

# Terminal Emulation

## Wavelink's TE Client for Android User Guide

Version 1.3

*Revised 02/12/2013*



Copyright © 2013 LANDesk Software, Inc. and its affiliates. All rights reserved.

LANDesk and its logos are registered trademarks or trademarks of LANDesk Software, Inc. and its affiliates in the United States and/or other countries. Other brands and names may be claimed as the property of others.

Website: <http://www.wavelink.com>

LANDesk does not warrant that this document is error free and retains the right to make changes to this document or related product specifications and descriptions at any time without notice. LANDesk does not assume any obligation to update the information contained herein. This document is provided "AS IS" and without any guaranty, warranty, or license, express or implied, including but not limited to: fitness for a particular purpose, merchantability, non infringement of intellectual property, or other rights of any third party. Any LANDesk products referenced in this document are not intended for use in medical, life saving, or life sustaining applications. Third parties may have intellectual property rights relevant to this document and the technologies discussed herein.



## Chapter 1: Installing and Licensing

The Terminal Emulation (TE) Client is an application installed on a mobile device or tablet that connects to IBM 5250/3270, VT100/220, and XTERM hosts. The Client uses the Telnet or SSH protocols to connect to the remote host and emulates the terminal.

The TE Client uses host profiles to configure the host information. Emulation parameters define how the Client acts during the emulation session, such as the beep volume or what to do if the scanned data is larger than the entry field. The TE Client for Android does not have the same options as TE Clients for Windows operating systems.

The TE Client for Android has been optimized for an Android OS, and includes the capability to configure the Client from the device. Client menus and keyboards have been tailored for Android. The Client screen zooms, pans, and reorients based on device orientation. This manual introduces the options and tasks available with a TE Client for Android.

The TE Client is licensed either manually for each device, or by using a Wavelink license server. Contact Wavelink Customer Support to obtain licenses.

The Client can also be configured to connect to a host through a Wavelink ConnectPro proxy server. ConnectPro is an optional component of Terminal Emulation that handles session persistence. ConnectPro acts as a proxy between the mobile device and the emulation host. If the device loses connectivity or goes to sleep, the ConnectPro server maintains the session until the device reconnects. ConnectPro is free with Terminal Emulation but is installed separately. For information on installing and using ConnectPro, see the *ConnectPro User Guide* on the Wavelink Web site.

This section has instructions for installing and licensing the TE Client:

- [Installing the TE Client on Android](#)
- [Licensing the TE Client](#)
- [Uninstalling the TE Client](#)

### Installing the TE Client on Android

In order to install the TE Client for Android on a device, the device must be configured to allow installation of non-Market applications. Use the QR code below or the URL to download and install the app. The TE Client for Android is configured from the mobile device after it is installed.

---

**NOTE:** If you have a previous version of the TE Client installed, you must uninstall before installing the new version.

---



### To install the TE Client for Android:

- 1 Configure the device to allow installation of non-Market applications. (This option is often under **Settings > Applications**.)
- 2 Using the device, scan the QR code or open a browser and navigate Wavelink downloads page. The TE Clients for Android are listed under the Universal Clients. Download the latest Client.



[https://www.wavelink.com/Orders/files/WLTE\\_UNIVERSAL\\_ANDROID\\_1\\_3\\_08\\_3322.apk](https://www.wavelink.com/Orders/files/WLTE_UNIVERSAL_ANDROID_1_3_08_3322.apk)

The device downloads the Client.

- 3 View the device Notifications by pulling down the status bar. The download status of the Client file is displayed. When the Client download is complete, tap the notification to install the Client.
- 4 The installation screen appears. Tap **Install**.
- 5 The app is installed. Tap **Open** to launch the TE Client, or tap **Done**.

## Licensing the TE Client

The TE Client requires a license for full functionality. Emulation licenses may be specific to an emulation type (for example, a license can be issued for VT emulation or IBM emulation).

There are two types of TE Client licenses: platform licenses and maintenance licenses.

- **Platform licenses.** A platform (or base) license authorizes you to use a version of the TE Client and any builds associated with that version. For example, if you purchased a 1.0 TE Client license, then you are entitled to use 1.00-xx builds. If you want to upgrade beyond a version 1.0 TE Client, then you must either buy a new platform license or purchase a maintenance license. Platform licenses do not expire, but they do not allow you to upgrade to a newer version of the TE Client.
- **Maintenance licenses.** A maintenance license allows you to upgrade your TE Client when new major versions of the TE Client become available. For example, a maintenance license would allow you to upgrade from TE Client 1.x to TE Client 2.x. You must have a base license for each maintenance license in use.



