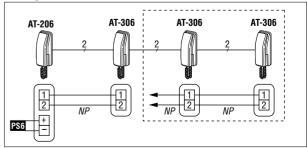
Master calls all the subs simultaneously, while the sub rings the master only.

Unit dimensions
AT-206
AT-306

210 / 83.5 / 80 / 51

Wiring

AT-206 | AT-306 | AT-306 | AT-306

PS6 : PS-0602D, PS-0602C

Specifications (AT-406)

Power source	6V DC, 150mA
Power supply	PS-0602D, PS-0602C or Batteries "AA" (SUM-3) x 4 pcs
Communication	Press CALL button to ring all subs. Pick up any phone. Sub rings master only. Common talk.

Wiring	2 parallel wires. non-polarized
Wiring distance	2-station set 700m(0.65mmø) 1000m(0.8mmø) AT-206 to subs 1~3 400m(0.65mmø) 600m(0.8mmø)

Handset Intercom

STATION
90 YAZ-90-3W

Phone extension

Lineup

YAW-RB
1-zone paging adaptor for YAZ-90-3W

Power supply
PS-2420S   PS-2420UL
→ P.108

YAZ-90-3W
Phone master station
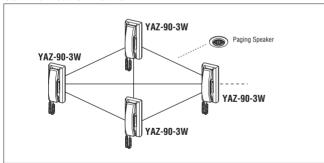
Features
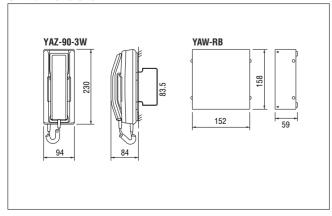
- Microprocessor built-in intercom expandable to max. 90 stations on 4-pair cable
- Up to 2.9km wiring distance
- Zone paging
- Communication functions: Camp-on busy, secretary transfer, call transfer
- Line-off trouble on one channnel does not affect the other channels

Communication network

YAZ-90-3W

YAZ-90-3W

Paging Speaker

YAZ-90-3W

YAZ-90-3W

YAZ-90-3W
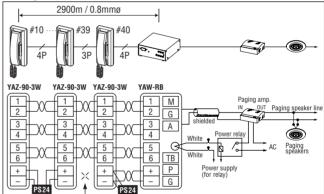
Station to station communication in any pair

Unit dimensions

YAZ-90-3W   YAW-RB

230

83.5

158

94   84   152   59

Wiring

2900m / 0.8mmø

#10 ···· #39   #40

4P   3P   4P

YAZ-90-3W YAZ-90-3W YAZ-90-3W YAW-RB

Paging amp.
IN   OUT   Paging speaker line
shielded
White   Power relay
White   AC   Paging speakers
Power supply (for relay)

PS24   PS24

- Remove +,- wires between YAZ stations of different blocks.
Within a block locate a power supply in the center of cable run, and make groups of max. 10 YAZ stations. As shown, connect +, - wires from the power supply to each group's initial YAZ station.
PS24 : PS-2420S, PS-2420UL
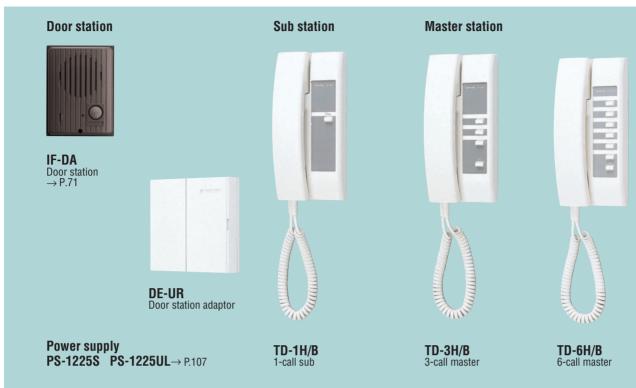
Specifications (YAZ-90-3W)

Power source	24V DC, 150mA max. 20mA standby.
Power supply	PS-2420S, PS-2420UL per 30-station block.
Communication	Dial 2-digit station # to ring other station with tone or voice pressing PAGE. Privacy communication on each channel (max. 3).
Line loop resistance	Must not exceed 200Ω for farthest stations. 20Ω for power line.
Wiring	4-twisted pairs (shielded) in loop.
Total wiring distance	Farthest YAZ's 1900m(0.65mmø), 2900m(0.8mmø)

Specifications (YAW-RB)

Power source	YAW-RB: 24V DC, 150mA (paging).40mA (standby).
Consumption	YAW-RB = 5 YAZ's, powered by YAZ network.
Paging impedance/level	Input: 600Ω/78mV(RMS), 1KHz.
	Output: 600Ω/300mV(RMS), 1KHz.
Music impedance/level	Input: 20KΩ/300mV(RMS), 1KHz.
	Output: 600Ω/150mV(RMS), 1KHz.
Line resistance	20Ω loop for power supply line.
	200Ω loop for intercom line.
Amp. power ctrl. contact	YAW-RB: 240V AC 10A. 24V DC, 10A.

Handset Intercom

Door station

IF-DA
Door station
→ P.71

DE-UR
Door station adaptor

Power supply
PS-1225S   PS-1225UL→ P.107

Sub station

TD-1H/B
1-call sub

Master station

TD-3H/B
3-call master

TD-6H/B
6-call master
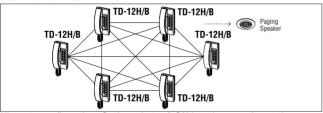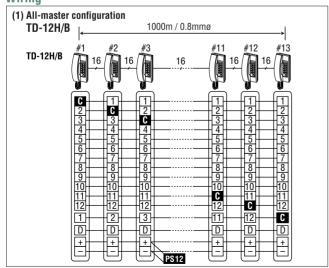
Features
- All-master selective ring system
- Single-master configuration or intermix w/TD-1H/B
- Multi-conductor cable in loop
- Multi-talk channels
- Door station(s), audio or PanTilt video (max. 2)
- Zone paging, with or without talkback
- Music source connection. Page pretone cuts out music.

Communication network
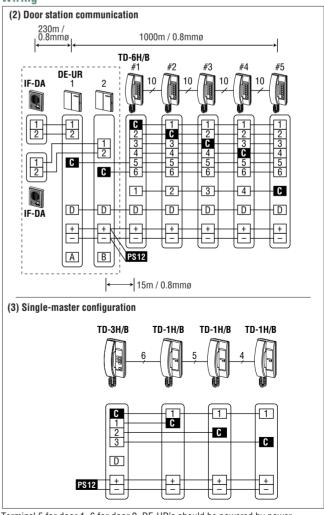
All-master configuration. Station selector & CALL to ring any other station.

Wiring

(1) All-master configuration
TD-12H/B

1000m / 0.8mmø

- Install main cable of max. condctors allowed for each TD-H/B station model.
- **PS** : PS-1225S, PS-1225UL   Terminal D : Door station

Wiring

(2) Door station communication

230m / 0.8mmø   1000m / 0.8mmø

TD-6H/B

15m / 0.8mmø

(3) Single-master configuration

Terminal 5 for door 1, 6 for door 2. DE-UR's should be powered by power supply.

AUDIO INTERCOM SYSTEM

Privacy type

Lineup

For desk-top or surface wall mounting, provide TDW-n/A terminal box w/1.5m cord.

TDW-1/A
TD-1H/B terminal box
TDW-3/A
TD-3H/B terminal box
TDW-6/A
TD-6H/B terminal box
TDW-12/A
TD-12H/B terminal box
TDW-24/A
TD-24H/B terminal box

TD-6Z/A
6-call master station
TD-12Z/A
12-call master station

• 7 or 13 identical station, full trunk all-master configuration
• No break-in call
• Zone page(s) in lieu of station(s)

Power supply
PS-1225S   PS-1225UL
→ P.107

PD-1
Zone page adaptor
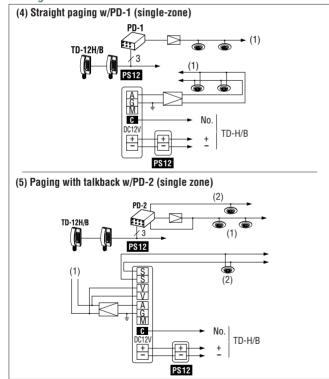
PD-2
Zone page/talkback adaptor

RY-AC/A
External signaling relay
→ P.105

TD-12H/B
12-call master

TD-24H/B
24-call master

Wiring

(4) Straight paging w/PD-1 (single-zone)

PD-1

TD-12H/B

PS12

3

(1)

(1)

A
G
M

C

DC12V
+
−

No.

PS12

+
−

+
−

TD-H/B

(5) Paging with talkback w/PD-2 (single zone)

PD-2

TD-12H/B

PS12

3

(2)

(1)

(1)

(2)

S
S
V
V
A
G
M

C

DC12V
+
−

No.

PS12

+
−

+
−

TD-H/B
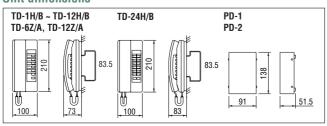
(1) Paging Speakers (2) Talkback speakers   PS12 : PS-1225S, PS-1225UL

Unit dimensions

TD-1H/B ~ TD-12H/B TD-6Z/A, TD-12Z/A	TD-24H/B	PD-1 PD-2
210 83.5 100 73	210 83.5 100 83	138 91 51.5

Specifications (TD-H/B)
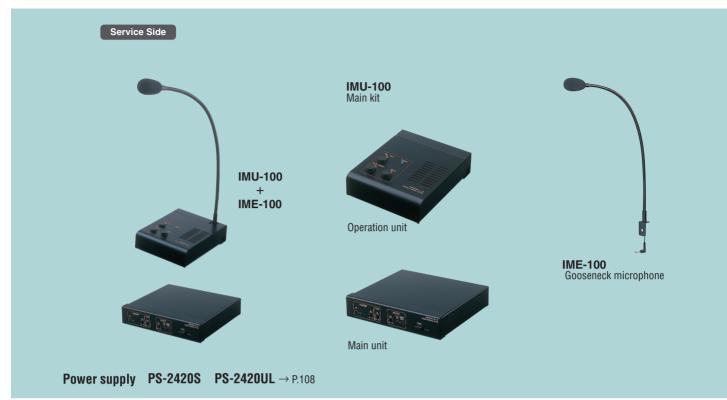
Power source	12V DC, 70mA per station.
Power supply	PS-1225S, PS-1225UL
Communication	Depress a station selector 1~12 and CALL (or CALL A) to ring station 1~12 (or A1 ~ A12). Lift handset to reply. Door calls in w/standard or faster(B) intermittent tone, 2-1/2 sec. Pick up and depress the selector assigned.
Wiring	2 or 3 + no. TD-H/B in loop. TD-1H/B: 4 wires. TD-3H/B: 7 wires. TD-6H/B: 10 wires. TD-12H/B: 16 wires. TD-24H/B: 28 wires.
Wiring distance	TD-H/B stations 650m(0.65mmø) 1000m(0.8mmø) DE-UR to door 150m(0.65mmø) 230m(0.8mmø)

(TD-Z/A)

Power source	12V DC, 90mA per channel
Power supply	PS-1225S, PS-1225UL
Communication	Depress a selector and CALL to ring opponent.
Wiring	3 + no. TD-Z/A in loop.
Wiring distance	TD-Z/A stations 650m(0.65mmø) 1000m(0.8mmø)

(PD-1,PD-2)

Power source	PD-1: 12V DC, 300mA. PD-2: 12V DC, 48mA (talkback).
Output	5KΩ. Max. 1.5V
Paging & music tone controls	Treble 12dB at 10KHz. Bass 12dB at 100Hz.
Amp. input	AUX or PHONO 100K-500KΩ, 0.12~0.5V
Music input	17KΩ, 0.3V, 1KHz. for full output
Tuner output	Audio output: Range 100mV~1.2V, 10KΩ or less
Tape output	Low level output: Range 100mV~1.2V, 600Ω
Talkback gain	40dB, 1KHz. at max. volume
Environmental noise	Less than 80dB (phon)
Paging	Select an assigned selector # and page w/PAGE button depressed. Release to receive reply
Wiring	3 wires to TD-H/B via power supply

