



SunSetTM MTT Basic Color

User's Manual

SA942

Sunrise Telecom® ...a step ahead

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 WARNING

Using the supplied equipment in a manner not specified by Sunrise Telecom may impair the protection provided by the equipment.

CAUTIONS!

- Do not remove or insert the module while the test set is on. Inserting or removing a module with the power on may damage the module.
- Do not remove or insert the software cartridge while the test set is on. Otherwise, damage could occur to the cartridge.

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This device uses software either developed by Sunrise or licensed by Sunrise from third parties. The software is confidential and proprietary. The software is protected by copyright and contains trade secrets of Sunrise or Sunrise's licensors. The purchaser of this device agrees that it has received a license solely to use the software as embedded in the device, and the purchaser is prohibited from copying, reverse engineering, decompiling, or disassembling the software.

SunSet MTT-Basic Color User's Manual

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Chapter 1 Initial Setup

To unpack and test your new test set:

1. Remove the packing list, test set, and accessories from the shipping container.
2. Inspect all parts and immediately report any damage to the carrier and to Sunrise Telecom.
3. Verify that all parts specified on the packing list were received.
4. Complete the Warranty Registration Card and return it immediately to Sunrise Telecom.

Note: Sunrise Telecom must receive your Warranty Registration Card in order to provide you with updated software releases.

5. Ensure that the software cartridge is fully seated in its slot. When properly installed, the top of the cartridge is pushed flush with the top of the ejector button. The test set has two slots:
 - The inside card contains the software needed to operate the test set. This card may be upgraded in the field to provide you with new software options or releases.
 - The outside slot can be used for extra memory storage.
6. Plug the AC Battery Charger into an AC wall outlet and connect it to the test set. The charger plugs in at the top of the test set, where it is labelled 15 VDC.
 - The test set uses a NiMH battery. Use only the SS138D adapter supplied with the test set. The SS138D AC adapter should be used for charging the test set batteries only.
 - For optimum performance, the test set should be operated on batteries only.
7. Turn the test set on by pushing the red POWER key and verify that it passes the self test. If the test set does not turn on immediately, you may need to charge it for up to 5 minutes before it can operate.
 - Upon powering up, the screen should show several download and calibrate messages. All should say 'PASS' on the right side. The final message should read 'Downloading (type of module) Module PASS'.
 - The SunSet MTT logo screen now appears.
8. To set the clock:
 - A. Press MENU and select SYSTEM > SYSTEM CLOCK.
 - B. At DATE, use INC (F1) and DEC (F2) to set the month, date, and year. Use the right/left arrow keys to move the cursor. When done, select time by pressing the down arrow key.
 - C. At TIME, use INC (F1) and DEC (F2) to set the hour, minutes, and seconds.

D. When done, press SET (F3) to save your entries.

9. Charge the test set overnight before its first use.

Note: For optimum performance, use with batteries only.

Chapter 2 Product Description

You will soon find your SunSet MTT (Modular Test Toolkit) Basic Color chassis (SSMTT-C, SSMTT-CI) an indispensable tool for troubleshooting and qualifying access network services. Plug-in modules allow you to assemble the test set you need for testing digital subscriber lines or other technologies. The modular platform extends the life of your test equipment investment. You simply need to add a new module whenever the requirement for a new technology arises. For information on the available modules, contact your sales distributor.

This chapter describes the physical features of the SunSet SSMTT-C & CI: the keypad functions, LEDs, and connector panels. The front view of the SSMTT-C & CI is shown in Figure 1.

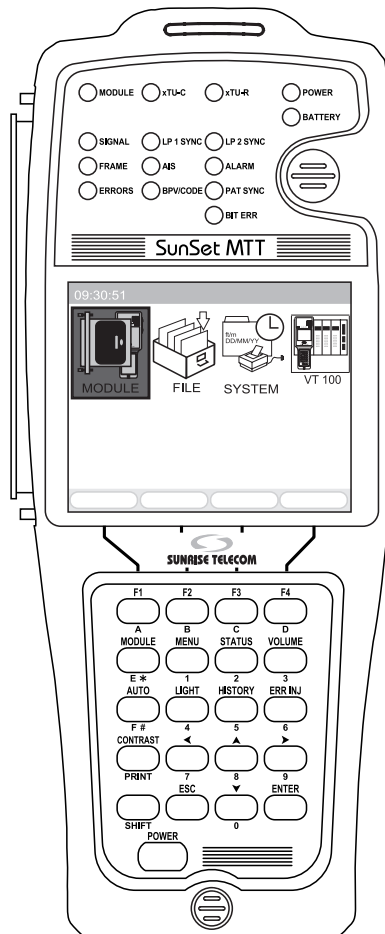


Figure 1 SSMTT-C & CI Front View

2.1 Keypad Functions

The test set keypad is shown in Figure 2.

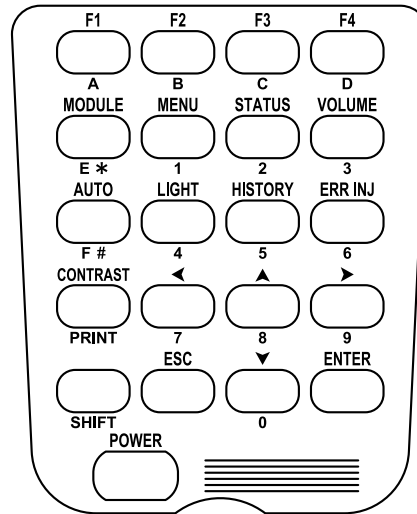


Figure 2 SSMTT-C, -CI Keypad

The keys have two distinct functions:

- The primary functions (white label above the key) indicates what function will be performed if the key is pressed by itself (i.e. MODULE or HISTORY).
- The shift functions (orange label below the key) shows what function will be performed if the SHIFT key is pressed first (i.e. numbers or letters).

