This document describes simple setup to interface the OTIS Compass™ Elevator System to the Galaxy 635 OEI Board via Ethernet.

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1 SYSTEM INTEGRATION OVERVIEW

This chapter provides an overview the integration between the System Galaxy OEI Panel and Otis Compass™ System. This chapter describes the requirements, components, operation modes and data-flow.

The following things are covered in this chapter:

1. Overview of the Galaxy Integration with Otis
   a. Otis Integration Described with System Topology diagram
   b. Floor Groups Described
   c. Otis Destination Features Described
   d. DEC Modes Described with System Flow diagrams of each DEC Mode
   e. Requirements and Troubleshooting Tips

2. Chapter 2 covers the System Galaxy Configuration and Set Up of the hardware and software.

3. Chapter 3 covers Event Logging and Reports at System Galaxy.

4. Chapter 4 covers Troubleshooting, Resources and Glossary.
1.1 OTIS INTEGRATION OVERVIEW

In simple terms, System Galaxy provides elevator access control and event monitoring for the Otis Compass™ Elevator System.

1.1.1 THE OTIS INTEGRATION DESCRIBED

The Otis Compass™ System is a ‘destination-based’ elevator system that uses buttonless cars to carry passengers to their requested floor. System Galaxy is used to configure the cards, set any destination features, configure and assign the elevator access groups and the Otis floor groups (including free floors and DEC Operating Modes). The DEC and Card Reader are the user interface to the system. Galaxy provides the access decision and Otis dispatches the most appropriate elevator car.

NOTE: It the passenger’s responsibility to board the correct elevator car and exit on the correct floor.

THE OTIS SYSTEM USES THE FOLLOWING MAIN COMPONENTS:

- **DES/DER** (Destination Entry System): the server that controls the DECs and dispatches elevator cars based on the access decision and passenger load, destination indicators. The DES is communicating with the Galaxy OEI panel

- **DEC** (Destination Entry Computer): the push-button or touch-screen Keypad that captures floor number requests. System Galaxy supports two operating modes (i.e. Mode-2 ‘card first’; or Mode-3 ‘floor first’). See the section in this chapter on ‘Understanding DEC Modes’, and the Floor Group Programming and the Glossary for more details.

- **Card Reader**: a reader is mounted beside each DEC and is wired to the Galaxy OEI Panel (to a DPI). The reader transmits the user’s card data to the OEI Panel, which holds the list of valid cards along with their elevator access rules. The OEI board transmits the access decision and other programming to the Otis System (i.e. schedules, floor groups, destination features, and DEC modes). When a DEC prompts a user to present access credentials, the credentials must be valid in the OEI Controller and must have access valid access to the floor they are requesting at that time on the schedule. See the section on Elevator Access Groups for more details.

- **OEI Control Panel** (Galaxy OEI Panel): provides the elevator access decision, and floor group programming to the Otis System DES & DEC (i.e. list of free floors and the DEC Operating modes and time schedules). See the Troubleshooting section for more about messaging.

- **System Galaxy Server**: The System Galaxy Client/Communication Server is used to monitor events, enroll cards and configure the panel to behave as desired. The Galaxy Operator configures readers, schedules, access rules, floor groups, etc. and loads them to the Galaxy panels. The Comm server also hosts the GCS services, including the Event Service. The Client Software can also be installed on additional workstations. Ability to see, edit, and command Galaxy hardware, readers, cardholders and other programming is controlled by Galaxy operator logon privileges.

**Elevator Access Decision Process**: From the elevator lobby, a passenger enters their floor request at the Otis DEC Keypad (pushbutton or touch-screen). The passenger presents access credentials at a reader that is mounted beside the keypad (the DEC Operating Mode determines whether the access card is presented before or after a floor request). The DES (Destination Server) receives the floor request and the access decision from the Galaxy OEI controller. It determines the best car to board and returns the instruction to the DEC. Passengers with valid credentials are directed to the ‘most appropriate’ car. Passengers who present invalid credentials are prompted to seek assistance. See the System Topology Diagram and Data Flow Diagrams in sections 1.4 / 1.5
1.1.1.1 OTIS COMPASS™ ELEVATOR SYSTEM TOPOLOGY DIAGRAM

The diagram below shows a basic topology of the System Galaxy integration to the OTIS Compass™ Elevator System.

» A Galaxy Operator programs the Elevator Configuration at the SG Client/Server and loads the configuration to the Galaxy 635 OEI Panel. The panel programming, schedules, access rules, and cardholder data is stored at the Galaxy 635 Panel.

» The 635 OEI Board forwards the DEC configuration, floor groups, free floors and operation mode to each DEC via Ethernet to port 21 of the Otis Layer-3 Switch.

» When a user presents credentials to a reader, they are sent to the 635 Panel for authorization and the decision (approved/denied) is sent back to the Otis DEC via the connection to the Otis Layer-3 Switch. The DEC directs the user the most appropriate car or prompts user to seek assistance.

NOTE: Use the Galaxy 635 - Configuration Tool to program your DPI boards to unique ID numbers (2-17 is valid).

NOTE: Galaxy recommends supporting up to 32 readers with an OEI Panel (up to 16 DPI boards per panel).
1.1.2 UNDERSTANDING FLOOR GROUPS

The Otis system recognizes each floor as either “allowed” (free access) or “authorized” (requiring valid access credentials). Each DEC must be assigned an operating mode and must have a list of the floors that are allowed free access from its location.

A Floor Group is simply a container for the DEC Operating Mode and the list of free (allowed) floors. Floor Groups use a *time schedule* to control when the DEC Operating Mode and free floors become active (green) and inactive (red).

1. Floor Groups can be assigned to more than one DEC.
2. Each DEC can have more than one Floor Group assigned to it.
3. All floors are treated as “authorized floors” (require credentials) unless/until they are set to be a free floor in an active Floor Group. A floor can be free at one DEC and not at another DEC since Floor Groups can be individually assigned to different DECs. Floor Groups are configured in System Galaxy and are stored in the OEI board.
4. **Floor Group -0** is the default / mandatory floor group for all DECs. Floor Group -0 always uses the ALWAYS active time schedule. Do **not** assign a floor to this group unless you want it to always be free access at every DEC. Assign the DEC Mode you want all the DECs to use by default (when higher floor group(s) are inactive).
5. **Floor Groups 1-10** are optional groups than can be assigned to one or more, or all DECs. You can use these optional floor groups to change the mode of a DEC during a certain time-slot, or to add more free floors during a certain time-slot, or both.
6. You must carefully plan the configuration of Floor Groups to be sure you don’t change the DEC Mode at an undesired time or add/restrict free floors at an undesired time.

*See in depth instructions on programming floor groups in the Configuration Chapter-2.*

1.1.3 OTIS DESTINATION FEATURES (HANDICAP, VERTIGO, VIP, SPLIT GROUP)

The Otis System also automates special factors such as holding the doors longer for passengers with physical handicaps, and slowing the car speed for passengers with vertigo. The system can be programmed to route VIP passengers in specific cars, and to use split group operation. Galaxy supports these special factors through the cardholder programming. If a special factor is enabled for a cardholder, the flag is sent to Otis along with the access decision after the access card is presented in the lobby. *See in depth instructions on programming special factors to cardholders in the Cardholder Enrollment section.*

1.1.4 UNDERSTANDING DEC MODES

A DEC Mode determines how the DEC (elevator keypad) will operate. The Otis system supports two DEC Modes to control the operation of each DEC. *To learn more, see Creating Floor Groups in chapter 2.*

- **DEC Mode-2 (card first/high security):** DEC prompts the passenger to present credentials before a choosing a floor.
- **DEC Mode-3 (floor first):** DEC prompts the passenger to choose a floor number before credentials are presented.

**WARNING:** Carefully consider how DEC Modes are used. It is possible for a person to become trapped in an elevator lobby if a DEC is in Mode-2/Card First and the person does not have valid credentials to get off the floor.
1.1.4.1 OTIS MODE-2 DATA FLOW (Present Card First / High Security)

1. In MODE-2 the DEC idle prompt displays “Present Security Credentials”.
   » User presents credentials and requests a floor number at the DEC and card data goes to Galaxy 635 Panel
   » IF the floor is restricted, the credentials are sent to the Galaxy Panel for a decision.

2. The 635 Panel returns the card authorization (or denial) based on schedules and access rules stored in the panel.
   » The OEI Panel sends the DEC Mode and the List of Authorized & Allowed (free) Floors to the DEC
   » The Galaxy OEI Panel sends events to the SG Server & Event Monitor

3. The DEC displays the “most-appropriate” elevator car # if the requested floor is allowed free-access or floor is authorized for that card.
   » If the credential is not authorized or floor is not free access, the DEC prompts user to ‘seek assistance’

4. An Otis Audit Event is logged at SG Client by the 635-Panel and shows the elevator car dispatched only if a restricted floor was requested.
   » If a credential is not authorized for the requested floor, an Event & Otis Audit Event are logged (e.g. invalid credential, destination not)
1.1.4.2 OTIS MODE-3 DATA FLOW (Choose Floor First)

1. In MODE-3 the DEC idle prompt displays “Enter Destination Floor”.
   » User enters a desired floor number on the DEC. If requested floor is allowed free-access, the DEC displays the appropriate car.
   » If requested floor is restricted, the DEC displays “Present credentials”. User presents card (data goes to Galaxy 635 Panel).

