



TELEX System Manager

TSM

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1 Notices

1.1 Proprietary notice

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1.3 Warranty notice (limited)

For warranty and service information, see <http://www.telex.com/warranty>.

1.4 Factory service center

Factory Service Center
Bosch Security Systems, LLC
Radio Dispatch Products
140 Caliber Ridge Drive
Greer, SC 29651

1.5 Contact information

Sales

E-mail: [TelexDispatch@ keenfinity-group.com](mailto:TelexDispatch@keenfinity-group.com)

Phone: (800) 289-0096

Customer service repair

E-mail: repairservice.nam@keenfinity-group.com

Phone: (800) 289-0096

Technical support

E-mail: [TelexDispatchtechsupport@ keenfinity-group.com](mailto:TelexDispatchtechsupport@keenfinity-group.com)

Knowledge database: <http://knowledge.keenfinity-group.com/>

Web: www.telex.com

1.6 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.

1.7 MOTOTRBO Claim

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2 Introduction and installation

The Telex System Manager (TSM) software allows a user to easily configure Telex devices. TSM allows a user to view and manipulate the configuration parameters for the IP-223, IP-2002, IP-1616, ADHB-4, IP-3000 and IP-3100 series consoles 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, IP-3000 and IP-3100 series consoles and IP-224.

2.1 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 the local disk for backups, archiving, or duplication.
- Records the configuration parameters back to the Telex device.
- Imports and exports large device configuration tables into .CSV or .XML formats.
- Selectively copies the device parameters from one configuration to another.
- Updates firmware on one or more devices with minimal clicks.

2.2 Installation

Requirements:

- Windows 10 or higher
- .NET framework 4.7.2 or higher
 - If not already installed, use Microsoft Update

Files included

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

To install the TSM:

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

Note:

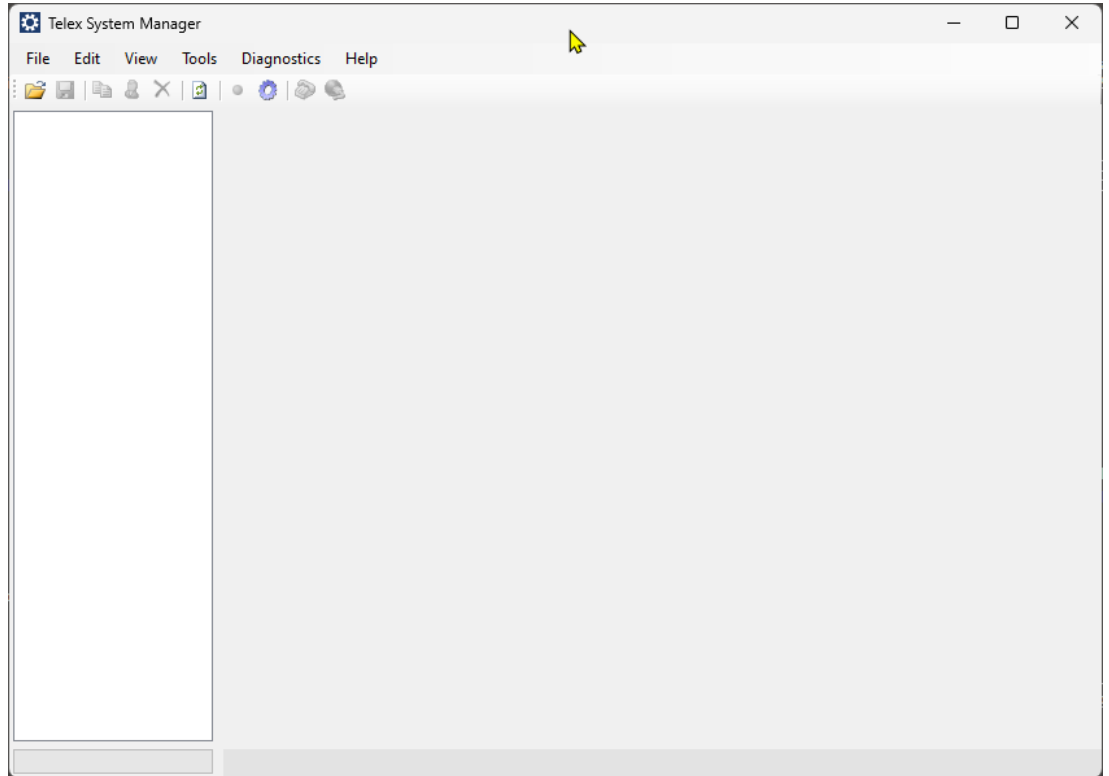
- If a previous version of TSM is installed, you might be required to uninstall the previous version before continuing. Uninstall TSM using the Windows Add or Remove Programs utility (Start -> Settings -> Control Panel -> Add or Remove Programs).

3 Window description

3.1 Basics

To run the TSM:

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.

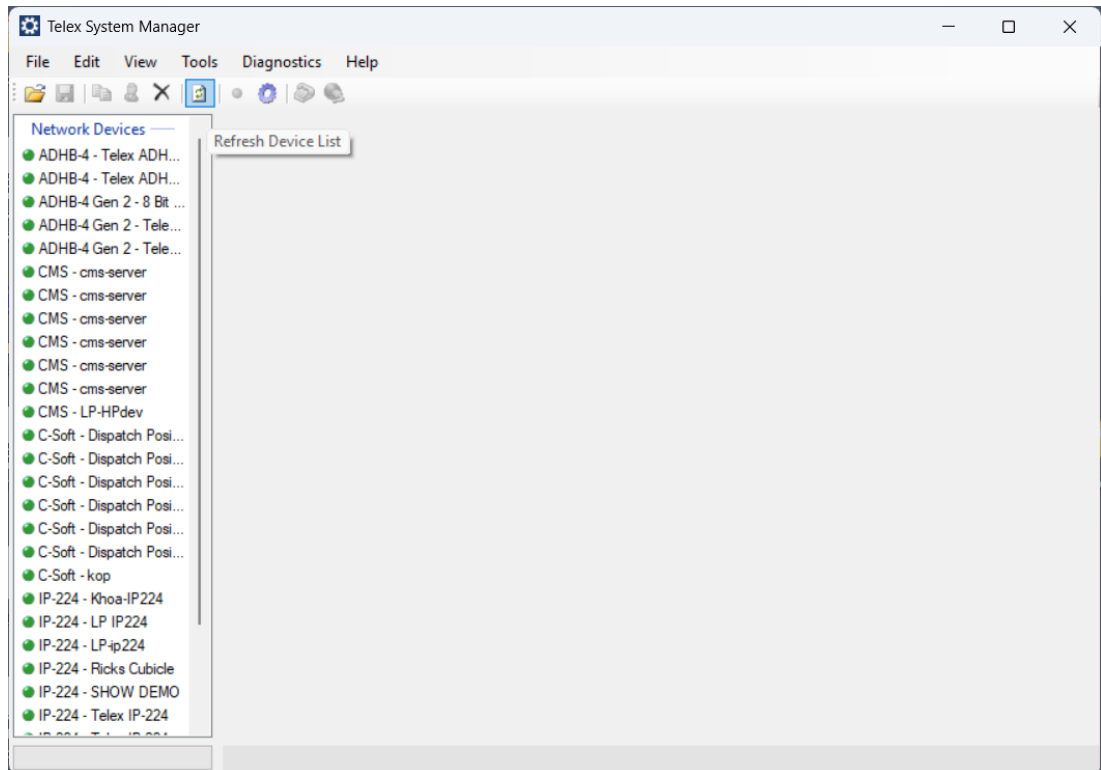


You can also double-click the TSM shortcut created on the desktop.

3.2 TSM Main window

3.2.1 Network Devices

On startup, the 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**. The **Refresh Device** button (or the F5 key on the keyboard) can be used to refresh the **Device List**.



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** checkbox must be selected in the device's **Multicast Setup** webpage. All other Telex devices (C-Soft, CMS and Network Recorder) automatically appear in the **Device List**.

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

3.2.2

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 four different groups:

- **Network Devices** are devices detected on the network but which do not have further information associated with them. Their configuration is either unavailable (C-6200, NEO-10, C-Soft Console, CMS and Network Recorder), or the proper credentials have not yet been entered (IP-223, IP-2002, IP-1616, ADHB-4, IP-3000 and IP-3100 series consoles and IP-224). Once the 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 the 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, refer to *Copy Configuration*

utility, page 20. In addition, device configurations in the **Processed Device** group can be recorded to a device using the **Write to Device** utility. For more information, refer to *Write to Device utility*, page 22.