2.1.1 Primary Functions

F1-F4: The F-keys are used to select choices F1 through F4 at the bottom of the LCD display. If more than four F-key options are available, a 'more' indicator will appear in the F4 position. Pressing the F4 key will display the other available F-keys.

MODULE: This key brings up the main menu of the module installed in the unit. Use it to access all module functions.

MENU: This key brings up the main menu. Use it to access all functions. Figure 3 shows the menu screen.

To access a particular function, use the keypad left/right and up/down arrow keys to move the cursor to the icon or line representing the function you want, then press the ENTER key.

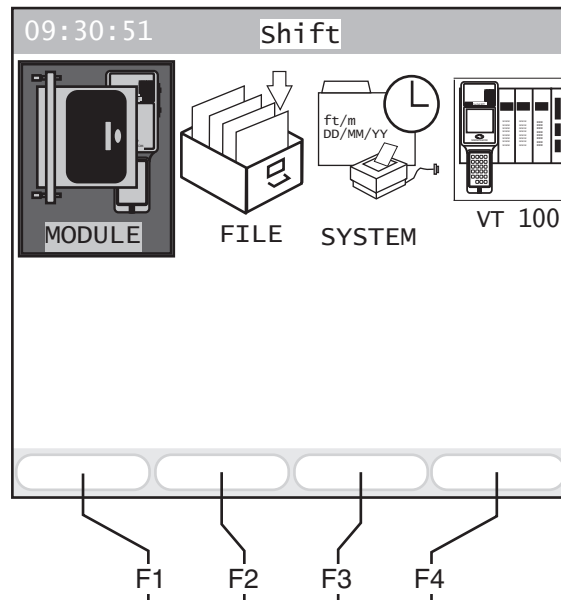


Figure 3 Main Menu Screen

Note: Throughout this manual the following convention is used to access functions. For example, “Select MAIN MENU > OTHER SETUP > SYSTEM CLOCK”. This means; select MAIN MENU and press the keypad ENTER key, select OTHER SETUP and press the keypad ENTER key, select SYSTEM CLOCK and press the keypad ENTER key.

STATUS: This key will be implemented in a future software release.

VOLUME: This key adjusts the speaker’s volume. It is only applicable to certain module functions.

AUTO: This key is only applicable to certain modules. Refer to the individual module user’s manual for specific details on the use of this key.

LIGHT: This key turns the backlight for the LCD screen on and off. You may also set a timer to turn off the backlight. To program the timer for the backlight:

1. Press the MENU key and select SYSTEM > SYSTEM CONFIG.
2. Select BACK LIGHT and select the desired on time by using the +5 MIN and -5 MIN F-keys.
3. Press the keypad ESC key until you reach the main menu screen.

HISTORY: This key clears any flashing LEDs. They flash to indicate that an error or alarm condition occurred, but is no longer present.

ERR INJ: The Error Inject key injects errors on the transmit signal. This is applicable only to certain module functions.

CONTRAST: This key adjusts the contrast of the LCD display. Continue to press the key until the desired contrast level is achieved.

ESC: The Escape key moves you back toward the main menu. Each key press brings you a single step backward.

ENTER: This key accesses the highlighted menu choice.

▲, ▼, ►, ◀: The cursor keys move the cursor in the indicated direction.

2.1.2 Shift Functions

The SHIFT key activates the functions specified by the orange labels. The SHIFT key should always be pressed first, then released before the orange-label key is pressed. When pressed a 'Shift' indicator is displayed at the top of the screen. Press the key again to remove the indicator, allowing access to the primary white-label functions.

Note: If the keys are not operating as expected, check the 'Shift' indicator. If the indicator indicates the wrong status, simply press the SHIFT key.

The orange shift keys have the following functions:

0-9: These keys are used to enter numbers during testing. Examples are entering IP addresses during PING testing or entering user test patterns.

A-F: These keys are used to enter hexadecimal values.

PRINT: This key is currently not supported.

2.2 LEDs

The LEDs provide valuable information on:

- The test set's current test mode.
- The status of the received signal. When the test set detects an alarm, the ALARM LED lights red.
- The status of modem synchronization. In DSL testing, a solid green LED for XTU-R (for ATU-R testing) indicates the test set has achieved synchronization with the DSLAM.

Figure 4 shows the SunSet MTT LED panel.

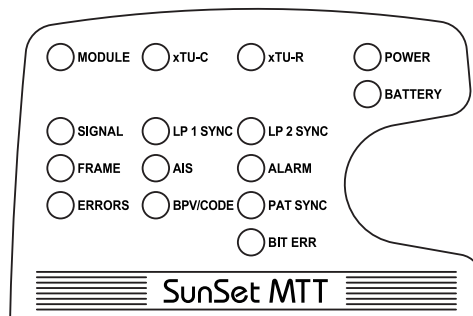


Figure 4 SunSet MTT-C & CI LED Panel

The LEDs have the following meanings:

MODULE

- Green: Indicates that the test set is in the module mode.
- Red: Indicates that there is an error in recognizing the module.

XTU-C

This LED is active when the test set is emulating an xTU-C.

