Overview and Application Guide for Mitsubishi Integration with Access Expert

Version 1.0
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Introduction:
Destination Dispatch is a licensed feature for Access Expert and used when customers are modernizing their elevator systems or deploying newer ones which do not utilize the relay-based approach for floor control and selection. Within Access Expert, 5 different elevator platforms are supported which include Mitsubishi, Otis, Kone, Schindler and ThyssenKrupp. For this document, we will focus on a Mitsubishi deployment and the steps needed to complete a Mitsubishi Destination Dispatch integration. Though something which would not be commonly done, it is possible to mix different destination dispatch deployments form different manufacturers on the same Access Expert system at the same time.

The Mitsubishi integration supports up to 128 total floors of control. When using front and rear entry points within the elevator cab(s), each entry point is considered to a separate destination. This means a 32-story building using front and rear entry points will result in 64 individual destinations. Though front & rear entry points are not common in most public area elevator deployments, it is common in freight elevators.

The Mitsubishi integration is achieved at the controller level and the interaction with the Mitsubishi system is executed at the controller level. This means there is no operational dependencies on the Access Expert hosted instance.

Prerequisites:
1. Access Expert System
2. Mitsubishi Destination Dispatch License
3. Appropriate Reader Licenses
4. AX-LP4502
5. Coordination with the Elevator Contractor
6. Network connectivity between the Access Expert system and the elevator system
7. Instance Settings needs to be modified to represent the number of floors to be controlled as Access Expert defaults to 128
8. The Mitsubishi Destination Dispatch integration requires the use of an LP4502 controller. You will need to use a USB to connect to the controller. The recommended adapters is an LP4502 with Micro-B USB adapter (Recommended by Mercury: **Pluggable USB2-OTGE100**)

It is advised that the installation team work closely with Mitsubishi to fully understand how the Mitsubishi system is being deployed. There are several ways the elevator system can be deployed which will impact the programming and configurations on the Access Expert system. In some cases, the settings associated with the Person Page contained in this document may not be utilized as it may be achieved through other avenues and/or Access Levels.

Overview:
A Mitsubishi Elevator Compass Destination Dispatching System model was created so that the LP4502 can inform a DEC (Destination Entry Computer, E.g. touch screen or keypad) allowed and authorized floors for a cardholder. This feature is only supported on the LP4502. This integration would be used instead of the traditional relay Input/Output approach which has historically been used. This feature is only supported on the AX-LP4502.

Instance Settings
Access Expert defaults to 128 floors to be controlled. This value is mapped to the elevator system and if not changed to reflect your specific deployment, will cause errors in the Mitsubishi operations. To change the default setting:

1. Navigate to General Configuration Tab.
2. Select Instance Settings
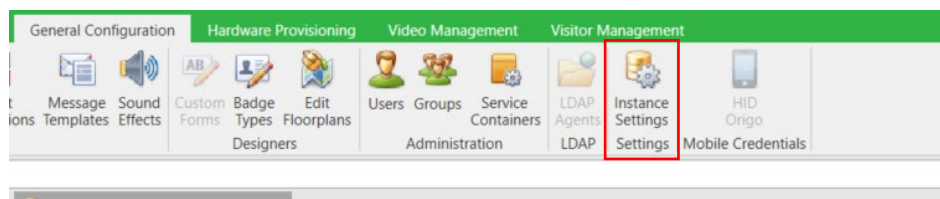
3. Change the Maximum Elevator Floors value from 128 to the actual number of floors to the building to be controlled. Ie. If the building has 50 total floors but you will only be controlling a total of 20 then you would enter a value of 20.
4. Click Save & Close

Hardware Setup
1. Plugin the USB adapter to the controller and connect the Ethernet cable for the NIC2 to the Mitsubishi network.
2. Log in to the controller page and navigate to the Network page
3. Under Interface 2 (NIC2), select Static IP
4. Type 192.168.50.250 in the IP address field.
5. Type 255.255.255.0 in the subnet mask field.
6. Click on Accept at the bottom of the page.
7. Navigate to Apply Settings.
8. The controller should reboot to apply the changes.

From the Mercury, Controller web interface ensure the following routes are configured.

Advanced Networking

	Destination	Gateway	Genmask	Interface	Type
☐	0.0.0.0	192.168.0.1	0.0.0.0	eth0	net
☐	192.168.0.0	0.0.0.0	255.255.255.0	eth0	net
☐	192.168.1.0	192.168.50.254	255.255.255.0	eth1	net
☐	234.0.0.0	0.0.0.0	255.0.0.0	eth1	net

Delete	New Route		Reload Table

Clear Route Table

Caution: Deleting the wrong route can lead to an unresponsive board. The routing table can be restored by performing a bulk erase.
Note: The Routing table should only be edited if needed.
Note: The Routing table needs to be reconfigured after changing any network settings.