Maintenance licenses are valid only through a specific date. After the expiration date, if you upgrade the TE Client, it will revert to operating in demo mode.

You can use the Client without a license, but you will be limited to the demo mode without full functionality. When you attempt to initiate a terminal emulation session, the TE Client will begin broadcasting in an attempt to locate a license server. At that point, you are prompted to either enter a license or to initiate the session in demo mode. While in demo mode, you may initiate terminal emulation sessions with hosts. However, each terminal emulation session that you initiate will automatically disconnect after one hour.

There are two ways to license the TE Client:

- **Manual licensing.** Use the TE Client interface on the mobile device to manually input licensing information.
- **License Server.** Use a License Server to automatically provide TE Client licenses to the mobile devices on your network.

---

**NOTE:** To obtain Terminal Emulation licenses, please contact Wavelink customer service.

---

This section provides the following information:

- [Manually Licensing the TE Client](#)
- [Using the License Server to License the TE Client](#)

## Manually Licensing the TE Client

You may key in your authorization information manually through the TE Client interface on the mobile device. When you manually assign licenses, each device is associated with a unique User Number. For example, to license 50 devices, Wavelink would issue a license with a user limit of 50. Each of the 50 devices would have a different User Number, from 1 to 50.

When you manually configure the licensing information, you must have the following information:

<b>Platform</b>	The emulation type.
<b>Licensee Name</b>	The name of the person or company for which the Client is licensed.
<b>Serial Number</b>	The serial number for the license.
<b>Expiration Date</b>	The expiration date of the license in the format of MMDDYYYY.
<b>Authorization Code</b>	The authorization code for the license.



<b>User Number</b>	A number unique to the device. It can be any number between 1 and the maximum number of users for which the license provides.
<b>User Limit</b>	The maximum number of users for the license.

#### To manually license a TE Client:

- 1 On the device, launch the TE Client.
- 2 Add a license by tapping **Menu > More > Authorization**.
- 3 Tap **Add New License**.
- 4 Provide the license information in the text boxes.
- 5 Tap **Add License**.

### Using the License Server to License the TE Client

The client license server is a Wavelink application that is responsible for supplying licenses to mobile devices that are using the TE Client.

---

**NOTE:** The client license server should not be confused with the Avalanche license server. They are separate Wavelink applications.

---

For information about installing and configuring the client license server, see the *Terminal Emulation License Server Reference Guide* on the Wavelink Web site.

When you use the device to attempt to initiate an emulation session with a host, an unlicensed Client automatically attempts to obtain a license from a license server.

#### To use the license server to obtain a license:

- 1 When you attempt to connect to a host using the TE Client, it broadcasts a request for a license on the local IP network. Or, if you have configured the license server address, the Client sends a request to the specified license server.
- 2 License servers with an available license respond by offering a license.
- 3 The TE Client accepts the first license that it receives and sends a reply to the license server.

### Uninstalling the TE Client

Uninstall the TE Client for Android from the device's Settings menu.

#### To uninstall the TE Client for Android:

- 1 On the device, navigate to **Settings > Applications > Manage Applications**.
- 2 Tap **Terminal Emulation Client**.



3 Tap **Uninstall**.

4 The TE Client is uninstalled.



## Chapter 2: Using the TE Client

Once the TE Client has been installed, the Terminal Emulation app will appear in the list of installed apps. To launch the Client, tap the Terminal Emulation icon. The TE Client works with either a paired Bluetooth scanner or a camera in the device. When you scan data, it appears in the currently selected field.

- To exit the Client, tap **Menu > Exit**.
- To connect to a host, tap the main screen or tap **Menu > Connect**. You will be able to select the host profile from the list that appears.
- To disconnect an emulation session, tap **Menu > Disconnect**.
- To use the camera scanner, tap **Menu > Scan**. When you have scanned the barcode, the camera interface closes and the emulation screen reappears.





## Chapter 3: Configuring the TE Client

You can configure the TE Client either through Wavelink Avalanche or through the installed Client on the device. You do not need to have Avalanche licenses in order to use Avalanche to configure the TE Client.

For details about the host profile options and emulation parameters available, see the sections below.

- [Configuring the TE Client using Avalanche](#)
- [Configuring Host Profiles](#)
- [Configuring Emulation Parameters](#)

### Configuring the TE Client using Avalanche

Use an Avalanche payload to configure SSL certificates, host profiles, or emulation parameters for an Android device. You can configure multiple host profile payloads for each device, but only one emulation parameters payload.

