

58503A Option 001 Front-Panel Display/Keypad

Supplemental Guide

This supplemental guide describes the Symmetricom 58503A /Option 001 Front-Panel Display/Keypad.

This document applies to the Symmetricom 58503A /Option 001 Front-Panel Display/Keypad you have received unless update information is included with the equipment.

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Warning Symbols That May Be Used In This Book



Instruction manual symbol; the product will be marked with this symbol when it is necessary for the user to refer to the instruction manual.



Indicates hazardous voltages.



Indicates earth (ground) terminal.



or



Indicated terminal is connected to chassis when such connection is not apparent.



Indicates Alternating current.



Indicates Direct current.

Supplemental Guide

This guide describes the 58503A/Option 001 GPS Time and Frequency Reference Receiver. The information in this guide applies to instruments with the front-panel display/keypad option having the number prefix listed below, unless accompanied by a “Manual Updating Changes” package indicating otherwise.

SERIAL PREFIX NUMBER: 3542 and above

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In This Guide

This guide provides supplemental information for the Option 001 Front-Panel Display/Keypad of the 58503A GPS Time and Frequency Reference Receiver. Refer to the 59551A/58503A *Getting Started Guide* and *Operating and Programming Guide* for complete details on using the GPS Receiver.

The Option 001 Front-Panel Display/Keypad adds the following capabilities to the 58503A:

- front-panel display of Receiver's status
- front-panel keypad operation for retrieval of time, position, altitude, and serial port settings
- front-panel alarm clearing

This guide contains the following:

Table of Contents

In This Guide (this preface) introduces you to the Supplemental Guide.

Chapter 1, "**Quick Start**," introduces you to the Option 001 Front-Panel Display/Keypad with a visual and brief textual overview of it.

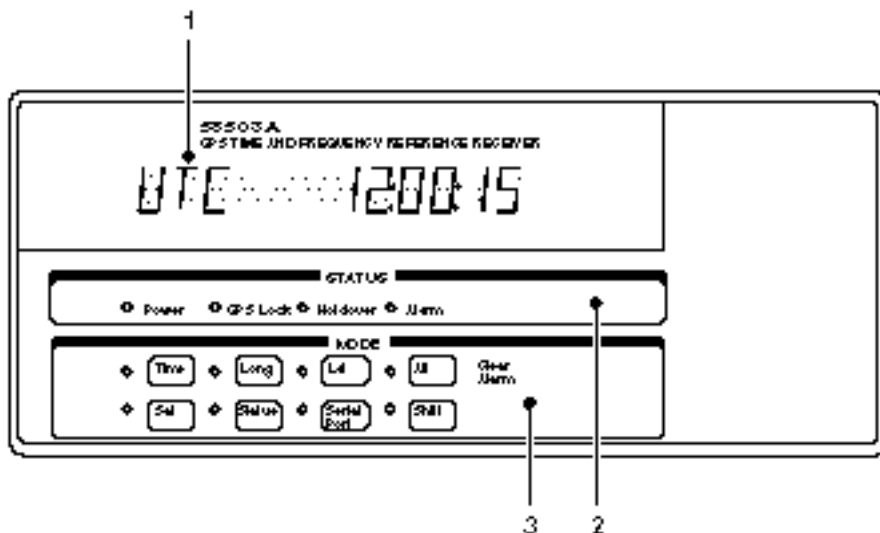
Chapter 2, "**Functions and Capabilities**," describes the Front-Panel Display/Keypad functions and capabilities. This chapter also instructs you on how to use the display and keypad to obtain Receiver status information. Tables of error and status messages are provided at the end of this chapter.

Chapter 3, "**Upgrade Installation**," provides a field-installation procedure that helps you install the Option 001 Front-Panel Display/Keypad into the Receiver.

1

Quick Start

Front-Panel Display/Keypad at a Glance



1 An alphanumeric display for displaying time, position (i.e., longitude, latitude, and altitude), and Receiver status. The display is a highly visible twelve-character vacuum-fluorescent display.

2 Status LED indicators:

When the Power indicator is illuminated, it indicates that input power is supplied to the Receiver.

When the GPS Lock indicator is illuminated, it indicates that the Receiver is tracking satellites and has phase-locked its internal reference to the reference provided by GPS.

