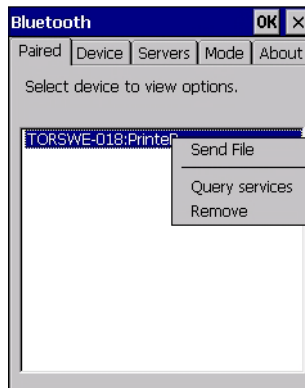


To learn how to scan for devices to pair, review “Device Tab” on page 136.



Note: If a service is actively paired and connected, the device and its services are displayed in bold typeface in this list.

- Tap on an item in the *Paired* tab to display an associated pop-up menu.



The displayed menu depends on the type of the service chosen.

Query Services and Remove Commands

- *Query Services* displays a *Services* dialog box where a pairing service is chosen.
- *Remove* unpairs the highlighted service and deletes the entry from the tab.

OBEX OPP (Object Exchange-Object Push Profile) Commands

The *OPP* defines two roles—a *Push Server* and a *Push Client*. *Push Server* is the device that provides an object exchange server. *Push Client* is the device that pushes and pulls objects to and from the *Push Server*.

OBEX OPP contains the following unique menu option:

- *Send File* displays an *Open File* dialog box where the file to be sent can be selected. When the transmission begins, another dialog box tracks the progress of the file transmission.

HSP/HFP (Headset Profile/Hands-Free Profile) Service Commands

The *HSP (Headset Profile)* allows users to connect their device to *Bluetooth* enabled headsets and other audio devices.

HSP/HFP services provide the following unique menu options:

- *Connect Audio* establishes an audio connection to the *Bluetooth* headset.
- *Disconnect Audio* disconnects the audio connection from the *Bluetooth* headset.
- *Volume Control* displays a dialog box where the headset and microphone volume can be adjusted.

5.6.2 Device Tab



In this tab, users can discover and display *Bluetooth* devices.

5.6.2.1 Discovering and Removing Devices

Scan discovers *Bluetooth* devices in range of Omnii and lists them in this tab. Any existing devices previously discovered and listed will also be displayed.

Clear removes all *Bluetooth* devices listed except those with currently paired and connected services.



Note: To limit the number of devices listed to a particular type of device, refer to “Filtering By Class of Device (COD)”, next section.

5.6.2.2 Filtering By Class of Device (COD)



This menu allows you to filter the displayed devices by their COD. If, for example, you choose **Computer** from this menu, only the devices that have the matching *Computer* COD value will be displayed. Choosing *All* lists all detected devices.

5.6.2.3 Device Pop-up Menu



The *Device* pop-up menu allows you to pair a device, update a device name or delete a device from the list.

Pair begins the pairing process by inquiring the services and profiles of the discovered device. An *authentication* dialog box is displayed the first time a *Bluetooth* device is paired.

Refresh Name repeats the device name inquiry, updating the name. This command is useful if a device is listed without a name (unknown), or if a device name has been changed remotely.

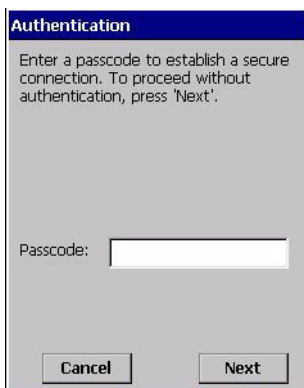
Delete removes this device from the list.

5.6.2.4 Pairing a Device

To pair devices:

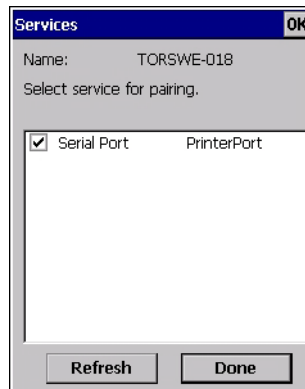
- Follow the manufacturer's instructions to place the remote device in pairing mode.
- Choose the **Devices** tab and **Scan** for devices in your area.
- When the scan is complete, tap on the **device** to which you want to pair.
- In the pop-up *Device* menu, tap on **Pair**.

An *Authentication* dialog box is displayed.



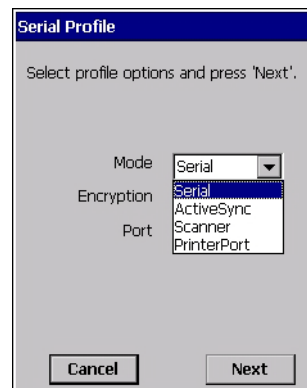
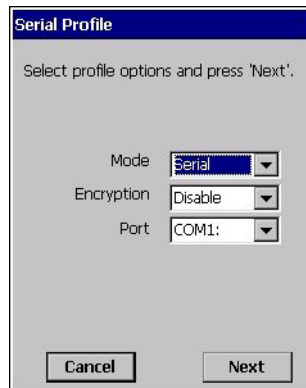
- If the remote device has authentication enabled, type the PIN in this dialog box.
- To proceed *without* authentication, tap on **Next**.

After entering the device *PIN*, the *Services* dialog appears with a list of services available for that device.



- Click in the checkbox to the left of the service to activate it.
- Click on **Done**.

Services that require more information present a configuration dialog box. *Serial Profile* is an example.



This dialog box offers a number of additional options such as enabling *Encryption* and selecting four different *Modes*: *Serial*, *ActiveSync*, *Scanner*, and *Printer Port*.

Serial is used for simple serial port communication.

ActiveSync is for ActiveSync-over-Bluetooth.

Scanner is used to create a connection to a bar code scanner. A serial connection is created, then the *Scanner Services* is notified of the connection so that the incoming bar code scan will be forwarded to *Scanner Services* directly.

Printer Port must be chosen here if you want to communicate with a paired *Bluetooth* printer. For further details, see “Mode Tab” on page 141.

- Once you’ve completed the information, tap on **Next** and then in the *Services* screen, click on **Done**.

5.6.3 Servers Tab



When a remote *Bluetooth* device initiates a *Bluetooth* connection to Omnii, the remote device is considered the ‘*Bluetooth* master’ and the hand-held, the ‘*Bluetooth* slave’. In order for the remote device to connect to the hand-held, Omnii must offer a service in the form of a server. The *Servers* tab allows these services to be enabled and configured. There are three server services available: *Serial*, *Scanner* and *OBEX OPP*.

Serial server enables the Serial Port Profile server; a Serial Port can be selected from the drop-down menu.

You can assign either a BSP or a COM prefix from the drop-down menu. BSP (*Bluetooth* Serial Port) was created by Microsoft to allow *Bluetooth* to have its own serial prefix in order to free up virtual COM prefixes as these are limited and are widely used.



