

SaveTime & Savetime Lite

Setup and Test



Revision 1.0

June 1, 2001

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2015 / 2016 (2x20, 2x24, 2X40, 4x20 Displays) Setup Mode

CMI data collection terminals have two diagnostic tools that ensure their reliable operation and aid in troubleshooting the terminal.

Self-diagnostics is a series of tests run by the terminal itself.

Off line Mode gives you access to several other modes that let you check the functions of the terminal.

Setup Mode is one of the main modes you can access from within Off line Mode. It lets you set the terminal's parameters that control things like communications and card readers.

Self-diagnostics

Self-diagnostics let you know a terminal is malfunctioning so you don't have to perform additional diagnostics in the Off line Mode. When a terminal performs self-diagnostics, it checks:

- CPU
- ROM
- RAM
- FLASH
- NOVRAM
- RTC
- COMMUNICATION INTERFACE (Off Line Mode only)

If any of the parts above fail the self-diagnostics, the terminal's display shows a failure message.

A terminal performs self-diagnostics each time you:

- Apply power
- Exit Off line Mode by moving the On line/Off line switch from the *On line* position to the *Off line* position.

If Self-diagnostics Pass

If self-diagnostics pass, the display shows different messages depending on whether the terminal is in the *On Line* or *Off line* mode.

In On line Mode

If all tests pass in the *One line* mode, the display shows one of the following:

LOCKED BY HOST!
COMM OK

LOCKED BY HOST!
NO COMM

LOCKED BY HOST!
CONT

LOCKED, DOWNLOAD ERROR!
COMM OK

LOCKED, DOWNLOAD ERROR!
NO COMM

LOCKED, DOWNLOAD ERROR!
CONT

LOCKED, NO DOWNLOAD!
COMM OK

LOCKED, NO DOWNLOAD!
COMM OK

LOCKED, NO DOWNLOAD!
CONT

When the terminal is in locked mode, communications status is also displayed. If the terminal is in communications with the host you will see the message '**COMM OK**'. If the host has not polled the terminal in the past 20 seconds, the terminal will display '**NO COMM**'. When the terminal is in contention mode and a Lock command is given, the terminal will display '**CONT**'.

In Off line Mode

If all tests pass in the Off line Mode, the terminal displays several informational messages and shows its setup parameters. Each of the following messages display for about two seconds:

Model Information

The terminal's model name and number.

CMI SaveTime 2000

Copyright Information

The legal statement giving CMI control over the reproduction of the terminal.

(C) CMI ' 2000

BIOS Firmware Version of Terminal

BIOS program number and revision. "X" represents the single letter identifying the software version.

BIOS: PS00272B

Application Software Version of Terminal

Application program number and revision and data of release.

PS0025-011F 06/01/01

If Self-diagnostics Fail

If any parts fail the self-diagnostics, the display shows each failure message for about one second in the sequence listed below. The last failure message stays in the display. To re-display the failure messages press any key.

CPU RAM Failure Message

CPU MEM FAILED

RAM Failure Messages

BANK 1 FAILED

BANK 2 FAILED

BANK 1 & 2 FAILED

NOVRAM Failure Messages

NOVRAM FAILED

SETUP REQUIRED !!

RTC Failure Message

RTC FAILED

Off Line Mode

Off line Mode lets you to perform the following functions with a terminal:

- Set up its communication parameters and select the reader type
- Verify the keypad and reader are functional
- Perform diagnostics
- Utilities
- Clear RAM (data and download)
- Terminate APP (erase the flash firmware)
- Exit Off line Mode

A terminal in “off-line” is physically disconnected from the communications network. Any functions you perform do not affect the rest of the system.

Starting Off line Mode

To place the terminal into Off line Mode:

1. Unlock the terminal by turning the key counterclockwise.
2. Remove the top of the terminal from the wall mount. Move the On line/Off line switch to the *Off line* position.
3. The display will briefly show several informational messages and will then display the following message:

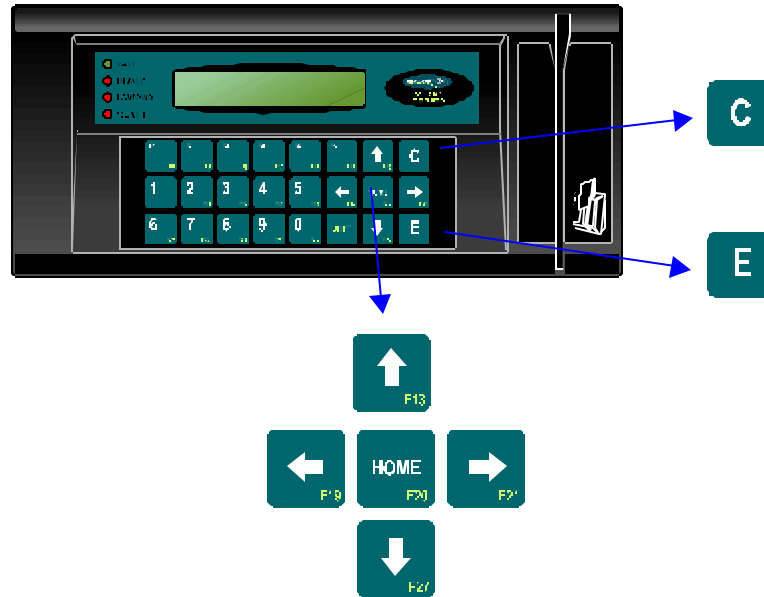
```
Setup Mode? INIT      - - E
19,O,HDØ,AØØ,BC
```

This is the prompt for Setup Mode, the first selection in Off line Mode. The lower line lists the current parameter values.