- Green: Indicates that the test set has synched with the xTU-R.
- Red: Indicates that the test set has not connected with the xTU-R.
- Blinking Red: Indicates that the test set is attempting to open the link with the xTU-R.

XTU-R

This LED is active when the test set is emulating an xTU-R.

- Green: Indicates that the test set has synched with the xTU-C.
- Red: Indicates it has not connected with the xTU-C.
- Blinking Red: Indicates that the test set is attempting to open the link with the xTU-C.

SIGNAL

This LED is active during test modes with T1 and E1 signals. For example, HDSL T1/E1 tests the T1/E1 signal.

- Green: Indicates the test set is receiving a T1 or E1 signal.
- Red: Indicates that test set is not receiving a T1/E1 signal as expected.

LP 1 SYNC

This LED is active during test modes with 2 loops. For example, in HDSL T1/E1 testing it displays the status of HDSL loop 1.

- Green: Indicates loop 1 (i.e. HDSL Loop 1) is in sync.
- Red: Indicates loop 1 is not in sync.

LP 2 SYNC

This LED is active during test modes with 2 loops. For example, in HDSL T1/E1 testing it displays the status of HDSL loop 2.

- Green: Indicates loop 2 (i.e. HDSL Loop 2) is in sync.
- Red: Indicates that loop 2 is not in sync.

FRAME

This LED is active when the test set is in a framed test mode (i.e. T1 testing).

- Green: Indicates that the test set has achieved frame sync and the framing found on the received signal matches the framing set in Test Configuration.
- Red: Indicates that the configured framing type is not found on the received signal. This could indicate either a loss of framing on the received signal or a framing mismatch.

AIS

- Red: Indicates an AIS (Alarm Indication Signal) has been detected.
- Blinking Red: The test set previously detected an AIS, but it is no longer present. Press HISTORY to clear the flashing LED.

ALARM

The Alarm LED has functions specific to the module in use.

ERRORS

- Red: The test set is currently detecting an error.
- Blinking Red: The test set previously detected an error, but that error is no longer present. Press HISTORY to clear the flashing LED.

BPV/CODE

- Red: Indicates that the test set is currently detecting a Bipolar Violation (BPV) or Code error.
- Blinking Red: Indicates that the test set previously detected a BPV or code error, but that error condition is no longer present. Press HISTORY to clear this flashing LED.

PAT SYNC

This LED is active whenever the test set is performing a BERT test with a known test pattern. For example, it is active in HDSL, IDSL, Datacom/DDS, or T1 testing.

- Green: Indicates that the test set has achieved pattern synchronization.
- Red: Indicates that the test set has lost pattern synchronization or cannot achieve pattern sync.

BIT ERR

This LED is active whenever the test set is performing a BERT test with a known test pattern. For example, it is active in HDSL, IDSL, Datacom/DDS, or T1 testing.

- Red: The test set is currently detecting bit errors.
- Blinking Red: The test set previously detected bit errors, but they are no longer present. Press HISTORY to clear this flashing LED.

POWER

- Green: The test set is powered on.

BATTERY

- Green: The SS138D AC Adapter/Charger is connected and that the test set is charging.
- Red: This indicates a low battery. You should connect the test set to the charger as soon as possible.

2.3 Connector Panels

The test set has one side panel and one top panel. The left side contains a slot to insert plug-in modules. The top panel has a serial port, DC power adapter jack and two slots for PCMCIA software cards.

2.3.1 Module Side Panel

The left side of the test set contains a module slot to insert plug-in modules. Upon ordering the SunSet MTT with module, the module will already be inserted upon delivery. To change modules, use the following procedure:

CAUTION!

Changing modules with the power on will damage the module and or the test set. Always verify that the test set is off before changing modules.

1. Verify that the test set is off and loosen the two thumb screws on either side of the module.
2. Gently pull the module out from the slot. Place it in its hard case or protective wrapper.
3. Insert the other module. Make sure it is firmly seated in the slot.
4. Screw in the two thumb screws. Make sure these are secure.
5. Turn on the test set. The screen should show that the test set is downloading the new module and should read 'PASS'.
7. Perform an NV RAM ERASE. Refer to *Chapter 3, Section 3.2.1*, for the procedure.

2.3.2 Top Panel

The top panel is shown in Figure 5. Note that the panel is shown with the protector covers removed.

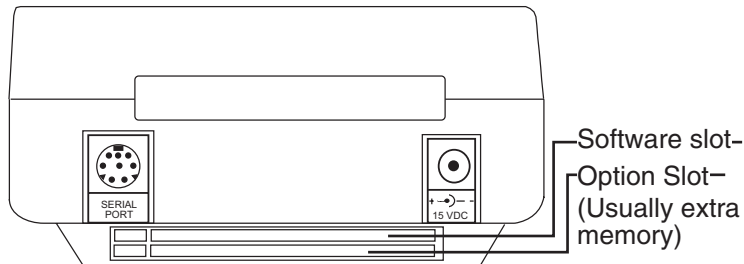


Figure 5 SSMTT-C & -CI Top Panel

15VDC

CAUTIONS!

- Do not use a charger other than the SS138D charger provided with your test set. Use of other chargers may cause damage to the test set and will void your warranty.
- Whenever possible, do not use the SS138D charger during normal operation. For optimum results, we recommend fully charging the test set, then performing your tests on battery power alone.

Plug the AC Adapter/Charger into this 15 VDC port. Sunrise Telecom provides the SS138D Adapter/Charger; its output is 15 VDC, input 100-240 VAC. The test set may be operated while charging, but optimum performance will be with battery operation.

