**Panasonic**
*ideas for life*

Matrix System650EX

# MATRIX SYSTEM 650EX

# Matrix System 650EX. Enhancing Large-System Surveillance.

## Up to 512 cameras and 64 monitors, plus up to 64-domain Satellite capability

The new Panasonic *Matrix System650EX* redefines "advanced" in large-system surveillance. This new EXpanded edition of the world-renowned System650 adds the new WJ-MPU955A Main CPU, for flexible, fully integrated control of up to 512 cameras and 64 monitors. Plus, our new WJ-ASC960 software upgrade makes the configuration of systems with up to 64 Satellite domains possible. For anyone needing to construct large scale systems to suit a wider range of applications such as casinos, airports, transport terminals, banks, shopping complexes, prisons, or other government facilities, the smarter answer is clear. *Matrix System650EX*

## Key Features of The Expanded System

### Basic Features

• Up to 512 inputs and 64 outputs.
• All inputs support multiplexed video, control data and VD2 sync over the coaxial cable, and cable compensation up to 900 m (3,000 feet).
• Up to 512 RS-485 remote controlled cameras.
• Supports simultaneous use of 64 controllers including the WV-CU950 System Controllers and Personal Computers using ActiveX control interface.

### Alarm Functions

• Up to 1,024 alarm programs and various alarm interfaces including 1,024 terminal inputs, 256 terminal outputs, 512 camera alarms, 512 Video loss alarms and 1,024 serial alarm inputs (Total of terminal inputs and outputs is 1,024).
• Up to ten actions including Camera spot, Tour Sequence, Group Sequence and Text for each alarm event. Each action can be assigned to one of the 16 targets, which includes up to 64 monitors.
• Alarms can be scheduled by programming the timer event function.
• Alarm priority control enables effective management for alarms, timer events and operators.

### General Functions

• Three sequencing features: Tour Sequence; 128 patterns, 64 steps, Group Preset; 128 patterns, 64 monitors, Group Sequence; 128 patterns, 64 steps.
• Up to 1,024 Timer events including Camera Spot, Tour Sequence, Group Preset, Group Sequence, Alarm and Mode change.
• Full camera control including 255 preset position call, Menu setup, Color/Black & White Change, Wiper, Defroster and 256 function codes (depending on the camera model). Preset positions can easily be programmed by the system controller.
• Up to 512 operators with individual level and priority settings, and flexible system partitioning.
• Up to 32 recorders (WJ-HD316/309A, WJ-RT416) can be connected.
 * Connection with WJ-RT416 is a plan for future.
• Cameras, matrix and recorders can be controlled seamlessly from the system controller.
• It will support a redundant CPU system without need of WJ-MPS850 CPU management switch unit, enabling lower cost.
• Front access for Main Board and Power Supply maintenance.

### OSD Service

• Alarm Status, Alarm History (100 events), Video Loss Status, Video Loss History (100 events) and System Status can be viewed on a monitor.
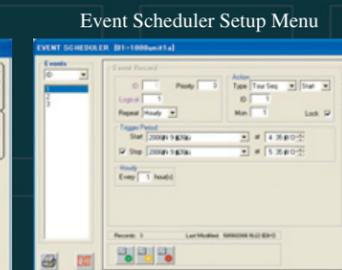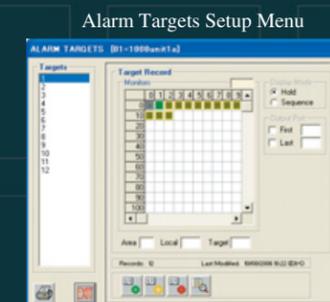• Time & Date Displays can be switched on and off from the system controller.

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## Key Features of The Satellite System

• Multiple System650EX systems with WJ-MPU955A central processing unit upgraded by WJ-ASC960, can be linked by video link and Network.
• Up to of 64 domains.
• Up to 1,024 video links across the domains.
• Up to 512 global operators (total of global and local operators) and 1,024 global alarms.
• Four global operator classes by combination of Global camera lock and Global camera lock override privileges.
• System650EX, System850 and GX matrix system can be incorporated to make a hybrid satellite system.
• Integrated Global and Local administration software makes setup easy.

### Matrix System650EX Administration Software

The standard software for basic (up to 512 x 64) system.

Main Menu

Cameras Setup Menu

Recorders Setup Menu

Alarm Targets Setup Menu

Event Scheduler Setup Menu

### WJ-ASC960 Upgrade Software for Satellite Configuration

This optional software upgrade allows configuration of systems with up to 64 Satellite domains.

Main Menu

Video Link Setup Menu

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Up to 512

Up to 64 domains

Up to 64

Control via IP Network

··· Up to 512
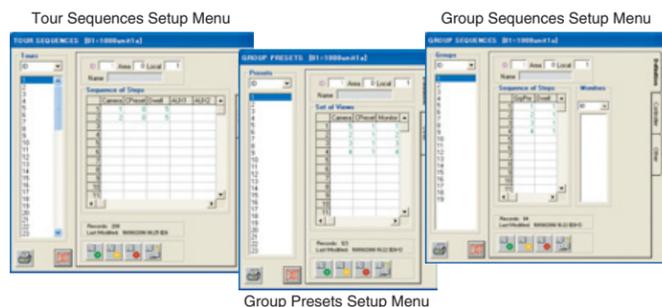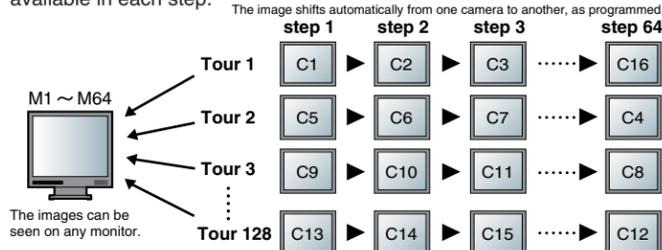
··· Up to 64