Using Off line Mode

Once you are in Off line Mode, you can immediately go into Setup Mode to change the terminal's operating parameters or you can select from a number of other modes.

The first mode presented in Off line Mode is Setup Mode. Moving up or down, you can access each of the other modes by using the HOME, UP, DOWN, LEFT, RIGHT keys.



Valid Keys and Inputs

When selecting from the modes available from within Off line Mode or when moving through Setup Mode, Quick Check Mode, and the other modes, different keys and inputs are valid at different stages. The rightmost field in the display's upper line always shows a list of valid inputs. These values may change as you step through the different modes. The display always shows you a list of currently valid choices. The meaning and function of the input designators follows:

- I Initialization label or badge — Lets you set all values for all parameters at once.
- Up arrow key — Moves to the next menu selection or next parameter value.
- Down arrow key — Moves to the previous menu selection or previous parameter value.
- ® Right arrow key — Moves to the next parameter selection.
- Left arrow key — Moves to the previous parameter selection.

ENTER ENTER — Accepts the current selection.

CLEAR CLEAR — Cancels the current selection or operation.

HOME HOME — Returns control to the initial “Setup Mode?” screen.

Signifies a numeric value can be entered directly via the number keys.

Modes

When you place the terminal into Off line Mode, it goes through an initial sequence where it presents several informational messages. Then it prompts the user for entry into Setup Mode. Setup Mode is the first in a list of selections. To go to the next choice you press the - key. To go the previous choice press the ^ key. Once you see the mode you want, press E (ENTER) to select it.

Setup Mode

Set terminal parameters for communications and reader type.

```
Setup Mode? INIT      - - E
19,O,HDØ,AØØ,BC      Q
```

Terminal has transactions in the queue.

The Q in the lower right corner of the terminal indicates there are transactions in the Queue of the terminal.

Quick Check Mode

General terminal check-out utility.

```
Quick Check?         - - E H
```

Diagnostics

Self test diagnostics and network communication test.

```
Diagnostics?         - - E H
```

Utilities

Modem, Ethernet, and Token Ring configuration and Wiegand analyses.

```
Utilities?           - - E H
```

Clear RAM

Clear all data and download from RAM.

```
Clear Ram?           - - E H
```

Using the Setup Mode

Use the Setup mode when you are installing or swapping terminals and want to choose values for the parameters the terminal uses. The following table lists all the parameters and the values you can choose for them.

Parameter	Values
Baud Rate	1200, 2400, 4800, 9600, 19200
Parity	Odd, Even, Mark, Space, None (effective PS250011F)
Host Delay	0—9 (1 - 90 mS)
Terminal Address	00—31
Reader Type	Barcode, Mag I, Mag II, Wiegand, Holonetic, Barcode/Holonetic, Mag1/Holonetic, Mag 2/Holonetic, Wiegand/Holonetic, Bioscan

The parameters are stored in NOVRAM so they stay in the terminal—even if you turn the power off—until you change them. Data transmitted by the terminal and host computer is always ten bits in length and follows the format: one start bit, seven data bits, one parity bit, and one stop bit.

Default Parameters

When you receive your terminal, it will already be set up with these values:

Baud rate	19200
Parity	0 (odd)
Host Communication delay	HD 0 (1 mS—cluster mode)
Terminal address	00
Reader	Barcode

Usually, all you have to do is assign a different terminal address—from 00 to 31—to each terminal. When more than one terminal is connected to the same network or communications line, each terminal must have a unique address so it can communicate with the host computer. You can assign a maximum of 32 terminals to each network.

Choosing Values for Parameters

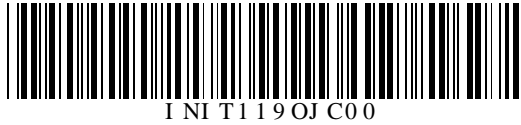
To choose values for a terminal's parameters, you use one of two methods:

- Scan an INIT label
- Use the keyboard

Scanning an INIT label lets you to automatically set all the values for the parameters at once. Using the keyboard gives you the chance to access each individual parameter and then select a value for that parameter.

Scanning an INIT Label

When you need to set up a terminal's parameters quickly, use a wand to scan an INIT label or read a badge containing an INIT label. An INIT label is a bar code containing a parameter list for a specific terminal.



Sample INIT Label

As the following sequence shows, after you scan the INIT label, the terminal acknowledges your scan and shows the new values you just entered for the terminal parameters

Using the INIT Label

1. Move the On line/Off Line switch to the *Off line* position. After briefly showing several informational messages the terminal will display:

```
Setup Mode? INIT          - - E H
19,O,HDØ,AØØ,BC
```

2. The INIT in the display line indicates an INIT label is a valid input at this point. Scan an INIT label now.

This is indicated by the Q in the bottom right of the display.

3. The display briefly shows:

```
INITIALIZED
```

4. Then the updated parameters are shown:

```
Setup Mode? INIT          - - E H
19,O,HDØ,AØØ,BC
```

Note: The display above is an example of what you will see. The values will vary to reflect what's actually on the INIT label.

Now you can do *one* of the following:

1. **Go to another mode** $\frac{3}{4}$ Press the - or $\bar{\text{~}}$ key until to see the selection you want.
2. **Exit the Off line mode** $\frac{3}{4}$ Move the On line / Off line switch to the *On line* position.

Keyboard

Besides using the wand or slot reader to scan an INIT label, you can also change a terminal's parameters by using the keyboard.

