

9150 MAIN CONFIGURATION

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3.1 Configuration Main Menu

The 9150 Flash memory can be reconfigured remotely via the network using a standard HTML Web Browser such as Netscape Navigator (version 4.05 or later) or MS Internet Explorer (version 4.0 or later). The 9150 Configuration program allows various configuration parameter settings to be changed, added or deleted.



Important: *The 9150 must be warm rebooted after parameter changes are made, including configuring the IP address (see below), in order for the changes to take effect. For details, see “Reboot Unit” on page 43.*

3.2 Configuring The IP Address

Before the configuration menus can be accessed using your Web Browser, the 9150 must be assigned an IP address using a PC console connection. Virtually any PC can be connected to the console port of the 9150, provided that the PC has a terminal communication program such as the Windows “HyperTerminal” utility or “Procomm Plus” for Windows. These programs emulate an ANSI terminal such as VT220 or higher. Cable no. 19387 should be used to connect the PC to the 9150. Make sure the communications settings on your PC are set to 8 bits, 1 stop, no parity, and that the baud rate of the serial port matches that of the 9150 console port (19,200 baud).

After the PC is attached and turned on, press the <RETURN> key several times until the “>” prompt appears. The commands used to configure IP addresses are described here.

If your system uses a bootp server to assign IP addresses, make sure that “bootp” is **enabled**. Once enabled, and the 9150 is rebooted, you will be able to access the 9150 configuration menus through the Web Browser, using the IP address identified in the server's bootp table. If you do not use a bootp server, make sure that “bootp” is **disabled** and continue with the configuration commands to manually assign an IP address.



Important: *When your configuration is completed, the changes should be saved to flash by entering the following command (commands are case-sensitive):*

```
>cfg commitCache
```

Chapter 3: 9150 Main Configuration

Configuring The IP Address

To display the bootp setting:

```
>cfg get system.dobootp
```

To enable bootp:

```
>cfg put system.dobootp 1
```

To disable bootp:

```
>cfg put system.dobootp 0
```

To display the default IP address (xxx.xxx.xxx.xxx represents the IP address):

```
>cfg get interface.1.defaultipaddress
```

To configure the default IP address

```
>cfg put interface.1.defaultipaddress xxx.xxx.xxx.xxx
```

To display the default gateway:

```
>cfg get system.defaultgateway
```

To configure the default gateway:

```
>cfg put system.defaultgateway xxx.xxx.xxx.xxx
```

To display the default subnetmask:

```
>cfg get interface.1.defaultsubnetmask
```

To configure the default subnetmask:

```
>cfg put interface.1.defaultsubnetmask xxx.xxx.xxx.xxx
```

3.3 Accessing The Menus

When the Web Browser is pointed to the 9150's IP address, a name and password dialog box appears. The password is comprised of alphanumeric characters and is case-sensitive. If you change the password (see "Users" on page 34), set all 9150s to the same password, and write it down in a secure place.

A default user name "user" and the password "123456" are created on 9150 system startup *if no users are already configured*. You can use the default to enter the Configuration Main Menu for the first time. For security, change this default name and password immediately after entering the configuration menus. Should you accidentally delete your user names, re-booting the 9150 will re-create the default name and password so that you can get back in to the unit.

After the password is accepted, the Configuration Main Menu appears. The 9150 software automatically detects the system information of the unit, and most of the parameters have already been properly configured for each site.



Warning: *Parameters should not be altered without a clear understanding of how they operate. Parameters that are incorrectly set can increase response time or cause communication difficulties.*

- To highlight and move through the different options, use the <TAB> key or mouse pointer.
- To view and select the items in the listboxes, either press the <UP> or <DOWN> arrow keys or click on the arrow at the side of the menu and highlight the item.
- To enter the related configuration sub-menu dialog box, highlight "Configure" and either press <ENTER> or click on the "Configure" button.
- Where string entry parameters are given in the menus, changes are keyed in. Numerical parameters can be entered as hexadecimal values. Precede hexadecimal values with "0x".
- To leave a menu page, select either the <OK> or <Cancel> button at the bottom of the page. Selecting <OK> will save your changes and exit the page, while selecting <Cancel> will exit the page without saving the changes.



