CONTROL MODULE INC.

Genus® G1
MARK II
Users Manual

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Warnings
Voltage: The lightning flash with arrowhead symbol, within a triangle, is intended to alert the user to the presence of dangerous voltage within the inside of the product that may be sufficient level to constitute a risk of electric shock to persons.

Instruction: The exclamation point, within a triangle, is intended to alert the user to the presence of important operating and servicing instructions in the literature accompanying the Terminal.

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The information in this manual is subject to change without notice and does not represent a commitment on the part on Control Module, Inc.

Declarations

Control Module, Inc.

Model: Genus® 3010-2

CE

Emissions Requirements:

EN 55022:1998	Class A, Conducted Emissions, 150 kHz to 30 MHz
EN 55022:1998	Class A, Radiated Emissions, 30 MHz to 1 GHz
EN 61000-3-2:2000	Harmonic Current Emissions
EN 61000-3-3:1995	Voltage Fluctuations and Flicker

Immunity Requirements:

EN 61000-4-2:1995	Electrostatic Discharge, 8kV Direct Air, 4kV Direct and Indirect Contact
EN 61000-4-3:1996	Radiated RF Immunity, 80MHz-1000MHz, 3V/m, 80% AM 1kHz
EN 61000-4-4:1995	EFT, 1kV Power, 0.5kV I/O
EN 61000-4-6:1996	Surge Immunity, 1kV Differential Mode
EN 61000-4-6:1996	Conducted RF Immunity, 150kHz-80MHz, 3Vrms, 80% AM 1kHz
EN 61000-4-11:1994	Voltage Dips and Interruptions

Applicable EC Directive(s):

EC Low Voltage Directive 73/23/EEC
EC EMC Directive 89/336/EEC

Applicable Harmonized Standards:

Safety: EN 60950
EMC: EN61000-6-4, EN55011, EN61000-6-2, EN61000-4-2, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11

FCC Compliance

The Control Module Model 2015 Time and Attendance Terminal conforms to the requirements of FCC PART 15, SUBPART B, CLASS A.

Para. 15.107(b) for Conducted Emissions, 150 kHz to 30 MHz
Para. 15.109(b) for Radiated Emissions, 30 MHz to 1 GHz

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Introduction

Welcome to Control Module's Genus® G1 MARK II Data Collection Terminal.

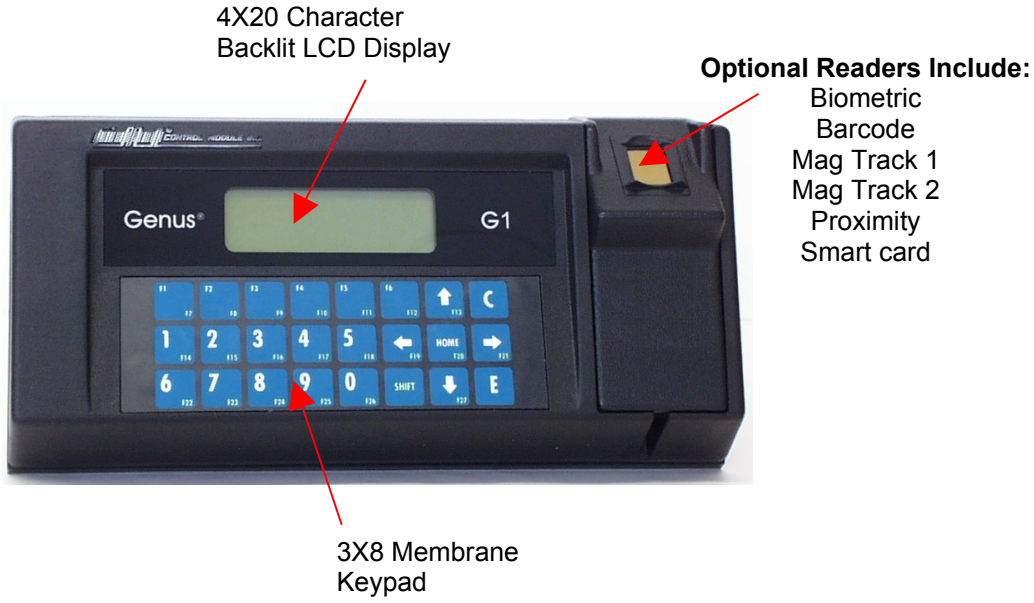
The "Genius of Genus" is that it offers an intelligent Java programming language and enables companies – for the first time – to realize the maximum potential of their workforce management terminals, by using them as a powerful interface to connect highly customized applications and the databases that fuel them. The Genus open and modular platform is designed to provide fast, accurate, and reliable data collection for any industrial application. The Genus Terminal is ideal for time and attendance, workforce management, employee self-service, shop floor data collection, and access control. Genus is the intelligent and affordable decision for any organization.

Congratulations on your purchase!

Genus G1 Terminals

Terminal features are labeled in the pictures below for reference. Explanations of terminal features, user interface, hardware specifications and connections follow. All items discussed in this user manual apply to both types of Genus G1 or Hardened Terminals.

Terminal Front



The User Interface

The user interface offers options for data entry into the Genus G1 MARK II Terminal through the keypad and/or internal or external card readers. User output is via a 4 line by 20 character backlit LCD display. The terminal also has the capability to produce multiple sound tones to help guide the user.

The Genus G1 MARK II Terminal offers provisions for additional display control aside from the ability to write to and clear the entire display. These include the ability to clear a single display line, position the cursor, and select the cursor type (invisible, block, underscore, or blinking underscore).

A Web Browser Interface is integrated with the Genus G1 Mark II Terminal to allow changes to configuration files, data viewing and development interface updates. Some items overlap between the Offline setup and the Web Browser Interface. Individual settings that do overlap are indicated by the WBI icon WBI within this document.

Terminal Features

Memory Configuration The Terminal is equipped with 32 Mb of dynamic memory, 2 Mb of non-volatile memory for data retention, and 8 Mb of Flash memory for program storage, and user defined long term storage.

Programmability The Terminal is designed to be a Java-capable embedded data collection platform. Users may create, load, and execute PersonalJava compliant applications that utilize existing OEM classes for display, keyboard, biometric, barcode, magnetic, proximity, smartcard (Mifare®, iClass®), and Digital inputs and outputs (DI/DO). A software development kit (SDK) is available separately that provides development documentation, development support, and samples for the use of the OEM classes.

Data I/O The Terminal provides for program control for three digital inputs, and Wiegand Data0/Data1 input or output signals. A relay port is also provided for external low voltage devices.

Host Interface The Terminal comes with a dedicated Ethernet port for connection to 10/100 Ethernet networks. DHCP or static IP address configuration is supported.

Display The Terminal is equipped with a 4 line by 20 character liquid crystal display (LCD) The full alphanumeric character set is supported. LED back-lighting provides viewing in low light conditions. The display has a CMI standard lens.

Keypad The Terminal is equipped with a 3 x 8 membrane keypad, with three horizontal rows of eight keys each. The terminal is available with a CMI Standard Overlay, or a custom overlay created per customer requirements.

Power The configuration uses a +18 VDC .8 amp power pack to power the terminal. The power pack is UL listed and CSA certified.

Audio Annunciator This is programmable with variable tone and duration capability.

Terminal Hardware

Hardware Specifications

Keypad - with local buffering

10 Numeric Keys (0 through 9)
6 Function Keys
Function keys alternately can produce punctuation symbols.
Clear and Enter Keys
Home, Up, Down, Left, and Right arrow direction keys
Shift key
All keys are programmable

Display

4 Line by 20 Character Backlit LCD Display

Media Readers
2 Internal reader ports, 1 External reader port, 1 Barcode wand port

Magnetic Track 1 and 2
Barcode Code 39 and code 39 full ASCII, Interleaved 2of5, Code 128
Proximity allows up to a 99 bit badge (HID, MOTOROLA)
Smartcard (Mifare®, iClass®)
Biometrics (Fingerprint)

Beeper

Variable duration monotone beep
Variable duration warble beep
Emit a series of beeps

Host Interface

RS232, RS485
10/100 Ethernet
Modem option via serial port (PPP)
WiFi option

External Control

Relay Output—30VDC @ 1A

LED

Two Status LEDs – Valid (green), Invalid (red)

Power Requirements

15 -20 VDC

Environment

Operating 0°to 50°C (32° to 122°F)
Storage -20° to 70°C (-4° to 158°F)
Humidity 0 to 90 % non-condensing

File System Specification

The Terminal provides file systems on different hardware devices. Instead of using the common alphabet notation for file system devices ('A:', 'C:'), the Genus terminal identifies the file storage devices as:

Storage Device	Memory size	Location
'\flashdisk'	8 Mbytes std. (64MB optional)	Seldom write, frequent read. Used for firmware, user applications, and application data.
'\ramdisk'	2 Mbytes	High read/write usage. Data is preserved through power loss. Often used for transaction (punch) storage.
'\scratchdisk'	5 Mbytes	High read/write usage. Temporary file storage. Not preserved through power outage.

Relay Configuration

The relay port brings out the three relay connections at (common, normally open, normally closed) +18 VDC, and ground. The common can optionally be connected to Pin 5 to provide an on board voltage source. The current draw should not exceed 100mA. This +18 VDC source is useful when driving external buzzers, lamps, or other low current, low voltage devices or a larger external relay, since it requires no external power source.

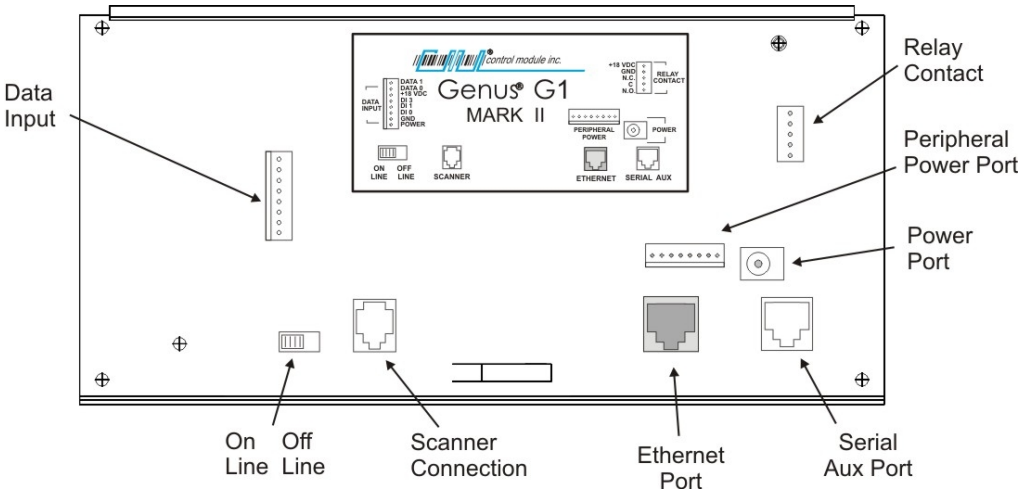
The Relay Output configuration supports both sourcing and non-sourcing. The Relay is a Form C contact relay rated for 1 amp @ 30V AC/DC.

Relay Port—Internal Power	
Pin	**Function**
1	Normally open contact
2	Common contact
3	Normally closed contact
4	Ground
5	+18 VDC

Terminal Connections

Terminal connections apply to both Genus G1 and G1 Hardened Terminals.

Terminal Back



NOTE: All available options are shown, some models may differ.

Ethernet Port	
The Ethernet port supports the 10/100BASE-T network connections. The Ethernet port is located on the backplate of the Terminal and connects directly to CAT-5 cable. Note: Power is not available from the Ethernet port without the jumpered connector on the Peripheral Power Port.	Connector: 8 position RJ45. Pinouts: 1 = Receive + 5 = +Vnet 2 = Receive – 6 = Transmit – 3 = Transmit + 7 = -Vnet 4 = +Vnet 8 = -Vnet
Serial Aux Port	
The Serial Aux port provides a serial connection to interface to serial peripheral devices or for modem communications.	Connector: 8 position RJ45. Pinouts: 1 = DCD 5 = GND 2 = RXD 6 = +18 VDC (opt.DSR) 3 = TXD 7 = RTS 4 = DTR 8 = CTS
Wand / Scanner Port	
The wand port provides CMI standard pinouts with the RJ11 connector.	Connector: 6 position RJ11 Pinouts: 1 = Wiegand Data 0 4 = Wiegand Data 1 2 = Ground 5 = Data 3 = +5 VDC 6 = +18 VDC

Data Input/Output	**(Optional)**
The data input/output port provides three digital inputs and a Wiegand data port. The Wiegand Data port provides Data0/Data1 input or output signals. If connected to a reader will accept the Wiegand data or can transmit Wiegand data to an external device. A pluggable connector is supplied with the terminal.	Connector: 8 position Terminal Block Pinouts: 1 = + 5VDC 2 = Ground 3 = DI 1 4 = DI 2 5 = DI 3 6 = +18 VDC 7 = Wiegand Data 0 8 = Wiegand Data 1
Relay	**(Optional)**
The Relay output configuration supports both sourcing and non-sourcing. The relay is a Form C contact relay rated for 1 amp @ 30V AC/DC. The relay can be used for external low voltage devices such as control or for monitoring doors, bells, and alarms.	Connector: 5 position Terminal Block Pinouts: 1 = Normally Open (N.O.) 2 = Common (C) 3 = Normally Closed (N.C.) 4 = Ground 5 = +18 VDC
Standard Power Port	
Power is supplied to the Terminal via a standard Barrel Jack on the backplate of the Terminal.	Connector: Barrel Jack (2.5mm) Pinouts: 1 = +15V to 20VDC 2 = Power Ground
Peripheral Power Port	
Power is supplied from the Terminal to CMI peripherals plugged into the Peripheral Power Port on the backplate of the Terminal.	Connector: 8 position Pinouts: 1 = +18 VDC 2 = +5 VDC 3 = +3.3 VDC 4 = GND 5 = +Vnet 6 = -Vnet 7 = Wiegand Data 0 8 = Wiegand Data 1

Module Options

The Genus G1 MARK II Terminal provide UPS, Modem and WiFi Module options.

