Wavelink TelnetCE Client Scripting Reference Guide

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Chapter 1: Introduction

This document provides information about creating and executing scripts using TelnetCE Client.

This section provides the following information:

- Document assumptions
- Document conventions
- An overview of scripting in TelnetCE Client

Document Assumptions

This document assumes that the reader has the following:

- Knowledge of wireless networks and wireless networking protocols.
- Knowledge of TCP/IP, including IP addressing, subnet masks, routing, BootP/DHCP, WINS, and DNS.
- Knowledge of Wavelink TelnetCE Client.
- Knowledge or rudimentary experience with programming/scripting languages.

Document Conventions

The following section contains information about text-formatting conventions in this manual.

Table 1-1 lists the conventions that are used in this manual.

Convention	Description
`courier new`	Any time you interact directly with text-based user interface options, such as a button, or type specific information into an text box, such as a file pathname, that option appears in the `Courier New` text style. This text style is also used for keys that you press, filenames, directory locations, and status information. For example: Press `ENTER`. Click `OK`.
bold	Any time this document refers to a labelled user interface option, such as descriptions of the choices in a dialog box, that option appears in the **Bold** text style. Examples: Enable the **DHCP** checkbox. Access the TelnetCE Client **Session** menu.
italics	Italicized text is used to indicate the name of a window or dialog box. For example: The *Update Utility* dialog box. The *Profile Manager* dialog box.

Table 1-1: *Text-Formatting Conventions*

About TelnetCE Client Scripting

Wavelink TelnetCE Client includes a Script Editor that gives you the ability to create and execute scripts that automate processes on the TelnetCE Client.

NOTE The Script Editor is included in TelnetCE Client 5.1 and later versions.

The following steps outline the process of creating scripts using the Script Editor:

1 **Launch the Script Editor.**You can launch the Script Editor from the TelnetCE Client or from the Avalanche Manager if you are using Avalanche Manager to deploy the TelnetCE Client.

2 **Create a script using the Script Editor.** You can use the Script Editor to manually create the script code.

-or-

Create a script using the Script Capture option. You can turn on Screen Capture and perform the actions you want included in your script.

3 **Configure an execution method for your script.** You need to select from the available options the way you want to execute your script.

4 **Execute your script from the TelnetCE Client.** Using the activation method you selected for the script, you can activate and execute your script.

TelnetCE Client allows one active script per emulation session. While one script is running, other scripts are not allowed to run. Scripts should be designed to do their action and then immediately exit. This allows the next script to run.

Scripts can only be run while a session is connected to a host. When a connection is dropped, the script is terminated. If you switch between sessions, the script running in the first session will be suspended until that session is returned to being active.

Chapter 2: Launching the Script Editor

This section provides information about how you launch the Script Editor.

Launching the Script Editor from Avalanche Manager

If you are using Avalanche Manager to deploy the TelnetCE Client, you can launch the Script Editor from the Avalanche Manager. Then scripts created by or imported into the Avalanche Script Editor will automatically be deployed to the remote devices.

To launch the Script Editor from Avalanche Manager:

1. Ensure the TelnetCE Client package is installed in Avalanche Manager.
2. From the Tree View in the Avalanche console, right-click the Telnet software package.
3. Select `Configure Package > Script Editor` (Figure 2-1).

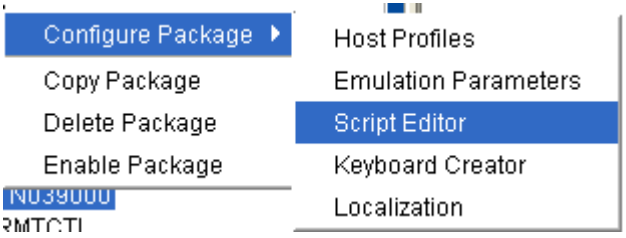


Figure 2-1. *Launching the Script Editor from Avalanche Manager*

The Script Editor opens (Figure 2-2).

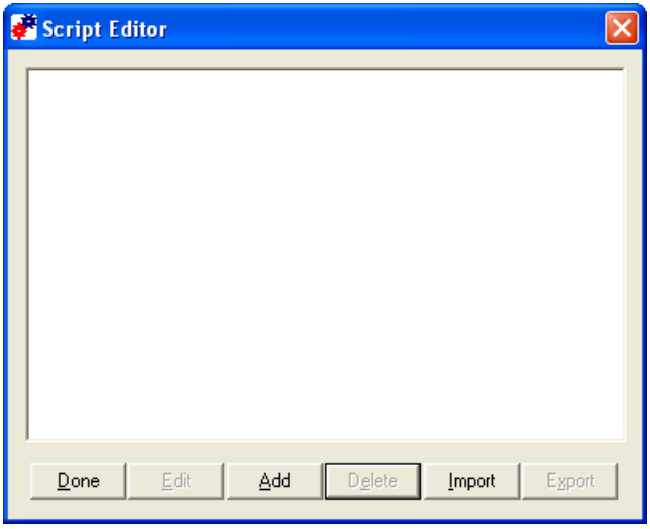


Figure 2-2. *Script Editor*

4 Click `Add` to open the *Script Editor* configuration dialog box (Figure 2-3).

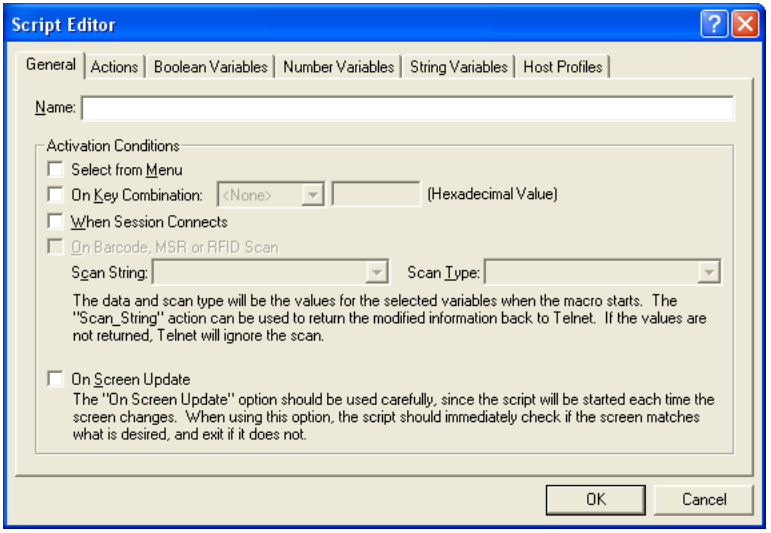


Figure 2-3. *Script Editor Configuration Dialog Box*

Chapter 3: Creating Scripts

This section provides information on creating scripts, including:

- Creating Scripts Manually Using the Script Editor
- Performing Script Capturing
- Editing Scripts
- Importing Scripts
- Saving and Exporting Scripts
- Deploying Scripts
- Syncing Scripts
- Creating a Log File
- Script Nesting

NOTE Screen captures may differ according to device type.

Creating Scripts Manually Using the Script Editor

This section provides information on how to create scripts manually using the Script Editor and includes the following information:

- Configuring the script name
- Configuring the activation method
- Creating the script code
- Creating variables
- Selecting host profiles

Use the following steps to create a script manually:

1 Enter a script name and select an activation method.

2 Use the Actions tab to select actions and build the script code.

3 Use the Boolean Variables, Number Variables, or String Variables tabs to create variables as needed to complete the script (not required).

4 Use the Host Profiles tab to select host profiles that will be associated with this script.

Configuring the Script Name Tab

The script name is the name you will select from when activating the scripts (Figure 3-1).

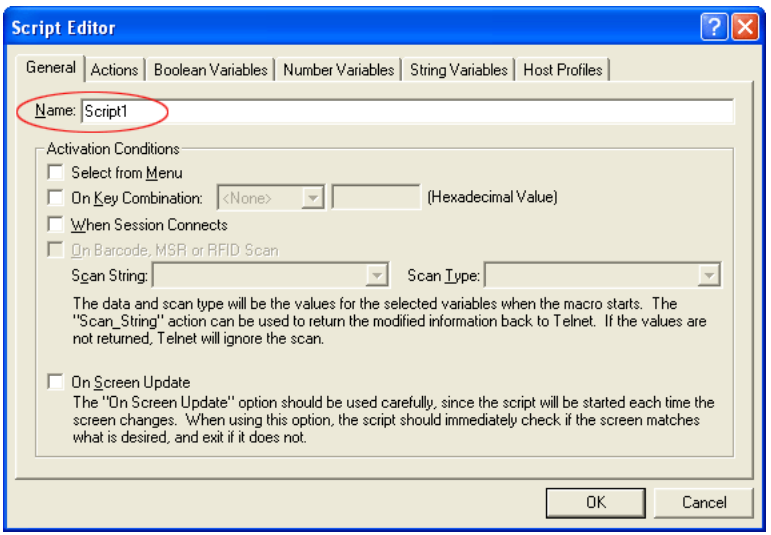


Figure 3-1. *Entering the Script Name*

Selecting the Activation Method

You need to select how you want to activate your script, once it is created. A script with no activation method selected can still be called by another script, but it cannot be activated by itself.

This section provides information about assigning a method of activation to a script. The following is a list of the activation methods:

- Select from menu
- On key combination
- When session connects
- On barcode, MSR or RFID scan
- On screen update

Select from Menu

Scripts with the **Select from Menu** option selected can be run using the menu option in the TelnetCE Client.

To configure the Select from Menu method:

1 Select the General tab or the Activate tab in the Script Editor.

2 Enable the **Select from Menu** option (Figure 3-2).

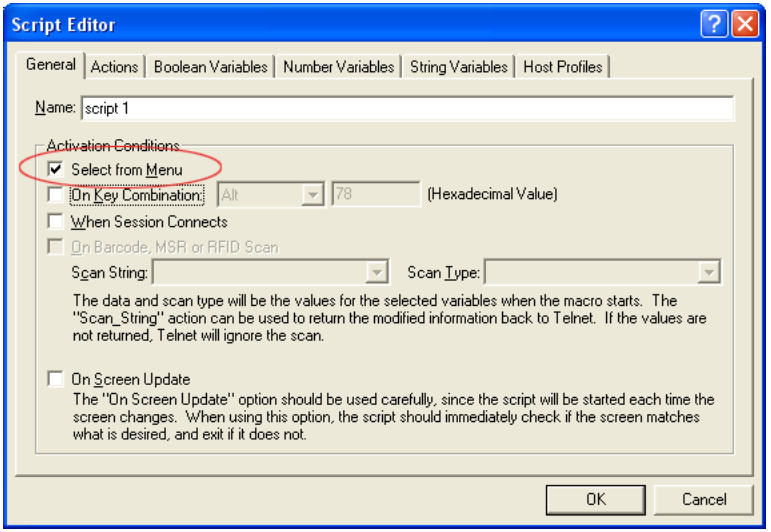


Figure 3-2. *Select from Menu*

3 Click OK.

On Key Combination

This option lets you launch a script whenever a specific key combination is pressed.

NOTE Use the Diagnostic utility to obtain the key value. For more information about using the Diagnostic utility refer to the Wavelink TelnetCE Client User's Guide.

To configure the On Key Combination method:

1 Select the General tab or Activate tab in the Script Editor.

2 Enable the **On Key Command** option (Figure 3-3).

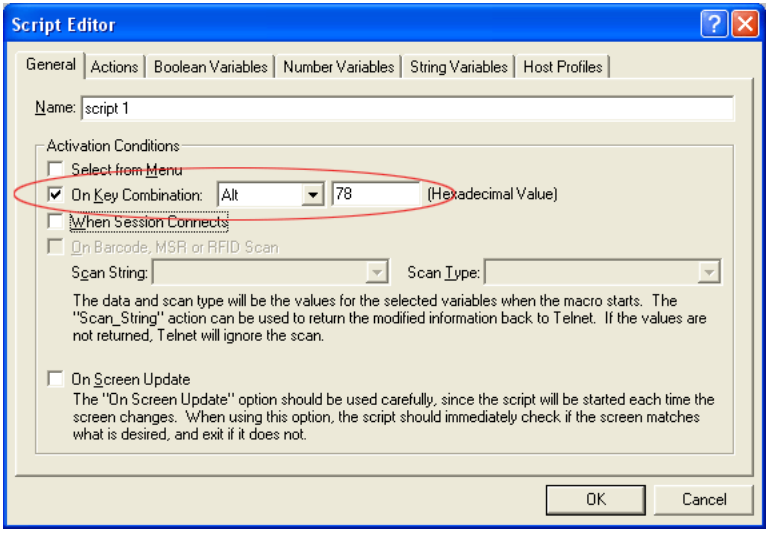


Figure 3-3. *On Key Combination*

3 Use the drop-down menu and text box to assign a key combination to the script.

When Session Connects

This option causes the script to activate when the host profile it supports is activated.