# MATRIX SYSTEM650EX

# A Rich Array of Features for More Reliable and Efficient Surveillance

## Three Sequencing Features for More Efficient Monitoring

These features allow you to determine the sequence in which you seem images from multiple cameras.
System Controller buttons make monitoring more efficient by enabling instant selection of the pattern of your choice.
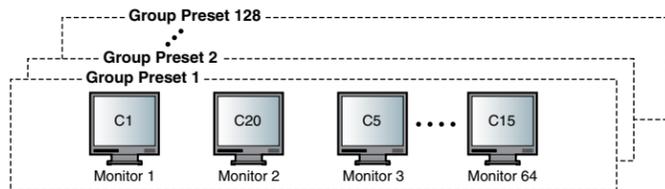
### Tour Sequence

Automatically switches camera images sequentially on the selected monitor. Up to 128 patterns can be programmed with as many as 64 steps per pattern. Camera preset position (1 ~ 255) and AUX output (1, 2) can also be controlled and up to 86,339 seconds dwell time is available in each step.

The image shifts automatically from one camera to another, as programmed.

| | step 1 | step 2 | step 3 | step 64 |
|---|---|---|---|---|
| Tour 1 | C1 | C2 | C3 | C16 |
| Tour 2 | C5 | C6 | C7 | C4 |
| Tour 3 | C9 | C10 | C11 | C8 |
| Tour 128 | C13 | C14 | C15 | C12 |

M1 ~ M64

The images can be seen on any monitor.

Tour Sequences Setup Menu          Group Sequences Setup Menu
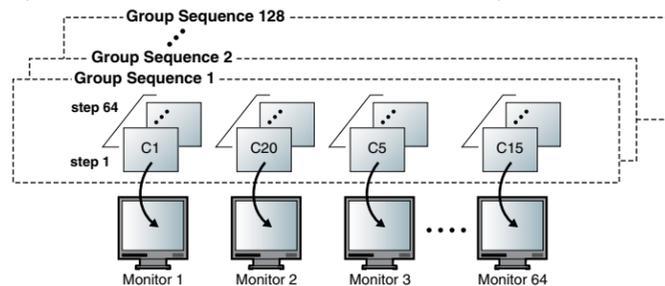
Group Presets Setup Menu

### Group Preset

Allows instant spot display of selected camera with preset position (1 ~ 255) on up to 64 pre-selected monitors at once. Up to 128 patterns can be programmed.

Group Preset 128
Group Preset 2
Group Preset 1

C1 — Monitor 1   C20 — Monitor 2   C5 — Monitor 3   C15 — Monitor 64

### Group Sequence

Automatically switches Group preset patterns sequentially. Up to 128 patterns can be programmed with as many as 64 steps per pattern. Up to 86,339 seconds dwell time is available in each step.

Group Sequence 128
Group Sequence 2
Group Sequence 1

step 64
step 1

C1   C20   C5   C15
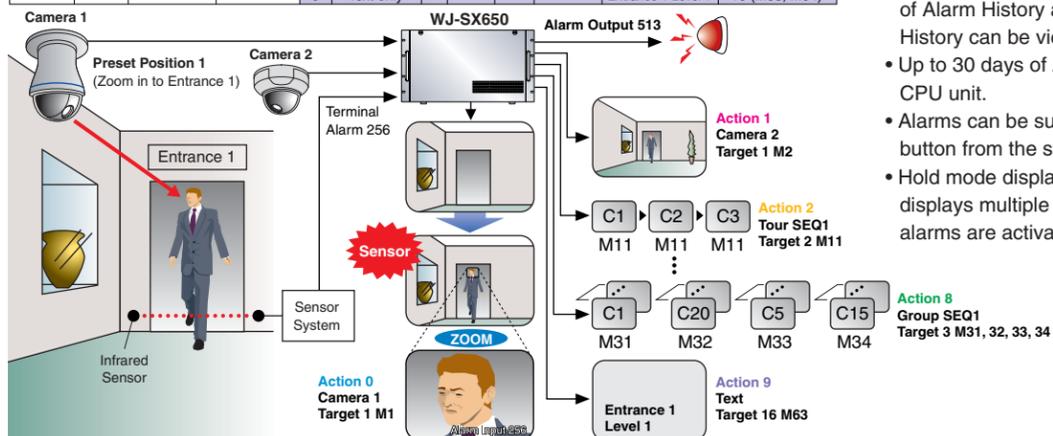
Monitor 1   Monitor 2   Monitor 3   Monitor 64

## Up to 1,024 Alarm Events Ensure That You Capture Vital Scenes

The Matrix System650EX supports flexible alarm handling, up to 1,024 alarm programs and various alarm interfaces including 1,024 terminal inputs, 256 terminal outputs, 512 camera alarms, 512 Video loss alarms and 1,024 serial alarm inputs (Total of terminal inputs and outputs is 1,024). An alarm program can activate up to 10 actions including camera spot, Tour Sequence, Group Sequence and Text. Each action can be assigned to one of the 16 targets, which includes up to 64 monitors, so that the multiple actions can effectively be displayed across the alarm target monitors.
An alarm terminal output can be triggered when an alarm is activated, acknowledged or reset.

