

||||| Mel Eye

In recent years, the need for a monitoring system utilizing network technology has increased. In large-scale international airports, for example, interfacing with the building and facility management control system has proved an essential oracle. In order to meet this requirement, Mitsubishi Electric Corporation has developed a sophisticated monitoring system - **Mel Eye** which utilizes Web-based technology.

Mel Eye closely observes the operational status of elevators and escalators that handle continually changing passenger traffic. This allows Building Managers to rapidly respond to changing traffic patterns, thus optimizing the performance of elevators and escalators and maximizing the added value of the whole building. The application of the latest network technology has also greatly increased the number of controllable elevators and escalators, which minimizes the cost spent on facilities such as supervisory rooms and monitors. **Mel Eye** is our solution to futuristic building traffic monitoring systems.

Supervisory System **Mel Eye** Enhances Elevator and Escalator Operation Management with the Latest Network Technology

+ Network technology with high flexibility

▶ Application of Web server and Web browser

Because the system configuration is hosted on a Web server, multiple PCs can be installed and the elevators and escalators can be monitored at any location desired within the network provided. The use of a Web browser interface allows a high degree of operating flexibility.

▶ Application of Ethernet *

An Ethernet broadband, high-speed network connects the server to the elevators and escalators. Connecting to the security controlled special network** enables monitoring from anywhere in the building.

* Ethernet is a TradeMark of Xerox Corporation in the U.S.A.

** A security controlled special network, separate from the general LAN circuit of the building needs to be provided.



+ User-friendly screen

▶ Versatile monitoring screens

The system displays the operation mode of each elevator or escalator, or the operational status of each group, on user-friendly screens.

▶ Easy selection of screens

Straightforward mouse operation enables the speedy selection of the required information.

▶ Reliable indications and alarm* for safety

To ensure passenger safety, indications to warn of all failures of elevators and escalators are provided. An optional alarm, which will go off for specific events such as group or individual car control failure can be added if required, to supplement the warning indications.

* The alarm is optional and requires speakers for the PC.



+ Available optional features

▶ Remote control

Any PC connected to the Mel Eye system can control the special and emergency* operations of the elevators from any location. For example, Floor lockout, VIP operation, Operation by emergency power source, or Fire emergency return can be controlled.

* For more details on special and emergency operations, please refer to "Main functions" on page 5 or our product brochures.

▶ Scheduling of operations

All buildings have a flow of people moving to specific floors at specific time periods. Special operations such as Intense up peak or Lunch time service can be preset to meet the demand inside the building.

▶ Statistical information

The past fault logs of the elevators and escalators and the operation logs of PC are recorded*. In addition, the traffic analysis function counts the calls of the elevators and measures the users waiting time to provide statistics. These functions enable the Building Manager to analyze the traffic flow, and helps optimize the efficiency of the elevator and escalator operation.

* This function is a standard feature.

▶ Play back information

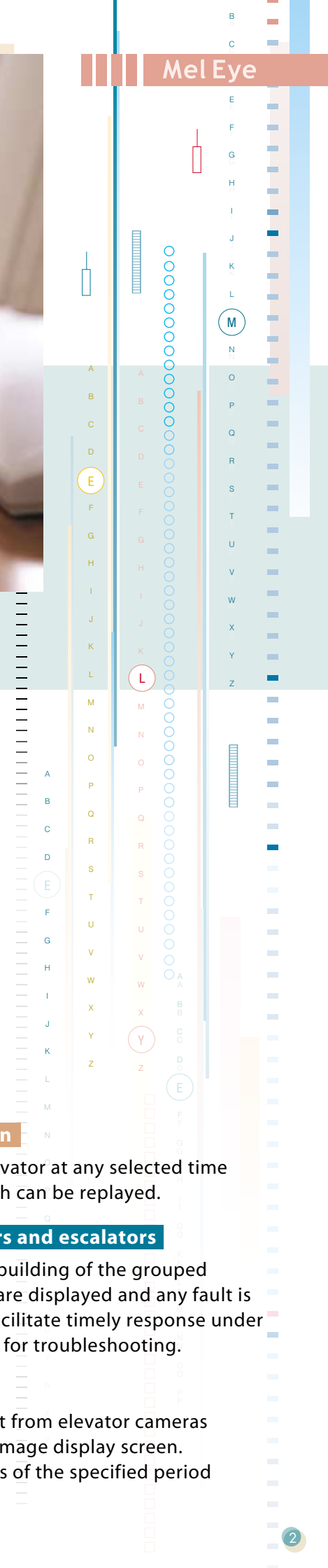
The movement of any elevator at any selected time within the past one month can be replayed.