If you use this option, it is strongly recommended that you limit the script to the appropriate host profiles. Since the script will be activated before any information appears on the emulation screen, you will need to have your script wait for the appropriate screen to appear before it does anything. You should not have more than one script set to start when a session begins because the first script started will prevent any other scripts from running while it waits for the initial screen.

Refer to *Selecting Host Profiles* on page 17 for more information.

To configure the When Session Connects method:

1 Select the General tab or Activate tab in the Script Editor.

2 Enable the **When Session Connects** option (Figure 3-4).

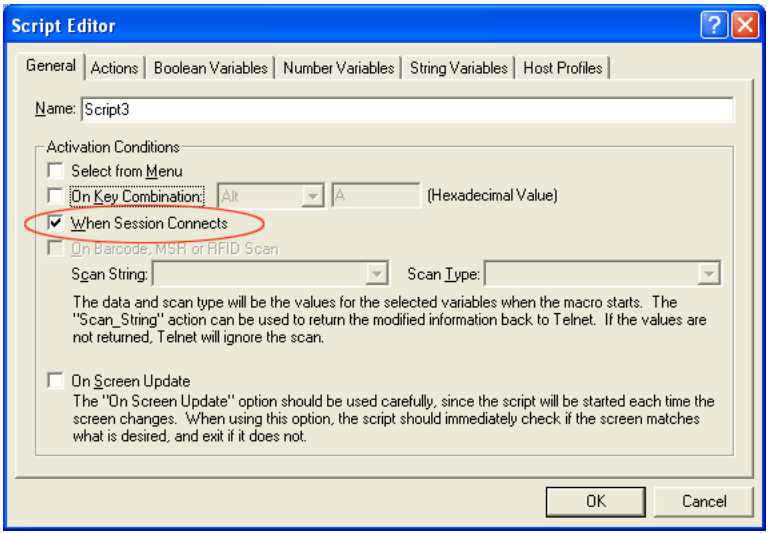


Figure 3-4. *When Session Connects*

3 Click `OK`.

On Barcode, MSR or RFID Scan

If you want to perform some special processing on items scanned into the computer, the scan handler is often powerful enough to make the changes you need. The Scan Handler settings, found in the Configuration Manager, are located in `Emulation Parameters > Scanner > Common > Scan`

`Handler`. However if the Scan Handler is insufficient, then a script should be able to do it.

Before you can have the script activated for a scan, you must create a string variable and a number variable. The string variable allows you to get the initial scan data and the number variable allows you to get the type of scan data. Refer to *Appendix C: Symbologies and Values* on page 79 for the values of different symbologies. You can also use the `Get_Scan_Type_Name` and `Get_Scan_Type_Value` commands to display or handle scan types. Using the GetScanType Value means all types are specified in the editor, you can just pick the one you want to use.

Calling the `Scan_String` command before your script exits allows Telnet to handle the scanning data. Because you are specifying the data and type returned, the script can change either one. If the script exits without calling `Scan_String`, then the scanned data will disappear.

If you wanted to insert a string (which could be just one character long) after the first six characters of any barcode at least six characters long, here is a sample script you could use. ScanData is a string variable with the original barcode and NewString is a variable where we still store the new barcode. ScanType is the number variable that keeps the type of scan data received. OldLength is an integer variable. The string XXYY is what is inserted.

```
    OldLength = String_Length( ScanData )

    If( Number_Greater_Than_Or_Equal( OldLength, 6 ) )

       NewString = String_Combine( String_Left( ScanData,
6 ), "XXYY" )

        NewString = String_Combine( NewString,
String_Right( ScanData, Number_Minus( OldLength, 6 ) ) )

    Else

        NewString = ScanData

    End_If

    Scan_String( NewString, ScanType )

    Return
```

This example will convert any DataMatrix scan values to PDF417 scan values. The ScanData and ScanType variables described for the previous example are used again.

```
    If( Number_Equal( ScanType, Get_Scan_Type_Value(
"DATAMATRIX" ) ) )

        Scan_String( ScanData, Get_Scan_Type_Value(
"PDF417" ) )

    Else

        Scan_String( ScanData, ScanType )

    End_If

    Return
```

To configure the On Barcode, MSR, or RFID Scan method:

1 Create the `Scan_String` and `Scan_Type` variables.

Once you create these variables, the **On Barcode, MSR, or RFID Scan** options becomes available.

You will need to create these variables in the String Variables and Number Variables tabs. Refer to *Creating Variables* on page 15 for information on creating variables.

1 Select the General tab or Activate tab in the Script Editor.

2 Enable the **On Barcode, MSR, or RFID Scan** option.

3 From the drop-down menu, select the `Scan_String`.

4 From the drop-down menu select the `Scan_Type`.

5 Click `OK`.

On Screen Update

This option will cause the script to be activated (if activation is allowed) every time the text on the emulation screen changes. This includes updates from the Telnet host or when the user presses a key and the key value is shown on the screen. It is recommended that you limit the host profiles that the script supports.

The following example generates a script that enters a command each time a particular string appears on the screen:

```
Label: Start:
```

```
   If ( String_Equal( Get_Screen_Text_Columns( 1, 1, 5 ),
“Ready”, 0, FALSE ) )
        Keypress_String( “Proceed” )
        Keypress_Key( “Enter” )
    End_If
    Wait_For_Screen_Update
    Goto: Start
    Return
```

If this script is set to activate when the session first connects, it will work as desired. There is one limitation. Since it is always activated, no other scripts can be activated during the emulation session. Here is an alternate implementation:

```
   If ( String_Equal( Get_Screen_Text_Columns( 1, 1, 5 ),
“Ready”, 0, FALSE ) )
        Keypress_String( “Proceed” )
        Keypress_Key( “Enter” )
    End_If
    Return
```

If this script is set to run each time the screen updates, then you also get the desired behavior; and, since the script is not activated all the time, other scripts can still be activated as well.

NOTE This option should be used carefully, since it can cause a script to be executed very frequently.

To configure the On Screen Update method:

1 Select the General tab or Activate tab in the Script Editor

2 Enable the **On Screen Update** option (Figure 3-5).

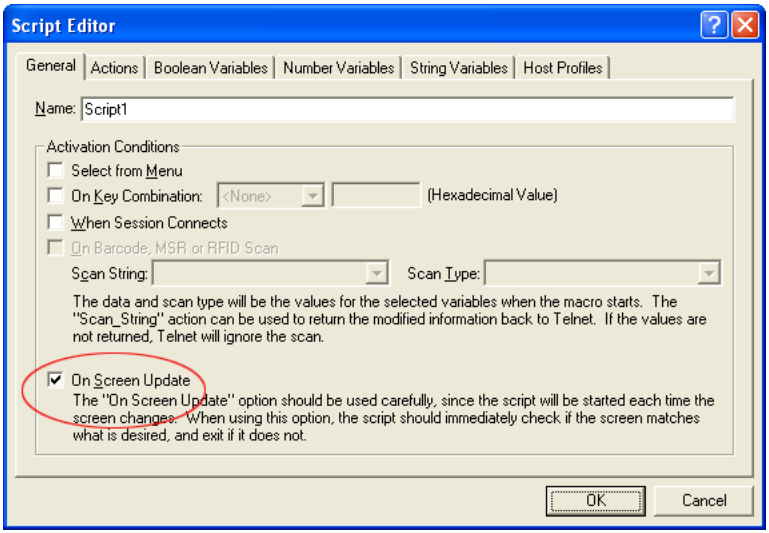


Figure 3-5. *Selecting the On Screen Update Method*

3 Click OK.

Creating the Script Code

Once you have named your script and selected an activation method, you can use the Actions tab in the Script Editor to build the script.

Refer to *Chapter 5: Building an Example Script Manually* on page 37 for a detailed example of creating script code manually.

Creating Variables

There are three types of values recognized by scripting: booleans (TRUE or FALSE values only), numbers (integers), and strings. Every argument for every action is one of these three value types. Every action that returns a value returns one of these types. Variables provide a way to save the result of an action for use later as an argument for another command.

Variables can be created and edited under the appropriate Variable tab while editing the script. It is also possible to create new variables while editing an action.

When a script first starts, all the variables will have known values: boolean variables will be FALSE, number variables will be 0, and string variables will

be empty. One possible exception to this is when a script activates another script. Refer to *Script Nesting* on page 29 for more information.

To create a variable:

1. Determine which type of variable you want to create: boolean, number, or string.
2. From the Script Editor, select the tab that corresponds with the type of variable you want to create.
3. Click `Add`.
4. In the *Edit Variable* dialog box, enter the name of the new variable (Figure 3-6).

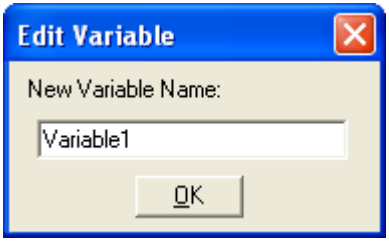


Figure 3-6. *Adding a New Variable*

5. Click OK.

   The new variable appears in the corresponding tab (Figure 3-7).

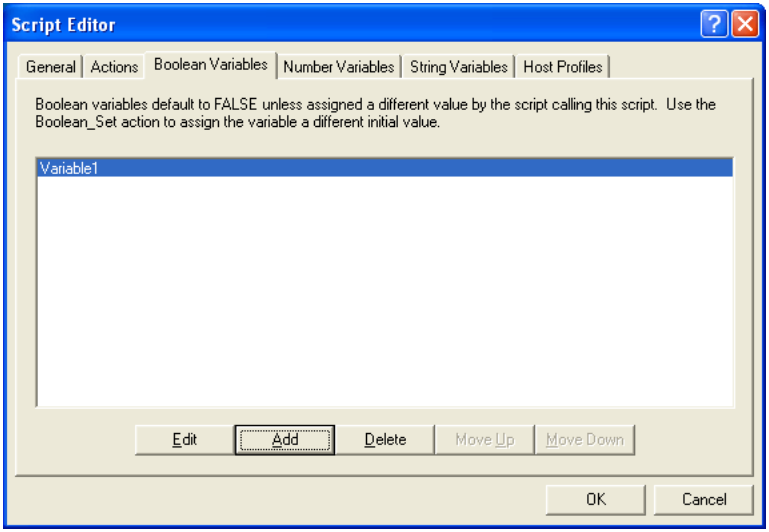


Figure 3-7. *New Variable*

Selecting Host Profiles

For each script, you can specify which host profiles will be supported by that script.You may select host profiles from the Host Profiles tab.

If the script is generated by script capturing, it is a good idea to limit that script to a host profile that was in use when the script was captured. The default - no host profile - allows the script to be run when any host profile is used.

To select host profiles:

1 From the Script Editor, select the Host Profiles tab (Figure 3-8).

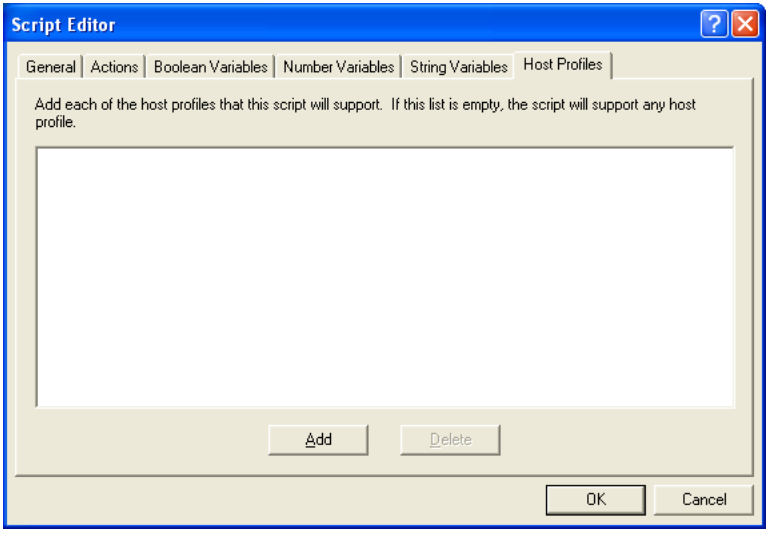


Figure 3-8. *Host Profiles Tab*

2 Click `Add`.

The *Select Host* dialog box opens (Figure 3-9).

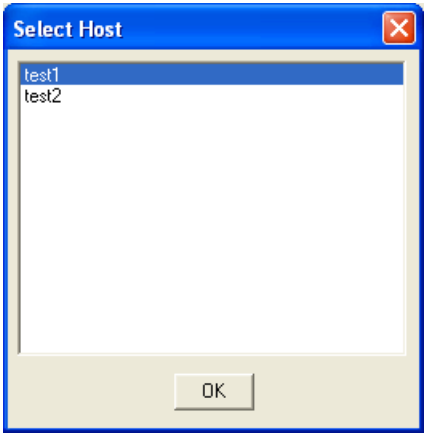


Figure 3-9. *Selecting Host Profiles*

3 Select which host you want to use from the list of Avalanche hosts.

NOTE If you have not created any host profiles, this dialog box will be empty.