Security Window Intercom

IMU-100

Service Side

IMU-100
+
IME-100

IMU-100
Main kit

Operation unit

IME-100
Gooseneck microphone

Main unit

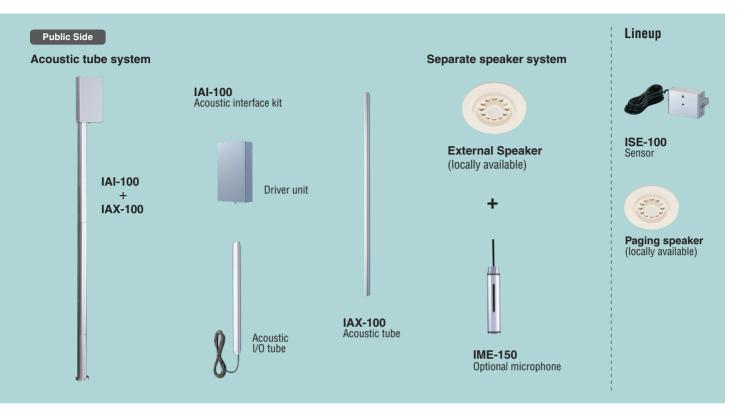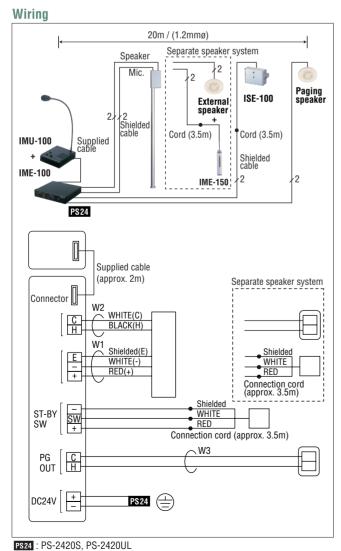**Power supply   PS-2420S   PS-2420UL** → P.108
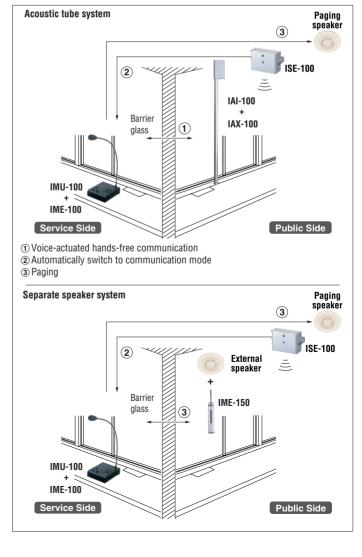
Features

- First in industry! Using an acoustic tube with noise cancelling microphone
- Voice-actuated hands-free communication
- Flexible gooseneck type microphone
- Optional Mono type headset (ø3.5 plug)
- Detection sensor switches automatically to communication mode
- Separate speaker system using an optional microphone
- Paging feature for announcements
- Thin shape of the acoustic tube does not obstruct the field of vision
- Holes in the barrier glass are not necessary to install

Communication network

Acoustic tube system

Paging speaker

③

② ISE-100

IAI-100
+
IAX-100

Barrier glass ①

IMU-100
+
IME-100

Service Side   **Public Side**

① Voice-actuated hands-free communication
② Automatically switch to communication mode
③ Paging

Separate speaker system

Paging speaker

③

② ISE-100

External speaker

+

Barrier glass ③ IME-150

IMU-100
+
IME-100

Service Side   **Public Side**

Public Side

Acoustic tube system

IAI-100
Acoustic interface kit

**IAI-100
+
IAX-100**

Driver unit

Acoustic
I/O tube

IAX-100
Acoustic tube

Separate speaker system

External Speaker
(locally available)

+

IME-150
Optional microphone

Lineup

ISE-100
Sensor

Paging speaker
(locally available)

Wiring

20m / (1.2mmø)

Separate speaker system

Speaker
Mic.

**External
speaker
+**

ISE-100

**Paging
speaker**

**IMU-100
+
IME-100**

Supplied
cable

2/2
Shielded
cable

Cord (3.5m)

Cord (3.5m)

Shielded
cable

IME-150

PS24

Supplied cable
(approx. 2m)

Connector

Separate speaker system

W2
WHITE(C)
BLACK(H)
C
H

Shielded
WHITE
RED

W1
Shielded(E)
WHITE(-)
RED(+)
E
-
+

Connection cord
(approx. 3.5m)

ST-BY
SW

SW
-
+

Shielded
WHITE
RED

Connection cord (approx. 3.5m)

PG
OUT

C
H

W3

DC24V
+
-

PS24

PS24 : PS-2420S, PS-2420UL

Unit dimensions

Main unit

206
210
45

Operation unit

160
130
40
49

Acoustic I/O tube

27
24
388
370
3800

IME-100

63
420
14.5
510
34
40

IAX-100

24
1000
27

IME-150

13
23
115
105
3500

ISE-100

3500
60
72
30
68

Driver unit

84
36
150

Specifications (IMU-100)

Power source	24V DC
Power supply	PS-2420S, PS-2420UL
Consumption	120 mA (standby) 780 mA (maximum)
Operating temperature	0°C to 40°C
Communication	Voice-actuated communication
	Transmit output: 3 W 4 Ω, Receive output: 1.5 W 16 Ω
Headset	ø3.5 plug, Impedance: 32 Ω, Rated input:
	40 mW or more, Maximum input: 100 mW or more
External speaker	Impedance: 4 to 8 Ω, Rated input: 3 W or more
	Maximum input: 6 W or more
Paging speaker	Impedance: 4 to 8 Ω, Rated input: 3 W or more
	Maximum input: 6 W or more

Master / Sub Intercom

Master station

TC-10M
10-call master

TC-20M
20-call master

TC-20M + TC-40G
60-call
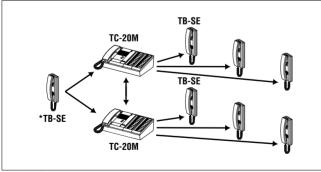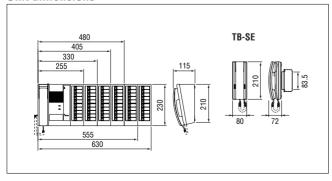
Features
• Expandable internal telephone intercom
• One or dual master configuration
• Tone & LED call-in, staying on until answered
• Additional buzzer at TB-SE (w/relay)
• TRANSFER button on TC-M for communication between two
  TB-SE subs

Communication network

TB-SE

TC-20M

TB-SE

*TB-SE

TC-20M
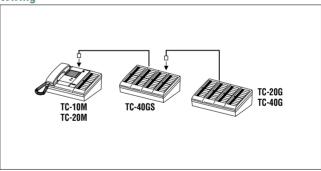
*TB-SE : Sub station for two-master call.

Unit dimensions

480
405
330
255

230

555
630

TB-SE

115
210
210
83.5

80   72

Wiring
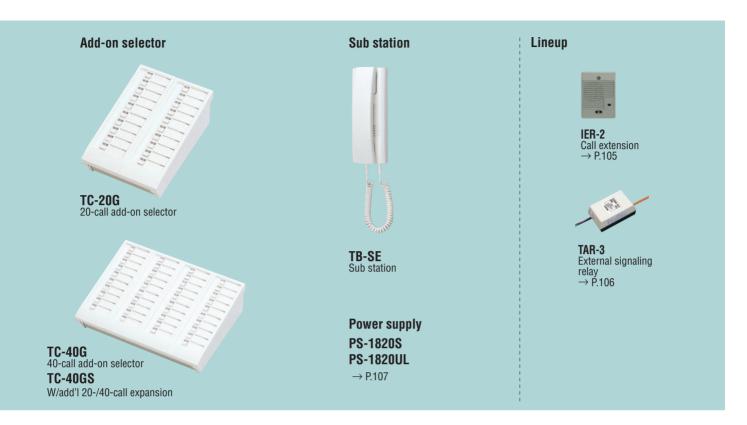
**TC-10M
TC-20M**   **TC-40GS**   **TC-20G
TC-40G**
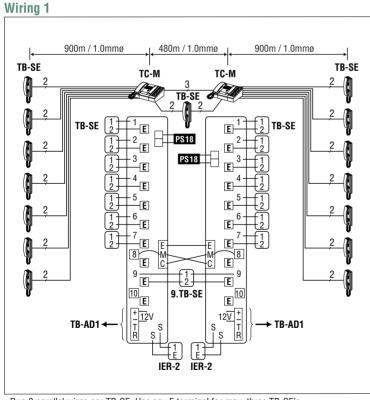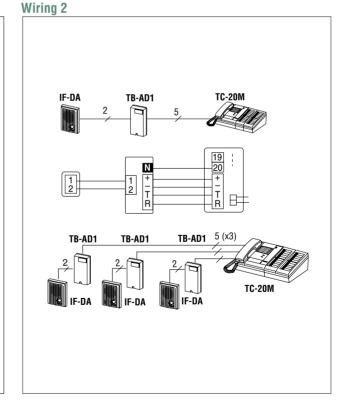
The TC-40GS is equipped with socket to connect the second add-on selector
TC-20G or TC-40G.

Specifications (TC-M)

Power source	18V DC, 350mA. 15~16V AC, 50/60Hz, 750mA.
Consumption	6W. 3W standby.
Power supply	PS-1820S, PS-1820UL, AC transformer.
Communication	Pick up TB-SE handset. Rings TC-M, w/tremolo & LED, staying. At TC-M, pick up and press a lit selector to reply.
Wiring	2 parallel wires per TB-SE, non-polarized.
Wiring distance	TC-M's 200m(0.65mmø) 480m(1.0mmø) TC-M~TB-SE 400m(0.65mmø) 900m(1.0mmø)

AUDIO INTERCOM SYSTEM

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Add-on selector

TC-20G
20-call add-on selector

TC-40G
40-call add-on selector
TC-40GS
W/add'l 20-/40-call expansion

Sub station

TB-SE
Sub station

Power supply
PS-1820S
PS-1820UL
→ P.107

Lineup

IER-2
Call extension
→ P.105

TAR-3
External signaling relay
→ P.106

Wiring 1

Wiring 2
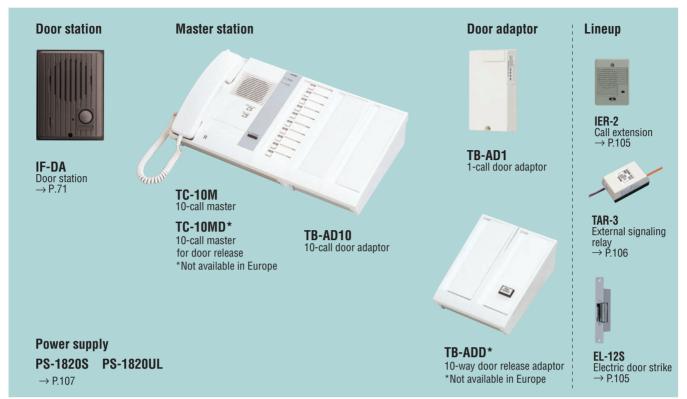
• Run 2 parallel wires per TB-SE. Use any E terminal for max. three TB-SE's.
• Do not parallel TB-SE sub wires, or door station wires (in dual-TC-M system).

Master / Sub Intercom

TC-M & TB-AD10

Door station

IF-DA
Door station
→ P.71

Master station

TC-10M
10-call master

TC-10MD*
10-call master
for door release
*Not available in Europe

TB-AD10
10-call door adaptor

Power supply
PS-1820S   PS-1820UL
→ P.107

Door adaptor

TB-AD1
1-call door adaptor

TB-ADD*
10-way door release adaptor
*Not available in Europe

Lineup

IER-2
Call extension
→ P.105

TAR-3
External signaling
relay
→ P.106

EL-12S
Electric door strike
→ P.105

Features
- Single or multiple audio door communication, expandable
- Optional selective door release control
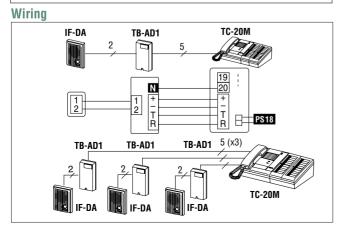
Communication network
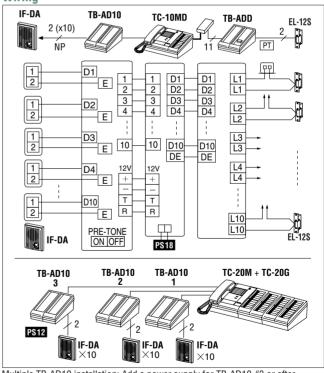
Pre-tone sounding or mute selectable at TB-AD10.