Power up the Savetime terminal and hold the **C** and **E** keys. After a few transient messages are displayed you will see the following screen:

```
Setup Mode?  INIT      - - E
19,O,HD0,A00,BC
```

The second line, “**19,O,HD0,A00,BC**” shows the values currently assigned to the terminal's parameters. The respective parameters are baud rate, parity, turnaround delay, address, and reader type. To change any of these values:

Press the ENTER key to enter the parameter editor. The screen changes to show:

```
Baud Rate      - @ - - H
19,O,HD0,A00,BC
```

The terminal highlights the currently selected parameter in the lower line of the display with an underline cursor. The upper line shows the selected parameter's name in the left side and lists the valid keys in the right side. The valid keys may change depending on the selected parameter.

As an example, to change a terminal address—Press the **@** key three times until the display shows:

```
Address        #C- @ - - H
19,O,HD0,A00,BC
```

Now, you have several options for setting the address. You can directly enter the address using the numeric keypad (**#**) or reset it to 0 using the CLEAR key (**C**). Alternately, you can use the **-** keys to increment or decrement the address. If you hold the arrow key down it will start to auto-repeat.

Once you've set the address, you can move to another parameter using the **- @** keys. Press the HOME key (**H**) to exit the parameter editor or move the On line/Off Line switch to the *On line* position to leave Off line Mode. Either of these actions updates the stored parameters.

Using the Utilities Mode:

Use **-** to view the Utilities, press **E** to enter a specific utility, press **H** for the setup menu .

Modem Utility

General modem check-out utility.

```
UTILITIES          - - H
Modem Utilities?
```

Press **E** to enter the Utility

```
MODEM UTILITIES   H
Switch to On line
```

Locate the 'ON LINE/OFF LINE' switch on your communications module and place it in the OFF LINE position. Hit H to escape. The display will show the following:

```
Checking for modem .
```

If the modem is not found you will get the following message:

```
Modem not found !
```

If the modem is found, you will get this message:

```
Modem initialized!
```

```
MODEM UTILITIES   H
Initialize Modem?
```

At this point the modem is verified as functional, initialized and ready to use.

If you press **E**, the modem will be initialized again. Press **H** to return to setup or move the 'ON LINE/OFF LINE' switch on the communications module to the 'ON LINE' position to exit Off line mode.

Using the Utilities Mode:

Use **-** to view the Utilities, press **ENTER** to enter a specific utility, press **HOME** for the setup menu.

Wiegand analysis

Examine the binary information encoded within the badge

```
UTILITIES          - - H
Wiegand analysis?
```

Press **E** to enter the Utility

```
READ BADGE...
```

Swipe the wiegand or proximity badge through the reader or press **HOME**

```
26 BITS          1100111
0110100100100100100101
```

The bit number is the length of the binary data found on your card

The binary data found on the badge is displayed.

```
READ BADGE...          H
```

Swipe another badge or press **HOME** to for the setup menu.

Using the Utilities Mode:

Use **-** to view the Utilities, press **ENTER** to enter a specific utility, press **HOME** for the setup menu.

(IF YOU ARE USING A052-XXX MODULE , YOU MUST REMOVE IT WHILE SETTING THE LINC MODULE.)
(REMOVE POWER BEFORE REMOVING OR INSERTING THE MODULE)
(IF YOU HAVE AN EXTERNAL READER PLUGGED INTO THE LINC WAND MONITOR PORT, IT WILL BLOCK COMMUNICATIONS IF PIN 1 IS GROUNDED IN THE READER. UNPLUG THE READER DURING SETUP)

Ethernet Utility

General ethernet setup utility.

```
UTILITIES                - - E H
Ethernet Utilities?
```

Press **ENTER** to enter the Utility or H to escape.

The terminal will now display that it is searching for a LINC module:
 You will see the RXD and TXD flash on the LINC module.

```
READING LINC MODULE
```

If the LINC module is not found, you will get this message:
 Older LINC modules can not be detected from the setup menu and must be changed with TELNET or the serial wand cable.

```
LINC NOT DETECTED
```

If the LINC module is found, you will get this message:

```
TERMINAL IP             # C E - - E H
192.168.000.062
```

To change the IP address, use the keypad to type in a new value, or use the **-**
 Use the **-** **®** arrows to move between the IP octets.

```
TERMINAL IP             # C E - - E H
192.168.000.062
```

Press **ENTER** when you are done typing in the IP address

To change the TERMINAL PORT use the keypad to type in a new value, or use the **-**
 Use the **-** **®** arrows to move between the digits.

```
TERMINAL PORT          # C E - - E H
03001
```

Press **ENTER** when you are done typing in the TERMINAL PORT

Setting up the SUB NET MASK or HOST BITS**SUB NET MASK SETUP**

If your Terminal shows SUBNET MASK instead of HOST BITS, then set as required, else skip this section. or use the - use the → Ⓜ arrows to move between the IP octets.

```
Subnet Mask          # C E - - E H
255.255.255. 000
```

Press E when you are done typing in the Subnet Mask, or C to clear, or H to escape.

If Your Terminal shows Host Bits, this is what you need to set it, else skip this section.

HOST BITS SETUP

The Host IP address must be within the IP address subnet mask of the LINC module or the host will not be able to communicate with it. It can Ping it but if you can not get into the setup menu at port 9999 with telnet, the subnet mask is incorrect.

To change the HOST BITS, use the keypad to type in a new value, or use the - -

Use the → Ⓜ arrows to move between the digits.

The host bits define the subnet mask. 08=255.255.255.0 16=255.255.0.0

```
HOST BITS           # C E - - E H
08
```

Press ENTER when you are done typing in the HOST BITS.