▶ Locations of elevators and escalators

The locations within the building of the grouped elevators and escalators are displayed and any fault is highlighted in order to facilitate timely response under emergency conditions or for troubleshooting.

▶ Image monitoring

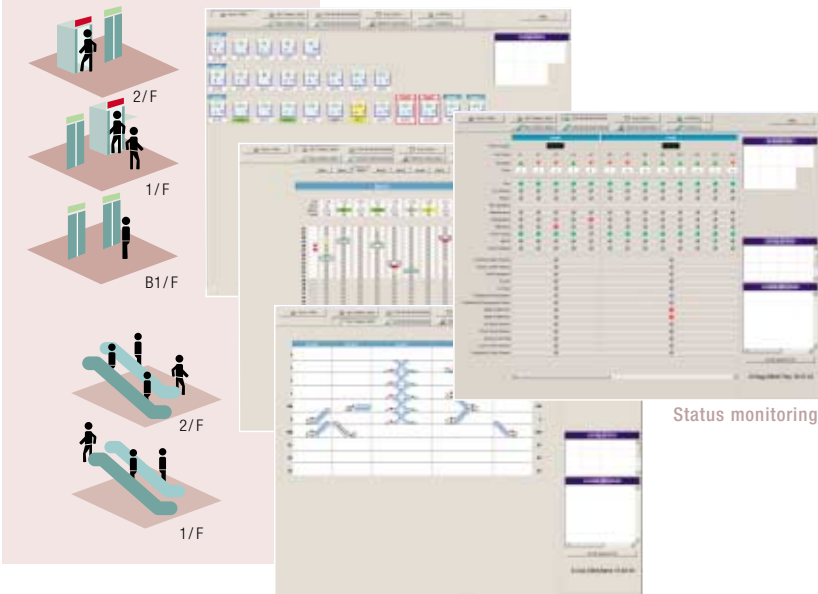
The real-time images sent from elevator cameras can be displayed on the image display screen. Also, the recorded images of the specified period can be played as well.



Versatile Features for Elevator and Escalator Operation Management

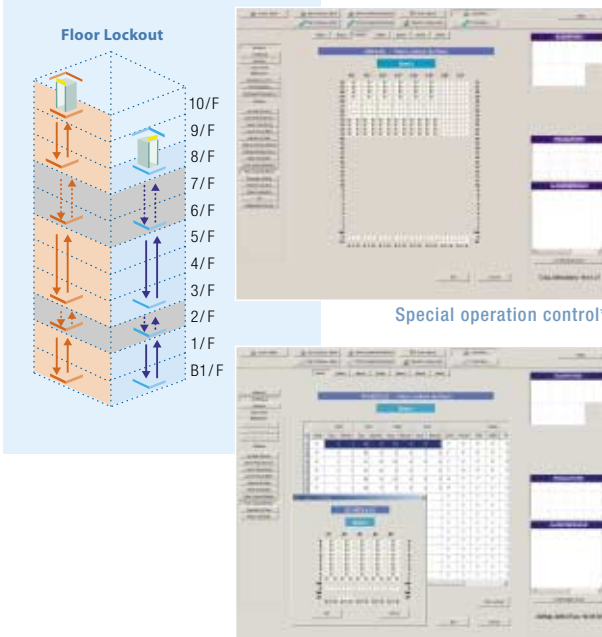
Monitoring screens

MeiEye's user-friendly screen allows the detailed operational status of the elevators and escalators to be monitored in real time.



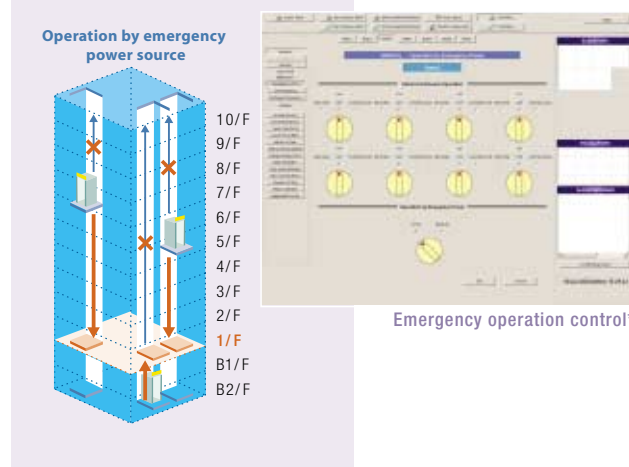
Remote control

Manually controls or schedules special operations.



