



BIOS Messages

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POST Error Messages and Handling

The BIOS outputs the current boot progress codes to the System Event Log (SEL) and to the UCS Manager. Progress codes are 32 bit quantities plus optional data. The 32 bits include class, subclass, and operation information. The class and subclass fields point to the type of hardware that is being initialized. The operation field represents the specific initialization activity.

Based on the data bit availability to display progress codes, a progress code can be customized to fit the data width. The higher the data bit, the higher the granularity of information that can be sent on the progress port. The progress codes can be reported by the system BIOS or optional ROMs.

BIOS Message Severities

BIOS messages have these severities:

- **Minor**—The system continues booting in a degraded state. The user might want to replace the unit. The POST Error Pause option setting in the BIOS setup does not have any effect on this error.
- **Major**—The POST Error Pause option setting in the BIOS setup determines whether the error manager pauses the system to allow the user to take immediate corrective action or the system continues the booting process.



Note For the **0048 Password check failed** message, the system halts, and after the next reset or reboot, displays the error code on the screen.

When the F2 key is pressed on the keyboard, the error message is displayed on the screen, and an error is logged to the SEL with the error code. The system cannot boot unless the error is resolved. The faulty part must be replaced, and the system must be restarted.

BIOS Message Format

The table describes the format used in BIOS messages.

Table 1:

| Generator ID | Sensor Type Code | Sensor number | Type code | Event Data1 | Event Data2 | Event Data3 |
|---------------------------|--|--|--|--|---|---|
| 33h (BIOS POST) | 0Fh (System Firmware Progress) | 0Fh (System Firmware Progress) | 6Fh (Sensor Specific Offset) | A0h (OEM Codes in Data2 and Data3) | xxh (Low Byte of POST Error Code) | xxh (Low Byte of POST Error Code) |

BIOS Messages and Codes

The table lists messages that are from the baseline Intel BIOS and are present in the Cisco version of the BIOS.

Table 2: List of BIOS messages and codes

| Error Code | Severity | Error Message | Possible Needed Response |
|------------|----------|---|----------------------------------|
| 9687 | Fatal | DXE core component encountered a illegal software state error. | Replace faulty part and restart. |
| 8565 | Major | DIMM_C2 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_C2. |
| 8567 | Major | DIMM_D2 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_D2. |

| Error Code | Severity | Error Message | Possible Needed Response |
|-------------------|-----------------|---|----------------------------------|
| 85A2 | Major | DIMM_B1 uncorrectable ECC error encountered. | Replace DIMM_B1. |
| 85AB | Major | DIMM_F2 uncorrectable ECC error encountered. | Replace DIMM_F2. |
| 9000 | Major | Unspecified processor component has encountered a non-specific error. | Restart. If failure, replace. |
| 0xB6A3 | Major | DXE boot services driver unrecognized. | Restart. If failure, replace. |
| 8604 | Minor | Chipset reclaim of noncritical variables complete. | Restart. If failure, replace. |
| 9223 | Minor | Keyboard component was not detected. | Restart. If failure, replace. |
| 9266 | Minor | Local console component encountered a controller error. | Restart. If failure, replace. |
| 9286 | Minor | Remote console component encountered a controller error. | Restart. If failure, replace. |
| 94C6 | Minor | LPC component encountered a controller error. | Restart. If failure, replace. |
| 95A7 | Minor | PCI component encountered a read error. | Restart. If failure, replace. |
| 9609 | Minor | Unspecified software component encountered a start error. | Restart. If failure, replace. |
| 0xA028 | Minor | Processor component encountered a high-voltage error. | Restart. If failure, replace. |
| 0xA501 | Minor | ATA/ATPI ATA SMART is disabled. | Enable. |
| 192 | Fatal | Processor 0x cache size mismatch detected. | Replace faulty part and restart. |

| Error Code | Severity | Error Message | Possible Needed Response |
|------------|----------|---|--|
| 194 | Fatal | Processor 0x family mismatch detected. | Replace faulty part and restart. |
| 196 | Fatal | Processor 0x model mismatch. | Replace faulty part and restart. |
| 197 | Fatal | Processor 0x speeds mismatched. | Replace faulty part and restart. |
| 198 | Fatal | Processor 0x family is not supported. | Replace faulty part and restart. |
| 9667 | Fatal | PEI module component encountered an illegal software state error. | Replace faulty part and restart. |
| 96A7 | Fatal | DXE boot services driver component encountered an illegal software state error. | Replace faulty part and restart. |
| 96000000 | Fatal | SMM driver component encountered an illegal software state error. | Replace faulty part and restart. |
| 0xA421 | Fatal | PCI component encountered a SERR error. | Replace faulty part and restart. |
| 0xA5A1 | Fatal | PCI Express component encountered a SERR error. | Replace faulty part and restart. |
| 12 | Major | CMOS date / time not set. | Set the time and date. how? |
| 48 | Major | Password check failed. | Verify user password. Restart. If failure, apply admin password. Replace if necessary. |
| 113 | Major | Fixed media SAS RAID firmware cannot run properly. | Reflash firmware. Restart. If failure, replace. |
| 140 | Major | PCI component encountered a PERR error. | Restart. If failure, replace. |
| 141 | Major | PCI resource conflict. | Restart. If failure, replace. |