HOST BITS Values

```
08=255.255.255.0
09=255.255.254.0
10=255.255.252.0
11=255.255.248.0
12=255.255.240.0
13=255.255.224.0
14=255.255.192.0
15=255.255.128.0
```

```
16=255.255.0.0
17=255.254.0.0
18=255.252.0.0
19=255.248.0.0
20=255.240.0.0
21=255.224.0.0
22=255.192.0.0
23=255.128.0.0
```

```
24=255.0.0.0
25=254.0.0.0
26=252.0.0.0
27=248.0.0.0
28=240.0.0.0
29=224.0.0.0
30=192.0.0.0
31=128.0.0.0
32= 0.0.0.0
```

For example, if the HOST is at IP address 192.168.0.3 and the LINC module is as 192.170.0.1

Both use 192 for the first octet.

So 255 is ok. Allow Addresses 192-192, allow no other addresses in the first octet.

The second octets are 168 and 170 . Select the next value less than the lowest IP address shown from the table above. Second octet values are 255,254,248,240,224,192,128.

This is 128. Allow addresses 128–255 which covers 168 and 1700 for the second octet.

The third octet is 0. Allow addresses from 000 -255 (we cant filter any further)

The fourth octet is 0. Allow addresses from 000 -255 (we cant filter any further)

This gives us 255.128.0.0 or a HOST BITS value of 23.

To change the GATEWAY IP address, use the keypad to type in a new value, or use the - - use the - ® arrows to move between the IP octets.

```
GATEWAY IP          # C E - - E H
000.000.000.000
```

Press ENTER when you are done typing in the HOST IP address.
Enter 000.000.000.000 if you have not Gateway.

To change the HOST IP address, use the keypad to type in a new value, or use the - - use the - ® arrows to move between the IP octets.

```
HOST IP            # C E - - E H
192.168.000.062
```

Press ENTER when you are done typing in the HOST IP address.
Do not change this value.

To change the HOST PORT, use the keypad to type in a new value, or use the - - use the - ® arrows to move between the IP octets.

```
HOST PORT         # C E - - E H
03001
```

Press ENTER when you are done typing in the HOST PORT.
Do not change this value.

To change TCP/UDP MODE, use the - - to select a mode.

```
TCP / UDP Mode   - - H
TCP
```

Press ENTER when you are done typing in the TCP/UDP MODE.
TCP is for Ethernet

```
Flush Mode       - - H
Standard
```

The flush mode should be set to standard if the menu offers it.

To update the LINC module with these changes, press **ENTER**
To disregard the changes, press **CLEAR**,

Using the Utilities Mode:

Use **-** to view the Utilities, press **ENTER** to enter a specific utility, press **HOME** for the setup menu.

RF UTILITIES

```

UTILITIES          -- E H
RF Utilities ?
  
```

Press **ENTER** to enter the Utility

```

RF UTILITIES
Reading LINC Module
  
```

The terminal will then attempt to read the LINC module

**If a control module P/N 2052-xxx is installed, the LINC module will not be found.
If certain readers are connected to the LINC wand/monitor port the LINC will not be found.
Remove the module or reader and connect the keypad/display into the 2043 and try again.**

```

RF SETTING CHANGED
  
```

You should see the message above if the LINC module is found.

```

Terminal IP          #CE -- -->
(R) H
  
```

Enter the IP address of this LINC module.

```

Terminal Port        #CE -- -->
(R) H
  
```

The port should stay at 3001.

```

Subnet Mask          #CE -- -->
(R) H
  
```

Enter the sub-net mask. Your host PC must and the LINC must match.

```

Gateway IP           #CE -- -->
(R) H
  
```

If you are using a gateway, enter it here. See you IT person if you do not
Know if you require one.

```

Unit Name            #CE -- -->
(R) H
  
```

Enter a name for the LINC module. 14 bytes used to identify a specific access card.
It is not critical to match the access point unit name to communicate with the LINC.

```

ESS ID               #CE -- -->
(R) H
  
```

Your ESS ID must match what is in the access point.

Alpha characters can be entered with up and down arrows.

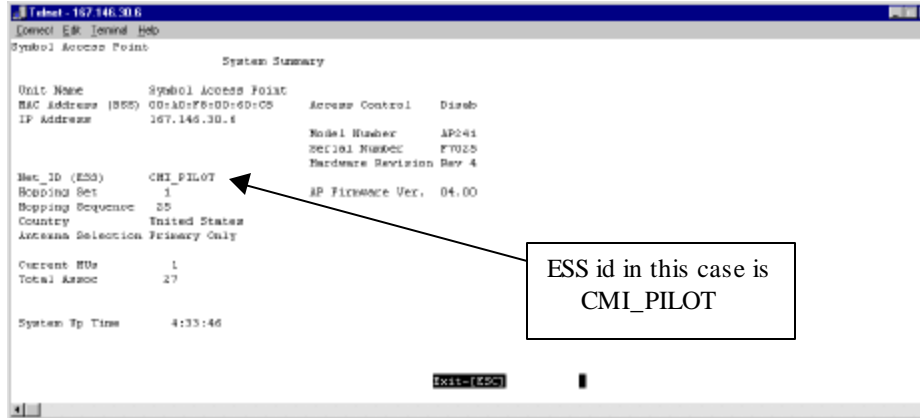
Right arrow advances to next position when entering data.

IF the ESS ID does not match the access point, you will not be able to communicate with the LINC.

Update RF Linc ?**EC**

To update the LINC module with these changes, press **ENTER**
To disregard the changes, press **CLEAR**,

RF Setup reference information (System Summary from access point)



```
Telnet: 167.146.30.6
Control Module Inc.
Symbol Access Point
System Summary

Unit Name      Symbol Access Point
MAC Address (BSS) 00:1d:f8:00:60:c5  Access Control  Disable
IP Address      167.146.30.6
Model Number    AP241
Serial Number    FT025
Hardware Revision Rev 4
AP Firmware Ver. 04.00

Mac_ID (ESS)    CMI_PILOT
Bidding Set     1
Bidding Sequence 25
Country         United States
Access Selection Primary Only

Current HUs     1
Total Assoc     27

System Up Time  4:33:46

[Ctrl-C]
```

ESS id in this case is
CMI_PILOT

Using the Utilities Mode:

Use **-** to view the Utilities, press **ENTER** to enter a specific utility, press **HOME** for the setup menu.