Important: *Do not use the Web Browser's <Back> button to leave a page.*

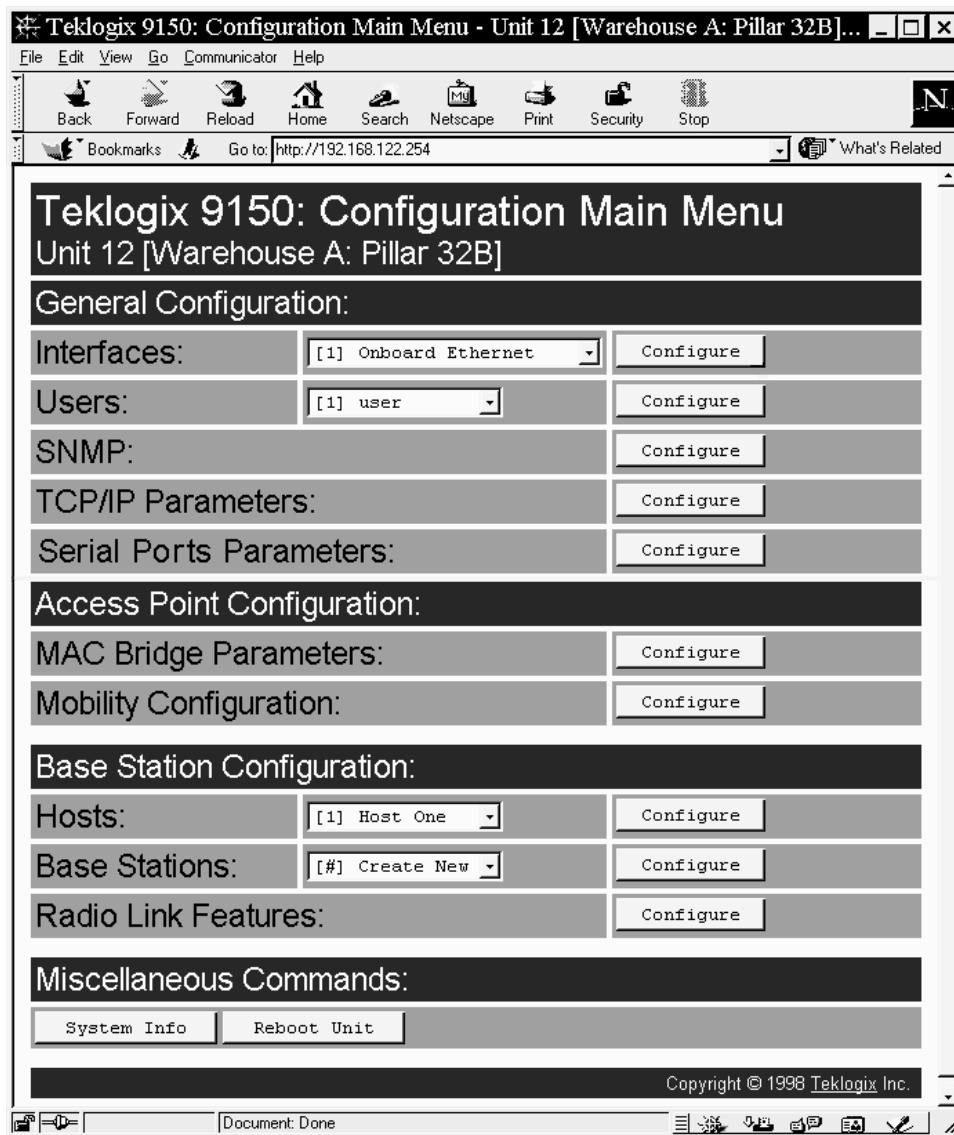


Figure 3.1 9150 Configuration Main Menu: View From Browser

3.4 General Configuration Options

The *General Configuration* menu on the *Configuration Main Menu* page presents five options of sub-menus: *Interfaces*, *Users*, *SNMP*, *TCP/IP Parameters*, and *Serial Ports Parameters*.