UPS 2050-012

UPS Module. The 2050-012 module provides backup power to the Genus G1 terminal and integrated readers and communications options in the event of a main power failure and brownout conditions.

Battery. The 2050-012 module uses a Ni-Cd 8 cell arrangement (9.6V @ 1000 mAh) to provide DC backup power to the processor and I/O modules. It has a wide charging voltage range (+15VDC to +24VDC unregulated). The battery will have a full charge after 20 hours at a trickle charge rate.

Modem 2042-300

Modem Comm Module. The 2042-300 module provides communication level conversion from a standard Telco line to RS232 levels for Genus G1.

56K Baud Modem. The modem is a 56K baud Auto Answer/Auto Connect modem which connects via the RJ11 Telco Port (Modem Host). It features Data Mode v.92
(57600 BPS) and supports enhanced “AT” commands.

WiFi 3046-200

WiFi Comm Module. The 3046-200 communications module provides LAN and Internet connectivity with the standard Ethernet interface to applications. The module is interoperable with industry standard 802.11 LAN and Internet connectivity and provides advanced security standards such as WEP and WPA. It provides a complete, reliable transparent wireless connection between a G1 Terminal and a network host via an RF access point.

Installation

The installation process proceeds with the bulleted items below. All installation steps are discussed in the Installation Guide for Genus G1 MARK II (IG3010-2) Terminal. However, follow only those that apply to your installation requirements.

- Wall Mount Installation & Recommended Height
- Grounding the G1 Terminal
- Wand / Scanner and Ethernet Connections
- Serial Aux Port Connection
- Digital Input Connection
- Digital Output Connection
- Power and UPS Connections
- Modules
- WiFi Antenna
- WiFi Module Connections
- Modem Module Connections
- Close & lock the Terminal and Store the Key

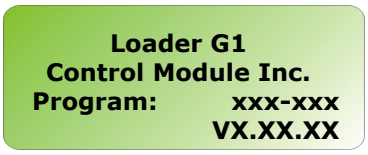
Servicing 

Do not attempt to repair this product yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing and installation to qualified personnel. (Refer to the Service & Technical Support section at the back of this document).

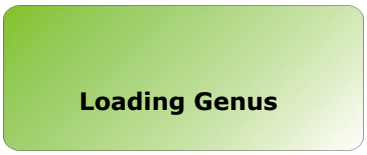
Power-Up

Several displays with the following messages appear in sequence during the normal G1 Terminal power-up process. In addition, during power-up, the Genus G1 terminal also executes an internal firmware test.

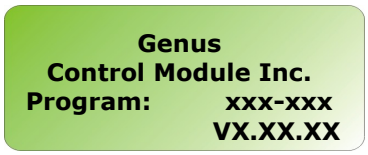
G1 Loader splash screen displays program and version numbers



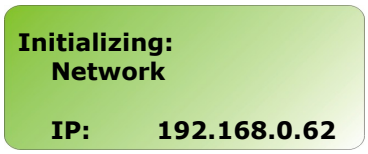
Followed by "**Loading Genus**"



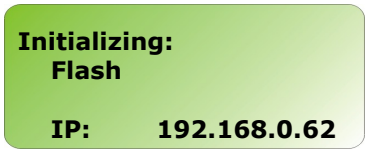
Genus splash screen displays program and version numbers



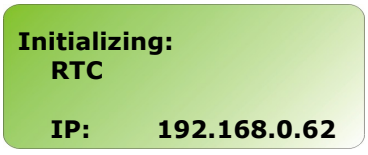
Initializing Network displays the default IP of the terminal



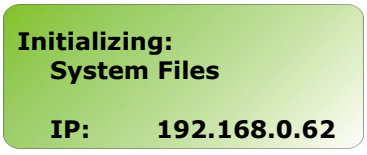
Initializing Flash displays, and IP address remains for reference



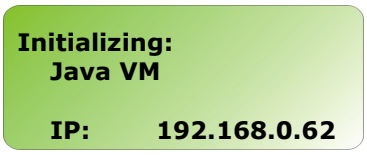
Initializing RTC



Initializing System Files

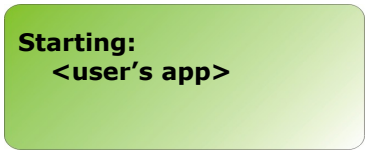


Initializing Java VM



Online Mode

Following installation and power-up the G1 Terminal has completed the boot process and transitions to a Java application that begins its functionality and data collection as defined by the user.



If no user defined program has been loaded the terminal will display the CMI reader setup application.

See *Loading a Customer Defined Java Application* in the Reference section of this document.

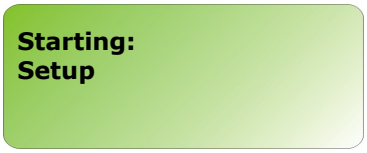
Offline Mode

The offline mode is utilized during installation and setup, when the functionality of the Genus Terminal needs to be tested or if the communications setup requires a change.
To accomplish this, the Terminal must be placed in Offline Mode.

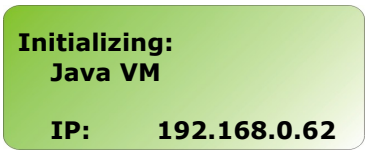
Entering Offline

(Online/Offline setup switch)
Entering offline mode can be accomplished in two ways, the easiest being to utilize the Online /Offline setup switch on the back of the Terminal. However, pressing the 'Clear' and 'Enter' keys during the power-up sequence as described below will also work with the Terminal.

The following message indicates the terminal has entered into offline mode.

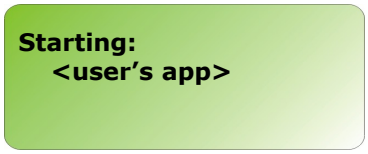


(Clear and Enter Keys during Power-up)
Offline Mode for the G1 Terminal Setup Mode is entered during power-up as the Terminal initializes. Press the C and E keys simultaneously from the keypad during the second set of power-on beeps. The second set of power-on beeps occur just after the following message.



Keypad Layout:

At this point as the Terminal beeps it will transition to the online application, unless the 'Clear' and 'Enter' keys have been pressed.



Terminal Info Prompt

The Genus G1 Terminal stops and waits at the 'Terminal Info' prompt for keypad entry, as shown below, unless a PIN number has been setup then the terminal will request a PIN:

No PIN set

PIN previously set

Note: Enter PIN prompt will only appear if PIN number has been setup in "SETUP PIN" from main menu during a previous offline session.

Offline Setup Mode Menu Options

The following menu options for configuration changes become available when the Terminal is switched to offline.

TERMINAL INFORMATION
CLEAR RAM
CLEAR FLASH
NETWORK SETUP
WIFI NETWORK SETUP
WIFI NETWORK INFO
QUICK CHECK
COMM TEST
READER SETUP
SETUP PIN
SETUP TIME ZONE
DIAL-UP NETWORK
TADMIN SETUP
WEB SETUP
BIOMETRIC TEST (available when Biometric reader enabled)
EXIT SETUP

Note: The Genus API provides the option to add user defined Setup Mode functions to the existing menu options.

See the *Offline Mode Menu Map* in the Reference section of this document.

Keypad Layout

Key Activity

Use the arrow direction keys   in Offline mode to scroll through the main menu.

Press **Enter**  to select an option from the main menu and follow the key directions displayed.

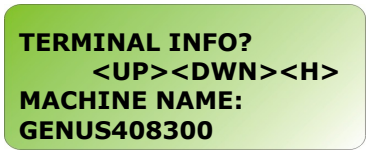
The **Home**  key while in setup levels exits back to the main menu options at the "Terminal Info?" prompt.

Offline Mode – User Operational Displays

TERMINAL INFO
Provides basic terminal hardware information.

Press Enter [E] to select.

The [F13] or [F27] keys scroll through terminal information such as:



Machine Name	Terminal name assigned
MAC Addr	Displays terminal's MAC Address
Hardware Version	For CMI reference
API	Classes/API Version
Program Info	Genus/System version
Serial No	Provides service information (Note: may not match terminal serial #)
MFGR Date	For CMI reference

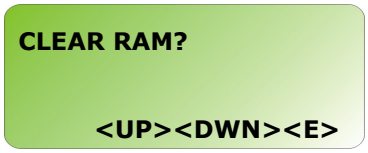
Press **HOME** [HOME F20] to return to main menu options.

Use the [F27] key to scroll to next item on menu.

CLEAR RAM WBI

Clears the '\ramdisk' on the terminal, typically erasing transaction data. See the File System Specification for more detail on the data cleared.

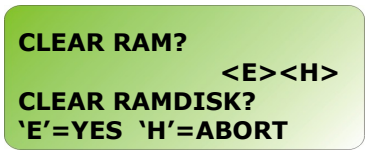
Press E to select.



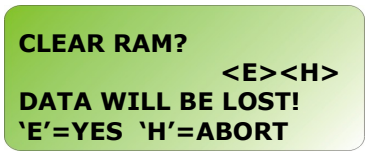
CLEAR RAMDISK

Press E to CLEAR RAMDISK.

Press **HOME** HOME F20 to abort.



If E is selected, a warning message will display, as shown.



User is required to press E again to CLEAR RAMDISK or press HOME to abort.

CLEAR FLASH

Clear Flash will clear the '\flashdisk' on the terminal erasing everything except Classes.jar, App.jar, Genus App, Lib1.jar, Lib2.jar, and Lib3.jar.

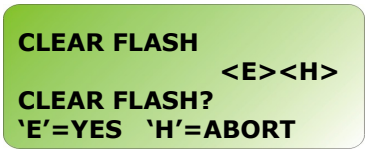
***Note**: This does not clear firmware or the user application.*

Press E to select.

CLEAR FLASH

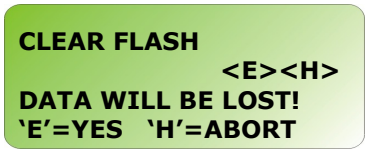
Press E to CLEAR FLASH

Press **HOME** HOME F20 to abort.



If E is selected, a warning message will display, as shown.

User is required to press E again to CLEAR FLASH or press HOME to abort.



NETWORK SETUP

Network Setup provides the ability to configure the terminal's network parameters, including DHCP, IP address, gateway, subnet mask, DNS servers, and telnet menu.

Press E to select.

ENABLE DHCP

This turns on the terminal's ability to obtain an IP address automatically from a DHCP server on the local network.

Use the F13 or F27 key to set to Yes or No.

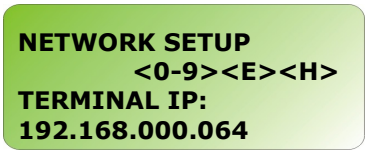
Note: Set to N to specify a static IP. Otherwise if Y is selected, the network setup will advance to ENABLE TELNET.

Press E to enter choice and advance to next network setup option.

TERMINAL IP

Specify a static IP address. This screen will not appear if DHCP is enabled.

If DHCP is not enabled, then, use 0-9 and the F21 or F19 keys to advance or return through fields.



Press E to enter choice and advance to next network setup option.

SUBNET MASK
Specify a subnet mask for the terminal. This screen will not appear if DHCP is enabled.

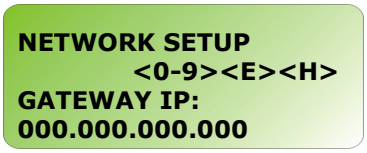
Use the F13 or F27 to scroll up or down through valid subnet mask numbers.

Press E to enter choice and advance to next network set-up option.

GATEWAY IP
Specify a gateway address for the terminal. This entry is optional if the terminal does not need to communicate with devices outside the immediate subnet. This screen will not appear if DHCP is enabled.

Use 0-9 and the F21 or F19 keys to advance or return through fields.

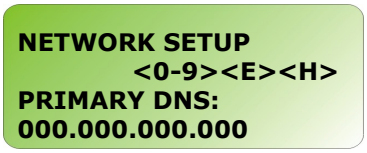
Press E to enter choice and advance to next network setup option.



PRIMARY DNS
Specify a primary Domain Name Server (DNS). This entry is optional if the terminal does not need access to DNS services. This screen will not appear if DHCP is enabled.

Use 0-9 and the F21 or F19 keys to advance or return through fields.

Press E to enter choice and advance to next network setup option.



SECONDARY DNS

Specify a secondary Domain Name Server (DNS). This entry is optional if the terminal does not need access to DNS services. This screen will not appear if DHCP is enabled.