Unit dimensions

Wiring

Wiring
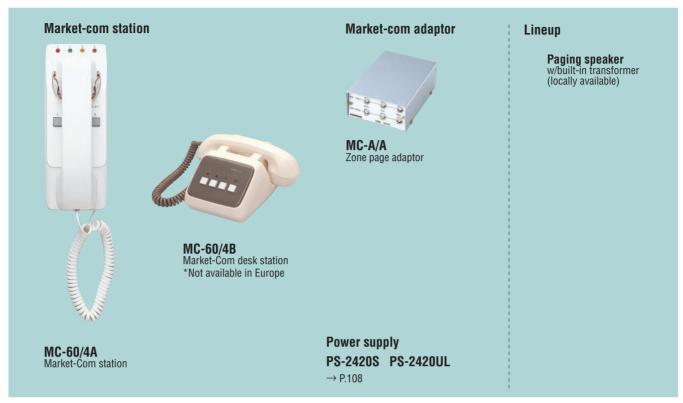
Multiple TB-AD10 installation; Add a power supply for TB-AD10 #3 or after.
PS18 : PS-1820S, PS-1820UL

Specifications (TB-AD10)

Power source	TB-AD10: 12V DC, supplied by TC-M.
Door capacity	10(TB-AD10). 1(TB-AD1).
Communication	Door calls in w/tremolo & LED 40 sec. Pick up and depress LED lit selector. Pretone sounds at door, or silenced.
Wiring	2 parallel wires to door, non-polarized. 4 common + no. doors, TC-M to adaptor.
Wiring distance	TC-M to TB-AD10 65m(0.65mmø) 150m(1.0mmø) TB-AD10 to IF-DA 150m(0.65mmø) 360m(1.0mmø)

Market-Com

60 MC-60/4A

Market-com station

MC-60/4A
Market-Com station

MC-60/4B
Market-Com desk station
*Not available in Europe

Market-com adaptor

MC-A/A
Zone page adaptor

Power supply
PS-2420S   PS-2420UL
→ P.108

Lineup

Paging speaker
w/built-in transformer
(locally available)
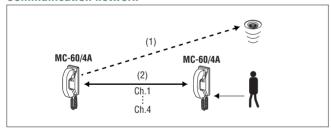
Features
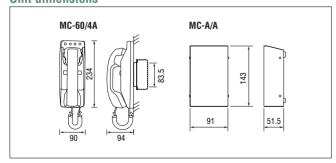
• Max. 60-station paging & communication system
• Selective 4 talk channels with in-use LED's
• Conference call among 3 stations
• Music cutout during paging
• Reinforced modular coil cord

Communication network

(1) Paging (2) Select a channel 1~4 paged, and communicate.

Unit dimensions

MC-60/4A   MC-A/A

234   83.5   143
90   94   91   51.5
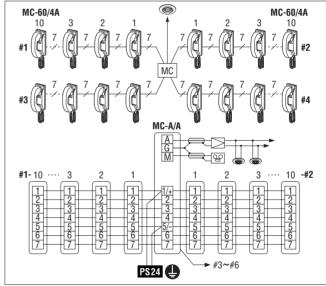
Specifications (MC-A/A)

Power source	24V DC, PS-2420S, PS-2420UL
Amp. input	AUX 10KΩ, 0.3V~0.5V
Music soursce output	Range 100mV~1.2V, 10KΩ or less

Wiring

MC-60/4A   MC-60/4A
10 3 2 1   1 2 3 10
#1   7   7   7   7   7   7   7   7   #2
MC
#3   7   7   7   7   7   7   7   7   #4

MC-A/A
A
G
M

#1- 10 ····· 3 2 1   1 2 3 ····· 10 -#2

PS24   →#3~#6

Station blocks #1~6 of max. ten MC-60/4A's
PS24 : PS-2420S, PS-2420UL

Specifications (MC-60/4A)

Power source	24V DC, 70mA max. (in page).
Power supply	PS-2420S, PS-2420UL at MC-A/A.
Communication	Pick up and depress channel selector 1~4 and page w/PAGE button. Called party picks up and presses lit LED channel button.
Talk channel	4 and a separate paging channel.
Wiring	7 wires in loop, non-twisted.
Cable specified	Line capacitance less than 25pF/30cm.
Wiring distance	MC-A/A to MC-60/4A(*) 500m(0.65mmø) 750m(0.8mmø) Total wiring distance 1500m(0.65mmø, 0.8mmø)

(*) MC-A/A to farthest MC-60/4A, or between two farthest MC-60/4A's of different blocks.

AUDIO INTERCOM SYSTEM

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Mid-Power Intercom

MASTER **1** ▶ **SUB** **3** **MP-S**

Master station

MP-1S
1-call master

MP-3S
3-call master

Call button

Power supply
PS-1225S
PS-1225UL
→ P.107

NP-B
Flush call plate

Sub station

AS-3N
Sub station

AS-3A
Sub station

Lineup

NBZ-M*
Flush square
frame

N-EA*
Surface round
frame

NP-W*
Surface mount
box
for NP-B

8Ω horn speaker
locally available
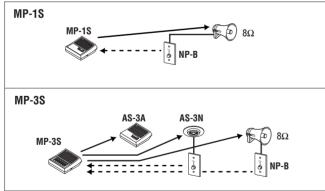
*Not available in Europe

Features
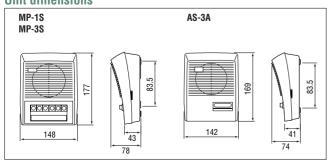
- 1 or 3-call mid-power intercom, 2.5W powered
- Incorporates subs either in console, ceiling mount or 8Ω horn for maximum output
- Hands-free reply from sub

Communication network

MP-1S

MP-1S
8Ω
NP-B

MP-3S

MP-3S
AS-3A
AS-3N
8Ω
NP-B
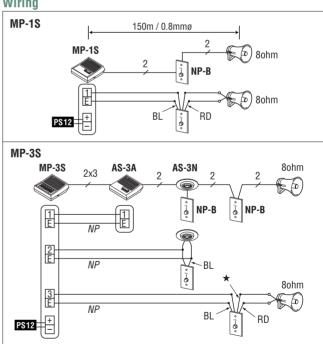
8Ω Horn w/talkback reply

Unit dimensions

MP-1S
MP-3S
AS-3A

177
148

83.5
43
78

169
142

83.5
41
74

Wiring

MP-1S

150m / 0.8mmø

MP-1S
2
NP-B
8ohm

1
E
PS12
+
−
BL   RD
8ohm

MP-3S

MP-3S
2x3
AS-3A
2
AS-3N
2
NP-B
2
NP-B
8ohm

1
E
NP

1
E

2
E
NP
BL

3
E
NP
BL   RD
8ohm

PS12
+
−
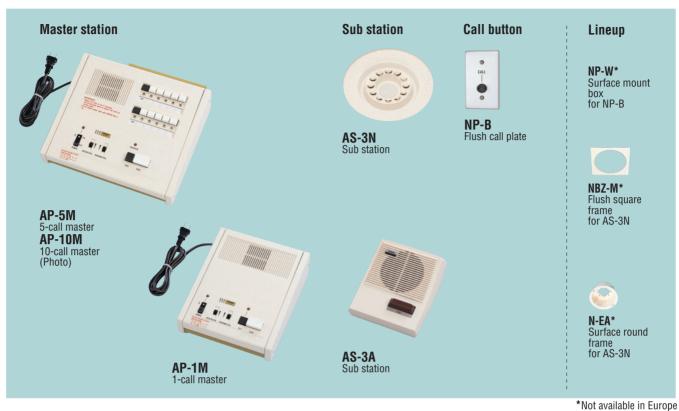
- For 8Ω horn without NP-B, install a 33MFD, 25V NP capacitor on No. line.

BL : Blue(2)   RD : Red(2)   ★NP-25V Capacitor   **PS12** : PS-1225S/UL

Specifications (MP-S)

Power source	12V DC, 1A.
Power supply	PS-1225S, PS-1225UL
Communication	Sub calls in w/tone (& LED 20 sec. on MP-3S). Press sub selector and TALK to transmit, and release to listen.
Output	2.5W at 1KHz.
Output impedance	8Ω
Wiring	2 parallel wires per sub, non-polarized. *Do not make E wires common.
Wiring distance	MP-S to sub 100m(0.65mmø) 150m(0.8mmø)

High-Power Intercom

Master station

AP-5M
5-call master
AP-10M
10-call master
(Photo)

AP-1M
1-call master

Sub station

AS-3N
Sub station

AS-3A
Sub station

Call button

CALL

NP-B
Flush call plate

Lineup

NP-W*
Surface mount box
for NP-B

NBZ-M*
Flush square frame
for AS-3N

N-EA*
Surface round frame
for AS-3N

*Not available in Europe
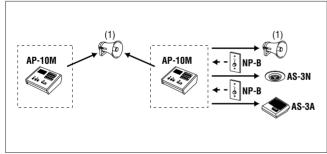
Features
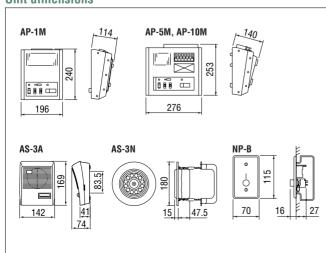
• 10 watt-powered paging & communication system
• Selective all call to 5 subs
• Single or dual-master configuration
• 8Ω or 16Ω horn speaker with talkback

Communication network
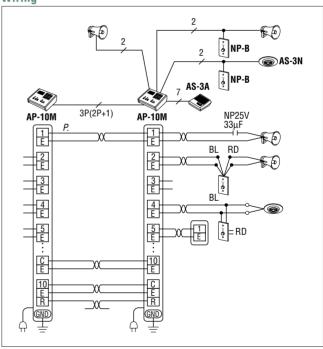
(1) 8Ω horn

Unit dimensions

AP-1M 114 / 240 / 196

AP-5M, AP-10M 140 / 253 / 276

AS-3A 169 / 142 / 41 / 74 / 83.5

AS-3N 180 / 15 / 47.5

NP-B 115 / 70 / 16 / 27

Wiring

AP-10M   3P(2P+1)   AP-10M   NP25V 33µF

BL RD   BL   RD
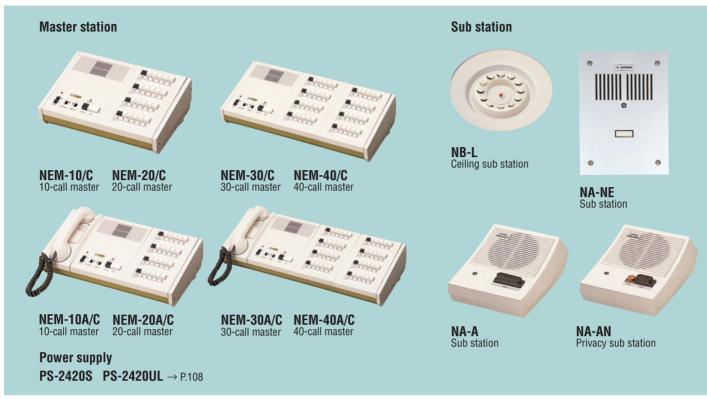
BL : Blue(2). RD : Red(2).