To configure the TE Client using Avalanche, you do not need to have Avalanche licenses.

[To configure the TE Client when the device has an Avalanche license:](#)

- 1 Log in to the Avalanche Console.
- 2 Navigate to the folder where you want the payload created.
- 3 From the Profiles tab, click **Add Payload** in the Available Payloads panel.
- 4 The *Payload* dialog box appears. Select the **All** option, and then the type of payload you want to create.
- 5 Configure the options as desired and click **Save**.
- 6 From the Profiles tab, click **Add Profile** in the Available Profiles panel.
- 7 The *New Profile* dialog box appears. Click **Application Configuration**.
- 8 Create a name for the profile, then select the payload or payloads you want to associate with the profile. Save your changes.
- 9 Select the checkbox next to the name of the profile and click **Apply** in the Available Profiles panel.
- 10 Deploy your changes.

The next time the device checks in, the payload is downloaded. When the TE Client is launched, the new settings are applied and the host profiles are available.



To configure the TE client when the device does not have an Avalanche license:

- 1 Log in to the Avalanche Console.
- 2 Navigate to the folder where you want the payload created.

---

**NOTE:** In the Avalanche navigation tree, there is a Default device folder. If all of your devices are using the same configuration, you may want to use the Default folder. However, if you have devices using different configurations, create a separate folder for each configuration.

---

- 3 From the Profiles tab, click **Add Payload** in the Available Payloads panel.
- 4 The *Payload* dialog box appears. Select the **All** option, and then the type of payload you want to create.
- 5 Configure the options as desired and click **Save**.
- 6 From the Profiles tab, click **Add Profile** in the Available Profiles panel.
- 7 The *New Profile* dialog box appears. Click **Application Configuration**.
- 8 Create a name for the profile, then select the payload or payloads you want to associate with the profile. Save your changes.
- 9 Select the checkbox next to the name of the profile and click **Apply** in the Available Profiles panel.
- 10 Deploy your changes.
- 11 In the Navigation Tree, click the **View** button to view the folder details.
- 12 On the Folder Details page, click **Print QR Code**.
- 13 The QR code for the payloads applied to the folder appears in the browser.
- 14 On the device, launch the TE Client.
- 15 If the TE Client prompts you to scan the QR code, click **OK** and scan the QR code. Otherwise, press the **Menu** button. When the main menu appears, tap **More > Server Configuration > Scan Server Address** and then scan the QR code.

The device connects to the Avalanche server and pulls the configuration information associated with the folder.

## Configuring Host Profiles

A host profile defines the settings that the TE Client should use when it attempts to initiate a connection with a specific host. The host profile may include the emulation type, IP address of



the host, IP address of the TermProxy/ConnectPro server, or other settings. You may configure an unlimited number of host profiles.

When a device user attempts to initiate a session with a host, the TE Client displays a list of available host profiles. The user selects the host he wants to connect to, and the TE Client uses the host profile settings to connect to the host.

Depending on the emulation type, there are different options available when configuring a host profile. The following options may be available when you configure a host profile:

Profile Name	
Profile name	The name of the host profile.
Basic Settings	
Type	The emulation type that the mobile device uses when connected to the host system.
Address	The IP address or host name of the host system to which the mobile device will connect.
Port	The TCP port number on which the host system is listening for emulation requests from Clients.
Only use TermProxy connections	Indicates whether the TE Client should only connect to the host through a TermProxy or ConnectPro server. If you enable this checkbox, you must configure the host information (name, IP address, emulation type, and port).
Use SSL/TLS encryption	<p>Uses SSL/TLS to encrypt the information sent to the host. There is no additional software for SSL/TLS on the Android device, but the host must be configured for SSL/TLS.</p> <p>When you enable SSL/TLS encryption, you must use a certificate. Tap the <b>Manage Certificates</b> button, then tap <b>Insert Certificate</b>. Tap the name of the certificate in the list and then <b>Accept Certificate</b>.</p> <hr/> <p><b>NOTE:</b> The certificate must be saved as <code>certificates.pem</code> on the device in the root directory of the first listed mounted storage (not part of the root file system). This may be internal storage or an SD card.</p> <hr/>
Use SSH encryption	Uses SSH to encrypt the information sent to the host. There is no additional software for SSH on the device, but the host must be configured for SSH.



SSH Settings	
Tunnel Telnet using SSH Local Port Forwarding	Sets whether or not to use tunneling. If you are using 5250 emulation with SSH, you must use SSH tunneling.
Address	The IP address or host name for SSH tunneling.
Port	The TCP port number for SSH tunneling.
User Name	The username for SSH.
Password	The password for SSH.