Use the 0-9 and the → F21 or ← F19 keys to advance or return through fields.

Press E to enter choice and advance to next network setup option.

```
NETWORK SETUP
        <0-9><E><H>
SECONDARY DNS:
000.000.000.000
```

ENABLE TELNET WBI

Enables the telnet interface to the terminal.

Use the ↑ F13 or ↓ F27 keys to set to Yes or No.

Press E to enter choice and advance to next network setup option.

```
NETWORK SETUP
  <UP><DWN><E><H>
ENABLE TELNET:
Y
```

TELNET PORT

Select a port to listen on for telnet configuration. This screen will not appear if the telnet interface is disabled.

Pressing C will zero out the Telnet port settings.

Use 0-9 and the → F21 and ← F19 keys to advance and return.

Press E to enter choice and advance to next network setup option.

```
NETWORK SETUP
    <0-9><E><C><H>
TELNET PORT:
09999
```

TELNET PIN
Sets up a password for the Telnet configuration. This screen will not appear if the Telnet interface is disabled. **Note:** This PIN differs from the Offline mode PIN.

Use 0-9 and the → F21 or ← F19 keys to advance and return.
Press E to enter choice and advance to next network setup option.
Press C will clear the pin by backspacing one character at a time.

Note: The Telnet Password/Pin can only be 20 characters. If longer the Password/Pin will be truncated.

Note: See the Reference Section in this document for additional Telnet information.

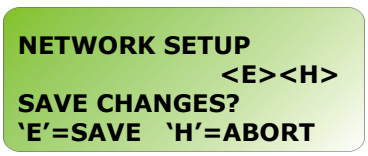
ENABLE TFTP WBI
Enables TFTP interface to the Terminal.

Use the ↑ F13 or ↓ F27 keys to set to Yes or No.

Press E to enter choice and advance to next network setup option.

SAVE CHANGES
Saves all of the network changes made.

Press E to save and HOME to abort any changes.

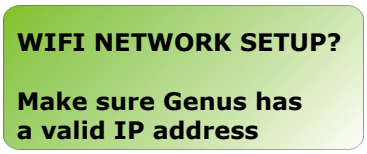


WIFI NETWORK SETUP

This is explained in the WiFi section of this document.

Press E to enter the WiFi setup.

Note: If an invalid IP address has been assigned the following message may occur for the WiFi Network Setup and the WiFi Network Info.

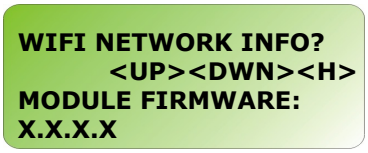


WIFI NETWORK INFO

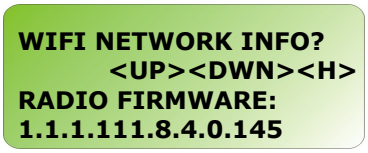
WiFi information provides a resource for firmware and version releases and Link connectivity status.

Press E to enter the WiFi information

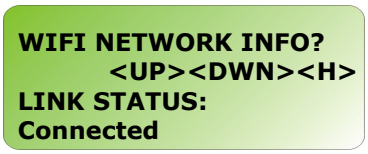
Use the F13 or F27 keys to scroll through WiFi information.



There are seven possible WiFi status messages as listed below.



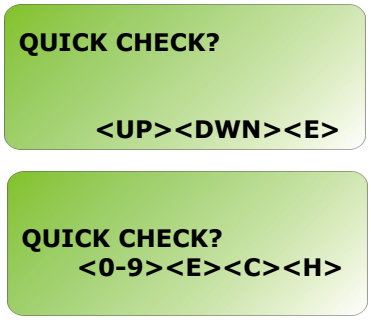
Association Incomp.
Connected
Disconnected
AP change
AP out of range
AP in range
Association failed



QUICK CHECK

While in Quick Check mode the internal readers and wands attached to the wand port can be tested. If there are values currently displayed, once a read takes place from a card or wand the values in the display are replaced by the values from the card or wand read.

To enter Quick Check Press E to select.



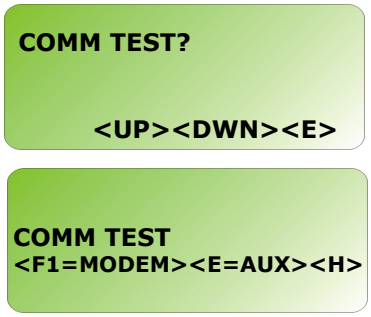
At this point, all key-presses except the E key will be echoed on the screen. Up to 40 characters can be entered encompassing the lower two lines of the display. The top two lines of the display are reserved for terminal messaging while in offline mode. Data is displayed from the lower right-hand corner and scrolls left. The data wraps from the beginning of line 4 to the end of line 3. In this way, the most recently pressed key is always displayed in the last character position on the screen.

Internal Smartcard readers MIFARE and iCLASS are auto detected as the terminal powers up and do not require configuration under “Reader Setup”. The associated badges can be presented while in quick check to establish whether a read and a good read tone occurs. The values returned are displayed in encrypted format.

COMM TEST

Tests the Serial Aux port, which is used to connect to serial devices such as a modem or a serial printer. This test requires special test equipment. Contact CMI Technical Support for additional information.

Press E to select.



Note: Modem parameter configuration can be found in the Genus API documentation.

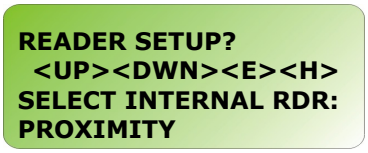
READER SETUP

Sets up the reader connected to the internal reader port, and a barcode wand if connected to the external wand port.

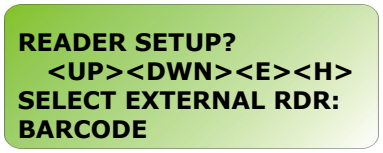
Press E to select.

Select Reader Type for Internal and External readers.

Use the F13 or F27 keys to scroll through reader types: PROXIMITY, MAGNETIC TRACK 1, MAGNETIC TRACK 2, BARCODE, BIOMETRIC, or NONE.



Press E to save settings and advance to the External reader setup.



Note: The External reader configuration also supports WIEGAND OUT.

Press E to save settings and advance to the Wand reader setup.

Use the F13 or F27 key to scroll for BARCODE or NONE.

Press E to save or HOME to abort any changes.

READER SETUP (Continued)

Biometric Reader

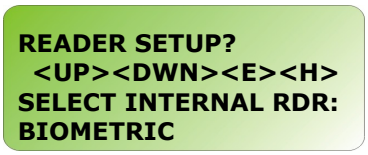
The Biometric Reader selection Sets up the biometric reader connected to the internal reader port, and adds the “BIOMETRIC TEST” to the top level setup menu after ‘Terminal Info’.

SELECT INTERNAL RDR

Use the F13 or F27 key to scroll through reader types to: BIOMETRIC

Press E to select.

The following message should display and return to MAIN MENU.

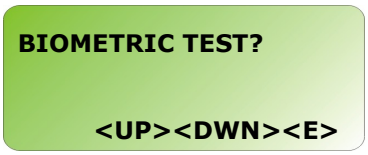


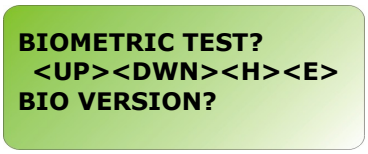
BIOMETRIC TEST

Provides options to check the reader version, test the sensor or to calibrate the reader.

At “Terminal Info?” use the F13 or F27 keys and scroll to BIOMETRIC TEST

Press E to select.

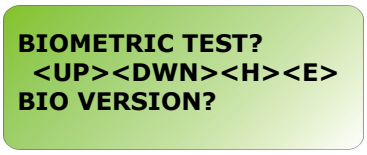




BIO VERSION

Returns the version of firmware loaded in the biometric reader.

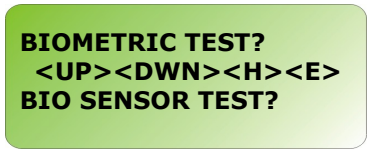
Press E to select.



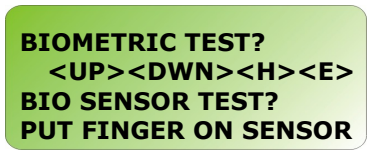
BIO SENSOR TEST

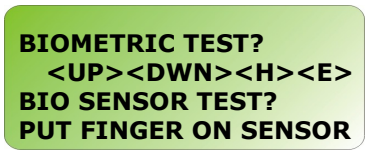
Verifies reader is functioning correctly.

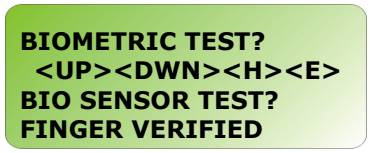
Press E to select.



The Terminal requests user to place a finger on the sensor to test. This occurs twice to verify the finger and complete the test. If a new finger is used the message displayed will be “VERIFY FAILED”.



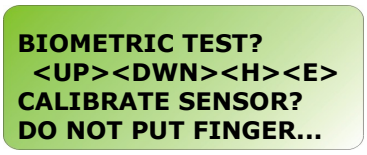


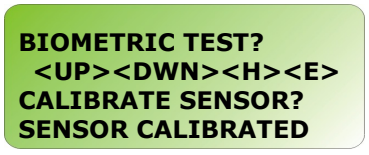


CALIBRATE SENSOR

Generally calibration of the Biometric sensor should not be required. Contact the CMI Service department concerning the calibration of the Biometric sensor.

Press E to select.





SETUP PIN

Personal Identification Number (PIN) that is used for security to prevent unauthorized entry into the setup mode.

Press E to select.

Use 0-9 to enter pin.

Press E to save settings and to return to MAIN MENU.

Note: To remove the SETUP PIN after it is assigned and saved the user must know the PIN to return to this screen. Press the clear C key to remove the PIN, and E to save.

DIAL-UP NETWORK

Sets up the information associated with the modem connections. Modem parameter configuration can be found in the Genus API Documentation.

Use the F13 or F27 keys to scroll through dial-up network aliases that were created during a previous session.

```
DIAL-UP NETWORK
<UP><DWN><H><E><C>
ALIASNAME 'F1'=TST
'E'=EDIT      'C'=DELETE
```

To add a new connection press E.

```
DIAL-UP NETWORK
<UP><DWN><H><E><C>
NEW CONNECTION?
'E' = ADD NEW
```

Use 0-9 numeric keys to enter a phone number. A combination of the scroll keys for alpha and the numeric keys can be used for Login, Alias and Password.

```
NEW CONNECTION
<UP><DWN><0-9><E><H>
ALIAS:
```

Use the F13 or F27 keys to scroll for alpha and special characters. Use 0 through 9 numeric keys for values.

Press E to accept.

```
NEW CONNECTION
<UP><DWN><0-9><E><H>
LOGIN:
```

```
NEW CONNECTION
<UP><DWN><0-9><E><H>
PASSWORD:
```

```
NEW CONNECTION
<UP><DWN><0-9><E><H>
PHONE:
```

All settings are immediately saved to the Terminal when E is pressed.

<H> HOME returns to Terminal Info.	**'E' EDIT** an existing Alias and associated settings.
'C' CLEAR/DELETE will delete an existing Alias and associated settings.	**'F1'** Tests the modem connection.

SETUP TIME ZONE

Sets the time zone that the terminal resides in.

Press E to select.

Use the ↓ F27 or ↑ F13 key to scroll through time zones.

Press E to save settings and to return to MAIN MENU.

```
SETUP TIME ZONE?

        <UP><DWN><E>
```

```
SETUP TIME ZONE?
  <UP><DWN><E><H>
SELECT TIME ZONE:
EST
```

TADMIN SETUP (WBI Enable/Disable only)

Terminal Administration is used to configure host side software and communication connections. This is only required when working with CMI's TAdmin host software.

Press E to select.

Use the ↑ F13 or ↓ F27 key to enable (Y) or disable (N) TAdmin.

Press E to enable and enter TAdmin settings for Server IP, Server Port, and Local Port.

Values 0 through 9 are entered via the keypad for the TAdmin settings.

<H> HOME returns to Terminal Info.
<C> CLEAR zeros the current value for the Server Port and Local Port settings.
'H' will abort all changed settings if entered at the 'Save Changes' prompt.
'E' will save all changed settings if entered at the 'Save Changes' prompt.

```
TADMIN SETUP?

        <UP><DWN><E>
```

```
TADMIN SETUP?
  <UP><DWN><E><H>
ENABLE TADMIN:
Y
```

```
TADMIN SETUP?
        <0-9><E><H>
SERVER IP:
000.000.000.000
```

```
TADMIN SETUP?
    <0-9><E><C><H>
SERVER PORT:
00000
```

```
TADMIN SETUP?
    <0-9><E><C><H>
LOCAL PORT:
02001
```

```
TADMIN SETUP?
              <E><H>
SAVE CHANGES?
'E'=SAVE  'H'=ABORT
```

WEB SETUP

Web Setup enables communication for Web Services on the Terminal, and between the host system and the Terminal.

Press E to select.

Use the F13 or F27 keys enable (Y) or disable (N) each option.

Press E to save and advance to the next option.