2. The 635 Panel returns the card authorization (or denial) based on schedules and access rules stored in the panel.
   » The OEI Panel sends the DEC Mode and the List of Authorized & Allowed (free) Floors to the DEC
   » The Galaxy OEI Panel sends events to the SG Server & Event Monitor as to which Reader/DEC

3. The DEC displays the “most-appropriate” elevator car # if the requested floor is allowed free-access or floor is authorized for that card.
   » If the credential is not authorized and floor is not free access, the DEC prompts user to ‘seek assistance / access denied’

4. An Otis Audit Event is logged at SG Client by the 635-Panel and shows the elevator car dispatched only if a restricted floor was requested.
   » If a credential is not authorized for the requested floor, an Event & Otis Audit Event are logged (e.g. invalid credential, destination not allowed)
1.2 SYSTEM REQUIREMENTS & TROUBLESHOOTING TIPS

This section covers the requirements related specifically to interfacing with OTIS from the System Galaxy perspective.

- PC & System Specs are covered in the **SG System Specification & Requirements Guide**.
- Galaxy hardware installation requirements are covered in the **600-635 Hardware Guide**.
- Galaxy-to-Otis interface requirements (hardware and software) are covered in this guide.
- Otis-specific requirements for the COMPASS system are not covered in Galaxy’s guides.

**NOTICE:** requirements and stipulations may be reiterated in the appropriate section for continuity of instructions.

1.3 GALAXY-TO-OTIS INTERFACE REQUIREMENTS

1.3.1 SOFTWARE SETUP REQUIREMENTS

- System Galaxy software v10.1 (or higher)
- The pc running the System Galaxy communication and event services must have a static IP address
- There are no registration or workstation options (system settings) required
- In the Controller Properties screen
  - You must add only one OEI board to the controller in the Controller properties screen.
  - You must set the CPU Type to 635
  - You must set the number of floors the system will serve; *note you can add up to 120 floors from the controller screen. If you need to add more floors, you can do so in the Elevator Floor Group programming screen.*

- In the Reader Properties Screen’s General tab
  - You must assign the reader to be an ‘OTIS Elevator type’ reader
  - You must map the reader to a DEC

- **You must configure the Floor Groups in System Galaxy**
  - You must set the Operation Mode (2 or 3) and schedule that the default Floor Group-0 will use since the default group is automatically assigned to every DEC;
  - You must create a special schedule for the floor groups if you do not wished to use “ALWAYS”
  - You can add any additional floors or elevator doors (front or back) as needed, if you did not add enough when you added the OEE board in the Controller properties screen
  - You can set the free-access floors in each Floor Group (0 thru 11)

  **IMPORTANT:** Default Floor Group-0 is always mapped to every DEC. Therefore, **do not** assign a “free” floor to Floor Group-0 unless you want it to be allowed free-access to every DEC. Floor Group 0 should only include free-access floors that are free to every DEC.

- **You must configure the Otis Elevator setup in System Galaxy:**
  - the Otis Loop & Controller should support only one OEE board (SG v10.1)
  - mapping one or more DECs to the OEE board
  - assigning one or more Floor Groups to each DECs
1.3.2 HARDWARE REQUIREMENTS

General hardware installation requirements are covered in the 600-635 Hardware Guide.

NOTICE: Requirements and stipulations may be repeated in the appropriate section for continuity of instructions.

- You can only install 1 OEI Panel per Otis Compass™ system.
- DO NOT wire access control doors to the OEI panel – only wire DEC readers to the OEI panel.
- The 635 CPU must be configured with correct IP Addressing.
  - set DHCP = ‘no’ if you are using fixed addressing such as 192.x.x.x.
  - If you are using dynamic addressing, then set DHCP to ‘yes’ and make sure a dynamic address is leased to your controller so it will behave as a fixed address.
  - You must configure the Network Mask and Gateway addresses
  - The Event Server Address must be static and always uses port 3001 in the CPU for both the event server when configuring the panel. See the Hardware Guide for details.

- 635 OEI Controller (elevator control panel for Otis Elevator Interface);

  1. 635 CPU Board - requires v4.77 flash (or higher):
     - Maximum 1 OEI board on the data bus.
     - Up to 16 DPI boards on the data bus.
  
  2. 635 OEI Board - requires v4.77 flash (or higher):
     - The OEI board must be factory flashed
     - OEI board ID must be set to ‘1’ (factory default)
     - Using Ethernet Cat5e (300 cable feet)
     - The OEI board must be connected to port 21 on the Otis Layer-3 switch

  3. DPI Board (600 or 635) - supports 2 readers per DPI:
     - DPI boards get their flash from the 635 CPU; a 10-minute delay occur before a DPI updates. TIP: You can bypass this delay with a ‘clear auto’ command from HyperTerminal or other emulator.
     - DO NOT POWER FAIL THE DPI, CPU OR CONTROL PANEL DURING FLASHING.
     - Currently, the OEI Panel supports up to 16 DPI boards (up to 32 readers). DPI boards must have unique numbers (2 thru 17 since the number 1 is reserved for an OEI board).
     - The 600 DPI Board ID is configured using the 600 Hardware Config Tool.
     - The 635 DPI Board ID is set using the onboard dipswitch.
     - Only elevator DEC readers can be wired to the DPI boards inside the OEI Controller. Non-elevator readers must be connected to a non-elevator controller.
     - All the elevator DPI boards must be installed inside the same panel as the OEI board and 635 CPU (i.e. they cannot be in separate cans).
     - See the Galaxy 600-635 Hardware Guide for instructions on wiring specifications (i.e. gauge, distance, etc.) and for landing reader wires to the DPI terminals.
     - The door contact must be ‘jumped out’ (by placing a jumper wire between COM and CNT on the reader port).
     - NOTE: DPI Relay-1 will audibly activate when a card is valid; however, the doors and contacts are not wired. The Otis system controls its doors based on the data received from the OEI board. DPI Relay-2 is unused for the Otis system.
1.4 TROUBLESHOOTING TIPS

1.4.1 VERIFYING DECS ARE ‘ONLINE’ AT THE GALAXY OEI BOARD

You can find out which DECS are online by interrogating the OEI board with special commands. To determine what DECS are listed at the OEI Board and their status, you can use a terminal emulator to issue an “online” command and a “rows” command.

IMPORTANT NOTES

» When the OEI board is connected to the network, the DES/DER will send the list of DECs and their configuration to the OEI. System Galaxy also sends its list of DECs and the floor group configuration to the OEI board.

» If a DEC goes offline after it was sent to the OEI, it will remain in the OEI list, but its status will change to ‘OFFLINE’.

» If a DEC is programmed in Galaxy (and loaded to the panel), but is not present in the Otis configuration, then the DEC will be listed with an ‘offline’ status.

1.4.1.1 GALAXY OEI UPDATE MESSAGES TO OTIS SYSTEM & DECS

There are three times the OEI Board sends an update message to the Otis System. The update includes the DEC Operating Mode, the Operating Schedule, and the Public List of Floors (allowed).

1. **A message is sent any time the OEI negotiates a connection to the Otis System.** This occurs whenever the OEI board comes online, or when the Otis DES comes online.

2. **A message is sent once per second for each DEC that is ‘pending’ an update.** The OEI gets these pending updates from the CPU whenever a change occurs to a floor group. Floor Group updates happen for the following reasons.
   a) Changes are made in the software programming of the floor group and loaded to the CPU.
   b) When an existing floor group schedule becomes active or inactive.

3. **A message is sent whenever a card authorization is issued** from Galaxy. The authorization or denial is sent along with floor group programming up dates.
1.4.1.2 GET A LIST OF DECS AT THE OEI BOARD

The online command will return the list of DECs that the OEI Board is communicating with through the Otis Compass System. If a DEC doesn't seem to be responding to the access control system or does not update its floor groups or DEC operating modes, you can query the DEC list to prove the OEI knows about the DECs. Use a terminal emulator, such as Putty or HyperTerminal to issue the online command.

1. Connect one end of the Galaxy hardware programming cable to the OEI Board's 9-pin serial port.
2. Connect the other end to the PC's COM port (serial port).
3. And start the terminal emulator as appropriate and set up the connection parameters.
   - Bits per Second = 57,600K
   - Data Bits = 8
   - Parity = None
   - Stop Bits = 1
   - Flow Control = None
4. Type 'online' (without the quote marks) into the emulator window.
5. The Galaxy OEI Board will list every DEC that it knows about.
   - The DEC number/name, its IP Address, its assigned DEC Operating Mode, as well as its last known status (online vs. offline) will be displayed.
6. If a DEC is listed as ‘offline” it could be because it has lost it’s network connectivity. Make sure the DEC is actually configured in the Otis System and is properly connected to the Otis system.

**IMPORTANT:** The OEI Board can display “offline” status for a DEC that has been added from the System Galaxy programming and loaded to the elevator panel before it has been added to the Compass system or been connected. To determine if the extra DEC is caused by this situation, you can cold start both the CPU and OEI board in the panel. After the boards are cold started, issue the ‘online’ command again and should see that the extra DEC(S) went away. If you really needed the extra DEC, configure and connect it in the Compass system and Load Data from System Galaxy’s GCS Loader program.
1.4.1.3 GET A LIST OF FLOOR GROUPS AT THE OEI BOARD

The **rows command** will return the list of Floor Groups that the OEI Board knows about. The Floor Groups are given a DEC Mode and the free floors are enabled as needed. If a DEC doesn’t seem to be responding to the free floors or DEC operating modes, you can query the Floor Group List to prove whether the OEI knows about the Floor Groups. Use a terminal emulator, such as Putty or HyperTerminal to issue the **rows** command.

1. Connect one end of the Galaxy *hardware programming cable* to the OEI Board’s 9-pin serial port.
2. Connect the other end to the PC’s COM port (serial port).
3. Start the terminal emulator as appropriate and set up the connection parameters.
   - **Bits per Second** = 57,600K
   - **Data Bits** = 8
   - **Parity** = None
   - **Stop Bits** = 1
   - **Flow Control** = None
4. Type ‘rows’ (without the quote marks) into the emulator window.
5. The Galaxy OEI Board will list every Floor Group 0 and 1 thru 10.
   - The Floor Group number, its assigned DEC Operating Mode, as well as which floors are assigned free.
   - The floors that are assigned free will be designated with an “A” for allowed. Floors that require authorization do not have a letter designation.
2 SYSTEM CONFIGURATION

This chapter covers the configuration of System Galaxy components.