- **Local Device Files** refers to locally stored device configuration files. 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*, page 20. Similar to **Processed Devices**, device configurations in the **Local Device Files** group can be recorded to a device using the **Write to Device** utility. For more information, refer to *Write to Device utility*, page 22.
- **Registered Devices** are network devices that are configured in TSM to be readable but not yet read. Registered devices are added to TSM typically outside of the normal query address scheme. TSM communicates to the device using UDP Unicast.

	Network Devices	Registered Devices Processed Devices	Local Device Files
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)

Table 3.1: Device List group quick reference table

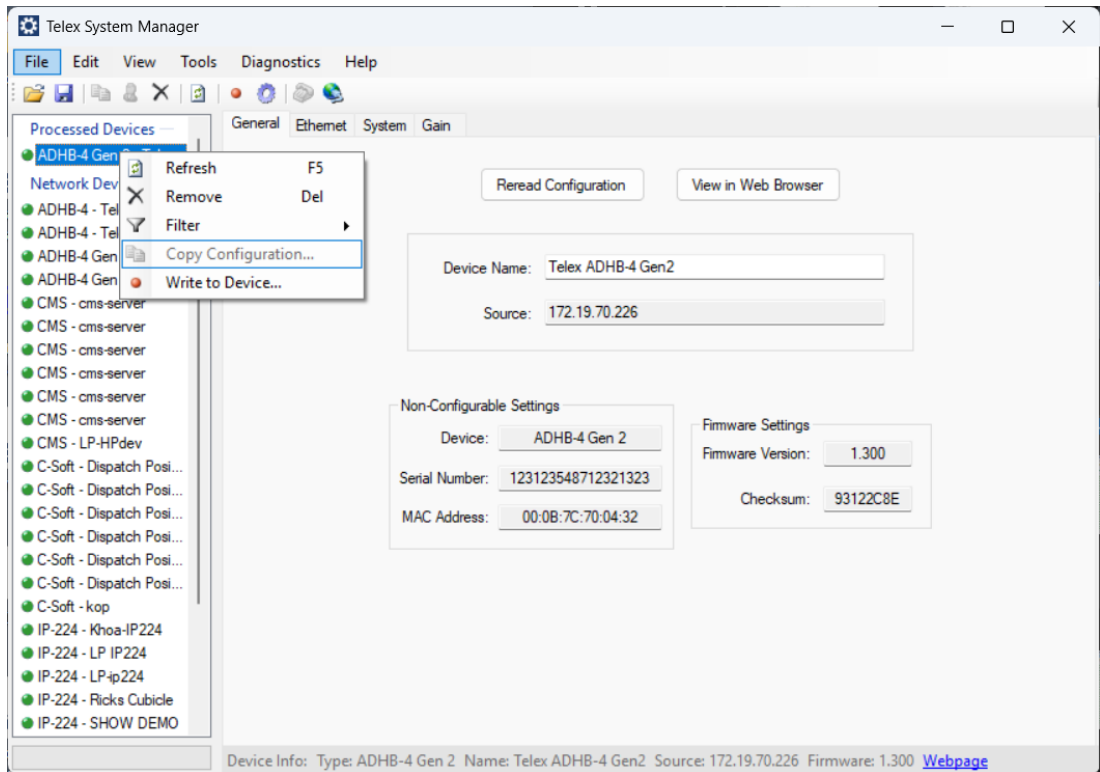


Figure 3.1: Device List context menu

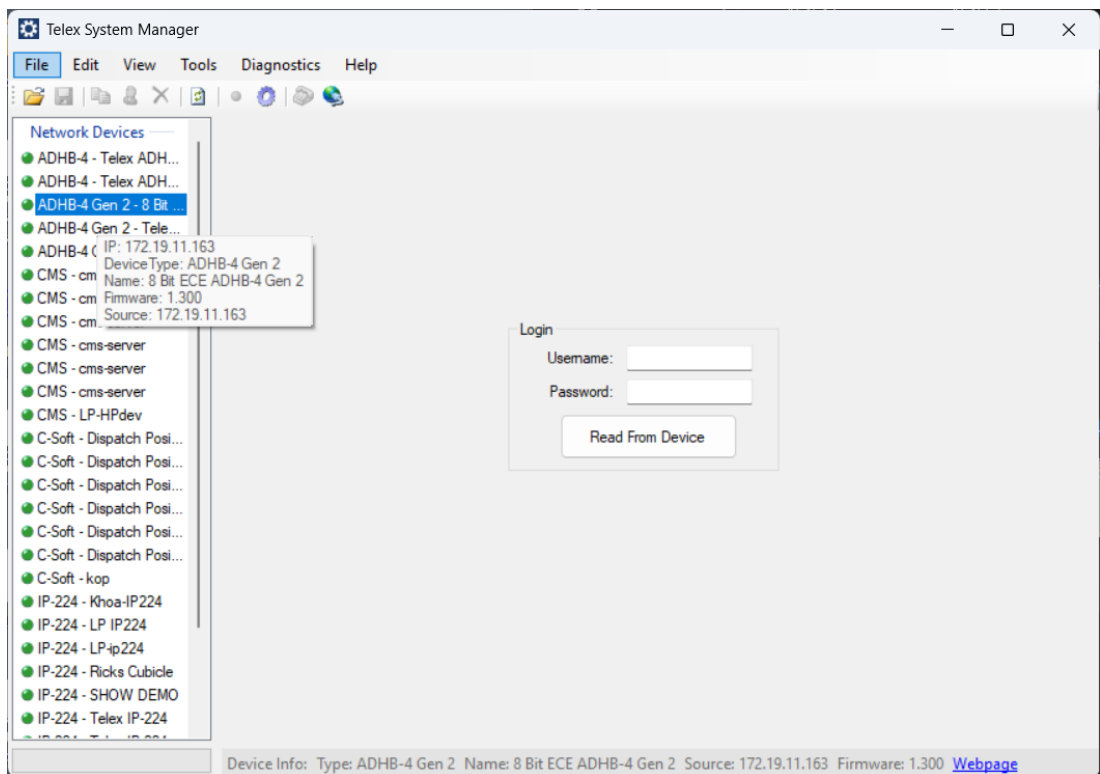


Figure 3.2: Device List hover-over

The **Icon List**, located in the left pane of the main window, contains three 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 are running a version of firmware not supported by TSM. Device configurations cannot be read or recorded from this device.

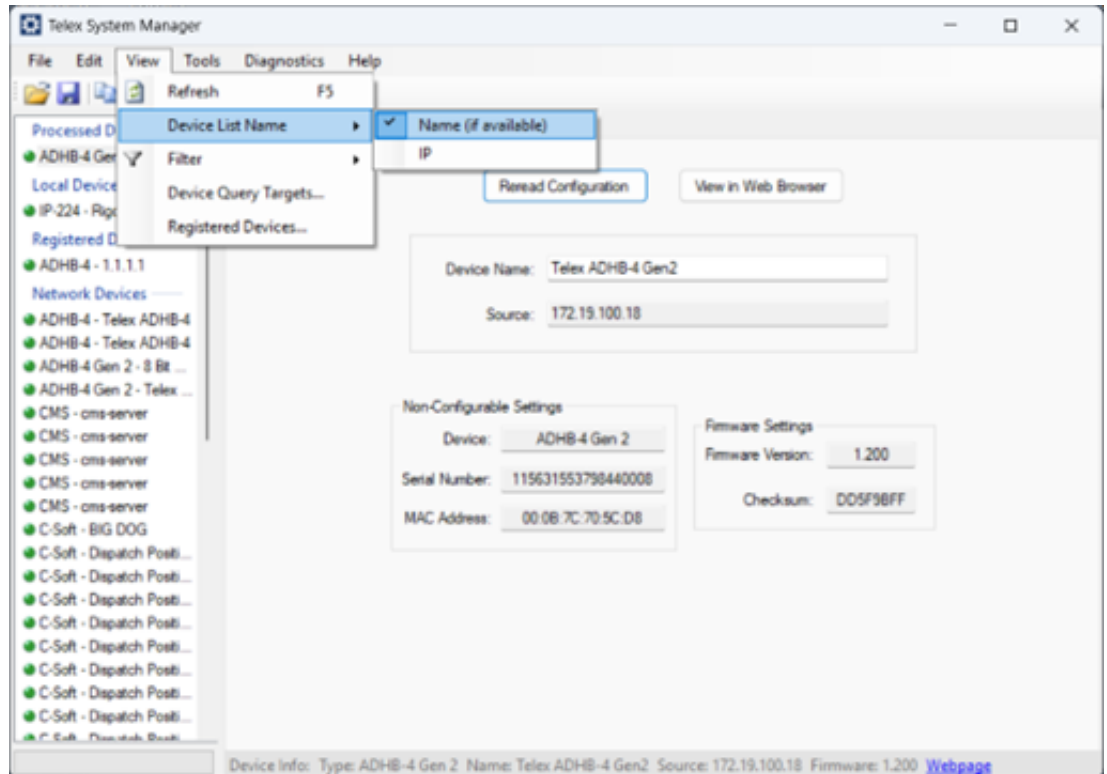
- Green: Devices which are running a version of firmware supported by TSM. Device configurations can be read or recorded from this device.