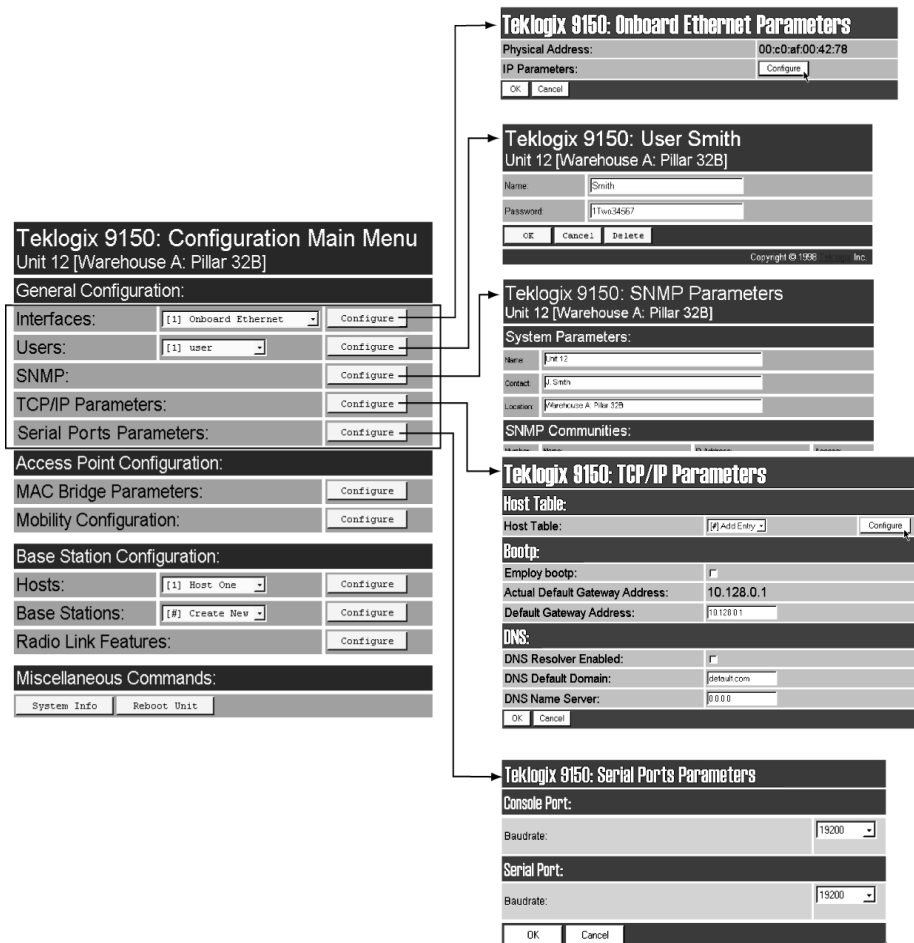


Figure 3.2 Overview Of General Configuration Menus

3.4.1 Interfaces

The pull-down menu shown for the Interfaces option indicates which interfaces have been detected in use by the 9150.

General Configuration:	
Interfaces:	[2] Slot A: Token-Ring <input type="button" value="Configure"/>
Users:	[1] Onboard Ethernet <input type="button" value="Configure"/>
	[2] Slot A: Token-Ring <input type="button" value="Configure"/>
SNMP:	<input type="button" value="Configure"/>
TCP/IP Parameters:	<input type="button" value="Configure"/>
Serial Ports Parameters:	<input type="button" value="Configure"/>

3.4.1.1 Onboard Ethernet

For the selection *Onboard Ethernet*, entering the “Configure” dialog box will open the parameters page for the Ethernet connection, which shows the 9150’s physical (hardware) address and IP address parameters.