Serial Port

The DIN-8 serial port should be used for printing results. Sunrise Telecom provides three different cables for connecting to a printer: SS115 (DIN-8 to DB25), SS115C (DIN-8 to 6-PIN RJ11, compatible with STAR DP-8340), and SS115D (DIN-8 to DB9).

Refer to *Chapter 3, Section 3.1.7.1*, for details on the configuration of this port.

Software Card

The test set's software can be upgraded via the PCMCIA card. The software card is inserted into the inner card slot of the SunSet MTT. Refer to Figure 6.

CAUTION!

Do not remove or insert the software card while the test set is on, the cartridge can be damaged.

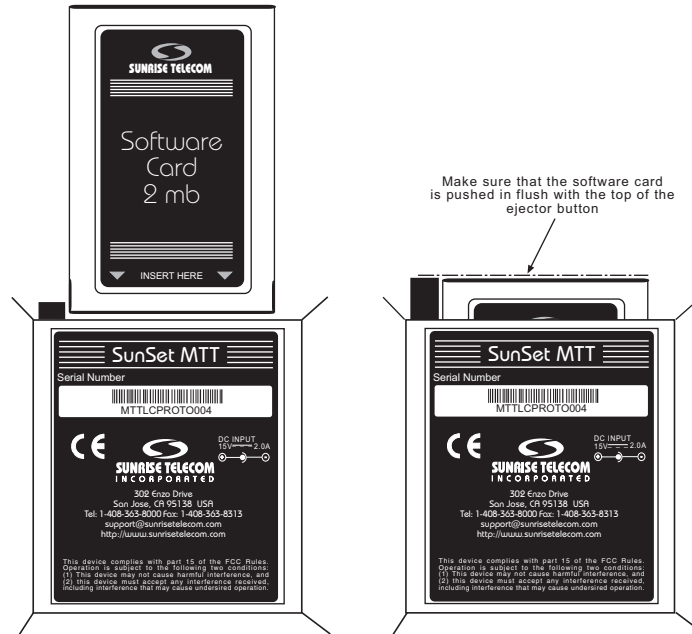


Figure 6 Software Card Installation

To Replace the card:

1. Turn off the test set and unplug any cables.
2. Flip down the hinged protective top cover, which exposes the view shown in Figure 6.
3. Press down on the black ejector tab on the left to eject the old cartridge.
4. Insert the new cartridge and push it down till seated as shown in Figure 6.
5. Flip up the hinged protective top cover.
6. Turn on the test set and perform an NV RAM ERASE. This procedure should always be performed after inserting a new software cartridge. Refer to *Chapter 3, Section 3.2.1* for the procedure.

2.4 Battery Care and Storage

It is important to observe the basic battery care procedures in order to avoid possible damage to the battery and to maintain its performance.

WARNINGS

- Failure to observe the following procedures and precautions can result in electrolyte leaks, heat generation, bursting, fire and serious personal injury.
- Battery electrolyte is a strong colorless alkaline solution, which is extremely corrosive and will burn skin.
 - If skin comes in contact with the electrolyte from the battery, thoroughly wash the area immediately with clean water.
 - If clothing comes in contact with the electrolyte from the battery, discard the clothing.
 - If any fluid from the battery comes in contact with eyes, immediately flush thoroughly with clean water and immediately consult a doctor. The electrolyte can cause permanent loss of eyesight.
- Keep the battery out of reach of children.

CAUTIONS

- Never dispose the battery in a fire.
- Never heat the battery.
- Never strike or drop the battery.
- Do not apply water, or other oxidizing agents to the battery. This will cause corrosion and heat generation. If the battery becomes rusted, the gas release vent may no longer operate and cause the battery to burst.
- Do not charge the battery using a AC adapter or charger not specified by Sunrise Telecom. Charge the battery only with the Sunrise Telecom charger/AC adapter that came with your test set.
 - If the battery is not fully charged after the battery charger's predetermined charging period has elapsed, stop the charging process. Prolonged charging may cause leakage of battery fluid, heat generation, and or bursting.
 - Charge the battery within a temperature range of 0°C (+32°F) to +40°C (+104°F).
- Do not use the battery if it leaks fluid or changes shape; otherwise it may cause heat generation, bursting and fire.
- Do not short circuit the battery by connecting the positive (+) and negative (-) terminals together with electrically conductive materials, such as lead wires, etc.

- Do not connect the battery directly to a power source or the cigarette lighter socket in a car. Use a specified cigarette lighter charger from Sunrise Telecom.
- Never disassemble the battery. Doing so may cause an internal or external short circuit, or result in exposed material of battery reacting chemically with the air. It may also cause heat generation, bursting, and or fire.
- Never modify or reconstruct the battery pack. Protective devices are built into the battery pack. If damaged, excessive current flow may cause loss of control during charging or discharging of the battery, which can result in leakage of battery fluid, heat generation, bursting, and or fire.
- The gas release vent, which releases internal gas is located in the positive (+) terminal of the battery. For this reason, never deform, cover, or obstruct this vent.
- When the battery operating time becomes much shorter than its initial operating time even after recharged, the battery has reached its end of life and should be replaced with a new one.