Note: These settings for the Web Browser Interface can be configured here in Offline Setup at the terminal or through the Web Browser to the terminal IP.

Enable Web Pages - This option enables the terminal's web configuration interface allowing an individual to remotely manage a number of options in the terminal via a web page. For more details on using the web configuration interface, please see the *Web Browser Interface* section of this document.

Enable Web Services - This option enables the terminal's web services functionality. When enabled, the terminal will allow the use of built-in web services functions called by a host.

Enable Host Web Svc - This option enables the terminal's ability to use web services on a host computer. When this is enabled, the terminal will attempt to connect to the configured URLs to send and receive data, including transactions. While this enables the feature at the terminal level, the terminal application must utilize these features.

Enable Modem - Note: this option is only available when "Enable Host Web Svc" is set to "Y". This option enables the use of the modem to deliver data over the Host Web Service interface. If enabled and data is available or calls are made to the web service, if a connection is not present, the host will dial out in an attempt to transmit or receive data.

EXIT SETUP

Exits offline mode and returns to the power up sequence.

The user is prompted whether or not they wish to exit Setup in Offline Mode.

Pressing the E key reboots the terminal and cycles through the power-up sequence.

Genus WiFi

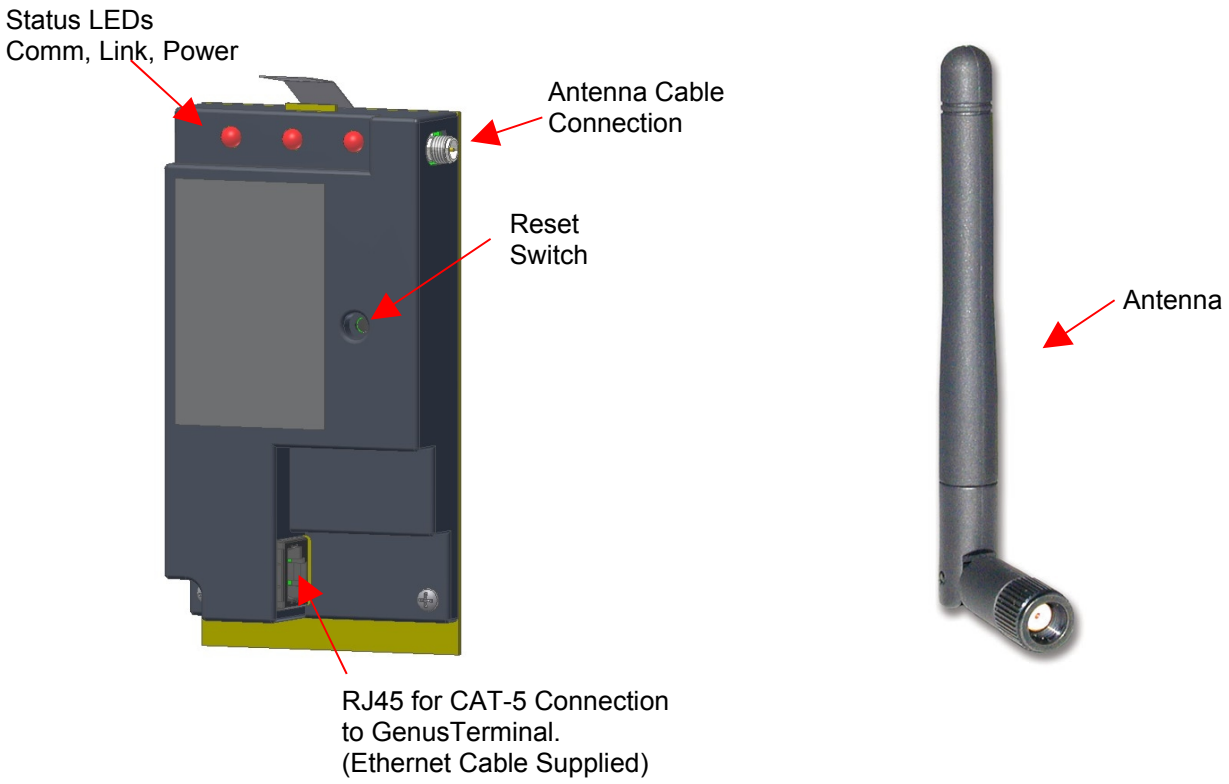
Introduction

The 3046 WiFi Module provides wireless network connectivity for the CMI Genus series terminals. The WiFi Module functions as an Ethernet to Wireless LAN bridge and connects to the Genus terminal's RJ-45 Ethernet port. The WiFi Module will provide a seamless connection to an 802.11b compliant Access Point (AP) that is within range. This WiFi Module is compliant with the IEEE 802.11b standard and provides security and encryption functions for a secure and reliable network.

This section of the document describes the Genus WiFi setup. It also provides troubleshooting information and a Code 39 barcode table to assist in the setup of the Module using a digital barcode wand. This provides easy access to special characters that are not available on the Genus terminal keypad, but may be required for SSID, WEP Keys, and other security parameters.

Please note that the WiFi Module may be referred to as "Module" within this section of the document.

WiFi Module



Genus WiFi Configuration/Setup

WiFi Module

The WiFi Modules are shipped with DHCP disabled, and all security modes turned off. If the Module successfully associates with an access point, the Link and Power LEDs will be green. If the Module is unable to associate with an access point, the Link LED will blink red and the Power LED will be green in color.

IP Addresses

There are two IP Addresses involved in the WiFi configuration. The WiFi Module and the Terminal each have a unique IP.

WiFi Module - Fallback

If DHCP is enabled and the WiFi Module has been powered up for 60 seconds without being able to associate with an access point, the Module will fallback to the following settings:

IP address:	192.168.0.68
Subnet Mask:	255.255.255.0
Gateway IP:	0.0.0.0

When the Module reaches the 60 second timeout, it will revert back to the fallback settings. The Power LED will change from amber to green and the Link LED will continue to blink red.

Genus Terminal

The Genus terminal must also have a valid IP address (Terminal DHCP turned off) in which the first three octets are 192.168.0.XXX, otherwise the Terminal will not be able to communicate with the WiFi Module installed. Change the IP address on the WiFi Module first. Note that the terminal will “hang” if on a different sub-net.

DHCP and WiFi Module setup

Upon entering setup mode the user is given the option to enable (Yes) or disable (No) DHCP for the WiFi Module. If DHCP is disabled, the Terminal will prompt the user to enter network settings for the Module. These settings are stored by the Terminal allowing it to be able to go back into setup again as needed. If DHCP is enabled, and the Module is assigned an IP address by the DHCP server, the Terminal will not know the Module’s IP setting and will not be able to go into setup.

However, the need to go back into setup once the Module associates with an access point and is running is unlikely. If there is a need to go into setup, the access point would have to be powered down or the Terminal would have to be moved out of range. After 60 seconds, the WiFi Module will revert back to its fallback settings and the user will be able to go into setup.

WiFi Module Setup screens

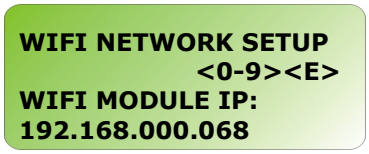
The Genus terminal needs to be in the Offline mode to get to the WiFi setup.

Enable DHCP: No – disables DHCP and requires the user to enter network parameters. Yes – enables DHCP and the network parameters are assigned by the DHCP server.

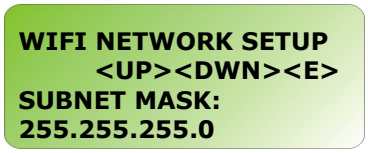
With DHCP disabled the Terminal will prompt for network settings.

IP: This is the IP address of the WiFi Module.

Note: To communicate to the Terminal you need to use the Terminal IP, which is assigned through the **Network Setup** menu.

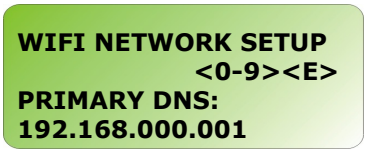


Subnet Mask:

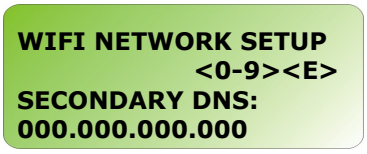


Gateway IP:

Primary DNS:



Secondary DNS:

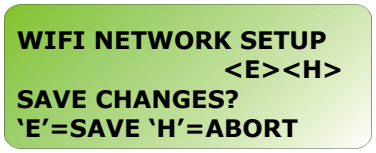


SSID: The default value for the SSID is "any". The SSID can be up to 31 characters. This controls which AP the Module connects to. If using a digital wand refer to the Code 39 Programming Table in this document.

Note: The SSID is case sensitive.

Security Type: The default is set to disabled. However, the Module provides, wep64, wep128, wpa-psk, options. See WiFi Module Security Settings, in this manual.

Save Changes? Changes saved by 'E' will be saved to the WiFi Module. 'H' aborts the setup changes placing the user at the first prompt for DHCP enable/disable.



WiFi Module Fallback Settings

Fallback mode can occur when the WiFi module is unable to associate with an access point after 60 seconds. When fallback occurs the Terminal recognizes the fallback settings and will allow a setup session to change the WiFi parameters.

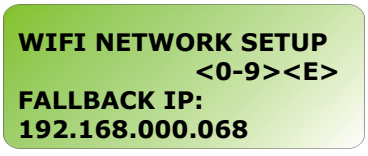
WiFi Module Fallback LED Indication

The LEDs on the Module revert to the Power LED changing from amber to green and the Link LED will continue to blink red.

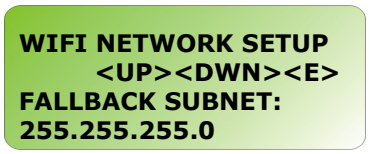
Enable DHCP: If fallback has occurred, choosing "Yes" while in WiFi Network Setup will bring up the FALLBACK SETTINGS prompt.

If "Yes" is entered the fallback settings stored in the Module become available to change. If "No" is entered the Module returns to the SSID prompt.

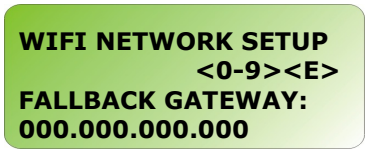
Fallback IP: Default is 192.168.000.068.



Fallback Subnet: Default is 255.255.255.0.



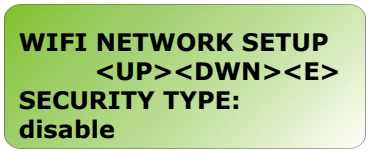
Fallback Gateway: Default is 000.000.000.000.

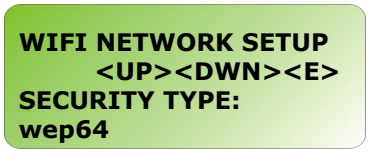


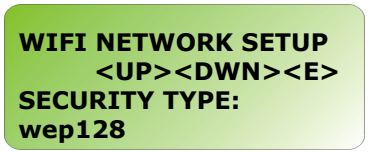
WiFi Module Security Settings

The WiFi Module provides security setting options. The WiFi Module default for the security settings is set to disabled. This provides the user with the option to choose a security type and allows corresponding fields to be available to enter settings for that security type.

Scroll through the security types, wep64, wep128, wpa-psk, and disable. Press 'E' to choose.

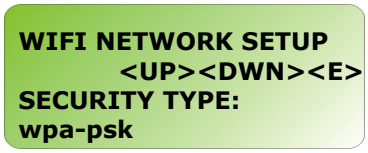






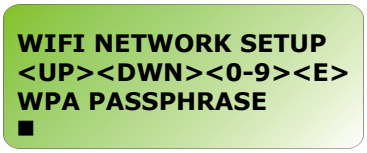
WPA-PSK refers to Pre-Shared Key used in Authentication.

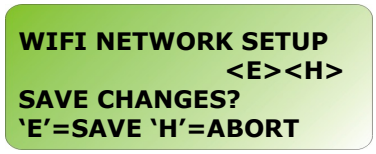
This is a shared key between the station and the access point (AP) and is entered as a passphrase. Input is 8 to 63 ASCII characters or 64 hex characters that cannot contain spaces. The passphrase must match the passphrase on the AP.



When the passphrase has been entered use either 'E' to Save or 'H' to Abort.

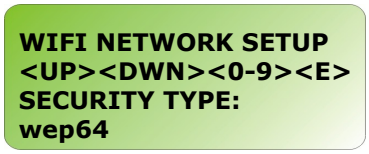
If using a digital wand, refer to the Code 39 Programming Table in this document.





Note: The G1 Terminal requires the exact number of hex characters for WEP key values to advance to the next parameter setting.

WEP64 refers to 64-bit key length assigned to the WiFi Module that must match the access point on the network.



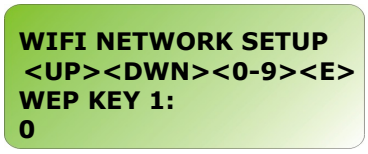
The WEP **Authentication** type can be configured for auto, open or shared. **Auto** is the default and will automatically detect the authentication. **Open** authenticates using open Key algorithm, and will communicate the key across the network. **Shared** authenticates using Shared Key algorithm, and will allow communication only with devices with identical WEP settings.