When the Holdover indicator is illuminated, it indicates that the Receiver is not phase-locking its internal reference to the reference provided by GPS. Typically, this would happen due to loss of satellite tracking.

When the Alarm indicator is illuminated, it indicates that the Module has detected a condition that requires attention.

3 Eight MODE keys with associated LEDs for front-panel access to time, position, and status information: Time, Long (longitude), Lat (latitude) Alt (altitude), **Sat** (number of satellites tracking), Status (Receiver or system status), and Serial Port (serial port settings). Each key selects a different display mode. Also, pressing Shift and Alt key in sequence clears instrument alarm.

Chapter Contents

The Option 001 front panel provides a keypad and a display for the 58503A GPS Time and Frequency Reference Receiver. This chapter presents more detailed information on the display and keypad, and is organized as follows:

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Overview

About the Display and Keypad

The front-panel display contains a 12-character vacuum-fluorescent display, four indicator LEDs, and eight elastomeric keys with associated mode LEDs. Each key selects a different display mode. In addition, there is one control capability (alarm clearing) available.

Product Compatibility

The Option 001 Front-Panel Display/Keypad is designed to be compatible with the 58503A GPS Time and Frequency Reference Receiver.

Retrofit of a previously purchased 58503A with the display requires that the Option 001 front panel is swapped for the previously installed front panel. New firmware (specific to the 58503A) is installed to support the display and keypad capabilities. Note that a firmware upgrade may add new capabilities, some unrelated to the front-panel display. Firmware upgrade also clears the instrument non-volatile memory; if necessary, non-volatile settings should be recorded prior to sending the instrument for retrofit. Calibration settings (temperature coefficients) are not cleared by the firmware upgrade.

Display hardware and display-compatible firmware are designed to be backwards-compatible with all product hardware revisions (serial prefix numbers 3542 and above for 58503A).

System Compatibility

Information displayed on the front panel corresponds with the same information available by other means.

Unit-to-unit correlation is good — two instruments which are synchronized and racked side-by-side will increment in unison. Similarly, the instrument display will increment in unison with a SatStat display. Correlation with other time of day outputs is good: the display increments in unison with an IRIG decoder, and correlates with time of day outputs provided programmatically over the RS-232 interface.

Using the Display and Keypad

Using the Display and Keypad

To Display Time

Press Time key to displays current time.

Under special circumstances, when UTC local time is selected for use throughout the instrument, the display shows the LOCAL time.

To Display Position

Displaying Longitude

Press Long key to display longitude.

Following powerup, the Receiver iteratively computes its position; the longitude display is updated as computation progresses.

Displaying Latitude

Press Lat key to display latitude.

Following power-up, the Receiver iteratively computes its position; the latitude display is updated as computation progresses.

Displaying Altitude

Press Alt key to display altitude.

Altitude is measured in meters above mean sea level. Following power-up, the instrument iteratively computes its position; the altitude display is updated as computation progresses.

To Display Number of Satellites Being Tracked

Press Sat key to display a count of the number of satellites currently tracked.

To Display Serial Port Settings

Press Serial Port key to display the Receiver's serial port settings.

To Display System Status

Press Status key to display system status.

To Clear Instrument Alarm

Error Messages

The Option 001 Front-Panel Display/Keypad allows you to clear instrument alarm.

Press and hold Shift, then press Clear Alarm (Alt) key to clear an alarm.

Capabilities Under Special Circumstances

To Access the TEST MODE to Test the Front-Panel Display

Access the product's installation TEST MODE using the following procedure.

- 1 Apply power to the 58503A. While the letters "HP" are moving from right to left (about two seconds), press the Sat key followed by the Time key.

If necessary, you can remove and re-connect power to re-initiate the startup and try again. When you succeed, the product will enter its VFD DSP TEST (test of the vacuum-fluorescent display).

The display should first show a test pattern that sequentially illuminates all 15 segments of all digits and punctuation marks on the display. When the segment illumination is complete, the words DEMO MODE appear, and the product enters the demo mode described below.

- 2 To exit, press the Shift key and then press the Alt key.

To Access the DEMO MODE to Demonstrate Front-Panel Capabilities

Access the product's DEMO MODE using the following procedure.

