

# RoBoX

## Firewall APPLIANCE

### Product Guide

*powered by*  
**GNAT Box**  
System Software



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## Technical Support

GTA includes 30 days installation support from the day you receive the initial shipment. GTA's direct customers in the USA should email GTA via the contact information listed below. Other customers should contact their local GTA authorized reseller.

## Contact Information

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Support: [support@gta.com](mailto:support@gta.com)

## Document Information

RoBoX Firewall Appliance Product Guide  
with GNAT Box System Software Version 3.3.2

November 2002

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# 1 Introduction

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## GNAT Box Basics

Since 1994, Global Technology Associates, Inc., has been designing and building Internet firewalls. In 1996, GTA developed the first truly affordable commercial-grade firewall, the GNAT Box®. Since then, ICSA certified GNAT Box System Software has become the engine that drives all GTA firewall systems.

GTA's firewall systems, powered by GNAT Box System Software, currently include GB-Pro, GB-Flash, GB-1000 and RoBoX™. Optional features for the RoBoX include GNAT Box VPN and Surf Sentinel (content filtering).

## Requirements

To use GNAT Box System Software, you need to know the following:

- An understanding of TCP/IP networking.
- Network IP addresses for all network interfaces used.
- Netmasks for each attached network.
- Default route for External Network.
- Services to allow inbound (if any).
- Services to restrict outbound (if any).

To connect the RoBoX, in addition to the power cord included, you need at the minimum two Ethernet cables, one for each required network: a crossover cable to connect the firewall directly to a host or router; or a straight-through cable to connect the firewall to a hub or switch. If you wish to use the Console interface, you will also need a null modem cable for the serial port.

## Registration

To register, go to [www.gta.com](http://www.gta.com), click on Support and then the GTA Support Center link. This takes you to the login screen. If you already have an account, enter your User ID and password. If you have not yet created an account, click New Account, enter your profile information and choose a user ID and password. Once you have completed the form, click Add to save it.

Return to the login screen and enter the user ID and password you created. In the Make a Selection screen, click Support Center, then click on Product Registration in the next screen, the Account Home screen for your support information. In the form that appears, enter your serial number and activation (unlock) code, then click Submit. Your new product will now appear in the View Registered Products screen, accessible from the Account Home page.

### Note

If you cannot retrieve your registration code, or a feature code does not appear under Registered Products, please email support with the product serial number and your Support Center User ID in the message subject.

In addition to qualifying you for installation support, your product registration will allow GTA to inform you about upgrades and special offers.

## Copy Protection

Copying of GNAT Box System Software is allowed for backup purposes. However, to activate your system and any special features, you will need a serial number and activation codes. Keep a copy of these codes; the codes will also be available online at the GTA Support Center after completing the product registration.

### Activation Codes

All commercial GTA Firewalls—GB-Pro, GB-Flash, GB-100, GB-1000 and RoBoX—use activation codes to protect software. For firewall appliances, the required registration code is pre-installed. Codes are printed on packaging and available at [www.gta.com](http://www.gta.com) in the GTA Support Center.

### Feature Activation Codes

Additional features require activation codes. The activation codes for new features must be entered in Features under the Basic Configuration menu. Your feature activation codes can be found under View Registered Products on the GTA Support site by selecting the RoBoX by its serial number.

## Upgrades

Once registered, you can view available upgrades by going to Registered Products in the GTA Support Center. If the Action field in the Registered Products section indicates that there is an upgrade for your product, click on the Free Upgrade link. When you return to the Registered Product List, click the product's serial number and see the Product Details section to obtain the new activation code. The Product Details section will also display your previous activation codes. Upgrades are also available in Support Center Downloads. Only downloads for your version will be shown.

If a free upgrade is not available, the Action field will display “Up to Date” or “Purchase Upgrade/Support.”

### **Caution**

Back up your configuration before upgrading!

## **Installation Support**

Installation ("up and running") support is available to registered users. If you have registered your product and need installation assistance during the first 30 days, contact the GTA Support team by email at [support@gta.com](mailto:support@gta.com).

Include in the email your product name, serial number, registration number, feature activation code numbers for your optional products, and a System or Hardware Configuration Report, if possible.

