

Troubleshooting the TimeProvider

This document describes how to troubleshoot the TimeProvider 1000 and 1100 based on the received Error Message. [Table 1-1](#) is a list of the alarms whose factory default level is Critical. [Table 1-2](#) lists the default Major-level alarms. [Table 1-3](#) lists the default Minor-level alarms.



Note: For details on removing or replacing cards, refer to the Maintenance chapter in the *TimeProvider User's Guide*, part number 097-58001-02.

Table 1-1. Critical-Level Alarms

Event Code	Error Message	Meaning	Action
Critical Alarms			
EXTALM2	External Alarm 2 Set	The external alarm used to monitor alarms generated by external equipment.	Investigate the cause of the external alarm.

Table 1-2. Major-Level Alarms

Event Code	Error Message	Meaning	Action
Major Alarms			
CLKHOLD	Clock Entered Holdover Mode	There are no qualified inputs.	Clear any active Input alarms.
CLKFREE	Clock Entered Free-Run Mode	There are no qualified inputs and holdover mode is not available.	If the IOC has just been inserted, wait for an input to qualify. If not, correctly configure the input signal format.
COMPAT	System Components are Incompatible	IOC and/or IMC hardware and firmware versions are not compatible.	Refer to System Release Note (097-55501-xx) for latest compatibility charts.
EXPNEQPT	Expansion Panel is Unequipped	The Expansion Panel was physically inserted or removed from the system.	If inserted, no action needed. If removed, replace the Expansion Panel.
EXTALM1	External Alarm 1 Set	The external alarm used to monitor alarms generated by external equipment.	Investigate the cause of the external alarm.

Table 1-2. Major-Level Alarms (Continued)

Event Code	Error Message	Meaning	Action
IOC1EQPT	IOC1 Is Unequipped	Indicates that the IOC1 was physically inserted or removed from the system.	If inserted, no action needed. If removed, replace the IOC.
IOC2EQPT	IOC2Is Unequipped	Indicates that the IOC2 was physically inserted or removed from the system.	If inserted, no action needed. If removed, replace the IOC.
IOCFAIL	IOC BIST Fault	The IOC failed the built-in self-test.	<ol style="list-style-type: none"> 1. Remove, then insert the IOC. 2. If the condition does not clear, replace the IOC.
IMCFAIL	IMC BIST Fault	The IMC failed the built-in self-test.	<ol style="list-style-type: none"> 1. Remove, then insert the IMC. 2. If the condition does not clear, replace the IMC.
OUTEQPT	Output Module Is Unequipped	Indicates that the module was physically inserted or removed from the system.	If inserted, no action needed. If removed, replace the module.
PWRA	Power A Failed	The IMC has detected the loss of power on the A connection.	<ul style="list-style-type: none"> ■ Verify that the fuse for Power A is properly installed and not open. ■ Verify that Power Bus A is providing –48 VDC to the unit.
PWRB	Power B Failed	The IMC has detected the loss of power on the B connection.	<ul style="list-style-type: none"> ■ Verify that the fuse for Power B is properly installed and not open. ■ Verify that Power Bus B is providing –48 VDC to the unit.
SYNTHEOR	Output Generator Exceeded Pull-In Range	The synthesizer generating the module's stable output frequency has reached the defined End-of-Range for the type of oscillator used on the IOC.	Contact Symmetricom Global Services.

Table 1-3. Minor-Level Alarms

Event Code	Error Message	Meaning	Action
Minor Alarms			
ANTCOMM	GPS Antenna Comm Fault	Loss of communications to antenna.	Verify that the: <ul style="list-style-type: none"> ■ Antenna is connected. ■ Cable and connectors are not damaged. ■ Antenna is properly placed.
CLKWARM	Clock Entered Warm-Up Mode	The Clock is warming up and the card is not yet active.	None required.
EXDSC	Excessive Discontinuity Fault	Input has had excessive discontinuities.	Investigate input signal quality.
FFOFF	FFOFF Threshold Exceeded	Input has exceeded the Fractional Frequency Offset threshold.	Investigate input signal quality.
GPSPOS	GPS Antenna Position Unknown	The GPS is warming up.	If alarm does not clear after one hour, contact Symmetricom Global Services.
GPSPWR	GPS Power Fault	Voltage problems. TimeProvider power to TPIU is either high or low.	Contact Symmetricom Global Services.
GPSSYS	GPS System Fault	Problems with BIST (at startup), TRAIM, and/or UTC/ephemeris data.	Verify connectivity between the TimeProvider and the TPIU (if installed) and the GPS Antenna. Verify the GPS Antenna view of the sky is not significantly impaired by trees, buildings, etc.
GPSTRK	GPS Is Not Tracking Satellites	No visible satellites seen.	Verify connectivity between the TimeProvider and the TPIU (if installed) and the GPS Antenna. Verify the GPS Antenna view of the sky is not significantly impaired by trees, buildings, etc.
INPAIS	AIS Fault	A T1 reference input is receiving an Alarm Indication Signal (AIS). <ul style="list-style-type: none"> ■ Upstream equipment failure. ■ Wrong format selected for input. 	Investigate upstream equipment. Set correct input signal format.
INPDISQ	Input Disqualified As a Possible System Reference	The input does not meet the reference qualification criteria.	Clear any active Input alarms. Verify that the input configuration matches the signal that is connected.