Teklogix 9150: Onboard Ethernet Parameters	
Physical Address:	00:c0:af:00:42:78
IP Parameters:	<input type="button" value="Configure"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Physical Address

A unique *Physical Address* is assigned by Teklogix personnel for each 9150. The values entered for this parameter are presented in hexadecimal in descending order beginning with the MSB (Most Significant Byte), the highest value, and ending with the LSB (Least Significant Byte), the lowest value. The allowable value for each field ranges from **00** to **FF**.



Warning: *It is not advisable to modify the Physical Address. However, if these values are changed, the Network Administrator must assign a unique address to each Ethernet station on the network, including all 9150s.*

IP Parameters

Each 9150 that is connected to a local network has a unique IP address designated for it. The *IP Parameters* used to assign the IP address are accessed by entering the “Configure” dialog box.

Teklogix 9150: Onboard Ethernet IP Parameters	
Actual IP Address:	10.128.10.42
Default IP Address:	<input type="text" value="10.128.10.42"/>
Actual Subnet Mask:	255.255.0.0
Default Subnet Mask:	<input type="text" value="0.0.0.0"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Actual IP Address

The *Actual IP Address* is the IP address currently set on the 9150.

Default IP Address

This parameter allows you to change the value of the IP address. The IP address must be a unique value on the network, including any Token Ring IP addresses being used, so that each 9150 in your system can be identified. The acceptable value ranges from **0.0.0.0** to **239.255.255.255**.



Note: The value **255.255.255.255** is reserved for the broadcast address.

Actual Subnet Mask

The *Actual Subnet Mask* is the subnet mask currently set on the 9150.

Default Subnet Mask

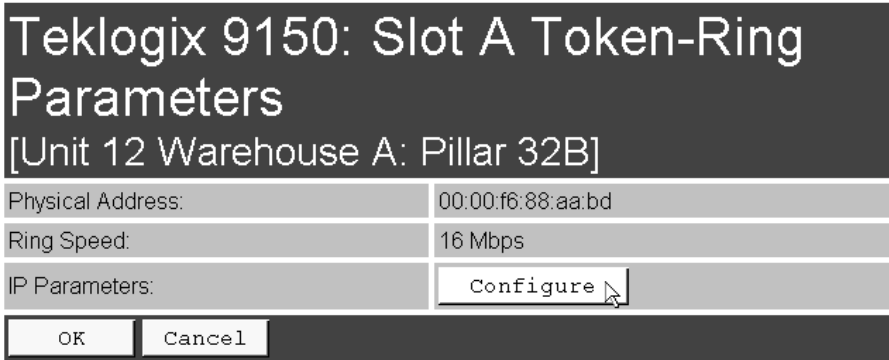
This parameter allows you to change the value of the subnet mask. The 9150 uses the *Default Subnet Mask*, its own IP address, and the destination IP address to determine if a packet should be sent on the local network or to a remote segment. If the destination is found on the local network, the packet is sent directly to its destination. If the destination resides on a remote network, the packet is routed to the gateway. Enter your subnet mask in “xxx.xxx.xxx.xxx” notation.



Important: The maximum packet size supported is **1500 bytes**. This parameter is not set at the 9150, but should be set at the host.

3.4.1.2 Slot n: Token-Ring

For the selection *Slot n: Token-Ring*, entering the “Configure” dialog box will open the parameters page for the Token Ring connection, which shows the 9150’s physical (hardware) address, ring speed, and IP address parameters.



Teklogix 9150: Slot A Token-Ring Parameters	
[Unit 12 Warehouse A: Pillar 32B]	
Physical Address:	00:00:f6:88:aa:bd
Ring Speed:	16 Mbps
IP Parameters:	<input type="button" value="Configure"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Physical Address

Each Madge Token Ring PC card has a unique MAC address (*Physical Address*), which is displayed here in the 9150 parameters. The MAC address is presented in standard hexadecimal format.