Installation (up and running) support covers only the aspects of configuration related to installation and default setup of the firewall. For further assistance, contact GTA Sales staff for information about support offerings.

### **Support Options**

If you need support after installation and configuration to defaults, contact the GTA Sales staff to purchase a support contract. Contracts range from support by the incident to full coverage for a year.

Other avenues for assistance are available through the GNAT Box Mailing List, on the GTA website, found at [www.gta.com](http://www.gta.com), or through an authorized GTA Channel Partner.

## **Documentation**

This Product Guide shows how to set up and install the RoBoX and change the factory settings on the GNAT Box System Software to your network's default configuration. The **GNAT BOX SYSTEM SOFTWARE USER'S GUIDE** includes configuration functions, descriptions of GBAdmin and the Web interface, administrative tools and GNAT Box-specific terms.

### **Documentation Conventions**

A few conventions are used in this guide to help you recognize specific elements of the text. If you are viewing this in a PDF, color variations are also used to emphasize notes, warnings and new sections.

## Documentation Conventions

Typeface	Convention
SMALL CAPS	Field names.
<b>BOLD SMALL CAPS</b>	Names of publications.
<b><i>Bold Italics</i></b>	Emphasis.
Courier	Screen text.
<brackets>	Names of keyboard keys, e.g., <Return>, <F12>.

***Notes are indicated by an indented, italicized headline***  
and further indented, non-italicized, body copy.

**“How to” sections are indicated by an indented, bold headline**  
with unbolded body copy and a final rule line.

## Documentation Map

Topic	Document Name	Location
Installation	Product Guides	Shipped w/product*
System Setup	Product Guides	Shipped w/product*
GNAT Box Concepts	Concepts	www.gta.com
Troubleshooting	User's Guide or Product Guides	Shipped w/product, CD*
Configuration examples	–	www.gta.com
Sample reports	–	www.gta.com
Ports & Services	User's Guide	Shipped w/product, CD*
Drivers & NICs (Pro, Flash)	Product Guides	Shipped w/product*
GTA Firewalls	Product Guides	Shipped w/product*
Content Filtering	Surf Sentinel Feature Guide	Shipped w/product*
High Availability	H <sub>2</sub> A Feature Guide	Shipped w/product*
VPN	GNAT Box VPN Feature Guide	Shipped w/product*
VPN Examples	GNAT Box VPN to VPN Tech Docs	www.gta.com
GBAdmin interface	User's Guide	Shipped w/product, CD*
GBAdmin Help	GBAdmin Online Help	Shipped w/product, CD*
Web interface	User's Guide	Shipped w/product, CD*
Console interface	Console Interface Tech Doc	www.gta.com

\* All documents for registered products can also be found on the [www.gta.com](http://www.gta.com) website.



Documents are either in plain text (\*.txt) or in Adobe® Acrobat® Portable Document Format (PDF; \*.pdf) which requires Acrobat Reader for viewing and downloading. A free copy of Acrobat Reader can be obtained at [www.adobe.com](http://www.adobe.com). Documents received from GTA Support may also be in email or Microsoft Word format (\*.doc).

## User Interfaces

GNAT Box System Software, GTA's operating system running on the RoBoX, has three user interfaces: GBAdmin, the Web interface and the Console interface. For more information about the interfaces, see the **GNAT BOX SYSTEM SOFTWARE USER'S GUIDE** and [www.gta.com](http://www.gta.com).

### GBAdmin

GBAdmin is a Windows-based interface that can be operated without access to the Internet. The program has on-screen Help and uses standard Windows commands and conventions. It also requires a Windows-based computer or workstation and Internet Explorer, version 5.0 and up.

### Web Interface

The Web interface can be used on any compatible browser, including Internet Explorer, Netscape Navigator, Mozilla and Opera, running on platforms such as Windows, Unix and Mac, with any caveats noted in the appropriate product guides and release notes.

### Console Interface

The Console interface can be used to reset a misconfigured firewall to defaults. Instructions for the Console interface are available on the GTA website.

# About RoBoX

The RoBoX Firewall Appliance, a turnkey, stand-alone Internet firewall appliance, runs Global Technology Associates' latest software technology on a custom-built hardware platform. It is completely self-contained, with the system software pre-installed.