2.1 QUICK STEPS – CONFIGURING THE INTERFACE

2.1.1 HARDWARE QUICK STEPS

Use the hardware requirements in chapter 1 of this guide with the instructions in the 600-635 Hardware Guide.

(3.2) Configure the GALAXY 635 Control Panel

a. Install & Configure the CPU board:
   » set the fixed IP Address, Subnet Mask and Gateway;
   » set the Loop and Controller Unit number to match the Loop and Controller number in the software; CPU must be numbered 1;
   » DHCP can be set to YES, but a leased address should be used if fixed addressing is not available.
   » set the Event Server IP address and set port 3001 and save settings

b. Install the OEI board: this board is factory flashed and is set to Board ID 1.

c. Install & Configure the DPI boards:
   » The factory flash should match the CPU – if it does not, the board will update after a 10 sec. delay. Use auto clear command to bypass the delay.
   » Each DPI must be uniquely numbered between 2 and 17 (use 635 Configuration Tool)

d. Physically wire the card readers to the DPI boards.
   » Only elevator readers can be wired to this panel. Use a separate panel for other door readers.
   » Jumper the CNT and COM contacts together on the reader ports.

e. Complete panel installation as per 600-635 Hardware Guide.

(3.3) Physically connect the 635 CPU to the corporate LAN using Cat5e cable. The CPU will connect to the event server/communication server based on network programming.

(3.4) Physically connect the 635 OEI to port 21 on the Otis Layer-3 Switch.
2.1.2 SOFTWARE QUICK STEPS

(3.5) Install the System Galaxy 10.1 software on the main Communication Server / Database Server as appropriate. Register the software and clients as appropriate for the options purchased. Installation of software is covered on the Install DVD Help. Registration is covered in the Software Manual. There is no specific registration option for Otis, Elevators, or OEI boards.

(3.6) Check the Galaxy Event Service to confirm that the 635 OEI Elevator control panel is connected. It may take a few minutes for the CPU to connect to the Event Service. TIP: Use the GCS Service Monitor (Windows-7) or Service Manager (Windows XP) to view connections to the Event service.

Open the System Galaxy Software for the remaining steps:

(3.7) In the Loop Properties screen, add the 600 Cluster using correct IP settings and port 4003.

(3.8) In the Controller Properties screen, add the 635 Controller & 635 CPU. Use GET BOARD INFO button to add the OEI board and DPI Boards to the software. Choose the most common reader type (such as proximity) used by most of the boards.

(3.9) In the Otis Elevator Programming screen, create each DEC your system will use.

(3.10) In the Reader Properties screen, define the readers as Otis Elevator Readers and assign a DEC number that you want that reader to work with. Set the reader technology type if different from the common reader type that you chose in step 3.8. Rename the reader using a logical name that indicates where the reader is located (e.g. “Main Lobby DEC-1”, or “Floor-3 DEC-6”).

(3.11) In the Time Schedules screen, create the time schedules needed for the

a. Otis Optional Floor Groups – used to add free floors and change DEC modes
b. Elevator Access Groups – for the cardholder to use the elevator readers and floors.
c. Interior Door Access groups – for the cardholder to have access to interior doors as needed.

(3.12) In the Otis Elevator Programming screen, configure the Default Floor Group-0.

a. Choose the default DEC Mode
b. Add any additional floors or negative floors that were not added in step 3.8
c. Enable (check) any mandatory free floors that will always be free at every DEC.

(3.13) In the Otis Elevator Programming screen, configure Optional Floor Groups that you will need (assign the DEC mode, schedule and free floors as needed).

(3.14) In the Access Group Programming screen, configure any Access Groups you need for cards.

a. Elevator Access Groups – for cardholders to use the elevator readers and floors.
b. Interior Door Access Groups – for cardholders who need access to interior door readers.

(3.15) In Cardholder Programming screen, assign Access Groups to access cards for each cardholder.

a. Elevator Access Groups – add the Elevator Loop and set the appropriate access group(s) for the access card given to the cardholders.
b. Interior Door Access Groups – add the Interior Door Loop and set appropriate access group(s) to the same card (or different card) as desired.
2.2 CONFIGURE THE GALAXY 635 CONTROL PANEL (Hardware)

You can use the 635 Configuration Tool to program the CPU and DPI’s from a internet browser such as Internet Explorer. The 635 Config Tool Guide describes installing and using the 635 Config Tool. The 600-635 Hardware Guide describes installing the Galaxy Hardware, including product safety information, requirements, reader wiring (etc.) in greater detail.

IMPORTANT NOTICES

» The PC running the 635 Config Tool must be connected to the same broadcast domain as the 635 CPU.
» The Config Tool will find the panel by it’s factory MAC Address.
» Read the 600-635 Hardware Guide for Installation/Product Safety and Requirements before installing.

2.2.1 QUICK CHECKS FOR THE CPU:

The following items must be specifically set in a certain way to interface with the Otis System.

1. Cluster/Loop ID: The ID that the SG Software gave the elevator Loop (in the previous step B)
2. Controller Unit ID: should be 1 (recommended that no other panels are assigned to this loop)
3. CPU number: must be set to 1
4. Network Settings: IP Address, Gateway, Network Mask will be configured as needed to reside on the customer’s LAN. A static IP Address is recommended.
5. DHCP: should be ‘no’ if you are using a static address. If you are using DHCP, then set DHCP to yes and have the IT Professional assign a leased address to the panel’s MAC address.
6. Event Server IP Address: must match the IP Address of the Event Server that you set in previous step B-10). This is typically the same IP Address as the Communication Server.
7. Connection Ports should be set to 3001 for both the Event Server and for the Panel.
8. You must save the settings of the CPU

2.2.2 QUICK CHECKS FOR THE OEI and DPI BOARDS:

» The OEI BOARD ID must be ‘1’ (this is at the factory and should not be changed).
» The flash version of the OEI Board must match the CPU. (this is at the factory)
» The DPI must be set to ‘2’ or higher. (2 thru17 is valid; do not duplicate board IDs)
» Each DPI flash version must match the CPU. The DPI's will auto-update one at a time.

WARNING: Do NOT INTERRUPT POWER to a DPI board, or the panel, or the CPU until all boards have completed their flash update.

NOTE: it can take up to 10 minutes for the CPU to begin auto-updating flash. If you don’t want to wait, you can issue a ‘clear auto’ command from a terminal emulator of your choice (see the hardware manual). A ‘clear auto’ command can also be issued from System Galaxy Loop Diagnostics screen provided you have installed the software and brought the panel online with the Galaxy event service.
2.3 CONNECTING THE 635-CPU TO THE ETHERNET NETWORK (LAN)

Once the controller is configured, you can connect the 635 CPU to the corporate LAN.

The 635 CPU supports 100 MB via the onboard network connector.

» Both LED’S on the RJ45 network jack will be ON/SOLID when connection is established at 100 MB/ Base-T.

» Only one LED will be ON/SOLID when connection is established at 10 MB (full duplex required).

**IMPORTANT:** The network communication path between the 635-CPU and the System Galaxy Event Server must be unblocked (routers, hubs, switches, etc.)

**NOTE:** Always consult the 635 Hardware Guide and the 635 Config Tool Guide for instructions that are not covered in this brief section.

2.4 CONNECTING THE OEI BOARD TO THE OTIS LAYER-3 SWITCH

Connect the 635 OEI Board to **PORT-21 of the OTIS LAYER-3 SWITCH**. Otis technicians are responsible for configuring and connecting the Otis DES, DER and all DECs to their system.

**TIP:** A heartbeat will be established between the two Systems when the Galaxy Panel is online and the Otis DES is online. A tool such as WireShark can be used to confirm the connection and heartbeats have been established.
2.5 ABOUT INSTALLING the SYSTEM GALAXY SOFTWARE

Detailed instructions for installing the System Galaxy 10.1 software are found on the Install DVD (disk-1).

1. When the install DVD is inserted the Installation splash screen opens.
   a. Select the View Galaxy Installation Help link at the top of the list.
   b. You must install Part 1 on every Galaxy computer
      » You should read the Part 1 Read-Me file.
      » Part-1 must be installed on all servers and clients even if you are upgrading an existing system from a prior version.
   c. You will install Part 2 on every Galaxy computer
      » You should read the Part 2 Read-Me file.
      » For new installs, the full database install must be done on the computer that will server as the database server. This can be the same or different PC than the communication server.
      » For upgrades, you must upgrade the database (instructions are in the Install Help)
      » For all other Galaxy clients/servers you must install the ODBC Client components.
   d. You will install part 3 on the Communication Server / Client choosing the appropriate option (i.e. Comm. Server, workstation, etc.). For upgrades, you must back up all files, reports, photos, badging templates and assets, and then uninstall the software before running Part-3. If you are using Card Exchange, consult the SG-10 CEX Badging Guide for details.

2. Once the software is properly installed, it must be registered within 14 days.
   a. You can configure all the loops, controllers, readers, schedules, and elevator DECs, operation modes, and Floor Groups before registering since the Otis options are not associated with registration options.
   b. Refer to Chapter 5 of the System Galaxy Software User Guide for registering the system. Register the software & clients for the options purchased within the 14-day grace period.
   c. You must contact Galaxy Dealer Support to get your registration code.
   d. Your product level, options and product code must match your purchase agreement.
2.6 VERIFYING THE 635-CPU CONNECTS TO THE EVENT SERVICE

Once the Galaxy Communication Server is installed, the 635 CPU will initiate its connection to the Event Service. It may take a couple of minutes for the CPU to negotiate the connection to the Event Service. You can verify the connection using the Service Monitor.