Extended Battery Storage

- Fully charge the battery before storing.
- Remove the battery from the test set. Follow the procedure in *Section 2.4.1*.
- Do not store battery in high temperatures, such as direct sunlight, in cars during hot weather, or near any other heat source. This will impair the performance and shorten the operating life of the battery, and may cause battery leakage.
 - For maximum battery life, store the battery between -20°C and +30°C (+86°F).
- During storage the battery will need to be regularly recharged. The interval ranges from approximately 30 to 90 days at temperatures between -20°C and +30°C (+86°F). In general the higher the storage temperature the shorter the recharge cycle.
 - To recharge, install the battery into the test set and use the supplied Sunrise battery charger to recharge the battery.
 - Charge the battery within a temperature range of 0°C (+32°F) to +40°C (+104°F).
- After long-term storage, there is a possibility that the battery will not fully recharge. To fully charge it, charge and discharge the battery for a few times. Use the test set to discharge the battery.

2.4.1 Replacing the Battery

The SunSet MTT is designed with a field-replaceable 9-cell NiMH battery. You may order a battery replacement (SS140) from Sunrise Telecom customer service (1-800-701-5208 or 1-408-363-8000). Follow these steps to replace the battery:

1. Swing the test set support stand out of the way.
2. Remove the cover retainer screw and push down on the battery cover on the back panel, in the direction indicated by the arrow, to remove the cover, refer to Figure 7.
3. Unclip the battery, as indicated on Figure 7.
4. Pull the old SS140 NiMH battery off its Velcro backing, and out of the test set.
5. Install the new battery using the reverse of this procedure.

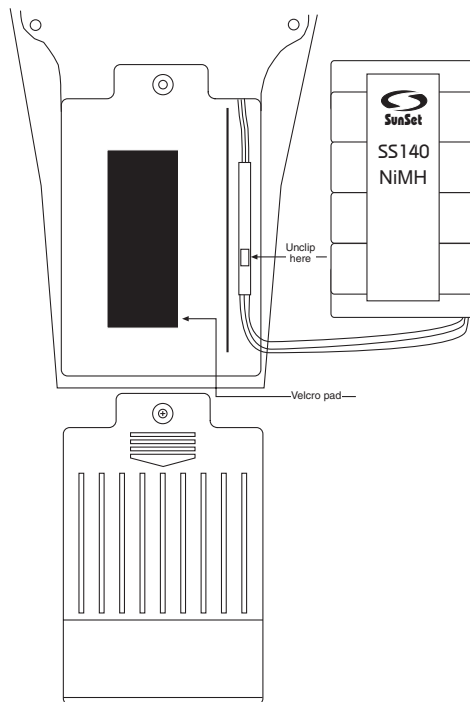


Figure 7 Replacing the Battery Pack

Note: Please recycle the old battery

Chapter 3 Menu

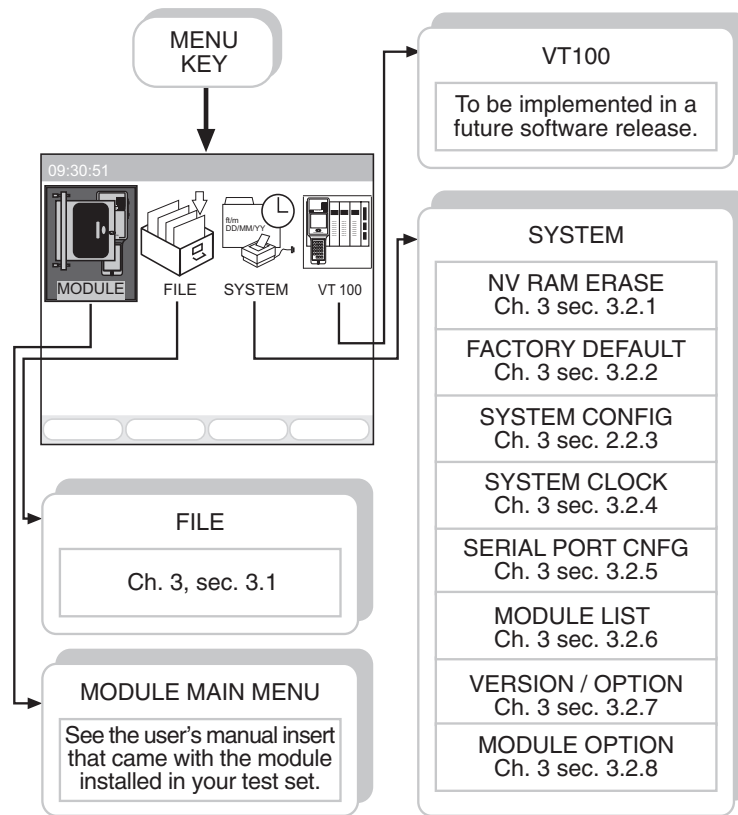


Figure 8 Menu Tree

Press the MENU key to access the screen shown in Figure 8.

- To select a menu item, use the keypad arrow keys to select and press ENTER.

The menu tree, shown in Figure 8 gives you a quick reference to the functions of the SunSet MTT.

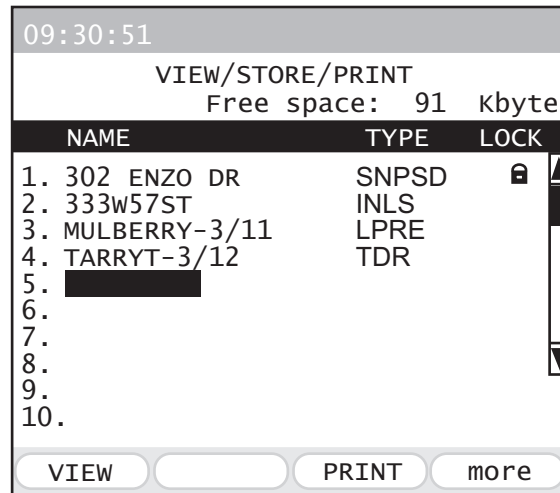
3.1 File

You may store results to view/print at a later time. Each result can be labeled with a filename for easy identification. You may typically store up to 50 individual results depending on available memory.