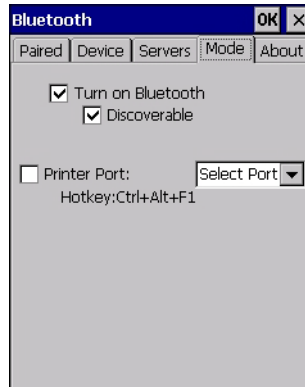
Note: Even after a Serial Port Profile server is created, an application must open the created port before a remote device can connect.

Scanner server enables a Serial Port Profile server and then relays it to the Scanner Service (SCS). This is used for *Bluetooth* bar code scanners that operate in client mode. SCS opens the server port and handles the scanner input.

OBEX OPP server enables the Object Push Profile server. A warm reset must be performed on Omnii after a change is made to this option. The OPP Server allows other *Bluetooth* devices to send files to this device.

- Tap on the checkbox to activate the server.

5.6.4 Mode Tab



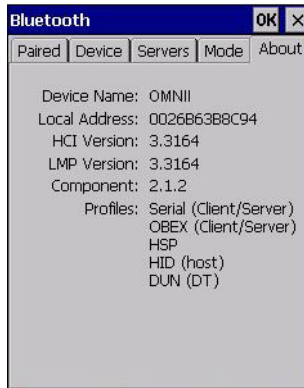
Turn on Bluetooth activates the *Bluetooth* radio.

Discoverable determines whether Omnii is visible or invisible to other devices.

Printer Port allows you to assign and enable a virtual outgoing COM port selected from the drop-down menu to communicate with a paired *Bluetooth* printer. Keep in mind that when a port is chosen, the printer must be on and connected to the chosen port for a remote device to be able to connect.

- Select a port within the *Printer Port* drop-down list, e.g. **BSP1**:
- Check the *Printer Port* check box.
- Open the *Device* tab and tap on **Scan**.
- Tap-and-hold each *Bluetooth* Printer device entry and then select **Pair**, key-in the Passcode (if needed) and then tap **Done**. DO NOT select any services!
- Close the *Bluetooth* Manager.
- Select the *Bluetooth* device to print to—you will need to key-in (or programmatically raise) the following key sequence [CTRL] [ALT] [F1].
- You can now select the *Bluetooth* device to which you wish to print.

5.6.5 About Tab



Device Name displays the broadcasted name of the hand-held. The name can be changed in the *System Properties* applet: *Start>Settings>Control Panel>System icon>Device Name tab*.

Local Address displays the MAC address (BD_Addr) of the *Bluetooth* chip.

HCI Version & LMP Version display the version of the chip firmware.

Component indicates the version of the Psion Teklogix *Bluetooth* Subsystem (the manager, drivers, etc).

Profiles lists the supported profiles on this specific Omnii.

5.6.6 The Bluetooth GPRS WAN Connection

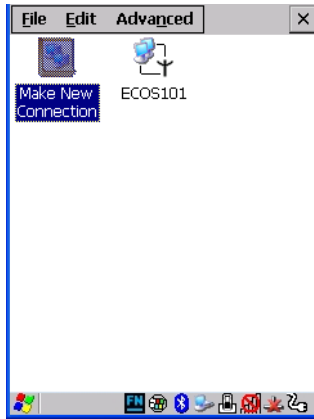
The following steps describe how to set up an Internet data connection using a GSM cellular telephone with Bluetooth. Omnii communicates via Bluetooth to the cell phone, which then accesses a WAN (Wide Area Network) and transfers data using GPRS.

1. Enable the *Dial-Up Networking service* in the cell phone.
2. Make the phone *discoverable*.
3. Pair the phone service with the Omnii Dial-Up Networking service using the *Bluetooth Manager*. (For instructions on pairing devices, refer to “Pairing a Device” on page 138.)

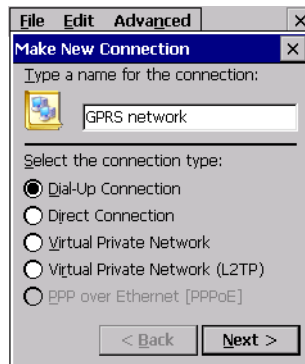
- To set up the Internet parameters, choose the **Network And Dial-up Connections** icon from the *Control Panel*.



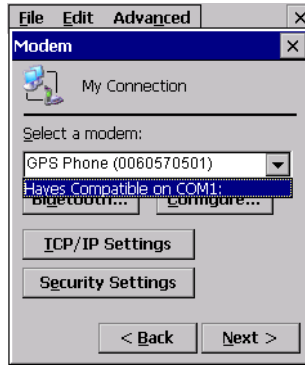
- Tap on **Make New Connection**.



- In the *Make New Connection* dialog box, choose **Dial-Up Connection**. Enter a name for your GPRS network connection.

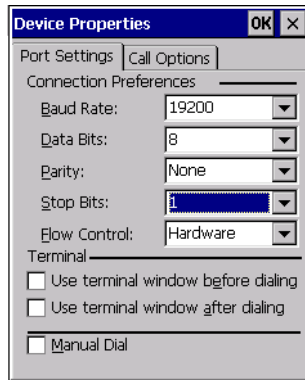


- Choose the **Next** button to display the *Modem* dialog box.

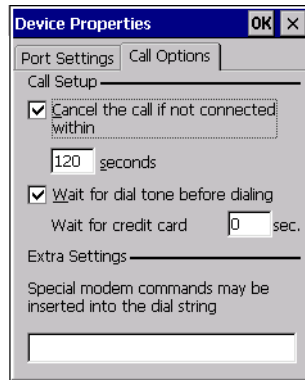


8. In the drop-down menu labelled *Select a modem*, choose the name of the modem with which you want to connect, and then choose the **Configure** button to display the *Device Properties* dialog box.

Omnii communicates via *Bluetooth* to your *Bluetooth* equipped cellular telephone and retrieves the parameters for the *Device Properties* dialog box. Omnii then disconnects.



9. Under the *Call Options* tab, turn off **Cancel the call if not connected within**, and press [ENTER] to save your changes.



10. In the *Modem* dialog box, choose the **Next** button to display the *Phone Number* dialog box.



The phone number you enter is network carrier dependent. Once you've specified all the necessary information, choose the **Finish** button.

11. In the *Control Panel*, choose the **Dialing** icon.

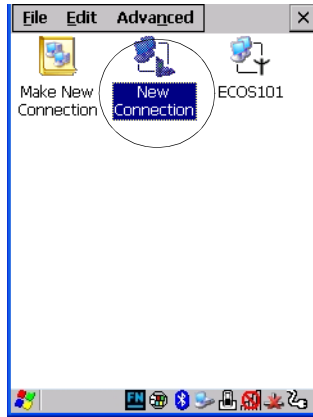


12. The values in the *Dialing Properties* dialog box need to be edited according to your network carrier specifications.