### Example: Terminal Alarm Event No.256

| Alarm ID | Priority | Alarm Source | Alarm Output | | | | | Action | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | No. | Type | ID | Preset | AUX | Dwell Time | Text | Target |
| 256 | 1 | Terminal | 513 | 0 | Camera spot | 1 | 1 | 1 | 3sec | Entrance 1 Zoom | 1 (M1, M2) |
| | | | | 1 | Camera spot | 2 | – | OFF | 5sec | Entrance 1 Wide | 1 (M1, M2) |
| | | | | 2 | Tour SEQ | 1 | – | – | 3sec | Entrance Area | 2 (M11, M12) |
| | | | | 8 | Group SEQ | 1 | – | – | 4 sec | Group level 1 | 3 (M31, M32, M33,M34) |
| | | | | 9 | Text only | – | – | – | – | Entrance 1 Level 1 | 16 (M63, M64) |

Camera 1
Preset Position 1
(Zoom in to Entrance 1)
Camera 2
Entrance 1
Sensor
Infrared Sensor
WJ-SX650
Terminal Alarm 256
Sensor System
ZOOM
Alarm Output 513

**Action 1** Camera 2 Target 1 M2
**Action 2** C1 C2 C3 Tour SEQ1 Target 2 M11 / M11 M11 M11
**Action 8** C1 C20 C5 C15 Group SEQ1 Target 3 M31, 32, 33, 34 / M31 M32 M33 M34
**Action 0** Camera 1 Target 1 M1
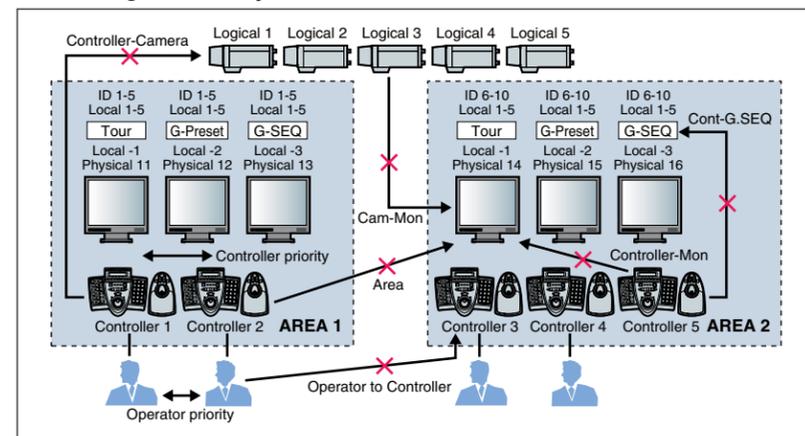**Action 9** Text Target 16 M63 / Entrance 1 Level 1

• Alarms can be scheduled by programming the timer event function.
• Alarm priority control enables effective management for alarms, timer events and operators.
• Up to 1,024 Alarm Program status, up to 100 events of Alarm History and up to 100 events of Video-loss History can be viewed on a monitor.
• Up to 30 days of Alarm logs can be stored in the main CPU unit.
• Alarms can be suspended individually by Arm/Disarm button from the system controller.
• Hold mode displays first alarm while sequence mode displays multiple alarms sequentially when multiple alarms are activated.
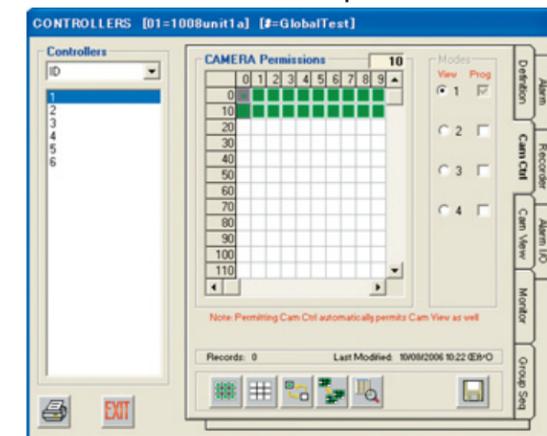
## Flexible System Partitioning and Priority

The System650EX has flexible system partitioning and priority features allowing for advanced operation management. Partitioning includes Controller to Area, Monitor, Camera view, Camera control, Group Sequence, Alarm, Alarm I/O, Recorder, Operator-to-Controller and Monitor-to-Camera. Priority control includes Operator, Controller, Alarm and Timer-event so that the flexible priority control is available. For example, a higher operator will not be bothered by the lower priority alarms or timer events and higher priority alarms will not be disturbed by the lower priority operators or timer events. In addition, the System650EX can create the Areas including Monitors, Controllers, Tour Sequences, Group Presets and Group Sequences. All these items, except controllers, can have a local number enabling the operators to select them by using a simpler reference number.

### Partitioning and Priority Overview

Controller-Camera   Logical 1  Logical 2  Logical 3  Logical 4  Logical 5

| ID 1-5 Local 1-5 Tour | ID 1-5 Local 1-5 G-Preset | ID 1-5 Local 1-5 G-SEQ | | ID 6-10 Local 1-5 Tour | ID 6-10 Local 1-5 G-Preset | ID 6-10 Local 1-5 G-SEQ | Cont-G.SEQ |

Local -1 Physical 11   Local -2 Physical 12   Local -3 Physical 13      Local -1 Physical 14   Local -2 Physical 15   Local -3 Physical 16

Cam-Mon

Controller priority          Area          Controller-Mon

Controller 1  Controller 2  **AREA 1**      Controller 3  Controller 4  Controller 5  **AREA 2**
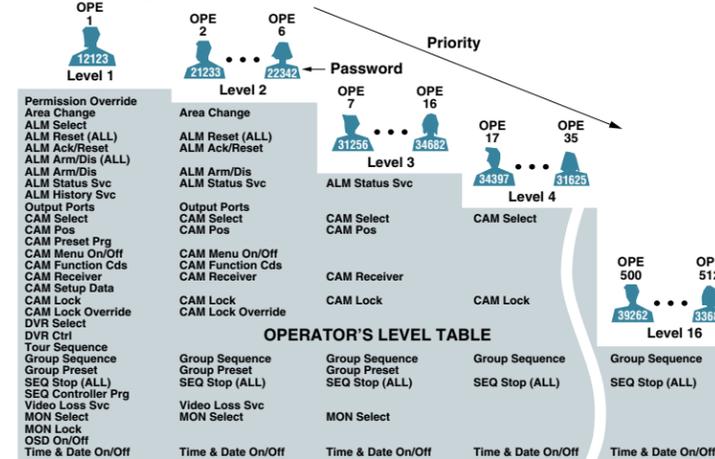
Operator priority          Operator to Controller