To display the **Device List**:

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

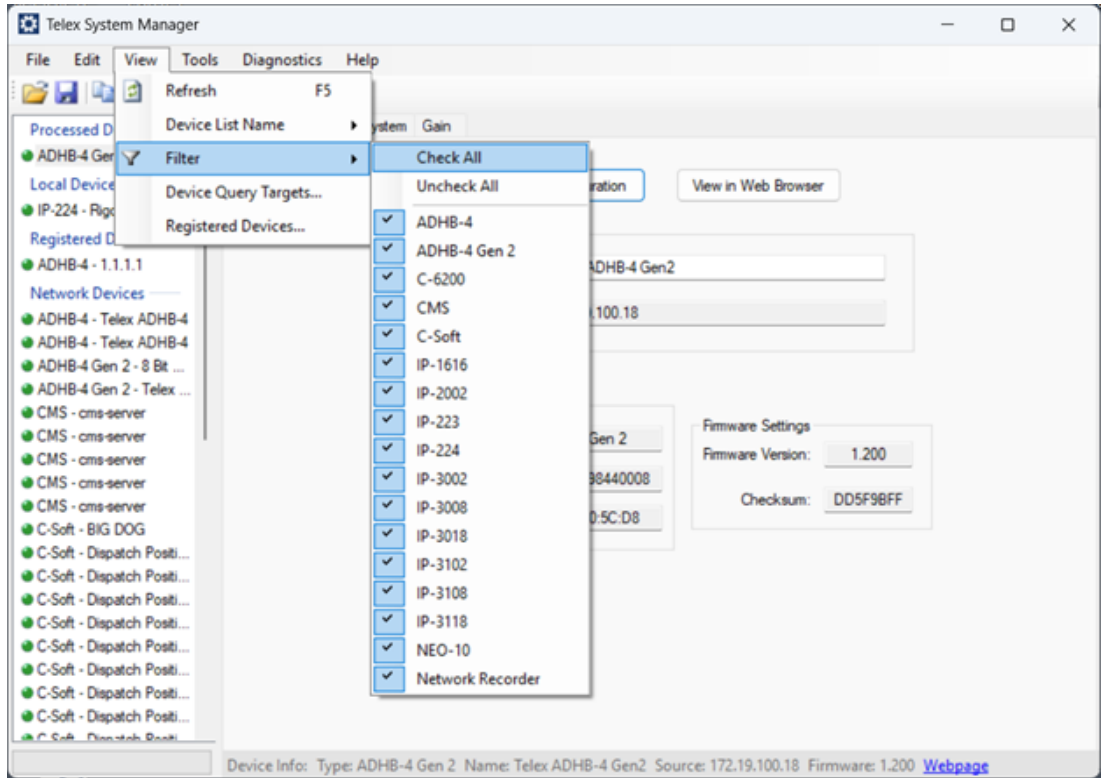
How to view the device list by name or IP address

1. Click **View** and select **Device List Name**.
2. Select **Name** or **IP**.



How to filter the device list by product type

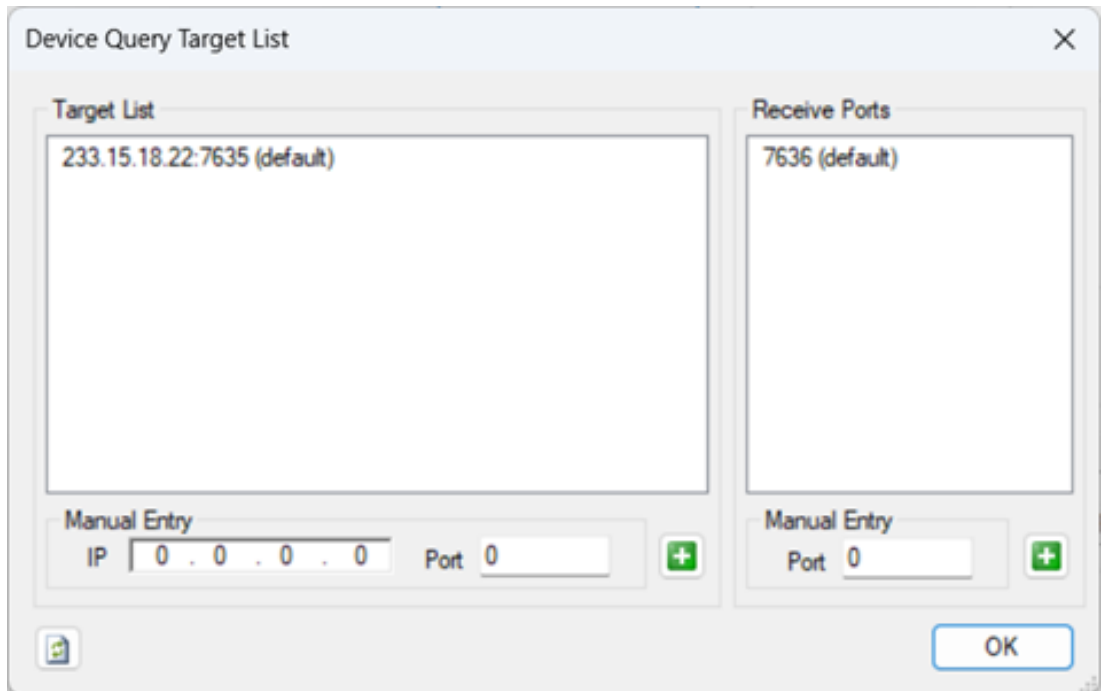
1. Click **View** and select **Filter**.
2. Click **Check All** to select all types or click the **individual devices** to view.



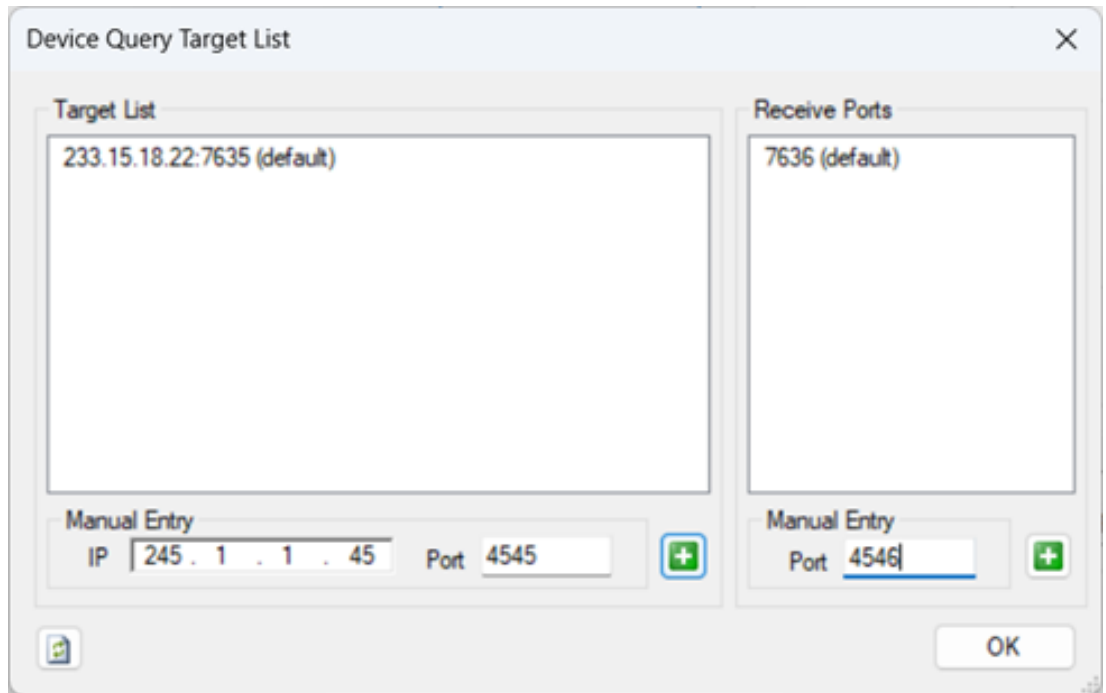
Add additional TSM query Multicast addresses