TIP: On Windows XP you will start the GCS Service Manager from the Windows Start > Programs > System Galaxy > Utilities > GCS Service Manager.

TIP: On Windows -7 you will start the Service Monitor from the Windows Start > All Programs > System Galaxy > Utilities > Service Monitor. You can ‘pin’ the monitor to the task bar for convenience.

1. (Windows-7) Open the GCS Service Monitor to view the Event service connections.
2. At the top of the Service Monitor window, click on the [Fill Services List] button.
3. Select (highlight) the Event Service in the left-hand list.
4. Click on the [Connect to Service] button at the bottom of the screen.
5. All controllers (CPU’s) that have successfully connected will display in the list. You can find the Otis CPU by the IP Address listed in the Connections tab.

NOTES:

» If the CPU is not online after a reasonable amount of time, you should verify that you correctly configured the CPU IP, MAC, and Gateway Addresses. Also make sure that the DHCP flag is properly set (set “no” if you are using a 192 address; “yes” if you are using a dynamic address that is leased as a fixed address). Verify that the Event Server’s IP address is correctly set. Make sure the CPU is using port 3001 to connect.

» Make sure the Ethernet cables for the Panel and for the Comm Server are connected and are properly pinned. You should use a normal ‘straight thru’ cat-5e Ethernet cable.

» Verify that port 3001 is not blocked at the Communication Server’s Virus software or Windows firewall settings, or any network device (hub, router, etc.).
2.7 ADDING THE OTIS LOOP (Cluster) TO GALAXY SOFTWARE

Program the Elevator Loop into the System Galaxy Software. The 635-series panel must be assigned to a unique Cluster number. This must match the panel configuration in order to load any data to the panel.

**NOTICE:** IF you use the Galaxy Loop and Controller Wizard, you must remember to manually set the CPU type to “635” in the Controller Properties screen. See the Section 3.8 of this guide and follow instructions carefully.

1. Open the Loop Properties screen: from the menu Configure > Hardware > Loops
2. Once the Loop screen is open, click Add New Loop/Cluster.
   - **NOTE:** The Cluster (Loop) ID # is a unique number set by the system.
   - Record the cluster number to use when programming the 635-series CPU. The cluster ID in the CPU must match the system’s cluster number in this screen.
3. Enter a descriptive name for the Loop in the Loop Name field holds the (max. 50 characters).
4. The Serial Number field holds the serial number of the CPU. This number can be found on a label on the CPU.
5. Use the System Type droplist to select “600” (Otis interface is not compatible with 500-series)
6. Set the **Connect Using** droplist to “TCP/IP”.

7. Set the **Event Server IP Address** field to the IP address of the computer running the Event Server for this loop/cluster. The Event server is the computer where the Event Service will run. This is typically the same as the Communication Server.

8. The **Remote Port field** is set to 4003 for 600-series controllers. **Do not set 3001 in this field.**

9. The **Communication Server field** is the name or IP address of the Communication Server. The Communications Server is the PC where the GCS Communicator Service is running. If the PC you are working from is Communication Server, click This Computer button to auto-fill the computer name.

**NOTE:** On the Advanced Settings tab, you can set the **Time Schedule format** – will default to 15-minute format (recommended). You can set 1-minute format on 600-series Loops. See the SG Software Guide Schedule Programming in Chapter 7 for details – or see the 1-Minute Schedule Guide.

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**Communication**

| Connect using | TCP/IP |   |   |         |      |        |       |        |
| Event Server IP | 192.168.1.64 |   |   |         |      |        |       |        |
| Remote Port | 4003 |   |   |         |      |        |       |        |
| Loop Communication Server | W7D360:TEST |   |   |         |      |        |       |        |
| This Computer |   |   |   |         |      |        |       |        |
2.8 ADDING THE 635 CONTROL PANEL TO GALAXY SOFTWARE

IMPORTANT: the Galaxy Loop supports only one OEI Controller per loop.
IMPORTANT: the OEI Controller supports only one OEI board.
IMPORTANT: the OEI Controller can support up to 32 readers (16 DPIs). ALL DPI’s must be used for elevator readers. Use a separate panel/loop for any readers that will not be linked to an Otis DEC.

2.8.1 ADDING THE PANEL & SETTING THE CPU MODEL

1. Open the Controller Properties screen from the menu Configure > Hardware > 600 Controllers
2. Select the Otis Elevator Loop/Cluster name.
3. Click the ADD NEW button to add the control panel.
   » NOTE: The System’s (Unit) ID # should automatically be set to ‘1’ since this is the only panel on this loop/cluster. (Galaxy recommends that no other panels are assigned to this loop).
   » This number must match the Unit number configured in the CPU.
4. Enter a descriptive name in the Controller Name field. The software sets a default name that indicates the loop/cluster ID and the control panel unit ID. You can edit the name to become a logical name that designates it as the Elevator Panel.
5. Select the CPU Boards tab, set the CPU-1 to be “635” Model. The serial number and IP Address will auto-populate the next time the connection is refreshed.
6. Click the APPLY button to save the Controller programming. This sets the daughter board list to include boards supported by the 635 CPU.
2.8.2 ADDING THE DPI & OEI BOARDS TO THE CONTROL

It is recommended to add the daughter boards to the control panel using the GET BOARD INFO button. This way you can add all the correct boards and their correct board numbers without guesswork. The control panel must already be configured and connected to the Event Server to use this method to add boards. Otherwise you must add the boards one-by-one and set their board numbers.

**IMPORTANT:** If you add boards manually, you must add the OEI BOARD first and set its board number to ‘1’. DPI boards must be set to ‘2’ through ‘17’, but they must match the board numbers actually used in the panel.

**IMPORTANT:** When using the GET BOARD INFO button to add boards, you must have the panel connected to the Event Server and all the daughter boards must be connected on the data bus and picked up by the CPU. Make sure you have completed the hardware installation, configuration and all daughter boards are present when you issue the ‘boards’ command from the terminal emulator or show up in the 635 Config Tool’s web page.

7. In the Controller Properties screen, click the EDIT button again to add the boards.
8. Click the [Get Board Info] button (the Board Info screen will open with list of boards). Galaxy automatically returns the list of boards that the CPU has connected on its data bus.
9. Click the Save button to accept /add the boards.

10. A confirmation dialog will appear asking you if you want to overwrite any existing board programming. Click YES to confirm you want to save and overwrite.
2.8.3 SETTING UP THE ELEVATOR FLOORS & DOORS

When you click the APPLY button to save this configuration, the system will prompt you to set up the Elevator Floors and Doors.

NOTES

» The Floors & Doors programming screen allows you to add from 2 to 120 floors. These will be floors 0 thru 118.
» You must specify whether you want to have front doors only or both front and back doors.
» If you need more than 119 floors, you can add them in the Otis Elevator Config screen.
» If you need more doors later, you can add them in the Otis Elevator Config screen.
» If you need to add negative floor numbers, you must add those manually from the Otis Elevator Config screen.
» You can choose whether the Default Floor Group is set to Mode-2 or Mode-3. You can change this later if needed.

11. Click the Apply button to save the Controller programming. The Otis Floors and Doors window opens.

12. Next the software will prompt you to choose a common reader technology type. Choose the most common/typical type you have installed on this controller. If there are readers that use a different type technology, then you must change them in their Reader Properties screen. Configuring reader properties is explained in a later section of this chapter.
2.9 ADDING OTIS ELEVATOR DECs

In the Otis Elevator Configuration screen, you must add each DEC that will be installed. The DEC must be created so it can be linked to a reader.

NOTE: Programming Floor Groups is discussed in a later section of this chapter.

1. Open the Otis Elevator Configuration screen, from menu Configure > Hardware > Otis Elevator.
2. Select the Otis cluster name and click EDIT button.
3. Under the DEC Properties list, click the [Add New DEC] button.
4. the DEC Properties dialog box opens, enter a descriptive name.
5. Set the value of the IP Address’ third octet and type the value of the last octet
6. Enable (check) any floor groups you will need for this DEC. Notice that Floor Group 0 is mandatorily set.
7. Click OK to save the DEC properties (a name and IP Address are required)
8. Click APPLY to save all your changes.
2.10 CONFIGURING THE OTIS READERS

In the Reader Properties screen, you must set the each reader to be an Otis Elevator Readers and link each reader to the desired DEC.

**NOTE:** You need to coordinate with the Compass System administrator to share your mapping scheme with them.

**NOTE:** You must have created the DECs before they will show up in the Reader Properties screen.

**NOTE:** Galaxy sets a default name for each reader that indicates which controller, DPI Board and section number they are wired to. You can and should rename the reader using a logical name that distinguishes which reader it is in the building – perhaps in relation to its location and which DEC it will be linked to.

1. Open the Reader Properties screen, from menu Configure > Hardware > Readers.
2. Select the Otis cluster name.
3. Select the reader port you want to configure and click EDIT button.
4. You can rename the reader to a logical descriptive name for the Reader.
5. On the General tab, set the [Elevator Control Type] to ‘OTIS/COMPASS Elevator’.
6. For the [Otis DEC] field, select the DEC you want this reader to be linked to. The reader must be physically mounted with the DEC so the passengers can use it when they are selecting their destination floors.
2.11 CREATING SCHEDULES (Elevators, Floor Groups, & Interior Doors)

In the Schedules Programming screen, you must create schedules for the elevator access groups and Otis floor groups on your elevator loop/cluster. Interior Door Schedules are managed on a separate loop/cluster. Schedules can be subject to a holiday or not. This is a system administrator decision.

IMPORTANT NOTICES

» All changes to Schedules Programming must be loaded to the elevator panel using the GCS Loader Utility.