Ring Speed

This parameter indicates the Token Ring network speed. The ring speed *must* be set through the console, *prior to installation*, using the configuration command line:

```
>cfg put interface.#.tokenring.datarate 16  
(or 4 if the network is running at 4 Mbps)
```

The ‘#’ depends on which slot the PC card occupies. Usually this is slot B, inside the 9150, so the # would be **3**. The default ring speed is **16 Mbps**.

IP Parameters

Each 9150 that is connected to a local network has a unique IP address designated for it. The *IP Parameters* used to assign the IP address are accessed by entering the “Configure” dialog box.

Teklogix 9150: Token-Ring [Slot A] IP Parameters	
Actual IP Address:	10.128.10.43
Default IP Address:	<input type="text" value="10.128.10.43"/>
Actual Subnet Mask:	255.255.0.0
Default Subnet Mask:	<input type="text" value="255.255.0.0"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Actual IP Address

The *Actual IP Address* is the IP address currently set on the 9150.

Default IP Address

This parameter allows you to change the value of the IP address. The IP address must be a unique value on the network, including any Ethernet IP addresses being used, so that each 9150 in your system can be identified. The acceptable value ranges from **0.0.0.0** to **239.255.255.255**.



Note: *The value 255.255.255.255 is reserved for the broadcast address.*

Actual Subnet Mask

The *Actual Subnet Mask* is the subnet mask currently set on the 9150.

Default Subnet Mask

This parameter allows you to change the value of the subnet mask. The 9150 uses the *Default Subnet Mask*, its own IP address, and the destination IP address to determine if a packet should be sent on the local network or to a remote segment. If the destination is found on the local network, the packet is sent directly to its destination. If the destination resides on a remote network, the packet is routed to the gateway. Enter your subnet mask in “xxx.xxx.xxx.xxx” notation.



Important: *The maximum packet size supported is 1500 bytes. This parameter is not set at the 9150, but should be set at the host.*

3.4.1.3 Slot n: PC Card Radio

Each PC (PCMCIA) card radio resident in the 9150 will be located in one of two Slots: A or B. Selecting a PC card will open the sub-menu for that radio.

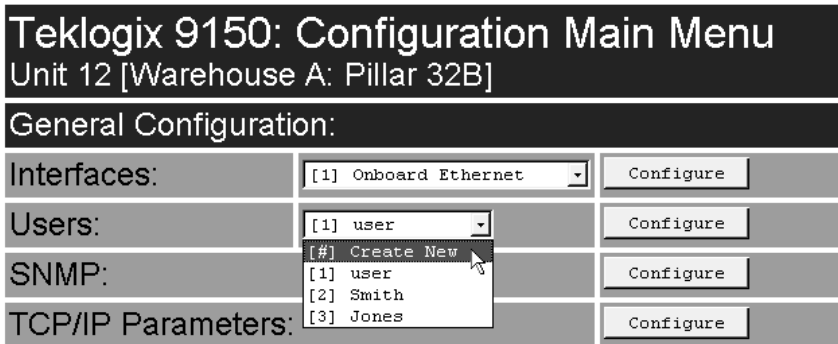
IEEE 802.11 FH or DS: See “[IEEE 802.11 \(Frequency Hopping Radio Parameters\)](#)” on page 126, or “[IEEE 802.11 \(Direct Sequence Radio Parameters\)](#)” on page 128 for details on setting the radio parameters for the PC card.

TekLAN Card: See “[TekLAN Parameters](#)” on page 49 for details on setting the radio and Wlan parameters.

Teklogix Narrowband: See “[Narrow Band Radio Parameters](#)” on page 53 for details on setting the radio and polling parameters.

3.4.2 Users

The Users option provides security for access to the 9150 Configuration menus. New individuals can be added by selecting “[#] Create New” in the listbox before entering the “Configure” dialog box.



The screenshot shows the 'Teklogix 9150: Configuration Main Menu' for 'Unit 12 [Warehouse A: Pillar 32B]'. Under the 'General Configuration:' section, there are four rows, each with a label, a listbox, and a 'Configure' button. The 'Users:' row has a dropdown menu open, showing options: '[#] Create New', '[1] user', '[2] Smith', and '[3] Jones'. A mouse cursor is pointing at the 'Create New' option.