4 Click `OK`.

The host appears in the Host tab (Figure 3-10).

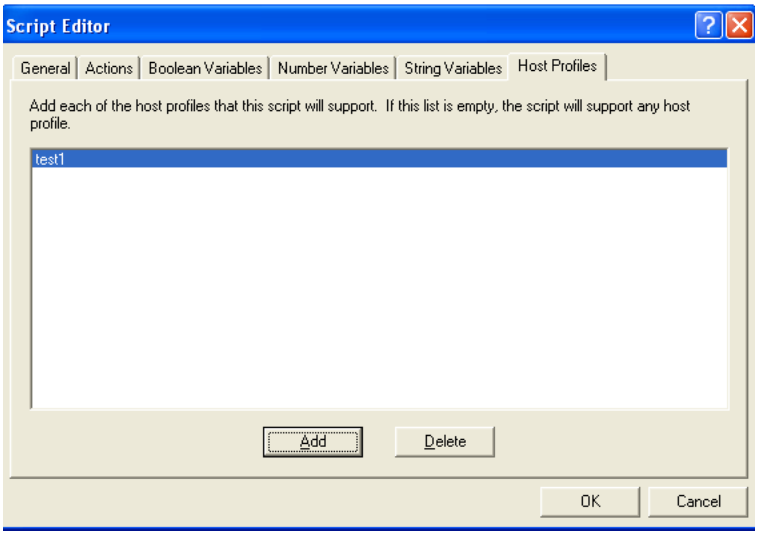


Figure 3-10. *Selected Profile in Host Profiles Tab*

Performing Script Capturing

Script capturing is an easy way to generate a script that will automate doing something you can do manually. While script capturing is turned on, it will capture the key presses and mouse/pen cursor movements so they can be replayed with the script is activated.

To perform a script capture:

1 Position your mouse or cursor at the emulation screen you want to be at when the automated process starts.

2 From the **Term** or **Options** menu, select `Scripting > Start Capture` (Figure 3-11).

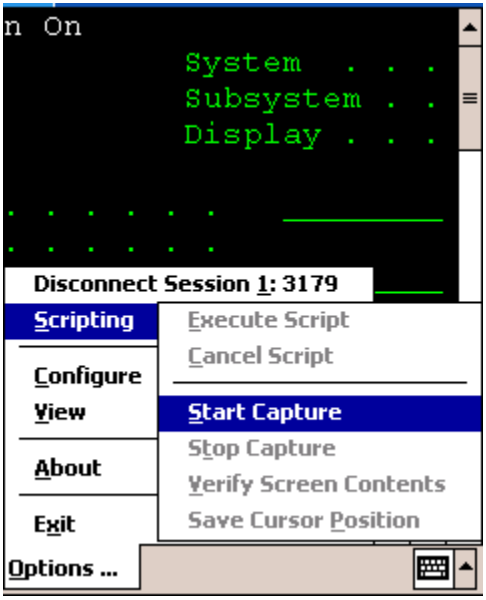


Figure 3-11. *Starting Script Capture*

3 At the prompt, select `Yes` to verify the current screen text (Figure 3-12).

Select `No` if you do not want to verify the current screen text.

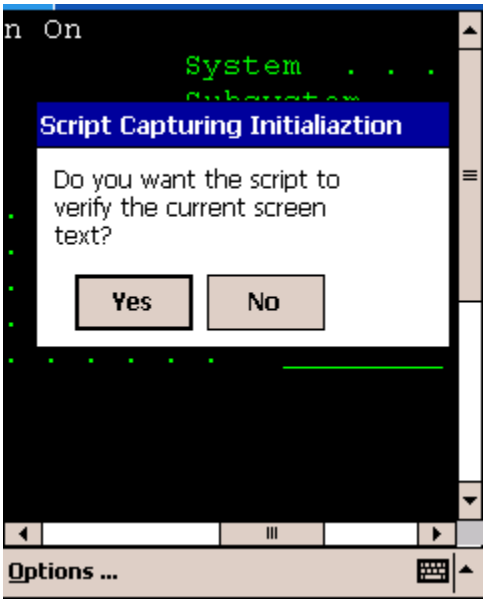


Figure 3-12. *Verifying the Current Screen Test*

Selecting `Yes` makes the captured script start with an `If_not` command that tells the script to exit if the correct screen is not currently shown. Unless you know that your script will only run from the correct screen (for example, a script that is run only when a session first starts, or a script called by another script), you should select `Yes`.

NOTE If you select `No`, click `Verify Screen Contents` and `Save Cursor Position` buttons when you start your script capture. This will cause your script to wait for Telnet to finish updating the screen before processing script actions.

---

4 Perform any actions you want to include in the script.

5 Each time the screen changes, click `Verify Screen Contents` button (Figure 3-13).

NOTE Some devices may only display buttons labeled `Screen`, `Cursor` and `Stop`. The `Screen` button refers to the `Verify Screen Contents` button. The `Cursor` button refers to the `Save Cursor Position` button. The `Stop` button refers to the `Stop Capturing` button.

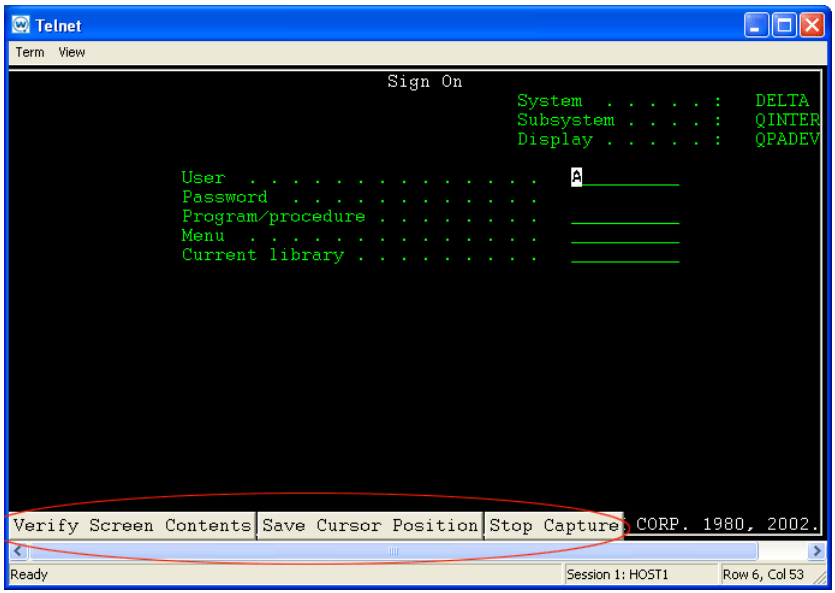


Figure 3-13. *Verify Screen Contents and Save Cursor Position Buttons*

NOTE Clicking the `Verify Screen Contents` button will cause the generated script to pause and wait for the screen to be updated. The pauses are necessary because the scripts can run much faster than the interaction with the Telnet host.

6 When you are finished capturing the behaviors you want in the script, click `Stop Capture`.

Once you have captured a script, Script Editor opens. This allows you to name the script and select an activation method. You would also use the Actions tab to add actions for any error condition that the user may encounter.

Editing Scripts

You can edit scripts that are created manually and scripts that are generated from the script capture option.

To edit scripts:

1 Launch the Script Editor.

2 Select the script you want to edit from the Script Editor script list.

3 Click `Edit`.

4 Make the desired changes in the Script Editor configuration dialog box.

5 Click `OK` to save your changes.

Once you have completed editing the script you have two options:

- Export the script to a specified location using the Export button in the Script Editor. Refer to *Saving and Exporting Scripts* on page 25 for more information.
- Execute the script by launching the TelnetCE Client and performing the activation method you assigned to this script. Refer to *Chapter 4: Executing Scripts* on page 33 for more information.

Importing Scripts

You can use the import button in the Script Editor to import previously created scripts.

NOTE You can only import scripts that have been created using the Script Editor.

To import a script:

1 From the Script Editor, click the `Import` button.

The *Select the Script File* dialog box opens (Figure 3-14).

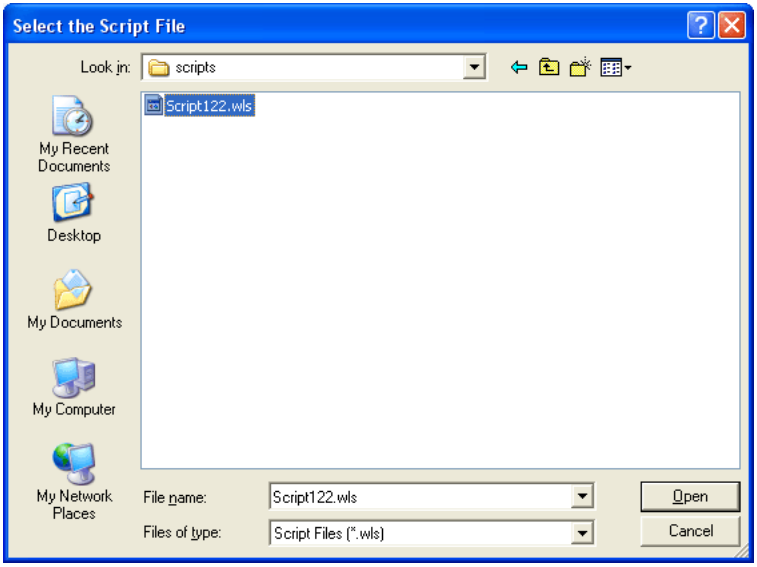


Figure 3-14. *Importing a Script File*

2 Navigate to and select the script file.

3 Click `Open`.

The name of the file is imported into the Script Editor (Figure 3-15).

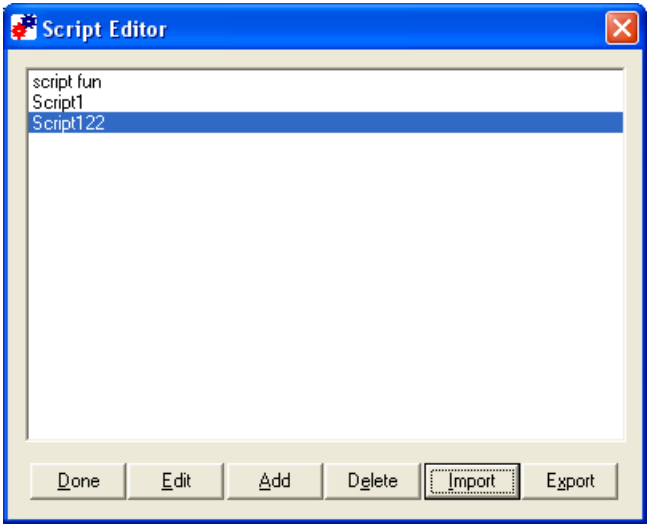


Figure 3-15. *Imported Script File*

Once you have imported the file, you can edit the script. Refer to *Editing Scripts* on page 23 for more information.

Saving and Exporting Scripts

After you finish building a script, your script is automatically saved in the Script Editor. You can also export a script and save it in a specific location on the network.

NOTE Scripts are saved as .wls files. Scripts can not be viewed outside the Script Editor and must be imported back in to the Script Editor to view or edit.

To export a script:

1 From the Script Editor script list, select which script you want to export (Figure 3-16).

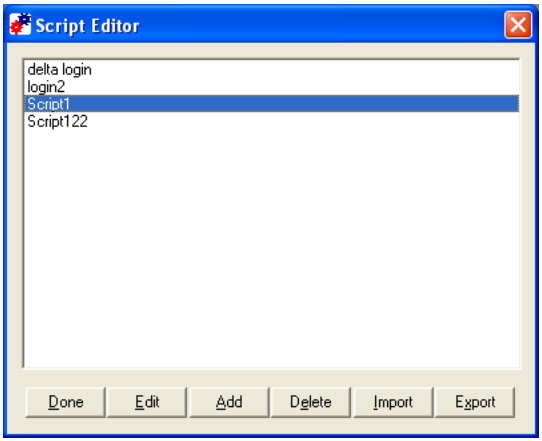


Figure 3-16. *Selecting a Script to Export*

2 Click the `Export` button.

The *Create the Script File* dialog box opens (Figure 3-17).