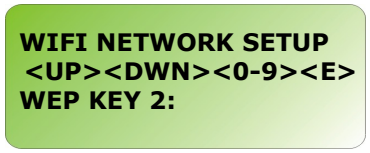
The **Default Key** option must match the key index configured on the Access Point. The options are 1, 2, 3, 4, with the default set to 1.

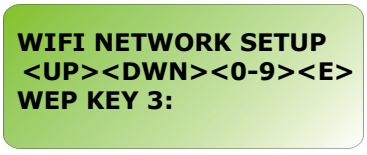
There are four WEP Key input areas to add the ASCII HEX values. These correspond to the numbers as chosen through the default key above. WEP 64 requires 10 hex digits. Default is shown.

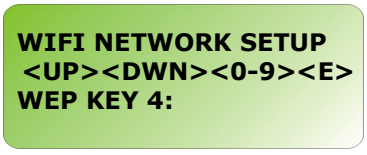
Acceptable characters include only 0-9, and A-F, in upper case.

If using a digital wand refer to the Code 39 Programming Table in this document.

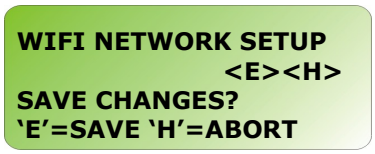






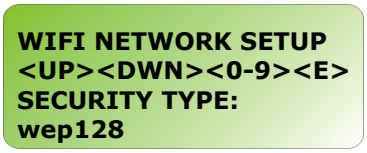


When desired changes have been entered use either ‘E’ to Save or ‘H’ to Abort.



WEP128 refers to 128-bit key length assigned to the WiFi Module that must match the access point on the network.

Wep128 works the same as wep64 described above with a requirement of 26 ASCII HEX digits that must be entered in the Wep Key areas 1-4.



Web Browser Interface

The web browser interface provides system administrators with the ability to remotely login, view and change system parameters and settings on the Terminal.

Navigation hierarchy:

- Home page (Genus Administration)
- Network Setup
- Web Service Setup
- Data Maintenance
- Debugging

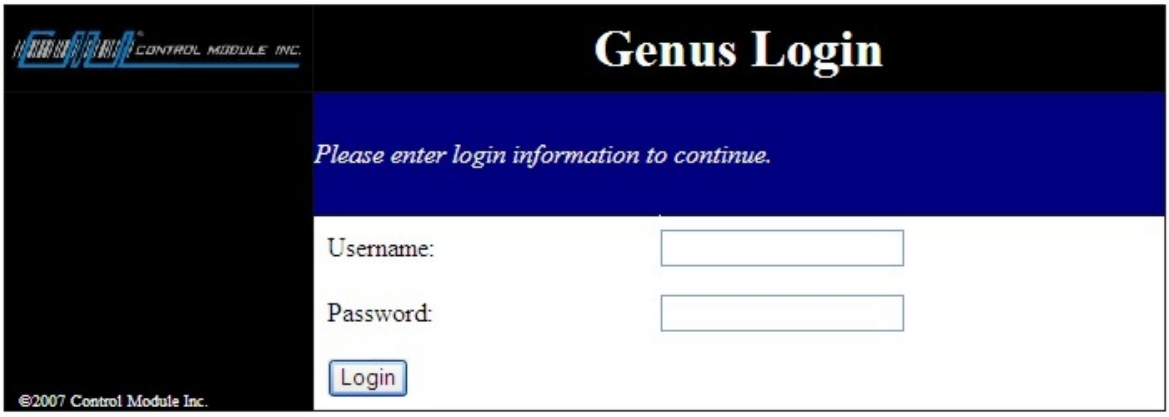
Logon

Provide verification and session management requiring a user name and password before allowing access to system functions. The logon screen simply displays a prompt screen for a username and password. A limit to the number of logon attempts from the same machine over a period of time will restrict brute force password attacks. For the sake of simplicity there is only one administrator account.

Username and password are generic by default and should be changed for future sessions of the Terminal Web Browser Interface. Username and Password are not case sensitive.

Username: Admin
Password: Pass

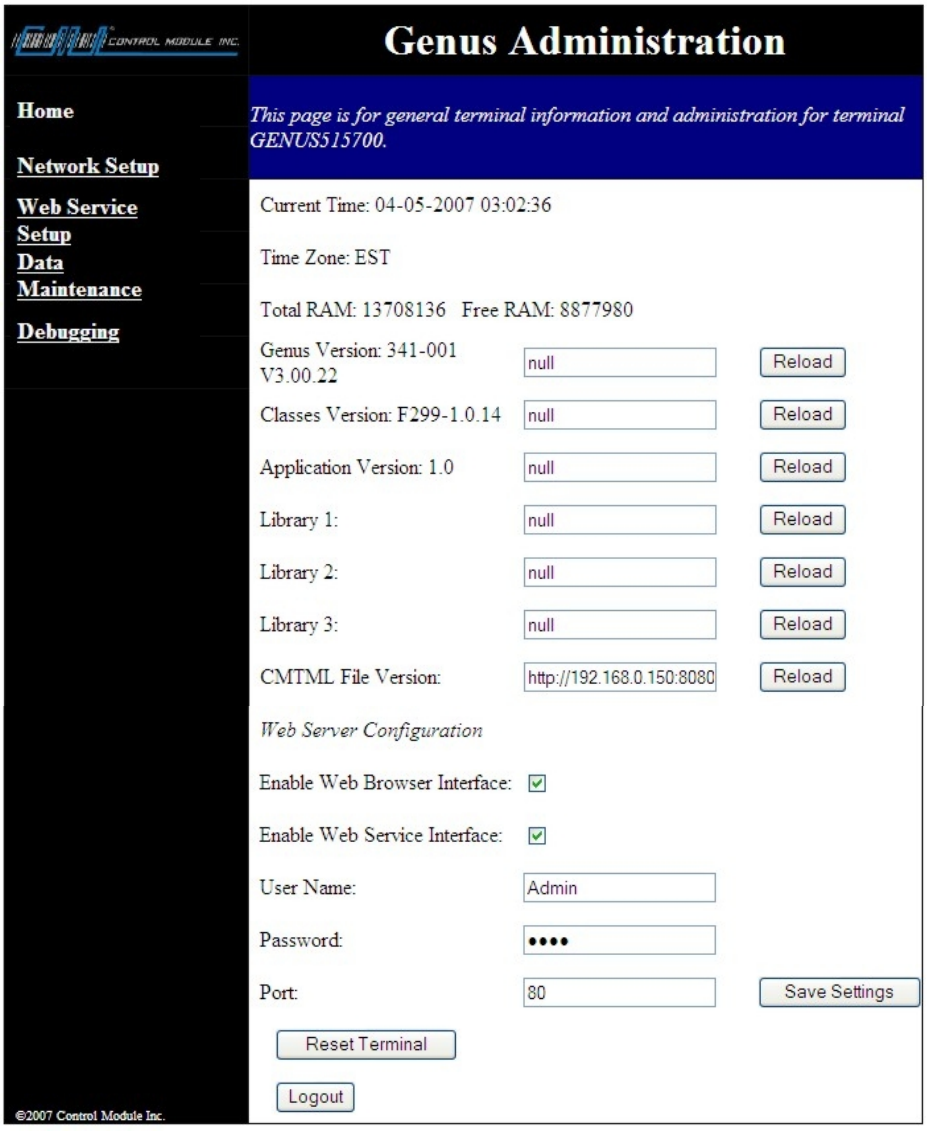
Note: A Web Browser Interface session will continue until there is either a timeout after 10 minutes of inactivity or will become invalid if the terminal is rebooted. Close the Web Broswer and re-open to start a new session.



Home page – Genus Administration

Once logged in to the terminal the Genus Administration home page is displayed. The Genus Administration page displays the following information as retrieved from the current Terminal session or as used during a previous session and retained in the browser.

- Current Time
- Time Zone
- Terminal memory (RAM)
- Genus Version
- Classes Version (Classes.jar)
- Application Version (App.jar)
- Library Filenames (Lib1.jar, Lib2.jar, Lib3.jar)
- CMTML File Version
- Enable Web Browser & Service Interfaces
- User name and '*' encoded password



Current Time

The Current Time and date displayed is normally set by the host and cannot be changed in the Web Browser Interface.

Time Zone
The Time Zone is normally set during Terminal setup and cannot be changed in the Web Browser Interface.

Total RAM
The Total RAM displayed refers to the total amount of dynamic RAM available for program execution. Free RAM refers to the amount of dynamic RAM remaining at that point in time.

File Versions and Fields
The fields adjacent to the Genus Version, Classes Version, Application Version, Lib 1, 2, 3 and CMTML File Versions are editable fields that accept a URL to point to a new version of that file represented. The Reload button uses the URL to retrieve the new file and loads it to the Terminal. A URL example could be as follows 'www.example.com/genus'. More than one file can be reloaded during a session. When all reloads are complete the Terminal can be rebooted by selecting the **Reset Terminal** button at the bottom of the Genus Administration page.

Web Server Configuration
The *Web Server Configuration* Section has two settings Enable/Disable Web Browser Interface and Enable/Disable Web Service Interface. The Enable Web Browser Interface is enabled by default and the checkbox is checked. The Enable Web Service Interface setting is independent of the Browser and is disabled by default. The checkbox is not checked.

Note: Both Settings Enable Web Browser Interface and the Enable Web Service Interface can also be set through the Web Setup in Offline mode on the Terminal.

User Name and Password
Username and password fields are provided and should be changed from the Username and Password defaults configured on the Terminal. Username and Password is not case sensitive.

Port
Port is the default (web port) TCP port for the Web Browser Interface.

Save Settings Button
Settings changed on the Genus Administration page are saved to the Terminal when this is selected.

Reset Terminal
This is required to have new settings take effect. Some settings may take some time to complete. If the Terminal is reset the Web Browser should also be closed and restarted to pickup any new settings. Settings should be saved prior to resetting the Terminal.

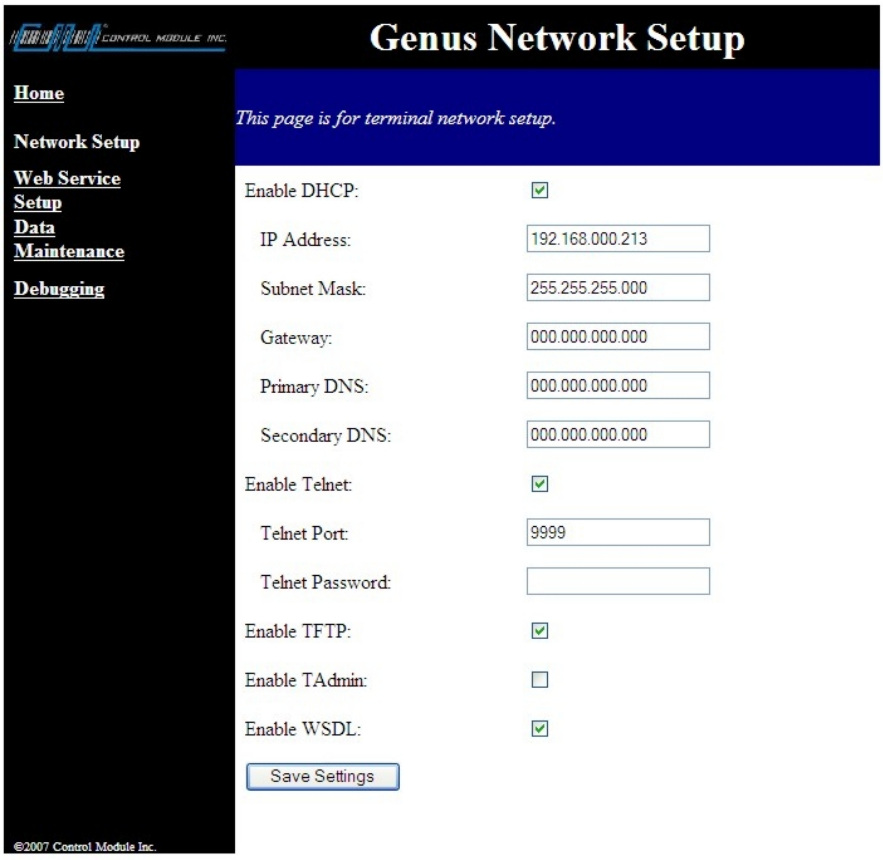
Logout
Will logout from the current session. If changes are made on the Genus Administration page and not saved they will be lost during logout.

Network setup

The network setup screen provides standard network setting fields to allow administrators to configure the terminal's network parameters. All settings on the Network Setup page except the 'Enable WSDL' correspond to the Offline Setup menus in the Terminal.