Label	Listbox	Button
Interfaces:	[1] Onboard Ethernet	Configure
Users:	[1] user [#] Create New [2] Smith [3] Jones	Configure
SNMP:		Configure
TCP/IP Parameters:		Configure

Individual names and their assigned passwords may be changed or deleted in the “Configure” dialog box for this option by selecting the name in the listbox and then opening the “Configure” dialog box. The password can be comprised of alphanumeric characters and is case-sensitive.



The screenshot shows the 'Teklogix 9150: User Smith' configuration dialog box for 'Unit 12 [Warehouse A: Pillar 32B]'. It has two input fields: 'Name:' with the value 'Smith' and 'Password:' with the value '1Two34567'. At the bottom, there are three buttons: 'OK', 'Cancel', and 'Delete'.

Field	Value
Name:	Smith
Password:	1Two34567

Buttons: OK, Cancel, Delete

3.4.3 SNMP

The SNMP (Simple Network Management Protocol) “Configure” page allows various network management parameters to be set or changed.

Teklogix 9150: SNMP Parameters

Unit 12 [Warehouse A: Pillar 32B]

System Parameters:

Name:	<input type="text" value="Unit 12"/>
Contact:	<input type="text" value="J. Smith"/>
Location:	<input type="text" value="Warehouse A: Pillar 32B"/>

SNMP Communities:

Number:	Name:	IP Address:	Access:
1	<input type="text" value="public"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="read_only"/>
2	<input type="text" value="documentation"/>	<input type="text" value="192.168.122.254"/>	<input type="text" value="read_write"/>
3	<input type="text"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="read_only"/>
4	<input type="text"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="read_only"/>
5	<input type="text"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="read_only"/>

Trap Receivers:

Number	IP Address
1	<input type="text" value="0.0.0.0"/>
2	<input type="text" value="0.0.0.0"/>
3	<input type="text" value="0.0.0.0"/>
4	<input type="text" value="0.0.0.0"/>
5	<input type="text" value="0.0.0.0"/>

3.4.3.1 System Parameters

The entries in these parameters set the name, contact and location identifiers for this specific 9150 Wireless Gateway. The name and location are then shown as the sub-heading of each Configuration page. In this example the identifier appears as “Unit 12 [Warehouse A: Pillar 32B]”.

3.4.3.2 SNMP Communities

These parameter settings allow the network administrator to define the network environment and determine the type of access allowed (read-only, or read-write) for each area name and IP address.

3.4.3.3 Trap Receivers

These IP addresses determine which SNMP manager’s stations will receive SNMP Traps from the 9150. The 9150 sends the “Cold Start” Trap on reboot or power up.

3.4.4 TCP/IP Parameters

The 9150 is situated on a wired network which uses TCP/IP. Both Bootp and DNS options are available to resolve IP addressing issues.

Teklogix 9150: TCP/IP Parameters	
Host Table:	
Host Table:	[#] Add Entry <input type="button" value="Configure"/>
Bootp:	
Employ bootp:	<input type="checkbox"/>
Actual Default Gateway Address:	10.128.0.1
Default Gateway Address:	10.128.0.1
DNS:	
DNS Resolver Enabled:	<input type="checkbox"/>
DNS Default Domain:	default.com
DNS Name Server:	0.0.0.0
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

3.4.4.1 Host Table

If no external DNS server is available, the 9150 may resolve host names to IP addresses using its internal host table. Hosts are added to the table by selecting “Configure” beside “[#] Add Entry” in the listbox. This will open the *New Host Table Entry* menu.

Teklogix 9150: New Host Table Entry
Unit 12 [Warehouse A: Pillar 32B]

Name:

IP Address:

OK Cancel

An existing host’s name and IP address may be edited in the *Host Table Entry* menu by selecting “Configure” beside the host name in the listbox. The host may also be deleted from the table.