- 1 Apply power to the 58503A. While the letters "HP" are moving from right to left, (about two seconds), press the Shift key.

If necessary, you can remove and re-connect power to re-initiate the startup and try again. When you succeed, the product will enter its DEMO MODE. To exit the DEMO MODE, press the Shift key and then press the Alt key.

Capabilities Under Special Circumstances

The DEMO MODE does not require an antenna connection. DEMO MODE was designed to support the user during demonstrations, during installation, and during initial connection to a PC.

A special feature of the mode is to provide the 58503A's actual Serial Port Settings when the Serial Port key is pressed.

For other keys, the DEMO MODE responds to keypresses by displaying simulated data for UTC Time, Longitude, Latitude, Altitude, Satellite Count, and Status. These values are not related to the actual values, they are a simulation.

- 2 To exit the DEMO MODE, press the Shift key, then press the Alt key.

To Check Serial Port Settings During Installation

- 1 To display Serial Port settings during initial installation, press the Serial Port key during powerup or during DEMO MODE.
- 2 Access the product's DEMO MODE using the procedure described above. A special feature of the DEMO MODE is to provide the 58503A's actual Serial Port Settings when the Serial Port key is pressed. After having viewed the Serial Port settings, exit the DEMO MODE by pressing Shift key and then Alt key.

Error Messages

When the instrument status system within the 58503A detects an error condition, the front-panel display will identify the error to you. Table 2-1 lists an example of message format. Table 2-2 lists error messages.

Note that errors reported on the front panel are detected and reported in the instrument status system. Detailed information is available in the Operating and Programming Guide in Chapter 5 under the heading Monitoring Status/Alarm Conditions. The part number is 097-59551-02 (was 59551-90002). The treatment below is designed to be read in conjunction with the text and tables in Chapter 5, particularly Figure 5-1, page 5-49, and the text following that figure.

Besides identifying the nature of the error detected, the front panel display identifies which transition was detected. The status system can be configured to detect onset of conditions and/or abatement of conditions. The display identifies which has occurred. For example, the status system can be configured to detect the onset of holdover, exit from holdover, or both onset and exit. The display distinguishes these events by appending a minus (-) sign if the abatement of the condition is detected (if a negative transition is detected). It presents a message with no appended sign if the onset of condition is detected. The holdover example in Table 2-1 describes this.

Table 2-1. Example Message Format

Message	Significance
HOLDING	Displayed when the instrument detects <i>entry</i> into Holdover. That is, the instrument detects a <i>positive transition</i> of the Holdover condition bit.
- HOLDING	Displayed when the instrument detects <i>exit</i> from Holdover. That is, the instrument detects a <i>negative transition</i> of the Holdover condition bit.
HOLDING ?	Displayed when the instrument detects <i>either entry into or exit from</i> Holdover. That is, the instrument detects status change, but is unable to identify whether the change is caused by either a <i>positive transition</i> or a <i>negative transition</i> of the Holdover condition bit.

Error Messages**Table 2-2. Error Messages[†]**

Displayed Message	Meaning	Corresponding Status Register	Bit
1ST SAT AQ	First satellite has been tracked	Powerup	0
OXCO WARM	Internal oscillator warmed up	Powerup	1
DT TM VALD	Date and time have become valid	Powerup	2
HOLDING	User-initiated holdover entered	Holdover	0
RCOVR WAIT	Instrument-initiated holdover entered, waiting to recover	Holdover	1
RECOVERING	Recovering from holdover	Holdover	2
THRESH EXD	Holdover duration exceeds threshold	Holdover	3
SLFTST ERR	Selftest error	Hardware	0
POS 15V ER	+15-volt supply voltage exceeds tolerance	Hardware	1
NEG 15V ER	-15-volt supply voltage exceeds tolerance	Hardware	2
POS 5V ER	+5-volt supply voltage exceeds tolerance	Hardware	3
OVEN TOLER	Oven supply exceeds tolerance	Hardware	4
EFC NR LMT	EFC, (oscillator electronic frequency control voltage) near full-scale	Hardware	6
EFC LIMIT	EFC voltage at full-scale	Hardware	7
GPS PPS ER	Invalid GPS-engine 1PPS signal	Hardware	8
GPS FAILED	GPS engine not communicating	Hardware	9
TI MEAS ER	Measurement engine failed	Hardware	10
PROM WR ER	Failure during write to non-volatile memory hardware	Hardware	11
INT REF ER	Internal 1PPS reference failure	Hardware	12
QUERY ERR	Query error	Command Error	2
HW-FMW ERR	Hardware/Firmware Error	Command Error	3
SEMANT ERR	Semantic Error	Command Error	4
SYNTAX ERR	Syntactic Error	Command Error	5
PWR CYCLD	Power cycled. Set at powerup	Command Error	7