Once you've edited this dialog box to reflect your network carrier requirements, press **[ENTER]** to save your changes.

13. At this point, return to the *Control Panel*, and choose the **Network and Dial-up Connections** icon.
14. In the network connection window, the new network configuration—in this case, *New Connection* is displayed. Tap on the **new** icon.

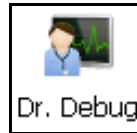


When you tap on your new connection, an onscreen message indicates the status of your connection: *connected*, *disconnected*, *error messages*, and so on.

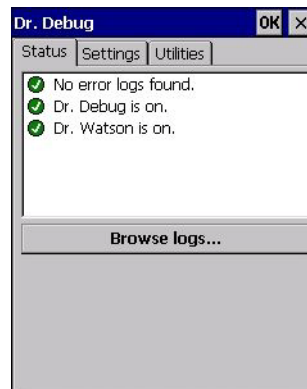
5.7 Dr. Debug

Dr. Debug is an error diagnostic and troubleshooting tool.

- Tap on **Start>Settings>Control Panel**. Tap on the **Dr. Debug** icon.

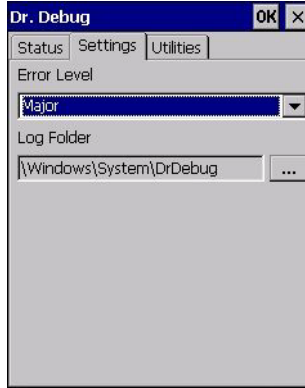


5.7.1 Status



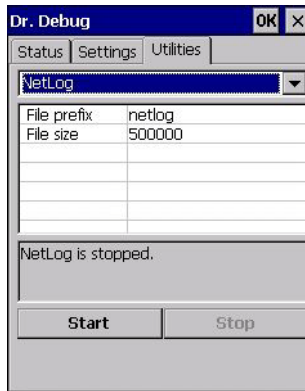
This tab indicates the status (on/off) of the debug engines. Tapping on **Browse logs** displays error logs for your review. The logs should be used as reference when working with Psion Teklogix Technical Support personnel.

5.7.2 Settings



- Choose an **Error Level** from the drop-down menu.
- To change the location where debug information will be stored, tap on the button to the right of the *Log Folder* option.

5.7.3 Utilities



The *Utilities* tab is used to log network traffic. When you tap on the **Start** button, debug data is collected so that, if necessary, it can be forwarded to a Psion Teklogix technician for evaluation.

5.8 Error Reporting

Error Reporting allows you to enable or disable Microsoft error reporting prompts.

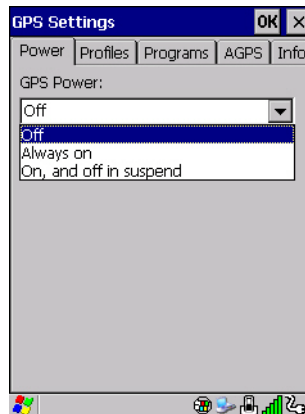
- Tap on **Start>Settings>Control Panel>Error Reporting** icon to access your options.



5.9 GPS (Global Positioning System) Settings

This applet allows you to define how the GPS module operates. You can determine when the GPS module is powered and operating, and choose from a set of GPS profiles built into the modem. You can also set up AGPS (Assisted Global Positioning System).

- Tap on **Start>Settings>Control Panel>GPS Settings** icon.



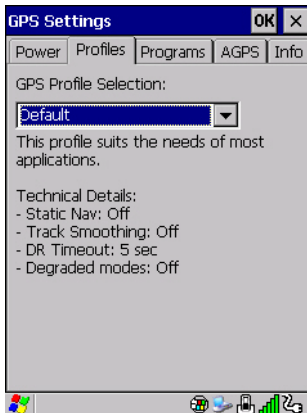
5.9.1 Power

This tab allows you to dictate how the GPS module behaves. The *GPS Power* drop-down menu is used to control when the GPS is powered on and off.

- *Off* – the GPS module is left off, always.

- *Always on* – the GPS module is powered on at all times regardless of the power state of the hand-held (suspend or standby).
- *On, and off in suspend* – the GPS module is powered on, but if Omnii is in suspend mode, the GPS module is turned off.

5.9.2 Profiles

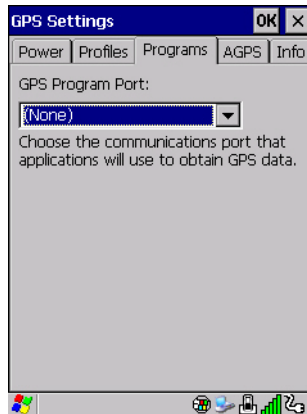


Tapping on the *GPS Profile Selection* drop-down menu allows you to choose an appropriate profile: *Default*, *Automotive* or *Pedestrian*.

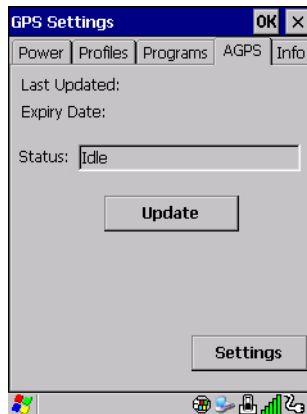
- *Default* profile is a good general profile suitable for most uses.
- *Automotive* profile is designed for in-vehicle use, providing quick location updates as the vehicle moves. When the GPS module is set to this profile and the vehicle enters an area such as a tunnel where satellite coverage is interrupted, it *will* attempt to predict the vehicle position.
- *Pedestrian* profile is designed for those using the GPS module while walking. It takes into account the slower pace of the pedestrian when mapping the location of the user. When the GPS module is set to this profile and the operator moves into an area where satellite coverage is interrupted, the GPS module *will not* attempt to predict the operator's movement.

5.9.3 Programs

Tap on the GPS Program Port drop-down menu to choose the communication (COM) port that the GPS software will use to communicate with the GPS receiver.



5.9.4 AGPS (Assisted Global Positioning System)



To determine your location, a GPS module receives data from three or more GPS satellites in fixed orbit around the Earth. The GPS module triangulates your location based on the time it takes for signals to get to and from the satellites. This works well in fairly clear areas, outdoors for example. However, if you're attempting to triangulate your location in city centres where signals bounce off tall concrete buildings or from within a building, the GPS module will have greater difficulty calculating a fix.

AGPS reduces Time To First Fix (TTFF) and increases the likelihood of finding and keeping a fix in poor coverage areas such as indoor sites. AGPS downloads satellite ephemeris (orbital) data to Omnii periodically through Wi-Fi or WWAN. The downloaded data is used by the GPS module to speed the process of getting a fix.