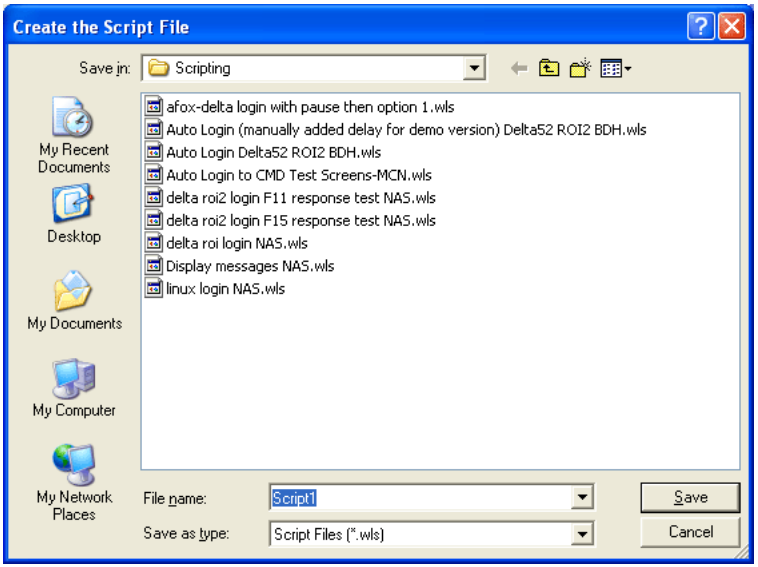


Figure 3-17. *Exporting a Script*

3 Navigate to the location to which you want to export your script.

4 Click `Save`.

To view an exported script you will need to import that script into the Script Editor. Refer to *Importing Scripts* on page 23 for more information.

Deploying Scripts

Scripts are deployed to the TelnetCE Client the next time the client syncs with the Avalanche Manager.

Syncing Scripts

The section provides information about syncing scripts that are edited or created on the mobile device to the Avalanche Manager.

When you create or edit a script on the mobile device, you will need to sync the script to Avalanche Manager. This imports the script into the Script Editor on Avalanche Manager and allows you to edit and modify the scripts from the Avalanche Manager.

To sync a script:

1 From the device list in Avalanche Manager, right-click on the device to which you want to sync.

2 Select `Launch Session Monitor`.

As you connect to session monitor, an *Authorizing* dialog box will open and then the *Sync Script* dialog box will open.

3 Click `Yes` to sync your scripts from the mobile device to Avalanche Manager.

The Script Editor will open and display all scripts.

If you have edited a script on the mobile device that is also saved in the Script Editor in Avalanche Manager both scripts will display in the Script Editor after syncing. The original script will retain named the original name. The script that was edited on the mobile device will have `Telnet` next to the original name.

Creating a Log File

You can create a code that generates a log file using the `Logging_On` and `Logging_Off` commands. Each action executed, with the values of its arguments, and the results of the action is written to the log file. When you configure the `Logging_On` action, you can set the File Path name to where the log file will be stored.

When a script is calling another script, the logging for the script calling is suspended. Logging is resumed when the called script exits and the suspended script resumes. It is possible to have a script called by another script (or a script calling itself recursively) use the same logging file.

Entering the Logging_On Action

You need to include a Logging_On action in your script code to generate a log file. Place the Logging_On action at the point you want to begin

To enter the Logging_On action:

1. From the Actions tab, click the `Insert` button.
2. From the Actions drop-down menu, select `Logging_On`.
3. Click the File Path tab.
4. In the **Constant String** text box, enter the file location where you want the log file stored.
5. Click the Overwrite tab.
6. Set the **Override Previous** option to TRUE or FALSE according to preference.

   When you set the **Override Previous** option to FALSE, the latest log file will not replace the existing file. Instead, a separate log file will be created for each log.

   When you set the **Override Previous** option to TRUE, the most recent log file will replace the existing log file.

NOTE Because logging will slow the performance of Telnet, and will take up space on your devices, it is usually a bad idea to include it in end-user scripts. Set the **Override Previous** value be TRUE to keep the log files from getting too large.

7 Click `OK`.

The code is added to the Actions tab.

Entering the Logging_Off Action

If the script exits, logging will automatically be terminated, so you usually will not need the `Logging_Off` action. However, if you only want to log a portion of the script, you can enter a `Logging_Off` action to stop the logging.

To enter a Logging_Off action:

1 From the Actions tab, click the `Insert` button.

2 From the **Actions** drop-down menu, select `Logging_Off`.

3 Click `OK`.

The code will be added to the Actions tab.

Script Nesting

It is possible to have a script call another script or itself. This makes it easier to take a block of functionality and use it multiple times or to solve problems that can be described recursively.

A factorial is the product of all positive integers from 1 to the given number. For example, the factorial of 5 (usually written as 5!) = 1 x 2 x 3 x 4 x 5 = 120. Here is an example of a script that uses recursion (a script calling itself) to calculate factorials:

```
If( Number_Equal( ArgumentValue, 1 ) )
    Comment: The factorial of 1 is 1
    Return
```

```
    End_If

    If( Number_Not_Equal( ArgumentValue, 0 ) )

       Comment: The factorial of X is X multiplied by the
factorial of X - 1

        Temp = ArgumentValue

        ArgumentValue = Number_Minus( Temp, 1 )

        Call: Factorial

            ArgumentValue <-> ArgumentValue

        ArgumentValue = Number_Multiply( Temp,
ArgumentValue )

        Return

    End_If

    ArgumentValue = Ask_Number( "Enter a number:",
"Factorial Calculator", 1, 12, 0 )

    Call: Factorial

        ArgumentValue <-> ArgumentValue

    Ask_OK( String_Combine( "The factorial is ",
Number_To_String_Decimal( ArgumentValue ) ), "Result" )

    Return
```

This script uses two integer variables, ArgumentValue and Temp.

When a script calls another script, the calling script can assign values to the called script's variables. The factorial example script knows it is being called recursively because the ArgumentValue variable is not 0. If ArgumentValue is 0, then the script will ask for the number to calculate the factorial with. Each time the script is called, the ArgumentValue variable of the calling script is assigned the final value in the called script's ArgumentValue variable. This keeps the results of the called script's actions from being lost. (If the value were not returned, then there would be a "<--" instead of a "<->" in the Call action's argument list.) When you add the action for calling a script, you need to specify which variables in the called script will be assigned a value, and what that initial value will be.

NOTE If you wanted to be more efficient, you could create a `While` loop that performs the multiplications to calculate the factorial. You could also return the proper response for each factorial, since numbers higher than 12 exceed the maximum number value. However, there are some problems that are easiest to solve using recursion. The example above should give you an idea how you could go about using it.

Chapter 4: Executing Scripts

When you create a script, you configure an activation method for that script. This section provides information about activating scripts using each of the following activation methods:

- Select from Menu
- On Key Combination
- When Session Connects
- On Barcode, MSR, or RFID Scan
- On Screen Update

For information on assigning an activation method to a script, refer to *Selecting the Activation Method* on page 8.

NOTE Screen captures may differ according to device type.

Select from Menu

This option allows you to activate a script from the menu.

To activate a script using the Select from Menu option:

1 Launch the TelnetCE Client.

2 From the **Term** menu, select `Scripting > Execute Script` (Figure 4-1).

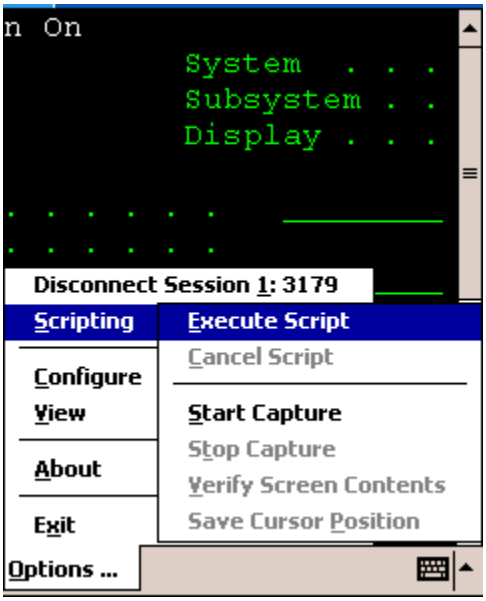


Figure 4-1. *Executing a Script from the Menu*

3 If more than one script is available for the current host profile, select which script you want to use from the list.

NOTE This option will not be available while a script is running for the current session or if the session is not connected.

On Key Combination

This option lets you launch a script whenever a specified key combination is pressed (as long as it is currently possible for script to run).

To execute a script on key combination:

1 Launch the TelnetCE Client.

2 Enter the key combination you assigned to execute the script.

When Session Connects

This option causes the script to activate when the host profile it supports is activated.

To execute when the session connects:

1. Launch the TelnetCE Client.
2. From the **Term** or **Options** menu, select `Connect`.
3. Select to which host you want to connect.
4. Click `OK`.

The script will run upon connection.

On Barcode, MSR, or RFID Scan

When this option is assigned to a script, the script will activate with each barcode, MSR, or RFID scan.

On Screen Update

This option causes the script to be activated (if activation is allowed) every time the text on the emulation screen changes. This includes updates from the Telnet host or when the user presses a key and the key value is shown on the screen.

Chapter 5: Building an Example Script Manually

This section provides information about creating the following example script:

```
Comment:Verify that this is the desired screen
If_Not(String_Equal(Get_Screen_Text_Length(1, 36, 7),
“Sign On”, 0, FALSE))
Return
End If
Set_Cursor_Positiong(6, 53)

Message(“Starting Script” 3)

Keypress_String(“User Name”)
Keypress_Key(“Down Arrow”)
Keypress_String(“Password”)
Keypress_Key(“Enter”)

Comment:Wait for the desired screen.

While_Not(String_Equal(Get_Screen_Text_Length(11, 1, 16),
“9. FUNCTION KEYS”, 0, FALSE))
Wait_For_Screen_Update
End_While

Keypress_String( “9” )

Message( “String Done”, 3)
Return
```

NOTE Screen captures may differ according to device type.

NOTE The purpose of this example is to demonstrate (step-by-step) how to create a script. Values, names and variables are used for example purposes only. These values may differ according to each device type and operating system.

Creating the Example Script

The following are the steps to create this example script:

1 Launch the Script Editor.

2 Name the script and select an activation method.

3 Build the script code.

Launching the Script Editor

Launch the Script Editor from the Avalanche Manager or from the TelnetCE Client.

For detailed instructions about launching the Script Editor, refer to *Chapter 2: Launching the Script Editor* on page 5.

Naming the Script and Selecting the Activation Method

In the General tab, name the script and select which method you want to use to activate the script once it is complete.

For detailed instructions, refer to *Configuring the Script Name Tab* on page 8 and *Selecting the Activation Method* on page 8.

Building the Script Code

Once you name your script and select an activation method, you can begin entering the code. You build the code in the Actions tab.

The steps to enter the sample code are divided into the three main sections of the sample code:

1 Verifying the script starts on the right screen.

2 Entering the user name and password.

3 Verifying the script is on a specific screen and then selecting a menu from that screen.

Verifying the Script Starts on the Correct Screen

This portion of script verifies that the script is starting on the right screen and sets the correct cursor position. If the script is not on the right screen, the script will end. Once the script verifies that it is starting on the right screen, a message displays “Starting Script.”

To build the script code:

1 From the Actions tab, click the `Insert` button.

The *Action Editor* dialog box opens.

2 From the Actions drop-down menu, select `Comment`.

3 Click the Comment tab and enter `Verify that this is the desired screen` in the **Constant String** text box.

NOTE The comment could be any string you want. This is just an example of what you could enter.

---

4 Click `OK`.

The code is added to the Actions tab (Figure 5-1).

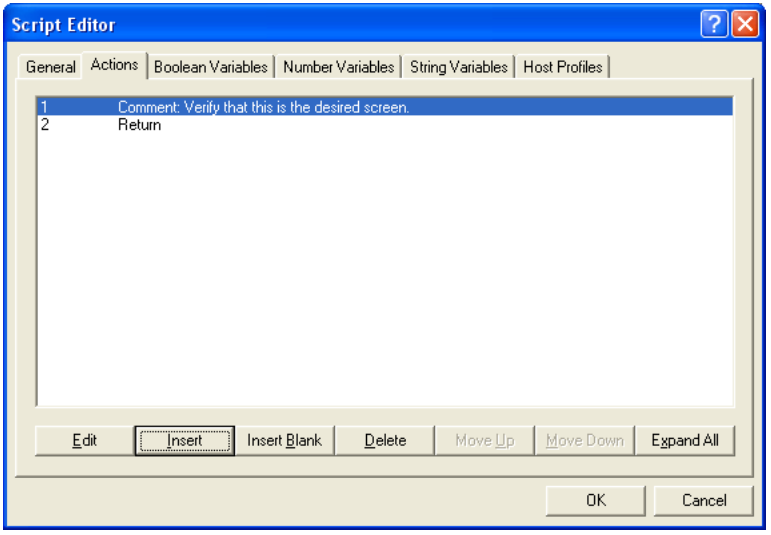


Figure 5-1. *Entering a Comment*

5 Click the `Insert` button.

6 From the **Actions** drop-down menu, select `If_Not`.

7 Click the Test tab.

8 Enable the **Action** drop-down option and select `String_Equal` from the drop down menu.

9 Click the `Edit Action Value` button.

10 Click the Test 1 tab.

11 Enable the **Action** drop-down option and select `Get_Screen_Test_Length` from the drop down menu.

12 Click the `Edit Action Value` button.

13 Click the Row tab and enter the number `1`.

14 Click the Column tab and enter the number `38`.

15 Click the Maximum Length tab and enter the number `7`.

16 Click `OK`.

17 Click the Test 2 tab and enter `Sign On` in the **Constant String** text box.

18 Click the Maximum Length tab and enter the number `0` in the **Constant Number** text box.

19 Click the Ignore Case tab and enable the `False` option.

20 Click `OK` until you return to the Actions tab in the Script Editor.

The code is added to the Actions tab (Figure 5-2).