1. Click **View** and select **Device Query Targets**.

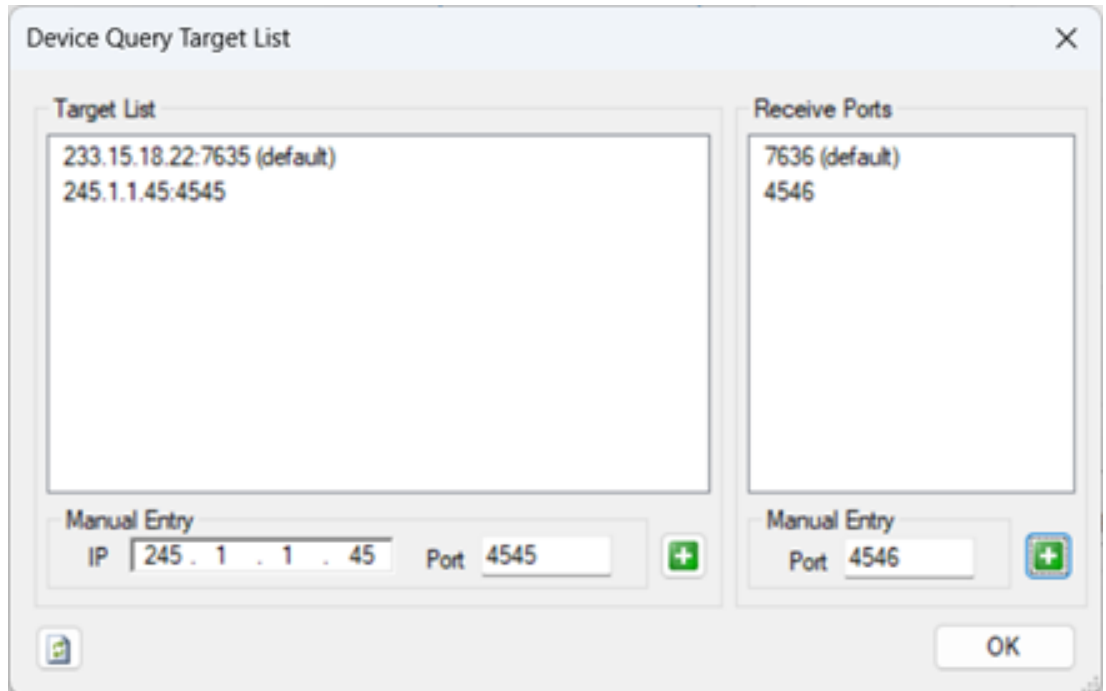
The Device Query Target List window opens with the default address shown.



2. Enter the additional required **IP address** in the Manual Entry IP fields.



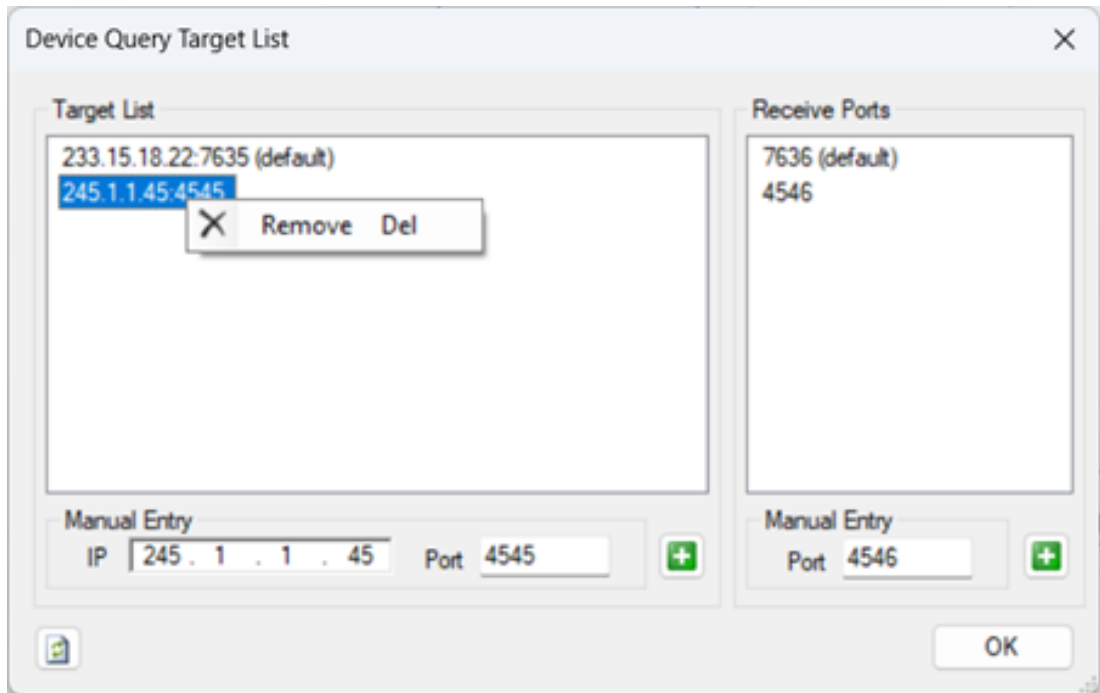
3. Click the green + icon to add the address.



4. Repeat as necessary.

Remove an address from the Device Query Target List

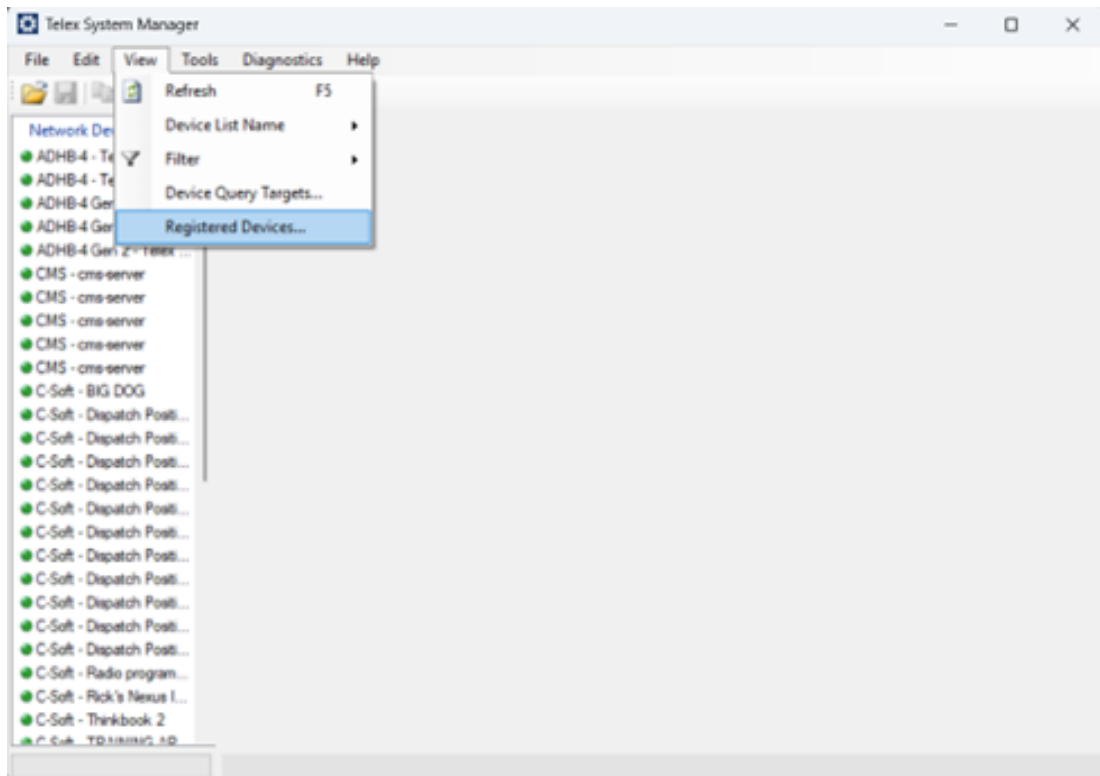
1. Click View and select Device Query Targets.
The Device Query Target List window opens.
2. Right-click the **address** you want to remove.
A popup menu opens.