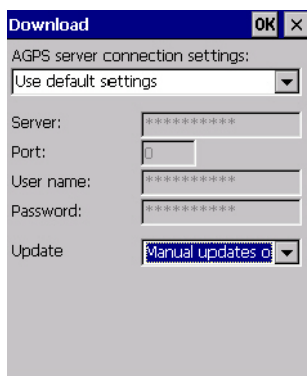
Update

- Click on the **Update** button to download *Extended Ephemeris (EE)* files from a secure host on the Internet using any interface that has an Internet connection. These files contain several days worth of ephemeris (orbital) data that can be used if the satellite's broadcast ephemeris is not available.

The *Status* field above the *Update* button displays the progress of the download, and once successfully downloaded, the *Status* field will read *Idle*.

Settings

- Click on the **Settings** button to define the *AGPS server connection settings*.



The screenshot shows a dialog box titled "Download" with "OK" and "X" buttons in the top right corner. The dialog contains the following fields and controls:

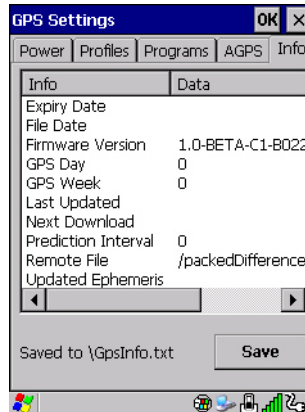
- "AGPS server connection settings:" label above a drop-down menu currently set to "Use default settings".
- "Server:" label above a text field containing "*****".
- "Port:" label above a text field containing "0".
- "User name:" label above a text field containing "*****".
- "Password:" label above a text field containing "*****".
- "Update" label above a drop-down menu currently set to "Manual updates o".

The *AGPS server connection settings* drop-down menu allows you to choose from two settings: *Use default settings* and *Use custom settings*.

The *Use default settings* option is generally acceptable for most applications. Note that aside from the *Update* field in which you can choose how long the fix is stored in your Omnii, the field values cannot be edited.

The *Use custom settings* option is generally used to configure devices that will have access only to an *intranet* rather than the *Internet* and should only be altered with the assistance of qualified Psion Teklogix personnel. They will be able to help you configure your Psion Teklogix devices and web server to retrieve the ephemeris data.

5.9.5 Info



This tab provides general information about the GPS module such as the firmware version, the date on which files were last updated, and so on. If GPS module support service is required, you may be asked to tap on the **Save** button in this tab and forward the information to Psion Teklogix support staff.

5.10 Storage Manager

The Storage Manager allows you to view information about the storage devices that are present in Omnii, such as SD-MMC flash cards and Compact Flash cards.



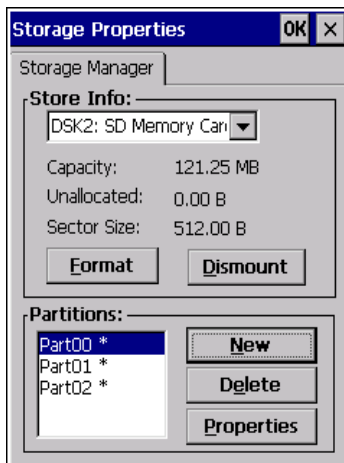
5.10.1 Formatting a Memory Card

Formatting a memory card bulk-erases it. Once a card is erased, partitions may be created in it, similarly to those on a hard drive. Memory-card devices are normally ‘mounted’ (made available to the system) automatically when they are inserted. They must be dismounted before they can be formatted.

To format an entire memory card:

1. Select **Start> Settings>Control Panel**.

2. In Control Panel, double-click on the **Storage Manager** icon. The Storage Manager menu opens:



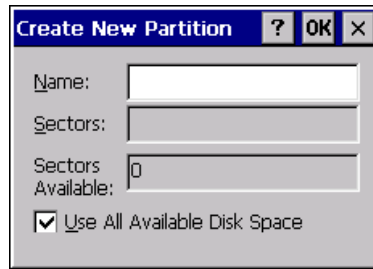
3. Select the memory card from the drop-down list.
4. Press the **Dismount** button to dismount the memory card. All partitions on the card will be dismounted.
5. Press the **Format** button to format the memory card. All partitions and information on the card will be erased during the formatting process.

5.10.2 Creating Partitions

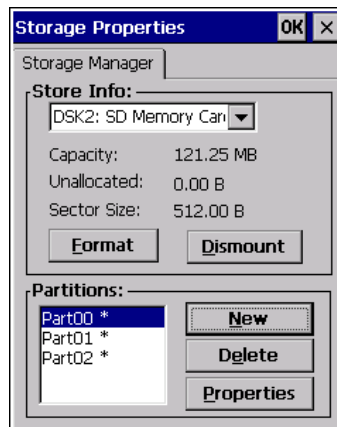
Once the card is formatted, new partitions can be created in it. The default is to create one partition that occupies the whole card, but a card can be divided into more than one partition if desired. Each partition appears as a separate folder in Windows Explorer.

To create new partitions:

1. Press the **New** button next to the *Partitions* list box. The Create New Partition dialog box appears:



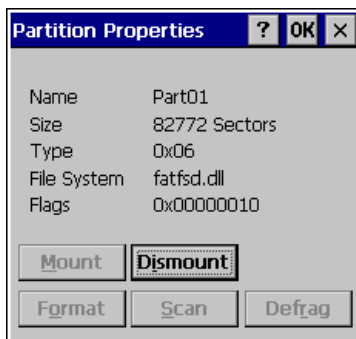
2. Type a name for the partition.
3. If more than one partition is desired, uncheck the *Use All Available Diskspace* checkbox, then specify the desired number of sectors to be used by the partition.
4. Press **OK**. The new partition appears in the *Partitions* list.



The new partition is automatically mounted. This is indicated by an asterisk (*) next to its name in the partition list. Any unallocated space on the card is indicated at the left, and additional partitions can be created in it.

5.10.3 Partition Management

Partitions can be individually dismantled, mounted, deleted, or formatted as well. These and additional tasks are available from the *Partition Properties* dialog:



To dismount a partition:

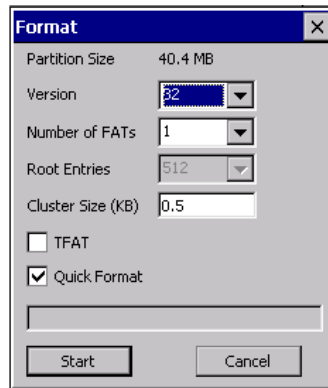
1. Choose the desired partition.
2. Tap the **Properties** button. The *Partition Properties* dialog appears.
3. Tap the **Dismount** button. The partition is dismounted. The asterisk disappears next to its name in the partitions list.