Scheduling of operations

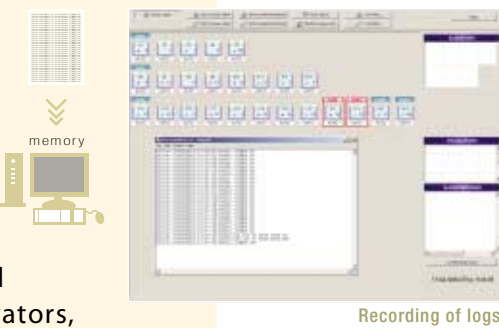
Enables or disables emergency operations.



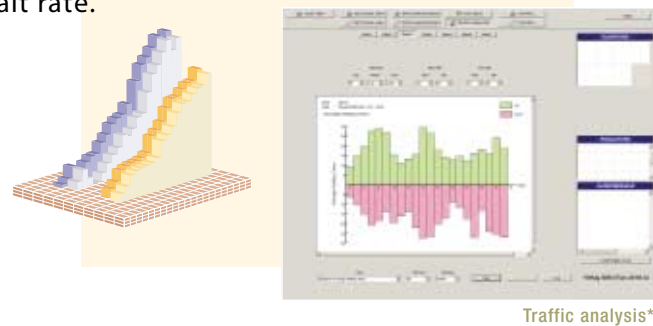
Web server and Web browser

Statistical information

Records the past fault logs of the elevators and escalators in addition to the operation logs of the PC.



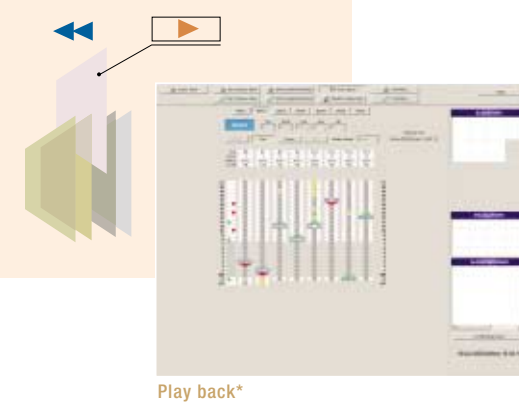
Takes statistics of the general operational status of the elevators, such as the number of calls, the average waiting time and long wait rate.



Traffic analysis*

Play back information

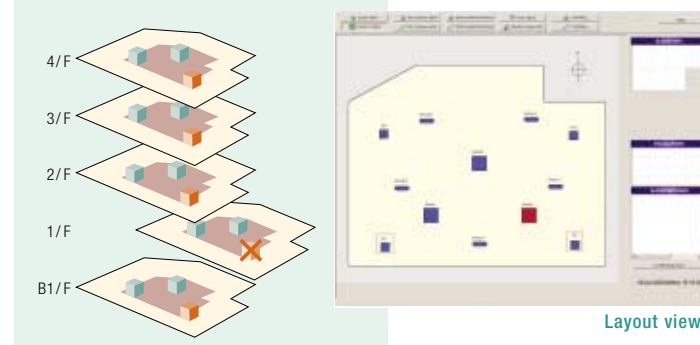
The movement of any elevator at any selected time within the past one month can be replayed.



Play back*

Locations of elevators and escalators

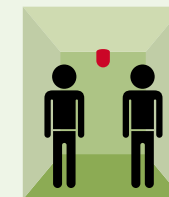
The locations within the building of the grouped elevators and escalators are displayed and any fault is highlighted.



Layout view*

Image monitoring

The real-time images sent from elevator cameras can be displayed on the image display screen. Also, the recorded images of the specified period can be played as well.