The Product Guide describes and explains how to install and initially configure the RoBoX using any of the GTA Firewall user interfaces. For instructions on each user interface, configuration options and field descriptions see the **GNAT Box® SYSTEM SOFTWARE USER'S GUIDE**. For instructions on using the Console Interface, see the **GNAT Box® SYSTEM SOFTWARE CONSOLE INTERFACE USER'S GUIDE** on GTA's website at [www.gta.com](http://www.gta.com).

## Features

- 10 or 25 concurrent users
- Three 10/100 Ethernet ports
- Stateful Packet Inspection
- Built-in IPSec VPN (optional with 10-user license)
- 10,000 concurrent sessions
- ICSA-certified GNAT Box System Software
- Dynamic & static Network Address Translation (NAT)
- Secure encrypted remote management
- Multimedia Application support (Real Audio, QuickTime Streaming)
- Secure Email Proxy (SMTP)
- DHCP, DNS Servers
- ISDN TA/Async modem support
- Local Content Filtering, optional Surf Sentinel subscription
- Internet Key Exchange (IKE), Manual Key Exchange VPN
- Mobile VPN Client support
- CE EN 55022 class B, EN55024 approvals
- FCC Class B license
- EN 60950 safety approval

## Software Specifications

The RoBoX system software is identical to that of other GTA Firewall appliances with the following limitations:

- Max Concurrent Connections: 10,000
- Remote Access Filters: 75
- Outbound Filters: 75
- Tunnels: 75
- Aliases: 25
- Static Routes: 50
- Static Maps: 50
- Time Groups: 100
- Pass Through Filters: 50
- VPN Security Associations: 50\*
- Objects: 50
- DNS Domains: 5
- Local Content Lists: 75
- Access Content Lists: 50\*

\*Optional feature on RoBoX 10-user version.

## Hardware Design

The RoBoX Firewall Appliance is built specifically to address the requirements of a remote office/branch office Internet firewall system. The system has three high speed 10/100 UTP Ethernet interfaces to ensure high performance and network design flexibility. A multifunction DB-9 serial interface can provide access as a serial console or be utilized for Async PPP connectivity (dial-up modem/ISDN TA). The RoBoX uses flash memory technology to store and run the system software, so there is no hard disk in the system to generate heat and become a point of failure. Power is supplied by an external block type power transformer.

## Environment

The RoBoX Firewall Appliance is housed in a small cabinet, designed to be placed on a shelf or desktop.

The system is designed to minimize heat generation and has no cooling fans. At least three inches of clearance should be provided around the system to allow for efficient cooling. Lack of proper clearance can cause the system to overheat, possibly causing a failure.

## Specifications

### Physical Specifications

Chassis: 1" h x 6" d x 6.25" w (2.54cm h x 15.24cm d x 15.875cm w)

Weight: 1.25 lbs (0.568kg)

### Power Specifications

MTBF: Minimum—300,000 Hours

Location	Input Voltage	Input Frequency	Output Voltage
Australia	240 VAC	50Hz	12 VDC
Europe	230 VAC	50Hz	12 VDC
Japan	100 VAC	50-60Hz	12 VDC
USA	120 VAC	60Hz	12 VDC
UK	230 VAC	50Hz	12 VDC

### Operational Specifications

Temperature: 0 to 140° F (0° to 60° C)

Relative Humidity: 10% - 90%

Elevation: 0 - 10,000 ft

### CPU/Memory Specifications

CPU: 133Mhz AMD SC 520

RAM: 64Mb

Flash Memory: 16Mb

### I/O Interfaces Specifications

- 10/100 UTP Ethernet interfaces.  
sis0, sis1 and sis2 interfaces are all active and available.  
The sis0 factory setting is IP address 192.168.71.254.
- RS-232 (DB-9). The Serial Console port should be set to 19,200 bps, 8 bit, 1 stop, no parity

## Status Displays

The RoBoX has three LED lights on the front panel, indicating power on/power off; activity/no activity; and operational/error. On the back panel, lights to the right and left of the interface connectors indicate activity and 10/100 base-T connection speed.

