

# **Description and installation instructions for TS2100 software version 4.1**

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December 16, 2005**

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## **1 INTRODUCTION**

**This document describes the changes for the Symmetricom TymServe TS2100 unit when the release 4.1 software is installed in place of release 3.1, and describes the procedure needed to accomplish the installation.**

**Version 4.1 fixes known problems but does introduce new behaviors so it is best to read this document through before upgrading.**

## **2 PROBLEMS THAT ARE CORRECTED BY RELEASE 4.1**

### **2.1 IRIG 1 SECOND OFFSET PROBLEM**

**The problem that caused the display to be in error by one second when IRIG input is disconnected (while in IRIG timing mode) was corrected.**

### **2.2 LACK OF SNMP TRAPS WHEN FLYWHEELING**

**When unit is flywheeling, SNMP traps are now sent.**

### **2.3 LACK OF SNMP TRAPS WHEN NTP LEAP INDICATOR CHANGES**

**When NTP leap indicator changes, a SNMP trap is now sent.**

### **2.4 LACK OF WARNING IN NTP PACKETS WHEN LEAP SECOND IS PENDING (IN SOME TIMING MODES)**

**The NTP packets now correctly warn of impending leap seconds.**

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### **3 BEHAVIORS THAT ARE INTRODUCED BY RELEASE 4.1**

#### **3.1 TIMING MODE SWITCHING PROBLEM**

The corrections to the IRIG problems above has created a bug that requires the TS2100 power to be cycled whenever the timing mode is changed.

The problem is mostly seen when switching from IRIG timing mode to GPS timing mode. Under certain circumstances, the TS2100 will exhibit an error in which the lock light goes out, and the front panel display increments by 2 seconds instead of one.

Thus, any time that the timing mode is changed the unit must be reset by powering it off. The problem occurs when a large time correction (e.g,  $\frac{1}{4}$  second) occurs when re synchronizing to the GPS receiver. The problem does not occur if the unit has lost satellite signals, and drifted away from correct time and then re-synchronizes to GPS. This has been tested at our factory. Only a change of timing mode causes the problem.

#### **3.2 NONVOLATILE STORAGE ERASURE PROBLEM**

When installing 4.1, all data stored in nonvolatile memory will be erased due to incompatibilities in storage formats.

The affected data includes, but is not limited to the servers IP address, net mask and default route.

This means that it will not be possible to update the software from a remote location. Instead, it will be necessary to connect a serial port to each affected unit.

The software load itself can be done remotely, but at the end of the process, the unit will reset, which will change the IP address and net mask settings, hence the need for a local serial port connection to restore the network settings.

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## **4 DIFFERENCES BETWEEN VERSION 3.1 AND 4.0 AND LATER RELEASES**

The Compensation Delay function was removed from the front panel and serial / telnet interfaces.

### **4.1 FRONT PANEL FUNCTION DIFFERENCES**

**Compensation delay function removed**

If upgrading the v3.x firmware to v4.x firmware, the menu system related to GPS changes. There is not a separate subdirectory for GPS data as all GPS commands are moving into the main timing directory.

### **4.2 SERIAL / TELNET COMMAND DIFFERENCES**

**Compensation delay function removed**

## **5 INSTALLATION INSTRUCTIONS**

The instructions to load firmware into the TS2100 are to be found at:

[http://www.symmetricom.com/media/pdf/manuals/8500-0033\\_man.pdf](http://www.symmetricom.com/media/pdf/manuals/8500-0033_man.pdf)

in Appendix C on page 99.

*Do not follow the instructions on where to obtain the firmware, but instead use TS21v4.1.HEX*

Once the TS2100 has restarted with the new firmware, it is likely that the display is unreadable. To correct this, give the command:

```
root util display 0x9700
```

at the serial port or telnet session.

After loading the firmware and resetting the display contrast, be sure to cycle the power to initialize nonvolatile memory.