Table 1-3. Minor-Level Alarms (Continued)

Event Code	Error Message	Meaning	Action
INPFRQ	Frequency Threshold Exceeded	The specified input port's calculated received frequency is exceeding the pull-in range of the local oscillator.	Investigate input signal quality.
INPLOS	LOS Fault	The amplitude of an input signal has dropped below the minimum required level. <ul style="list-style-type: none"> ■ Signal not connected. ■ Event is normally present if one or more inputs are not used. 	<ol style="list-style-type: none"> 1. Connect input signal. 2. Change the alarm severity to NONALM. 3. Disable the unused inputs.
INPOOF	OOF Fault	An Out-Of-Frame (OOF) error has occurred on a T1 input. <ul style="list-style-type: none"> ■ Bad input signal. ■ Input signal not formatted correctly. ■ Input format not configured correctly. 	Investigate input signal quality and format.
INPPHASE	Phase Error Exceeded Threshold	The specified input port has a excessive phase measurement that disqualifies it from being used.	Investigate input signal quality.
INPQL	Quality Level (SSM) Exceeded	Alarm indicating the received SSM is of lesser quality than the Local Oscillator's QLEVEL for a specified input.	Investigate input signal quality.
INPTRR	Tip/Ring Connections Reversed	The specified CC input port has a Tip/Ring reversal on it's connection to the system.	Reverse the Tip and Ring connections on the specified port.
IOC1COMM	IMC to IOC1 Communication Failed	IMC is unable to communicate with IOC1.	Reseat IOC1 module.
IOC2COMM	IMC to IOC2 Communication Failed	IMC is unable to communicate with IOC2.	Reseat IOC2 module.
IOC1TO2COMM	IOC1 to IOC2 Communication Failed	Unable to communicate with other modules.	Reseat modules.
IOC2TO1COMM	IOC2 to IOC1 Communication Failed	Unable to communicate with other modules.	Reseat modules.

Table 1-3. Minor-Level Alarms (Continued)

Event Code	Error Message	Meaning	Action
IMC1COMM	IOC1 to IMC Communication Failed	Unable to communicate with other modules.	Reseat modules.
IMC2COMM	IOC2 to IMC Communication Failed	Unable to communicate with other modules.	Reseat modules.
IMCTCPIP	IMC TCP/IP Activity is Excessive	A denial-of-service attack may be underway.	Connect to the IMC's serial port and open an communication session with the TP. Unplug the Ethernet cable from the IMC, verify the IMCTCPIP Alarm clears after the Ethernet Cable is disconnected. If the IMCTCPIP Alarm clears contact network management to determine what system(s) is sending requests to the IMC's IP address.
MTIE	MTIE Threshold Exceeded	Input has exceeded at least one of the MTIE alarm thresholds.	Investigate input signal quality.
S1LOS	LOS on Side 1	A Loss-of-Signal alarm is present on Side 1 of the Retimer.	Check signals and connections on Side 2 of the Retimer Module.
TPIUSIG	TPIU to Antenna Connection Fault	TimeProvider Composite Timing Signal interface is not functioning.	Verify connectivity between the TimeProvider and the TPIU. If connectivity is good, contact Symmetricom Global Services.
Default = N/A			
BTBCKUP	BesTime Backup References Disqualified	All BesTime Backup sources, inputs are unusable to the BesTime engine.	Investigate input signal quality and format.
CLKBRDG	Clock Entered Bridging Mode	The local oscillator on the specified IOC is in Bridging Mode.	Verify connectivity between the TimeProvider and the TPIU (if installed) and the GPS Antenna. Verify the GPS Antenna view of the sky is not significantly impaired by trees, buildings, etc.
E422EQPT	EIA-422 Output Module Is Unequipped	Indicates that the module was physically inserted or removed from the system.	If inserted, no action needed. If removed, replace the module.

Table 1-3. Minor-Level Alarms (Continued)

Event Code	Error Message	Meaning	Action
E422FAULT	EIA-422 Module Has a Fault	The EIA-422 Output module is not functioning.	<ol style="list-style-type: none"> 1. Remove, then insert the module. 2. If the condition does not clear, replace the module.
IOCSTATE	IOC State Has Changed	The specified IOC module has been inserted into the system.	If inserted, no action needed. If removed, replace the IOC.
S2LOS	LOS on Side 2	A Loss-of-Signal alarm is present on Side 2 of the Retimer.	Check signals and connections on Side 2 of the Retimer Module.
EXSLIP	Slip Rate Threshold Exceeded	Excessive slip rate.	Investigate input signal quality and format.
RTMEQPT	Retimer Module Is Unequipped	Indicates that the module was physically inserted or removed from the system.	If inserted, no action needed. If removed, replace the module.
RTMFAULT	Retimer Module Has a Fault	The Retimer module is not functioning.	<ol style="list-style-type: none"> 1. Remove, then insert the module. 2. If the condition does not clear, replace the module.