TermProxy Settings	
Type	The version number of the TermProxy or ConnectPro server.
Address	The IP address or host name of the proxy server.
Port	The TCP port number on which the proxy server is listening for emulation requests from Clients.
Terminate TermProxy Session	<p>Indicates when the ConnectPro or TermProxy server should terminate the connection to the host.</p> <p>Possible Values:</p> <ul style="list-style-type: none"> <li>• <b>Never.</b> The proxy server never terminates the session established with the host. The Client is responsible for terminating the session.</li> <li>• <b>On Network Error.</b> The proxy server terminates the session with the host when a network error occurs, such as a loss of network connectivity.</li> <li>• <b>On Session Exit.</b> The proxy server terminates the session with the host when the session is terminated by the Client.</li> <li>• <b>Always.</b> The proxy server will terminate the session with the host on a network error or when the session is terminated.</li> </ul>
Client Reconnects if Unexpectedly Disconnected	Specifies if the Client will attempt to reconnect if the session with the proxy server is lost and the Client has not received a disconnect message from the proxy server.



TermProxy Settings	
Reconnect string	Specifies the reconnect string that the mobile device should use when connecting to the host. (Alternately, you may configure reconnect strings in TermProxy or ConnectPro.)

  

IBM Settings	
Workstation ID (5250) -Or- LU or Pool Name (3270)	<p>An ID for mobile devices connecting to an IBM host. The ID may include static characters and the following switches, which are used to capture dynamic data specific to each mobile device:</p> <ul style="list-style-type: none"> <li>• <b>%a - %d.</b> Captures specific octets of the IP address of the mobile device. For example, use <code>%a%b%c%d</code> to capture all four IP octets of the address of the mobile device, or use <code>%d</code> to capture only the last octet of the IP address of the mobile device.</li> <li>• <b>%m - %r.</b> Captures specific octets of the MAC address of the mobile device. For example, use <code>%p%q%r</code> to capture the last three octets of the MAC address of the mobile device.</li> <li>• <b>%s.</b> Captures the session number.</li> <li>• <b>%t.</b> Captures the Avalanche terminal ID of the mobile device. (If the mobile device does not have an Avalanche Enabler, then this parameter is not valid.)</li> </ul> <p>A workstation ID can be 1-20 alphanumeric characters plus switches, but IBM hosts usually truncate workstation IDs that are more than 10 characters. The workstation ID should not begin with a numeric character.</p>

  

VT Settings	
Telnet Negotiation String	A Telnet negotiation string for the host connection. A Telnet negotiation string is used to identify a mobile device to a host system and to present a Client with the appropriate emulation options. The host system can then supply information to the mobile device based on Telnet negotiation string (for example, menus or display options). The string can be 1-20 alphanumeric characters.

  

Autologin with IBMHOST	
User Name	The user name the Client should use when connecting to the host.
Password	The password the Client should use when connecting to the host.



Autologin with IBMHOST	
Program/ Procedure	A program/procedure that should run when the Client connects.
Menu	The name of the menu you want displayed when the Client connects.
Current Library	The name of a library the Client should navigate to when it connects.

Autologin with VT			
	Prompts	CFG in Terminal	Responses
Name	The user name prompt that the host system uses. <b>Possible Values:</b> 0 - 60 alpha-numeric characters	If users should configure the response to the login prompt at the mobile device. <b>Possible Values:</b> <Enabled> <Disabled>	The response that the mobile device should send to the login prompt. <b>Possible Values:</b> 0 - 30 alpha-numeric characters
Password	The password prompt that the host system uses. <b>Possible Values:</b> 0 - 60 alpha-numeric characters	If users should configure the response to the password prompt at the mobile device. <b>Possible Values:</b> <Enabled> <Disabled>	The password that the mobile device should send to the host system at the password prompt. <b>Possible Values:</b> 0 - 30 alpha-numeric characters
Command	The command prompt that the host system sends to the TE Client after the login is complete. <b>Possible Values:</b> 0 - 60 alpha-numeric characters	If users should configure the response to the command line prompt at the mobile device. <b>Possible Values:</b> <Enabled> <Disabled>	The command that the mobile device should send the host system at the command prompt. <b>Possible Values:</b> 0 - 30 alpha-numeric characters

Autolaunch	
AutoLaunch Session	The Client attempts to connect to the specified host each time the Client is launched. Only one host profile on the device should have autolaunch set.

To configure a host profile from the device:

- 1 From the TE Client, tap **Menu > Host Profiles**.