### Front Panel LED Indicators

#### Power LED

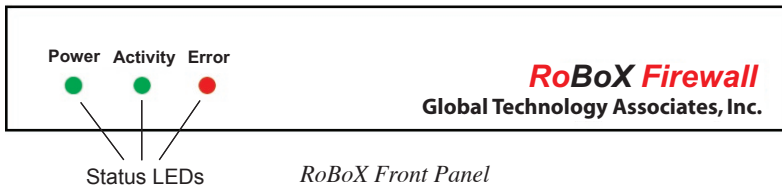
When the RoBoX Firewall is powered up, the green Power LED indicator located on the left side of the front panel will be lit.

#### Activity LED

When the RoBoX Firewall transmits or receives data on any of its network interfaces the green Activity LED will be lit. It will flash for lower levels of activity and appear steady for higher levels.

#### Error LED

When the RoBoX Firewall is powered up, the red Error LED will be lit while the system boots up and performs diagnostic tests, and when the RoBoX connection fails.



### Back Panel Network Interface (NIC) LEDs

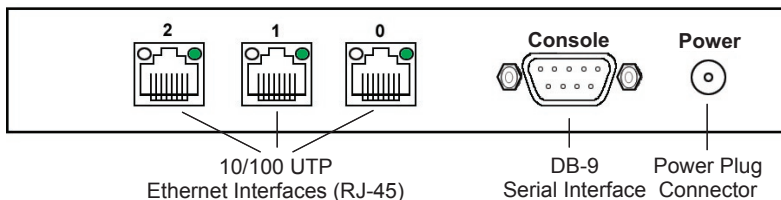
At the rear of the unit, green and amber LEDs are found on either side of each of three RJ-45 network connectors, labeled 0, 1, and 2. These numbers correspond to the network interfaces sis0, sis1 and sis2, with "sis" indicating the specific kind of driver used by the NIC. By default, sis0 is pre-configured to the IP address 192.168.71.254.

#### 10/100 Link LED

The LED on the left indicates that the unit is linked, green for a 100 Mb link and amber for a 10 Mb link.

## Network Activity LED

The LED on the right of each interface will blink green when data is being transmitted or received, turning to solid (unblinking) green during heavy activity on the network interface. When there is no activity on the link, the Network Activity LED will not light.



*RoBoX Back Panel*

### **Warning**

There are no user serviceable parts in the RoBoX. Opening the RoBoX unit will void the warranty on the system.

## 2 Installation

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### Preinstallation

Installing the RoBoX requires that the system be connected to your local area network (LAN). This allows the administrator to connect to the RoBoX, configure the network settings to match the local network address scheme and perform connectivity tests. The RoBoX can be configured and administered using any of the user interfaces. Installation procedures for GBAAdmin and the Web user interfaces are described in this document.

Note that the IP Address 192.168.71.254 is the factory setting for the Protected Network interface (sis0) port on the RoBoX.

### Install Utilities and Documentation

Prior to installation of the RoBoX, install the utility software and documentation on your workstation. If the workstation is running Windows 95, 98, NT, Me, XP or Windows 2000, there is an automated installer on the CD-ROM that will install these files. If the workstation is running a non-Windows based OS (e.g., Macintosh or Unix) or an older version of Windows, locate the directory on the CD-ROM for your OS and use the Read Me document to install the documentation and utility programs.

### Temporarily Configure Workstation

The factory network information settings on the RoBoX are unlikely to match your network, so you must temporarily configure a local workstation to match the RoBoX's network information settings in order to configure the RoBoX and integrate it into your network.

#### **Note**

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Please refer to the **GNAT Box SYSTEM SOFTWARE USER'S GUIDE** for specific information about editing Network Information.

Once you are able to connect to the firewall, the network information can be changed to match the existing address scheme on your network and you can reset your local machine to its original IP Address.

## LAN Using the Default IP Network

If your local area network is currently using the 192.168.71.0 network, make sure that the IP address 192.168.71.254 is not currently assigned to any device on your network. If a device *does* have this IP address assigned:

- Set up an isolated network that contains only the RoBoX Firewall Appliance and a workstation that will be used to configure the system; connect the RoBoX and your workstation to a hub that has no other connections.
- Optionally, use an Ethernet “crossover cable” and connect your workstation directly to the RoBoX’s Protected Network interface, (port sis0).