To delete a partition:

1. Select the desired partition.
2. Tap the **Delete** button. A warning dialog appears.
3. Tap the **OK** button. The partition is deleted.

To format a partition:

1. Choose the desired partition.
2. Tap the **Properties** button. The *Partition Properties* dialog appears.
3. Tap the **Dismount** button. The partition is dismounted. The asterisk disappears next to its name in the partitions list.
4. Tap the **Format** button. The *Format* dialog appears:



5. Choose your format options. These options include:
 - Version of file system (FAT-16, for devices holding up to 4 GB; or FAT-32, for devices containing up to 32 GB).
 - Number of FATs (File-Allocation Tables).
 - Number of entries allowed in the root directory.
 - Cluster size (.5 KB to 64 KB).

There are also two checkboxes, which govern:

- Whether to use the transaction-safe FAT file system (TFAT). This file system keeps multiple copies of the file-allocation table, changing one while maintaining another as a backup.
- Whether to perform a quick format. Quick formatting removes all reference to data in the partition without erasing the actual partition. The partition will be treated as empty, and new data will overwrite it.

6. Tap **Start**. The partition is formatted.

To mount a partition:

1. Choose the desired partition.
2. Tap the **Properties** button. The *Partition Properties* dialog appears.
3. Tap the **Mount** button. The partition is mounted. The asterisk appears next to its name in the partitions list.

The Partition Properties dialog has buttons for additional functions. Partitions can be defragmented, and their file structure can be scanned.

5.11 Teklogix Imagers

The Teklogix Imagers applet is used to create, modify, delete, and activate imager settings. The principle uses of the applet are to decode bar codes and to capture images. A *Demonstration Application* is provided to demonstrate how the imager works. Refer to “Demo” on page 71 for details.

Refer to Appendix D: “Teklogix Imagers Applet” for configuration details.

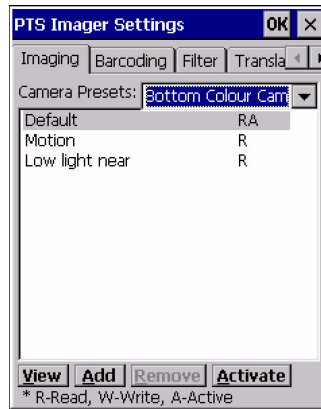
To launch this applet:

- In the *Control Panel*, choose the **Teklogix Imagers** icon.



Note: This icon is only displayed when the appropriate imager is installed in your Omnii. If there is an imager installed but this icon is not present, additional software (ICS) may need to be installed.

To enable a newly-installed imager, Press and hold down the [FN] key and the [ENTER/Power] key simultaneously for a minimum of three seconds.



5.12 Teklogix Scanners

The *Teklogix Scanners* icon in the *Control Panel* provides dialog boxes in which you can tailor bar code scanner configuration and choose the bar codes your scanner will recognize.

The parameters are preset with the default settings of the decoded scanner installed in the unit.

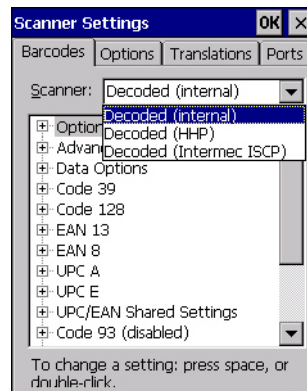


Note: To enable a newly-installed scanner, press and hold down the [FN] key and the [ENTER/Power] key simultaneously for a minimum of three seconds.



For a listing of available scanners and their specifications, please refer to Chapter 7: “Specifications”.

5.12.1 Bar Codes Tab



5.12.1.1 Scanner

The drop-down menu to the right of the *Scanner* option allows you to choose configurations for one of the following scanner types, depending on what is installed in/on your hand-held: *Decoded* (internal), *Decoded* (Intermec ISCP), *Imager* and *Non-decoded*.

The symbologies listed in the *Barcodes* tab change to reflect the scanner you choose and the bar codes it supports. Always defer to your bar code scanner’s programming manual when in doubt about the availability or settings for any parameter.



*Note: Your Omnii comes preconfigured from the factory for internal scanner types. The type of scanner installed can be determined from the **System** icon in the Control Panel, under the System Properties tab.*



Important: To improve the decode speed and performance, enable (set to ‘on’) only those codes that are required by the application.

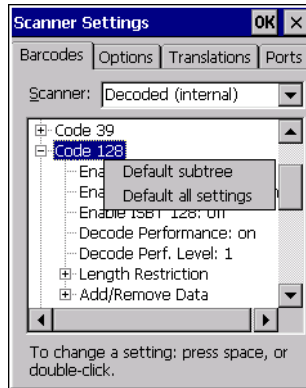
For information on configuring the bar code symbologies, see Appendix C: “Bar Code Settings - TBD”.

Keep in mind that some bar code types are only available when an internal imaging scanner is installed. All internal scanners can be configured using these dialog boxes.

5.12.1.2 Restoring Default Settings

If you want to restore the factory defaults after making changes, the defaults can be applied to a selected parameter, sub-tree of parameters or all scanner parameters.

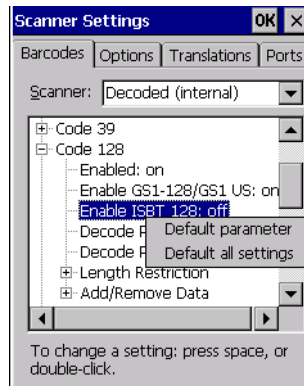
- Press and hold on a symbology (e.g., Code 128) to display a pop-up menu.



- Choose **Default subtree** to reset only the parameters in the symbology you selected, or choose **Default all settings** to reset all scanner parameters to default settings.

To reset a single parameter to its default setting:

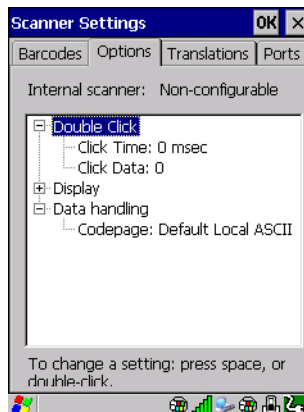
- Press and hold on the parameter you want to reset.



- Choose **Default parameter** to reset the parameter to the default setting.

5.12.2 Options Tab

This tab allows you to tailor the double-click parameters, display, and data handling options associated with your scanner.



5.12.2.1 Double Click Parameters

Click Time (msec)

This parameter controls the maximum gap time (in milliseconds) for a double-click. If the time between the first and second clicks of the scanner trigger is within this time, it is considered a double-click. The allowable range is 0 to 1000. A value of zero disables this feature.