Network parameters include:

- DHCP enable/disable - check box
- IP Address – text input
- Subnet mask – text input
- Gateway – text input
- Primary DNS – text input
- Secondary DNS – text input
- Telnet enable/disable - check box
- Telnet port – text input
- Telnet password– text input
- TFTP enable/disable - check box
- Checkbox to enable/disable TAdmin
- Checkbox to enable/disable Web Service Description Language (WSDL) response
- A button to Cancel or Save settings



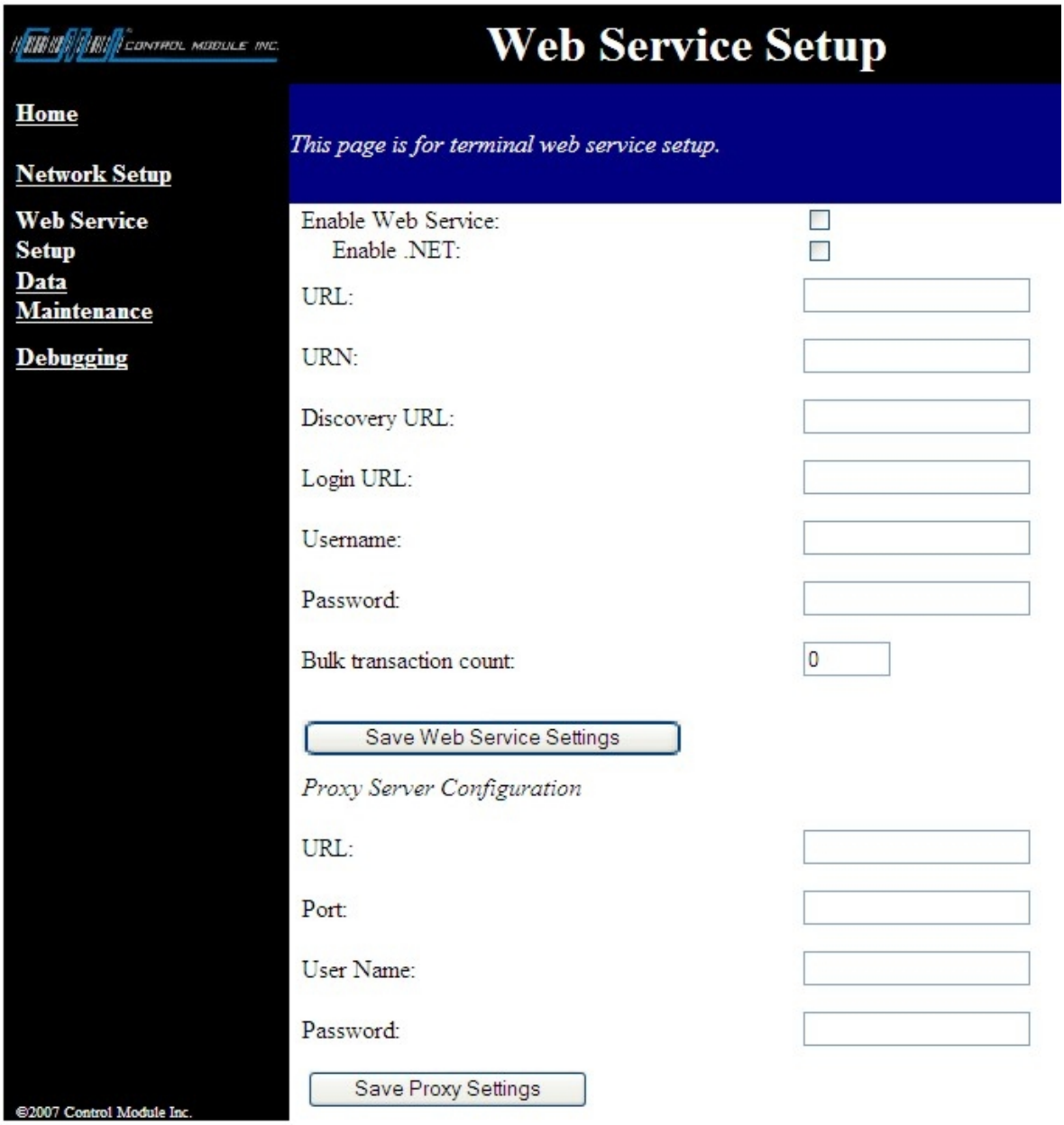
Note: If DHCP has been enabled the IP address is filled in by the DHCP server. Subnet Mask, Gateway, Primary and Secondary DNS will not be available to change.

Note: The Telnet Password/Pin can only be 20 characters. If longer the Password/Pin will be truncated.

Web Service Setup

The Web Service Setup screen provides system administrators with the ability to reconfigure the Terminal settings for host side web service. This page provides a listing of all configuration name/value pairs with the ability to edit, add, or remove entries.

- URL
- URN
- Logon credentials (username and password)
- Discovery URL
- Bulk transaction count
- Proxy URL
- Proxy - Port
- Proxy Username and Password



Enable Web Service
This setting will enable the Web service setup for the host side.
The Enable Web Service corresponds to the Enable Host Web Service option in the Offline Setup on the Terminal.

Discovery URL
The Discovery URL is the URL the Terminal will use to download its web service connection information. This URL should return the web service configuration information. For more information, please review the Genus Web Services Developer's Guide.

Bulk Transaction Count
This setting defines the number of transactions sent to the host in an XML message.

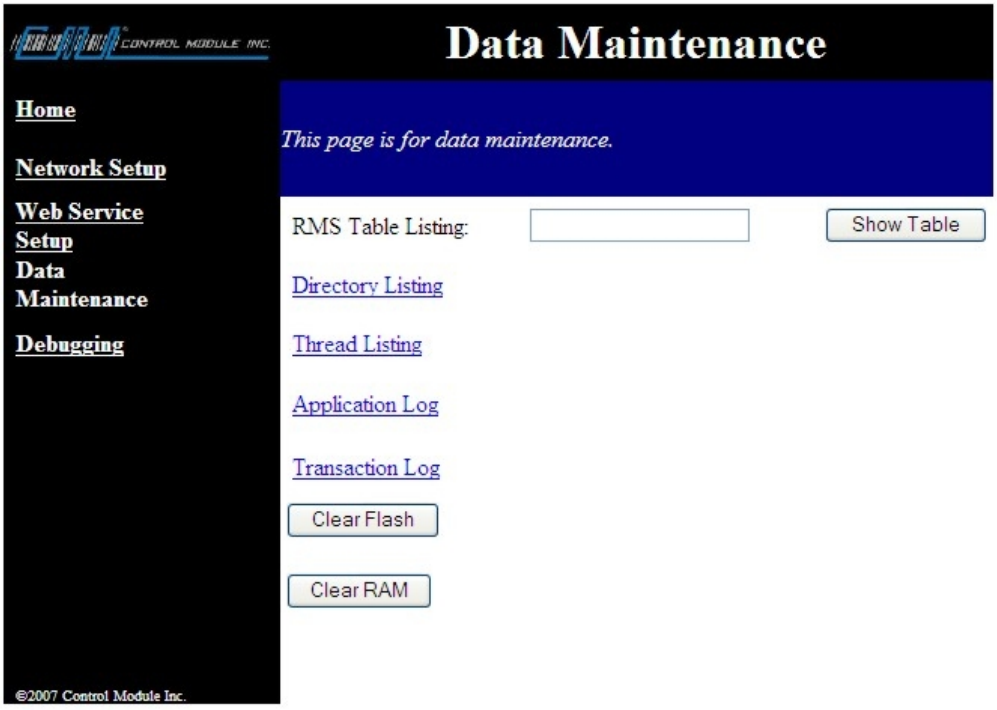
Data maintenance

The data maintenance screen provides directory browsing and Record Management System (RMS) browsing that would generally be used for support or development. The following pages provide sample screen shots for Directory Listing, Thread Listing, Application Log, and the Transaction Log.

RMS Table Listing

The RMS Table Listing is located on the '\flashdisk' and provides access to data tables that are setup by user applications.

The data field adjacent to RMS Table Listing is for the table name and is case sensitive. If a large table is requested it may take a few minutes to load. Select 'Show Table' once the table name has been filled in.



Clear Flash

This will clear the '\flashdisk' on the terminal erasing everything except Classes.jar, App.jar, Genus App, Lib1.jar, Lib2.jar, and Lib3.jar. This is also available in the Offline Setup mode of the Terminal. A warning message for loss of data will display if the Clear Flash button is selected.

Clear RAM
This will clear the '\ramdisk' on the terminal, typically erasing transaction data.

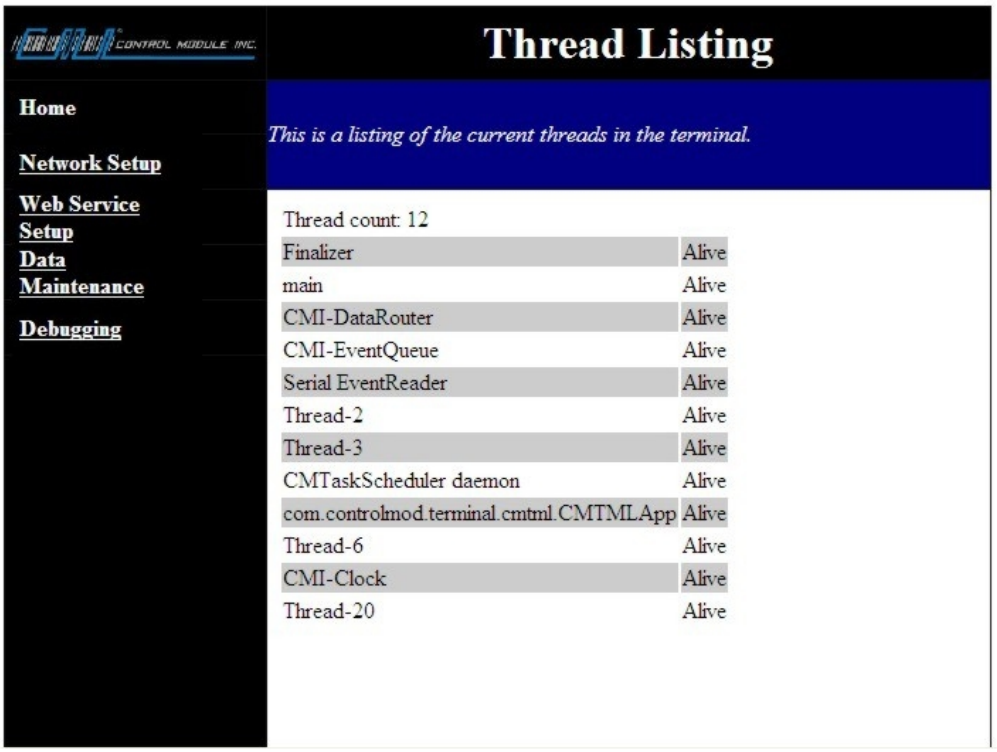
A warning message for loss of data and transactions will display if the Clear RAM button is selected.

Note: After a 'Clear RAM' the Terminal requires a reboot to complete the process.

Directory Listing
The Directory listing allows you to view files and directories that currently reside in the '\ramdisk' on the terminal. This is a sample directory your directory list may differ.

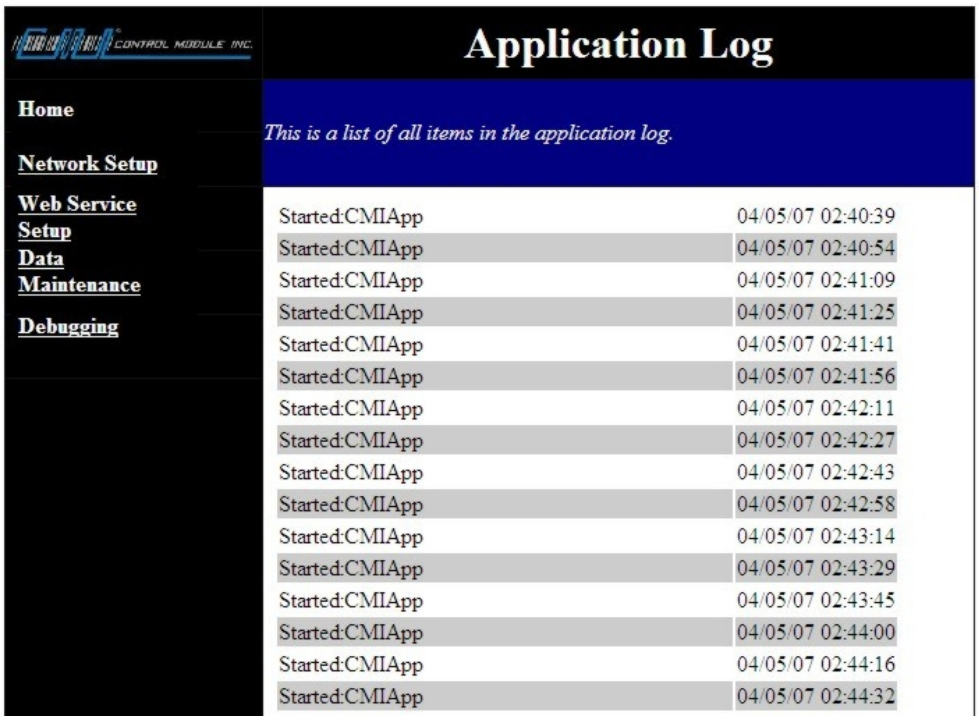
Thread Listing

The Thread Listing will display all active threads in the Terminal that are currently running. This is a sample screen your display of active threads may differ.