Teklogix 9150: Host Table Entry for Host2
Unit 12 [Warehouse A: Pillar 32B]

Name:

IP Address:

OK Cancel Delete

Name

This is the designated name of the host.

IP Address

This is the assigned IP address for the host.



Note: The name must not contain space characters.

3.4.4.2 Bootp

The 9150 has designated default IP addresses for itself and the Gateway. Alternatively, the IP address of the 9150 can be assigned using a BOOTP Server.

The primary purpose of the Bootstrap Protocol (BOOTP) is to assign a designated IP address to the appropriate 9150 on the network. When *Employ bootp* is **enabled**, a request for address is automatically broadcast to all hosts on the local network.

BOOTP Servers search the *bootptab* files for a hardware address which matches that of the 9150 that initiated the request for address. (Bootptab files list each hardware address with a corresponding IP address.) The host with a matching hardware address in its bootp table replies to the request, sending the appropriate IP address to the 9150.

Bootp:	
Employ bootp:	<input type="checkbox"/>
Actual Default Gateway Address:	10.128.0.1
Default Gateway Address:	<input type="text" value="10.128.0.1"/>

Employ bootp

Enable *Employ bootp* (✓), to automatically broadcast a request for address to all hosts on the local network.



Important: *Once the 9150 is configured and rebooted the first time, the Employ bootp parameter should be **disabled**, unless the 9150 obtains its IP address from a bootp server or the system administrator intends to update the software through bootp.*

Actual Default Gateway Address

This parameter shows the Default Gateway address currently set for the 9150.

Default Gateway Address

The *Default Gateway Address* is assigned by the network administrator. This address creates an identifiable communication link between the 9150 and a network other than the one to which the 9150 is directly wired. The acceptable values for the Gateway IP address range from **0.0.0.0** to **239.255.255.255**.



Note: *Setting the Gateway IP Address to 0.0.0.0 disables this feature. A communication link will not exist between sub-networks.*

3.4.4.3 DNS

Domain Name System allows users to locate destinations on the TCP/IP network by domain (host) name. The DNS server maintains a database of host names and their corresponding IP addresses. For example, if the server was presented with the name “www.teklogix.com”, it would return the IP address: “207.219.2.3”.

DNS:	
DNS Resolver Enabled:	<input type="checkbox"/>
DNS Default Domain:	<input type="text" value="default.com"/>
DNS Name Server:	<input type="text" value="0.0.0.0"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

DNS Resolver Enabled

When this parameter is **enabled** (✓), the 9150 will use the DNS Name Server identified by the IP address entered in the *DNS Name Server* parameter.

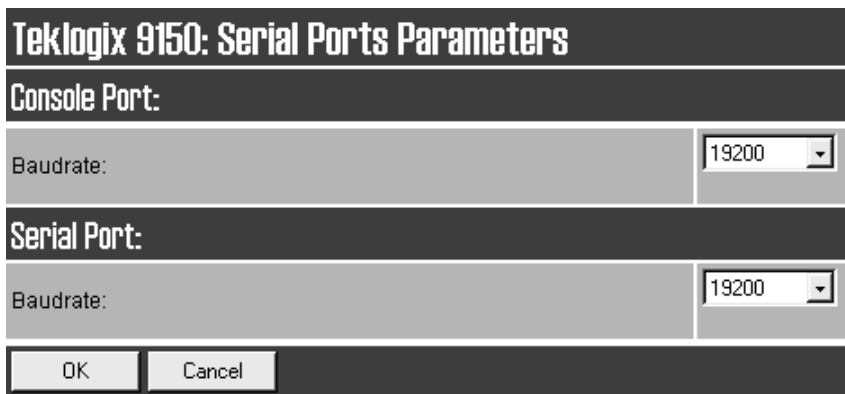
DNS Default Domain

This is the default domain name for this 9150.

DNS Name Server

This is the IP address of the designated DNS Name Server.

