# What are the symptoms of a flaky GPS connection to the Timesource generator?

## Model:

10G-PCIE2-8C2-2S-SYNC

## Software:

N/A

## Operating System:

Supports both the Linux and Windows Operating Systems.

## Information:

When using a 10G-PCIE2-8C2-2S-SYNC adapter connected to a Timesource generator, it is very important to have a stable Timesource. If the Timesource generator encounters an intermittent loss of connectivity with the GPS signal, timing discontinuities will cause one or both of the following two symptoms:

1. Loss of synchronization with Timesource requiring a re-synchronization.
2. Link up/down issues.

The first symptom is the expected behavior with timing discontinuities. The kernel log will contain messages indicating the resynchronization. If the resynchronization fails, the kernel log will contain repeated messages indicating "Regained communication with Timesource" and the message "Timecode features not working".

If the second symptom (link up/down issues) occurs, you will additionally see messages in the kernel log similar to:

```
[Fri Jan 3 22:39:25 2014] myri_dbl INFO: eth5: Link0 is DOWN
[Fri Jan 3 22:39:27 2014] myri_dbl INFO: eth5: Link0 is UP
```

There is no hardware workaround for this issue. Please investigate why you are having time discontinuities with your GPS Timesource. We have only seen discontinuities such as these when we disconnected the timesource's antenna for a while and then plugged it back in. Is your GPS antenna not situated with a full view of the sky? Bad antenna cabling? Interference from other sources?

Both issues can be avoided by having a stable Timesource, i.e., one that does not have timing discontinuities.

| Revision | Date | Change |
|---|---|---|
| 1 | 8/10/2016 | Initial Draft |
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