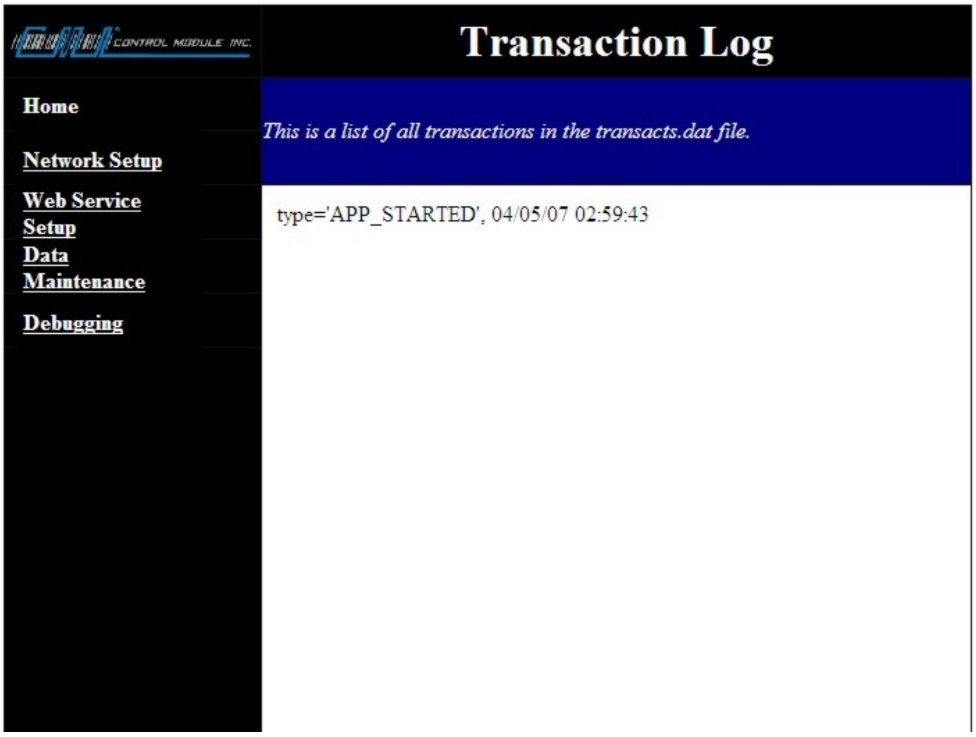
Application Log

The Application Log will display any application starting messages and critical system messages.



Transaction Log

The Transaction Log will display the type, name, date and timestamp for each transaction that occurs and are currently stored in the data queue. Up to 50 transactions can be displayed per page.



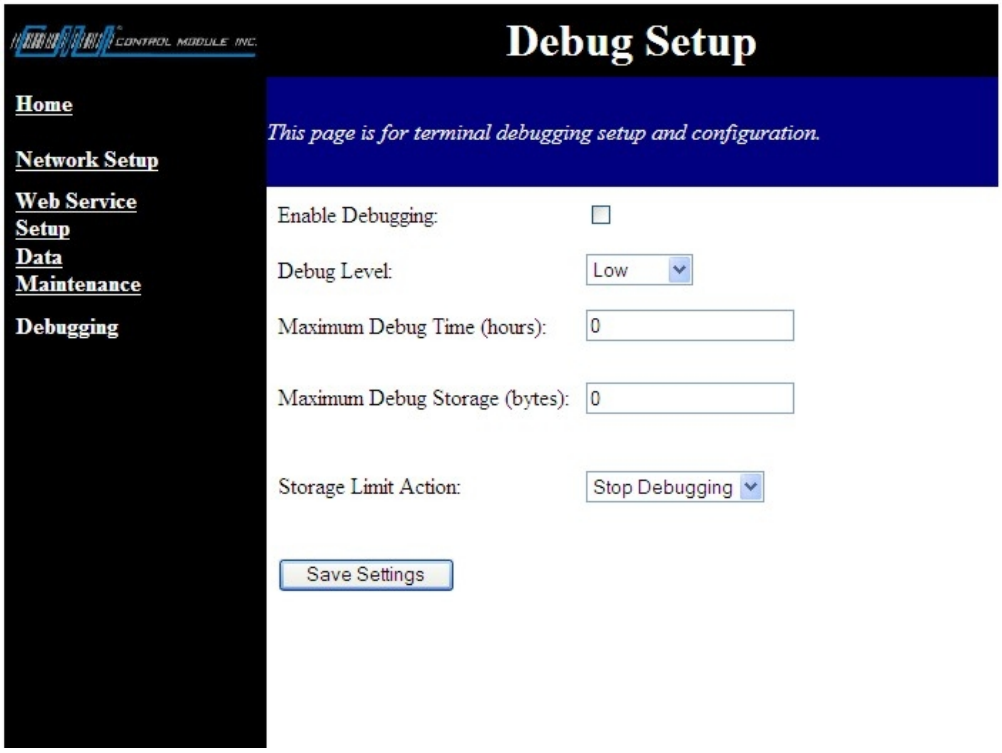
Debugging

The Debug Setup page allows an administrator to enable application and system debugging.

Configurable options:

- Enable/disable debugging
- Debug Level
- Max Debug Time (hours)
- Max Debug Storage (bytes)
- Storage Limit Action

Note: The default location for the debug file is \ramdisk\errors.txt



Debug Level

This setting defines the minimum level of messages that will be logged. This only affects terminal applications that utilize the debug levels. Debug messages without levels are always stored. The debug priority levels include (Low, Medium, High, Severe) to write to the file.

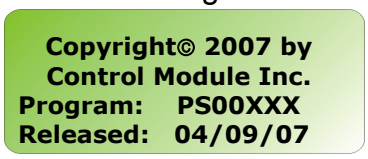
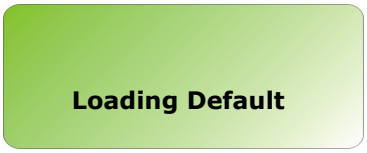
Maximum Debug Time

This Sets up the maximum amount of time in hours (x number of hours) to allow debugging to run. When the time is reached debugging is stopped. If set to zero (0 = infinite). If the Terminal is rebooted at any time the debugging will stop.

Maximum Debug Storage
Specify the max size of the debug file in bytes at which point the action taken is determined by Storage Limit Action. If set to zero it will continue to write until the '\ramdisk' of the Terminal is full.

Storage Limit Action
Determines whether to Overwrite or to Stop Debugging when the 'Maximum Storage Bytes' value has been reached.

Troubleshooting Terminal Issues

Terminal Issue	Possible Causes	Resolution
Terminal does not power on 	No Power to the terminal.	Verify power cable is connected to terminal. If a UPS is included verify power is connected to the UPS and the power cable from the UPS is connected to the Terminal. Contact your service technician or electrical contractor.
Loader screen does not display; only the copyright screen then it goes blank 	Loader is missing or has become corrupt.	Refer to the *Service and Technical Support* section in this document.
Default loads all the time after Loader 	Genus executable has become corrupt or needs to be programmed.	Reload Genus to the terminal. Refer to *Steps to Re-Program Genus Firmware* section in this document.
Terminal stops at “Initializing network”	Terminal is searching for DHCP and/or Network connection is not available.	Wait at least 3 minutes. Make sure your network cable and switch are connected and working properly.
Terminal displays “Serial Loader Mode”	Terminal does not have a usable copy of Genus or Default.	Refer to the *Service and Technical Support* section in this document.

Terminal Issue	Possible Causes	Resolution
Terminal displays “Error opening Classes.jar” 	Terminal does not have the Classes (or API) loaded.	Reload Classes to the terminal. Refer to *Steps to Re-Program Genus Firmware* section in this document.
Terminal displays “Error opening App.jar” 	Terminal does not have an application loaded.	Load Application to the terminal. Refer to *Loading a Customer Defined Java Application* section in this document.
Terminal displays “Error initializing RAM File System” 	The SRAM on the memory board could be failing.	Refer to the *Service and Technical Support* section in this document.
Terminal displays “Error initializing RTC” 	The Real Time Clock is not functioning.	Refer to the *Service and Technical Support* section in this document.

Troubleshooting Genus WiFi

Troubleshooting Suggestions Table

Issue	Resolution
The WiFi Module cannot find the Access Point.	Verify that the **Link** LED is solid green. If it isn't, refer to "LED Troubleshooting" table.
The AP (Access Point) cannot find the WiFi Module. 	Click the Refresh button in your Access Point's configuration application. If the problem remains, check the WiFi Module's physical connections. Then power-down the WiFi Module, power it up, and check the LED status. The "WiFi LED Description" table defines the various LED status indications. Make sure that there is not another AP in the area that may be interfering with your AP. If the problem remains, contact CMI.
The WiFi Module cannot associate with an Access Point.	Change the location of the WiFi Module to improve reception. If that does not help, go into the WiFi configuration and be sure the SSID matches that of the Access Point (remember the SSID is case sensitive). Also verify that the security settings such as WEP keys or WPA PASSPHRASE match the AP exactly.
The Genus terminal cannot access the WiFi Module for setup purposes	Most likely the Terminal does not know the IP address of the WiFi Module. This will happen if the Module is set for DHCP and the Module obtains an IP from the server. The Terminal will be able to access the Module by using the WiFi Module's fallback IP address. **The WiFi Module will revert back to the fallback Ethernet settings after 60 seconds if it is moved out of range of the AP or if the AP is powered down.** Fallback mode is indicated when the Power LED changes from amber to green and the Link LED is blinking red. **Default Fallback Ethernet Settings** IP address: 192.168.0.68 Subnet Mask: 255.255.255.0 Gateway IP: 0.0.0.0 DHCP must be turned off in the Genus terminal and fixed address settings entered that match the above values. The first three octets of the Terminal must match the address above. **The last octet must be something other than 68.**
The Genus terminal still cannot access the WiFi Module after "fallback" has occurred.	The fallback Ethernet settings have been changed to something other than the default values. The default values can be restored to the WiFi Module by turning the Module on while holding the reset button momentarily. All user changed values will be defaulted.

Indicator LED Troubleshooting Table

If the...	Perform These Tasks...
Power LED does not turn **On**. 	Check power connector is properly inserted. Contact your service technician.
Power LED turns **Red**. 	Remove power and re-apply. If the Power LED remains Red, contact CMI.
Power LED is **Amber**.	WiFi Module has not established an IP address either through DHCP or Static methods. If DHCP is enabled, your network must have a DHCP server available when the WiFi Module is powered-up. Most AP/Routers have a DHCP server built-in. Enable your DHCP server and re-start the Module.
Link LED continues to **Blink Red**.	WiFi Module has not found an Access Point with which to associate. Be sure the Access Point you want to use is turned on and has WEP disabled (you can enable WEP after the WiFi Module has been configured). If this does not help, be sure there are no nearby devices causing interference. If there are, either turn off or move the device causing the interference or move the WiFi Module and Access Point to another location.
Comm LED is **Off** or **Amber**.	Be sure the Genus terminal is connected to the WiFi Module and that the device is turned on.
Comm LED is **Red** and **Link** LED is **Green** but you are unable to pass data.	Check the Ethernet settings of the Genus terminal. Except for the last octet of the IP address, all settings should match those of the WiFi Module. If the Terminal is set for DHCP, your network must have a DHCP server available when the Genus Terminal is powered-up.

WiFi LED Description

LED	LED Color	Function
Comm	Off	No power, or no WiFi configuration session is established and no Ethernet physical connection is detected.
	Red	No WiFi configuration session is established; an Ethernet physical connection is detected.
	Blinking Red	An Ethernet physical connection was detected and there is Ethernet traffic present on that connection, but no WiFi configuration session is established.
	Amber	A WiFi configuration session is established but no physical Ethernet connection is detected (i.e., no Ethernet cable is attached to the Module).
	Blinking Amber	A WiFi configuration session is established, a physical Ethernet connection is detected, and the Module is transmitting or receiving data across the wired Ethernet port.
	Green	A WiFi configuration session is established, a physical Ethernet connection is detected, but there is no active data movement across the wired Ethernet port.
Link	Off	Module is not receiving power.
	Blinking Red	Module is searching for an Access Point.
	Green	Wireless network and MAC have associated with an Access Point.
Power	Off	Module is not receiving power.
	Red	Module failed its Power On Self Test (POST) and is not configured for wireless communication.
	Amber	Module passed its POST but is not configured for wireless communication.
	Green	Module passed its POST and is configured for wireless communication.

Reference

Steps to Re-Program Genus Firmware:

In the event an update becomes available for the Genus terminal, the firmware can be updated in the field.

The following items are required to (re-)program Genus firmware:

- Data terminal to be programmed, connected to the network
- the IP address of the Genus terminal
- computer / laptop connected to the network and able to PING the data terminal
- Genus firmware

Genus ("System") file update:
The Genus terminal application makes use of CMI Java classes and interfaces in the CMI Genus API.

tftp –i <*ip address*> PUT Genus \flashdisk\Genus

(Note: Genus file name may be versioned (e.g. g2_3_3_12)

Classes (API) update:
The classes file is specific to your terminal type (G1 or G2). Check the release notes or other documentation provided with the updated files to confirm the name of Classes.jar (may be GI.jar or GII.jar).

tftp –i <*ip address*> PUT Classes.jar \flashdisk\Classes.jar

Note: The terminal will reboot after replacing the Genus or Classes files
Wait until the terminal reboots before sending additional files.

Confirming Updates:

To confirm that the Genus and/or Classes update(s) took place, follow the steps below:

1) Place the terminal in Offline mode
2) Locate the "Terminal Information" screen
3) Check "API:" to find Classes version.
4) Scroll to "Program Version:" to locate Genus Version.