Specifications (AP-M)

Power source	110~125V, 127V, 230V, 220~240V AC, 50/60Hz.
Consumption	45W. 6W standby.
Communication	Sub calls in with tone & LED, 15 sec. Depress selector and use Talk/Listen switch. All call selectively to max. 5 subs. Max. 10W transmit, adjustable. 300mW receive, adjustable.
Wiring	1 twisted pair per sub, non-polarized 3 pairs (5), masters.
Wiring distance	AP-M to sub 150m(0.65mmø) 230m(0.8mmø)
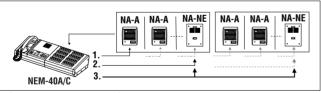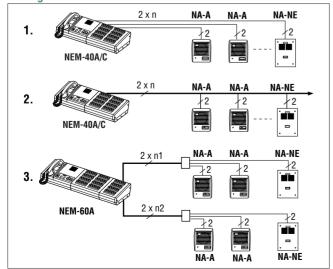
AUDIO INTERCOM SYSTEM

Master / Sub Intercom

MASTER

1 ▶

SUB

120 NEM

Master station

NEM-10/C — 10-call master
NEM-20/C — 20-call master

NEM-30/C — 30-call master
NEM-40/C — 40-call master

NEM-10A/C — 10-call master
NEM-20A/C — 20-call master

NEM-30A/C — 30-call master
NEM-40A/C — 40-call master

Power supply
PS-2420S   PS-2420UL → P.108

Sub station

NB-L
Ceiling sub station

NA-NE
Sub station

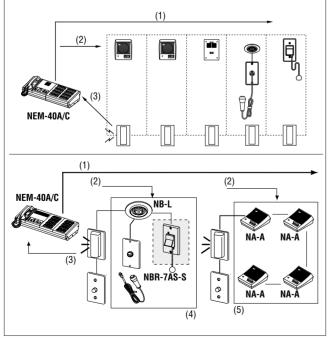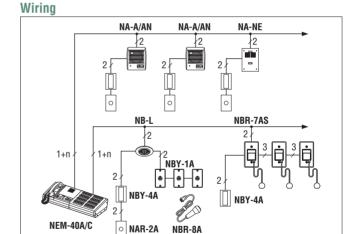**NA-A**
Sub station

NA-AN
Privacy sub station

Features
• Lamp memory intercom: Sub's call-in with tone & light
• Press-to-talk or handset with voice actuation
• Selective or group call of 10 subs
• All Call
• Pre-tone sounding at sub, when selected
• Optional accessories for health care applications
• Expand beyond 40 stations with add-on selectors

Communication network
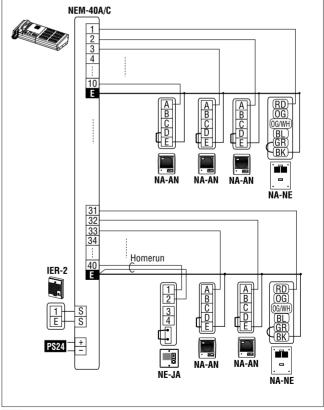
1. Selective individual call   2. Selective group call (max. 10)   3. All call

Wiring
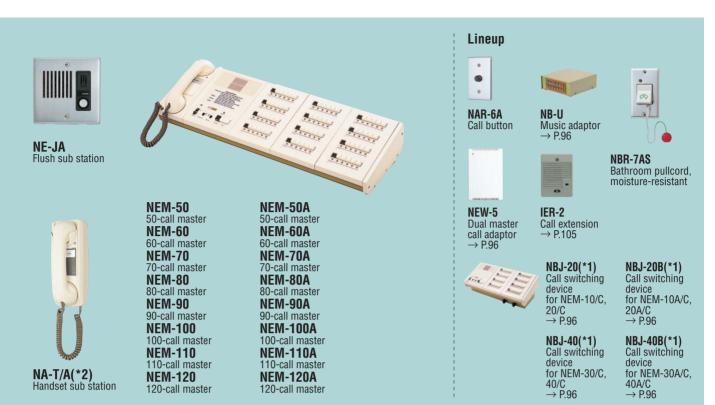
1. Run a parallel cable to each NA sub station (in the same conduit).
2. Run a multi-conductor cable(s) throughout system.
3. Run multi-conductor cables up to junction box, then run a parallel cable to each NA sub station.

Wiring
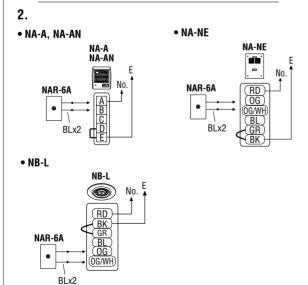
PS24 : PS-2420S, PS-2420UL
RD: Red OG: Orange OG/WH: Orange/White BL: Blue GR: Green BK: Black
IMPORTANT: For NE-JA sub('s), homerun wires to secure stable calling and distance of 270m w/1.0mmø.

NE-JA
Flush sub station

NA-T/A(*2)
Handset sub station

NEM-50
50-call master
NEM-60
60-call master
NEM-70
70-call master
NEM-80
80-call master
NEM-90
90-call master
NEM-100
100-call master
NEM-110
110-call master
NEM-120
120-call master

NEM-50A
50-call master
NEM-60A
60-call master
NEM-70A
70-call master
NEM-80A
80-call master
NEM-90A
90-call master
NEM-100A
100-call master
NEM-110A
110-call master
NEM-120A
120-call master

Lineup

NAR-6A
Call button

NB-U
Music adaptor
→ P.96

NBR-7AS
Bathroom pullcord,
moisture-resistant

NEW-5
Dual master
call adaptor
→ P.96

IER-2
Call extension
→ P.105

NBJ-20(*1)
Call switching
device
for NEM-10/C,
20/C
→ P.96

NBJ-20B(*1)
Call switching
device
for NEM-10A/C,
20A/C
→ P.96

NBJ-40(*1)
Call switching
device
for NEM-30/C,
40/C
→ P.96

NBJ-40B(*1)
Call switching
device
for NEM-30A/C,
40A/C
→ P.96

(*1) NBJ-20/40, NBJ-20B/40B: Not available in Europe   (*2) NA-T/A: Not available in Europe, Australia, nor New Zealand

Wiring

1.

PS24 1+ 1−
PS24 + −

NEM-80A

PS24 2+ 2−
PS24 1+ 1−
PS24 + −

NEM-120

2.

• NA-A, NA-AN

NA-A
NA-AN

NAR-6A

A B C D E

BLx2

E
No.

• NA-NE

NA-NE

NAR-6A

RD OG OG/WH BL GR BK

BLx2

E
No.

• NB-L

NB-L

NAR-6A

RD BK GR BL OG OG/WH

BLx2

E
No.

1. Power supply requirements
One power supply for up to 40-call master
Two power supplies for 50- to 80-call master
Three power supplies for 80- to 120-call master
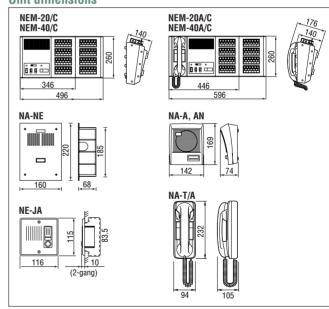
2. Adding call button to NA sub stations
RD: Red BK: Black GR: Green BL: Blue OG: Orange
OG/WH: Orange/White
PS24 : PS2420S, PS-2420UL

Unit dimensions

NEM-20/C
NEM-40/C
346
496
260
140

NEM-20A/C
NEM-40A/C
446
596
260
176
140

NA-NE
160
68
220
185

NA-A, AN
142
74
169

NE-JA
116
10
(2-gang)
115
83.5

NA-T/A
94
105
232
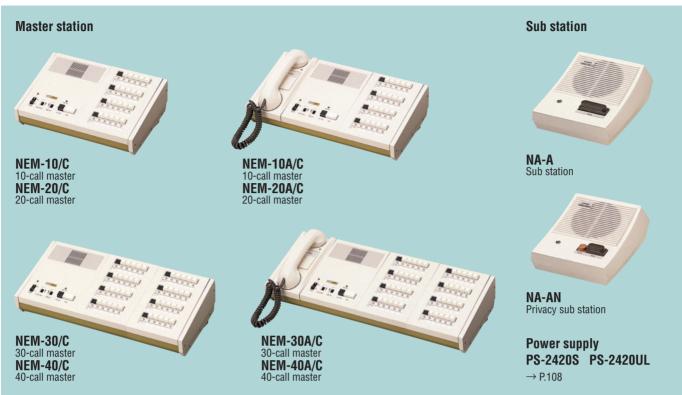
Specifications (NEM-40A/C)

Power source	24V DC, 45W max. 2.5W standby (NEM-40/C)
Power supply	PS-2420S, PS-2420UL (40-call)
Communication	Sub calls in w/tone & LED latching at master. Press TALK button to transmit, release to listen, or lift handset. At sub, pretone and voice when selected. Talk hands-free. Press ALL CALL button to activate all sub stations.
Output	500mW max., adjustable. All Call: 6W, 12W. Selectively up to 10 subs w/TALK: 3W
Wiring	2 wires per sub, non-twisted (1 common + no. Subs)
Wiring distance	NEM to NA subs 130m(0.65mmø) 200m(0.8mmø)

Master / Sub Intercom (Nurse Call)

AUDIO INTERCOM SYSTEM

Master station

NEM-10/C
10-call master
NEM-20/C
20-call master

NEM-10A/C
10-call master
NEM-20A/C
20-call master

NEM-30/C
30-call master
NEM-40/C
40-call master

NEM-30A/C
30-call master
NEM-40A/C
40-call master

Sub station

NA-A
Sub station

NA-AN
Privacy sub station

Power supply
PS-2420S PS-2420UL
→ P.108

Features
- Lamp memory intercom: Sub's call-in with tone & light
- Press-to-talk or handset with voice actuation
- Selective or group call of 10 subs
- All Call
- Pre-tone sounding at sub, when selected
- Optional accessories for health care applications
- Expand beyond 40 stations with 50-120-call master stations

Wiring

NA-A/AN   NA-A/AN   NA-NE

NB-L   NBR-7AS

NBY-1A

NBY-4A

NEM-40A/C   NAR-2A   NBR-8A   NBY-4A

- 1 + n = 1 common + no. of Subs

Communication network

(1)
(2)
NEM-40A/C
(3)

(1)
(2)   (2)
NEM-40A/C
NB-L   NA-A   NA-A
(3)
NBR-7AS-S   NA-A   NA-A
(4)   (5)
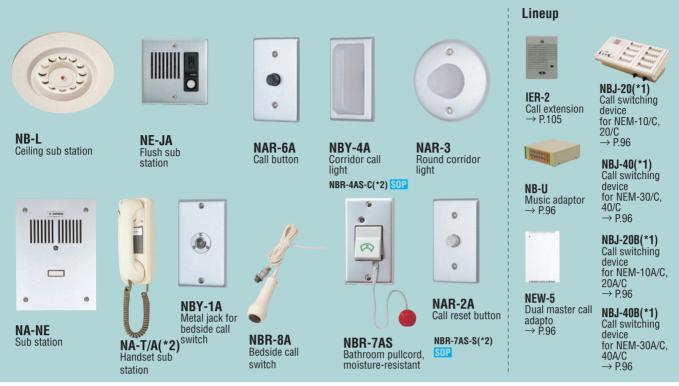
(1) All call for instant transmission to all subs
(2) Selective call up to 10 subs or individually
(3) Subs call-in w/tone & LED staying with corridor light on
(4) NBR-7AS-S: Bathroom pullcord in a patient room
(5) Multi-substation patient room

Lineup

NB-L
Ceiling sub station

NE-JA
Flush sub station

NAR-6A
Call button

NBY-4A
Corridor call light

NBR-4AS-C(*2) SOP

NAR-3
Round corridor light

IER-2
Call extension
→ P.105

NB-U
Music adaptor
→ P.96

NEW-5
Dual master call adapto
→ P.96

NBJ-20(*1)
Call switching device for NEM-10/C, 20/C
→ P.96

NBJ-40(*1)
Call switching device for NEM-30/C, 40/C
→ P.96

NBJ-20B(*1)
Call switching device for NEM-10A/C, 20A/C
→ P.96

NBJ-40B(*1)
Call switching device for NEM-30A/C, 40A/C
→ P.96

NA-NE
Sub station

NA-T/A(*2)
Handset sub station

NBY-1A
Metal jack for bedside call switch

NBR-8A
Bedside call switch

NBR-7AS
Bathroom pullcord, moisture-resistant

NBR-7AS-S(*2) SOP

NAR-2A
Call reset button

(*1) NBJ-20/40, NBJ-20B/40B: Not available in Europe   (*2) NA-T/A, NBR-7AS-S, NBR-4AS-C: Not available in Europe, Australia, nor New Zealand
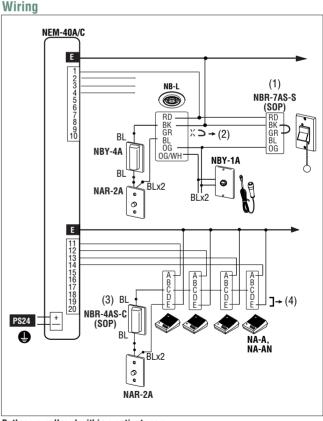
Wiring