3.4.5 Serial Ports Parameters



The screenshot shows a dialog box titled "Teklogix 9150: Serial Ports Parameters". It is divided into two sections: "Console Port:" and "Serial Port:". Each section has a "Baudrate:" label and a dropdown menu. Both dropdown menus are currently set to "19200". At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

3.4.5.1 Console Port

The default baud rate for the console port is **19.2k**.

3.4.5.2 Serial Port

The default baud rate for the serial port is **19.2k**.

3.5 Access Point/Base Station Configurations

The 9150 is capable of operating as a transparent bridge (access point) between the wireless and wired networks, and also as a mini-controller or base station. For these operations, the parameters in these pages must be set appropriately. For detailed information on the sub-menus and to set up the 9150 as a base station, see [Chapter 4: “Base Station Configuration”](#). To configure an access point device, see [Chapter 6: “Access Point Configuration”](#). To configure the 9150 as a mini-controller, see [Chapter 5: “Mini-Controller Configuration”](#).

Teklogix 9150: Configuration Main Menu		
Unit 12 [Warehouse A: Pillar 32B]		
General Configuration:		
Interfaces:	[1] Onboard Ethernet	Configure
Users:	[1] user	Configure
SNMP:		Configure
TCP/IP Parameters:		Configure
Serial Ports Parameters:		Configure
Access Point Configuration:		
MAC Bridge Parameters:		Configure
Mobility Configuration:		Configure
Base Station Configuration:		
Hosts:	[1] Host One	Configure
Base Stations:	[#] Create New	Configure
Radio Link Features:		Configure
Miscellaneous Commands:		
System Info	Reboot Unit	

3.6 Miscellaneous Commands

There are two miscellaneous commands: *System Info* and *Reboot Unit*.

The screenshot displays the 'Teklogix 9150: Configuration Main Menu' for 'Unit 12 [Warehouse A: Pillar 32B]'. The menu is organized into several sections, each with a 'Configure' button. The sections are: General Configuration (Interfaces, Users, SNMP, TCP/IP Parameters, Serial Ports Parameters), Access Point Configuration (MAC Bridge Parameters, Mobility Configuration), Base Station Configuration (Hosts, Base Stations, Radio Link Features), and Miscellaneous Commands (System Info, Reboot Unit). The 'Miscellaneous Commands' section is highlighted with a black border.

Teklogix 9150: Configuration Main Menu		
Unit 12 [Warehouse A: Pillar 32B]		
General Configuration:		
Interfaces:	[1] Onboard Ethernet	Configure
Users:	[1] user	Configure
SNMP:		Configure
TCP/IP Parameters:		Configure
Serial Ports Parameters:		Configure
Access Point Configuration:		
MAC Bridge Parameters:		Configure
Mobility Configuration:		Configure
Base Station Configuration:		
Hosts:	[1] Host One	Configure
Base Stations:	[#] Create New	Configure
Radio Link Features:		Configure
Miscellaneous Commands:		
System Info	Reboot Unit	

3.6.1 System Info

The System Information, hardware and software, for the 9150 Wireless Gateway unit is detected automatically and summarized in this page. The screen is shown on [page 43](#).

Teklogix 9150: System Information	
Device Model:	Teklogix 9150
Unit Serial Number:	
Software Version:	F099T
Boot Code Version:	D059Q
System IP Address:	10.128.10.43
Ethernet Hardware Address:	00:c0:af:00:42:78
Flash Size:	2097152 bytes.
SRAM Size:	16777216 bytes.
PC Card Slot A:	Token-Ring
PC Card Slot B:	IEEE 802.11 DS [FCC-USA (0x10)]
Emulations:	disable
<input type="button" value="OK"/>	

3.6.2 Reboot Unit

This option opens a dialog box which allows you to remotely “warm” reboot the 9150.



If the **OK** button is chosen, the 9150 will be rebooted, the LEDs will turn off momentarily, and the following message will be received:



Important: *If changing radio types in the 9150, and therefore changing the Radio Type parameter (see [page 50](#)), the unit must be powered OFF and ON again (“cold” rebooted). Rebooting with the Reboot Unit option will not implement the radio parameter change.*