Loading A Customer Defined Java Application

This application runs on the terminal and handles both a user interface and any backend processing or communication. This is created by the user of the terminal, a value added Reseller, or CMI.

tftp -i <*ip address*> PUT <myapp.jar> \flashdisk\App.jar

where <myapp.jar> is the local name of the user created Java application.

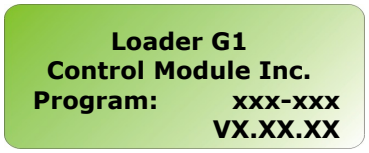
Important Note: The terminal will reboot after sending the file above.

See the Genus Software Development Kit (SDK) for more information on creating terminal applications.

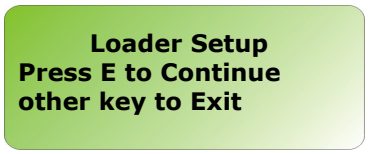
Loader Mode

This application is available as of version V2.02.04 of the Genus Terminal firmware and provides access to terminal network settings when communication to the Terminal has been compromised.

To access the Loader Mode put the Terminal into offline mode by using the on line/off line setup switch on the back of the terminal.



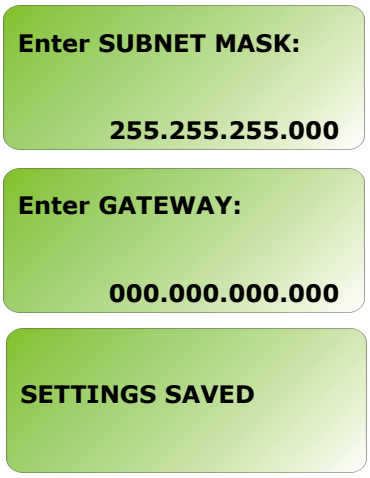
Press E quickly to enter the Loader Mode when the Loader Setup screen appears.



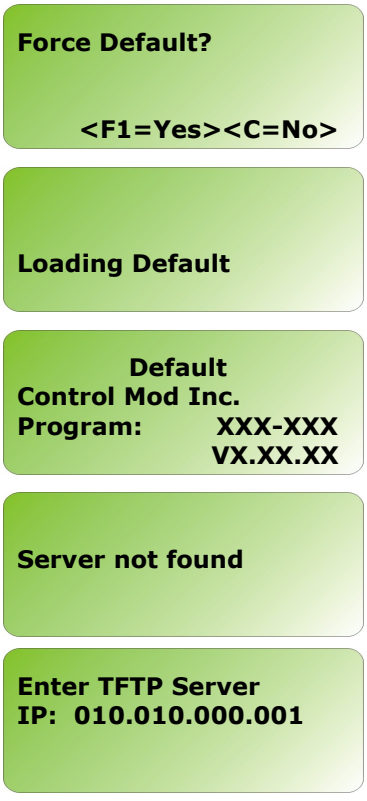
The Terminal retains the IP address that was stored and will display this in Loader Mode. If DHCP had been set the IP address would display as all zeros in the octets.

Pressing C will zero out the octets. Use 0-9 and the F21 or F19 keys to advance and return between octets.

Press E to advance to the next network setting.



Press F1 to force the default to load.



If the server cannot be found the Terminal will display the “Server not found” message, followed by the prompt to enter a new TFTP server IP.

Calculating Number of Transactions That Can Be Stored

The number of transactions that can be stored is determined by the size of the transaction. Each transaction minimally has 45 bytes as header data and has up to 4KB of transaction data.

A transaction looks as follows:

[45 Bytes – Header] [Up to 4KB Data]

To calculate the number of transactions that can be stored, you can use the following calculation:

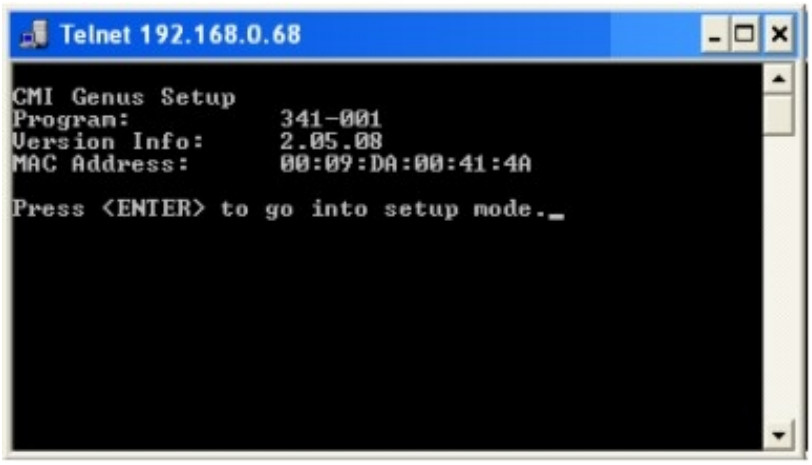
1,048,576 / (45 + <data length>)

For example, if you were simply using 10-digit badges, the calculation would appear as follows:

1,048,576 / (45 + **10**) = 19065

Telnet Session

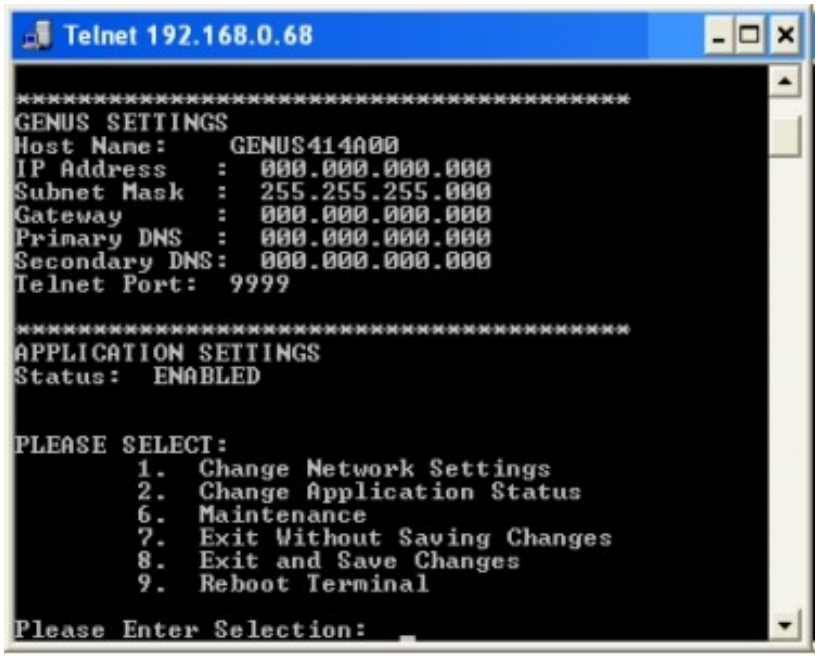
A Telnet session can be established with the Genus Terminals. Once established the general network parameters are available to update.



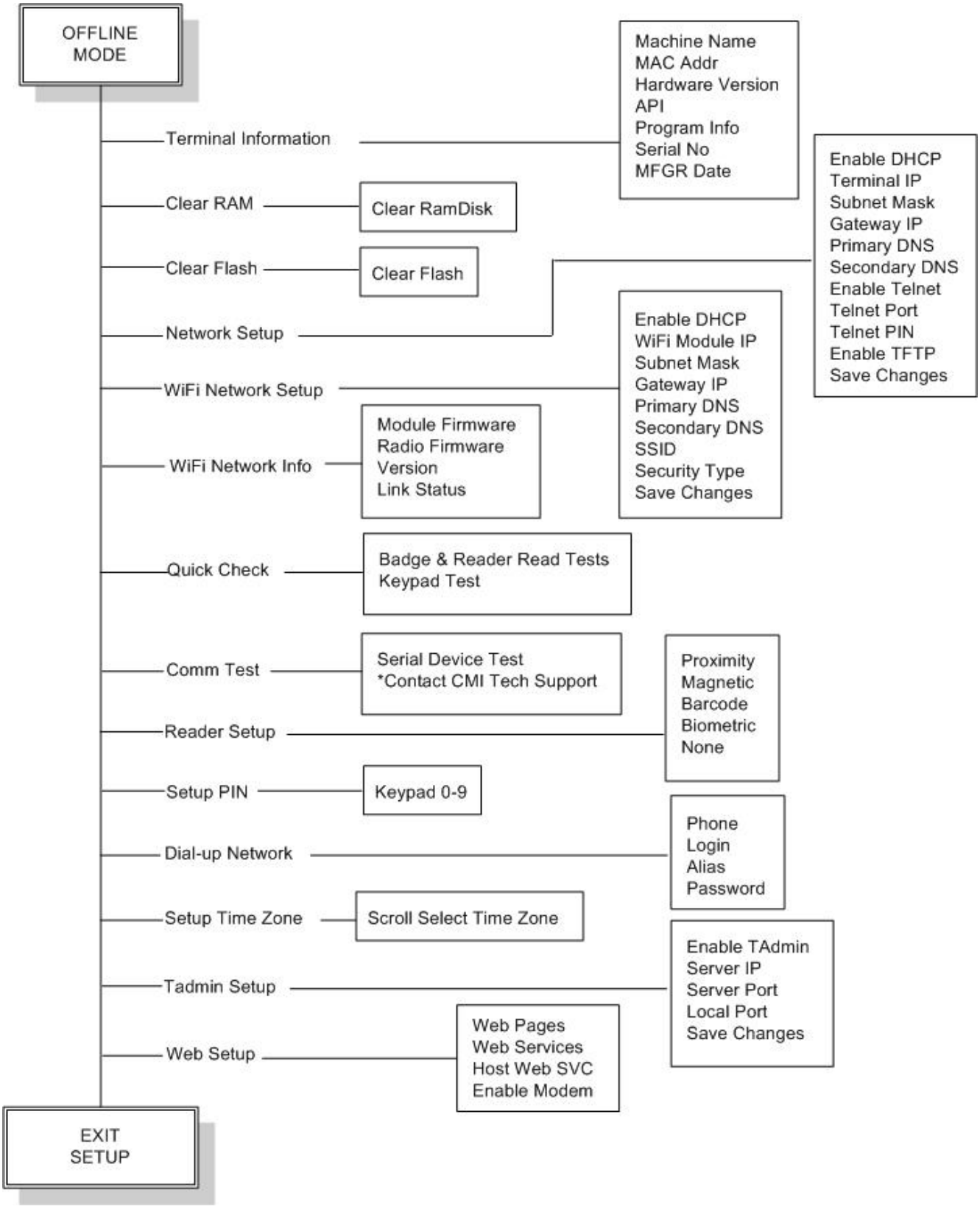
Selection 2 below: The Change Application Status, applies to the user generated application program running on the Genus Terminal.

Selection 6 below: The Maintenance, option requires a password and the user should contact the CMI Technical Support department before choosing this option.

Options 7-9 are straight forward as listed in the Telnet menu selections.



Offline Mode Menu Map



Programming Table (Code 39)

This table provides Code 39 barcode access to special characters that are not available on the Genus terminal keypad. By using a digital barcode wand, these individual characters can be entered into the network setup parameters prompted by the Terminal.

0	*1*	*2*	*3*	*4*
5	*6*	*7*	*8*	*9*
A	*B*	*X*	*Δ*	*E*
Φ	*Γ*	*H*	*I*	*ϑ*
K	*Λ*	*M*	*N*	*O*
Π	*Θ*	*P*	*Σ*	*T*
Y	*ς*	*Ω*	*Ξ*	*Ψ*
Z				
α	*β*	*χ*	*δ*	*ε*
ϕ	*γ*	*η*	*ι*	*φ*
κ	*λ*	*μ*	*ν*	*ο*
π	*θ*	*ρ*	*σ*	*τ*
υ	*ϖ*	*ω*	*ξ*	*ψ*
ζ				

!	*∀*	*#*	*∃*	*%*
&	*∋*	*(*	*)*	*∞*
+	*,*	*.*	*/*	*:*
;	*<*	*=*	*>*	*?*
—	*≅*	*[*	*∴*	*]*
⊥	≥O~	*′*	*{*	*|*
}	*≤*	~		
Space				

Service & Technical Support

RMA Policy

Return Material Authorization (RMA) Procedure: The CMI Service Center assigns an RMA number for all products returned for service. If you have a product that requires service, please contact the CMI Service Center at 1-800-527-4998 or 860-253-4218.

The CMI Service Center provides various service options:

- Maintenance – Annual (five day in-house turnaround)
- Incident Maintenance – Flat Fee (five day in-house turnaround)
- Time & Material – Three options (two, five and 10 day turnaround)

The following information is required to process the return:

- Model and serial number of product
- Brief description of problem
- Name and telephone number of technical contact
- Customer's return address
- Customer's billing address

After RMA # is issued, please return the product to the address below in a shock-proof package to the CMI Service Center. Please ensure the RMA# is clearly marked on the outside of the package and ship to:

CMI Service Center
227 Brainard Road
Enfield, CT 06082
Attn: RMA# _____

Returned products cannot be processed without an RMA number.

Technical Support

CMI's Technical Support Number: 888-753-8222 can be reached during the following hours of operation: M-F, 8:00 A.M. – 4:30 P.M. EST excluding holidays