Error Messages**Table 2-2. Error Messages[†] (Continued)**

Displayed Message	Meaning	Corresponding Status Register	Bit
PWERUP SUM	Power-up status summary bit	Operation	0
LOCKED	Locked to GPS	Operation	1
HLDOVR SUM	Holdover status summary bit	Operation	2
POS HOLD	Position Hold	Operation	3
PPS RF VLD	1PPS reference valid	Operation	4
HRDW SUM	Hardware status summary bit	Operation	5
LOG NR FUL	Diagnostic Log almost full	Operation	6
TIME RESET	Receiver reset its time	Questionable	0
USER EVENT	User sets this bit manually	Questionable	1
QUES SUM	Questionable register summary bit	Status Byte	3
CMD ER SUM	Command Err register summary bit	Status Byte	5
MSTR SUM	Master summary bit	Status Byte	6
OPER SUM	Operation register summary bit	Status Byte	7

[†] When the **Alarm** LED is illuminated by an error condition, the instrument display will show the cause of the alarm. Until the alarm is cleared, the displayed alarm (error) message will have priority over any other message on the display. For example, instead of displaying time, even if the **Time** key is pressed, the instrument will display the alarm (error) message.

Status Messages

The instrument provides several messages on the front-panel display which report routine operation. These are not messages originating from the Status/Alarm system. They are progress reports intended to provide a general indication of instrument state. The messages and their meanings are tabulated in Table 2-3.

Table 2-3. Status Messages

Displayed Message	When Message Appear	Meaning
TIME: **:**:**	Following powerup, before valid data is computed.	Time key pressed, data not yet valid.
LAT: **:**:**.*	Following powerup, before valid data is computed.	Latitude key pressed, data not yet valid.
LONG: **:**:**.*	Following powerup, before valid data is computed.	Longitude key pressed, data not yet valid.
ALT: +**.*m	Following powerup, before valid data is computed.	Altitude key pressed, data not yet valid.
UTC <numerics>	During normal operation, on keypress.	Current UTC time, uncorrected for local time zone offset.
LOCAL <numerics>	During normal operation, on keypress.	Current UTC time, corrected for local time zone offset.
<LAT numerics>	During normal operation, on keypress.	Latitude
<LONG numerics>	During normal operation, on keypress.	Longitude
<ALT numerics>	During normal operation, on keypress.	Altitude, meters above sea level.
x TRACKED	During normal operation, on keypress.	Number of satellites currently being tracked.
<baud>,<parity>,<data bits>,<stop bits>	During normal operation, on keypress.	Current serial port settings (displayed in order shown).
ALARM CLEARED	On keypress sequence: Shift followed by Alarm Clear	Instrument alarms have been cleared.
NO ALARM	On keypress sequence: Shift followed by Alarm Clear	Alarm clear was requested, no alarm condition was detected.

Error Messages

Table 2-3. Status Messages (Continued)