Controller Page

1. On the LP4502 controller page, navigate to the "Destination Dispatch" Tab.
2. Select Mitsubishi from the drop-down menu.
3. Check the "Make Mitsubishi Controller" box.
4. Update the floor offset to reflect your Mitsubishi setup. The offset must be greater than or equal to 0. Make sure to take into consideration this offset when assigning elevator floor access.
5. Enable "Has front and rear floors" if your Mitsubishi setup has front and rear floors. Make sure to take into consideration this flag when assigning elevator floors access.
6. Enable the "Primary Mitsubishi controller" option if this is the primary Mitsubishi controller.
7. Press Save.
8. Issue a "Push Controller Database" command.

LP4502 in AX Demo

Add Downstream ▾   Actions ▾

Destination Dispatch System   Mitsubishi Destination Dispatch

Mitsubishi Destination Dispatch

Make Mitsubishi Controller: ☐

Floor Offset: 0

Has front and rear floors: ☐

Is Mitsubishi Primary: ☐

Note: The Mitsubishi Destination Dispatch Systems can only support one primary LP4502. In order to support multiple LP4502's, a Primary and Secondary needs to be configured. The Primary LP4502 will manage communications to the Mitsubishi DDS. Communications between the Mitsubishi DDS and the Secondary LP4502's will have to go through the Primary LP4502.

Reader Page

Once the Interface Controller has been saved, add/Navigate to a reader attached to the Controller, and move to the elevator tab. The readers must be on the regular Mercury downstream modules or attached to the LP4502. Because of this, the actual reader setup is similar to a regular door/elevator deployment with the addition of new settings on the Elevator Tab. Once the Elevator Type is set to Destination Dispatch, a series of settings will be enabled and displayed. You will be presented with a WARNING Message when the Elevator Type is selected. This message is normal, and you should select YES.

1. On the reader page, navigate to the "Elevator" tab and select " Mitsubishi Destination Dispatching" as the Elevator Type.
2. Set the Security Access Controller ID. This is configured on the Mitsubishi head end and will be entered here.
3. Set the Operation Display Controller ID. This is configured on the Mitsubishi head end and will be entered here.
4. Set the Opdc Floor Offset. This is configured on the Mitsubishi head end and will be entered here.
5. The Verification location can be either the Elevator Lobby HOP or Turnstile Gate. This is the location of the reader that is being programmed in relation to the elevator.
6. Set the boarding location for the reader. The front of back of the elevator.
7. Set the boarding floor (as set in Mitsubishi).
8. Set the Reader ID (as set in Mitsubishi).
9. If desired, select an Override Elevator Access Level. This will allow a set of floors to be public during defined schedules.
10. Press Save.

| Elevator Type:	Mitsubishi Destination Dispatching
Security Access Controller ID:	0
Operation Display Controller ID:	0
Opdc Floor Offset:	0
Verification Location:	Elevator Lobby HOP
Boarding Location:	Front
Boarding Floor:	0
Reader ID:	0
Elevator Input Downstream:	No Downstream
Elevator Output Downstream:	No Downstream
First Input Address:	0
First Output Address:	0
Number of Floors:	0
Elevator Relay Time:	0
Elevator Push Button Time:	0
Override Elevator Access Level:	No Elevator Access Level
Offline Override Elevator Access Level:	No Elevator Access Level
Assign Elevator Floors	

Person Page

Once the reader has been saved, navigate to the person(s) who you want to grant access to the destination dispatch and select the new destination dispatch tab at the bottom of the page this will take you to a new Destination dispatch tab.
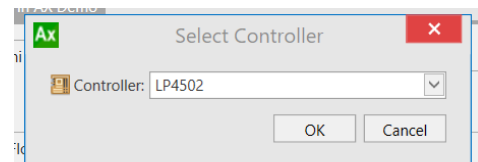
1. On the person page, navigate to the "Destination Dispatch Settings" tab.
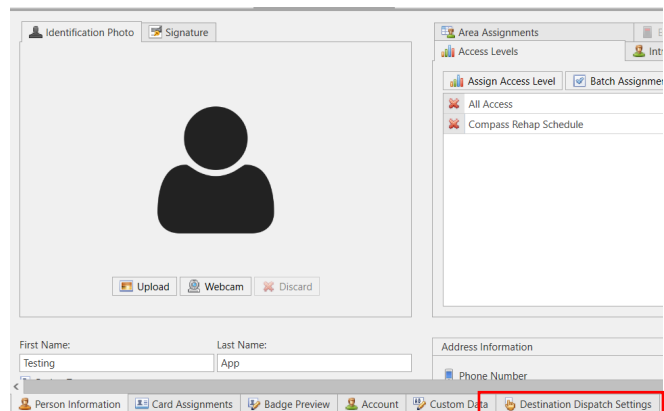
2. On the "Mitsubishi Settings" tab, click on "Add Mitsubishi Setting".
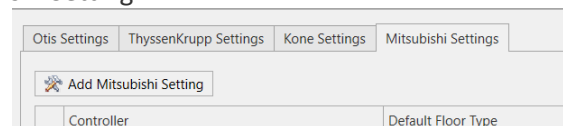
3. Select the Mitsubishi controller and press OK.

4. Select a Default Floor Type as Front or Rear.
5. Select Card Holder Flags. Note that only one may be selected. The Card Holder Flags are attributes' of the Mitsubishi system