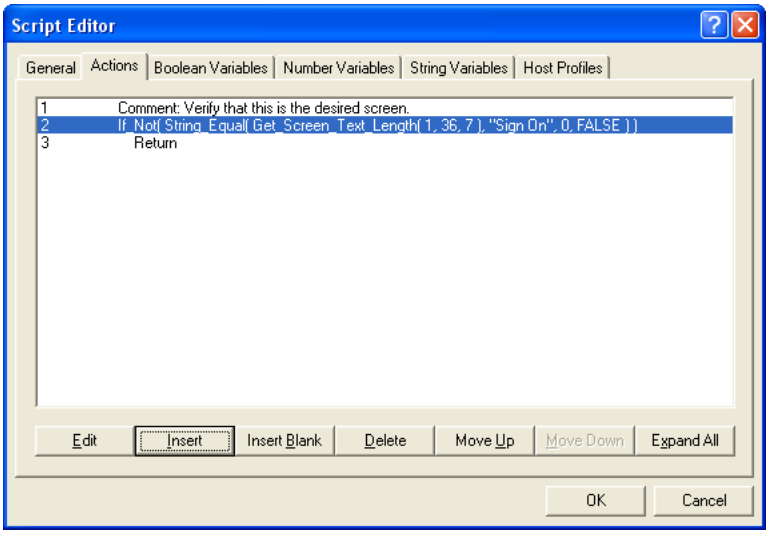


Figure 5-2. *Entering an IF_Not Action*

21 Click the `Insert` button

22 From the **Actions** drop-down menu, select `Return`.

23 Click `OK`.

The code is added to the Actions tab (Figure 5-3).

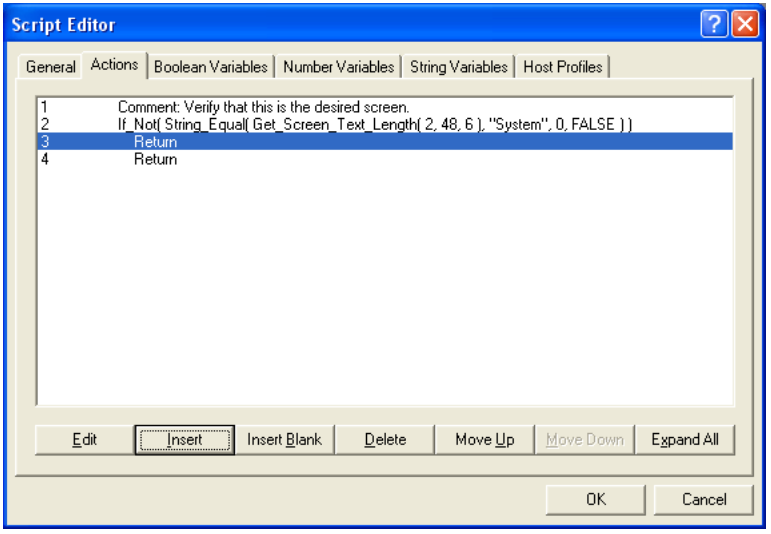


Figure 5-3. *Entering a Return*

24 Click the `Insert` button.

25 From the **Actions** drop-down menu, select `End_If`.

26 Click `OK`.

The code is added to the Actions tab (Figure 5-4).

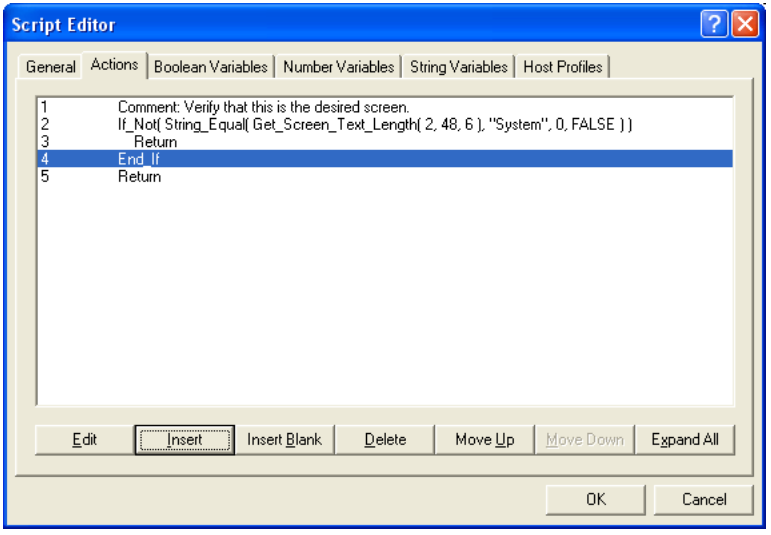


Figure 5-4. *Entering the End_If Action*

27 Click the `Insert` button.

28 From the **Actions** drop-down menu, select `Set_Cursor_Position`.

29 Click the Row tab and enter `6` in the **Constant Number** text box.

30 Click the Column tab and enter `53` in the **Constant Number** text box.

31 Click `OK`.

The code is added to the Actions tab (Figure 5-5).

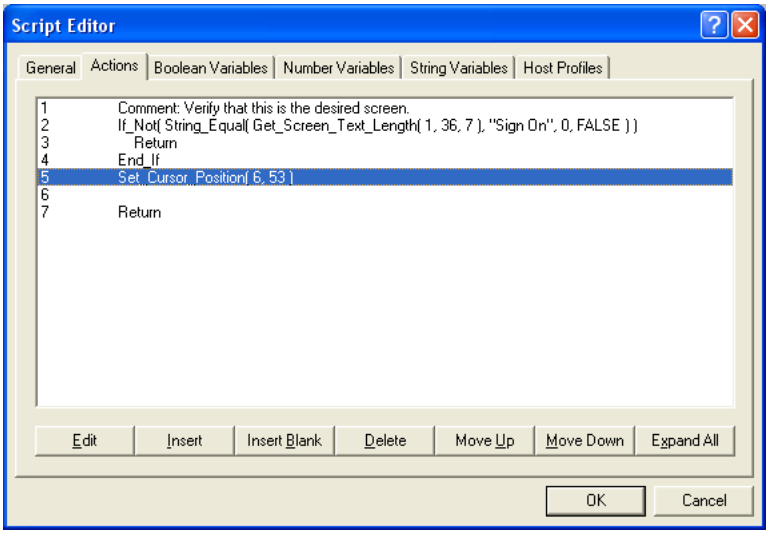


Figure 5-5. *Entering the Set_Cursor_Position Action*

32 From the Action tab, click the `Insert Blank` button to insert a blank line in the code.

33 Click the `Insert` button.

34 From the **Actions** drop-down menu, select `Message`.

35 Click the Message tab and enter `Starting Script` in the **Constant Number** text box.

This code enables a message that displays “Starting Script” to appear on the screen.

36 Click the Timeout (Seconds) tab and enter the number `3` in the **Constant Number** text box.

37 Click `OK`.

The code is added to the Actions tab (Figure 5-6).

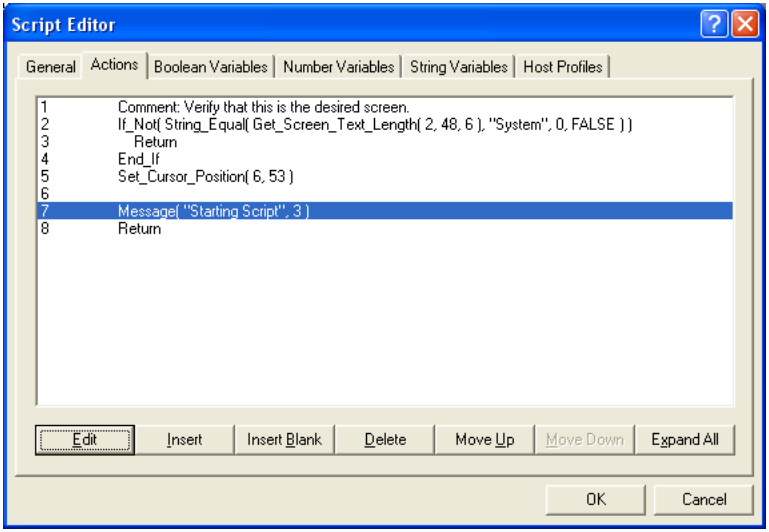


Figure 5-6. *Entering the Message Code*

Entering the User Name and Password

This portion of the script enters the login information.

To build the script code:

1. Click the `Insert Blank` button to insert a blank line in the code.
2. Click the `Insert` button.
3. From the **Actions** drop-down menu, select `Keypress_String`.
4. Click the Characters tab and enter `User Name`.
5. Click `OK`.

   The code is added to the Actions tab (Figure 5-7).

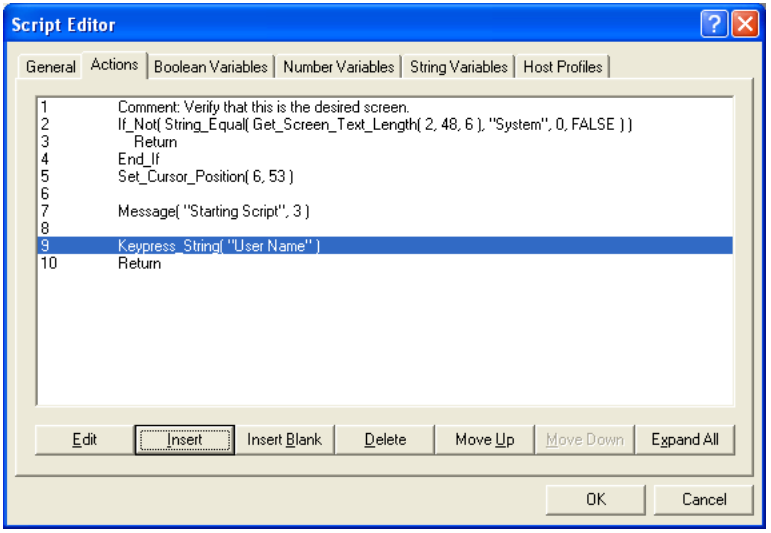


Figure 5-7. *Entering the User Name Code*

6 Click the `Insert` button.

7 From the **Actions** drop-down menu, select `Keypress_Key`.

8 Click the Key tab.

9 From the **Emulation** drop-down menu, select the emulation type.

10 From the **Key** drop-down menu, select `Down Arrow`.

11 Click `OK`.

The code is added to the Actions tab (Figure 5-8).

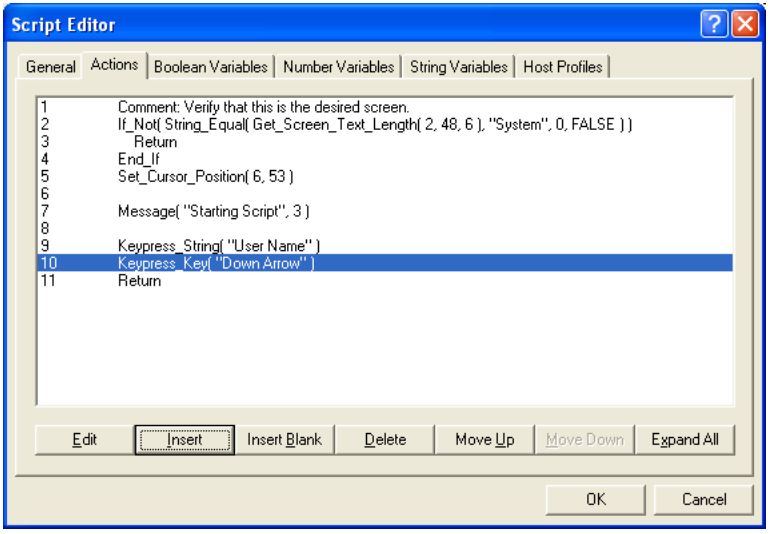


Figure 5-8. *Entering the Down Arrow Keypress*

12 Click the `Insert` button.

13 From the **Actions** drop-down, select `Keypress String`.

14 Click the Character tab and enter `Password` in the **Constant String** text box.

15 Click `OK`.

The code is added to the Actions tab (Figure 5-9).