Displayed Message	When Message Appears	Meaning
58503A	Powerup	Product identification. To enter demo mode, hit shift as this message scrolls.
OCXO WARM UP	Normal warmup	Oscillator warming up
SAT AQUIRD	Normal warmup	Number of satellites currently being tracked.
COARSE F ADJ	Normal warmup	Coarse frequency adjustment
FINE F ADJ	Normal warmup	Fine frequency adjustment
PHASE ALIGN	Normal warmup	Phase alignment
LEAPSEC CALC	Normal warmup	Leapsecond adjustment
OUTPUT VALID	Normal warmup	Outputs valid
STABILIZING	Normal operation	FFOM equal to 1
10MHZ STABLE	Normal operation	FFOM equal to 0
SURV <numeric> PCT	Normal warmup	Survey for position has progressed to stated percent completion.
<numeric> HLD USR	Holdover	Holdover has been manually initiated by the user. Holdover duration is specified <numeric>. Note if <numeric> exceeds 99:59, the label MAX appears.
<numeric> HLD LIM	Holdover	Holdover initiated when time error between internal and external 1PPS signals exceeded limit. Holdover duration is specified <numeric>. Note if <numeric> exceeds 99:59, the label MAX appears.
<numeric> HLD GPS	Holdover	Holdover initiated on loss of GPS satellites. Holdover duration is specified <numeric>. Note if <numeric> exceeds 99:59, the label MAX appears.
<numeric> HOLDOVER	Holdover	Holdover for reasons other than those identified above. Usually on transition out of user-initiated holdover.
HLD RECVR	Recovering from Holdover	Recovering from holdover
FINE F ADJ	Recovering from Holdover	Recovering from holdover, fine frequency adjustment.
PHASE ALIGN	Recovering from Holdover	Recovering from holdover, phase alignment.

Chapter Contents

This chapter contains complete installation upgrade and firmware download procedures for retrofitting the Option 001 to the 58503A GPS Time and Frequency Reference Receiver.

This chapter is organized as follows:

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- Retrofitting Option 001 Front-Panel Display/Keypad page 3-3
 - Option 001 Display/Keypad Upgrade Installation Kit Contents page 3-3
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Introduction

This chapter will assist you in upgrading your 58503A to include the Option 001 Front Panel Display/Keypad. The instructions below are limited to the mechanical and electrical changes to be made. Other note(s) included in the kit will further assist in the upgrade (if necessary) of the firmware to complete the process. Be sure all steps in this note are complete before proceeding to any other instructions. You will be directed when it is appropriate to refer to other documentation.

A copy of the Getting Started Guide is necessary to perform this upgrade. One copy is included with each 58503A shipped. If you do not have a copy, some of the steps will not be clear. Please retrieve your copy at this time. If you cannot locate a guide, contact Symmetricom to obtain another copy as Part Number 097-59551-01 (was 59551-90001).

Retrofitting Option 001 Front-Panel Display and Keypad

Option 001 Display/Keypad Upgrade Installation Kit Contents

Item	Part No.	Qty.
58503A Option 001 Front Panel Assembly	58503-60216	1
SatStat Software	59551-13401	1
58503A Firmware Upgrade Disk	58503-13402	1
GPS Receivers Firmware Upgrade Procedure	097-59551-13 or 59551-90013	1
58503A Option 001 Supplemental Guide	097-58503-08 or 58503-90008	1
Installation Note	097-58503-06 or 58503-90006	1

Tools Required

- TORX® T-15 driver
- 1/4-inch flat-blade screwdriver
- 7 mm nut driver or wire cutter
- PC-compatible computer with Windows 3.1 installed

To Retrofit Option 001

NOTE

This procedure assumes that the 58503A is working properly prior to making these changes. Be sure to verify that the unit will correctly power up and lock to GPS satellites before proceeding.

Firmware Revision Identification

- 1** Make a note of the current version of firmware in your 58503A. Refer to the Getting Started Guide.
- 2** Keep this information available for the section titled “Downloading Firmware” on page 3-6 of this chapter.

Hardware Installation

- 1** Remove all power and connections to the 58503A.
- 2** Position the carrying (plastic) handle so that it is perpendicular with respect to the cover, facing upward.
- 3** Carefully spread the handle at the pivot points, and it will release from its mounting holes.
- 4** The front foot/trim frame is soft rubber, and can now be removed by prying them off with your fingers.
- 5** Loosen two TORX T-15 screws at the right and left edges of the rear panel to remove the rear foot/trim frame assembly.
- 6** Remove the TORX T-15 screw at the bottom rear of the cover and slide cover off toward the rear.

Downloading Firmware

- 7 Remove the two TORX T-15 screws, one on each side that are recessed in the plastic shell of the front bezel.

The screws are located between the handle pivot holes and the front of the unit.

- 8 Identify two metal extrusions visible within openings in the plastic, immediately above and below the screw just removed.

There will be two more on the other side of the unit as well. These extrusions hold the front bezel in place by engaging the openings in the plastic.