A double-click produces different results depending on whether or not a value is assigned in the “Click Data” parameter. When a value is not assigned for the “Click Data”, double-clicking the scanner trigger overrides the target dot delay set in the “Dot Time” parameter and initiates a normal scan sweep. If a value is assigned for the “Click Data” parameter, double-clicking the scanner trigger inserts the “Click Data” value rather than initiating a scan.

Click Data

This parameter determines which character is sent to the application installed in your Omnii following a double-click. A dialog box appears, asking that you press the key you want to insert. The ASCII/Unicode key value of the keypress is displayed.

Pressing the [ESC] key in this dialog box resets the data to zero.

5.12.2.2 Display Parameters

Scan Result

When this parameter is enabled, the type of bar code and the result of the scan appear on the screen. Note that this information is only displayed after a successful decode and is visible only while the scanner trigger is pressed. When the trigger is released, this information is cleared from the screen.

Scan Indicator

When this parameter is enabled, the laser warning logo appears on the display whenever the scanner is activated.

Scan Result Time (sec)

The value assigned to the *Scan Result Time* parameter determines how long the scan results of a successful scan are displayed on the screen. Time is measured in seconds, and a value of 0 (zero) disables the parameter. When you choose this option, a dialog box appears where you can enter a value.



Note: To remove the scan result from the screen before the “Result Time” has expired, point the scanner away from the bar code and press the trigger.

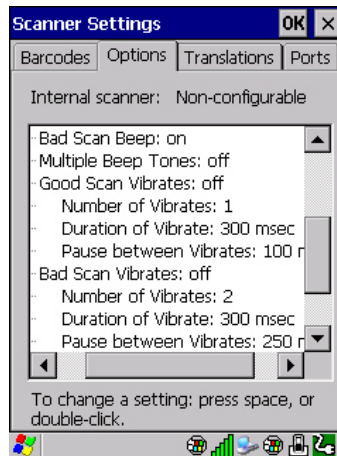
Good Scan Beep and Bad Scan Beep

These parameters determine whether or not Omnii emits an audible scanner ‘beep’ when a good (successful) scan or a bad (unsuccessful) scan is performed. Set these parameters to either **on** to enable the beeper or **off** to disable it.

Multiple Beep Tones

You can set the audible scanner ‘beep’ to emit a series of three beeps instead of one. Set this parameter to **on** to enable the multiple beep tones.

Good Scan Vibrates and Bad Scan Vibrates



These parameters determine whether or not Omnii creates a vibration when a good (successful) scan or a bad (unsuccessful) scan is performed. Set these parameters to **on** to enable the vibration. You can set the *Number* and *Duration* of vibrations, as well as the *Pause* between vibrations. The screen above shows the default settings.

Soft Scan Timeout

This parameter is used by the SDK “Scan” function (soft-scan: starting a scan session via the SDK function, instead of a physical user trigger press). The value assigned to this parameter determines the soft-scan timeout from *1* to *10 sec* (default is *3 sec*).

Scan Log File

If this parameter is enabled, the input bar code and the modified/translated output bar code are logged in the file *\Flash Disk\ScanLog.txt*. Keep in mind that if *Scan Log File* is enabled, there is a slight performance reduction when performing multiple scans since the log file is written to persistent storage.

5.12.2.3 Data Handling

Codepage

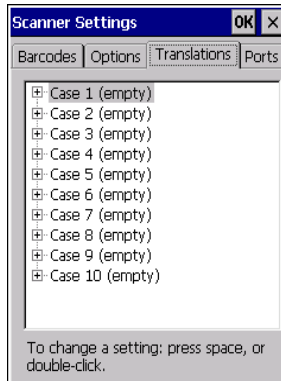
If you are encountering a scan failure because there is an unrecognized language character in the bar code, the Codepage option may correct the problem by allowing the *ISO-8859-1 Latin 1* codepage to be used. The default value is *Default Local ASCII*.



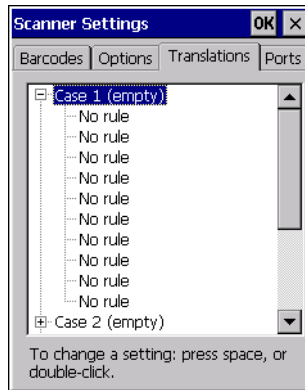
Important: *Do not change this parameter from the default setting unless you are certain that it will correct your scan problem.*

5.12.3 Translations Tab

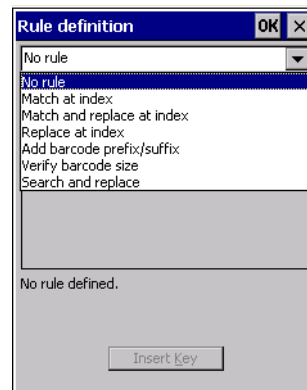
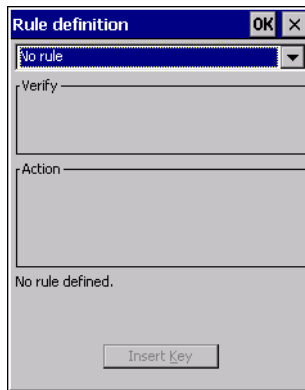
The *Translations* menu allows you to define up to 10 cases, each consisting of up to 10 rules in sequential order. Only one case will be applied to a bar code and a case will only be applied if all rules specified in the case are successful—if a rule within a case fails, the entire case fails.



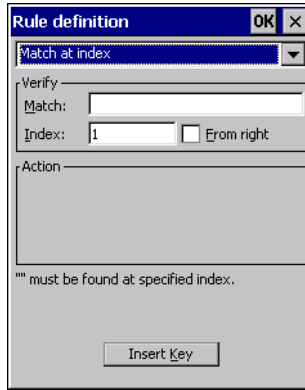
- In the *Translation* menu, tap on the **Case #** to create rules.



- Tap on the **No rule** drop-down menu to display the rules.



When you choose a rule, an associated screen is displayed in which you can define the rule.



5.12.3.1 Case Rules

The case rules are defined as follows:

- *No rule*—ignored.
- *Search and replace*—replaces all instances of the match string. (Note that this rule cannot fail.)
- *Match at index*—matches the match string at a specified index.
- *Match and replace at index*—matches the match string at a specified index and replaces/changes it.
- *Replace at index*—replaces/changes unspecified data in a given range.
- *Add barcode prefix/suffix*—adds a global prefix or suffix.
- *Verify barcode size*—verifies the bar code size. This rule should generally be assigned first, before creating subsequent rules.

