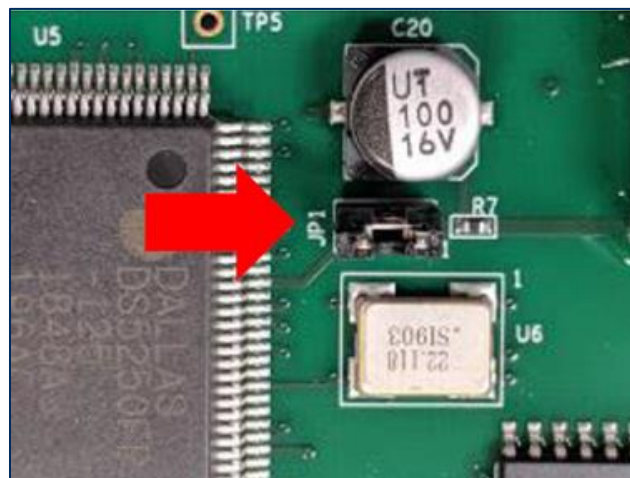
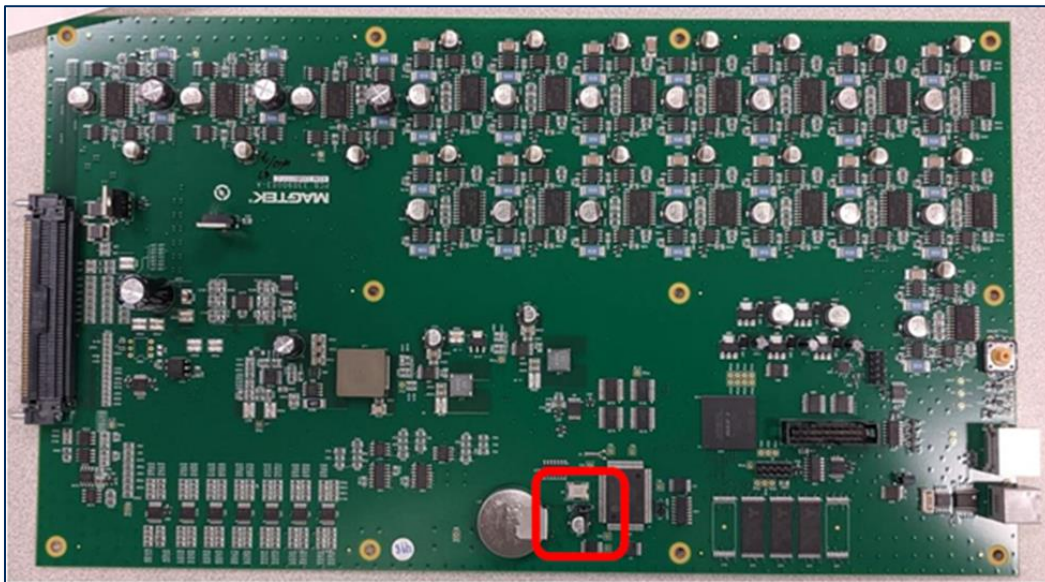


Service Bulletin

ExpressCard Main Logic Board (MLB) Handling and Troubleshooting Document Number D998200325-10

When working on and around the ExpressCard Main Logic Board (MLB) please note the following important details:

When handling or working around the MLB, **be careful not to remove jumper JP1**, shown in the photos below. Removing this jumper triggers a security response that completely erases the MLB's bootloader firmware. Restoring the device's functionality in this case requires reloading the bootloader, which requires an RMA to return the MLB to the manufacturer for rework or replacement.



To determine whether a problem is being caused by missing bootloader firmware, examine the device for the following symptoms:

- 1) **MLB LEDs:** Power on the device and observe the LEDs on the edge of the MLB facing the left side access door. In normal operation, the green LED **D1** is solid for 10-20 seconds during power-up initialization, then begins blinking. If **D1** does not turn on at all, as shown below, the MLB no longer has working bootloader firmware and must be returned to MagTek for service.



- 2) **Touchscreen / External Controller:** After a period of time, the touchscreen or external controller PC's display pops up an error dialog box reporting **Unable to start the MTECJobServer**. If an operator presses the **OK** button to close the dialog box, the touchscreen reports **Offline** as the device status, and **Error Opening Controller** as the reason.
- 3) **Remote Host:** A host sending transactions to the device using the network API receives responses containing Return Code **65**, **Error Opening Controller**.
- 4) If the device is exhibiting these behaviors, contact MagTek Support Services to make arrangements for RMA rework or replacement.

There is a related case where the device's firmware has become corrupted and must be reloaded, but the bootloader is still intact. This can generally be fixed in the field using the touchscreen or external controller PC and standard firmware update procedures, and does NOT require a return RMA. This behavior is different from the missing bootloader symptoms above:

- 1) **MLB LEDs:** **D1** on the MLB begins blinking immediately on power-up, instead of being permanently off (missing bootloader) or solid for 10-20 seconds (normal operation).
- 2) **Touchscreen / External Controller:** The touchscreen or controller PC's display reports **Offline** as the device status, and **Eject Bin Full** as the reason, even when there are no cards in the card output bin or in the card rejection bin. In the case of firmware problems, this indicates the software is having difficulty using the MLB to enumerate the status of all the device's sensors.
- 3) **Remote Host:** A host sending transactions to the device using the network API receives responses containing Return Code **28**, **Eject Bin Full**.
- 4) If the device exhibits all these symptoms, reload the device's firmware. See the ExpressCard service manual *D99875607*, section *Update the Firmware* for details.