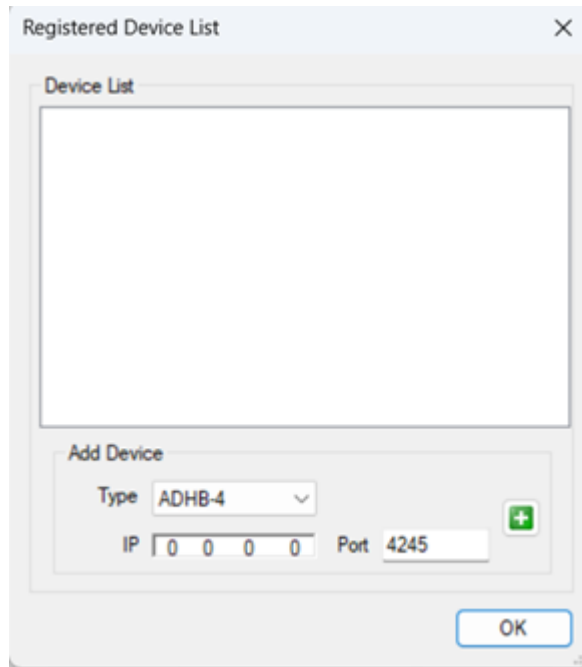


- 3. Select **Remove Del**.
The address is removed from the list.

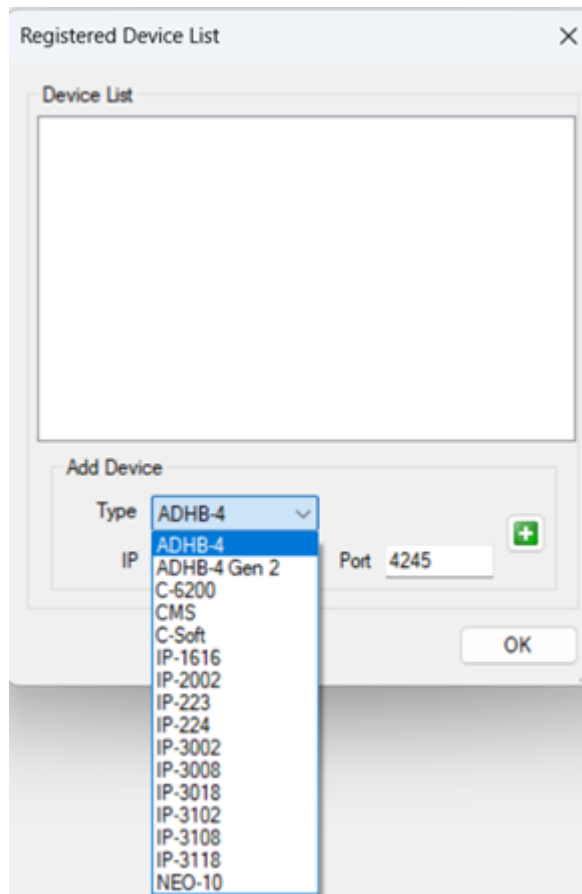
How to use Registered to add devices

- 1. Click **View** and select **Registered Devices**.
The **Registered Device List** window opens.

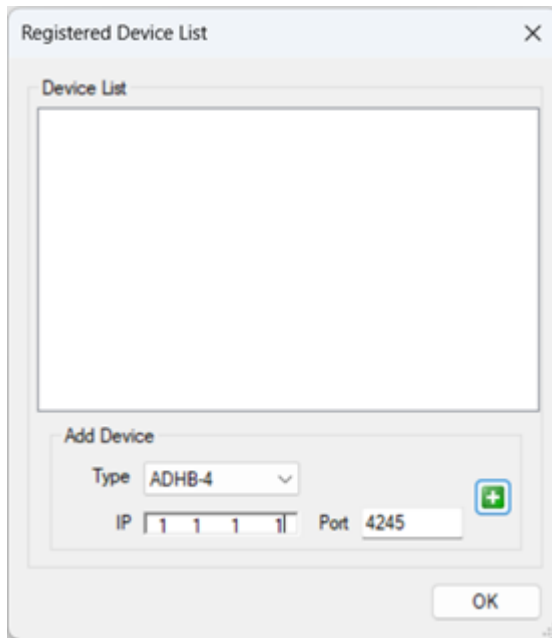




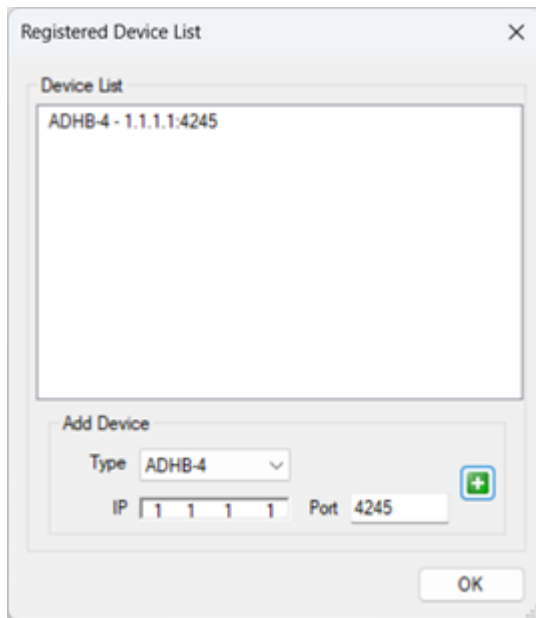
2. Select the device **Type** from the dropdown list.

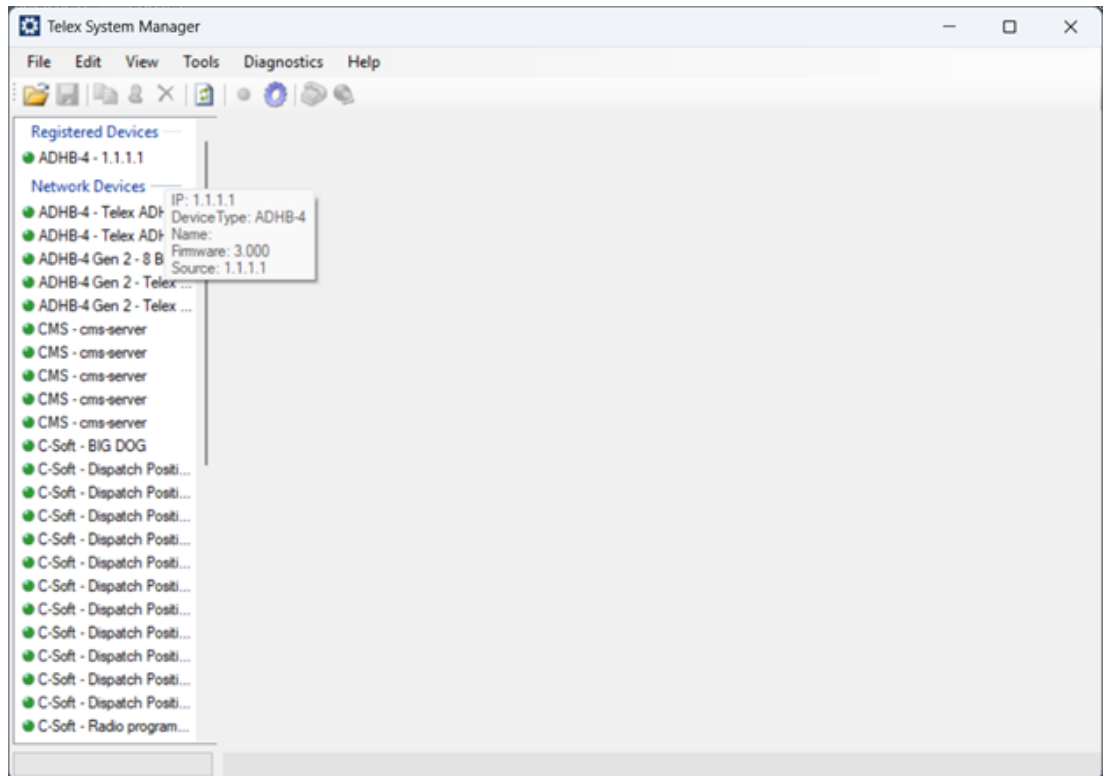


3. Enter the **IP**-address and the **Port** number of the device.



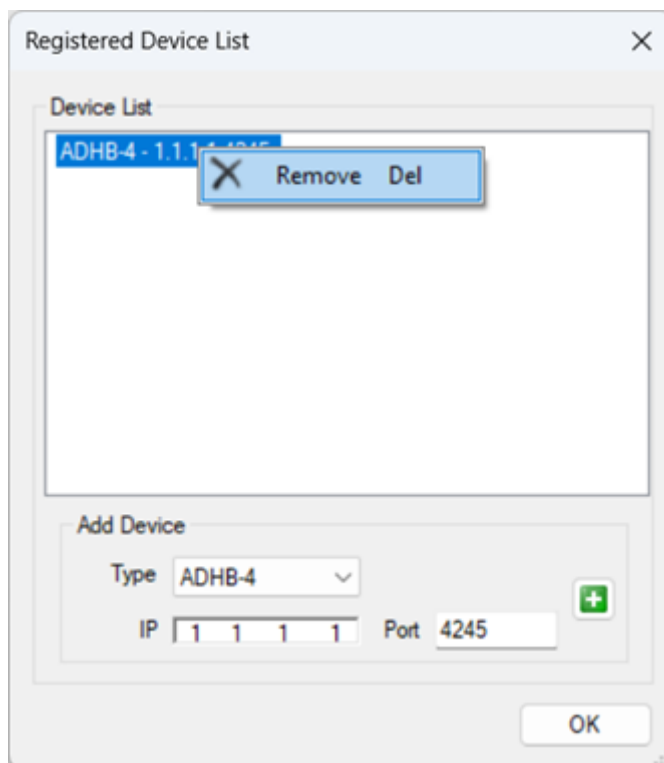
- 4. Click the green + sign.
The device is added and appears in the main screen.