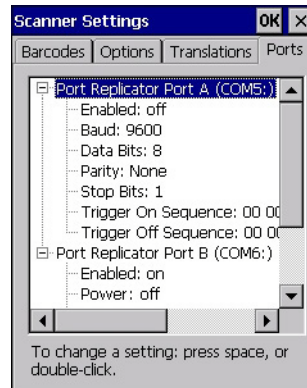


Note: Keep in mind that the effects of previously applied rules must be taken into account when creating subsequent rules. For example, if the bar code size is important, it should be checked before any rules that might change the size are applied.

Translation information about the status of each case/rule is displayed in the scan log file (see “Scan Log File” on page 163) when enabled. This is useful if a case fails, and you are trying to determine why a rule is failing.

5.12.4 Ports Tab

Figure 5.5 Console and Port Replicator Port Settings



While you cannot configure the scanner, you can configure communications with a serial decoded scanner using the options in this tab.

Use these settings to ensure that the communication ports on Omnii match the settings of the serial devices to which they are connected. If the settings do not match exactly, the devices may not function. Note that some devices can auto-detect serial port settings (such as baud rate), and in this case Omnii will dictate the settings. Baud rates often have a direct impact on performance—they should be set as high as possible while still ensuring reliable communication.

5.12.4.1 Port Replicator Port A (COM5) and Port B (COM6)

Port Replicator Port A (COM5) and Port B (COM6) are standard RS-232 DE-9 DTE ports on the Omnii port replicator module, available on some snap modules and cradle types.

Enabled

This parameter must be set to ON in order for Omnii to recognize the device connected to the Port Replicator 9-pin (COM5).

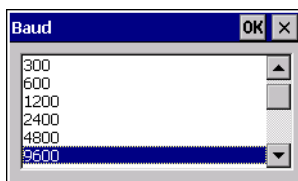
Power (COM6 only) - TBD

Pin 9 on Omnii COM6 is reserved for 5V power out and is defaulted to OFF. This parameter must be set to ON to enable power to a Snap Module or Vehicle cradle.

Baud

Double-tapping on this parameter displays a pop-up window in which you can choose an appropriate rate of data transfer.

Figure 5.6 Port Baud Rates

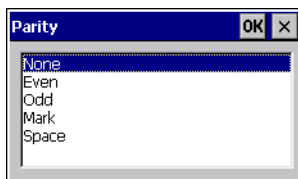


Data Bits

This parameter determines the number of data bits included in each asynchronous data byte. Most devices use 8-bit data bytes. Double-tapping on this option displays a pop-up window in which you can choose either 7 or 8 data bits.

Parity

This parameter determines the type of parity checking used on the data going through the port replicator port. Double-tapping on this option displays a pop-up window in which you can choose the appropriate parity.

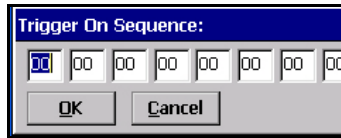


Stop Bits

This parameter specifies the number of stop bits—1, 1.5 or 2—used for asynchronous communication.

Trigger On Sequence And Trigger Off Sequence

If a SICK scanner connected to an Omnii port requires a serial stream of data bytes to trigger the scanner *on* and another to trigger the scanner *off*, the *Trigger On Sequence* and *Trigger Off Sequence* parameters allow you to define these serial streams.



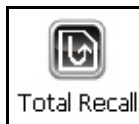
Double-tapping on *Trigger On Sequence* or *Trigger Off Sequence* displays a screen with a hex array of 10 elements.

These parameters work in conjunction with *Manage Triggers* sending on and off data streams to the trigger module you assigned. For example, suppose you launch *Manage Triggers* and choose *Decoded Scanner* as the ‘module to trigger’. Next, you assign a ‘trigger key’—for this example, . (period). To define the serial stream of data bytes to control the *on* and *off* function of the ‘trigger key’, enter a hex value in the *Trigger On Sequence* and the *Trigger Off Sequence* fields. When you press the trigger key, the *Trigger On Sequence* is sent and when you release the trigger key, the *Trigger Off Sequence* is sent, turning the trigger key *on* and *off*.

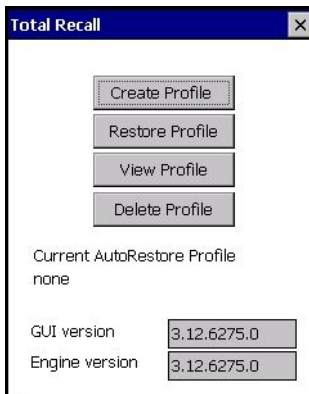
5.13 Total Recall

Total Recall is a Psion Teklogix utility developed to maintain applications and settings during a cold boot, and clone settings to other devices. This utility is based on a backup and restore concept.

- In the *Control Panel*, choose the **Total Recall** icon.



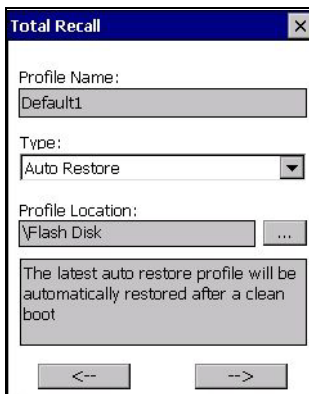
5.13.1 Creating a Backup Profile



In the start up screen, you can choose from four options: *Create Profile*, *Restore Profile*, *View Profile* and *Delete Profile*.

- Tap on the **Create Profile** button to begin the process.

Profile Information



This dialog box displays the default profile name, the type of restore – *AutoRestore* or *ManualRestore*, and the possible storage destination for the profile file.

- To change the *Profile Name* (optional), tap on the [...] button to the right of the *Profile Location* field.
- In the *Name* field, type a new name. (You may need to move the onscreen keyboard down to make the *Name* field visible.)
- Tap on **OK** to save the new profile name.

- Next, choose the profile **Type** you want to create:
 - *ManualRestore* – creates a backup that is manually restored by the operator.
 - *AutoRestore* – creates a profile that automatically restores itself following a cold reset or a clean reset.
- Finally, if you want to choose another location for your backup file (optional), tap on the [...] button to the right of the *Profile Location* field.



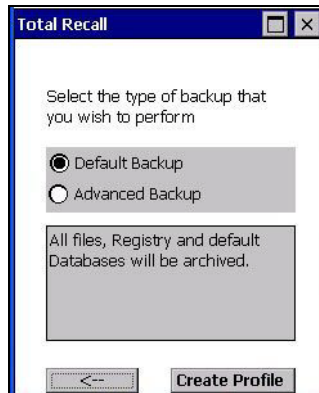
Important: *Any profile not stored in persistent memory (flash disk, external usb drive) will be erased during a clean boot, therefore you should store profiles on a persistent drive.*

When performing an autorestore, the program only searches for profiles located in the root folder of persistent drives. If you store your profile anywhere else it will not be restored.