Sample image display screen*

■ Main functions

Classification	Function	Description	Application										
			Ele.	Esc.									
Monitoring screens	Status monitoring	<ul style="list-style-type: none"> Monitors the operational status of elevators on three displays: "PLAN VIEW", "SECTIONAL VIEW" and "STATUS MONITORING". Monitors the operational status of escalators on two displays: "SECTIONAL VIEW" and "STATUS MONITORING". 	S	S									
Remote control and scheduling of operations*1	Special operation control	Controls or schedules the following special operations*2 manually by PC: <ul style="list-style-type: none"> Floor lockout (NS) · VIP operation (VIP-S) Intense up peak (IUP) · Lunch time service (LTS) Up peak service (UPS) · Down peak service (DPS) Bank-separation operation (BSO) Remote control car stop (RCS) · Return operation (RET) Main floor changeover operation (TFS) 	0	-									
	Emergency operation control	Enables or disables the following emergency operations: <ul style="list-style-type: none"> Operation by emergency power source (OEPS) Fire emergency return (FER) Earthquake emergency return (EER) 	0	-									
Statistical information	Recording of logs	Records the fault logs of elevators and escalators, as well as the operation logs of the PC, in the past one month on HDD in CSV format.	S	S									
	Traffic analysis	Takes statistics of the number of calls, average waiting time and long wait rate of any specified period within the past one month and indicates the results in the form of a spreadsheet or histogram.	0	-									
Play back informatio	Play back	Plays back the movement of the elevator operation of any specified period within the past one month.	0	-									
Locations of elevators and escalators	Layout view	Displays the locations of the grouped elevators and escalators installed in the building and highlights any fault.	0	0									
Image monitoring	Image display sent from elevator cameras	The real-time images sent from elevator cameras can be displayed on the image display screen. Also, the recorded images of the specified period can be played as well. <ul style="list-style-type: none"> Video system: NTSC, PAL Image size: 600 × 480 pixel (approx. equivalent to VGA) or 300 × 240 pixel (approx. equivalent to QVGA) Image refresh interval & recording interval: One second Recording medium: CompactFlash 8GB is recommended *3 Continuous recording time: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Image size</th> <th>Recording interval</th> <th>Continuous recording time *4</th> </tr> </thead> <tbody> <tr> <td>600 × 480 pixel (approx. equivalent to VGA)</td> <td>One second</td> <td>Approx. 37 hours</td> </tr> <tr> <td>300 × 240 pixel (approx. equivalent to QVGA)</td> <td>One second</td> <td>Approx. 125 hours</td> </tr> </tbody> </table>	Image size	Recording interval	Continuous recording time *4	600 × 480 pixel (approx. equivalent to VGA)	One second	Approx. 37 hours	300 × 240 pixel (approx. equivalent to QVGA)	One second	Approx. 125 hours	0	-
Image size	Recording interval	Continuous recording time *4											
600 × 480 pixel (approx. equivalent to VGA)	One second	Approx. 37 hours											
300 × 240 pixel (approx. equivalent to QVGA)	One second	Approx. 125 hours											

Notes *1. Scheduled operation does not apply to emergency operations and some of the special operations.
 *2. This table contains only some of the available special operations. For further details, please refer to our product brochures.
 *3. CompactFlash is a TradeMark of SanDisk Corporation in the U.S.A.
 *4. The continuous recording times above are calculated using CompactFlash 8GB for reference only and we cannot guarantee it.

S : Standard
 0 : Option
 - : Not applicable

■ The number of controllable elevators or escalators

Number of PC's per network	In case only elevators are installed	In case both elevators and escalators are installed		Number of connectable cameras
		Elevators	Escalators	
1 PC (Server and client in one unit)	Up to 16 groups/ 64 units	Elevators	Up to 15 groups/ 32 units	32 units
		Escalators	Up to 20 units	-
2 PCs (Server and client in two separate units)	Up to 64 groups/ 96 units	Elevators	Up to 48 groups/ 64 units	64 units
		Escalators	Up to 96 units	-

