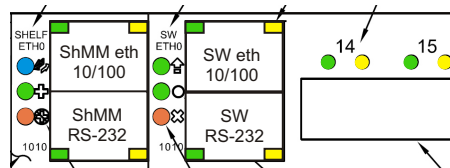


LED/Displays

Identification

The following table identifies the LEDs that are presented on the front panel of the ZX2010 FRU. For location and arrangement, see the drawing in the User Controls section.

Name	Color	Glyph	Location	Description
HotSwap	Blue		Front Bracket	Driven by the ShMM-500.
ShMM Active	Green		Front Bracket	Driven by the ShMM-500.
OOS	Orange		Front Bracket	Driven by the H8S IPMC and the ShMM-500.
OA ACTIVE	Green		Front Bracket	Driven by ShMM-500.
OA CLOCK	Green		Front Bracket	Driven by OA software.
OA FAULT	Orange		Front Bracket	Driven by OA software.
Sh-OOB LINK	Green	N/A	RJ45	Driven by ShMM-500 for Sh-eth0.
Sh-OOB ACT	Amber	N/A	RJ45	Driven by ShMM-500 for Sh-eth0.
Sw-OOB LINK	Green	N/A	RJ45	Driven by OA software for uP-eth0.
Sw-OOB ACT	Amber	N/A	RJ45	Driven by OA software for uP-eth0.
SFP+ Port Leds	Green Amber	N/A	Front Bracket Port 14-19 SFP+	Dual LED per SFP+ Port for Link and Activity Green Steady = 1G/10G Port Link Green Blink = 1G/10G Port Activity Amber Steady = Link Software Configured Down Amber OFF = Link Software Configured Up



- | | |
|----------------|-----------------------|
| HOT SWAP | ETH LINK (SOLID) |
| ShMM ACTIVE | ETH ACT (BLINKING) |
| OUT OF SERVICE | ETH Configured DOWN |
| OA ACTIVE | RS-232 (Undefined) |
| OA CLOCK | RS-232 ACT (BLINKING) |
| OA FAULT | PORT LINK (SOLID) |
| | PORT ACT (BLINKING) |
| | PORT Configured DOWN |

LED Behavior

This section documents how the LEDs that are not associated with network ports behave during all defined conditions, described from the point of view of the system operator. Beyond the reset state, all LEDs are under control of software running in one or more of the IPMC, ShMC, and PowerPC processors. Although the software specifications are outside the scope of this document, the end result of how the LED functions are defined here.

Lamp-Test Behavior

The ZX2010 provides a register bit accessible by the PowerPC that implements a lamp test. When set, all LEDs on the ZX2010 front panel and RJ45s will be in the ON state regardless of other inputs. When not set, the LEDs operate as described below.

HotSwap LED

The behavior of the HotSwap LED will be consistent with the ATCA specification. The LED and its corresponding HotSwap switch is connected to and driven by the ShMM-500 device, which will operate it as if it were hosted on a conventional CMM carrier. The behavior summary is as follows:

LED Condition	Meaning
Off	This indicates one of the following conditions: <ol style="list-style-type: none">1. The ZX2010 does not have power.2. The ZX2010 ShMC firmware has failed to boot.3. The ZX2010 is in normal operation. This condition will be corroborated by other LEDs.
Blinking	The ZX2010 is in transitional state. This has two sub modes as defined by the specification: <ol style="list-style-type: none">1. Long blink cycle means the transition is from deactivated to active.2. Short blink cycle means the transition is from activated to deactive.
On	The ZX2010 may be extracted.

Active

This LED is provided to indicate the Active/Standby state of ShMM-500. In a properly functioning ZX2000 system, only one ShMM-500 can be active at one time. If the Active LEDs on both ZX2010s in a single ZX2000 chassis are on at the same time for more than a brief transitional period, this should be considered an error condition requiring software diagnostics.

This LED has one color, and is driven by logic combined from the ShMM-500 and OpenArchitect.

LED Condition	Meaning
Off	This indicates one of the following conditions:

	1. The ZX2010 does not have power. 2. The ShMM-500 is not in the Active State.
On	The ShMM-500 is in the Active state.

OOS LED

The Out-Of-Service (OOS) LED is conventionally active when the FRU is not in service for one reason or another. In the case of the ZX2000, it represents the logical OR of the OOS state of the ShMM-500 and the payload. This table shows the resulting interpretation.

LED Condition	Meaning
Off	This indicates one of the following conditions: 1. The ZX2010 does not have power 48V input power. This will not be the case if any other LEDs are on. 2. The ZX2010 is in service.
On	This indicates either or both of the following conditions are true: 1. The ShMM-500 is Out of Service. 2. The payload power on the ZX2010 has been turned off by the IPMC.

Examining the other LEDs may refine the significance of the OOS LED when it is in the ON state. For example, if the OA CLK LED is blinking when the OOS LED is ON, then it can be inferred that the ShMM-500 is out of service instead of the ZX2010 payload section.

OA Active

This LED is driven by the OA Software to indicate Active state according to the following table:

LED Condition	Meaning
Off	The OA instance is either not booted or is not in an Active state.
On	The OA instance is in the Active state.

Unlike the ShMM-500, it is not an error state for both OA Active LEDs to be ON at the same time, since this is a supported configuration.

OA Clock

After the reset this LED is blinked by a software routine within OpenArchitect at roughly 1Hz to indicate that the software (and processor it is running in) is operating normally. This function is identical to all prior implementations of OpenArchitect.

OA Fault

The OA Fault LED is driven by software within OpenArchitect. The software can have any number of user-settable fault conditions that can be reported. For example prior implementations have defined the “EXT FAULT” LED to indicate the condition where some configured link does not have link-up status.

LED Condition	Meaning
Off	The OA Instance is either not booted or no Fault condition is detected.
On	OpenArchitect has determined that one or more of the configured fault conditions is true.

The list of supported fault conditions and how they are configured can be found in the OpenArchitect reference manual.