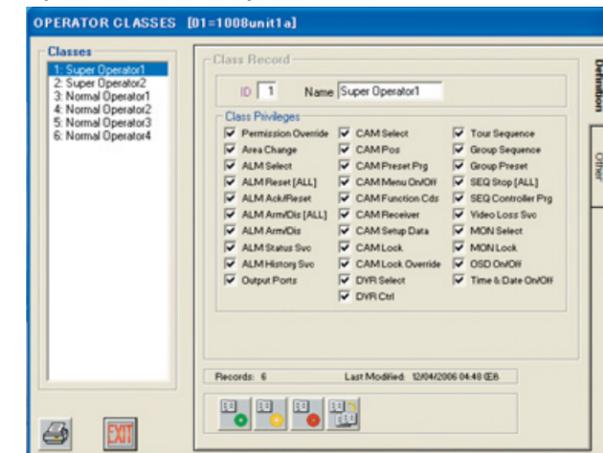### Controller-Camera Partition Setup Menu

## User Management for Preventing Unauthorized Access

Up to 512 operators can be registered with individual operator IDs, passwords and priority (0 to 65,534). 16 operator levels are fully configurable with numerous parameters such as camera select, alarm select and DVR select.
Administrators for the system setup are registered separately, allowing secure user management.

### Operator Registration Example

OPE 1 — 12123   OPE 2 — 21233   OPE 6 — 22342   Password   Priority
OPE 7 — 31258   OPE 16 — 34682
OPE 17 — 34397   OPE 35 — 31625
OPE 500 — 39262   OPE 512 — 33681

Level 1          Level 2          Level 3          Level 4          Level 16

**OPERATOR'S LEVEL TABLE**

| Level 1 | Level 2 | Level 3 | Level 4 | Level 16 |
|---|---|---|---|---|
| Permission Override | Area Change | | | |
| Area Change | ALM Reset (ALL) | | | |
| ALM Select | ALM Ack/Reset | | | |
| ALM Reset (ALL) | ALM Arm/Dis | | | |
| ALM Ack/Reset | ALM Status Svc | | | |
| ALM Arm/Dis | | ALM Status Svc | | |
| ALM Status Svc | | | | |
| ALM History Svc | | | | |
| Output Ports | Output Ports | | | |
| CAM Select | CAM Select | CAM Select | CAM Select | |
| CAM Pos | CAM Pos | CAM Pos | | |
| CAM Preset Prg | | | | |
| CAM Menu On/Off | CAM Menu On/Off | | | |
| CAM Function Cds | CAM Function Cds | | | |
| CAM Receiver | CAM Receiver | CAM Receiver | | |
| CAM Setup Data | | | | |
| CAM Lock | CAM Lock | CAM Lock | CAM Lock | |
| CAM Lock Override | CAM Lock Override | | | |
| DVR Select | | | | |
| DVR Ctrl | | | | |
| Tour Sequence | | | | |
| Group Sequence | Group Sequence | Group Sequence | Group Sequence | Group Sequence |
| Group Preset | Group Preset | Group Preset | | |
| SEQ Stop (ALL) | SEQ Stop (ALL) | SEQ Stop (ALL) | SEQ Stop (ALL) | SEQ Stop (ALL) |
| SEQ Controller Prg | | | | |
| Video Loss Svc | Video Loss Svc | | | |
| MON Select | MON Select | MON Select | | |
| MON Lock | | | | |
| OSD On/Off | | | | |
| Time & Date On/Off | Time & Date On/Off | Time & Date On/Off | Time & Date On/Off | Time & Date On/Off |

### Operator Classes Setup Menu

## Timer Events for Simple, Certain Operation

Camera spot, Tour Sequence, Group Preset, Group Sequence, Alarm arm/disarm and Mode change features can automatically be activated, following programmed schedules. Up to 1,024 timer events can be registered.

### Setup Example

| Event ID | Priority | Action | ID | Monitor | Start Date | Start Time | End Date | End Time | Repeat |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | Alarm Disarm | – | – | 11 Nov. 2006 | 08:00 | – | – | Daily |
| 2 | 5 | Alarm Arm | – | – | 11 Nov. 2006 | 17:00 | – | – | Daily |
| 3 | 10 | Camera spot | 1 | 1 | 11 Nov. 2006 | 08:00 | 31 Jan. 2007 | 17:00 | Weekly |
| 1,024 | 20 | Tour SEQ | 3 | 4 | 1 Dec. 2006 | 09:00 | 1 Dec. 2006 | 18:00 | Once |

## Matrix Switcher: WJ-SX650

### SPECIFICATIONS

| Power Source | 120 V AC, 60 Hz |
|---|---|
| Power Consumption | 60 W |
| Ambient Operating Temperature | –10 °C ~ +50 °C (14 °F ~ 122 °F) |
| Ambient Operating Humidity | Less than 90 % |
| Video Input Board | x 1 |
| Video Output Board | x 1 |
| Expansion Slot | x 1 |
| RS-485 (Camera) Port | 6-conductor modular jack x 4 (2-wire or 4-wire communication, With termination switches (MODE 1 ~ 4)) |
| Dimensions (W x H x D) | 420 mm x 265 mm x 372 mm (16-9/16" x 10-7/16" x 14-3/5") (excluding rubber feet and projections) |
| Weight | 19.0 kg (42 lbs.) |

