

---

# TELEX

---

## RADIO DISPATCH PRODUCTS

### *Telex System Manager Technical Manual*

*up to and including version 1.600*



**PROPRIETARY NOTICE**

The product information and design disclosed herein were originated by and are the property of Bosch Security Systems, Inc. Bosch reserves all patent, proprietary design, manufacturing, reproduction, use and sales rights thereto, and to any article disclosed therein, except to the extent rights are expressly granted to others.

**COPYRIGHT NOTICE**

Copyright 2014 by Bosch Security Systems, Inc. All rights reserved. Reproduction, in whole or in part, without prior written permission from Bosch is prohibited.

\*All other trademarks are property of their respective owners.

\*\*MOTOROLA, MOTOTRBO, and the Stylized M logo are registered in the U.S. Patent and Trademark Office.

**WARRANTY NOTICE (LIMITED)**

For warranty and service information, refer to [www.telex.com/warranty](http://www.telex.com/warranty).

**FACTORY SERVICE CENTER**

Factory Service Center  
Bosch Security Systems, Inc.  
Radio Dispatch Products  
8601 East Cornhusker Highway  
Lincoln, Nebraska, 68507

**CONTACT INFORMATION****Sales:**

Phone .....(800) 752-7560

Fax.....(402) 467-3279

E-mail..... [TelexDispatch@us.bosch.com](mailto:TelexDispatch@us.bosch.com)

**Customer Service Repair:**

E-mail..... [repair.lincoln@us.bosch.com](mailto:repair.lincoln@us.bosch.com)

Phone.....(800) 553-5992

**Technical Support:**

Knowledge Database ..<http://knowledge.boschsecurity.com/>

LiveChat ..... [www.telex.com/us/dispatch/support](http://www.telex.com/us/dispatch/support)

E-mail ..... [TelexDispatchtechsupport@us.bosch.com](mailto:TelexDispatchtechsupport@us.bosch.com)

Web ..... [www.telex.com](http://www.telex.com)

**CLAIMS**

No liability will be accepted for damages directly or indirectly arising from the use of our materials or from any other causes. Our liability shall be expressly limited to replacement or repair of defective materials.

**MOTOTRBO CLAIM**

Motorola Solutions, Inc and its subsidiaries make no express or implied representation or warranty with respect to: (i) any of the Products referenced herein; (ii) the information provided herein (including without limitation the key findings and test results regarding the Products and the functionality or interoperability thereof) ("Information") or any solution, combination or system that may be created with the use thereof. The Information is offered "as is" with all faults and does not constitute professional, technical, legal or other advice to the user.

---

# *Table of Contents*

---

<b>INTRODUCTION AND INSTALLATION .....</b>	<b>5</b>
Features .....	5
Installation .....	5
 <b>WINDOW DESCRIPTION .....</b>	 <b>7</b>
Basics .....	7
TSM Main Window .....	8
 <b>OPERATION .....</b>	 <b>13</b>
Copy Configuration Utility .....	13
Import/Export Table Utility .....	15
Record to Device Utility .....	17
Firmware Update Tool Window .....	19
Options .....	22
System Manager Notes .....	23



# *Introduction and Installation*

---

**TSM** (Telex System Manager) software allows a user to easily configure Telex devices. TSM allows a user to view and manipulate configuration parameters for the IP-223, IP-2002, IP-1616, ADHB-4 and IP-224. In addition, TSM includes the ability to update firmware on the IP-223, IP-2002, IP-1616, C-6200, NEO-10, ADHB-4 and IP-224.

---

## *Features*

- Detects all Telex devices on the network for easy configuration.
- Views, manipulates, and manages multiple Telex device parameters and settings.
- Saves device configuration files to local disk for backups, archiving, or duplication.
- Records configuration parameters back to the Telex device.
- Imports and exports large device configuration tables into .CSV or .XML formats.
- Selectively copies device parameters from one (1) configuration to another.
- Updates firmware on one (1) or more devices with minimal clicks.

---

## *Installation*

### *Requirements*

- Windows XP<sup>1</sup> SP2 or higher
- .NET Framework 2.0 or higher
- Windows<sup>2</sup> Installer 3.1

### *Files Included*

- setup.exe
- SystemManagerSetup.msi
- dotnetfx.exe

---

1. See “Copyright Notice” on page 2.

2. See “Copyright Notice” on page 2.

To **install the Telex System Manager**, do the following:

- > Double-click **setup.exe** and follow the prompts to continue.

**NOTE:**

- If the .NET framework 2.0 or greater is not installed on the computer, install the **.NET 2.0 Framework** (double-click the dotnetfx.exe file and follow the prompts). You can also download the newest version from the Microsoft<sup>1</sup> website.
- If a previous version of Telex System Manager is installed, you may be required to uninstall the previous version before continuing. Uninstall TSM using the Windows Add or Remove Programs utility (*Start|Settings|Control Panel|Add or Remove Programs*).

