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Replacing a Redundant AM3440 Controller March 21, 2012

If an AM3440 with redundant controllers has a loss of one of the controllers, it is a simple procedure to replace the failed controller. Just install the new controller in place of the failed controller. Controllers can be replaced in a hot swap procedure. No need to power down the system to replace a failed controller.

The next step is necessary only if the new backup controller has a firmware version that is different than the primary controller. If the backup controller is not the same firmware level as the primary, the main system screen will show the message "Redundant Controller: Disabled". See below.

```
LOOP AM3440-A          === Controller Menu ===          06:36:06
03/21/2012

Serial Number   : 173031          Redundant Controller: Disabled
Hardware Version: Ver.H          Start Time    : 02:20:16 03/21/2012
Software Version: V8.19.01 11/30/2011  Device Name: LOOP AM3440-A
```

For the redundant controller to be functional, the primary and redundant need identical firmware. To do this, use the "W -> Firmware Transfer" command shown below.

```
LOOP AM3440-A          === Controller Menu ===          06:37:40
03/21/2012

Serial Number   : 173031          Redundant Controller: Disabled
Hardware Version: Ver.H          Start Time    : 02:20:16 03/21/2012
Software Version: V8.19.01 11/30/2011  Device Name: LOOP AM3440-A

[DISPLAY]          [SETUP]
C -> System Configuration          S -> System Setup
B -> Clock source Configuration    M -> System Alarm Setup
Q -> Alarm Queue Summary          W -> Firmware Transfer
I -> Information Summary          V -> Store/Retrieve Configuration
R -> Redundant CTRL Information    K -> Clock source Setup
P -> Performance Report          T -> Bit Error Rate Test
```



When "W" is selected, the screen shown below appears. Select "R -> Copy Firmware to Redundant". This "Copy" procedure must be done twice, as there are 2 firmware banks in the controllers. Each "Copy" function will copy the firmware to one of the 2 firmware banks. If both firmware banks are not at the same firmware level, the redundant controller may revert to an older version after a reset or loss of power and no longer function as a redundant controller. Be patient. This entire process will take about 10 to 15 minutes.

```
LOOP AM3440-A          === File Transfer ===          06:37:50
03/21/2012

A -> Download Mainboard Firmware
C -> Download Configuration
D -> Upload Configuration
E -> Download Mainboard Boot-up
R -> Copy Firmware to Redundant
```

Questions:

Does the AM3440 system go down if primary controller fails?

No, the backup controller takes over in less than 50 milliseconds.

Which controller is the operational controller?

The operational controller is normally controller number 1. If the primary is pulled or fails, the second controller takes over. At the top of the controller board are 3 LEDs: Power, Active and Alarm. The "Active" LED flashes on the active controller.

How can I get the new primary to become the backup controller and the new replacement become the primary?

After both controllers have identical firmware and the main system screen shows "Redundant Controller Enabled", if controller number 2 is active, pull it, and controller number 1 will take over. Then re-insert controller number 2. There is no need to make controller number 1 the active controller, other than consistency with other units.

Do I need to copy the configuration from the primary to the redundant controller?

The configuration of the cards and the map are automatically copied from the primary to the redundant controller.

How do I know if the redundant controller is recognized and operational?

Check the main system screen near the upper right hand. If it shows Redundant Controller Enabled, then the redundant controller is recognized and operational.

How long does it take for the system to recognize the new controller and the AM3440 to become stable?

About 5 minutes.