---

## Connect the RoBoX

1. Connect the RoBoX to a hub or switch on your local area network using the Protected Network interface, (the first interface port sis0, see illustration RoBoX Rear Panel) and a standard (straight-through) network cable. By default, sis0 is assigned the IP address 192.168.71.254. (Use a crossover cable to connect the firewall directly to a host or router.)
2. Connect the power transformer into a power outlet, then insert the power connector tip into the RoBoX. Since there is no power switch on the RoBoX system, applying power will cause the boot process to begin.
3. The system will be operational in about one minute. Check to see that the Power LED on the front panel is lit and the Error LED is not lit. The Link LED on the NIC “sis0” should be lit, amber for a 10 Mb connection and green for 100 Mb.

Installation of the RoBoX is complete. The next step is to enter your basic network information in the RoBoX's default configuration.



# 3 Set Up Default Configuration

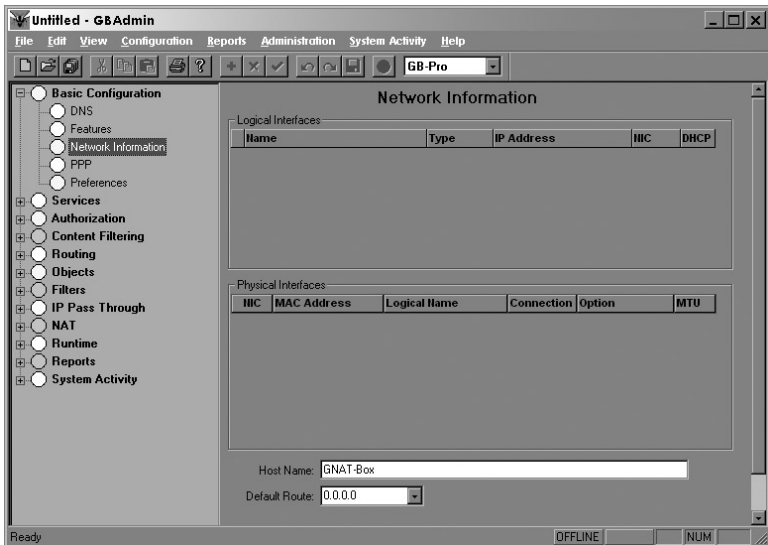
The following sections will describe how to set up your RoBoX in the default configuration, in which all internal users are allowed outbound and no unsolicited inbound connections are allowed.

## Configure with GBAdmin

GBAdmin must be installed on a local workstation running Windows 95, 98, NT 4.0, XP, Me, or Windows 2000.

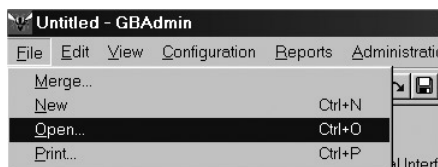
### Start GBAdmin

Select GBAdmin (GBAdmin.exe) from the program menu. This opens a blank GBAdmin interface, similar to the following screen:



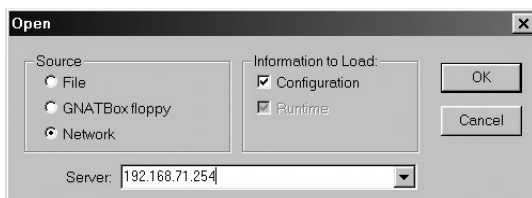
*GBAdmin Interface*

Select File from the tool bar at the top, then select Open.

*File/Open*

## Select the RoBoX

In Open File dialog box, in the Source area, select Network. In the Server field, enter the default IP Address for the RoBoX (192.168.71.254). Make sure that there is a check in the box next to Configuration in the Information to Load section. Once this is complete, press the <return> key or click OK.

*Open File dialog box*

## Enter User ID and Password

The system will prompt you for a user ID and password. Enter the default user ID, which is "gnatbox" (all lower case), then press the <return> key. Next, enter the default password, which is also "gnatbox" (all lower case), then press the <return> key or select OK when finished.

*User ID and Password*

### Note

GTA recommends changing the default user ID and password. See the **GNAT BOX SYSTEM SOFTWARE USER'S GUIDE** for instructions.

## Basic Configuration

The RoBoX comes configured with factory settings. These settings need to be changed to match the settings on your network. Click on the "+" next to Basic Configuration to expand the menu if it is not open. Select Network Information to display the network settings.