---

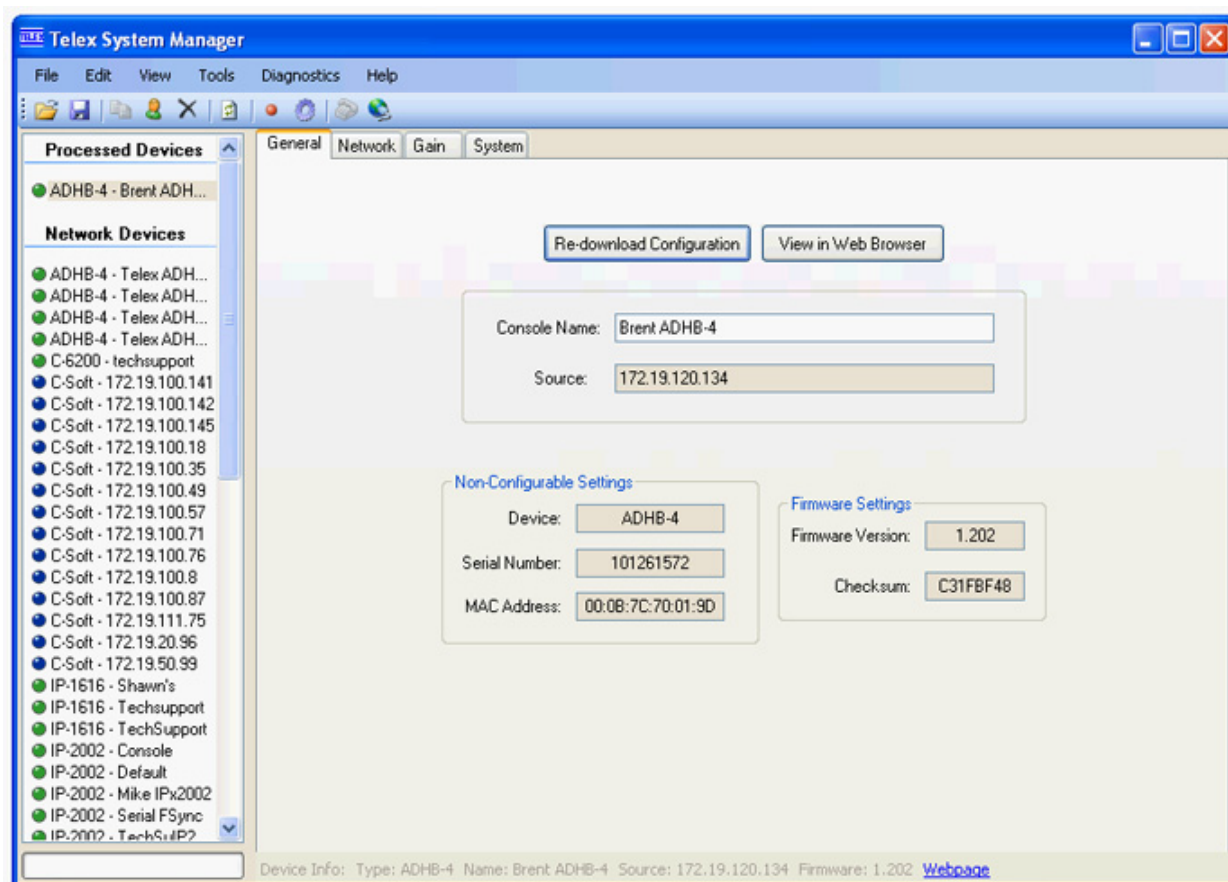
1. See "Copyright Notice" on page 2.

# Window Description

## Basics

To run **Telex System Manager**, do the following:

1. From the Start menu, select **Telex Communications**.  
*A popup menu appears.*
2. From the popup menu, select **Telex System Manager**.  
*The Telex System Manager window appears.*



**NOTE:** You can also double-click the TSM shortcut created on the desktop.

## TSM Main Window

### Network Devices

On startup, TSM automatically initiates a multicast ping and each Telex device present on the network responds to the ping with basic information about the device. The detected devices are displayed in the Device List under Network Devices (see Figure 2). The Refresh Device button (see Figure 1) (or the F5 key on the keyboard) can be used to refresh the Device List.

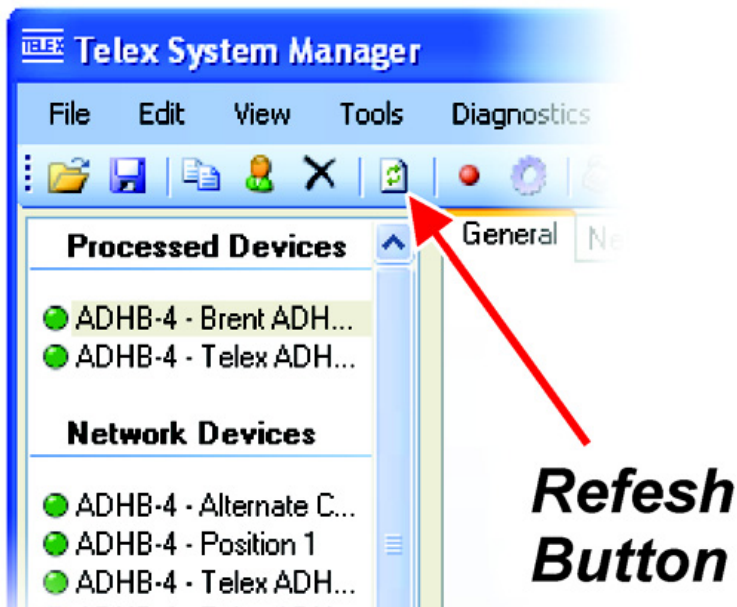


FIGURE 1. Refresh Button

In order for an IP-223, IP-2002, IP-1616, C6200, NEO-10, ADHB-4 or IP-224 to appear in the TSM Device List, the System Manager check box must be selected in the device's Multicast Setup webpage. All other Telex devices (C-Soft and Network Recorder) automatically appear in the Device List.