Use the STORE F-key found in results screens to store and recall results. For example, the Link Turn-up results or TDR results screen contains a STORE F-key. You may need to press the more (F4) key several times to access STORE. Use the FILE icon to access stored results.

Upon pressing a STORE F-key or selecting the FILE icon, you will see the VIEW/STORE/PRINT screen. The screen in Figure 9 lists all other results that have already been stored.



VIEW/STORE/PRINT		
Free space: 91 Kbyte		
NAME	TYPE	LOCK
1. 302 ENZO DR	SNPSD	🔒
2. 333W57ST	INLS	
3. MULBERRY-3/11	LPRE	
4. TARRYT-3/12	TDR	
5. [REDACTED]		
6.		
7.		
8.		
9.		
10.		

VIEW [] PRINT more

Figure 9 View/Store/Print Screen

The following F-keys are available in the VIEW/STORE/PRINT screen.

VIEW (F1): Allows viewing of a selected file, see *Section 3.1.2*.

SAVE (F2): Allows saving a file, see *Section 3.1.1*.

PRINT (F3): Allows printing of a selected file, see *Section 3.1.3*.

RENAME (more, F1): Allows renaming a selected file, see *Section 3.1.6*.

UN/LOCK (more, F2): Allows locking and unlocking a file, see *Section 3.1.5*.

DELETE (more, F3): Allows deleting a file, unless locked, see *Section 3.1.4*.

3.1.1 Saving a Test

1. From any screen with a STORE F-key, press it and refer to Figure 9.
2. Use the keypad up/down arrow keys to move the cursor to an empty line.
 - A page indicator appears on the right side of the screen.
3. Press SAVE (F2), this displays the Character screen, shown in Figure 10.



Figure 10 Character Screen

4. Press INPUT (F3). Note that the 'A' character is highlighted and the INPUT F-key has changed to STOP.
5. Use the keypad arrow keys to move the cursor to the desired character.
6. Press ENTER to place the desired character in the FILENAME line. Continue this process until the FILENAME is complete. You may enter up to 16 characters.
 - If you make a mistake in the entry:
 - A. Press STOP (F3).
 - B. Move the FILENAME cursor to the incorrect character.
 - C. Press DELETE (F2) to delete the character or, press INSERT (F1) to insert a character.
 - D. Press INPUT (F3) to select a character. Press ENTER to insert the new character to the left of the cursor.
7. Press SAVE (F4) to save and return to the View/Store/Print screen shown in Figure 9.

3.1.2 Viewing a Stored Test

1. Press MENU, select FILE and press ENTER.
2. Select the desired file from the VIEW/STORE/PRINT screen with the keypad up/down arrow keys.
3. Press VIEW (F1) and the stored result will appear.
4. Use the keypad up/down arrow keys to scroll through the available screens.
5. When finished, press ESC to return to VIEW/STORE/PRINT.

3.1.3 Printing a Stored Test

1. Connect a SunSet printer to the serial port of the test set.
 - For other types of printers or for more information, refer to *Section 3.1.7* and its subsections.
2. Press MENU, select FILE and press ENTER.
3. Select the desired file from the VIEW/STORE/PRINT screen with the keypad up/down arrow keys.
4. Press PRINT (F3) and the file will begin printing.
5. When finished, press ESC to return to VIEW/STORE/PRINT.

3.1.4 Deleting a Stored Test

1. Press MENU, select FILE and press ENTER.
2. Select the desired file from the VIEW/STORE/PRINT screen with the keypad up/down arrow keys.
3. Press DELETE (more, F3) and the file is deleted if the file is unlocked.

3.1.5 Locking & Unlocking a Stored Test

1. Press MENU, select FILE and press ENTER.
2. Select the desired file from the VIEW/STORE/PRINT screen with the keypad up/down arrow keys.
3. Press UN/LOCK (more, F2) and the file is locked or unlocked as indicated to the right of the filename. Refer to the lock icon shown in Figure 9.

3.1.6 Renaming a Stored Test

1. Press MENU, select FILE and press ENTER.
2. Select the desired file from the VIEW/STORE/PRINT screen with the keypad up/down arrow keys.
 - Press UN/LOCK (more, F2) if the file is locked as indicated by the lock icon.
3. Press RENAME (more, F2) and the character screen shown in Figure 10 is displayed
4. Use the procedure in *Section 3.1.1-Saving a Test*, steps 4-7.

3.1.7 Transferring Results to a PC

Using the SunSet Color Remote Control PC software, you can transfer most stored results to a PC and generate a test report.