» For organization and security reasons, it is recommended to make separate schedules for elevator access groups and elevator floor groups, even though they are on the same loop/cluster. This way, if you must change a schedule for a floor group, you will not interfere with the cardholders’ access groups.

» Also you will need to create schedules for cardholders who use interior doors on the appropriate loop/cluster.

» You must create the elevator time schedules before you can use them in programming access groups or the Optional Floor Groups (i.e. Floor Groups 1-10). The Default Floor Group (0) only uses the “ALWAYS” schedule, which is already present in Galaxy and cannot be edited.

» You must also create interior door schedules on the interior door loops as appropriate.

» Where Floor Group schedules are concerned, green indicates active (on) and red indicates inactive (off).

» Where Access Group schedules are concerned, green indicates valid (authorized) and red indicates invalid (not authorized at this time).

2.11.1 CREATING A SCHEDULE (Loop-wide)

1. Open the Schedules Properties screen from the menu Configure > Hardware > Schedules.
2. Select the Otis Elevator Loop/Cluster name.
3. Click Add New schedule.
4. Enter a descriptive name for the schedule in the Name field. You may want to designate that the schedule is to be used with a floor group (e.g. by including the initials FG).
2.11.2 SETTING THE ACTIVE/INACTIVE TIMES (Loop-wide)

5. Use your mouse to **click & drag over the time segments** for each day; changing to green or red as you desire.
   - Left-clicking the time capsules will change them to green (active/on; or allowed access)
   - Right-clicking the time capsules will change them to red (inactive/off; or denied access)

**TIP:** use the COPY feature to speed up programming by copying the setup of one day onto other days.

6. Enable (check) the **[Affected By Holidays]** option only if the schedule will be affected by a holiday schedule. Then for Holiday Settings, create schedules as they should work on holidays (i.e. all day red, half day green).

7. Click **APPLY** button to save changes.
2.12 CONFIGURING THE DEFAULT FLOOR GROUP (0)

The Default Floor Group is mandatorily assigned to every DEC (system-wide) and only uses the ‘ALWAYS’ schedule. Therefore it is important to carefully consider how you configure this floor group.

IMPORTANT NOTICES

» All changes to any Floor Group Programming must be loaded to the elevator panel using the GCS Loader Utility.
» The Default Floor Group only use the ‘ALWAYS’ active (24/7) time schedule. See the following subsection for more information about the time schedules.
» The Default Floor Group is always assigned to every DEC (system-wide) and is ALWAYS active and thus always calculated.
» Unassigned Floor Groups are never calculated for any DEC mode or free floors.
» Optional Floor Groups (1-10) are calculated only when their time schedule is active and only if they are assigned to a DEC.
» The Default Floor Group controls the default DEC Mode for all DECS in the system. When no other floor group is active (based on their time schedules), all the DECs will revert to the Mode that is chosen in this group. See following subsection.
» Optional Floor Groups can override the Default DEC Mode when they become active. The DEC assumes the Mode of the highest number Floor group that is assigned and is active. See following subsection about Setting Default Operation Mode.
» The Default Floor Group controls the Default Free Floors (allowed free) for all DECS in the system. When no other floor group is active (based on their time schedules), all the DECs will continue allowing free access (unrestricted) to the floors that are on (checked/enabled) in this floor group. See following subsection about Enabling Default Free Floors.
» Any floor that is enabled (checked) in the default group will always be free at every DEC in the system. Therefore, do not enable floors in this group that you do not want to be free at every DEC all the time.
» Optional Floor Groups will add any free floors to the list of default free floors when they become active. The DEC allows all the default free floors and all the free floors from any Optional Floor Group that is assigned and is active.
» Whenever a DEC is set to Mode-3, all assigned free floors are allowed unrestricted access (i.e. access card not needed). Do not add a free floor if you do not want unrestricted access to be allowed to everyone at every DEC.
» If the DEC is in Mode-2 (Card Required/Card First), then a free floor is available (unrestricted) for EVERY cardholder in the elevator panel, even if that floor is not in their card’s access group. Therefore, do not enable a free floor in the Default Floor Group if you do not want it to be allowed access to a cardholder unless it is allowed through an access group. See the section on creating access groups later in this chapter.

1. Open the Otis Elevator Configuration screen, from menu Configure > Hardware > Otis Elevator.
2. Select the Otis cluster name and OEI Board (these should be already selected if your system has only one Otis loop and only one elevator control panel
3. Click EDIT button.
4. On the right side of the screen, select the ‘Default Floor Group’.
2.12.1 SETTING THE DEFAULT DEC MODE (System-wide Default)

The Default Floor Group’s DEC Mode is always assigned to every DEC in the system (system-wide default). The Default DEC Mode is the only mode calculated for every DEC unless you assign an Optional Floor Group with a different mode to every DEC.

**IMPORTANT – ‘ALWAYS’ Schedule:** The Default Floor Group (0) only uses the ‘ALWAYS’ time schedule. In System Galaxy, the ‘ALWAYS’ time schedule is always active (on/green) every day/all day (i.e. 24/7).
   - The Default Floor Group’s time schedule selection is set to ‘ALWAYS’ and cannot be changed.
   - The ALWAYS Time Schedule cannot be changed or deleted thru the Time Schedule Programming screen.

**IMPORTANT – DEC Mode Override:** Every DEC uses the Default Mode until it is overridden by an Optional Floor Group. Optional Floor Groups (1-10) must be manually assigned to each DEC as desired. Optional Floor Groups are only calculated when their time schedule is active (green) and only if they are assigned to a DEC.

**IMPORTANT:** Each DEC assumes the mode of the highest number Floor Group that is active and assigned to it.

5. Select the Default DEC Mode as desired. When deciding which mode to use, you should consider how you want every DEC to operate when no other Floor Groups are assigned.

   » **Mode-2 (Card 1st Operation):** all DECs will prompt everyone to present a card. Everyone must present a card at every DEC in the system unless it is overridden by an Optional Floor Group (1-10) whose mode is set to Mode-3.

     **TIP:** If all or most of your DECs need to be in Mode-2 all the time, or by default until overridden by an Optional Group, then it may be advisable to select Mode-2 as your default mode.

   » **Mode-3 (Floor 1st Operation):** all DECs will prompt everyone to enter a floor number. Everyone must enter their destination floor number before needing/presenting an access card unless the DEC Mode is overridden by an Optional Floor Group whose mode is set to Mode-2.

     **TIP:** If all or most of your DECs need to be in Mode-3 all the time, or by default until overridden by an Optional Group, then it may be advisable to select Mode-3 as your default mode.
2.12.2 ADDING MORE DOORS & NEGATIVE FLOORS

If you need to add more doors, floors or negative floors, you must do so in the Otis Elevator Config. screen. With this manual method, each Floor/Door is added individually.

**TIP:** You can also delete doors and floors from the Otis Elevator Config. screen as needed. You must be in edit mode and you must highlight the floor name you wish to delete.

6. While in edit mode, click the [Add New Floor] button. The Otis Elevator Floor Properties dialog window opens.
7. Enter the floor number you want to add (-127 to 127 is valid)
8. Select whether this floor will have a main door or back door
9. Enter a logical description for this floor/door
10. Click OK and the new floor will be added to the Floor/Door list view.

![Otis Elevator Floor Properties dialog window](image)
2.12.3 ENABLING THE DEFAULT FREE FLOORS (System-wide Default)

The Default Free Floors are assigned to all DECs in the system at all times. These floors are never overridden by free floors from higher Optional Floor Groups. Free floors from Optional Floor Groups are added to the default free floors only when an Optional Floor Group’s schedule is active (green). See the section on configuring Optional Floor Groups in this chapter.

**IMPORTANT:** Be aware that enabled free floors in the Default Floor Group are ALWAYS enabled/assigned to every DEC in the entire system, even when an Optional Floor Groups are also in effect.

**IMPORTANT:** Unassigned and inactive Optional Floor Groups do not add free floors to the DEC(s).

11. Enable the Default Free Floors as needed:

- **To enable a free floor, you must ‘check’ its checkbox**
  
  **TIP:** If there is a front and back door on the elevator floor, you must check the doors you want to be free. Unchecked floor doors are not free.

- **If you are using Mode-3 (Floor 1st Operation) all DECs will prompt everyone to enter a floor number. Everyone must enter their destination floor number before needing/presenting an access card unless the DEC Mode is overridden by an Optional Floor Group whose mode is set to Mode-2.**

  **TIP:** If all or most of your DECs need to be in Mode-3 all the time, or by default until overridden by an Optional Group, then it may be advisable to select Mode-3 as your default mode.

12. Click **APPLY** to save changes.
2.13 CONFIGURING OPTIONAL FLOOR GROUPS (1-10)

The *Optional Floor Group* is can be assigned to any DEC in the system. The DEC assumes the Operating Mode and free floors of the *Ranking Active Floor Group* (highest number that is assigned and active). So it is important to carefully consider how you configure these floor groups.

**Optional Floor Groups can be used to:**

» temporarily override or change the DEC operating mode at assigned DECs.

» or temporarily add more free floors at assigned DECs.

» Or both (change the mode and add free floors)

You can assign an *Optional Floor Group* to a few DECs or every DEC.

---

It is also possible to permanently override a DEC Operating Mode if you give the Floor Group the ALWAYS schedule. Likewise you can permanently add more free floors with this method. Only the DECs assigned to the “perma-override” Floor Group will be affected. Remember not to assign a higher ranking temporary floor group to these DECs unless you truly want to temporarily change the DEC mode and free floors.

---

**IMPORTANT NOTICES & TIPS**

» All changes to any Floor Group Programming must be loaded to the elevator panel using the GCS Loader Utility.

» Optional Floor Groups (1-10) use the time schedule you create/choose. See the earlier section about time schedules.