| Error Code | Severity | Error Message | Possible Needed Response |
|-------------------|-----------------|--|--|
| 146 | Major | PCI out of resources error. | Review resource allocation. Remove unneeded resources. Restart. If failure, replace. |
| 195 | Major | Processor 0x Intel QPI speed mismatch. | Restart. If failure, replace. |
| 019F | Major | Processor and chipset stepping configuration is unsupported. | Restart. If failure, replace. |
| 5220 | Major | CMOS/NVRAM configuration cleared | Reset configurations. Restart. If failure, replace. |
| 5221 | Major | Passwords cleared by jumper. | Reset passwords. Restart. If failure, replace. |
| 5224 | Major | Password clear jumper is set. | Restart. If failure, replace. |
| 8160 | Major | Processor 01 unable to apply microcode update. | Restart. If failure, replace. |
| 8161 | Major | Processor 02 unable to apply microcode update. | Restart. If failure, replace. |
| 8190 | Major | Watchdog timer failed on last boot. | Restart. If failure, replace. |
| 8198 | Major | OS boot watchdog timer failure. | Reset timer. If failure, replace. |
| 8300 | Major | Baseboard management controller failed self test. | Restart. If failure, replace. |
| 84F2 | Major | Baseboard management controller failed to respond. | Restart. If failure, replace. |
| 84F3 | Major | Baseboard management controller in update mode. | Complete update, then restart. |
| 84F4 | Major | Sensor data record empty. | Review files. If none, restart. |
| 8500 | Major | Memory component could not be configured in the selected RAS mode. | Restart. If failure, replace. |
| 8501 | Major | DIMM population error. | Restart. If failure, replace. |

| Error Code | Severity | Error Message | Possible Needed Response |
|-------------------|-----------------|---|---------------------------------|
| 8502 | Major | CLTT configuration failure error. | Restart. If failure, replace. |
| 8520 | Major | DIMM_A1 failed self test (BIST). | Replace DIMM_A1. |
| 8521 | Major | DIMM_A2 failed self test (BIST). | Replace DIMM_A2. |
| 8522 | Major | DIMM_B1 failed self test (BIST). | Replace DIMM_B1. |
| 8523 | Major | DIMM_B2 failed self test (BIST). | Replace DIMM_B2. |
| 8524 | Major | DIMM_C1 failed self test (BIST). | Replace DIMM_C1. |
| 8525 | Major | DIMM_C2 failed self test (BIST). | Replace DIMM_C2. |
| 8526 | Major | DIMM_D1 failed self test (BIST). | Replace DIMM_D1. |
| 8527 | Major | DIMM_D2 failed self test (BIST). | Replace DIMM_D2. |
| 8528 | Major | DIMM_E1 failed self test (BIST). | Replace DIMM_E1 |
| 8562 | Major | DIMM_B1 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_B1 |
| 8563 | Major | DIMM_B2 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_B2. |
| 8564 | Major | DIMM_C1 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_C1. |
| 8566 | Major | DIMM_D1 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_D1. |

| Error Code | Severity | Error Message | Possible Needed Response |
|-------------------|-----------------|---|---------------------------------|
| 8568 | Major | DIMM_E1 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_E1. |
| 8569 | Major | DIMM_E2 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_E2. |
| 856A | Major | DIMM_F1 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_F1. |
| 856B | Major | DIMM_F2 component encountered a Serial Presence Detection (SPD) fail error. | Replace DIMM_F2. |
| 85A0 | Major | DIMM_A1 uncorrectable ECC error encountered. | Replace DIMM_A1. |
| 85A1 | Major | DIMM_A2 uncorrectable ECC error encountered. | Replace DIMM_A2. |
| 85A3 | Major | DIMM_B2 uncorrectable ECC error encountered. | Replace DIMM_B2. |
| 85A4 | Major | DIMM_C1 uncorrectable ECC error encountered. | Replace DIMM_C1. |
| 85A5 | Major | DIMM_C2 uncorrectable ECC error encountered. | Replace DIMM_C2. |
| 85A6 | Major | DIMM_D1 uncorrectable ECC error encountered. | Replace DIMM_D1. |
| 85A7 | Major | DIMM_D2 uncorrectable ECC error encountered. | Replace DIMM_D2. |
| 85A8 | Major | DIMM_E1 uncorrectable ECC error encountered. | Replace DIMM_E1. |
| 85A9 | Major | DIMM_E2 uncorrectable ECC error encountered. | Replace DIMM_E2. |
| 85AA | Major | DIMM_F1 uncorrectable ECC error encountered. | Replace DIMM_F1. |