## Card Cage: WJ-SX650U

### SPECIFICATIONS

| Expansion Slot | x 3 |
|---|---|
| RS-485 (Camera) Port | 6-conductor modular jack x 12 (2-wire or 4-wire communication, With termination switches (MODE 1 ~ 4)) |
| Extension Port (EXTENSION 1 IN, OUT) | 6-conductor modular jack x 2 (With a termination switch (TERM: ON, OFF)) |
| Extension Port (EXTENSION IN 2, 3) | 37pin D-sub connector x 2 |
| Extension Port (EXTENSION OUT 2, 3) | 37pin D-sub connector x 2 |
| Dimensions (W x H x D) | 420 mm x 265 mm x 372 mm (16-9/16" x 10-7/16" x 14-3/5") (excluding rubber feet and projections) |
| Weight | 18.0 kg (40 lbs.) |

## Central Processing Unit: WJ-MPU955A

### Front View
<Front panel attached>

481.2(18-15/16")

88(3-7/16")

<Front panel detached>

### Rear View

420(16-9/16")

① Operation Indicator
② Screws
③ Fan Alarm Indicator
④ Hard Disk Drive Indicator
⑤ Active Indicator
⑥ Operation Switch
⑦ Redundant Selector
⑧ Mode Selector
⑨ Reset Button
⑩ Test Ports
⑪ Ethernet Ports
⑫ Peripheral Interface Ports
⑬ Cooling Fan Unit
⑭ Power Switch
⑮ AC Inlet Socket
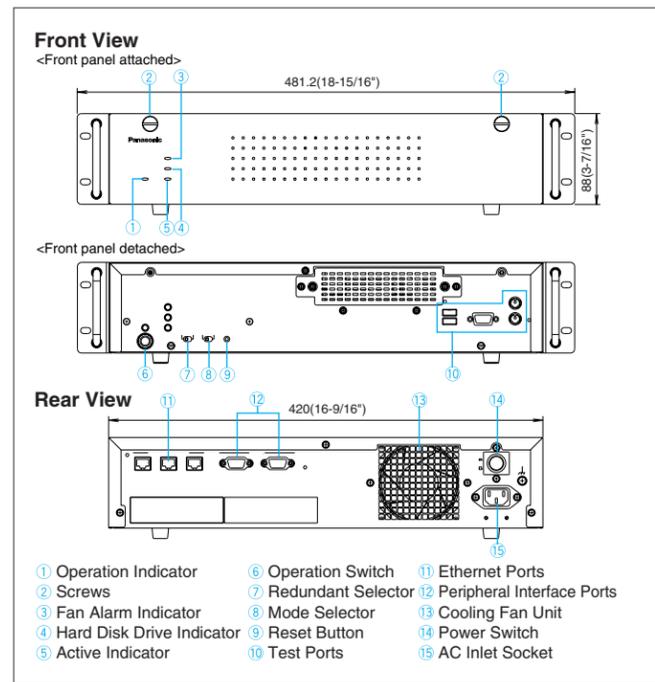
### SPECIFICATIONS

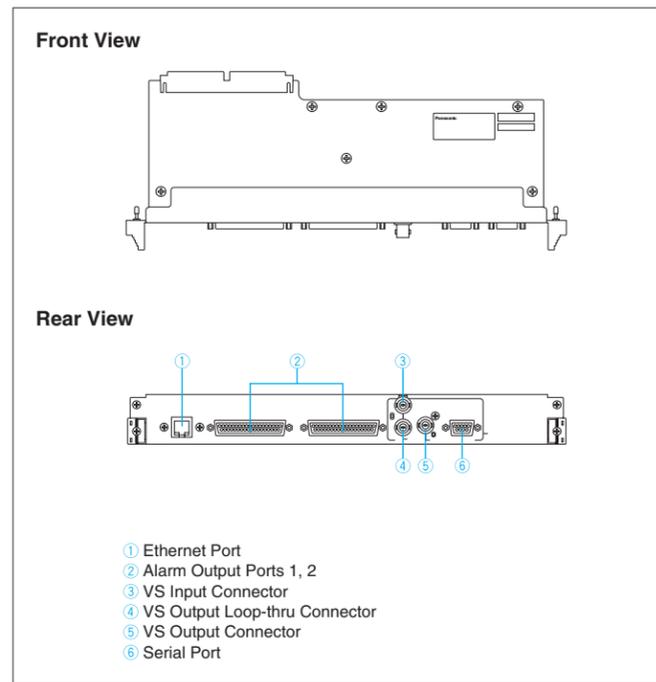| Power Supply | NTSC model: 120 V AC, 60 Hz |
|---|---|
| Power Consumption | 60 W |
| Ethernet Ports | 10Base-T/100Base-TX, RJ-45 x 3 System controller* (1 port), System device (1 port), other (1 port) * Maximum 64 controllers |
| RS-232C Port | 9pin D-sub connector x 2 |
| Ambient Operating Temperature | +5 °C ~ +45 °C (41 °F ~ 113 °F) |
| Ambient Operating Humidity | Less than 90 % |
| Dimensions (W x H x D) | 420 mm x 88 mm x 350 mm (16-9/16" x 3-7/16" x 13-3/4") (excluding rubber feet and projections) |
| Weight | 9 kg (19.8 lbs.) |

## Video Input Board: WJ-PB65C32

### SPECIFICATIONS

| Camera Input (CAMERA IN 1 ~ 32) | 1 V [p-p] / 75 Ω (BNC x 32), composite video signal 0.5 V [p-p] / 75 Ω data signal and 2.5 V [p-p] / 75 Ω vertical timing pulse multiplexed |
|---|---|
| Video Output (VIDEO OUT 1 ~ 4) | 1 V [p-p] / 75 Ω (25pin D-sub connector x 4), active loop-thru output |
| Alarm Input (ALARM IN) | N.O. (Normally Open contact) or N.C. (Normally Close contact) selectable x 32 (37pin D-sub connector) |
| Dimensions (W x H x D) | |
| Main Board | 346 mm x 42 mm x 225 mm (13-3/5" x 1-3/5" x 8-4/5") |
| IN X-2 Board | 355 mm x 21 mm x 115 mm (14" x 4/5" x 4-1/2") |
| IN X-1 Board | 355 mm x 38 mm x 115 mm (14" x 1-1/2" x 4-1/2") |