**NOTE:** If the computer has an active firewall, TSM may be blocked from accessing the network. In this case, a warning message appears prompting you to allow or block TSM.



## Device List

The **Device List**, located in the left pane of the main window displays which device is currently selected. Each device's entry contains the device's type and name (or the device IP Address if its name is not available). Select different devices by clicking the corresponding entry in the Device List. In addition, information about the currently selected device appears in the status bar at the bottom of the application window. Click the blue Webpage link, also located in the status bar, to open the device's Web Browser Configuration.

The Device List contains three (3) different groups:

- *Network Devices* are devices detected on the network but have no further information associated with them. Their configuration is either unavailable (C-6200, NEO-10, C-Soft Console, and Network Recorder), or proper credentials have not yet been entered (IP-223, IP-2002, IP-1616, ADHB-4, and IP-224). Once credentials have been successfully entered into one of these devices, its configuration is downloaded and the device is moved from the Network Devices group to the Processed Devices group.
- *Processed Devices* are network devices for which TSM has configuration information. Each device in the Processed Devices group has a configuration that can be accessed through the visible tab controls. Devices in the Processed Devices group can be saved to a file by using *File|Save As* and choosing a destination. Devices in the Processed Device group can be selected as targets by the *Copy Configuration* utility. For more information, see "Copy Configuration Utility" on page 13. In addition, device configurations in the Processed Device group can be recorded to a device using the *Record to Device* utility. For more information, see "Record to Device Utility" on page 17.
- *Local Device Files* refer to locally stored device configuration files. Appropriate credentials must be supplied before being able to view and modify the configuration contained within the .vga file. Once proper credentials are entered, devices in the Local Device Files group behave in the same way as devices in the Processed Devices group. Devices in the Local Device Files group can be selected as targets by the "Copy Configuration Utility" on page 13. Similar to Processed Devices, device configurations in the Local Device Files group can be recorded to a device using the Record to Device utility. For more information, see "Record to Device Utility" on page 17.

**TABLE 1.** Device List group quick reference table

	<b>Network Devices</b>	<b>Processed Devices</b>	<b>Local Device Files<sup>a</sup></b>
Configuration Accessible	No	Yes	Yes
Can be Saved to File	No	Yes	Yes
Record Configuration to Device (source)	No	Yes	Yes
Record Configuration to Device (destination)	Yes (represents actual device)	Yes (represents actual device)	Yes (represents actual device)
Copy Configuration To (source)	No	Yes	Yes
Copy Configuration To (destination)	No	Yes	Yes
Firmware Update (destination)	Yes (represents actual device)	Yes (represents actual device)	Yes (represents actual device)

a. Assuming valid credentials entered.

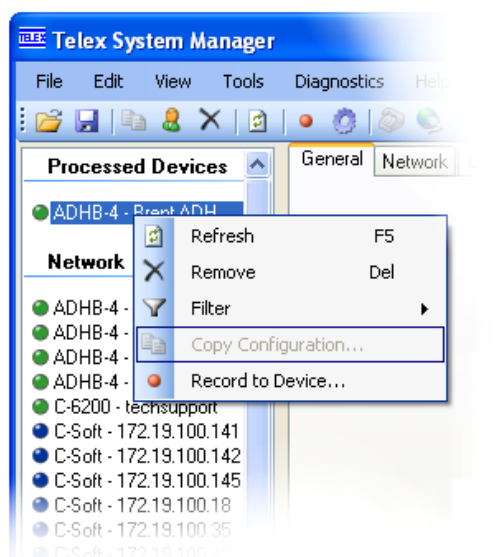


FIGURE 2. Device List Context Menu

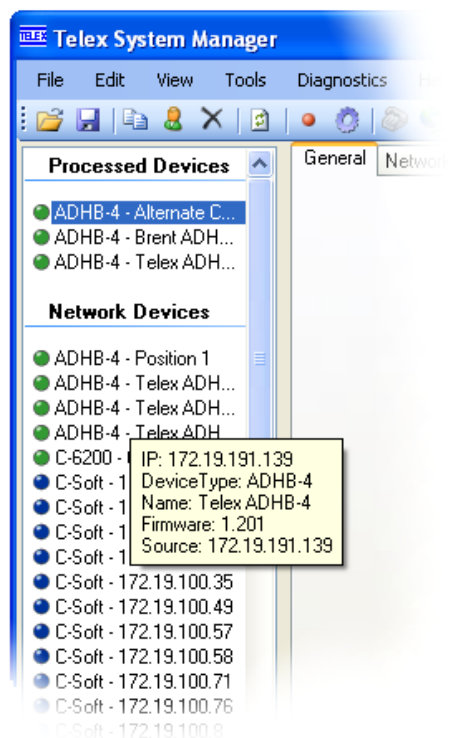


FIGURE 3. Device List Hover-Over

The **Icon List**, located in the left pane of the main window, contains three (3) different colors:

- Blue - devices which can only be detected on the network. The configuration for this device type cannot be read or recorded by TSM.
- Red - devices which is running a version of firmware not supported by TSM. Device configurations cannot be read or recorded from this device.
- Green - devices which are running a version of firmware supported by TSM. Device configurations can be read or recorded from this device.