| Error Code | Severity | Error Message | Possible Needed Response |
|-------------------|-----------------|--|---|
| 92A3 | Major | Serial port component was not detected. | Restart if component exists. If failure, replace. If no component, add. |
| 92A9 | Major | Serial port component encountered a resource conflict error. | Restart. If failure, replace. |
| 94C9 | Major | LPC component encountered a resource conflict error. | Restart. If failure, replace. |
| 0xA022 | Major | Processor component encountered a mismatch error. | Restart. If failure, replace. |
| 0xA5A4 | Major | PCI Express IBIST error. | Restart. If failure, replace. |
| 0108 | Minor | Keyboard component encountered a locked error. | Unlock the keyboard. how? |
| 0109 | Minor | Keyboard component encountered a stuck key error. | Restart. If failure, replace. |
| 0193 | Minor | Processor 0x stepping mismatch. | Restart. If failure, replace. |
| 8180 | Minor | Processor 0x microcode update not found. | Restart. If failure, replace. |
| 84FF | Minor | System event log full. | Export event log and delete files. |
| 9226 | Minor | Keyboard component encountered a controller error. | Restart. If failure, replace. |
| 9243 | Minor | Mouse component was not detected. | Restart. |
| 9246 | Minor | Mouse component encountered a controller error. | Restart. |
| 9268 | Minor | Local uonsole component encountered an output error. | Restart. |

| Error Code | Severity | Error Message | Possible Needed Response |
|-------------------|-----------------|---|--|
| 9269 | Minor | Local uonsole component encountered a resource conflict error. | Restart. |
| 9287 | Minor | Remote uonsole component encountered an input error. | Restart. |
| 9288 | Minor | Remote uonsole component encountered an output error. | Restart. |
| 92C6 | Minor | Serial port controller error. | Restart. If failure, replace. |
| 92C7 | Minor | Serial port component encountered an input error. | Restart. If failure, replace. |
| 92C8 | Minor | Serial port component encountered an output error. | Restart. If failure, replace. |
| 9506 | Minor | ATA/ATPI component encountered a controller error. | Restart. If failure, replace. |
| 95A6 | Minor | PCI component encountered a controller error. | Restart. If failure, replace. |
| 95A8 | Minor | PCI component encountered a write error. | Restart. If failure, replace. |
| 9641 | Minor | PEI Core component encountered a load error. | Restart. If failure, replace. |
| 96AB | Minor | DXE boot services driver component encountered invalid configuration. | Restart. If failure, replace. |
| 0xA000 | Minor | TPM device not detected. | Add TPM device, otherwise replace. |
| 0xA001 | Minor | TPM device missing or not responding. | Add TPM device if needed, otherwise replace. |
| 0xA002 | Minor | TPM device failure. | Replace TMP device. |
| 0xA003 | Minor | TPM device failed self test. | Replace TPM device. |

| Error Code | Severity | Error Message | Possible Needed Response |
|------------|----------|--|---|
| 0xA027 | Minor | Processor component encountered a low-voltage error. | Proceed but monitor. If other errors appear, replace. |
| 0xA500 | Minor | ATA/ATPI ATA bus SMART not supported. | Add, then restart. If fails again, replace. |
| 0xA5A0 | Minor | PCI Express component encountered a PERR error. | Restart. If fails again, replace. |
| 0xA6A0 | Minor | DXE boot services driver Not enough memory available to shadow a legacy option ROM. | Proceed if shadow memory is not required. Otherwise, remove unnecessary options to free memory. |

Cisco BIOS Messages and Codes

The table describes additional messages unique to the Cisco BIOS.

Table 3: Additional messages unique to Cisco BIOS

| Code | Severity | message | Added/Changed | Action |
|------|----------|---|--------------------|--|
| E000 | Major | Memory RAS mirror fail. | Added. | Replace failed DIMMs. |
| E001 | Major | Memory RAS spare fail. | Added. | Replace failed DIMMs. |
| E00A | Major | Memory BMC SPD read fail. | Added. | Replace failed DIMMs. |
| E1xx | Major | DIMM xx disabled. | Changed from 854x. | Replace any failed DIMMs and verify DIMMs in valid configuration |
| E2xx | Major | DIMM xx component encountered a Serial Presence Detection (SPD) fail error. | Changed from 856x. | Replace failed DIMM. |
| E3xx | Major | DIMM xx encountered a mismatch error. | Added. | Replace mismatched DIMM. |

| Code | Severity | message | Added/Changed | Action |
|-------------|-----------------------------|----------------------------------|----------------------|---|
| E4xx | Major | DIMM xx failed self test (BIST). | Changed from 852x. | Replace failed DIMM. |
| E500 | Major | Memory-other DIMM failed. | Added. | Replace failed DIMM. |
| E600 | Major | Memory-invalid population. | Added. | Replace failed DIMM. |
| E700 | Major | Memory-mismatch population. | Added. | Replace failed DIMM. |
| E800 | Major | Memory-SPD error. | Added. | Replace failed DIMM. |
| E900 | Major | Memory-platform specific. | Added. | Replace failed DIMM. |
| D000 | Fatal (blade will not boot) | Unsupported SPI flash. | Added. | Blade manufactured with wrong SPI flash part. Return materials authorization (RMA) the blade. |