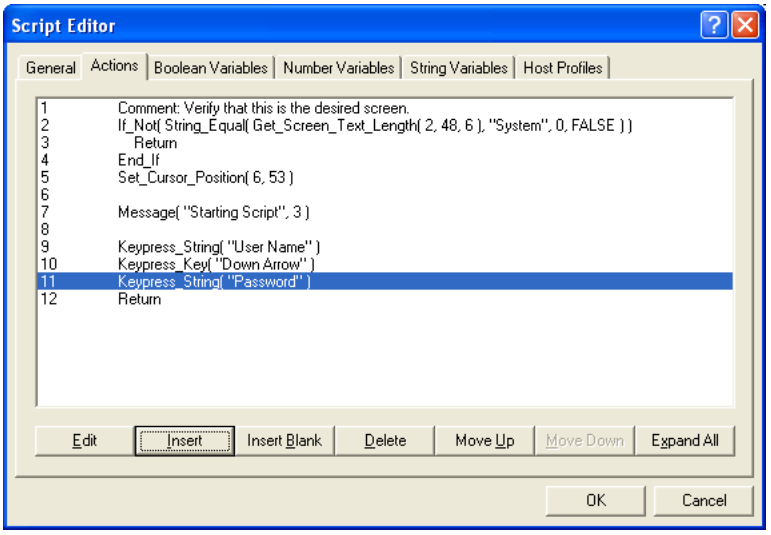


Figure 5-9. *Entering the Password Action*

16 Click the `Insert` button.

17 From the **Actions** drop-down menu, select `Keypress_Key`.

18 Click the Key tab.

19 From the **Emulation** drop-down menu, select your emulation type.

20 From the **Key** drop-down menu, select `Enter`.

21 Click `OK`.

The code appears in the Actions tab (Figure 5-10).

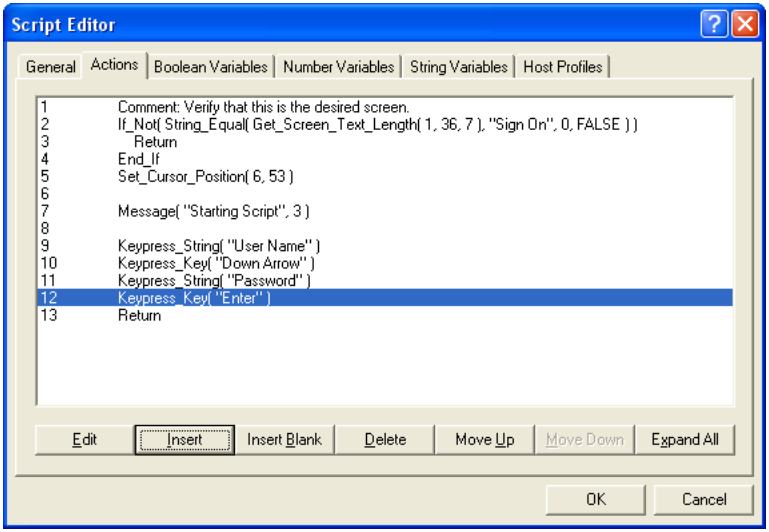


Figure 5-10. *Entering an Enter Action*

Verifying the screen and navigating to a menu

This portion of the code verifies that you are on the correct screen after login. If you are not on the correct screen, the script will wait until the correct screen appears. Once the you are on the correct screen, the script navigates to a specific menu. The script displays the message "Script Done" and the script exits.

To build the script code:

1. Click the `Insert Blank` button.
2. Click the `Insert` button.
3. From the **Action** drop-down menu, select `Comment`.
4. Click the Comment tab and enter `Wait for desired screen`.
5. Click `OK`.

   The code appears in the Actions tab (Figure 5-11).

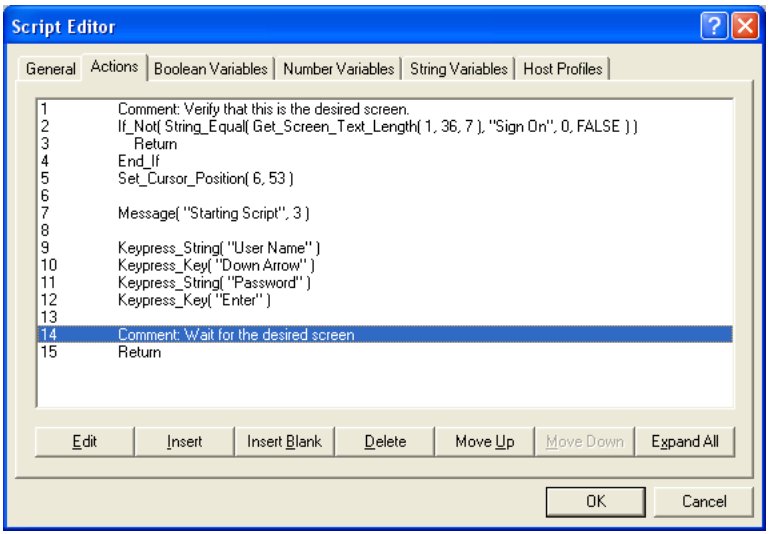


Figure 5-11. *Entering the Delay Action*

6 Click `Insert`.

7 From the **Actions** drop-down menu, select `While_Not`.

8 Click the Test tab.

9 From the **Actions** drop-down menu, select `String_Equal`.

10 Click the `Edit Action Value` button.

11 Click the Test 1 tab.

12 From the **Action** drop-down menu, select `Get_String _Text_Length`.

13 Click the Test 2 tab and enter 9. FUNCTION KEYS in the Constant String text box.

14 Click the Maximum Length tab and enter the number 0 in the Constant Number text box.

15 Click the Ignore Case tab and enable the FALSE option.

16 Click the Test 1 tab.

17 Click the `Edit Action Value` button.

18 Click the Row tab and enter the number `11` in the **Constant Number** text box.

19 Click the Column tab and enter the number `1` in the **Constant Number** text box.

20 Click the Maximum Length tab and enter the number `16` in the **Constant Number** text box.

21 Click `OK` until you return to the Action tab.

The code is added to the Action tab (Figure 5-12).

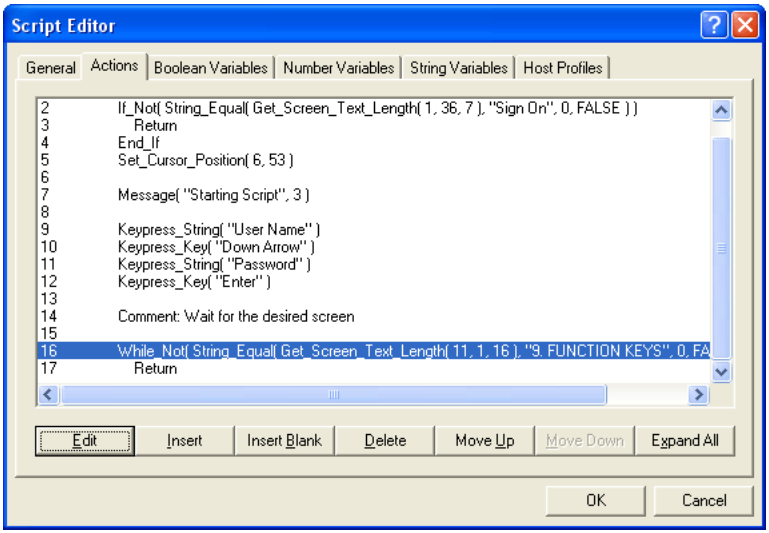


Figure 5-12. *Entering a While_Not Statement*

22 Click the `Insert` button.

23 From the **Actions** drop-down menu, select `Wait_For_Screen_Update`.

24 Click `OK`.

The code appears in the Actions tab (Figure 5-13).

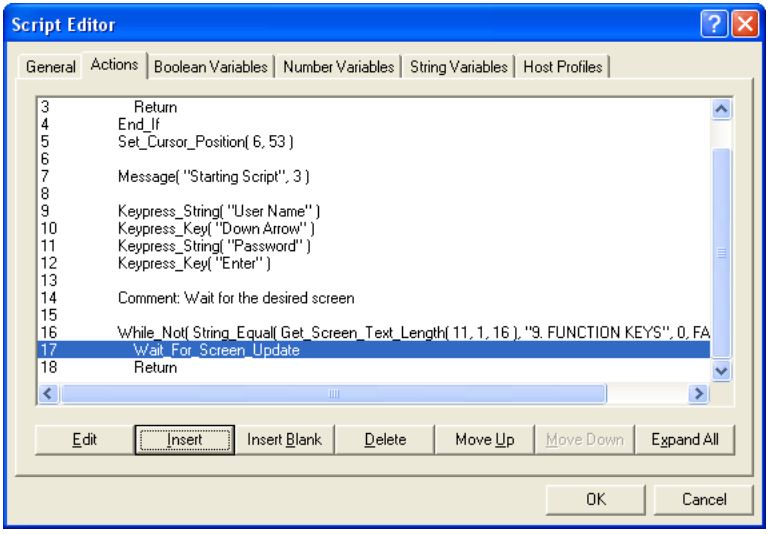


Figure 5-13. *Entering a Wait_For_Screen_Update Action*

25 Click the `Insert` button.

26 From the **Actions** drop-down menu, select `End_While`.

27 Click `OK`.

The code appears in the Actions tab (Figure 5-14).

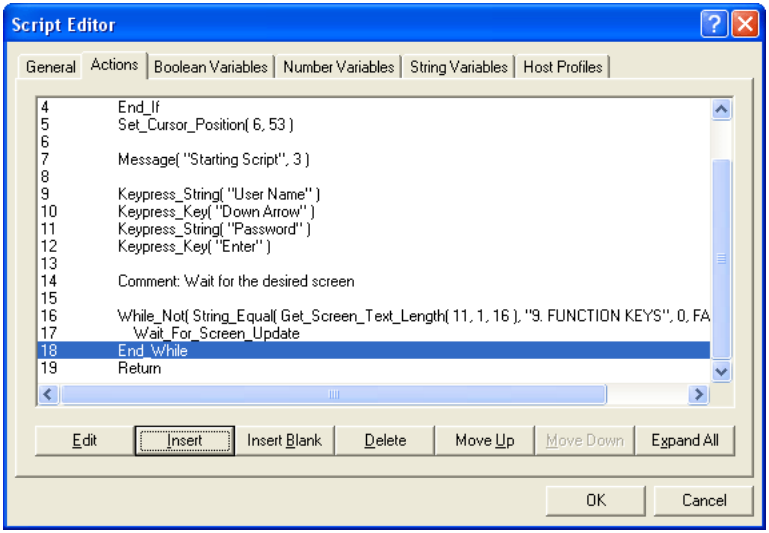


Figure 5-14. *Entering an End_While Action*

28 Click the `Insert Blank` button to insert a blank line in the code.

29 Click the `Insert` button.

30 From the **Actions** drop-down menu, select `Keypress_String`.

31 Click the Characters tab and enter the number `9` in the **Constant String** text box.

32 Click `OK`.

The code is added to the Actions tab (Figure 5-15).

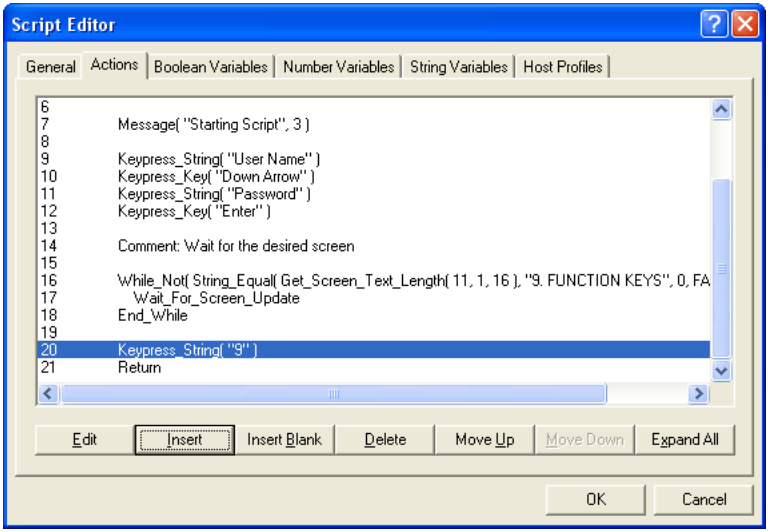


Figure 5-15. *Entering a Keypress Action*

33 Click the `Insert Blank` to insert a blank line in the code.

34 Click the `Insert` button.

35 From the **Actions** drop-down menu, select `Message`.

36 Click the Message tab and enter `Script Done` in the **Constant String** text box.

37 Click the Time(Milliseconds) tab and enter the number `3` in the **Constant Number** text box.

38 Click `OK`.

The code is added to the Actions tab (Figure 5-16).