To **display the Device List**, do the following:

- > Right -click on the **Device List**.

Available options from the popup menu are (see Figure 2):

*Refresh* - Refreshes the Device List.

*Remove* - Removes the device from the Device List. If the device is listed in the Network Devices or Processes Devices group, the device appears as a Network Device after refreshing the Device List.

*Filter* - Choose to filter out certain device types from the Device List.

*Copy Configuration* - See “Copy Configuration Utility” on page 13.

*Record to Device* - See “Record to Device Utility” on page 17.

## Configuration Tab Pages

TSM supports the ability to view and configure the IP-223, IP-2002, IP-1616, IP-224 and ADHB-4. The parameters shown for each device mirror the device's webpage. However, certain fields, including console name, permanent settings, basic network setup, and the administrator account password are disabled, and are unable to be changed using TSM. These parameters must be manually set using each specific device's Web Browser Configuration. For more information, consult the device user manual. See Figure 4 for an example of the IP-223 Default configuration tab page.

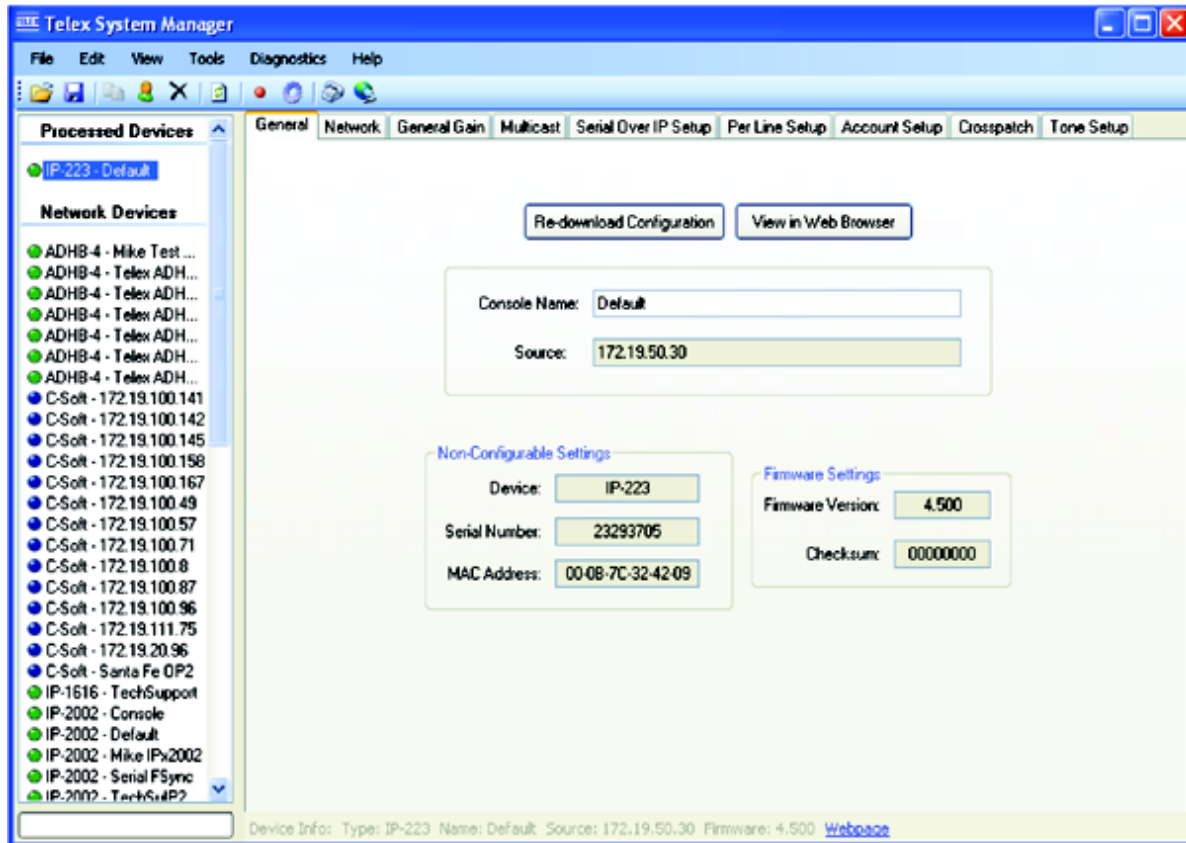


FIGURE 4. Example of IP-223 Configuration Tab Page

---

### *Copy Configuration Utility*

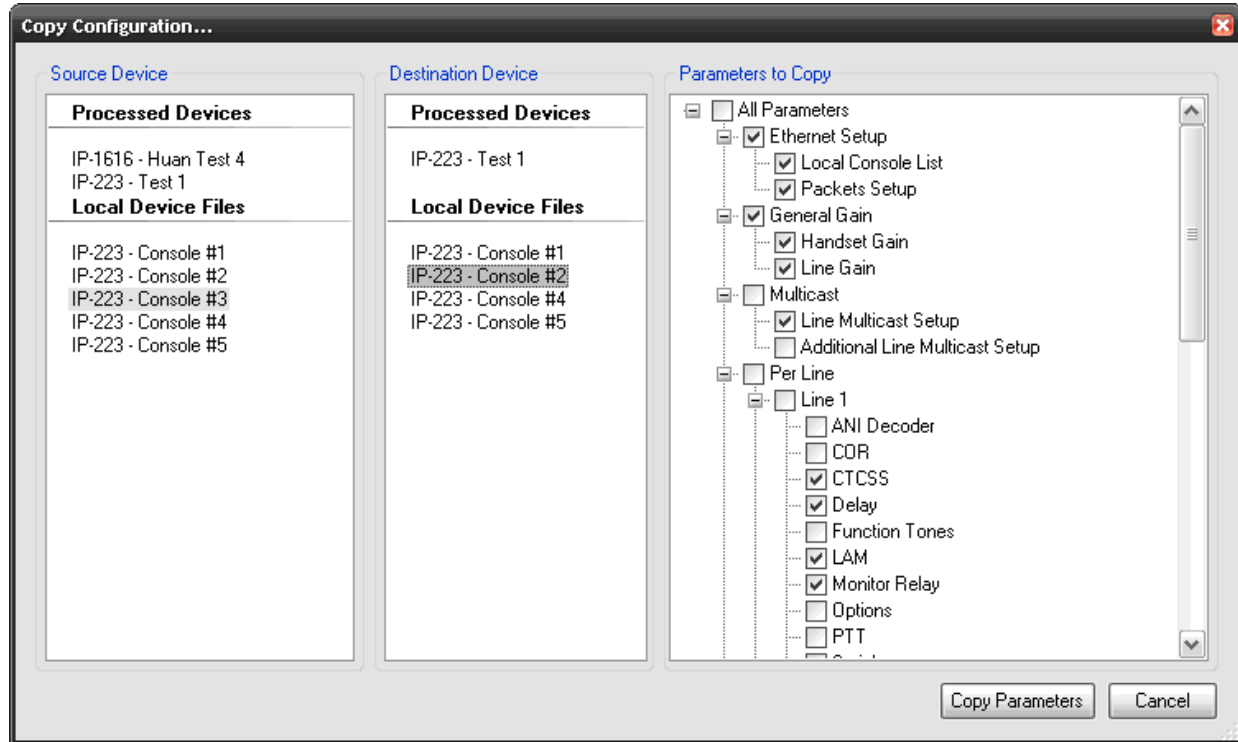
The **Copy Configuration Utility** allows the user to selectively copy a device's configuration parameters to another device. Both the source device and the destination device must be in the Processed Devices or Local Device Files group with the proper credentials entered. In addition, both device types must be the same.

**EXAMPLE:** You can copy an IP-223 configuration to another IP-223; however, you cannot copy an IP-223 configuration to an IP-2002 configuration.

In order to use the Copy Configuration Utility, at least two (2) devices must be contained in the Processed Devices or Local Device Files group, since a source device and destination device are required.