Biometric Utilities**Firmware Version**

```

UTILITIES                - - E H
Biometric Utilities

```

Press **E** to enter the Utility

Use the Up and down arrows to select a menu item.

```

BIO UTILITIES           - - E H
Firmware Info?

```

Press **E** to enter the Utility

Two windows will appear. First the Firmware in the BIO reader

```

BIO UTILITIES           - - E H
PS00276C

```

Then the Setup information for the BIO reader.

K3.0_061 is the Kernel, A4.30_06 is the Algorithm used.

```

BIO UTILITIES           - - E H
K3.0_061 A4.30_06

```

You will be returned to the Biometric Utilities menu.

Biometric Utilities -continued
BIOSCAN test

Use the Up and down arrows to select BIOSCAN test.

```
BIO UTILITIES          - - E H
BIOSCAN test?
```

Press **E** to enter the Utility

Follow the terminal directions to test the BIOSCAN reader.

```
Put finger on sensor
```

```
Remove finger
```

```
Finger enrolled
```

```
Put finger on sensor
```

```
Remove finger
```

```
Finger Verified
```

This tests the BIOSCAN sensor. If you do not get these results, the sensor may be damaged .
Verify you can get the firmware version to indicate the link between the terminal and reader are

ok.

Biometric Utilities -continued
SETUP info

Use the Up and down arrows to select BIOSCAN test.

```
BIO UTILITIES          - - E H
SETUP info?
```

Press **E** to enter the Utility

The information breaks down to be the following:

- 50 Quality Setting. This should never be below 40.
- 50 Content Setting. This should never be changed.
- 3 Security Setting. This should be 3.
- 5 Max templates per ID (10 is the Max)
- 1000 Minimum time between barcodes. (Default is 1000)
- 200 Message length (Default is 200)

```
BIO UTILITIES          - - E H
50 50 3 5 1000 200
```

Using the Utilities Mode:

Use **-** to view the Utilities, press **ENTER** to enter a specific utility, press **HOME** for the setup menu.

ID Utilities

```
UTILITIES          - - E H
ID Utilities
```

Press **E** to view the Options.

Serial Number

Use the Up and down arrows to select a menu item.

```
ID UTILITIES      - - E H
Serial Number?
```

Press **E** to view the Serial Number.

CMI Service Info

Use the Up and down arrows to select a menu item.

```
ID UTILITIES      - - E H
CMI Service Info?
```

Press **E** to view the Service Information.

CMI Warranty Info

Use the Up and down arrows to select a menu item.

```
ID UTILITIES      - - E H
CMI Warranty Info?
```

Press **E** to view the Warranty Information.

Monitoring the Voltage of a Terminal

During the Quick-Check mode, a terminal continuously monitors its supply voltage. This function is extremely helpful for multi-dropped installations where power is shared among several terminals. If a terminal is installed at the end of a power line, its voltage may be marginal because of the drop across the line.

1. To enter the Quick-Check mode, press CLEAR key until the terminal displays this message and sounds its beeper for one second:



Q.C.M.

2. When the voltage drops to between 6.7VDC and 8.7VDC, the terminal immediately displays this message:



LOW LINE

3. When power is restored to operate the terminal, the display shows:



LINE RECOVERED

Note: If the message above does not appear within a few minutes, contact your service technician or electrical contractor to check the voltage at the terminal.

4. When the voltage drops to less than 6.7VDC, the display shows:



BATTERY FAIL

Check whether the battery is properly installed in the terminal.
Run self-diagnostics (refer to “Self-diagnostics”). If the failure message appears again, recharge the battery.

5. Do *one* of the following:

Perform another operation in the Quick-Check mode—Go to the procedure, in this section, you want to follow.

Use another mode or Test in the Off line mode—Refer to the section describing the mode or test you want to use.

Exit the Off line mode—Move On line / Off line switch to the *On line* position.

Checking the Basic Functions of a Terminal

Follow the steps below when you want to check a terminal's:

Display
 Beeper
 Communication circuitry
 Keyboard
 Wand
 Slot reader

When you use this procedure, it is assumed that the terminal's keypad is on (this value was assigned to the terminal when it was shipped). See “Using the Setup Mode” for more information.

To enter the Quick-Check mode, follow these steps:

For Savetime Light, Hold down the C and E keys while powering up the terminal.

For Savetime, locate the On-Line / Off-Line switch on your COM module and place it in Off-Line mode.

The terminal will show SETUP MODE.. Press the - - arrows until the display shows:



Q.C.M.

Display and Beeper Display and Beeper

To check the display and beeper, press any numeric keys or scan bar codes. To the right of “Q.C.M.,” the display shows the keys pressed or the character(s) in the bar code.

Check the display—Are all characters of uniform intensity? Are entire characters lit?

Check the beeper—Is the tone of the beeper clear and uniform? Does the terminal beep each time you press a key or read bar code successfully?

Communication Circuitry Communication Circuitry

The communication circuitry is tested after each keyboard or bar code entry. A *keyboard entry* is one or more keystrokes or one or more single-character bar codes followed by an Enter key or Enter label. A *bar code entry* occurs when a multi-character bar code is read. To test the communication circuitry, do *one* of the following:

After pressing keys or scanning single-character bar codes—Press ENTER key.