## Video Output Board: WJ-PB65M16

### SPECIFICATIONS

| Monitor Output (MONITOR OUT 1 ~ 16) | 1 V [p-p] / 75 Ω (BNC x 16) |
|---|---|
| Data Port (DATA 1 ~ 4) | |
| DATA 1 | Terminal Mode (TMNL)/PS•Data (PS•DATA) selectable |
| DATA 2 | Terminal Mode (TMNL) |
| DATA 3, 4 | Terminal Mode (TMNL)/Digital Disk Recorder (HDR) selectable 6-conductor modular jack x 4 (With termination switches (MODE 1 ~ 4)) |
| Alarm Output (ALARM OUT 1, 2) | |
| Alarm Output | Open collector output x 32, Max. 24 V DC, 100 mA |
| Alarm Recover Input | Non-voltage make contact input x 16 |
| Time Adjust Input | Non-voltage make contact input x 1 |
| Time Adjust Output | Open collector output x 32, Max. 24 V DC, 100 mA |
| Extension Port (EXTENSION 1 IN, OUT) | 6-conductor modular jack x 2 (With a termination switch (TERM: ON, OFF)) |
| VS Input | 1 V [p-p] / 75 Ω (VS IN) |
| VS Output | (VS OUT (THRU)): VS loop-thru output, (VS OUT): 1 V [p-p] / 75 Ω (VS) |
| Serial Port | 9pin D-sub connector x 2 |
| Dimensions (W x H x D) | |
| Main Board | 346 mm x 42 mm x 225 mm (13-3/5" x 1-3/5" x 8-4/5") |
| OUT X-3 Board | 355 mm x 21 mm x 115 mm (14" x 4/5" x 4-1/2") |
| OUT X-2 Board | 355 mm x 21 mm x 115 mm (14" x 4/5" x 4-1/2") |
| OUT X-1 Board | 355 mm x 38 mm x 115 mm (14" x 1-1/2" x 4-1/2") |

## Network Board: WJ-PB65E01

### Front View

### Rear View

① Ethernet Port
② Alarm Output Ports 1, 2
③ VS Input Connector
④ VS Output Loop-thru Connector
⑤ VS Output Connector
⑥ Serial Port

### SPECIFICATIONS

| Ethernet Port | 10Base-T/100Base-TX, RJ-45 x 1 |
|---|---|
| Alarm Output Port 1, 2 | Open collector output x 32, Max. 24 V DC, 100 mA |
| VS Input | 1 V [p-p] / 75 Ω (VS IN) |
| VS Output | (VS OUT (THRU)): VS loop-thru output (VS OUT): 1 V [p-p] / 75 Ω (VS) |
| Serial Port | 9pin D-sub connector x 1 |
| Dimensions (W x H x D) | 355 mm x 38 mm x 134 mm (14" x 1-1/2" x 5-3/10") |

## An expanded full matrix configuration for a maximum 512-camera x 64-output system.
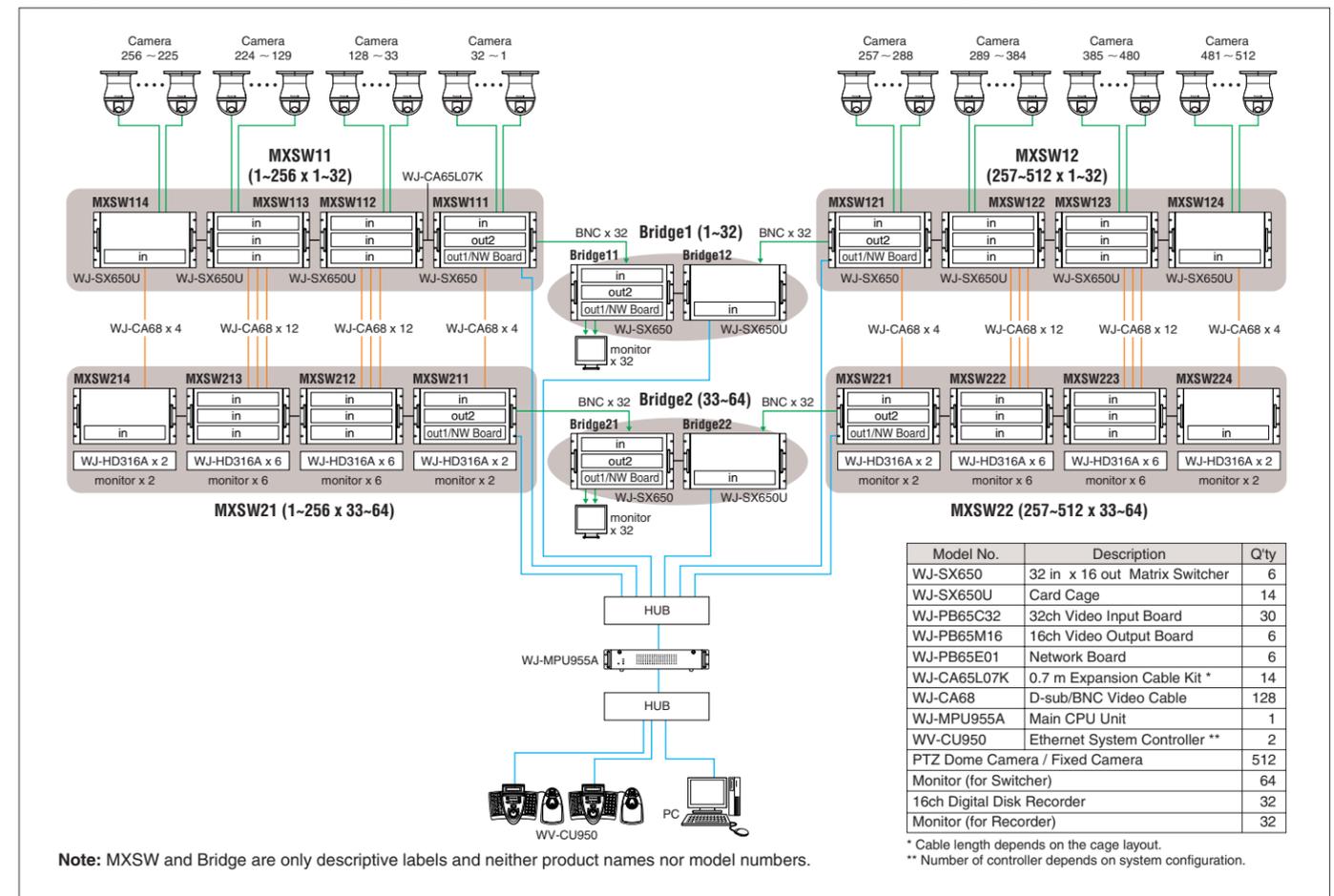