To open the **Copy Configuration** window, do the following:

1. From the Edit menu, select **Copy Configuration**.  
OR  
Right-click a **device**.  
*A popup menu appears.*
2. From the popup menu, select **Copy Configuration**.  
*The Copy Configuration window appears.*



The **Copy Configuration** window contains three (3) group boxes.

---

### Source Device Group Box

---

The **Source Device** group box contains all possible source devices. Source devices are directly obtained from the Processed Devices and Local Device Files groups.

---

### Destination Device Group Box

---

The **Destination Device** group box contains all the available destination devices. These devices must meet three (3) criteria:

#### NOTE:

- The destination device is contained in the Processed Devices or Local Device Files group, and therefore the configuration must be accessible.
- The destination device type matches the device type of the selected source device.
- The destination device is not the same as the source device.

## Parameters to Copy Group Box

The **Parameters to Copy** group box displays the parameters available to copy from the source device to the destination device.

To **copy parameters from one device to another**, do the following:

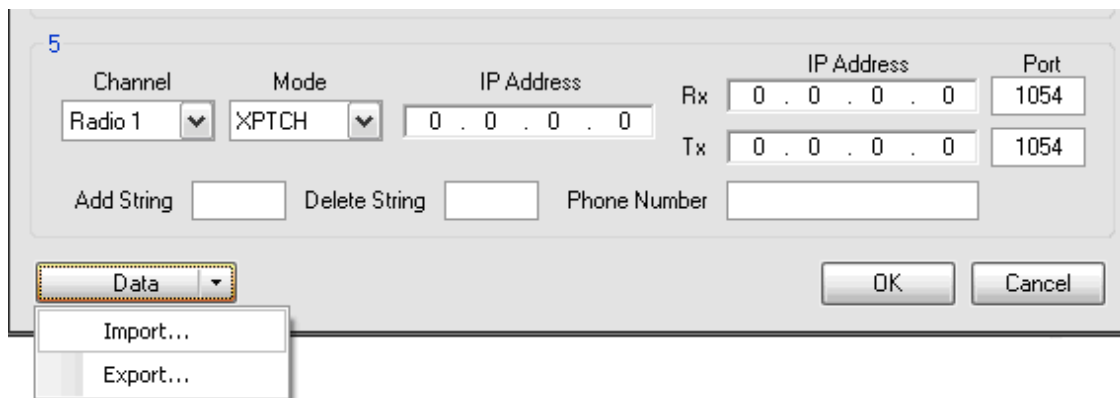
1. From the Source Device group box, select the **device from which you want to copy** the configuration.
2. From the Destination Device group box, select the **device to which you want to copy** the configuration.
3. From the Parameters to Copy group box, select the **parameters** to copy.  
*A check mark appears in the check box when the option is selected.*

**NOTE:** Multiple devices can be selected as destinations. To select multiple destinations, hold the Ctrl or Shift keys on the keyboard and select additional entries in the Destination Device group box.