3.1.7.1 Configuring the Serial Port

In order to print or transfer results to a PC correctly, the test set's serial port must be configured to match the destination printer/PC. To configure:

1. Press MENU and select SYSTEM > SERIAL PORT CONFG.
2. Refer to Figure 11 and the following:

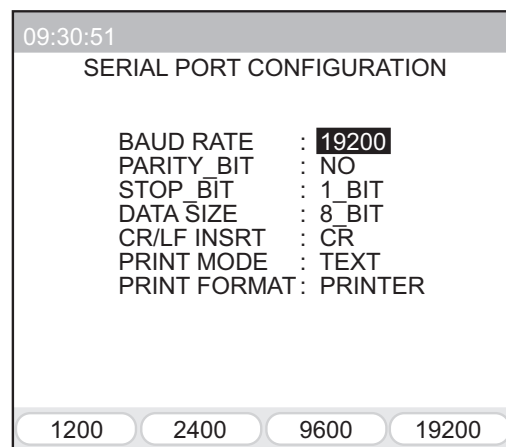


Figure 11 Serial Port Configuration

BAUD RATE

Options: 1200 (F1), 2400 (F2), 4800 (F3), 9600 (more, F1), 19200 (more, F2)

Press the F-key that corresponds to the desired baud rate setting. *Make sure this setting matches that of the destination printer.*

PARITY BIT

Options: NO (F1), ODD (F2), EVEN (F3)

Parity is a method of checking the accuracy of transmitted or stored data. An extra bit, known as a parity bit, is added to the data as an accuracy check. *Make sure this setting matches that of the destination printer.*

- In Odd Parity, the total number of ones (including the added parity bit) is odd.
- In Even Parity, the total number of ones (including the added parity bit) is even.
- None signifies no parity checking.

STOP BIT

Options: 1_BIT (F1), 2_BIT (F2)

In asynchronous transmission, the stop bit is the last transmitted character which permits the receiver to come into an idle condition before accepting another character. *Make sure this setting matches that of the destination printer.*

DATA SIZE

Options: 5_BIT (F1), 6_BIT (F2), 7_BIT (F3), 8_BIT (F4)

Data Size specifies the number of bits per character. *Make sure this setting matches that of the destination printer.*

- 5_BIT: Selects 5 bits per character.
- 6_BIT: Selects 6 bits per character.
- 7_BIT: Selects 7 bits per character.
- 8_BIT: Selects 8 bits per character.

CR/LF INSRT

Options: CR (F1), CR+LF (F2)

- CR: Selects carriage return.
- CR+LF: Selects carriage return and line feed. This mode inserts an extra line space after every line.

PRINT MODE

Option: TEXT (F1), GRAPHIC (F2)

TEXT: This mode prints a text-only format. The following stored results are printable to a serial printer or a PC terminal program:

- BACKGROUND NOISE PSD Tabular Results (F3: PRINT)
- NEXT Tabular Results (F3: PRINT)
- FEXT Tabular Results (F3: PRINT)
- INSERTION LOSS PSD Tabular Results (F3: PRINT)
- Signal to Background Noise Tabular Results (F3: PRINT)

GRAPHIC: To be implemented in a later software release.

PRINT FORMAT

Options: PRINTER (F1), VT100 (F2)

- Printer: Supports SunSet printers
- VT100: Exports tabular results (as mentioned in PRINT MODE) in a two column format to terminal programs, such as Windows HyperTerminal™ for post data processing.

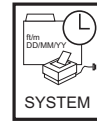
3.1.7.2 Printing to a PC

You can send your data to a PC running the SunSet Color Remote Control software.

1. Verify that the serial port is configured for both the computer and the test set.
 - 19200 baud rate is recommended.
2. Connect the test set to the PC. Use the following combination:
 - SS115D (8-DIN to DB9) printer cable and an SS122B Null Modem adapter.
 - SS115 (8-DIN to DB25) and an SS122C Null Modem adapter.
 - Most stored results can be printed to your PC using the SunSet Color Remote Control software.

3.2 System

This menu item contains items used for various system settings. They are:



- NV RAM ERASE
- FACTORY DEFAULT
- SYSTEM CONFIG
- SYSTEM CLOCK
- SERIAL PORT CNFG
- MODULE LIST
- VERSION/OPTION
- MODULE OPTION

3.2.1 NV RAM Erase

Use the following procedure to perform NV RAM ERASE:

CAUTION!

This operation will erase all user stored information.

1. Press MENU and select SYSTEM > NV RAM ERASE.
2. Press ENTER to start NV RAM ERASE. A 'ERASING NV RAM' message will be displayed.
 - Press ESC to escape from the procedure.
3. After the test set powers up, configure it for the operations you need to perform.

3.2.2 Factory Default

Use this procedure to return the test set to its original profiles.

1. Press MENU and select SYSTEM > FACTORY DEFAULT.
2. Press ENTER to start, the test set resets all profiles to original settings.
 - Press ESC to escape from the procedure.

3.2.3 System Configuration

This configuration screen contains these items:

LANGUAGE

Options: ENGLISH (F1), ITALIAN (F2), SPANISH (F3), FRENCH (F4)

Select the language that the test set will display by pressing the appropriate F-key.

UNIT

Options: ENGLISH (F1), METRIC (F2)

Select the measurement system the test set will use.

BACK LIGHT

Options: 5-60 minutes

Use +5 MIN and -5 MIN to set back light on time.

AUTO SHUT OFF

Options: OFF to 30 minutes

Use +1 MIN and -1 MIN to set.

3.2.4 System Clock

Use this procedure to set the System Clock:

1. Press MENU and select SYSTEM > SYSTEM CLOCK.
3. At DATE: Use INC (F1) and DEC (F2) to set the month, date, and year. Use the keypad left/right arrow keys to move the cursor.
4. When finished setting the date, select TIME by pressing the keypad down arrow key.
5. At TIME: Use INC (F1) and DEC (F2) to set the hour, minutes, and seconds.
6. When finished entering the date and time, press SET (F3) to save your entries.

3.2.5 Serial Port Configuration

Refer to *Section 3.1.7.1*.