Health care application
• Up to three NBR-7ASs can be connected in parallel.
RD : Red BK : Black GR : Green OG : Orange OG/WH : Orange/White BL : Blue
PS24 : PS-2420S, PS-2420UL

Wiring

Bathroom pullcord within a patient room
(1) NBR-7AS-S: Call-in from NBR-7AS-S can be cancelled only with NAR-2A Call reset button.
Press on upper end of Call button on NBR-7AS-S to release the call.
(2) Cut GREEN wire.
Multi-substation patient room
(3) NBR-4AS-C: NBY-4A corridor call light may hold up to three NA sub stations.
Use NBR-4AS-C for more than three NA sub application.
(4) Remove the D - E link on each NA sub station.
PS24 : PS-2420S, PS-2420UL
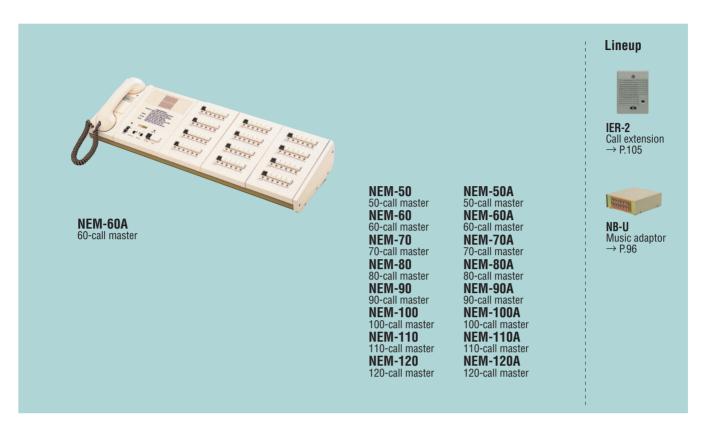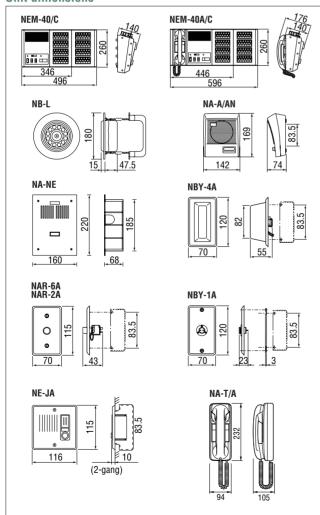
Master / Sub Intercom (Nurse Call)

NEM-60A
60-call master

Lineup

IER-2
Call extension
→ P.105

NB-U
Music adaptor
→ P.96

NEM-50 50-call master	**NEM-50A** 50-call master
NEM-60 60-call master	**NEM-60A** 60-call master
NEM-70 70-call master	**NEM-70A** 70-call master
NEM-80 80-call master	**NEM-80A** 80-call master
NEM-90 90-call master	**NEM-90A** 90-call master
NEM-100 100-call master	**NEM-100A** 100-call master
NEM-110 110-call master	**NEM-110A** 110-call master
NEM-120 120-call master	**NEM-120A** 120-call master

Unit dimensions

NEM-40/C
346 / 496 / 260 / 140

NEM-40A/C
446 / 596 / 260 / 176 / 140

NB-L
180 / 15 / 47.5

NA-A/AN
169 / 142 / 74 / 83.5

NA-NE
220 / 185 / 160 / 68

NBY-4A
120 / 82 / 70 / 55 / 83.5

NAR-6A NAR-2A
115 / 70 / 43 / 83.5

NBY-1A
120 / 70 / 23 / 3 / 83.5

NE-JA
115 / 116 / 10 / 83.5
(2-gang)

NA-T/A
232 / 94 / 105

Unit dimensions

NEM-50A ~ NEM-120A
746 / 896 / 1046 / 1196 / 260 / 176 / 140
211 / 340 / 95

*NEM-n/7.A width : Reduce 100mm (handset part) for each sized station.

Specifications (NEM)

Power source	24V DC, 45W max. 2.5W standby (40-call) 24V DC, 180W max. 7.5W standby (120-call)
Power supply	PS-2420S, PS-2420UL (40-call)
Communication	Open voice press-to-talk or handset voice actuated. Sub calls in w/tone & LED latching at master. Press TALK button to transmit, release to listen, or lift handset. At sub, pretone and voice when selected. Talk hands-free. Press ALL CALL button to activate all sub stations.
Output	500mW max., adjustable. All Call: 6W, 12W. 24W (120-call) Selectively up to 10 subs w/TALK: 3W
Wiring	2 wires per sub, non-twisted (1 common + no. Subs)
Wiring distance	NEM to NA subs 130m(0.65mmø) 200m(0.8mmø)

Call switching device

NBJ-20*
Call switching device
NBJ-40*
Call switching device
NBJ-20B*
Call switching device
NBJ-40B*
Call switching device

*Not available in Europe

Features
- Switches all NA sub wiring from one master to the other to route all call-ins to the master on duty.
- NBJ-20 & NBJ-20B are equipped with a rotary switch, and NBJ-40 & NBJ-40B with two rotary switches.
- When the rotary switch is put to 1 position, all the sub wiring is connected with Master station(M1). To switch the sub wiring to Master station(M2), put the rotary switch to 2 position.

Wiring

M1 : Master station 1.
M2 : Master station 2.
S : Sub station.

NA-A, AN, NE, NB-L

(*)Terminal M remains unused. (on NBJ-20B)

Used for
NBJ-20 for NEM-10/C & NEM-20/C
NBJ-40 for NEM-30/C & NEM-40/C
NBJ-20B for NEM-10A/C & NEM-20A/C
NBJ-40B for NEM-30A/C & NEM-40A/C

Music adaptor

NB-U
Music adaptor

Features
- Distributes music to all subs with auto mute while communicating.
- When NEM includes NEW-5 adaptor(s), NB-U cannot be used.
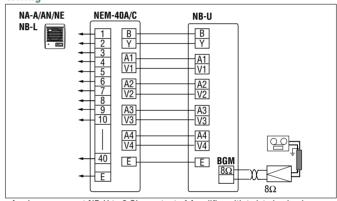
Used for
NEM-n/C, NEM-nA/C
(n = 10 ~ 40)

Wiring

- As shown, connect NB-U to 8 Ohm output of Amplifier with twisted pair wires.
- Remove jumpers between A1~V1, A2~V2,A3~V3, A4~V4 on master station.
- Amplifier requirements: Input: 100mV for rated output. 10W w/8Ω output or 10W w/4~16Ω output.
- Do not use 1KΩ output on the amplifier.

Specifications

Power source	6V DC, supplied by NEM.
Permitted input	5W. 10W at its peak.
Wiring	3 wires commom + 2 per 10-call (max.11).
Wiring distance	NB-U to NEM 10m(0.65mmø) 15m(0.8mmø)
	NB-U to Amp. 75m(0.65mmø) 115m(0.8mmø)

Dual-master call adaptor

NEW-5
Dual master call adaptor
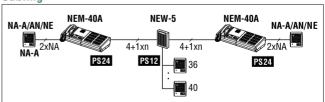
Features
- Common NA subs place a call ringing two NEM masters.
- One NEW-5 req'd for every five subs calling both masters. Eight NEW-5 for 40 sub stations, can be powered with one PS-1225S.

Used for
NEM-n/C, NEM-nA/C
(n=10~40)

Cabling

PS12 : PS-1225S/UL   **PS24** : PS-2420S/UL

Specifications (NEW-5)

Power source	12V DC
Power supply	PS-1225S, PS-1225UL
Capacity	5 subs per NEW-5.
	Max. 8 adaptors for NEM-40(A)/C.
Communication	Separate channel for ea. master.
Wiring	2 wires, NEW-5 to sub.
Wiring distance	NEW-5 to sub 130m(0.65mmø) 200m(0.8mmø)
	NEW-5 to NEM 100m(0.65mmø) 150m(0.8mmø)

Nurse Call

*Not available in Europe, Australia, nor New Zealand

Master station

NHX-50M
50-call master station

Add-on selector

NHX-30G
30-call add-on selector
Plugs into NHX-50M

NHR-30K
30-call add-on trunk card

Power supply
PS-2420S   PS-2420UL → P.108

Central control unit

NHX-80X
Central control unit

Duty station

NHR-SP
Duty station

Zone light

NHR-3A-4
4-zone call light
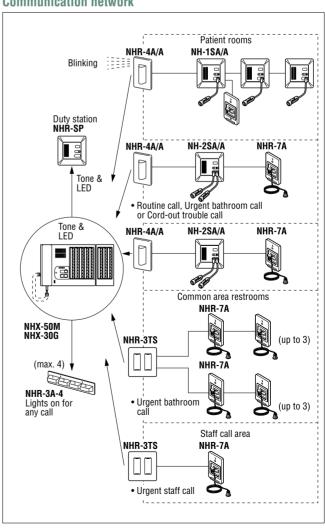
Features

- One master, up to 80 sub stations. Single and dual patient stations
- Multi-station capability per patient room
- Three types of call-ins from patient stations: Routine call, Bathroom call & Cord-out trouble call, identified by tone & blinking LED (w/priority according to urgency and time of call)
- NHR-3TS Common Area Call station is used for common area bathroom call or staff call (urgent)
- Optional zone light (max. 4)

Communication

1. At NHX-50M master, when called by a bedside sub, either lift handset or press TALK once to establish talk channel. To initiate a call, press the selector button of the sub. At the sub, pretone sounds and TALK is lit green. Corridor and zone lights do not turn on.
   To silence the tone, press TONE-OFF button. Tone will resume after 90 seconds or when new call is placed.
2. Corridor lamp & Zone 1~4 light turn on with any type of call placed by sub station area. When talk channel is established, two lights will turn off.
3. A call from NHR-3TS is of the same level as Urgent bathroom call. (no verbal communication)

Communication network

Patient rooms
NHR-4A/A   NH-1SA/A
Blinking

Duty station
NHR-SP

Tone & LED

Tone & LED

NHX-50M
NHX-30G

(max. 4)

NHR-3A-4
Lights on for
any call

NHR-4A/A   NH-2SA/A   NHR-7A
- Routine call, Urgent bathroom call or Cord-out trouble call

NHR-4A/A   NH-2SA/A   NHR-7A

Common area restrooms
NHR-7A

NHR-3TS   (up to 3)

NHR-7A
- Urgent bathroom call   (up to 3)

Staff call area
NHR-3TS   NHR-7A

- Urgent staff call

Sub station

NH-1SA/A
Single-jack bedside sub station

NH-2SA/A
Dual-jack bedside sub station

NHR-3TS
Calling zone light

Corridor lamp

NHR-4A/A
Corridor lamp w/red & white lamps

NHR-8C
Bedside call switch

NHR-DPA
Dummy plug

NHR-7A
Staff call switch
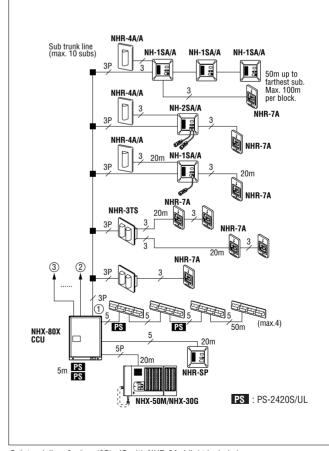
NHR-7A
Bathroom pullcord

Call tone & light annunciation

TYPE OF CALL	TONE	LIGHT
Routine call		
At NHX-50M (& at Duty station)	Single chime, every 6 sec.	Blinking, every 2 sec.
At Bedside sub	—	'CALL' steadily lit
At Corridor lamp	—	White lamp steadily lit
Urgent bathroom call or NHR-3TS		
At NHX-50M (& at Duty station)	Single chime, every 2 sec.	Double blinking, every 1.8 sec.
At Bedside sub	—	'CALL' steadily lit
At Corridor lamp	—	Red lamp Blinking
Cord-out trouble call		
At NHX-50M (& at Duty station)	Single chime, every 0.5 sec.	Blinking fast, every 0.4 sec.
At Bedside sub	—	'CALL' steadily lit
At Corridor lamp	—	White lamp Blinking
NHR-3TS in common area		
Bathroom call (urgent)	—	Red blinking (2 lamps)
Staff call (urgent)	—	White blinking (one lamp)
Line-off trouble at NHX-50M		
Line-off at bedside sub	Slow buzzer, intermittent	Lit 0.2 sec., every 2 sec.
Line-off at Duty station	Faster buzzer, intermittent	No light

Wiring

Sub trunk line: 6 wires (3P). 4P with NHR-3A-4 light included.
Each zone requires a separate common wire from NHX-80X.