On the Network Information screen, configure IP and netmasks, (expressed in either dotted decimal or CIDR notation), for your External and Protected Networks. Disable the DHCP option on the external interface if necessary, as it is set by default. Set the Default Route to your Internet router IP address. Set the Host Name to the name given to the firewall in your DNS server. Once you have completed the Network Information form, apply the changes to the RoBoX by clicking on the single diskette icon on the tool bar to save the data. The RoBoX will now be on a different logical network (assuming you've changed the default IP address for the Protected Network).

### Note

The RoBoX has three network interfaces; two are used for Protected and External Networks. The other network interfaces can be defined as any of the three network types: Protected, External or PSN (Private Service Network or GTA's DMZ). It is not necessary to configure the other interfaces immediately, since only External and Protected Network interfaces are required to initially configure and test the GTA Firewall. See the **GNAT Box SYSTEM SOFTWARE USER'S GUIDE** for more information about the functions of the network interface types.

**Network Information**

Logical Interfaces

#	Name	Type	IP Address	NIC	DHCP
1	EXTERNAL	External	0.0.0.0/0	fxp1	<input checked="" type="checkbox"/>
2	PROTECTED	Protected	192.168.71.254/24	fxp0	<input type="checkbox"/>

Physical Interfaces

NIC	MAC Address	Logical Name	Connection	Option	MTU
fxp0	00:D0:68:00:47:D1	PROTECTED	AUTO	Default	1500
fxp1	00:D0:68:00:47:D2	EXTERNAL	AUTO	Default	1500
fxp2	00:D0:68:00:47:D3		AUTO	Default	1500
fxp3	00:D0:68:00:47:D4		AUTO	Default	1500
PPPoE			PPPoE	fxp0	1500

Host Name:

Default Route:

*Network Information (netmask using CIDR notation)*

Once you click Save on the Network Information screen you will not be able to access the RoBoX from your workstation, since the firewall will now be on a different network.

## Re-configure Workstation

Re-configure your workstation back to its original IP address, now on the same network as the GTA Firewall.

## Access the RoBoX

After re-configuring your workstation, you can access the RoBoX using the new IP address assigned to the Protected Network interface.

The RoBoX should now be active and functioning in the default security mode, (all internal users are allowed outbound and no unsolicited inbound connections are allowed). You can now perform additional configuration tasks. See the **GNAT BOX SYSTEM SOFTWARE USER'S GUIDE** for more information.

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# Configure with the Web Interface

Web setup requires a browser that supports frames running on any OS.

### *Exception*

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GNAT Box System Software version 3.2.2 and up is known to be incompatible with Internet Explorer 5 for Macintosh. If your browser does not allow you to continue past the Security Alert screen in order to set up your new RoBoX, GTA recommends the following options:

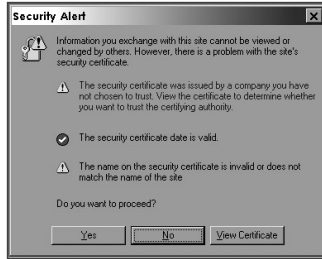
1. Use another compatible browser such as Mozilla ([www.mozilla.org](http://www.mozilla.org)), Netscape ([www.netscape.com](http://www.netscape.com)) or Opera ([www.opera.com](http://www.opera.com)) to administer your firewall, that allows you to use SSL encryption.
2. Use a compatible browser, GBAdmin or Console to install RoBoX, disable SSL, then use Internet Explorer 5 with SSL encryption disabled. See Technical Documents on the CD and on [www.gta.com](http://www.gta.com) for information on installing the GTA certificate or disabling SSL encryption.

## Start a Browser for the Web Interface

Start a web browser on your workstation and enter the following URL into the browser Address field: <https://192.168.71.254>.

## Acknowledge Security Alert

If your network and cables are configured correctly, you will be prompted with a Security Alert dialog indicating that the Certificate Authority is not one you have chosen to trust; that the security certificate date is valid; and that the name on the security certificate does not match the name of the site.



*Security Alert*

Select Yes, or if your alert differs, choose the selection that allows you to proceed. You will establish your RoBoX certificate once you have logged on to the firewall. See the **GNAT BOX SYSTEM SOFTWARE USER'S GUIDE**.