» When an Optional Floor Group’s schedule is inactive, its DEC mode is not considered or calculated and its free floors are no longer considered free.

» Each DEC Assumes the DEC Mode of the *Ranking Active Floor Group* (highest number that is assigned and active).

» Each DEC allows all the free floors from all assigned Floor Groups whose schedules are active.
2.13.1 RENAMING THE FLOOR GROUPS

1. Open the **Otis Elevator Configuration screen**, from menu *Configure > Hardware > Otis Elevator*.

2. Select the Otis cluster name and OEI Board (these should be already selected if your system has only one Otis loop and only one elevator control panel)

3. Click **EDIT** button.

4. On the right side of the screen, **select the desired ‘Floor Group’ (1-10)**.

5. Click [**Edit Group Name**] to rename the group to a logical name in your system (ex: ‘DEC-1 Added Free Floors’).
2.13.2 SETTING THE OPTIONAL FLOOR GROUP SCHEDULE & DEC MODE

The DEC Mode for an Optional Floor Group is should be assigned with careful consideration since it will override the Default DEC Mode. If the Optional Floor Group’s is assigned to a DEC, the DEC will use the optional DEC Mode when its schedule is active. When the schedule becomes inactive, the DEC will return to the Default DEC Mode.

IMPORTANT NOTICES

» All changes to any DEC Programming must be loaded to the elevator panel using the GCS Loader Utility.

» You can assign more than one Optional Floor Group to a DEC. In that case, the DEC uses the Mode from the Ranking Active Floor Group (highest number floor group that is active).

» You can also assign an Optional Floor Group to more than one DEC. In that case, all the assigned DECs will use the mode from the Ranking Active Floor Group (highest number floor group that is active).

6. Select the schedule you want this floor group to operate on.

7. Select the Default DEC Mode as desired. When deciding which mode to use, you should consider how you want the assigned DEC to operate when this Floor Groups is the ranking active group.

» Mode-2 (Card 1st Operation): all DEC will prompt everyone to present a card. Everyone must present a card at every DEC in the system unless it is overridden by an Optional Floor Group (1-10) whose mode is set to Mode-3.

» Mode-3 (Floor 1st Operation): all DEC will prompt everyone to enter a floor number. Everyone must enter their destination floor number before needing/presenting an access card unless the DEC Mode is overridden by an Optional Floor Group whose mode is set to Mode-2.

It is also possible to permanently override a DEC Operating Mode if you give the Floor Group the ALWAYS schedule. Only the DECs assigned to the “perma-override” Floor Group will be affected. Remember not to assign a higher ranking temporary floor group unless you truly want to temporarily change it.
2.13.3 ENABLING THE ADDITIONAL FREE FLOORS (Assigned per DEC)

The Additional Free Floors are only allowed at any DEC that has been assigned to the Optional Floor Group the free floor belongs to. These floors are never overridden by free floors from higher Optional Floor Groups. Free floors from Optional Floor Groups do not override the default free floors. Additional Free Floors are added to the collection of free floors that are allowed at a DEC only when the Optional Floor Group’s schedule is active (green).

IMPORTANT NOTICES

» All changes to any Floor Group Programming must be loaded to the elevator panel using the GCS Loader Utility.
» Do not duplicate a free floor that has already been assigned in the Default Floor Group.
» You do not need to duplicate a free floor that has already been assigned in an Optional Floor Group unless you need a different schedule.

8. Enable the Default Free Floors as needed:

» To enable a free floor, you must ‘check’ its checkbox

TIP: If there is a front and back door on the elevator floor, you must check the doors you want to be free. Unchecked floor doors are not free.

» If you are using Mode-3 (Floor 1st Operation) all DECs will prompt everyone to enter a floor number. Everyone must enter their destination floor number before needing/presenting an access card unless the DEC Mode is overridden by an Optional Floor Group whose mode is set to Mode-2.

TIP: If all or most of your DECs need to be in Mode-3 all the time, or by default until overridden by an Optional Group, then it may be advisable to select Mode-3 as your default mode.

9. Click APPLY to save changes.

It is also possible to permanently add more free floors to a DEC by setting the ALWAYS schedule. Only the DECs assigned to the “perma OVERRIDE” Floor Group will be affected. Remember not to assign a higher ranking temporary floor group unless you truly want to temporarily change it.
2.14 CREATING ACCESS GROUPS (Elevators, Floor Groups, & Interior Doors)

In the Access Group Programming screen, you must create each access group that you will need for the cardholders who use your elevator system.

IMPORTANT NOTICES

» All changes to Access Group Programming must be loaded to the elevator panel using the GCS Loader Utility.

» Any schedule you need for the access groups must already be created. If you have not created the time schedules, go to the Schedules screen and make your schedules. Close the Access Group screen to refresh its connection to the available schedules.

» It is recommended you use separate schedules for the elevator access groups than you used for floor groups. This way if you must change a schedule for a group of cardholders, you will not interfere with the floor groups.

» Elevator Access Groups must be created under the Otis Elevator Loop in order to provide access to elevator floors and the DEC readers that are mounted in the elevator lobbies.

» You cannot use Elevator Access Groups to give card access to interior doors, since Access Groups are loop-wide. Interior Door Access Groups must be created given privileges to the interior doors that the card needs to open.

2.14.1 CREATING AN ACCESS GROUP (Loop-wide)

1. Open the Access Group screen from the menu Configure > Cards > Access Groups.
2. Select the Otis Elevator Loop/Cluster name.
3. Click Add New schedule.
4. Enter a descriptive name for the access group in the Name field. You may want to indicate which cardholder group and which schedule are represented [i.e. Floors 2-6 (8-5); Apex Offices 7a-7p; Building Maint. 6-9pm;]
5. (optional) Set the date and time the access group is to become active and/or expire only if the access group will not be used immediately or will only be used for a certain length of time.
6. Do not check the Disable Access Group option (this option disables the access group and all its cardholders ).
2.14.2 ADDING AUTHORIZED DEC READERS & TIME SCHEDULES (for Cardholder access)

On the Access Privileges tab there is a list of ‘Unauthorized Readers’ (with red icons) that are available on the elevator loop/cluster. Readers on an interior door loop will not appear on the elevator loop.

IMPORTANT NOTICES

» All changes to Access Group Programming must be loaded to the elevator panel using the GCS Loader Utility.

» Cardholders who need access to their interior doors once they reach their approved floor, will require a second access group to be created on the appropriate loop with the correct time schedules for those doors.

» Interior door schedules and access groups must be made under the loop/cluster that controls interior doors.

» If you have not given logical names to the DEC readers, you may want to do that before you proceed. Close and reopen the Access Group programming screen to pick up your changes. Then restart these steps to ensure proper programming.

1. Select the Access Privileges tab.
2. Using your mouse and the keyboard <Ctrl> key, select each DEC reader needed.
3. Click the [→] button to place the selected reader in the ‘Authorized Reader’ list. The Time Schedule dialog window will open to allow you to choose the schedule used for this person’s access.
4. Choose the Schedule you want to give to the first reader in the list.
5. Set the [Use this schedule for all readers] option as needed:
   » Checking/enabling this option gives the chosen schedule to all the readers you have selected.
   » Unchecking this option will cause the software to prompt you to choose a schedule for each reader you are adding.
   » NOTE: you can also simply add the readers one-at-a-time if you find that less confusing.
   » will take this schedule unless you edit them individually (covered in a following step)
2.14.3 ADDING AUTHORIZED ELEVATOR FLOORS (for Cardholder access)

On the *Otis Elevator Floors* tab there is a list of Elevator Floors that are unselected (no blue highlights). These are available floors on the elevator loop/cluster. This tab does not appear on an *interior door loop*.

**IMPORTANT NOTICES**

- All changes to Access Group Programming must be loaded to the elevator panel using the GCS Loader Utility.
- You must give access to the elevator floors the cardholder needs to access.
- *If you have not given logical names to the Elevator Floors, you may want to do that before you proceed. Close and reopen the Access Group programming screen to pick up your changes. Then restart these steps to ensure proper programming.*
- *If you have not finished adding any elevator floors that were not dynamically created when the elevator controller was added, then you should go do that before you proceed. Again you must refresh the Access Group screen by closing and reopening it to pick up the new floors.*

6. Select the **OTIS Elevator Floors tab**.
7. Select the OEI Board – there should be one.
8. Using your mouse and the keyboard <Ctrl> key, **select each Elevator Floor** as needed.
   a. Selected floors are highlighted blue
   b. Unselected floors are not highlighted
9. Click **APPLY** button to save changes now unless you want to add notes before saving (see next section).
2.14.4 ADDING NOTES TO THE ELEVATOR ACCESS GROUP

On the Notes tab there is a text field provided that allows the system administrator to enter notes about the access group. This is a good place to save any pertinent information about this access group. For organizational purposes it is a good idea to place notes in the Elevator Access Groups that help you understand who uses this group and how to manage the group.

Likewise, it is a good idea to include notes on access groups for your interior door groups when you create them.

IMPORTANT NOTICES

» All changes to Access Group Programming must be loaded to the elevator panel using the GCS Loader Utility.

» Notes are optional and do not affect the functionality of the access group.

7. Select the Notes tab and enter information as desired.

8. Click APPLY button to save changes.
2.15 ASSIGNING ACCESS GROUPS TO CARDHOLDERS (Floors & Interior Doors)

In the Cardholder Programming screen, you must create a cardholder record and assign an access card with access privileges for the elevator readers & floors and any interior doors needed.

Consult the System Galaxy Software User Guide for any cardholder programming instructions that are outside the scope of this Otis Elevator interface document.

IMPORTANT NOTICES

» All changes to Cardholder Programming must be loaded to the elevator panel using the GCS Loader Utility.