Use twisted pairs with an overall shield, low capacitance, 0.65mm dia., solid conductors. (Rated capacitance level of wire: 25pF/30cm or less)

Nurse Call

NHX Components

Central control unit

NHX-80X
Central control unit

NHR-30K
30-call add-on trunk card

Features

Controls the NHX-50M and up to 80 sub stations. 1 ~ 8 trunk lines of up to 10 stations per trunk connected inside CCU. (3 pairs, or 4 pairs if zone light is installed). 5 pairs to Master station. Terminates in CCU Zone light (4 in loop), Duty station, and power supplies(2).
After installation, the NHX-80X must be initialized. During use, turn power switch off and back on to reset. Install NHR-30K Expansion Trunk Card when NHX-30G is used.

Unit dimensions

NHX-80X

460
340
98

Specifications (NHX-80X)

Power Source	24V DC, 4A max.
Power supply	2 pcs PS-2420S, PS-2420UL
Station capacity	50 sub stations (max. 80 with NHX-30G & NHR-30K).
Calling	Routine call, Urgent bathroom call & Cord-out trouble call. Up to 5 calls can be displayed on NHX-50M.
Communication	Single and private talk channel. Press-to-talk or handset voice-actuation
Call-in priority	(1) Cord-out trouble call, (2) Urgent bathroom call and NHR-3TS common area bathroom call or staff call, (3) Routine call. Subs' call-ins on standby connected according to urgency level and time of call.
Warning tones	(1) Line-off trouble at Bedside or NHR-3TS sub & Duty station. (To stop tone on the Duty station, plug in, 2-pin jumper to CN104 in CCU).(2) 90 sec. elapse timer: Call tone goes up to HIGH level.(3) 90 sec. off-hook timer: Steady tone will notify that handset is off-hook.
Wiring	3 (or 4*) twisted pairs, CCU to Sub trunks 1~8. (*when zone light is installed) 5 twisted pairs, CCU to NHX-50M. 6 wires (parallel), CCU to NHR-SP. 5 wires (parallel), CCU to NHR-3A-4. **Use twisted pairs with an overall shield, low capacitance, 0.65mm dia., solid conductors. (Rated capacitance level of wire: 25pF/30cm or less)**
Wiring distance	CCU to Sub (farthest) 50m(0.65mm) Sub trunk line 100m(0.65mm) CCU to NHX-50M 20m(0.65mm) CCU to Duty station 20m(0.65mm) CCU to Zone light 50m(1.0mm) CCU to PS-2420UL 5m(1.0mm)
Mounting	3-gang wall-mounting. Or inside Electrical Enclosure with secured door (Provide a suitable, non-combustible mounting surface).

Master station

NHX-50M
50-call master station

NHX-30G
30-call add-on selector
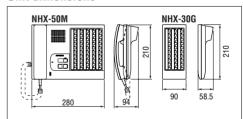
Features

Extremely compact 50-call desk console. Open voice communication with TALK button, or handset (voice-actuated). When called, simply press TALK or pick up handset to establish channel. Otherwise, press TONE-OFF button and go to calling location. To initiate a call, press a selector button first. NHX-30G is a 30-call add-on selector. Plugs itno NHX-50M.

Unit dimensions

NHX-50M
280
210
94

NHX-30G
90
58.5
210

Specifications

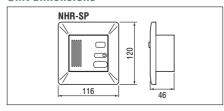|	
Wiring	10-pin plug in connector (to NHX-80X). Provided with preset volume controls. Can verify connection of all sub stations.
Wiring distance	Install within 20m from CCU.

Duty station

NHR-SP
Duty station

Features

Acknowledges any station call with tone and blinking LED. Go to the NHX-50M. Press TONE-OFF and identify the caller at Master station.

Unit dimensions

NHR-SP
120
116
46

Specifications

Mounting	2-gang semi-flush mounting.
Wiring	CN1 (6 pin) to NHX-80X. When NHR-SP is installed, unplug Connector from CN104 on NHX-80X.

Bedside sub station

NH-1SA/A
Single-jack bedside
sub station

NH-2SA/A
Dual-jack bedside
sub station

NHR-3TS
Calling zone light

NHR-8C
Bedside call switch

NHR-DPA
Dummy plug

Features
Bedside station for calling and communication. Used with NHR-8C call cord. When call button is pushed, 'CALL' LED is lit red. When master replies, green 'TALK' LED is lit. Press CANCEL to reset the call. When NHX-50M calls in, pre-tone sounds and 'TALK' LED is lit green.
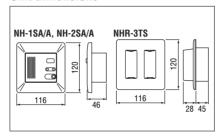**Dummy plug (NHR-DPA)**
Plugs into jack unused on bedside sub stations.

Unit dimensions

NH-1SA/A, NH-2SA/A   NHR-3TS

Specifications

Mounting	2-gang semi-flush mounting
Wiring	Sub Nos. 1 ~ 10 setting on SW1. CN1 (6 pin) to sub trunk line. CN2 (8 pin) for NHR-7A, NHR-4A/A & zone light.

Bathroom pullcord

NHR-7A
Staff call switch
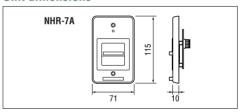
Features
Mechanically locked calling device, used to place an urgent bathroom call from a patient room, common area bathroom or staff call location. Cannot be used alone, and must be used with NH-1SA/A, NH-2SA/A, or with NHR-3TS common area call station. Provides dry closure contact. Master-CALL LED indicates call placed.
Ratings 24V DC, 100mA (min. 5mA or more).

Unit dimensions

NHR-7A

Specifications

Mounting	Single-gang semi-flush mounting.
Wiring	3 wires to patient station or NHR-3TS.

Corridor lamp

NHR-4A/A
Corridor lamp w/red &
white lamps
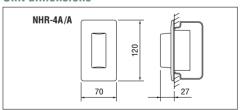
Features
When a call is placed, the NHR-4A blinks red or is steadily lit white.
Ratings: 24V DC (or more), 200mA max.

Unit dimensions

NHR-4A/A

Specifications

Mounting	Single-gang semi-flush mounting.
Wiring	3 wires to Bedside sub station.

Zone light
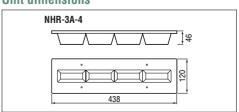
NHR-3A-4
4-zone call light
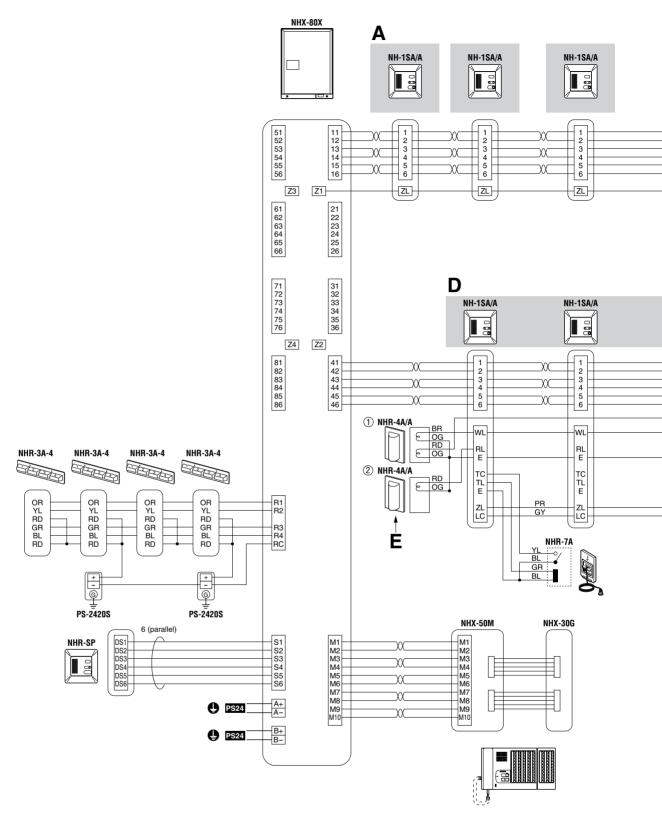
Features
Zone lamp turns on when any call is placed on the system, indicating which zone has a call placed. Up to 4 zone lights can be installed in one system. Install one PS-2420S, UL for every 2 zone lights.
Lamp ratings: 24V DC ~, 200mA.

Unit dimensions

NHR-3A-4

Nurse Call

NHX-80X

A

NH-1SA/A NH-1SA/A NH-1SA/A

D

NH-1SA/A NH-1SA/A

① NHR-4A/A

② NHR-4A/A

E

NHR-7A

NHR-3A-4 NHR-3A-4 NHR-3A-4 NHR-3A-4

PS-2420S PS-2420S

NHR-SP

6 (parallel)

NHX-50M NHX-30G

A Patient rooms w/a single bedside sub station

B Staff call (corridor)

C Bathroom call (common area)

D Patinent rooms w/multiple bedside sub stations

E Corridor lamp NHR-4A/A

① : Two white lamps   ② : One red lamp
NHR-4A ② is required only when NHR-7A bathroom
pullcord is installed in a single and common bathroom.

PS24: PS-2420S, PS-2420UL

Wire color identifications

NHR-3A-4
OR: Orange (Zone 1)
YL: Yellow (Zone 2)
RD: Red (+)
GR: Green (Zone 3)
BL: Blue (Zone 4)
RD: Red (+)

Zone light relay makes
contact.

NHR-4A/A
BR: Brown
OG: Orange
RD: Red
OG: Orange

NHR-7A
YL: Yellow
BL: Blue
GR: Green
BL: Blue

NH-1SA/A
BR: Brown
RD: Red
OG: Orange
YL: Yellow
GR: Green
BL: Blue
PR: Purple
GY: Gray
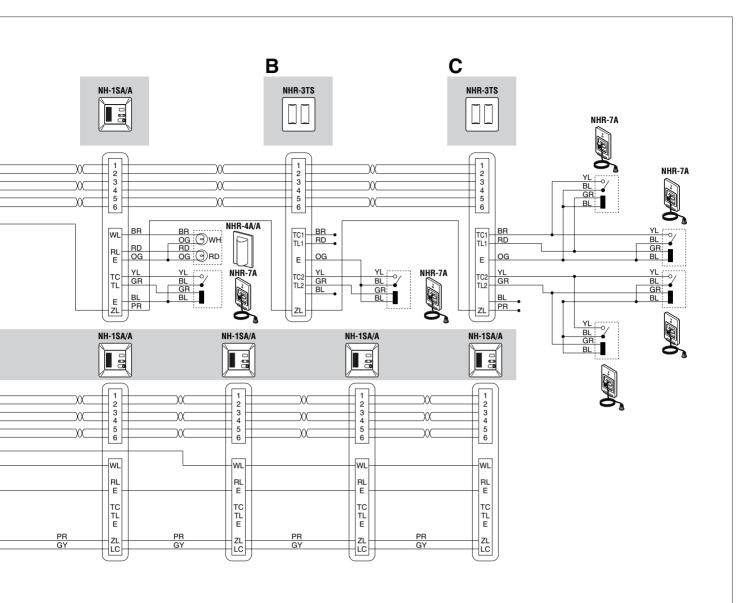
NHR-3TS
BR: Brown
RD: Red
OG: Orange
YL: Yellow
GR: Green
BL: Blue
PR: Purple

B   **C**

NH-1SA/A   NHR-3TS   NHR-3TS   NHR-7A

NHR-7A

NHR-4A/A

NHR-7A

NHR-7A

NH-1SA/A   NH-1SA/A   NH-1SA/A   NH-1SA/A

Multi-station patient room applications

Multiple NH-1SA/A and NH-2SA/A bedside sub stations can be installed within a patient room, observing the following conditions;
1. Max. 6 bedside sub stations may be connected per room for max. 12 calls (when NH-2SA/A stations are used).
2. A corridor lamp inside (NHR-4A) must not be connected with more than 4 bedside sub stations.
3. Due to the above, install two NHR-4A/A corridor lamps when more than 4 sub stations are in one room, i.e. two WHITE lamps used in one NHR-4A/A, and one RED bulb used in the other NHR-4A/A.
4. NH-1SA/A and NH-2SA/A station numbers must be programmed in numerical order and connected to the same subs trunk line.
5. NHR-7A bathroom pullcord is optional.