To remove any device from the **Registered Device List**:

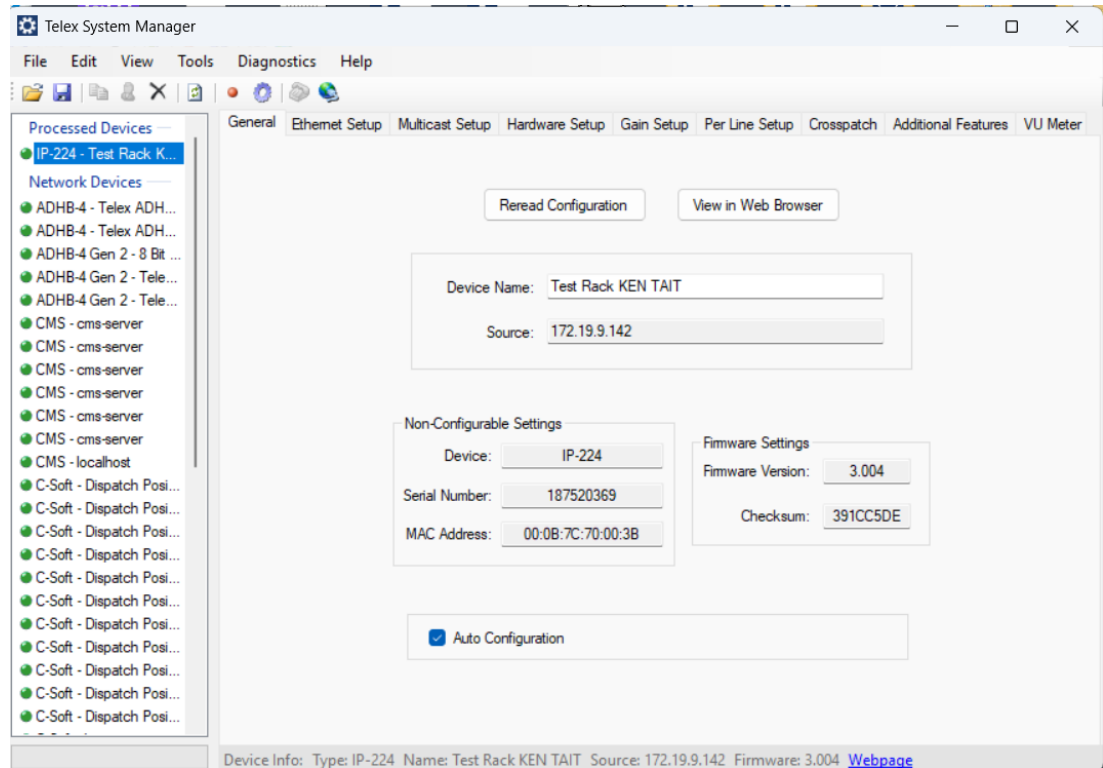
- ▶ Right-click the device and select **Remove**.



3.2.3

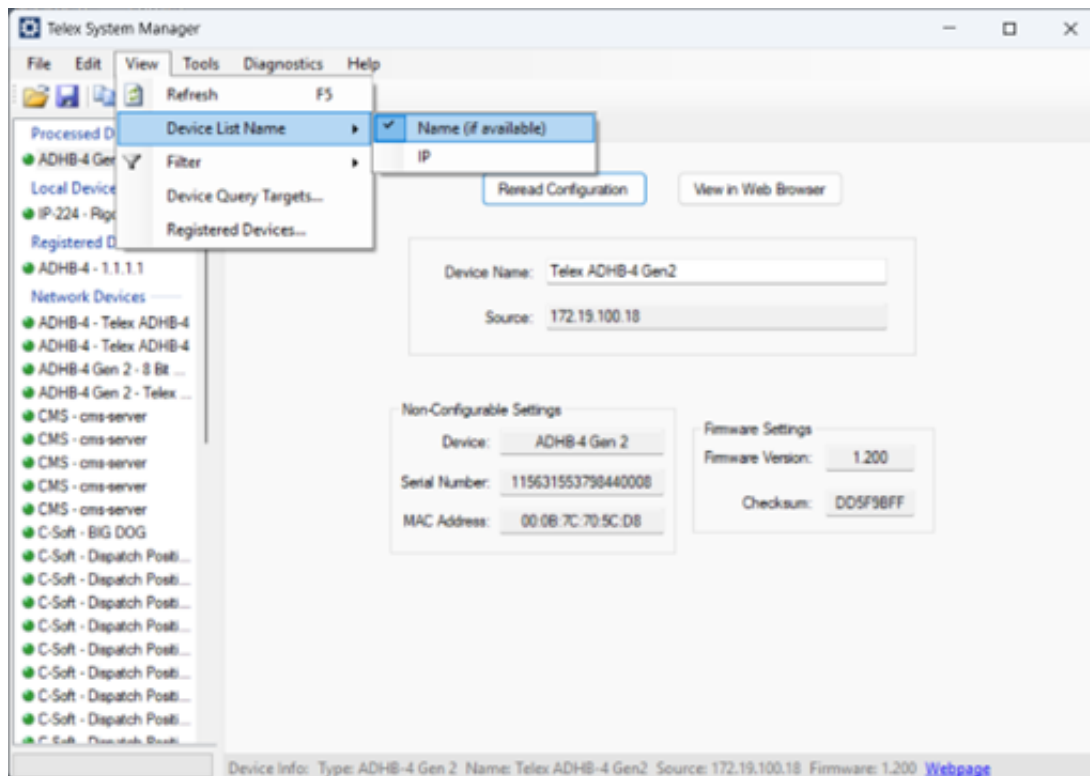
Configuration tab

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 below an example of the IP-224 Default configuration tab page.



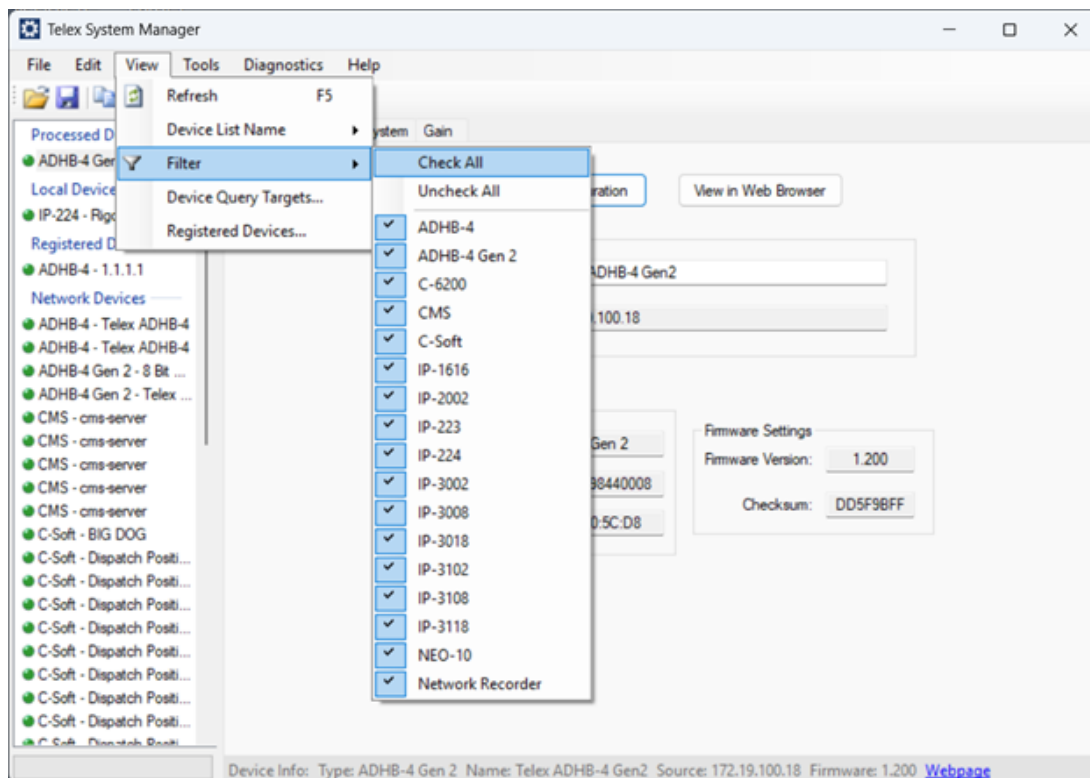
In the Default configuration tab, you can order the **Device List** by name or by IP-address:

- ▶ Click **View** and select your preferred option in **Device List Name**.