» You can apply the elevator access privileges and interior door access privileges to the same card. But you can supply separate cards if you desire to manage cards that way.

» SG supports multiple access groups (up to 4 per loop) on the access card

» SG supports multiple loop privileges on one access card.

» SG support giving multiple access cards to one cardholder, if you desire to provide multiple credentials.

2.15.1 ADDING A NEW CARDHOLDER

1. Open the Cardholder screen from the menu Configure > Cards > Cardholder.

2. If you are adding a new cardholder record, click Add New.
   » You must provide a last name for a new cardholder
   » Fill in and set any fields needed.

3. --OR-- Select the Cardholder name if it already exists in the system and click EDIT.
2.15.2 ADDING A NEW CARD

4. Select the Card / Badge Settings tab

5. Select the CARD 1 from the droplist

6. Set the correct Card Technology that you will issue to the cardholder

7. Type in the Card Code in the fields provided. (if you have an enrollment reader you can simply place your mouse cursor inside the ID code field by clicking it in the field – when the blinking cursor is inside the ID code field, you can swipe the card at the enrollment reader. The code will auto-populate in the card code fields)

8. choose ‘access card’ for the card role

9. (optional) set the active date and expiration date as needed.
2.15.3 ASSIGNING LOOP PRIVILEGES TO THE CARDHOLDER

In the Cardholder Programming screen you must assign the Elevator Loop Privileges to the card. This is done on the Card/Badge Settings tab.

IMPORTANT NOTICES

» All changes to Cardholder Programming must be loaded to the elevator panel using the GCS Loader Utility.
» You must assign the Elevator Loop to the access card.
» You must assign the appropriate elevator access group to the access card.
» You can assign the interior door loops and access privileges to the same card or to a separate card, whichever is appropriate for your system.

10. once you have the basic information entered you can set the loop privileges

11. Select the Card / Badge Settings tab

12. Click the EDIT LOOPS button

13. Use the [→] button to move the elevator loop to the ‘Authorized Loops’ list. If you also want to assign the interior door loops to the same card, you can do that now. If you need to enroll a separate card for interior doors, then return to step 4 to do this after you are finished programming Card 1.

14. Click OK to return to the Card / badge Settings screen.
## 2.15.4 ASSIGNING ACCESS GROUPS TO THE CARD

In the Card/Badge Settings tab, you must assign the elevator Access Groups to the card.

### IMPORTANT NOTICES

- All changes to Cardholder Programming must be loaded to the elevator panel using the GCS Loader Utility.
- You must assign the Elevator Loop to the access card before you can add the access groups.

15. once you have assigned the loop privileges, you can assign access groups to this card.

16. begin by selecting the Elevator Loop Name.

17. use the four Access Group droplists to set access groups for this card. You can set up to four access groups.

   **Personal Door programming is not supported for elevator loops.**

18. If you are also setting interior door access you can now select that loop and then set the access groups for it. Again you can set up to four Access Groups for this loop. Personal Door programming is supported for interior door loops. Consult the SG 10 Software User Guide for details on how to program personal doors.
2.15.5 ASSIGNING OTIS ‘SPECIAL DESTINATION FEATURES’

On the Personal tab you can enable the Otis Special Destination Features for a cardholder. These features are represented by checkbox options, which are cardholder-specific.

Otis Compass™ System must be specifically configured to recognize these Special Destination Features and respond to them by providing the appropriate passenger accommodation.

System Galaxy passes the special feature indicator to the Otis System when the card is presented at a DEC Reader (i.e. elevator reader). When these features are unchecked the indicators are not passed by System Galaxy.

**SPECIAL DESTINATION FEATURES ARE SUPPORTED BY GALAXY:**

» **Physical Disability:** When checked, this indicates the cardholder has a disability. The Otis system recognizes this indicator and can be set up to provide special accommodations (such as dispatching an adjacent car, extended time to board an elevator car, provide audible announcements at each floor).

» **Vertigo:** When checked, this indicates the cardholder experiences vertigo. The Otis system can be set up to accommodate this passenger by not dispatching them to a glass elevator.

» **VIP option:** When checked, this indicates the cardholder is a VIP. The Otis system can be set up to dispatch an empty elevator car that runs non-stop to the destination floor.

» **Split Group:** When checked, this indicates the cardholder is belongs to a split group. The Otis system is set up to recognize this person as belonging to a separate group of passengers who use separate elevator cars that are not used by the general population, (such as service elevators where technical or service staff do not mix with regular guests).

1. Select the *Personal tab* and locate the special flags in the middle part of the screen under the main photograph.

2. Check the appropriate flag for the cardholder
3 EVENT LOGGING AND REPORTS

This section covers the operational tasks, such as event logging and reports.

3.1 LOADING THE ELEVATOR PANEL

After you have completed the system programming, you must load the data to the elevator control panel. Data is loaded using the GCS Loader Utility. When you perform a load, the time, schedules, access groups, cards, floors, DECs, Floor Groups and other data is transmitted to the control panel and stored in the panel’s memory.

1. Open the System Galaxy Hardware Tree from the menu View > Hardware Tree.
2. Right click on the Loop icon for the Otis Elevator Loop.
3. Select LOAD from the context menu. The GCS Load Utility will open.
3.2 SYSTEM GALAXY ELEVATOR EVENTS

System Galaxy displays the elevator events in the Event Logging screen for the elevator loop. The following events that are logged from the elevator panel.

1. **Invalid Access Attempt** – is logged when a card is not authorized because the schedule is inactive or the card has not been assigned to an elevator access group that has permissions to use the DEC Reader that the event came from. The reader name is indicated along with the event.

2. **Otis Audit – Invalid Credential Received from Security System** - this is the accompanying Otis event for the Invalid Access Attempt. It may indicate which floor/door was requested.

3. **Valid Access** - is logged when a card is authorized because the scheduled is active and the card is assigned to an access group that has permission to use that reader.

4. **Otis Audit – Bank #, Car # assigned** - this is the accompanying Otis event for the Valid Access event. It indicates which floor# was requested and which elevator Bank and Car # was dispatched. It is up to the passenger to board the correct elevator car and exit on the correct floor.

5. **Otis Audit – Destination Request not authorized** - this is the accompanying Otis event for a Valid Access event when the reader is not assigned to the cardholder’s access group.

6. **FREE FLOORS do not generate an event log to the panel from the Otis System.** The Galaxy Panel does not log a card event because no card is used to request a free floor.

**IMPORTANT NOTICES**

- If the IP connection between the control panel and the event server are interrupted, the panel will remain fully functional (i.e. does not go into a degraded operating mode). The panel continues to function as programmed. The panel will retransmit its event buffer when the IP connection is restored.

- If you close the System Galaxy software or log out of System Galaxy or out of the Windows operating system (change operators), the event service and other Galaxy services are designed to continue running. Events continue logging to the database and are then available on system event reports.

- If you turn off (shut down) the computer running the Galaxy services, the elevator panel will remain fully functional (i.e. does not go into a degraded operating mode). The panel continues to function as programmed. The panel will retransmit its event buffer when the IP connection is restored.
3.3 SYSTEM GALAXY ELEVATOR AUDIT REPORT

The Elevator Activity Report contains the logs from the elevator loop. The report is generated from the Otis Elevator Configuration screen. The same events are on this report as are logged in the Event screen. Free floors do not appear on this report since no card was used to gain access.

- **Invalid Access Attempt** – is logged when a card is not authorized because the schedule is inactive or the card has not been assigned to an elevator access group that has permissions to use the DEC Reader that the event came from. The reader name is indicated along with the event.

- **Otis Audit – Invalid Credential Received from Security System**: this is the accompanying Otis event for the Invalid Access Attempt. It may indicate which floor/door was requested.

- **Valid Access** - is logged when a card is authorized because the scheduled is active and the card is assigned to an access group that has permission to use that reader.

- **Otis Audit – Bank #, Car # assigned**: this is the accompanying Otis event for the Valid Access event. It indicates which floor# was requested and which elevator Bank and Car # was dispatched. It is up to the passenger to board the correct elevator car and exit on the correct floor.

- **Otis Audit – Destination Request not authorized**: this is the accompanying Otis event for a Valid Access event when the reader is not assigned to the cardholder’s access group.

- **FREE FLOORS do not generate an event log to the panel from the Otis System.** The Galaxy Panel does not log a card event because no card is used to request a free floor.

1. Open the Otis Elevator Configuration screen, from menu **Configure > Hardware > Otis Elevator**.
2. Click **REPORT** button (TOP RIGHT CORNER).
3. Select the **date & time range** you want to view.
4. Click **OK** – the report will open in a separate Crystal Report window and can be printed or saved.

### OTIS Elevator Activity

<table>
<thead>
<tr>
<th>Date Time</th>
<th>Person</th>
<th>Floor Requested</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/10/2012 1:17:08PM</td>
<td>security, gramlich</td>
<td>Floor 3 (Man Door)</td>
<td>Group 1, Car 2 assigned</td>
</tr>
<tr>
<td>4/10/2012 1:17:35PM</td>
<td>security, gramlich</td>
<td>Floor 7 (Man Door)</td>
<td>Group 1, Car 2 assigned</td>
</tr>
<tr>
<td>4/10/2012 1:17:43PM</td>
<td>security, gramlich</td>
<td>Floor 8 (Man Door)</td>
<td>Group 1, Car 2 assigned</td>
</tr>
<tr>
<td>4/10/2012 1:34:00PM</td>
<td>security, gramlich</td>
<td>Floor 3 (Man Door)</td>
<td>Group 1, Car 8 assigned</td>
</tr>
<tr>
<td>4/10/2012 4:37:06PM</td>
<td>security, gramlich</td>
<td>Floor 0 (Man Door)</td>
<td>Invalid Credential Received from Security System</td>
</tr>
<tr>
<td>4/10/2012 4:37:11PM</td>
<td>security, gramlich</td>
<td>Floor 0 (Man Door)</td>
<td>Invalid Credential Received from Security System</td>
</tr>
<tr>
<td>4/10/2012 4:37:14PM</td>
<td>security, gramlich</td>
<td>Floor 0 (Man Door)</td>
<td>Timeout Occurred, DEC Timed-Out waiting for Destination Request entry</td>
</tr>
<tr>
<td>4/10/2012 4:37:22PM</td>
<td>security, gramlich</td>
<td>Floor 0 (Man Door)</td>
<td>Invalid Credential Received from Security System</td>
</tr>
<tr>
<td>4/10/2012 4:42:00PM</td>
<td>security, gramlich</td>
<td>Floor 7 (Man Door)</td>
<td>Group 1, Car 1 assigned</td>
</tr>
</tbody>
</table>
4 Troubleshooting, Resources, & Glossary

This chapter includes the troubleshooting tips, resources and glossary.