| Model No. | Description | Q'ty |
|---|---|---|
| WJ-SX650 | 32 in x 16 out Matrix Switcher | 6 |
| WJ-SX650U | Card Cage | 14 |
| WJ-PB65C32 | 32ch Video Input Board | 30 |
| WJ-PB65M16 | 16ch Video Output Board | 6 |
| WJ-PB65E01 | Network Board | 6 |
| WJ-CA65L07K | 0.7 m Expansion Cable Kit * | 14 |
| WJ-CA68 | D-sub/BNC Video Cable | 128 |
| WJ-MPU955A | Main CPU Unit | 1 |
| WV-CU950 | Ethernet System Controller ** | 2 |
| PTZ Dome Camera / Fixed Camera | | 512 |
| Monitor (for Switcher) | | 64 |
| 16ch Digital Disk Recorder | | 32 |
| Monitor (for Recorder) | | 32 |

**Note:** MXSW and Bridge are only descriptive labels and neither product names nor model numbers.

* Cable length depends on the cage layout.
** Number of controller depends on system configuration.

## Up to 64 domains can be connected in a satellite configuration.
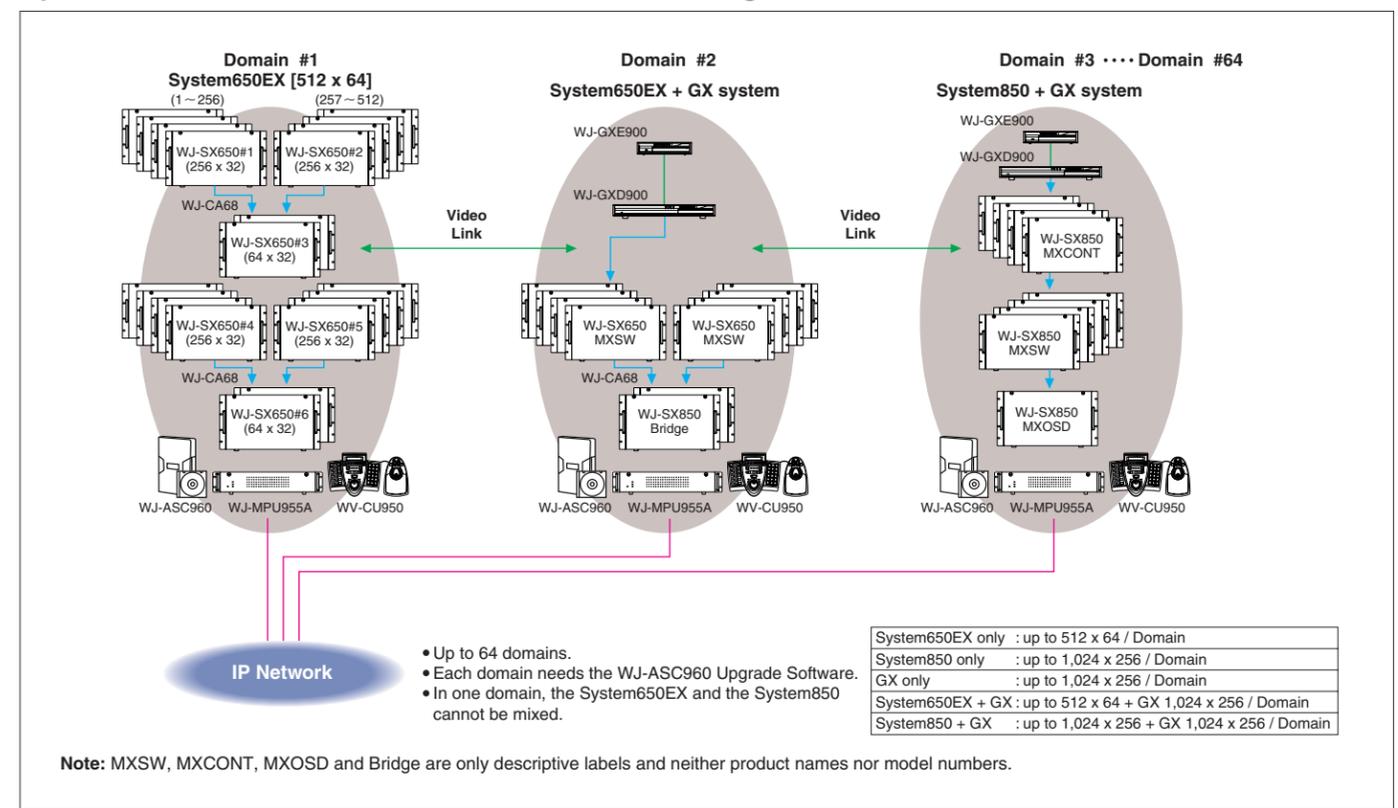


| System650EX only | : up to 512 x 64 / Domain |
|---|---|
| System850 only | : up to 1,024 x 256 / Domain |
| GX only | : up to 1,024 x 256 / Domain |
| System650EX + GX | : up to 512 x 64 + GX 1,024 x 256 / Domain |
| System850 + GX | : up to 1,024 x 256 + GX 1,024 x 256 / Domain |

• Up to 64 domains.
• Each domain needs the WJ-ASC960 Upgrade Software.
• In one domain, the System650EX and the System850 cannot be mixed.