Accessories

Access control

Surface mount

AC-10S
Vandal resistant
access control keypad,
surface mount

JK-DV, AC-10S
→ P.4

Flush mount

AC-10F
Vandal resistant
access control keypad,
flush mount
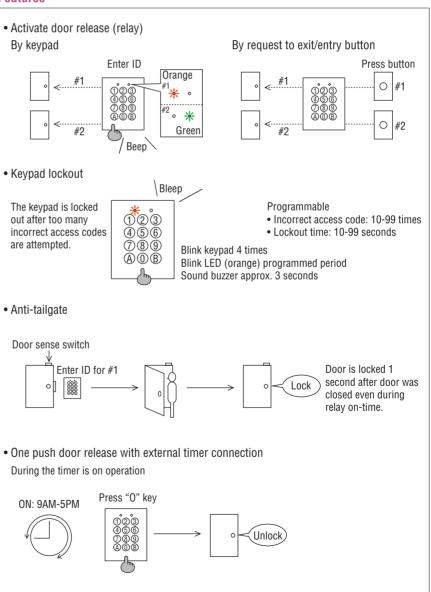
Power source
12-24V DC power supply
12-24V AC transformer

Features
- Two types of keypads are available.
  AC-10S: Surface mount type   AC-10F: Flush mount type
- AC-10S matches JK-DV and JF-DV, color video door stations.
- Vandal resistant panel, zinc die cast, and tamper proof screws are included.
- Two independent relay outputs (N/O or N/C) are available. When same access code is programmed for both #1 and #2, two relays activate simultaneously.
- Programmable up to 100 access codes* 4, 5, or 6 digits in length.
  * #1: up to 60, #2: up to 40
- Keypad lockout: After too many incorrect access codes are attempted.
- Anti-tailgate: As soon as the door is closed after access is granted on #1, the door is locked even before programmed output time. Prevent sneak in.
- One push door release with external timer connection: While the external timer is on operation, access code is not required. Press "0" key only. Programmable #1 and/or #2.
- External output for alarming: When "Lockout" or "Forced entry" occurs, external output is available at #2.
- Two LED indicators show the status of the access control system.
- Illuminated keypad is easy to read.
- Audible key press
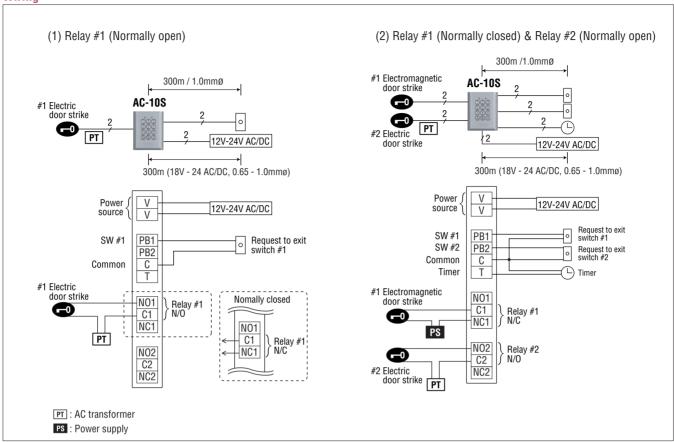
Features

- Activate door release (relay)
  By keypad

  Enter ID

  #1
  #2

  Orange
  #1
  #2
  Green

  Beep

  By request to exit/entry button

  Press button

  #1
  #2

  #1
  #2

- Keypad lockout

  The keypad is locked out after too many incorrect access codes are attempted.

  Bleep

  Blink keypad 4 times
  Blink LED (orange) programmed period
  Sound buzzer approx. 3 seconds

  Programmable
  - Incorrect access code: 10-99 times
  - Lockout time: 10-99 seconds

- Anti-tailgate

  Door sense switch

  Enter ID for #1

  Lock

  Door is locked 1 second after door was closed even during relay on-time.

- One push door release with external timer connection

  During the timer is on operation

  ON: 9AM-5PM

  Press "0" key

  Unlock

⋆ The design and specifications are subject to change without notice for improvement.

Wiring

(1) Relay #1 (Normally open)

300m / 1.0mmØ

#1 Electric door strike — PT — 2 — AC-10S — 2 — ○

2 — 12V-24V AC/DC

300m (18V - 24 AC/DC, 0.65 - 1.0mmØ)

Power source	V	12V-24V AC/DC
	V	
SW #1	PB1	Request to exit switch #1
	PB2	
Common	C	
	T	

#1 Electric door strike — PT

NO1 / C1 / NC1 — Relay #1 N/O

NO2 / C2 / NC2

Normally closed:
NO1 / C1 / NC1 — Relay #1 N/C

(2) Relay #1 (Normally closed) & Relay #2 (Normally open)

300m /1.0mmØ

#1 Electromagnetic door strike — 2 — AC-10S — 2 — ○

#2 Electric door strike — PT — 2 — 2 — ○

2 — 2 — Timer

2 — 12V-24V AC/DC

300m (18V - 24 AC/DC, 0.65 - 1.0mmØ)

Power source	V	12V-24V AC/DC
	V	
SW #1	PB1	Request to exit switch #1
SW #2	PB2	Request to exit switch #2
Common	C	
Timer	T	Timer

#1 Electromagnetic door strike — PS

NO1 / C1 / NC1 — Relay #1 N/C

#2 Electric door strike — PT

NO2 / C2 / NC2 — Relay #2 N/O

PT : AC transformer
PS : Power supply

Unit dimensions

AC-10S
125 / 98 / 25 / 55 / 68.5 / 33

AC-10F
132 / 117 / 100 / 5 / 45

JK-DV + AC-10S
173 / 5 / 125 / 98 / 29.5 / 33

Back Box
100 / 85 / 45

Specifications (AC-10S, AC-10F)

Power source	12 – 24V AC or 12 – 24V DC
Consumption	Max. 100mA
Relay	Output: 2
	Contact rating: 24V AC/DC,
	3A (resistive load), 1A (inductive load)
	Dry contact: Normally open or Normally closed
	Operating time: From 1 second to 99 seconds
Access code	Number: Up to 100 (#1: 60, #2: 40)
	Code length: From 4, 5, or 6, (0 ~9, A, B)
Wiring	Two conductors
Wiring distance	Access control ~ Power source:
	100m (12V – less than 18V AC/DC, 0.65 – 1.0 mmØ)
	300m (18V – 24V AC/DC, 0.65 – 1.0 mmØ)
	Access control ~ Request to exit button
	300m (0.65 – 1.0 mmØ)
Environment	Weather resistant (IP54 equivalent)

ACCESSORIES

104

Accessories

Call extension

IER-2
Call extension

Features
• Announces (chime) call tone only, adjustable
• Indoor mounting
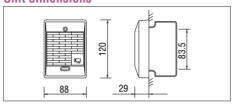
Used for
IE series,
KC-1MRD, KC-1GRD, KB-3MRD
NEM-n, NEM-nA, TC-M
JA-2MECD, JA-2MCD, JF-1MD, JF-2MED,
JK-1MD, JK-1MED, DB-1MD
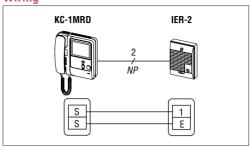
Unit dimensions

Wiring

KC-1MRD   IER-2

120   83.5
88   29

Door release

EL-12S
Electric door strike

RY-PA
Door release relay
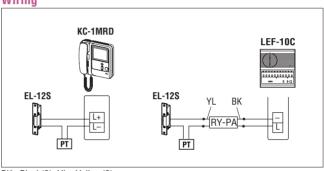
Features
• Door release activation, momentary or talk line-controlled

Used for
DA-1DS, C-123L/A
DA-2DS, DA-4DS/G
IE-1AD(U), IE-1GD(U)
IE-2AD(U), IE-8MD(2)
TD-H/B (via DE-UR)
LEM-1DL
LEF, LEF-C (via RY-PA)
JA-2MECD, JA-2MCD
JF-1MD, JF-2MED
JK-1MD, JK-1MED
KC-1MRD, KC-1GRD
KB-3MRD

Wiring

KC-1MRD   LEF-10C

EL-12S   EL-12S   YL   BK
L+   RY-PA
L-
PT   PT

BK : Black(2)   YL : Yellow(2)

Specifications (EL-12S)

| Power source & Consumption | 12V AC, 125mA |
| | 12V DC, 200mA |

Specifications (RY-PA)

Power source	12V DC
Relay contact rating	110V AC, 1A
	24V DC, 1A

Relay

RY-AC/A
External signaling relay
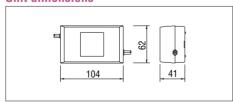
Features
Intercom station can be signaled by external device via RY-AC/A relay. External device will be activated momentarily as long as the call signal on the intercom is activated.
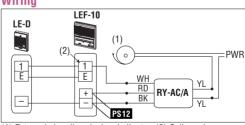
Used for
TD-H/B, TD-Z/A
IE-Series
IE-8MD, LEF

Unit dimensions

62
104   41

Wiring

LE-D   LEF-10
(1)
(2)   PWR
1   1
E   E   WH   YL
+   RD   RY-AC/A
-        BK   YL
PS12

(1) External signaling device, bell, etc. (2) Call receive termimal WH : White RD : Red(+) BK : Black(-) YL : Yellow PWR : Power source

Specifications (RY-AC/A)

Power source	12V DC, supplied by power supply of system or trunk line.
Contact rating	0.3A, 240V AC 1.0A, 24V DC
	Bell, buzzer, etc. must be AC operated or DC mechanical type only.

Relay
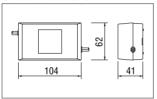
Features
Allows integration of a doorbell, etc. to intercom. The device will be activated as long as handset is ringing. When the intercom is picked up, the device will no longer be activated.

Used for
IE chime tone
IE-8MD
KC, KB series
AT-406
TB-SE(TC-M)
DB-1MD

TAR-3
External signaling relay
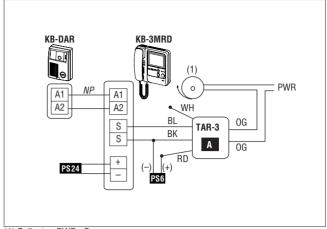
Unit dimensions

Wiring

(1) Bell, etc. PWR : Power source
WH : White BL : Blue BK : Black(-) RD : Red(+) OG : Orange
PS6 : PS-0602D, PS-0602C

Specifications (TAR-3)

Power source	6V DC, supplied by PS-0602D, PS-0602C
Contact rating	0.3A, 240V AC
	1.0A, 24V DC
	Doorbell or buzzer must be AC operated or DC mechanical type only.

Auxiliary light power control
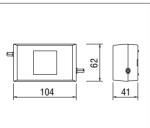
Features
MAW-B relay is used for turning on an auxiliary light to spotlight a caller at the entrance.
The light is illuminated when the residential call button is pressed, and during visual monitoring mode.