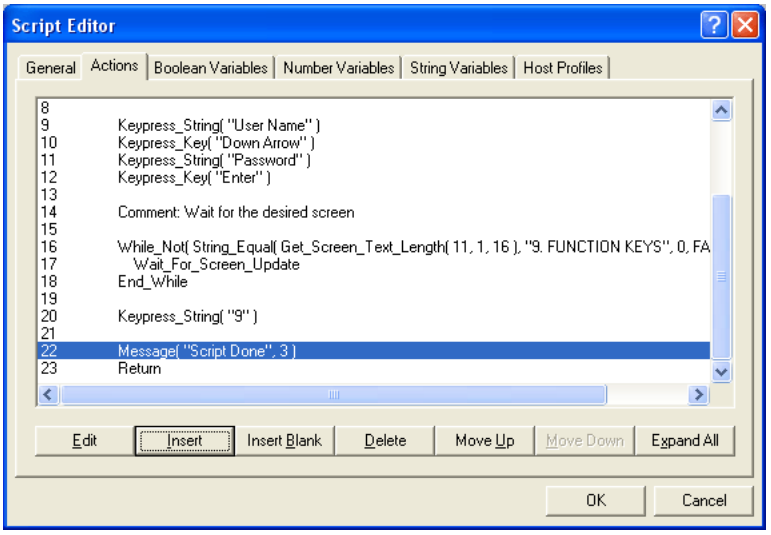


Figure 5-16. *Entering a Message Action*

The code is now complete.

39 Click `OK` to save the code in the Script Editor script list.

Once you have completed building the script you have two options:

- Export the script to a specified location using the Export button in the Script Editor. Refer to *Saving and Exporting Scripts* on page 25 for more information.
- Execute the script by launching the TelnetCE Client and performing the activation method you assigned to this script. Refer to *Chapter 4: Executing Scripts* on page 33 for more information.

Appendix A: Examples

This appendix provides example scripts.

Example 1: Beep

This is an example of a script that tells the device to beep is the word ALARM appears on the top five rows of the screen.

Example Code

```
If_Not( Search_Screen( "ALARM", 1, 5, FALSE ) )
    Return
End_If
Beep( 1000, 200, 5 )
Delay( 200 )
Beep( 1500, 500, 9 )
Return
```

Notes

This example should be set to activate each time the screen changes. In the real world, you would want to make sure that the “ALARM” text disappears quickly after being shown. Otherwise, the alarm will go off each time the screen updates (because the user pressed a key, each character from a bar code scanned was shown on the screen, etc.).

Here is an alternate implementation that will wait for the “ALARM” text to disappear. The limitation with this version, of course, is that no other scripts will be able to run until the “ALARM” text is removed from the screen.

```
If_Not( Search_Screen( "ALARM", 1, 5, FALSE ) )
    Return
End_If
Beep( 1000, 200, 5 )
Delay( 200 )
Beep( 1500, 500, 9 )
```

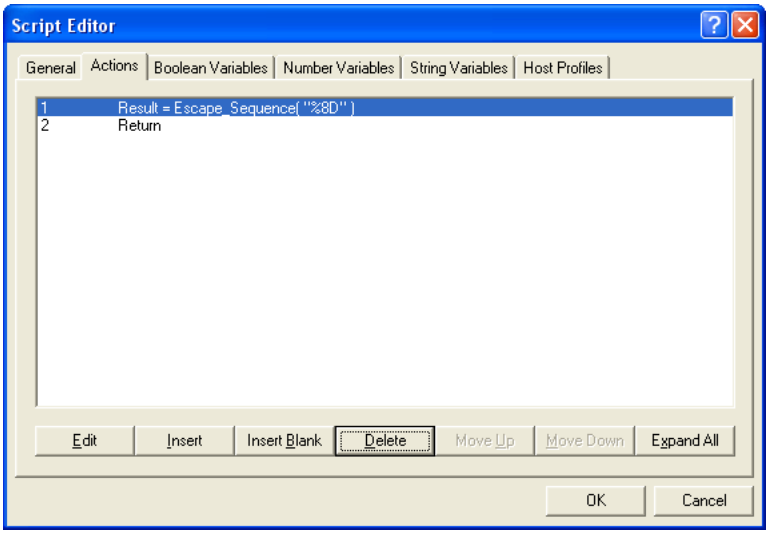
```
While( Search_Screen( "ALARM", 1, 5, FALSE ) )
    Wait_For_Screen_Update
End_While
Return
```

Example 2: Escape Sequence

This is an example of using an escape sequence to turn off the Codabar symbology.

Example Code

```
Result = Escape_Sequence( "%8D" )
Return
```



Creating an Escape Sequence Script

Notes

You will need to create a string variable named **"Result"** for this example, since the *Escape_Sequence* command returns a string value.

Refer to *Creating Variables* on page 14 for more information on creating variables.

Example 3: Request Information

This example asks the user for some information and displays the result.

Example Code

```
Result = Ask_String( "Enter a string:", "Length
Calculator", 0, 200, "" )

    Ask_OK( String_Combine( "The string "",
String_Combine( Result, String_Combine( "" is ",
String_Combine( Number_To_String_Decimal( String_Length(
Result ) ), " characters long." ) ) ) ), "String Length" )

    Return
```

Notes

This example also requires a string variable named "**Result"**. The `ASK_OK` instruction uses actions inside of actions to get several layers deep. You could also use variables to break that instruction into several short instructions.

Example 4: Display Screen Button

This example displays a screen button in at the bottom-left corner of the screen offering to exit Telnet when the text "logged out" shown on screen at row 2, column 5.

Example Code

```
  If_Not( String_Equal( Get_Screen_Text_Columns( 2, 5, 10
), "logged out", 0, FALSE ) )

        Return

    End_If

    Button_Create_View( "Exit", 1000, 1, 0, ButtonPressed
)

    While_Not( ButtonPressed )
```

```
        If_Not(String_Equal( Get_Screen_Text_Columns( 2,
5, 10 ), "logged out", 0, FALSE ) )

            Return

        End_If

        Wait_For_Screen_Update

    End_While

    Exit_Application( 0 )
```

Notes

This example uses a boolean variable "**ButtonPressed"** to know if the Screen Button was pressed. The button will be destroyed when the script exits, so we don't need to delete it.

That the `While_Not` loop uses the `Wait_For_Screen_Update` action to detect if the "logged out" text is no longer there so that Telnet will not spend all of its time in the loop.

Appendix B: Actions

This appendix describes each scripting action and provides information about each.

The appendix is divided into four sections according to the type of value that is returned after each action. The following is a list of the values:

- No Return Values
- Boolean Values
- String Values
- Integer Values

No Return Values

This section contains a list of actions that return no value. The following action categories are described in this section:

- Blank Line and Comment Actions
- Goto Support Actions
- Macro Exiting
- Conditionals
- General Queries
- Send Characters
- Message
- Beep
- Waiting
- Logging
- Call Other Macros

- Screen Buttons

Blank Line and Comment Actions

Blank_Line

Proceeds to the next instruction without taking any action.

Comment

Proceeds to the next instruction without taking any action.

Goto Support Actions

Goto

Jumps to the supplied label.

Label

Label to which a Goto can jump.

Macro Exiting

Return

Exits the script normally.

If this script was started by another script, the calling script's variables are updated and the calling script resumes.

Abort

Exits the script immediately.

If this script was started by another script, the calling script's variables are not updated and the calling script resumes.

Abort_All

Exits all scripts for the session

Disconnect

Exits all scripts for the session and disconnects the session.

Exit_Application

Shuts down the Telnet application

The Return Value is the application exit value Telnet will use when it exits.

Conditionals

If

If the Test is TRUE, continues executing until the next "Else" or "EndIf" statement. Otherwise, only executes actions (if any) between the next "Else" and "EndIf" statements.

If_Not

If the Test is FALSE, continues executing until the next "Else" or "EndIf" statement.

Otherwise, only executes actions (if any) between the next "Else" and "EndIf" statements.

Else

Start of statements to be executed if an "If" test fails.

This command is only valid inside of an "If" block.

End_If

End of statements to be executed for an "If" test.

While

If the Test is TRUE, the statements after "While" and before the next "EndWhile" statement will be executed and the "While" statement will be executed again.

Otherwise, execution will proceed to the next "EndWhile" statement.

The "While" loop will continue to be executed until the test fails, a "Break" command is executed, or the script exits.

While_Not

If the Test is FALSE, the statements after "While" and before the next "EndWhile" statement will be executed and the "While" statement will be executated again.

Otherwise, execution will proceed to the next "EndWhile" statement.

The "While" loop will continue to be executed until the test succeeds, a "Break" command is executed, or the script exits.

End_While

End of statements to be executed for a "While" test.

Continue

Jumps back to the last "While" statement and re-test the test value.

This command is only valid inside of a "While" loop.

Break

Jumps to the first statement following the next "EndWhile" statement (exiting the loop).

This command is only valid inside of a "While" loop.

General Queries

Ask_OK

Displays the message in a box with an "OK" button, and waits until the user presses the button.

Send Characters

Keypress_String

Creates one or more keypresses to send the supplied string to the telnet session.

Keypress_Key

Sends a single keypress to the telnet session. This is useful for emulation keys that Keypress_String cannot handle.

Scan_String

Treats the string as scanned data of the type specified.

Set_Cursor_Position

Moves the cursor to the specified row and column.

The top-most row is 1, and the left-most column is 1.

Message

Message

Displays the message on the Telnet screen.

If the time-out value is greater than 0, the message is removed after that number of seconds elapses.

Message_Clear

Clears the message on the Telnet screen.

Beep

Beep

Causes the device to beep. A Frequency of 1000 is a good default.

The Duration is in milliseconds, so a value of 1000 would be 1 second.

The Volume is a value between 0 and 9, where 0 is the softest and 9 is the loudest.

Waiting

Wait_For_Screen_Update

Suspends the current script until the screen has been updated.

Any changes to the screen will cause the script to resume, so it is usually a good idea to put the wait command inside a "While" loop, and only exit the loop once you have detected the screen you want.

Delay

Suspends the current script until the specified time has passed.

The Time is in milliseconds, so a value of 1000 would be 1 second.

Logging

Logging_On

Creates a log file that records all subsequent script execution activity.

This can be useful while developing a script, but is not recommended for production use.

If "Overwrite Previous" is True, a previous log file will be overwritten.

Otherwise, the new information will be appended to the existing file.

Logging is only turned on for the current script. Scripts called by this script will not have logging enabled.

Logging_Off

Turns off logging for the script.

Call Other Macros

Call

Suspends the current script, and executes another script. The current script resumes when the called script exits.

Refer to *Script Nesting* on page 29 for more information.

Screen Buttons

Button_Create_Emulation

Creates a button with the specified text and puts the left side of it where emulation text at the supplied coordinates would be.

If the width value is 0, the button will be sized to fit the text. Each time the button is pressed, the boolean variable specified will be set to TRUE. You will need to reset the variable if you want to detect future button presses. All buttons created by the script will be removed when the script exits. The `Wait_For_Screen_Update` action can be used to wait for a button to be pressed.

Button_Create_View

This command is the same as `Button_Create_Emulation` except that the screen position is used instead of the text position allowing the button to always be visible.

For example, if `Button_Create_View` is used to create a button at position 1, 1, that button will always be in the upper-left corner of the telnet view screen. A `Button_Create_Emulation` button will be hidden if the emulation text at that location is hidden. A bottom and/or right value of 1000 represents the bottom or right side of the screen. For example, a button at position 1, 990 would start 11 columns left of the upper-right corner of the screen.

Button_Remove

Removes a button created with the `Button_Create_Emulation` and `Button_Create_View` actions with the specified text.

Button_Remove_All

Removes all buttons created with the `Button_Create_Emulation` and `Button_Create_View` action for this script.

Boolean Values

This section contains a list of actions that returns a boolean value. The following action categories are described in this section:

Boolean Assignments

Boolean_Set

Returns TRUE if the Test is TRUE, FALSE otherwise.

Boolean_Not

Returns FALSE if the Test is TRUE, TRUE otherwise.

Boolean_And

Returns TRUE if all test values are TRUE. Returns FALSE otherwise.

All tests will be evaluated each time this action is taken.

Boolean_Or

Returns TRUE if one or more test values are TRUE. Returns FALSE otherwise.

All tests will be evaluated each time this action is taken.

Boolean Comparisons

Boolean_Equal

Returns TRUE if both Test1 and Test2 are TRUE, or both Test1 and Test2 are FALSE. Returns FALSE otherwise.

Boolean_Not_Equal

Returns FALSE if both Test1 and Test2 are TRUE, or both Test1 and Test2 are FALSE. Returns TRUE otherwise.