**Note:** MXSW, MXCONT, MXOSD and Bridge are only descriptive labels and neither product names nor model numbers.

## SPECIFICATIONS (Expanded System)

| | | |
|---|---|---|
| **Video Interface** | Number of Inputs | 1.0 V [p-p] / NTSC composite 75 Ω / BNC Connector x Up to 512. With Multiplexed Vertical sync (VD2) and control data. |
| | Logical Camera No. Range | 1 ~ 99,999 |
| | Number of Loop Through Outputs | 1.0 V [p-p] / NTSC composite 75 Ω / 25pin D-sub connectors. Active loop through. |
| | Number of Outputs | 1.0 V [p-p] / NTSC composite 75 Ω / BNC Connector x Up to 64 |
| | Logical Monitor No. Range | 1 ~ 9,999 |
| **Controller** | Number of Controllers | 64 (WV-CU950 and ActiveX controller) |
| **Recorder** | Number of Recorders | Up to 32 (WJ-HD300A Series, WJ-RT416) *Connection with the WJ-RT416 is a plan for future. |
| **Alarm** | Alarm Source | Total up to 1,024 consists of followings. Terminal inputs x 1,024   Camera alarm x 512   Video loss alarm x 512. Serial alarm x 1,024 (Total of terminal input and output is 1,024). Supports one state input mode. |
| | Number of Alarm Programs | 1,024 |
| | Alarm Outputs | Up to 256 (Terminals), Trigger: Active/ACK/RESET |
| | Alarm Control | Ack (Auto/Manual), Reset (Auto/Manual), All reset, Arm, Disarm |
| | Alarm Action | Up to10 actions including Camera spot, Tour SEQ, Group SEQ and Text |
| | Alarm Target | Up to 64 targets, Up to 64 monitors in a target. |
| | Multi-Alarm Mode | SEQ/HOLD |
| | Alarm Log | Up to 30 days and 500KB x 99 files per day. |
| | Alarm Schedule | Possible by Timer Event |
| **Functions** | Partitioning | Controller-Area, Monitor, Camera view, Camera cont, G-SEQ, Alarm, Alarm I/O, Recorder.  Operator-Controller.  Monitor-Camera. |
| | Priority | 0 ~ 65,534 for Operator, Controller, Alarm and Timer event |
| | Sequence | Tour Sequence; 128 patterns, 64 steps, Logical No. 1 ~ 9,999. Group Preset; 128 patterns with 64 monitors, Logical No. 1 ~ 9,999. Group Sequence; 128 patterns, 64 steps, Logical No. 1 ~ 9,999. Dwell Time; Up to 86,339 seconds |
| | Timer Events | 1,024 (Camera Spot, Tour SEQ, Group Preset, Group SEQ, Alarm, Mode change) |
| | Area | 64 |
| | Redundant CPU | Supported |
| | Setup Method | Admin software (English) |
| **Operator** | No. of Registration | 512 |
| | Level | Class setup 1 ~ 16 |
| | Priority | 0 ~ 65,534 |
| | Operator Login/System | 64 |
| **Administrator** | No. of Registration | 128 |
| | Level | 1 ~ 4 |
| **Camera Control** (depending on the camera model) | PTZ | Up to 64 steps |
| | Iris | OPEN/CLOSE/RESET |
| | Focus | FAR/NEAR/AUTO |
| | Wiper | ON (Keep pressing) |
| | Defroster | ON/OFF |
| | Preset Positions | Up to 255 Preset Positions |
| | Setup Menu | ON/OFF |
| | Auto Mode | Auto Pan, SEQ, Sort, Patrol |
| | B/W | Color/BW/AUTO1/AUTO2 |
| | AUX | AUX 1/2 ON/OFF |
| | Function Number | 1 ~ 256 |
| **OSD Service** | Time Date | Time: 12/24H, Date: 10 formats |
| | Camera Title | 28 alpha-numeric characters |
| | Alarm Title | 18 alpha-numeric characters |
| | Status | System, Video loss, Alarm |
| | Customizable Characters | 32 |
| | Log | Alarm (100), Video loss (100) |
| **Log** | Log by Admin Software | Switching, Operator, Alarm, Video loss, Admin setup |

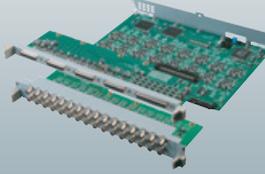## MATRIX SYSTEM650EX PRODUCT COMPONENTS
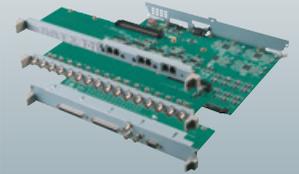
Matrix Switcher
**WJ-SX650**
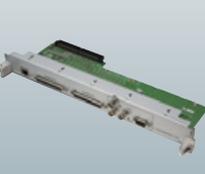


Card Cage
**WJ-SX650U**



Video Input Board
**WJ-PB65C32**



Video Output Board
**WJ-PB65M16**



Network Board
**WJ-PB65E01**



D-sub/BNC Video Cable
**WJ-CA68**
(0.5 m : 1.65 ft)



Expansion Cable Kit
**WJ-CA65L20K**
(2 m : 6.6 ft)
**WJ-CA65L07K**
(0.7 m : 2.3 ft)



Digital Disk Recorders
**WJ-HD316A** (16ch)
**WJ-HD309A** (9ch)



Central Processing Unit
**WJ-MPU955A**



Ethernet System Controller
with 3D-Joystick & Jog/Shuttle
**WV-CU950**



Upgrade Software
**WJ-ASC960**

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