After scanning multi-character bar codes—Go to step 4. (The test is run automatically.)

or

Exit the Quick-Check mode—Press CLEAR key to erase, one at a time, all the characters you entered. Go to step 6.

If the communication circuitry test passes, the display remains the same.

Or

If the test fails, the display shows:



COMM FAILED

Note: Refer to “Troubleshooting,” in this section, for your next step.

Keyboard, Wand, or Slot Reader Keyboard, Wand, or Slot Reader

To check the keyboard, wand, or slot reader, press keys, scan bar codes, or read badges and note the following:

Keys and bar code with only one character—When you press keys or scan several single-character bar codes in a row, the characters scroll from the right to the left in the display. The display holds up to 16 characters. When you try to enter the 17th character, the:

Terminal beeps,

Display flashes “**TOO MANY CHARS,**” and then re-displays “**Q.C.M.**”

If this happens, just continue to press more keys or scan more bar codes until you are ready to go to the next step.

Bar codes with more than one character—Each time you scan a multi-character bar code or read a badge, the display overwrites any previous characters you entered.

Check the keyboard—Do any keys stick? Does the correct key appear in the display? When you hold a key down, does it repeat in the display? Do any keys seem to operate intermittently?

Check the wand or slot reader—Does it read bar code correctly? Does it have a good read rate; that is, a high percentage of reads per scan?

Do *one* of the following:

Go to the Setup mode—Press CLEAR key. (Refer to “Using the Setup Mode” for your next step.)

Exit the Off line mode—Move On line / Off line switch to the *On line* position

Practice Using the Keyboard, Wand, or Slot Reader

As mentioned earlier, when a terminal is in the Quick-Check mode, it is disconnected from the network. So you can use this mode to become comfortable with the keyboard, wand, or slot reader without affecting the rest of the system. You can also use this procedure to read bar code or check its quality. If you need tips on using the keyboard, wand, or slot reader, refer to the *Appendixes*.

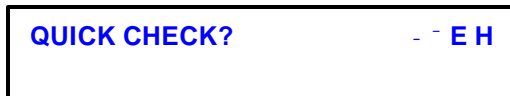
When you use this procedure, it is assumed that the terminal's keypad is on (this value was assigned to the terminal when it was shipped). See “Using the Setup Mode” for more information.

To enter the Quick-Check mode, follow these steps:

For Savetime Light, Hold down the C and E keys while powering up the terminal.

For Savetime, locate the On-Line / Off-Line switch on your COM module and place it in Off-Line mode.

The terminal will show SETUP MODE.. Press the - - arrows until the display shows:



Press the **E** key to enter QCM mode.

2. Press any keys, scan bar codes, or read badges. Under “**QUICK CHECK**,” the display shows the keys pressed or the character(s) in the bar code.

Notes: Keys and bar code with only one character—When you press keys or scan several single-character bar codes in a row, the characters scroll from the right in the display. The display holds up to 20 characters or more. When you try to enter too many characters, the:

Terminal beeps,

Display flashes “**TOO MANY CHARS**,” and then re-displays “**QUICK CHECK**”

If this happens, just continue to press more keys or scan more bar codes until you are ready to the next step.

Bar codes with more than one character—Each time you scan a multi-character bar code or read badges, the display overwrites any previous characters you entered.

3. Press CLEAR key to erase, one at a time, each character you entered from the keyboard.

Note: Before you can go to the next step, you must erase from the display any character(s) you entered. If you press the CLEAR key after all characters are erased, you will go to the Setup mode. (Refer to “Using the Setup Mode” for your next step.)

4. Do *one* of the following:

Perform another operation in the Quick-Check mode—Go to the procedure, in this section, you want to follow.

Use another mode or Off line in the Off line mode—Refer to the section describing the mode or test you want to use.

Exit the Off line mode—Move On line / Off line switch to the *On line* position.

Troubleshooting

Following are some suggestions to use if any of the basic functions fail or do not work as you might expect.

If Display or Communication Circuitry Fails...

If the display or communication circuitry malfunctions, contact your service center for further assistance.

If Beeper, Keyboard, Wand, or Slot Reader Fails...

If the beeper, keyboard, wand, or slot reader malfunctions, refer to Table 6-1 before contacting CMI's Service Department for further assistance.

Beeper:

Check the beeper—Is there any obstruction near the beeper hole?

Keyboard:

Vary your technique—Are you pressing the center of the keys?

Check the overlay—If present, is it located properly on the keyboard?

Wand:

Check the input device jack—Is the wand plugged in securely?

Clean the tip of the wand—Carefully remove any dust or debris with a soft cloth.

Vary your scanning technique—Refer to the *Appendixes* for tips on using the wand.

Check the tip of the wand—Visible red wands emit a red light.

Check the quality of the bar code—Scan another bar code that has been read successfully. If the bar code is worn by too many scans or has spots, smears, or gaps, it will be difficult to read or unreadable.

Verify that the terminal is set up to read this type of bar code—Most terminals read Code 39 bar code in the Quick-Check mode. If you cannot read a bar code, try reading a Code 39 bar code (there is one on the back of the terminal).

Slot Reader:

Check the operation of the slot reader—Optical slot readers (visible) emit a red light.

Clean the slot reader—Carefully remove any dust or debris with a cleaning badge. Use an optical cleaning badge for an optical slot reader or a magnetic cleaning badge for a magnetic slot reader.

Vary your technique—Refer to the *Appendixes* for tips on using the slot reader.

Check the quality of the badge—It should not be cracked or worn. The bar code should be ½ inch up from the bottom with plenty of white space on both sides. If the bar code is too dense, it will not read. If you have an Infrared reader, (You can not see the LED in the reader if this is true), your badge must have a minimum amount of carbon content in the ink.