- 9 Insert a flat-blade screwdriver between the plastic bezel and the underlying chassis, immediately near one of the metal extrusions. Carefully and slightly pry and pull the bezel away so that the extrusion no longer completely engages the bezel.

- 10 Repeat step 9 for the other extrusion on the same side of the unit.

This will allow this side of the bezel to be pulled free of the metal extrusions. The other side of the bezel will fall free without using the screwdriver.

- 11 Disconnect the ribbon cable that connects front panel to Main Board.

- 12 Using the 7 mm nut driver, remove this ground wire (if present) connecting the existing front panel board to the chassis by disconnecting it from the mounting stud near the power supply, or if preferred, clip the wire very close to the mounting stud. This wire is no longer required.

CAUTION

There is more than one ground wire attached to this stud. Only remove/clip the wire that leads to the front panel.

- 13 Reverse the steps above to connect and install the Option 001 front panel assembly, cover, rear bezel, trim, and handle.

NOTE

Make sure to firmly seat the ribbon cable so that it snaps into the locking ears.

Downloading Firmware

It may now be necessary to upgrade the firmware in the 58503A to be compatible with the display/keypad.

Note that a firmware upgrade may add new capabilities, some unrelated to the front-panel display. Firmware upgrade also clears instrument non-volatile memory; if necessary, non-volatile settings should be recorded prior to sending the instrument for retrofit. Calibration settings (temperature coefficients) are not cleared by the firmware upgrade.

The firmware download procedure in this section is written so that any operator with access to a PC-compatible computer loaded with Windows® 3.1/Windows® 95 can update the firmware.

This process will require about 45 minutes to complete, and it will be necessary to take the 58503A off line for that period.

- 1** Locate the *58503A Firmware Upgrade Disk* (Part Number 58503-13402) that is included in this kit.
- 2** Compare this revision to the firmware in your 58503A. If the revision on the disk is a higher number (newer version) proceed to step 3 below. Otherwise, it is not necessary to upgrade the firmware for your 58503A.

NOTE

A copy of SatStat software has been included with this kit (P/N 59551-13401) as a courtesy to facilitate the download process.

- 3** Connect the power to the 58503A.

NOTE

The following section assumes that SatStat software is installed on a PC with MS Windows®. If not, refer to the Getting Started Guide that was shipped with the 58503A for instructions on its installation.

SatStat is a Windows-based program that simplifies connection, control, query, and adjustment of the 58503A. A copy of this software is shipped with each 58503A on a 3.5-inch high-density floppy diskette. If you do not have a copy, one can be obtained from Symmetricom.

NOTE

It is highly recommended that no other programs are active in the background while performing the download. This is especially true for

Downloading Firmware

any communications software. The download process is very buffer-intensive and most errors encountered are due to process interruptions from other programs of the operator.

- 4 Double-click on the SatStat icon to start the program.
- 5 Select **Function** from the menu bar.
- 6 Choose **Status** (a check mark appears); then choose **Disable Updates** (a check mark appears).
- 7 Select **CommPort** from the menu bar.
- 8 Choose **Port Open** menu item to automatically initiate communication between the 58503A and PC.

NOTE

If necessary, use the **Settings** menu item under **CommPort** to match your PC and 58503A serial port parameters. Information for this procedure is also outlined in the Getting Started Guide.

- 9 Wait until a connection is established.
This will be indicated by a Connected to Hpxxxx message in the Title Bar.

NOTE

The idle on the screen indicates that no updates are being sent. This is normal.

- 10 Select Clear Cmd indicator at the screen bottom, just below the SatStat main window. This will open the **Control & Query** window.
- 11 Select **Service** in the menu bar.
- 12 Select the **Download Firmware** menu item.
- 13 Insert the supplied disk with the firmware file **XXXXXXXXX.S**, or ensure that this file is already copied onto your PC hard disk in a known directory.

Downloading Firmware

- 14** Enter the path and filename in the edit box **File to Download ...** as shown in the examples below:

a:\XXXXXXXX.S,

or

c:\<path>\XXXXXXXX.S

NOTE

If necessary, select the **Files ...** button to search for the directory and filename.

- 15** When the path and filename are entered, select **Download**.