4.1 TROUBLESHOOTING

You can find out which DECS are online by interrogating the OEI board with special commands. To determine what DECS are listed at the OEI Board and their online status, you can use a terminal emulator to issue an “online” command and a “rows” command.

4.1.1 GALAXY OEI UPDATE MESSAGES TO OTIS SYSTEM & DECS

There are three times the OEI Board sends an update message to the Otis System. The update includes the DEC Operating Mode, the Operating Schedule, and the Public List of Floors (allowed).

1. A message is sent any time the OEI negotiates a connection to the Otis System. This occurs whenever the OEI board comes online, or when the Otis DES comes online.

2. A message is sent once per second for each DEC that is ‘pending’ an update. The OEI gets these pending updates from the CPU whenever a change occurs to a floor group. Floor Group updates happen for the following reasons.
   a) Changes are made in the software programming of the floor group and loaded to the CPU.
   b) When an existing floor group schedule becomes active or inactive.

3. A message is sent whenever a card authorization is issued from Galaxy. The authorization or denial is sent along with floor group programming updates.
4.1.2 GET A LIST OF DECS AT THE OEI BOARD

IMPORTANT NOTES

» When the OEI board is connected to the network, the DES/DER will send the list of DECs and their configuration to the OEI. System Galaxy also sends its list of DECs and the floor group configuration to the OEI board.

» If a DEC goes offline after it was sent to the OEI, it will remain in the OEI list, but its status will change to ‘OFFLINE’.

» If a DEC is programmed in Galaxy (and loaded to the panel), but is not present in the Otis configuration, then the DEC will be listed with an ‘offline’ status.

The **online command** will return the list of DECs that the OEI Board is communicating with through the Otis Compass System. If a DEC doesn’t seem to be responding to the access control system or does not update its floor groups or DEC operating modes, you can query the DEC list to prove the OEI knows about the DECs. use a terminal emulator, such as Putty or HyperTerminal to issue the **online command**.

1. Connect one end of the Galaxy **hardware programming cable** to the OEI Board’s 9-pin serial port.
2. Connect the other end to the PC’s COM port (serial port).
3. And start the terminal emulator as appropriate and set up the connection parameters.
   - Bits per Second = 57,600K
   - Data Bits = 8
   - Parity = None
   - Stop Bits = 1
   - Flow Control = None
4. Type ‘online’ (without the quote marks) into the emulator window.
5. The Galaxy OEI Board will list every DEC that it knows about.
   - The DEC number/name, its IP Address, its assigned DEC Operating Mode, as well as its last known status (online vs. offline) will be displayed.
6. If a DEC is listed as ‘offline” it could be because it has lost it’s network connectivity. Make sure the DEC is actually configured in the Otis System and is properly connected to the Otis system.

**IMPORTANT:** the OEI Board can display “offline” status for a DEC that has been added from the System Galaxy programming and loaded to the elevator panel before it has been added to the Compass system or been connected. To determine if the extra DEC is caused by this situation, you can cold start both the CPU and OEI board in the panel. After the boards are cold started, issue the ‘online’ command again and should see that the extra DEC(S) went away. If you really needed the extra DEC, configure and connect it in the Compass system and Load Data from System Galaxy’s GCS Loader program.
4.1.3 GET A LIST OF FLOOR GROUPS AT THE OEI BOARD

The **rows command** will return the list of Floor Groups that the OEI Board knows about. The Floor Groups are given a DEC Mode and the free floors are enabled as needed. If a DEC doesn’t seem to be responding to the free floors or DEC operating modes, you can query the Floor Group List to prove whether the OEI knows about the Floor Groups. Use a terminal emulator, such as Putty or HyperTerminal to issue the **rows** command.

1. Connect one end of the Galaxy hardware programming cable to the OEI Board's 9-pin serial port.
2. Connect the other end to the PC's COM port (serial port).
3. Start the terminal emulator as appropriate and set up the connection parameters.
   - **Bits per Second** = 57,600K
   - **Data Bits** = 8
   - **Parity** = None
   - **Stop Bits** = 1
   - **Flow Control** = None
4. Type ‘rows’ (without the quote marks) into the emulator window.
5. The Galaxy OEI Board will return a list every Floor Group 0 and 1 thru 10.
   - The Floor Group number
   - The DEC Operating Mode assigned to the floor group
   - The free floors that are assigned to the floor group. The floors that are assigned free will be designated with an “A” for allowed. Floors that require authorization do not have a letter designation.
## 4.2 DOCUMENTATION RESOURCES

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galaxy 600-635 Hardware Manual</td>
<td>Installation and configuration of Galaxy 600-635 Hardware</td>
</tr>
<tr>
<td>System Galaxy v10 Software Manual</td>
<td>Configuration of System Galaxy software</td>
</tr>
<tr>
<td>System Galaxy v10 System Specification</td>
<td>System, OS, PC, Network requirements, etc.</td>
</tr>
<tr>
<td>Galaxy 635 Configuration Tool</td>
<td>How to install and use the browser-based configuration tool to configure hardware boards in the 635 panel.</td>
</tr>
</tbody>
</table>
### 4.3 GLOSSARY (TERMS & ACRONYMS)

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allowed Floors</strong> (free access)</td>
<td>Elevator floors that are <em>allowed</em> free-access (e.g. free floors to general public); no access card required to dispatch an elevator car. Free floors are defined in the floor group programming.</td>
</tr>
<tr>
<td><strong>Audit Message</strong> (Otis)</td>
<td>Otis event messages come back to SG. They include the cardholder identity, which floor was requested and which elevator car was dispatched by Otis. <em>Floor requests and car dispatches for free floors are not logged to System Galaxy.</em></td>
</tr>
<tr>
<td><strong>Authorized Floors</strong> (aka. restricted floors)</td>
<td>All floors are treated as authorized floors unless they are designated to be a free floor. Floors that require a passenger to present valid access credentials (card).</td>
</tr>
<tr>
<td><strong>DEC</strong> (Otis)</td>
<td><em>(Destination Entry Computer);</em> the Otis DEC is a keypad (push button or touch-screen) that is mounted in the elevator lobby. It allows a passenger to select a floor number from outside the elevator car and displays the <em>most-appropriate</em> car number for the person to board.</td>
</tr>
<tr>
<td><strong>DEC Mode-2</strong> (Otis)</td>
<td><em>(Card 1st Mode - DEC keypad is restricted – i.e. “authorized occupants only”) Users must present valid credentials at the DEC reader before choosing a floor number.</em> NOTE: The card must be valid in the Galaxy OEI Panel (i.e. have access to a floor through Galaxy cardholder access group rules). Once a card is presented and a floor number (free or valid) is chosen, an elevator car is dispatched.</td>
</tr>
<tr>
<td><strong>DEC Mode-3</strong> (Otis)</td>
<td><em>(Floor 1st Mode - DEC keypad open to public) User chooses a floor number at a DEC keypad before presenting an access card. An elevator car is dispatched if the floor is free.</em> If the floor is restricted to authorization, the DEC will prompt user for card.</td>
</tr>
<tr>
<td><strong>DES / DER</strong> (Otis)</td>
<td><em>(Destination Server/Redirector);</em> The DES dispatches elevator cars using inputs from Galaxy OEI Board (card access and floor-group programming) to control the DECs.</td>
</tr>
<tr>
<td><strong>Destination Features</strong> (Otis)</td>
<td><em>Destination Features</em> are special indicators that identify whether a passenger is a VIP or has a handicap or vertigo. These indicators are assigned to the cardholder and are passed to Otis when an access decision is transmitted from the OEI panel.</td>
</tr>
<tr>
<td><strong>Floor Group 0, default</strong></td>
<td>Mandatory default floor group, which is always assigned to every DEC in the system.</td>
</tr>
<tr>
<td><strong>Floor Group (1-10), optional</strong></td>
<td>Floor Groups (1 - 10) can be optionally assigned to any DEC (or multiple DECs). Floor groups control which DEC Mode is used at a DEC, as well as which (if any) elevator floor/doors are allowed free access.</td>
</tr>
<tr>
<td><strong>OEI Panel</strong> (Galaxy)</td>
<td>Galaxy elevator control panel that provides elevator access control for Otis system.</td>
</tr>
<tr>
<td><strong>OEI Board</strong> (Galaxy)</td>
<td>Galaxy ‘Otis Elevator’ Interface Board; connects via Ethernet to Otis Layer-3 switch. The OEI board is a modified CPU board.</td>
</tr>
<tr>
<td><strong>Ranking Active Floor Group</strong></td>
<td>The <em>highest floor group number</em> at a DEC whose schedule is also active.</td>
</tr>
<tr>
<td><strong>SG</strong> (Galaxy)</td>
<td>SG acronym for System Galaxy; refers to the hardware or software (as appropriate).</td>
</tr>
</tbody>
</table>