## Enter User ID and Password

Next, the RoBoX will prompt you with a dialog box for a User ID and password. Enter the default user ID, which is "gnatbox" (all lower case), press the <tab> key, then enter the default password, which is also "gnatbox" (all lower case). Select OK or press the <return> key when finished.

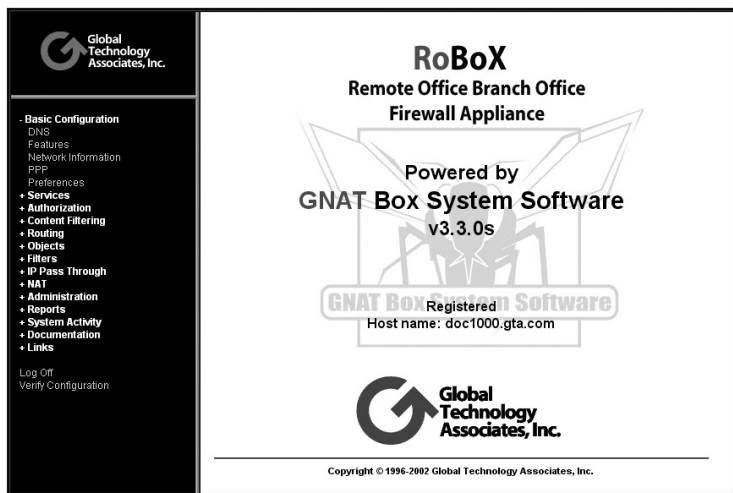


*User ID and Password*

### Note

GTA recommends changing the default user ID and password. See the **GNAT BOX SYSTEM SOFTWARE USER'S GUIDE** for instructions.

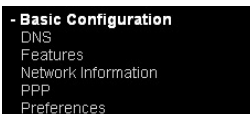
This brings you to the Web interface, similar to the following screen:



*Web Interface*

## Basic Configuration

The RoBoX comes configured with factory settings. These settings need to be changed to match the settings on your network. If the Network Information screen is not open, click on Basic Configuration to expand the menu. Select Network Information.



*Basic Configuration Menu*

On the Network Information screen, configure IP and netmasks, (expressed in either dotted decimal or CIDR notation), for your External and Protected Networks. Disable the DHCP option on the external interface if necessary, as it is set by default. Set the Default Route to your Internet router IP address. Set the Host Name to the name given to the firewall in your DNS server. Once you have completed the Network Information, apply the changes by clicking on the Save button on screen. The RoBoX will now be on a different logical network (assuming you've changed the default IP address for the Protected Network).

Once you click Save on the Network Information screen you will not be able to access the GTA Firewall from your workstation, since the firewall will now be on a different network.

GNAT-Box Network Information

Logical Interfaces

Logical Name	Type	IP Address	NIC	DHCP	Gateway
EXTERNAL	External	10.254.254.203/24	sis1	<input type="checkbox"/>	<input type="checkbox"/>
PPPoE	External	10.199.2.244	PPP1	<input type="checkbox"/>	<input type="checkbox"/>
PPPoE2	External	0.0.0.0	PPP2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PROTECTED	Protected	10.10.1.109/24	sis0	<input type="checkbox"/>	<input type="checkbox"/>
	External		sis2	<input type="checkbox"/>	<input type="checkbox"/>
	External		PPPo	<input type="checkbox"/>	<input type="checkbox"/>

Network Interface Cards

NIC	MAC Address	Connection	Option	MTU
sis0	00:00:24:C0:00:6C	AUTO	default	1500
sis1	00:00:24:C0:00:6D	AUTO	default	1500
sis2	00:00:24:C0:00:6E	AUTO	default	1500
PPPo		serial	OOM1	1500
PPPo1		PPPoE	sis2	AUTO
PPPo2		PPPoE	sis1	AUTO
PPPo3		PPPoE	sis2	AUTO

Host name:

RoBoX-109

Default gateway:

0.0.0.0

Save

Reset

Network Information (using CIDR notation)

**Note**

The RoBoX has three network interfaces. Only one External and one Protected Network interface are required to initially configure and test the GTA Firewall. The other interfaces can be defined as any of the three network types: Protected, External or PSN (Private Service Network, GTA's DMZ). See the **GNAT Box SYSTEM SOFTWARE USER's GUIDE** for more information about the functions of the network interface types.