The **Erase Warning** window will appear, making sure you really want to change firmware.

CAUTION

During the following process, do not switch to another program or launch any other programs. The download is buffer-intensive, and although it will retry when interruptions occur, the process will be significantly slowed. In extreme cases, the process can even abort.

- 16** Select the **Yes** button.

As the download progresses, **Lines Sent** and **Lines Retried** will give an indication of activity.

- 17** Wait 25 to 30 minutes until the word **Done** appears in the **Lines Sent** field. This time will vary, depending on the speed of your PC's processor and baud rate selected.

- 18** Select the **Close** button in the **Firmware Download** window.

- 19** Remove any floppy disk with the firmware file and store it in a safe location.

- 20** Select the **Cmd: Edit** field and type the following command:

SYST:LANG "PRIMARY"

Downloading Firmware

- 21** Select the **Send Cmd** button.

NOTE

Alternatively, you can simply remove power from the 58503A and re-connect. This will also initiate the internal Primary language.

NOTE

The **Alarm** indicator will be illuminated on the front panel. This is normal because the firmware has changed. It will disappear if power is removed or a command is sent to turn off the alarm.

- 22** Select **Query** from the menu bar.

- 23** Choose the **Product ID** menu item.

- 24** Select the **Send Cmd** button.

- 25** Verify that the serial number matches your product.

The firmware revision code should now be the same as that on the supplied floppy disk.

- 26** Refer to the **Getting Started Guide** to re-connect (or set up for the first time) your GPS antenna, cable, and other accessories.

Instructions contained in the guide will assist to determine when your 58503A has completed its lock process and is operating normally.

In Case of Trouble

The download process has built-in checking to ensure that all information is properly written to the Flash ROMs. However, there are situations (such as power failures) where the process can abort before completion. However, even without the firmware downloaded, there is still a “kernel” that remains untouched that ensures serial communication.

If a download had been aborted, simply repeat the download procedure from step 1.

The most common symptom can be seen using the *IDN? Query. If the firmware revision is not the same as the version you have attempted to download and also different from the original code, it is usually a revision name assigned to the “kernel” code. One example could be “PERU” instead of a four-digit date code.

Two messages below are typical of those encountered after an aborted download.

- | | |
|------------------------|---|
| No Flash ROM | This may appear when attempting to establish communications with the product after a download problem. |
| Consecutive errors ... | This message appears if attempting to issue a Control or Query command, or when attempting to view the status screen. |

NOTE

If a download has been aborted, simply repeat the download procedure from step 1.

Final Checkout

This is a simple procedure to ensure that the 58503A/Option 001 upgrade has been successfully performed.

NOTE

You will have about two seconds after applying power to perform step 2 below. If necessary, you can remove and re-connect power to re-initiate the startup sequence described in step 2 below.

- 1 Apply power to the 58503A.
- 2 While the letters “HP” are moving from right to left (about two seconds), press SAT key and then Time key to enter the Test/Demo mode.

The words **VFD DSP TEST** will momentarily appear on the display.

- 3 The display should then show a test pattern that sequentially illuminates all 15 segments of all digits and punctuation marks in the display.
- 4 When the segment illumination sequence is complete, the words **DEMO MODE** should then appear on the display.
- 5 Press each key one at a time.

Each keypress should:

- a. illuminate the LED corresponding to that key, and
- b. display a simulated response to the function.

NOTE

1. The “CLEAR ALARM” (“SHIFT”, “ALT”) function will not give a response in this mode, it will exit the test.
2. The values displayed are not related to the 58503A under test. They are displayed for demonstration only.

- 6 To exit the diagnostic, press Shift key and then press ALT key.

The 58503A power-up sequence should then continue. No further tests are necessary.

Further Assistance

- 7** If the indications above do not appear, be sure to verify the following before contacting Symmetricom:
 - a.** Did the firmware download properly? (Refer to the download procedure on page 3-6.)
 - b.** Re-check the correct connection to antenna, power, and PC as described in the Getting Started Guide.
 - c.** If necessary, remove the cover and verify that the ribbon cable connection is correct and secure.

Further Assistance

Contact Symmetricom for assistance if the above steps do not resolve the problem. It may be necessary to ship the entire 58503A to Symmetricom to verify the source of the problem.