Used for
KB-3MRD

MAW-B
Auxiliary light control relay
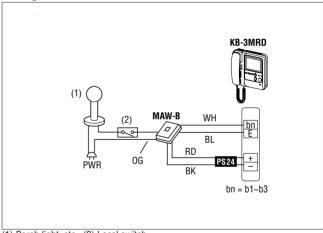
Unit dimensions

Wiring

(1) Porch light, etc. (2) Local switch
WH : White BL : Blue RD : Red(+) BK : Black(-) OG : Orange(2)

Specifications (MAW-B)
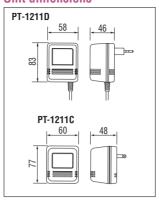
Power source	24V DC
Power supply	PS-2420S, PS-2420UL of system.
Power consumption	2.5W max. 0.5W standby
Relay contact rating	Dry closure contact for incandescent light for general lighting of less than 100W.

Power Supplies

15V AC

PT-1211D

PT-1211C

Unit dimensions

PT-1211D

58 · 46
83

PT-1211C

60 · 48
77

Used for
DA-1MD, DB-1MD

Specifications (PT-1211D)

Input voltage & Capacity	230V AC, 50/60Hz
Output voltage	15V AC

*Manufactured by Sino-American

Specifications (PT-1211C)
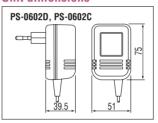
Input voltage & Capacity	120V AC, 50/60Hz
Output voltage	15V AC

*Manufactured by Sino-American

6V DC

**PS-0602D
PS-0602C**

Unit dimensions

PS-0602D, PS-0602C

75
39.5 · 51

Used for
C-123L/A, AT-406, LEM, TAR-3

Specifications (PS-0602C)

Input voltage & Capacity	120V AC, 50/60Hz
Output voltage	6V DC, 0.2A

Specifications (PS-0602D)
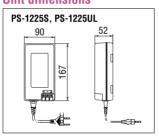
Input voltage & Capacity	230V AC, 50/60Hz.
Output voltage	6V DC, 0.2A

*Manufactured by Sino-American

12V DC

**PS-1225S
PS-1225UL**

Unit dimensions

PS-1225S, PS-1225UL

90 · 52
167

Used for

IE-1AD(U), IE-1GD(U), IE-2AD(U),
IE-2A2DU, IE-8MD, LEM-1DL, LEF,
LEF-C, TD-H/B, TD-Z/A, MP-S,
NEW-5 (NEM), TB-AD10 (TC-M)
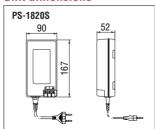
Specifications (PS-1225S, PS-1225UL)

Input voltage & Capacity	100-240V AC, 50/60Hz 37W/65-82VA
Output voltage	12V DC, 2.5A

18V DC

**PS-1820S
PS-1820UL**

Unit dimensions

PS-1820S

90 · 52
167

Used for

IE-8MD, JBW-BA, JF-1MD, JF-2MED, JK-1MD, JK-1MED
TC-M, KC-32EU, RY-3DL
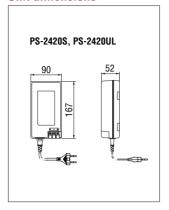
Specifications (PS-1820S, PS-1820UL)

Input voltage & Capacity	100V-240V AC, 50/60Hz, 45W/75-95VA
Output voltage	18V DC, 2A

24V DC

PS-2420S
PS-2420UL

Unit dimensions

PS-2420S, PS-2420UL

90   52

167

Used for

JA-2MECD, JA-2MCD, MAW-B, YAZ-90-3W, NEM-(A)/C, KC-1MRD, KC-1GRD, KB-3MRD, KC-32EU, RY-3DL, MU-100

Specifications (PS-2420S, PS-2420UL)

Input voltage & Capacity	100-240V AC, 50/60Hz 60W/100-125VA
Output voltage	24V DC, 2A

AIPHONE Approved product wire

AE7090220B
AE7090220G
AE7090210B
AE7090210G
AE7120230B

AIPHONE Wire model name

Model	Length	Gauge	Insulation	Jacket color	Description	Recommendation
AE7090220B	200m	ø0.9mm	PE	BEIGE	2 conductor, PE, solid, non-shielded	GT, KB
AE7090220G	200m	ø0.9mm	PE	GRAY	2 conductor, PE, solid, non-shielded	GT, KB
AE7090210B	100m	ø0.9mm	PE	BEIGE	2 conductor, PE, solid, non-shielded	JK, JF, JA, KC, KB, GT
AE7090210G	100m	ø0.9mm	PE	GRAY	2 conductor, PE, solid, non-shielded	JK, JF, JA, KC, KB, GT
AE7120230B	300m	ø1.2mm	PE	BEIGE	2 conductor, PE, solid, non-shielded	JKW-BA, JBW-BA

Wire number coding
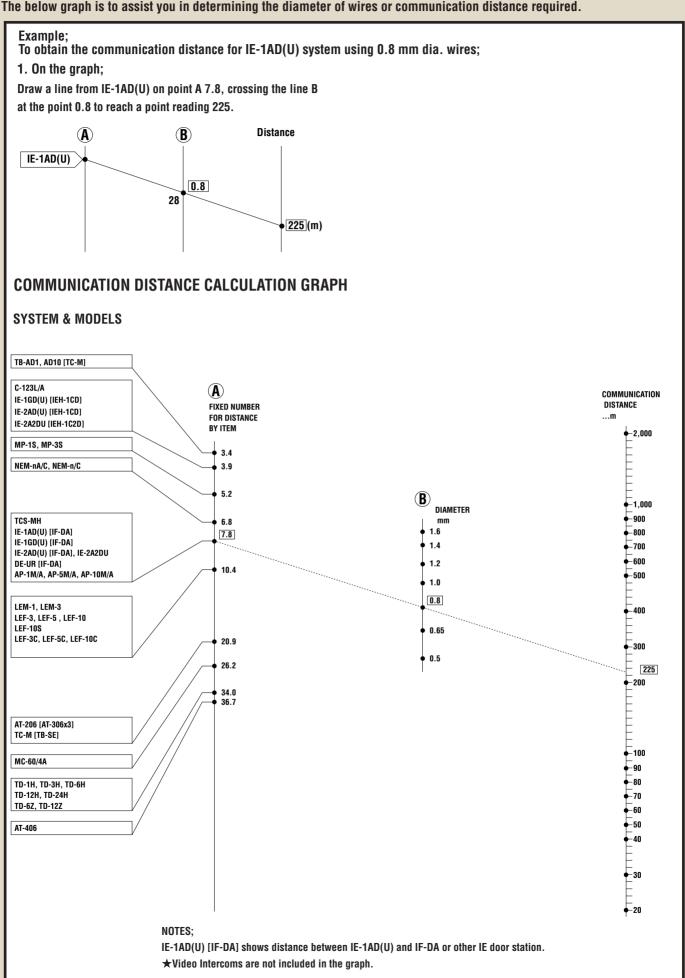
1st & 2nd Characters	: Wire Approval	**AE**=Aiphone approved wire
3rd digit	: Type of Wire	**7**=solid, PE, non-shielded
4th & 5th digits	: Gauge	**09**=0.9mm diameter, **12**=1.2mm diameter
6th & 7th digits	: Number of Conductors	**02**=2 conductors
8th & 9th digits	: Length of Wire	**10**=100 meters box, **20**=200 meters box, **30**=300 meters box
10th Character	: Color of Jacket	**G**=Gray, **B**=Beige

Cable printing

Model	Printing
AE7090220B	AIPHONE P/N AE7090220B 0.9-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE
AE7090220G	AIPHONE P/N AE7090220G 0.9-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE
AE7090210B	AIPHONE P/N AE7090210B 0.9-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE
AE7090210G	AIPHONE P/N AE7090210G 0.9-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE
AE7120230B	AIPHONE P/N AE7120230B 1.2-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE

YYYY: Year of Production   <LFV>: Lead free vinyl

USING AIPHONE WIRE EXTENDS YOUR AIPHONE VIDEO PRODUCT WARRANTY BY ONE YEAR.

Communication Distance

The below graph is to assist you in determining the diameter of wires or communication distance required.

Example;
To obtain the communication distance for IE-1AD(U) system using 0.8 mm dia. wires;

1. On the graph;

Draw a line from IE-1AD(U) on point A 7.8, crossing the line B

at the point 0.8 to reach a point reading 225.

A   B   Distance

IE-1AD(U)

0.8

28

225 (m)

COMMUNICATION DISTANCE CALCULATION GRAPH

SYSTEM & MODELS

TB-AD1, AD10 [TC-M]

C-123L/A
IE-1GD(U) [IEH-1CD]
IE-2AD(U) [IEH-1CD]
IE-2A2DU [IEH-1C2D]

MP-1S, MP-3S

NEM-nA/C, NEM-n/C

TCS-MH
IE-1AD(U) [IF-DA]
IE-1GD(U) [IF-DA]
IE-2AD(U) [IF-DA], IE-2A2DU
DE-UR [IF-DA]
AP-1M/A, AP-5M/A, AP-10M/A

LEM-1, LEM-3
LEF-3, LEF-5 , LEF-10
LEF-10S
LEF-3C, LEF-5C, LEF-10C

AT-206 [AT-306x3]
TC-M [TB-SE]

MC-60/4A

TD-1H, TD-3H, TD-6H
TD-12H, TD-24H
TD-6Z, TD-12Z

AT-406

A
FIXED NUMBER
FOR DISTANCE
BY ITEM

- 3.4
- 3.9
- 5.2
- 6.8
- 7.8
- 10.4
- 20.9
- 26.2
- 34.0
- 36.7

B DIAMETER mm

- 1.6
- 1.4
- 1.2
- 1.0
- 0.8
- 0.65
- 0.5

COMMUNICATION
DISTANCE
…m

- 2,000
- 1,000
- 900
- 800
- 700
- 600
- 500
- 400
- 300
- 225
- 200
- 100
- 90
- 80
- 70
- 60
- 50
- 40
- 30
- 20

NOTES;

IE-1AD(U) [IF-DA] shows distance between IE-1AD(U) and IF-DA or other IE door station.

★Video Intercoms are not included in the graph.

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Compatibility of video intercom system

Hands-free color video intercom ✓: Compatible   Blank: Not Compatible

Master station \ Door station / Sub station	JA-DAC JA-DGC	JF-DA JF-DV JF-DVF	JK-DA JK-DV JK-DVF	AX-DV AX-DV-P AX-DVF AX-DVF-P	JA-D	JF-D	AX-DM	JA-2HCD	JA-2SD (audio)	JF-2HD	JF-2SD (audio)	JK-1HD	JK-1SD (audio)	GT-2H(-L)	JF-1FD	JF-1SD (audio)	JBW-BA	JKW-BA	JB-DA JB-DV JB-DVF	JB-2HD
	Video door station				Audio door station			Sub master station							Sub station		Long distance adaptor		Video door station	Sub master station
	Existing model																		Discontinued model	
Existing model JA-2MECD	✓				✓			✓	✓							✓				
JA-2MCD	✓				✓			✓	✓							✓				
JF-1MD		✓													✓	✓	✓			
JF-2MED		✓				✓				✓	✓						✓			
JK-1MD			✓									✓	✓					✓		
JK-1MED			✓									✓	✓					✓		
AX-8MV				✓			✓													
GT-2C(-L)			✓											✓						
Discon. model JB-2MED		✓			✓				✓								✓		✓	✓
JB-2MD		✓			✓				✓								✓		✓	✓

AX-8MV requires a central exchange unit.

Color video intercom ✓: Compatible   Blank: Not Compatible

Master station \ Door station / Sub station / Adaptor	KB-DAR	KC-DAR	KB-3HRD	KB-3SD (audio)	KC-1HRD	KC-1SD (audio)	JBW-BA	KC-32EU	KA-DA	KA-DAR	MK-1SD/B (audio)
	Video door station		Sub master station				Long distance adaptor	Picture memory	Video door station		Sub station
	Existing model								Discontinued model		
Existing model KB-3MRD	✓		✓	✓				✓			
KC-1MRD		✓				✓		✓			
KC-1GRD		✓			✓	✓	✓	✓			
Discon. model KA-1MD									✓		✓
KA-1MRD										✓	✓

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*1 Not available in Europe
*2 Not available in Europe, Australia, nor New Zealand

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