If you have a magnetic reader, try your credit card. There are 3 tracks to a magnetic badge. CMI typically supports track 1 and track 2. (See the reader label)

Check the type of badge—Use bar code badges for an optical slot reader or magnetic Track II badges for the magnetic slot reader. If you have a Proximity or Wiegand badge, use the Wiegand analysis. If you have a BIOSCAN reader, use the Biometric Utilities.

Running the Network Test

Use this test when you are installing terminals or troubleshooting and want to check the network communication lines from a terminal to the host computer. (Note this is for RS485 terminals only connected to the CMI RS232 to RS485 adapter, CMI modem module or CMI Network module.)

This test is performed in two stages: at the terminal and at the communication adapter.

Starting the Test

To start the test:

1. To enter the Quick-Check mode, follow these steps:

For Savetime Light, Hold down the C and E keys while powering up the terminal.

For Savetime, locate the On-Line / Off-Line switch on your COM module and place it in Off-Line mode.

The terminal will show SETUP MODE

```
Setup Mode? INIT      - - E
19,O,HDØ,AØØ,BC      Q
```

..

Press the - - arrows until the display shows:

```
DIAGNOSTICS          - - E H
```

.. Press **E** and use the - - arrows until the display shows:

```
DIAGNOSTICS          - - E H
NETWORK TEST
```

2. **Start the test**—Press **E** key.

Note: At this time, move the Test/Use switch **on the communication adapter** at the (host computer) to the *Test* position.

or

Skip to the next test, the Automatic Test—Press CLEAR key. (Refer to “Running the Automatic Test” for your next step.)

3. The display shows:

```
DIAGNOSTICS          - - E H
SWITCH TO USE
```

4. **Start the test**—Move the On line / Off line switch to the *On line* position on the COM module

The display shows either:

```
NET PASSED
```

```
NET FAILED
```

5. The display shows:

```
ENTER TO RETEST
```

6. Do *one* of the following:

Repeat this test—Press the **E** key; then go to step 3.

Exit the Off line mode—Move On line / Off line switch to the *Offline* position then back to the *On line* position.

Note: Before you finish this procedure, move the Test/Use switch **on the communication adapter** so it is the *Use* position.

Running the Automatic Test

Use this test when you are troubleshooting and want to check these parts of the terminal:

Programmable read-only memory (PROM)
 Random-access memory (RAM)
 Communication circuitry
 Real-time clock (RTC)
 Display

The Automatic Test continuously cycles the terminal's parts until you stop the test. If a part fails the test, the display flashes the failed message; then the test automatically continues to check the next part.

As each part is being tested, there is a two to four second pause before a passed or failed message appears.

Starting the Test:

To start the test:

1. To enter the Quick-Check mode, follow these steps:

For Savetime Light, Hold down the C and E keys while powering up the terminal.

For Savetime, locate the On-Line / Off-Line switch on your COM module and place it in Off-Line mode.

The terminal will show SETUP MODE

```
Setup Mode? INIT      - - E
19,O,HDØ,AØØ,BC      Q
```

.. Press the - - arrows until the display shows:

```
DIAGNOSTICS          - - E H
```

.. Press **E** and use the - - arrows until the display shows:

```
DIAGNOSTICS          - - E H
AUTO TEST?
```

Start the test—Press **E** key.

The display shows either :

```
RAM PASSED
```

```
RAM FAILED
```

Communication Circuitry

The display shows either:

```
COMM PASSED
```

```
COMM FAILED
```

RTC (REAL TIME CLOCK)

The display shows either:

```
RTC PASSED
```

```
RTC FAILED
```


Display:

If the test is successful, these characters scroll in the display:

```
!"#$%&'()*+,-./0123456789:;<  
0123456789:;<=>?!"#$%&'()*+
```

or

If the test fails, one of the following occurs:

The display is blank.

All or part of a segment, number, or letter is *not* lit.

Send the terminal to your service center for repair.

If the test was successful, you will see this message to test again:

```
DIAGNOSTICS          - - E H  
AUTO TEST?
```

Using the Restart Mode

Beginning Restart:

Use the Restart mode when you want to clear all data from a terminal's random-access memory (RAM) because there is:

Corrupted data or other data you do not want to keep

We designed Restart so that you have two chances to decide if you want to clear the terminal's RAM before it happens.

Note: When you use Restart, the parameters entered in the Setup mode are *not* lost because they are stored in NOVRAM

To start the test:

To enter the Quick-Check mode, follow these steps:

For Savetime Light, Hold down the C and E keys while powering up the terminal.

For Savetime, locate the On-Line / Off-Line switch on your COM module and place it in Off-Line mode.

The terminal will show SETUP MODE

```
Setup Mode? INIT      - - E
19,O,HD0,A00,BC      Q
```

..

Press the - - arrows until the display shows:

```
CLEAR RAM?          - - E H
```

.. Press **E** to begin or **H** to exit.

```
DATA AND DOWNLOAD   E H
WILL BE LOST
```

.. Press **E** to begin or **H** to exit.

```
CLEAR RAM          E H
Are you sure?
```

.. Press **E** to begin or **H** to exit. (Last Chance)

```
RAM CLEARED
```

Note: At this point, the terminal restarts so it performs self-diagnostics. (Refer to “Self-diagnostics,” for more information.)

If you leave the On line/ Off line switch in the *Off line* position, the terminal returns to the beginning of the Off line mode. (Refer to “Introducing the Off line Mode” for more information.)

Loader Mode Setup

During the power up phase when the COM module switch in the Off-Line mode, you can hold the 'C' key. This will bring you to the Loader mode.