- 2 If the password is required, type the password in the text box and tap **OK**. (The default password is `system`.)
- 3 Click **Add New** to create a new host profile, or tap the name of the existing host profile that you want to edit.
- 4 Configure the options as desired and tap **Save**.
- 5 Press the **Back** button to return to the main Client screen.

## Configuring Emulation Parameters

Emulation parameters define how the TE Client behaves while it is connected to a host. This includes sounds and special key functions, as well as the passwords for configuring the Client.

Depending on the emulation type, there are different options available when configuring emulation parameters. The following options may be available:

5250 and 3270 Options	
Enter Key Swapped	Uses the Enter key as Send instead of Field Exit. This option does not affect the keys on the TE virtual keyboards.
Enabler Free Cursor	Allows the user to move the cursor into protected areas of the screen after they use the keyboard to toggle Free Cursor mode.
Oversized Scanning	Determines what to do if scanned data is too large for the entry field.
Retry Workstation ID	Allows the TE Client to retry the workstation ID with a letter appended to it.
Use Enter as Reset	Uses the Enter key as a Reset key if the terminal is in an error state.
Initial Caps Lock state	Sets the keyboard to open with Caps lock on when enabled.

VT Options	
Backspace Key Sends Delete	Sends a delete <7F> instead of a backspace <08> when the backspace key is pressed.
Ignore 8-bit Received Control Codes	Treats 8-bit control codes as extended characters.
New Answer Back	Displays a string on the mobile device when it receives an ENQ from the host. It supports the following variables:



VT Options	
	<ul style="list-style-type: none"> <li>• %m - %r representing the six octets of the MAC address.</li> <li>• %a - %d representing the four octets of the IP address.</li> <li>• %s representing the session number.</li> <li>• %t representing the terminal ID (Avalanche only).</li> </ul> <p>For example, if you want the response to an ENQ to be the full MAC address, use: %m%n%o%p%q%r</p>
VT Line Mode	Simulates line mode behavior for hosts that do not support it.
Initial Caps Lock State	Sets the keyboard to open with Caps lock on when enabled.
Local Echo	Specifies whether the terminal uses local echo to reflect what is sent to the host.
Scan Terminator	Sets information appended each time scanned data is entered.

Authorization Settings	
License Server Port	The port the License Server will be using to provide licenses.
License Server Site ID	The Site ID to use when requesting licenses from the License Server.

Network Settings	
Use Timing Mark Heartbeat	Sends timing marks to the host to determine if the session is still alive.
Log Network Activity	Creates a log of network activity for the session. The log is stored in the first listed mounted storage on the device (not part of the root file system). This may be either internal storage or an SD card.
Log File Max Size (kB)	The maximum size of the session log file. When the log reaches its max file size, the current contents are written to a backup log file and a new log file is started. If a backup log file currently exists, it is overwritten.





Passwords Settings	
Advanced Password	Sets the password for configuring host profiles.
Configuration Password	Sets the password for configuring emulation parameters.

  

Scanner Setting	
Auto Send Scans	Automatically sends to the host after a barcode is scanned. This option is for 5250 and 3270 emulation only.

  

Screen Settings	
Lock Screen Orientation	Locks screen to default orientation for device.
Fixed Screen Mode	Each time a screen is received from the host, the screen is set to display row 1, column 1 in the upper left corner.
Default Font Size	Sets the zoom level when connected to the host. When this is set to 0, the Client will calculate an optimum size.
Disable pan and zoom	Disables the ability to pan and zoom when connected to a host.
Keyboard Height (portrait)	Sets the height of the onscreen keyboard as a percentage of the screen when the device is in portrait orientation.
Keyboard Height (landscape)	Sets the height of the onscreen keyboard as a percentage of the screen when the device is in landscape orientation.
Hide Android Titlebar	Hides the Android title bar.

  

Sounds Settings	
Beep Volume	Sets the volume of the beeper.
Incoming Screen Beep	Beeps when a new screen is sent from the host. This option is for 5250 and 3270 emulation only.
Silent Mode	Disables all TE Client beeping.

To configure a host profile from the device:

- 1 From the TE Client, tap **Menu > Emulation Parameters**.



- 2 If the password is required, type the password in the text box and tap **OK**. (The default password is `config`.)
- 3 Configure the options as desired and tap **Save**.
- 4 Press the **Back** button to return to the main Client screen.



## Wavelink Contact Information

For product downloads or documentation, go to the Wavelink downloads page:

<http://www.wavelink.com/download-software>

For information on contacting Wavelink, please go to:

<http://www.wavelink.com/Customer-Care-Contact-Customer-Care>