4. Click **Copy Parameters**.  
*The selected parameters from the Parameters to Copy group box are copied from the selected source device to the selected device destinations.*

## Import/Export Table Utility

Due to the large number of entries in certain device configuration tables, the Table Data Import/Export Utility is able to import data directly into or export table data out of a device's configuration (see Figure 5).



**FIGURE 5.** Import/Export Table Data

Tables can be imported and exported in either .xml or .csv format. If desired, .csv files can be exported, edited using a third-party spreadsheet program, and finally re-imported into TSM.

The Import/Export Table Utility is available for (the following tables are arranged by device type).

**IP-223**

- Per Line Setup ➤ Function Tone
- Per Line Setup ➤ CTCSS Setup
- Per Line Setup ➤ ANI Decoder
- Crosspatch ➤ Crosspatch Table
- Crosspatch ➤ Pin Table

**IP-2002**

- Per Line Setup ➤ Function Tone
- ID Directory
- Paging Directory

**IP-1616**

- Per Line Setup ➤ Function Tone
- ID Directory
- Paging Directory

**IP-224**

- Per Line Setup ➤ Function Tone 1
- Per Line Setup ➤ Function Tone 2



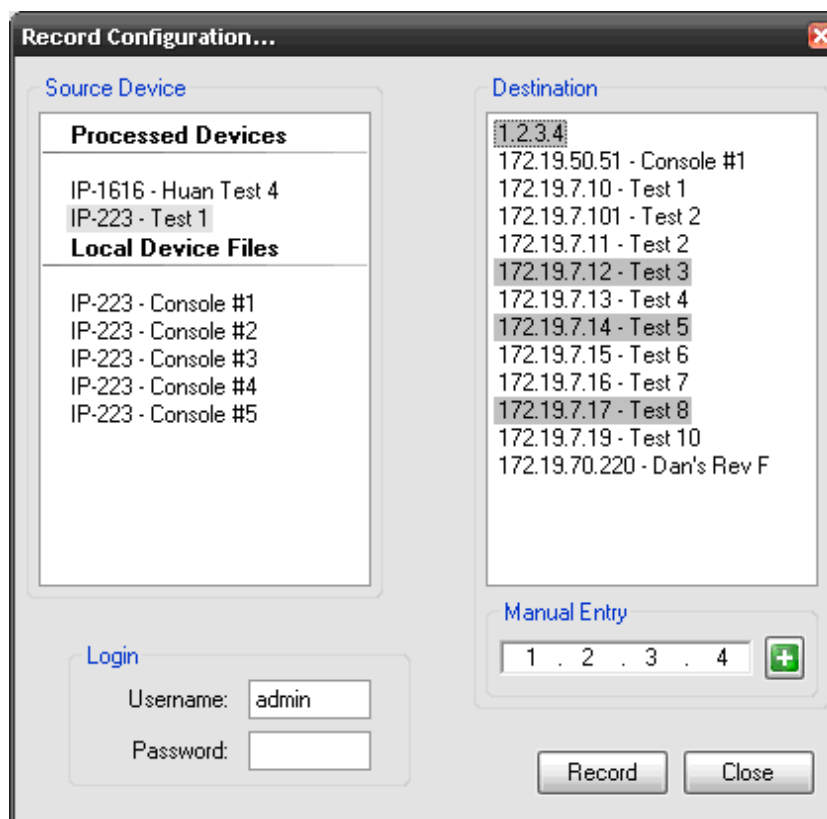
---

## Record to Device Utility

The **Record to Device Utility**, shown in the Record Configuration Window, is used to store configuration information back to a device on the network. The source device must be in either the Processed Devices or Local Device Files list. In addition, the source configuration's device type must match the device type of the destination device on the network.

To **open the Record to Device Utility**, do the following:

1. From the Tools menu, select **Record Configuration to Device**.  
OR  
Right-click a **device**.  
*A popup menu. appears.*
2. From the popup menu, select **Record to Device**.  
*The Configuration window appears.*



---

## Source Device Group Box

The **Source Device** group box contains all devices contained in the Processed Devices or Local Device Files group with available configurations.

---

## Destination Device Group Box

---

The **Destination Device** group box contains the IP Address and name (if available) of all devices detected during the last Device List refresh.

**NOTE:** Multiple devices can be selected as destinations. To select multiple destinations, hold the Ctrl or Shift key on the keyboard, using the mouse click the desired destination devices.

---

## Login Group Box

---

The **Login** group box is used to enter a username and password.

In the Password field, enter an **appropriate password**.

In order to record configuration to a device, proper credentials must be entered. The Record Configuration Utility first attempts to use the username and password specified. If the credentials are invalid, a prompt is displayed asking for new credentials. This is useful when recording a configuration to multiple devices with different user names or passwords.

---

## Manual Entry Group Box

---

The **Manual Entry** group box is used to manually enter the device's IP address if the desired device does not appear in the Destination Device List.