You can also filter the Device List by product type.

- ▶ Click **View** and select your preferred option in **Filter**.



4 Operation

4.1 Copy Configuration utility

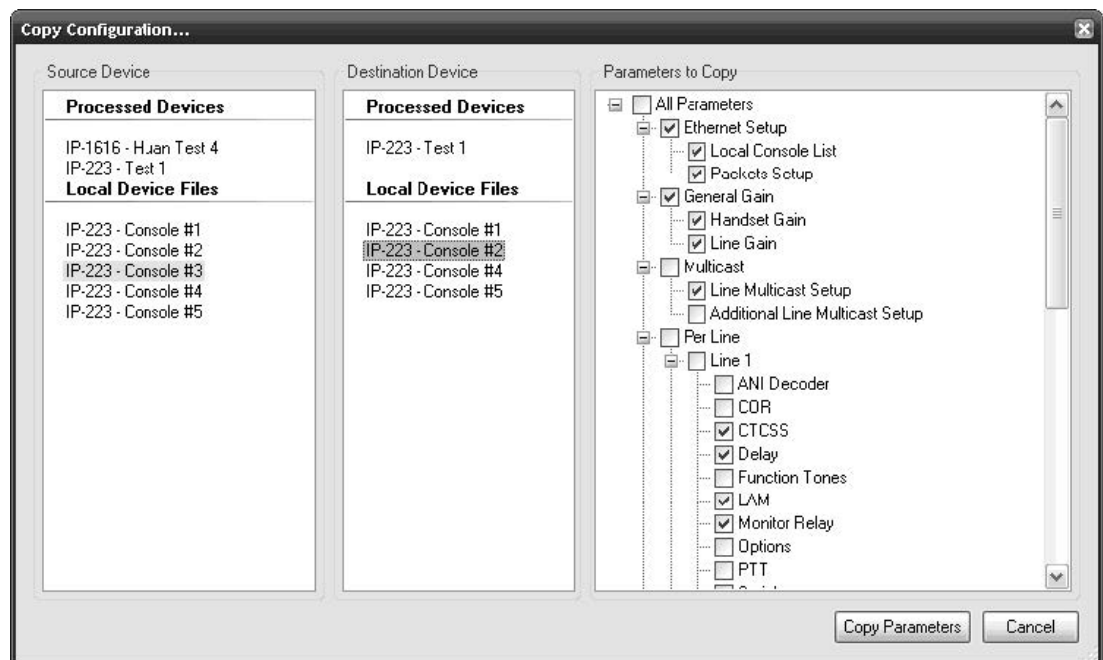
The **Copy Configuration** utility allows the user to selectively copy a device's configuration parameters to another device. Both the source device and the destination device must be in the **Processed Devices** or **Local Device Files** group with the proper credentials entered. In addition, both device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

EXAMPLE: You can copy an IP-224 configuration to another IP-224. However, you cannot copy an IP-224 configuration to an IP-2002 configuration. All devices copied must have the same firmware version.

In order to use the **Copy Configuration** utility, at least two 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:

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



The **Copy Configuration** window contains three group boxes:

- *Source Device group box, page 20*
- *Destination Device group box, page 21*
- *Parameters to Copy group box, page 21*

4.1.1 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.

4.1.2 Destination Device group box

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

- 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.

4.1.3 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:

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.

4.2 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.

The screenshot shows a dialog box titled '5' with the following fields and controls:

- Channel:** Radio 1 (dropdown)
- Mode:** XPTCH (dropdown)
- IP Address:** 0 . 0 . 0 . 0
- Rx IP Address:** 0 . 0 . 0 . 0
- Port:** 1054
- Tx IP Address:** 0 . 0 . 0 . 0
- Port:** 1054
- Add String:** []
- Delete String:** []
- Phone Number:** []
- Data:** [Data] (dropdown menu open showing 'Import...' and 'Export...')
- OK** and **Cancel** buttons.

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 devices.

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

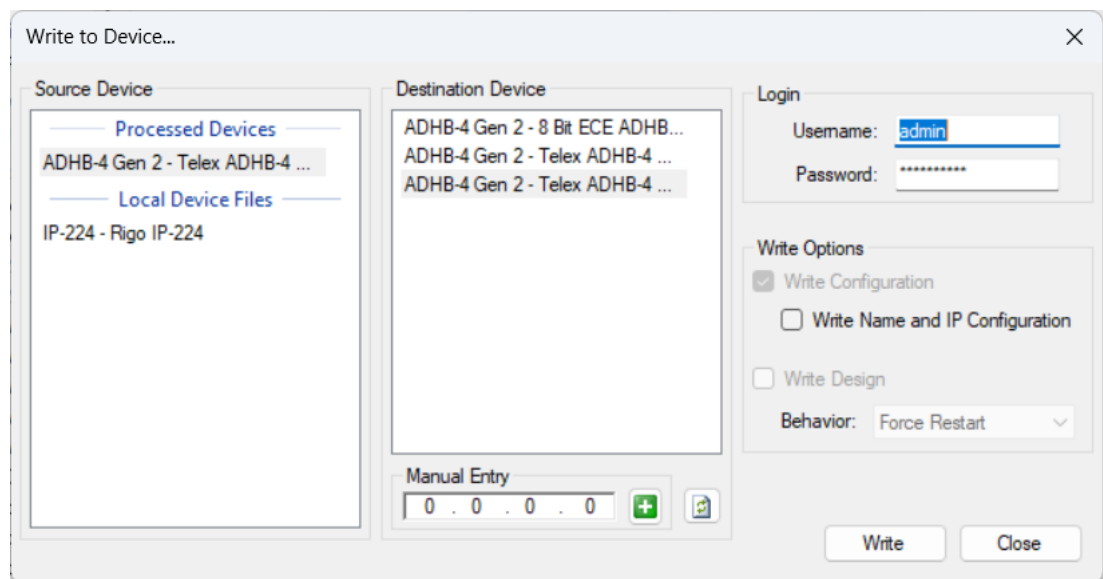
- Per Line Setup -> Function Tone 1
- Per Line Setup -> Function Tone 2

4.3 Write to Device utility

The **Write 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 **Write to Device** utility:

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



4.3.1 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.

4.3.2 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 keys on the keyboard and click the desired destination devices.

4.3.3 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 usernames or passwords.

4.3.4 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**.