Re-configure Workstation

Re-configure your workstation back to its original IP address, now on the same network as the GTA Firewall.

Access the RoBoX

After re-configuring your workstation, you can access the RoBoX using the new IP address assigned to the Protected Network interface.

The RoBoX should now be active and functioning in default security mode, (all internal users are allowed outbound and no unsolicited inbound connections are allowed). You can now perform any additional configuration tasks. See the **GNAT Box SYSTEM SOFTWARE USER's GUIDE** for more information.





# 4 Troubleshooting

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## Guidelines

GTA Support recommends the following guidelines as a starting point when troubleshooting network problems:

- Start with the simplest case of locally attached hosts.
- Use IP numbers, not names. Your real problem could be DNS.
- Work with one network segment at a time.
- Verify your system configuration with the Verification Configuration feature. The verification check is the best method of ensuring that your system is configured correctly. Correct all errors and warnings listed.
- Your first tests should be connectivity tests. Ping and Traceroute are very useful tools for testing connectivity.
- Make sure the network cabling is connected to the correct network interface. It is easy to confuse network interface ports. Some useful guidelines are:
  - In a RoBoX, the port/NIC numbers, MAC addresses and logical names are listed on the Network Information screen and in the Configuration Report.
  - Use the trial and error method. Connect one network cable and use the ping facility to reach a host on the desired network. Move the cable and use ping until you are successful. Connect the next network cable and perform the test again with the two remaining network interface cards.
  - Generate a hardware report from one of the user interfaces. Check the report to ensure all your network devices have been recognized by the system at boot time.

# Troubleshooting Q & A

## 1. Why are the green LEDs on the back not lighting up?

This indicates that you do not have network connectivity. You may have selected the wrong network connection type. Check the Network Information screen to ensure the appropriate connection type is selected. If you have selected one of the specific settings, reset to AUTO, the factory setting.

## 2. Why can't *all* hosts behind the firewall reach the Internet?

This is usually a routing problem. The Traceroute facility can be very useful in debugging routing problems. Check for these problems:

- Are the hosts that can't reach the Internet on a different network subnet?
- Have you added a static route to the RoBoX to tell it which router is used to reach the problem network? Have you set the router's default route to be the RoBoX? Have you set the default route for hosts on the problem network to be the router?
- Is the wrong IP address assigned? All network interfaces on the RoBoX must be on different logical networks.
- Is the default route assigned incorrectly? The default route must always be on the same subnet as the network interface of the host (this is true for all hosts, not just the GTA Firewall). For a RoBoX, the default route must be an IP address on the network which is attached to the External Network interface.
  - Exception: When using PPP or PPPoE, the default route is not necessarily on the same subnet. The route is assigned by your PPP provider.

## 3. Why can't *one* host behind the firewall reach the Internet?

This indicates that the default route is assigned incorrectly (or not at all) to hosts on the Protected or Private Service networks. All hosts protected by the RoBoX must use the IP address of the RoBoX's network interface for the respective network. Hosts that reside behind routers or other gateways on these networks generally use the IP address of the gateway or router.

#### 4. Why can't I access the Web interface from the Protected Network?

The default Remote Access filter set is generated from the configuration parameters entered in the Network Information screen. It is possible that the RoBoX's Protected Network interface is on a different subnet from the remote host. Check the Remote Access filter for the Web interface; it may need to be adjusted.

#### 5. Why do I get errors when GBAAdmin starts up? Why is online help information not displayed?

GBAdmin requires Microsoft Internet Explorer 5.x or later installed on your workstation. Components from Internet Explorer are used to display the online help information.

For more Troubleshooting suggestions, see the **GNAT Box SYSTEM SOFTWARE USER'S GUIDE** and GTA's website at [www.gta.com](http://www.gta.com).

#### 6. Why can't I see or ping the Protected Network interface?

You may have the wrong cable for your connection.

- For a direct connection (RoBoX to host or router) you need a crossover cable.
- For a connection to a hub or switch you need straight-through cables.

#### **Note**

To distinguish between a crossover cable and a straight-through cable, compare the connection ends. On a straight-through cable, the wire order matches; on a crossover cable, the first three of the four cables are in reverse order.



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