If a desired device does not appear in the Destination Device List, the device's IP Address can be manually entered using the Manual Entry field. Once an IP Address is entered into the IP text box, you need to push the green plus button. The IP Address just entered is added to the Destination List, and is then selectable as a designating. Multiple destinations can be manually entered in this way.

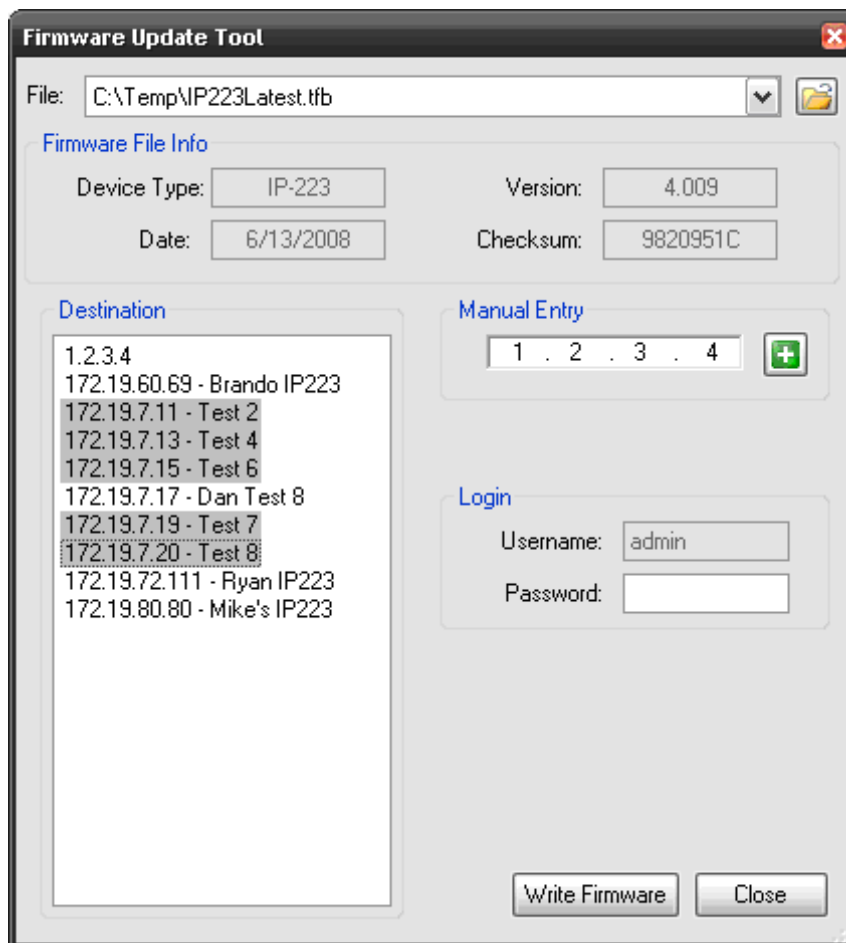
---

## Firmware Update Tool Window

The **Firmware Update Tool** window, shown in Figure 6, is capable of updating the firmware on the IP-223, IP-2002, IP-1616, C-6200, NEO-10, ADHB-4 and IP-224 devices.

To **open the firmware update tool window**, do the following:

- > From the Tools menu, select **Firmware Update**.  
*The Firmware Update Tool window appears.*



**FIGURE 6.** Firmware Update Tool Window

---

## Firmware File Info Group Box

The **Firmware File Info** group box is used to display the information about selected firmware files.

---

## Destination Group Box

---

The **Destination** group box is used to display the device to which you want to update the firmware.

From the Destination list, select the **device** to which you want to update the firmware.

**NOTE:** Multiple devices' firmware can be updated in parallel by selecting multiple devices from the Destination Device List. To select multiple destination devices, hold the Ctrl or Shift key on the keyboard and click on each additional device in the Destination Device List.

---

## Manual Entry Group Box

---

The **Manual Entry** group box is used to display a device's IP address that does not appear in the destination list.

**NOTE:** All devices appearing in Device List with a matching device type appear in the Firmware Update window's Destination list. If a desired device does not appear in the Destination list, you can enter the device's IP Address manually using the Manual Entry field. Once an IP Address is entered into the IP text box, you need to push the green plus button. The IP Address just entered is added to the Destination List, and is then selectable as a destination. Multiple destinations can be manually entered in this way.

---

## Login Group Box

---

The **Login** group box is used to enter a user name and password.

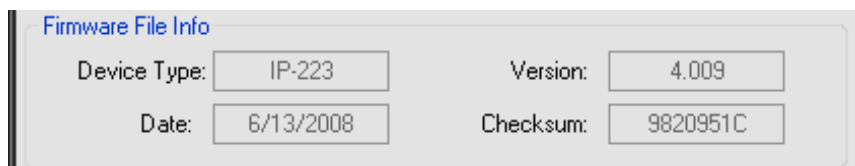
In the Password field, enter an **appropriate password**.

**NOTE:** In order to update a devices' firmware, proper credentials must be entered. The Firmware Update tool first attempts to use the password specified. If the credentials are invalid, a prompt is displayed asking for new credentials. This is useful when updating firmware to multiple devices with different admin account passwords.