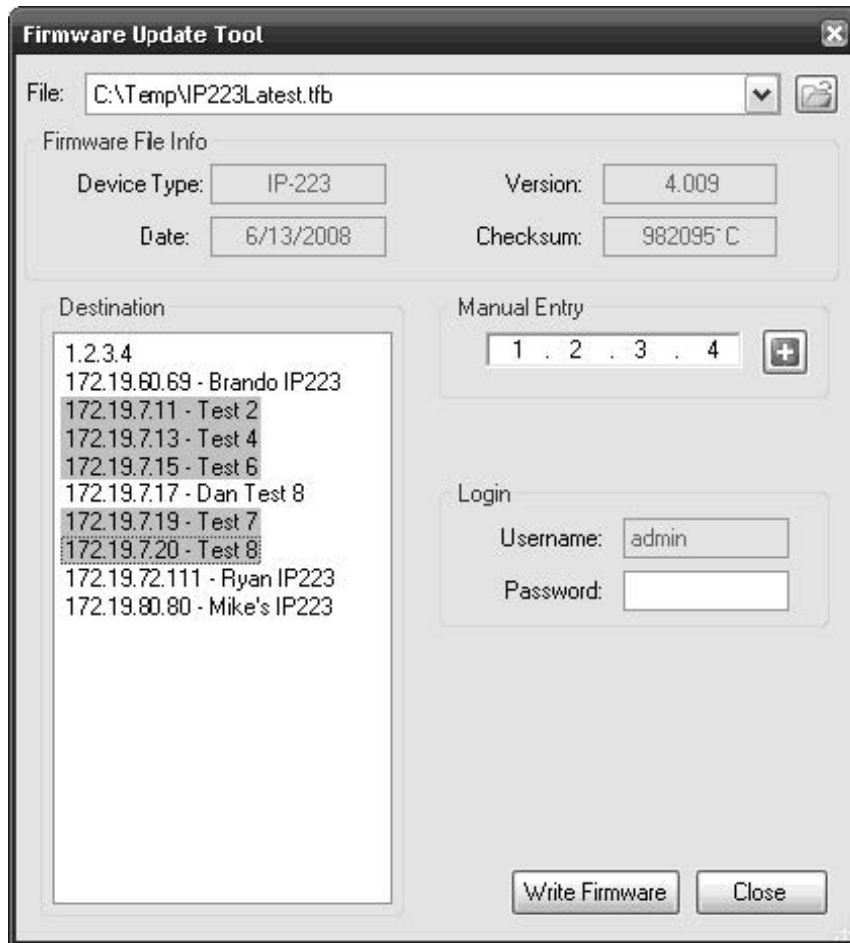
If a desired device does not appear in the **Destination Device List**, the device's IP-address can be manually entered using the **Manual Entry** field. Once an IP-address is entered into the **IP** text box, you need to push the green plus button. The IP-address just entered is added to the **Destination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

4.4 Firmware Update Tool window

The **Firmware Update Tool** window 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:

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



4.4.1 Firmware File Info group box

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

4.4.2 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 keys on the keyboard and click on each additional device in the **Destination Device List**.

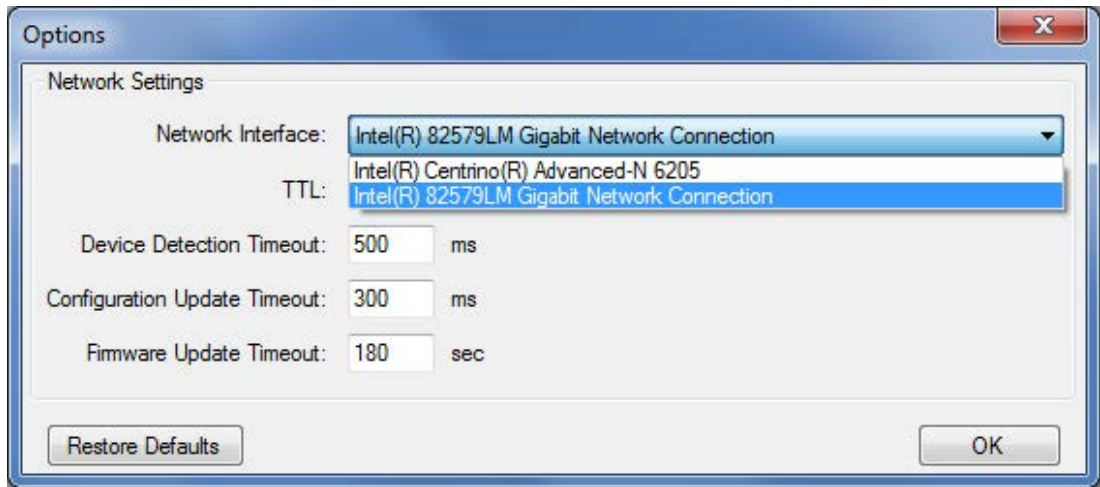
4.4.3 Manual Entry group box

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 Tool** 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** field, 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.

- ▶ From the **Tools** menu, select **Options**.

The **Options Window** appears.



Network Interface dropdown menu

The **Network Interface** dropdown 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.

4.6

System Manager notes

- The Telex System Manager is compatible with the device/software listed in the table.
- The Telex System Manager uses two 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** field, use Ctrl+x (cut), Ctrl+c (copy), or Ctrl+v (paste) while the **IP** field is active. The entire IP-address is copied into or pasted from the clipboard, not just the selected octet.

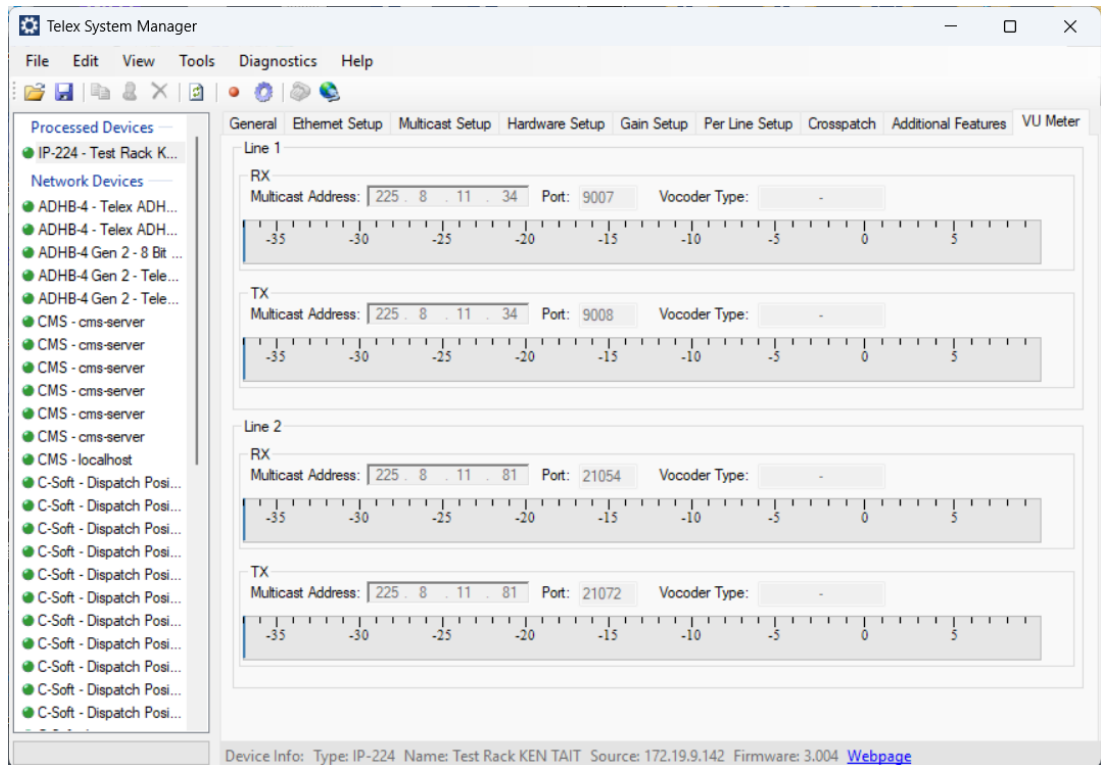
	Detected in Device List	Configuration Available	Firmware Update
IP-223 version 4.505 or higher	Yes	Yes	Yes
IP-2002 version 4.100 or higher	Yes	Yes	Yes
IP-1616 version 4.100 or higher	Yes	Yes	Yes
C-6200 version 4.100 or higher	Yes	No	Yes
NEO-10 version 4.001 or higher	Yes	No	Yes
C-Soft version 4.100 or 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
CMS version 1.000 or higher	Yes	No	No
IP-3000 version 7.700 or higher	Yes	Yes	Yes
IP-3100 version 8.200 or higher	Yes	Yes	Yes
ADHB-4 Gen2 version 1.000 or higher	Yes	Yes	Yes

Table 4.1: Telex Device/Software compatibility reference

4.7

System alignment

You can perform a system alignment with the VU Meter tab of the IP-224. Login to the IP-224 for the line under test.



1. With the service monitor, inject an average signal into the mobile radio attached to IP-224.
2. Adjust the **RX** gain for a maximum -3 dBm on the line RX VU Meter.
The level to network must be around -3 dBm for voice peaks with RX AGC off.
3. With the ADHB-4 and a headset, adjust the Headset gain until you achieve an audio level of -4 dB on the TX VU Meter.
4. Adjust the Mic Gains in the ADHB-4 for any other attached microphone until you reach the same audio level.
The audio level depends on microphone type and location.
5. Adjust the radio TX audio levels out by adjusting the TX Output on the IP-224.

The logo for TELEX, featuring the word "TELEX" in a bold, white, sans-serif font with horizontal lines above and below the letters. It is positioned on a blue background within a larger graphic design of overlapping blue, grey, and white rectangular blocks.

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