- 1. To enter the Loader mode, press the E key

```
Setup?  
-- E
```

- 2. This allows you to setup the baud rate for Loader mode only. Use the arrows keys to change baud rate and move between the options. (19200 is the default)

```
BAUD -- ®  
19200 --
```

- 3. Once the parity is setup, use the left and right arrows to move to the next item (ODD is default)

```
PARITY -- ®  
ODD --
```

- 4. Once the terminal type is setup, use the left and right arrows to move to the next item (J is default)

```
TYPE -- ®  
J --
```

- 5. Once the terminal type is setup, use the left and right arrows to move to the next item (Ø is default)

```
ADDR -- ®  
Ø --
```

- 6. Once the delay is setup, use the left and right arrows to move to the next item (DØ is default)

```
DELAY -- ®  
DØ --
```

- 7. Your are done with Setup mode.

```
Setup?  
-- E
```

Utility Mode

During the power up phase when the COM module switch in in Off-Line mode, you can hold the ' C' key. This will bring you to the Loader mode.

3. To enter the Loader mode, press the - - arrows until Utils is on the display then press the E key

A rectangular terminal window with a black border. The text 'Utils?' is on the first line and '- - E' is on the second line, both in blue font.

4. This allows you to setup mode the terminal will be in. If you have an application loaded and you change the mode to Loader, your application will not function until you go back to APP mode. This assumes you have an Application loaded.
Press the E key to enter Loader mode.

A rectangular terminal window with a black border. The text 'Mode?' is on the first line and 'Loader E' is on the second line, both in blue font.

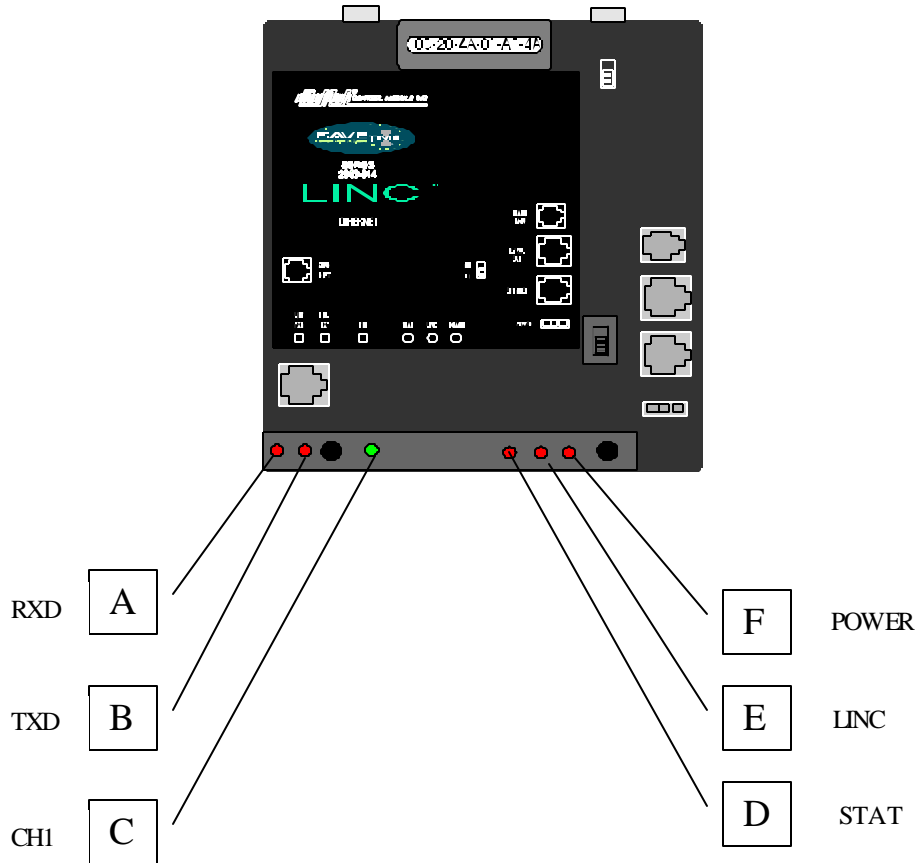
APP mode :

Press the - - arrows until APP is on the display then press the E key

A rectangular terminal window with a black border. The text 'Mode?' is on the first line and 'APP E' is on the second line, both in blue font.

This is the mode you use to run the flash application and your download.

2043-014 LED DEFINITION



- A) RXD - Receive data from Host to CMI terminal.
- B) TXD - Transmit data from the CMI terminal to the host
- C) **CHI** - Channel status.
 - ON - not blinking = Host not connected to LINC module.
 - ON - blinking = Host Connected to LINC module.
- D) STAT - Status LED.
 - OFF - not blinking = LINC module is OK, no defects.
 - ON - not Blinking = network failure. CHI is used for failure codes
 - 4x= Network connection is faulty. This code only appears after power up.
 - ON - blinking = diagnostic failure. CHI is used for failure codes:
 - 1x= Eprom checksum error
 - 2x= RAM error
 - 3x= Network controller error (Token Ring)
 - 4x= EEprom checksum error or bad
 - 5x= IP address already used on network.
- E) LINC - Valid Network Connection.
- F) POWER - ON when power is applied.

Under Normal operation not connected to host the following LEDs are on : Power, LINC, CHI
 Under Normal operation, connected to host the following LEDs are on : Power, LINC, CHI (flashing)
 If the host is communicating with the CMI terminal, RXD and TXD will blink
 If the LINC has a problem the STAT led will be flashing
 If the LINC has a network problem, the STAT will be On.



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Click an item to view update

[Version 1.0 \(Alpha Release\) 06/01/01](#)

[Version 1.0 \(Alpha Release\) 06/28/01](#)
Added ID Utilities to Utilities Menu