String Comparisons

String_Empty

Returns TRUE if the string is 0 characters in length, FALSE otherwise.

String_Less_Than

Returns TRUE if Test1 precedes Test2 in alphabetical ordering, FALSE otherwise. If the "Maximum Length" value is greater than 0, any characters after the specified number of characters are ignored.

If “Ignore Case” is TRUE then upper-case and lower-case letters are considered to be equal.

String_Less_Than_Or_Equal

Returns TRUE if Test1 precedes Test2 in alphabetical ordering or they are the same string, FALSE otherwise. If the "Maximum Length" value is greater than 0, any characters after the specified number of characters are ignored.

If "Ignore Case" is TRUE then upper-case and lower-case letters are considered to be equal.

String_Equal

Returns TRUE if Test1 and Test2 are the same string, FALSE otherwise. If the "Maximum Length" value is greater than 0, any characters after the specified number of characters are ignored.

If "Ignore Case" is TRUE then upper-case and lower-case letters are considered to be equal.

String_Greater_Than_Or_Equal

Returns TRUE if Test1 follows Test2 in alphabetical ordering or they are the same string, FALSE otherwise.

If the "Maximum Length" value is greater than 0, any characters after the specified number of characters are ignored.

If "Ignore Case" is TRUE then upper-case and lower-case letters are considered to be equal.

String_Greater_Than

Returns TRUE if Test1 follows Test2 in alphabetical ordering, FALSE otherwise. If the "Maximum Length" value is greater than 0, any characters after the specified number of characters are ignored.

If "Ignore Case" is TRUE then upper-case and lower-case letters are considered to be equal.

String_Not_Equal

Returns FALSE if Test1 and Test2 are the same string, TRUE otherwise.

If the "Maximum Length" value is greater than 0, any characters after the specified number of characters are ignored.

If "Ignore Case" is TRUE then upper-case and lower-case letters are considered to be equal.

Integer Comparison

Number_Less_Than

Returns TRUE if Test1 is smaller than Test2, FALSE otherwise.

Number_Less_Than_Or_Equal

Returns TRUE if Test1 is no greater than Test2, FALSE otherwise.

Number_Equal

Returns TRUE if Test1 is the same as Test2, FALSE otherwise.

Number_Greater_Than_Or_Equal

Returns TRUE if Test1 is no smaller than Test2, FALSE otherwise.

Number_Greater_Than

Returns TRUE if Test1 is larger than Test2, FALSE otherwise.

Number_Not_Equal

Returns FALSE if Test1 is the same as Test2, TRUE otherwise.

General Queries

Ask_OK_Cancel

Displays the message in a box with an "OK" and "Cancel" button and waits until the user presses a button.

Returns TRUE if the user presses "OK", FALSE if the user presses "Cancel".

Ask_Yes_No

Displays the message in a box with a "Yes" and "No" button and waits until the user presses a button. Returns TRUE if the user presses "Yes", FALSE if the user presses "No".

Search the Screen

Search_Screen

Searches the screen for the supplied text. Returns TRUE if the text is found, FALSE otherwise.

The rows to be searched can be specified, where 1 is the top row. If the bottom row value is less than 1, searching will continue to the bottom of the screen. If "Ignore Case" is TRUE then upper-case and lower-case letters are considered to be equal.

String Values

This section contains a list of actions that return a string value. The following action categories are described in this section:

- Get System Information
- Scanner Information
- ESC Sequence Support

- String Variable Assignments
- Number to Character Conversion

Get System Information

Get_MAC_Address

Returns the current MAC address for the device.

Get_IP_Address

Returns the current IP Address for the device.

Get_Screen_Text

Returns the text starting at the specified screen position up to the right side of the display.

Get_Screen_Text_Length

Returns the text starting at the specified screen position up to the right side of the display. The string will be truncated if it is longer than the number of characters specified.

Get_Screen_Text_Columns

Returns the text starting at the specified screen position up to the right side of the display.

The string will not include information past the number of columns specified.

Get_Workstation_ID

Returns the current Workstation ID.

This is only valid when using IBM emulation (3270, 5250 or 5555) and a Workstation ID has been specified for the current Host Profile.

Otherwise, an empty string will be returned.

Scanner Information

Get_Scan_Type_Name

Returns the name of the supplied scan type.

An empty string is returned if the scan type is not recognized.

ESC Sequence Support

Escape_Sequence

Handles the supplied Wavelink Custom or Telxon ESC Sequence for all emulation types. The sequence should be all the characters that will follow the first ESC character. The string returned will be the sequence returned by the ESC sequence (without the initial ESC) or an empty string if the sequence returns nothing.

String Variable Assignments

String_Set

Returns the value of the string.

String_Combine

Returns the value of string1 concatenated with string2.

String_Left

Returns a string with just the first N characters of the input string.

If the input string is less than N characters, the entire string is returned.

String_Right

Returns a string with just the last N characters of the input string. If the input string is less than N characters, the entire string is returned.

String_Middle

Returns a string with just the middle *n* characters of the input string.

The string parsing starts at the position specified, with 0 being the left-most character, so a position value of 0 is the same as "String_Left.

If the input string is less than *n* characters, the entire string is returned.

String_Upper

Returns a string with all characters converted to uppercase.

String_Lower

Returns a string with all characters converted to lowercase.

String_Replace

Returns a string where all instances of "Substring to Replace" have been replaced with "Replacement Substring". If "Ignore Case" is TRUE then upper-case and lower-case letters are considered to be equal.

String_Only_Characters

Returns a string where all characters in "String to Parse" that are not in "Characters to Keep" have been deleted.

If "Ignore Case" is TRUE then upper-case and lower-case letters are considered to be equal.

String_Strip_Characters

Returns a string where all characters in "String to Parse" that are in "Characters to Strip" have been deleted.

If "Ignore Case" is TRUE then upper-case and lower-case letters are considered to be equal.

String_Trim_Spaces_Start

Returns a string where all spaces and tabs at the start of the string have been deleted.

String_Trim_Spaces_End

Returns a string where all spaces and tabs at the end of the string have been deleted.

Number_To_String_Binary

Returns a string with the binary (base 2) representation of the number.

Number_To_String_Octal

Returns a string with the octal (base 8) representation of the number.

Number_To_String_Decimal

Returns a string with the decimal (base 10) representation of the number.

Number_To_String_Hexadecimal_Lowercase

Returns a string with the hexadecimal (base 16) representation of the number using lowercase characters.

Number_To_String_Hexadecimal_Uppercase

Returns a string with the hexadecimal (base 16) representation of the number using uppercase characters.

Ask_String

Displays a dialog asking the user for a string, and returns the string supplied by the user. The supplied default string is returned (unaltered) if the user cancels the dialog.

Ask_String_Password

Displays a dialog asking the user for a string, and returns the string supplied by the user.

The string is displayed as a password (a series of asterisks).

The supplied default string is returned (unaltered) if the user cancels the dialog.

Ask_String_Uppercase

Displays a dialog asking the user for a string, and returns the string supplied by the user. Any lowercase letters entered are converted to uppercase characters. The supplied default string is returned (unaltered) if the user cancels the dialog.

Ask_String_Lowercase

Displays a dialog asking the user for a string, and returns the string supplied by the user. Any uppercase letters entered are converted to lowercase characters. The supplied default string is returned (unaltered) if the user cancels the dialog.

Number to Character Conversion

Number_To_Character

Returns a string one character in length, where the value for that character is the supplied number. For example, a number value of 87 would return a string consisting of a "W" -- the ASCII character for value 87.

Integer Values

This section contains a list of actions that return an integer value. The following action categories are described in this section:

Get System Information

Get_Screen_Columns

Get the number of columns on the screen. This is the total number of columns, not the number of columns visible.

Get_Screen_Rows

Get the number of rows on the screen. This is the total number of rows, not the number of rows visible.

Get_Position_Column

Get the column number the cursor is currently located on. The left-most column is 1

Get_Position_Row

Get the row number the cursor is currently located on. The top-most row is 1.

Get_Session_Number

Get the number for the session this script is executing in.

Get_Time

Returns the number of seconds that have elapsed since January 1, 2000.

Get_Time_Since_Reset

Returns the number of milliseconds that the computer has been non-suspended since the last reboot.

Scanner Information

Get_Scan_Type_Value

Returns the value of the supplied scan type name. A value of 0 is returned if the scan type name is not recognized.

General Queries

Ask_Yes_No_Cancel

Displays the message in a box with a "Yes", "No" and "Cancel" button, and waits until the user presses a button. If the Make "No" Default value is TRUE, then the "No" button will be the default. Otherwise, the "Yes" button will be the default.

Returns 2 if the user presses "Yes", 1 if the user presses "No", and 0 if the user presses "Cancel"."

String Handling

String_Length

Returns the number of characters in the string.

Returns 0 is the string is empty (has no characters).

String_Find_First

Finds the first instance of the substring inside the string, and returns the position where that substring starts. The left-most position is 0, so a value of 0 would be returned if the string started with the substring. A value of -1 is returned if no instances of the substring are in the string.

String_Find_Last

Finds the last instance of the substring inside the string, and returns the position where that substring starts. The left-most position is 0, so a value of 0 would be returned if the only substring found was at the beginning of the string. A value of -1 is returned if no instances of the substring are in the string.

Integer Assignments

Number_Set

Returns the value of the number.

Number_Plus

Returns the sum of the two numbers.

Number_Minus

Returns the value when "Number2" is subtracted from "Number1.

Number_Multiply

Returns the product of the two numbers.

Number_Divide

Returns the value when "Number1" is divided by "Number2".

Because the numbers are integers, the remainder is ignored. For example, 7 divided by 3 would return 2.

Number_Divide_Remainder

Returns the remainder when "Number1" is divided by "Number2". For example, 7 divided by 3 would return a remainder of 1.

Convert Strings to Integers

String_To_Number_Binary

Returns the binary (base-2) number represented by the string. Parsing the string continues until a character other than a “0” or “1” is reached.

If the string does not represent a binary number, a “0” is returned.

String_To_Number_Octal

Returns the octal (base-8) number represented by the string. Parsing the string continues until a character other than a “0”' through “7” is reached. If the string does not represent an octal number, a zero is returned.

String_To_Number_Decimal

Returns the decimal (base-10) number represented by the string. Parsing the string continues until a character other than a “0” through “9” is reached. If the string does not represent a decimal number, a “0” is returned.

String_To_Number_Hexadecimal

Returns the hexadecimal (base-16) number represented by the string. Parsing the string continues until a character other than a “0” through “9”, “a” through “f”, or “A” through “F” is reached. If the string does not represent a hexadecimal number, a “0” is returned.

Ask User for Integer

Ask_Number

Displays a dialog asking the user for a decimal number, and returns the number supplied by the user. The supplied default value is returned if the user cancels the dialog.

Number/Character Conversion

Character_To_Number

Converts the character at position Index in the string into the number value for that character. An index of 0 indicates the left-most character in the string. If the Index does not point to a character, a value of 0 is returned.

Appendix C: Symbologies and Values

The following is a list of symbologies and their values:

UPCE0 = 48

UPCE1 = 49

UPCA = 50

MSI = 51

EAN8 = 52

EAN13 = 53

CODABAR = 54

CODE 39 = 55

D 2 OF 5 = 56

I 2 OF 5 = 57

CODE 11 = 58

CODE 93 = 59

CODE 128 = 60

D 2 OF 5 IATA = 62

EAN/UCC 128 = 63

PDF417 = 64

TRIOPTIC 39 = 66

COUPON CODE = 67

BOOKLAND = 68

MICROPDF = 69

CODE 32 = 70

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MACRO PDF = 71

MAXICODE = 72

DATAMATRIX = 73

QR CODE = 74

MACRO MICROPDF = 75

RSS 14 = 76

RSS LIMITED = 77

RSS EXPANDED = 78

SIGNATURE = 82

WEBCODE = 84

CUECODE = 85

COMPOSITE = 86

TLC 39 = 88

POSTNET = 97

PLANET = 98

BRITISH POSTAL = 99

JAPAN POSTAL = 100

AUSTRALIA POSTAL = 101

DUTCH POSTAL = 102

CANADA POSTAL = 103

AZTEC = 160

AZTEC MESA = 161

CODE 49 = 162
```

```
OCR = 163

CODABLOCK = 164

MATRIX 2 OF 5 = 165

PLESSEY = 166

CHINA POSTAL = 167

KOREA POSTAL = 168

TELEPEN = 169

CODE 16K = 170

POSICODE = 171

UPC = 241

MSR = 245

RFID = 246
```

Appendix D: Wavelink Contact Information

If you have comments or questions regarding this product, please contact Wavelink Customer Service via email or telephone.

Email: customerservice@wavelink.com

Phone: 425-823-0111

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