3.2.6 Module List

Displays a list of modules that the test set's software will support. It also displays the test set's software VERSION and BUILD number. Use PAGE-UP (F1) and PAGE-DN (F2) if necessary. Press OPTIONS (F3) to display the VERSION/OPTION screen described in *Section 3.2.7*.

3.2.7 Version/Option

This displays a list of installed hardware and software features for the test set and supported modules. Use PAGE-UP (F1) and PAGE-DN (F2) if necessary. Press M-LIST (F3) to display the MODULE list screen described in *Section 3.2.6*.

3.2.8 Module Option

To be implemented in a later software release.

Chapter 4 Reference Information

4.1 Customer Service

General Sunrise Telecom Customer Service is available from 7:30 AM to 5:30 PM Pacific Standard Time (California, U.S.A.).

Customer Service performs the following functions:

- Answers customer questions over the phone on such topics as product operation and repair.
- Facilitates prompt repair of malfunctioning test sets.
- Provides information about product upgrades.

A Return Merchandise Authorization (RMA) Number is required before any product may be shipped to Sunrise Telecom for repair. Out-of-warranty repairs require both an RMA and a Purchase Order before the unit is returned. All repairs are warranted for 90 days.

Please contact Customer Service if you need additional assistance:

Customer Service
Sunrise Telecom Incorporated
302 Enzo Drive
San Jose, CA 95138
U.S.A.
Tel: 1-408-363-2200 or 1-800-701-5208
Fax: 1-408-363-8313
Internet: <http://www.sunrisetelecom.com>
Email: support@sunrisetelecom.com

MTT Support Hotline

In addition to general customer service, a 24-hour MTT support line is available for dedicated MTT technical support. Our knowledgeable MTT support staff is ready to help you with any questions you might have regarding MTT testing.

Call: 1-888-922-9375

4.2 Express Limited Warranty

- A. Hardware Coverage. COMPANY warrants hardware products against defects in materials and workmanship. During the warranty period COMPANY will, at its sole option, either (i) refund of CUSTOMER'S purchase price without interest, (ii) repair said products, or (iii) replace hardware products which prove to be defective; provided, however, that such products which COMPANY elects to replace must be returned to COMPANY by CUSTOMER, along with acceptable evidence of purchase, within twenty (20) days of request by COMPANY, freight prepaid.
- B. Software and Firmware Coverage. COMPANY warrants software media and firmware materials against defects in materials and workmanship. During the warranty period COMPANY will, at its sole option, either (i) refund of CUSTOMER'S purchase price without interest, (ii) repair said products, or (iii) replace software or firmware products which prove to be defective; provided, however, that such products which COMPANY elects to replace must be returned to COMPANY by CUSTOMER, along with acceptable evidence of purchase, within twenty (20) days of request by COMPANY, freight prepaid. In addition, during the warranty period, COMPANY will provide, without charge to CUSTOMER, all fixes and patches to the original product specifications sold which COMPANY issues during the warranty period. COMPANY does not warrant or represent that all software defects will be corrected. In any case where COMPANY has licensed a software product "AS-IS," COMPANY'S obligation will be limited to replacing an inaccurate copy of the original material. This warranty does not cover upgrade or enhancements to product software and firmware.
- C. Period. The warranty period for Hardware, Software and Firmware will be One (1) Year from date of shipment to CUSTOMER. The COMPANY may also sell warranty extensions or provide a warranty term of three years with the original sale, which provide a longer coverage period for the test set chassis, software and firmware, in which case the terms of the express limited warranty will apply to said specified warranty term.
- D. Only for CUSTOMER. COMPANY makes this warranty only for the benefit of CUSTOMER and not for the benefit of any subsequent purchaser or licensee of any merchandise.
- E. LIMITATION ON WARRANTY. THIS CONSTITUTES THE SOLE AND EXCLUSIVE WARRANTY MADE BY COMPANY WITH RESPECT TO HARDWARE, SOFTWARE AND FIRMWARE. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED. COMPANY SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. COMPANY'S LI-

ABILITY UNDER THIS AGREEMENT WITH RESPECT TO A PRODUCT, INCLUDING COMPANY'S LIABILITY FOR FAILURE AFTER REPEATED EFFORTS TO INSTALL EQUIPMENT IN GOOD WORKING ORDER OR TO REPAIR OR REPLACE EQUIPMENT, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OR LICENSE FEE FOR THAT PRODUCT, NOR SHALL COMPANY IN ANY EVENT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, ARISING FROM OR RELATED TO THE SALE OF THE MERCHANDISE HEREUNDER, INCLUDING BUT NOT LIMITED TO DAMAGES ARISING FROM OR RELATED TO LOSS OF BUSINESS, LOSS OF PROFIT, LOSS OF GOODWILL, INJURY TO REPUTATION, OVERHEAD, DOWNTIME, REPAIR OR REPLACEMENT, OR CHARGE-BACKS OR OTHER DEBITS FROM CUSTOMER OR ANY CUSTOMER OF CUSTOMER.

- G. No Guaranty, Nonapplication of Warranty. COMPANY does not guaranty or warrant that the operation of hardware, software, or firmware will be uninterrupted or error-free. Further, the warranty shall not apply to defects resulting from:
- (1) Improper or inadequate maintenance by CUSTOMER;
 - (2) CUSTOMER-supplied software or interfacing;
 - (3) Unauthorized modification or misuse;
 - (4) Operation outside of the environmental specifications for the product;
 - (5) Improper site preparation or maintenance; or
 - (6) Improper installation by CUSTOMER.

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