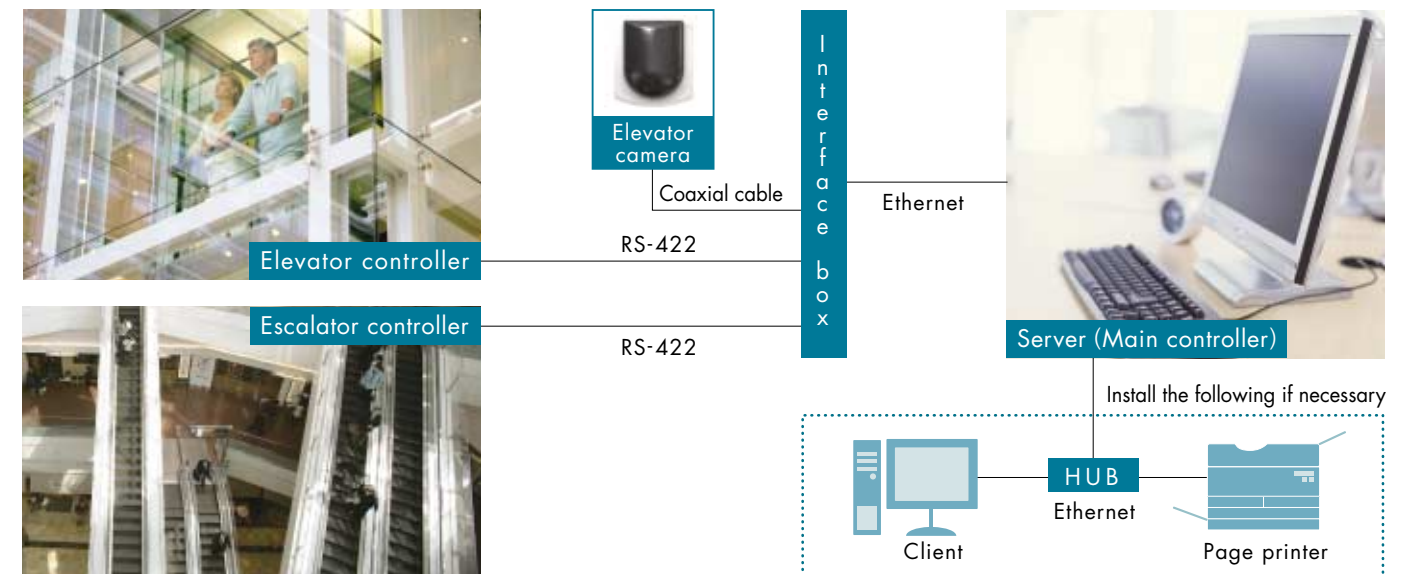
Notes 1. If the group or the unit number exceeds the maximum value of the above, the network needs to be divided. In such cases, please consult our local agent.
 2. If the system consists of two PCs, displays on the screens are available only with the client PC.
 3. Only one unit of camera can be installed per elevator.

■ Equipment specifications

Device	Specification
PC	<ul style="list-style-type: none"> CPU : 32-bit CPU Main memory : 512MB *1024MB when image monitoring function is provided. HDD : 40GB
Monitor	<ul style="list-style-type: none"> 17" - 19" color LCD or CRT display Resolution: 1280 × 1024
HUB	10BASE-T/100BASE-TX
Printer	Page Printer (Option)

Notes
 1. Details to the left represent the minimum specifications.
 2. Depending on the monitoring functions or the number of elevators/escalators, some capacities to the left will be increased.
 3. Power supplies not included.
 4. Work station, such as a desk and a chair, not included.
 5. UPS (uninterruptible power supply) for power failure not included.
 6. Specifications of elevator camera and recording medium (CompactFlash) are not included.

■ System configuration



■ Glossary

- Network :**
 A group of computers that connect together is called a Network. Connecting computers with communication circuits and cables enables data exchange and resource sharing. In accordance with the size or the type of network, different terms are used; for example, the Internet, LAN or WAN.
- Web (WWW) :**
 An information search system that uses hypertext format is called the Web. It was developed by Tim Berners-Lee from CERN (European Laboratory for Particle Physics) in 1989.
- Web server (WWW server) :**
 A server that hosts a Web site is called a Web server.* It can also be called an Internet server. At the user's request, it sends HTML files, videos or voice data to their Internet / Web browser.

*Server is a computer that provides resources such as printers and other various functions from a network.
 These resources or the functions provided are called services. A client is the computer that uses these services.
- Web browser (WWW browser) :**
 An application program used to browse Web pages is called Web browser. It is also called a 'browser' or 'browsing software'. For example: Internet Explorer from Microsoft Corporation; or Netscape from Netscape Communications Corp.
- Ethernet :**
 This is a TradeMark of Xerox Corporation. It is a standard of bus formed LAN which was jointly developed by Xerox Corporation, Intel Corporation and DEC Corporation in 1980. It was standardized by IEEE802.3 (Association of Institute of Electrical and Electronics Engineers Inc.).
- CSV format (Comma Separated Value format) :**
 On the premise that a file is opened by spreadsheet software, the data is separated by commas or linefeeds when it is arranged. It is used for data exchanges among application software such as spreadsheet software or data base software.

*For more details, please refer to commercial computer glossaries.



Mitsubishi Electric Inazawa Works has acquired ISO 9001 certification by the International Standards Organization (ISO) based on a review of quality management for the System. The plant has also acquired the environmental management system standard ISO 14001 certification.