To **update the firmware on a network device**, do the following:

1. Click the **browse icon** to navigate to the folder where the firmware file is stored.
2. Select the **firmware file**.  
*Once a file is selected, information about the selected firmware files appear in the Firmware File Info Group Box.*

**NOTE:** If you have already accessed the firmware file, and established the location, you can use the drop down menu to select previously established file location.



The screenshot shows a window titled "Firmware File Info" with a light gray background. It contains four labeled text input fields arranged in a 2x2 grid. The top row has "Device Type:" with the value "IP-223" and "Version:" with the value "4.009". The bottom row has "Date:" with the value "6/13/2008" and "Checksum:" with the value "9820951C".

Firmware File Info	
Device Type:	IP-223
Version:	4.009
Date:	6/13/2008
Checksum:	9820951C



## Options

The **Options Window** allows the user to change the settings of the TTL, Device Detection Timeout, Configuration Update Timeout, and the Firmware Update Timeout.

To **open the Options Window**, do the following:

- > From the Tools menu, select **Options**. *The Options Window appears.*

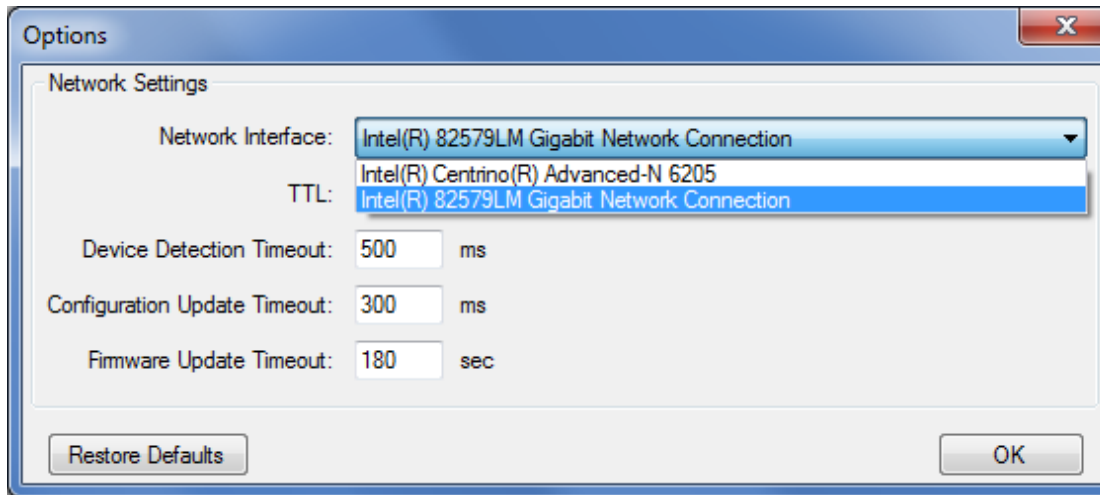


FIGURE 7. Options Window

### Network Interface Drop Down Menu

The **Network Interface** drop down menu is used to select the appropriate network interface used. TSM detects the options shown in this menu. The options available for detection by TSM are dependent upon the hardware installed on the individual computer.

### TTL Field

The **TTL** field sets the Time To Live value for the multicast ping packet. The multicast ping packet is sent from TSM to detect all Telex devices on the network.

The range for this field is *1 to 128*.

The default for this field is *10*.

### Device Detection Timeout

The **Device Detection Timeout** field determines the time period in milliseconds TSM will wait for devices to respond to a multicast ping request.

The range for this field is *0 to 10*.

The default for this field is *1*.

## Configuration Update Timeout

The **Configuration Update Timeout** field determines the time period, in milliseconds, TSM will wait for a device to respond to a request to read or record a device's configuration.

The range for this field is *100 to 9999*.

The default for this field is *300*.

## Firmware Update Timeout

The **Firmware Update Timeout** field determines the time period in seconds TSM will wait for a device to respond to a request to upload a device's firmware.

The range for this field is *180 to 9999*.

The default for this field is *180*.

## Restore Defaults

The **Restore Default** button restores parameters to default values.

---

## System Manager Notes

- Telex System Manager is compatible with the device/software listed in Table 2.
- Telex System Manager uses two (2) ports:  
(UDP) 7635 and 7636 for device detection  
(TCP) 21 for FTP Transfer for Firmware Update
- To Cut, Copy, or Paste an IP Address into an IP Text Box, use Ctrl+x (cut), Ctrl+c (copy), or Ctrl+v (paste) while the IP Text Box is active. The entire IP Address is copied into or pasted from the clipboard, not just the selected octet.

**TABLE 2.** Telex Device/Software compatibility reference

	Detected in Device List	Configuration Available	Firmware Update
IP-223 version 4.505 or higher	Yes	Yes	Yes
IP-2002 version 4.100 or higher	Yes	Yes	Yes
IP-1616 version 4.100 or higher	Yes	Yes	Yes
C-6200 version 4.100 or higher	Yes	No	Yes
NEO-10 version 4.001 or higher	Yes	No	Yes
C-Soft version 4.100 or higher	Yes	No	No
Network Recorder version 4.200 or higher	Yes	No	No
ADHB-4 version 1.300 or higher	Yes	Yes	Yes
IP-224 version 1.300 or higher	Yes	Yes	Yes

---

## **Bosch Security Systems, Inc.**

12000 Portland Avenue South  
Burnsville, MN 55337 U.S.A.  
[www.boschcommunications.com](http://www.boschcommunications.com)