When there are multiple autorestore profiles found, only the latest is restored.

- Navigate to the new location, and tap on **OK** to save it.
- Tap on the (Next) button. [-->]

Defining the Type of Backup

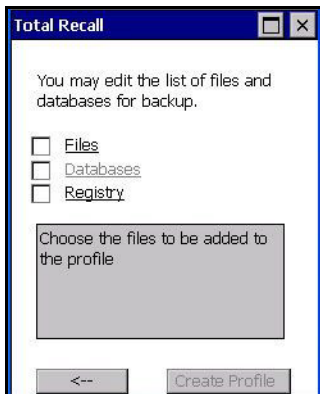


Default Backup

Default Backup is selected so that all installed or copied files, database entries, and the Registry are saved. Choose **Advanced Backup** if you want to tailor your backup.

Advanced Backup

Choosing *Advanced Backup* allows you to define what you would like to include in your backup profile.



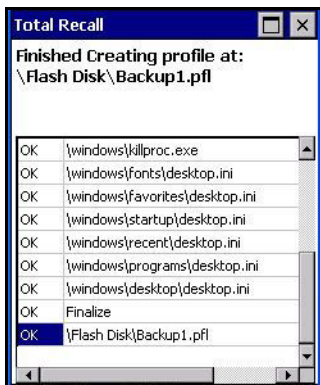
- Tap in the checkbox next to the option(s) listed here to tailor what you want included in the backup.

Creating a Profile

Once you've defined the type of profile you want to create:

- Tap on the **Create Profile** button.

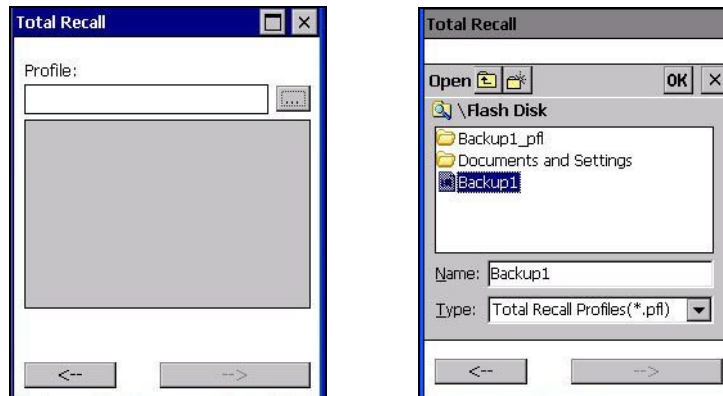
The options you chose to back up appear in your window as the backup progresses. When the backup is complete, the last item in the list indicates the location and name of the backup profile.



5.13.2 Restoring a Profile

To manually restore a profile:

- In the *Total Recall* home screen, tap on **Restore Profile**.
- Tap on the [...] button to the right of the *Profile* field and locate your backup file.

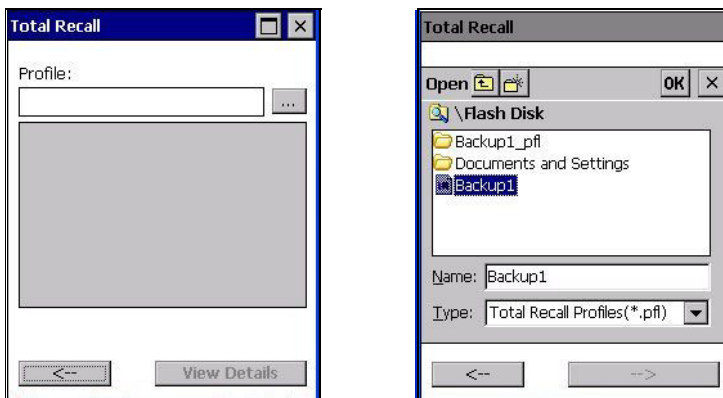


- Tap on **OK**.
- In the *Profile* restore screen, click on the (Next) button. [-->]
- Click on **Restore Profile** to restore the files to your Omnii.

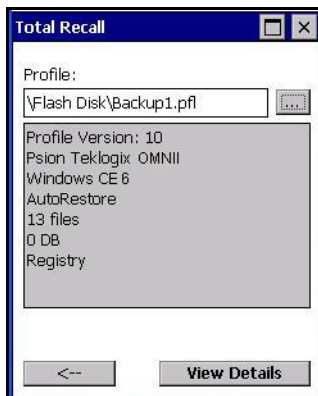
5.13.3 Viewing a Profile

To view a profile:

- In the *Total Recall* home screen, tap on **View Profile**.
- Tap on the [...] button to the right of the *Profile* field, and locate your backup file.



- Tap on **OK**.



- Tap on **View Details** to review your backup files.

5.13.4 Deleting a Profile

- In the *Total Recall* home screen, tap on **Delete Profile**.
- In the next screen, locate your backup file, and tap on **OK**.

A warning pop-up screen appears asking if you're certain that you want to delete this file.

- Tap on **Yes** to delete the file.

5.14 TweakIT Settings



This utility allows you to ‘tweak’ or adjust *Advanced* system settings (interface, network, servers, driver, and radio), *User* settings (Internet Explorer settings, font size, and docking port message), and provides a *Registry Editor*.

5.14.1 Advanced

5.14.1.1 Advanced CE Services Settings

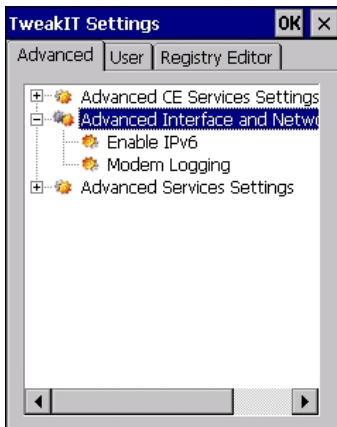


FTP Server

This option is enabled by default to allow file transfers. Keep in mind that data transfer in either direction is restricted to the *Temp* folder—that is, data are always loaded from the *FTP Server* to the *Temp* folder and from the *Temp* folder to the *FTP Server*.

If this option is disabled, a warm reset must be performed to accept the change.

5.14.1.2 Advanced Interface and Network Settings



Enable IPv6

This option allows you to enable Internet Protocol specification, version 6, that has been published to enable 128-bit IP addresses (replacing version 4).

Modem Logging

When this option is enabled, Omnii logs AT commands (e.g., dial-out information, password string, etc.) that the administrator can monitor for debugging purposes. Modem commands are stored in: \MdmLog.txt.

5.14.1.3 Advanced Services Settings

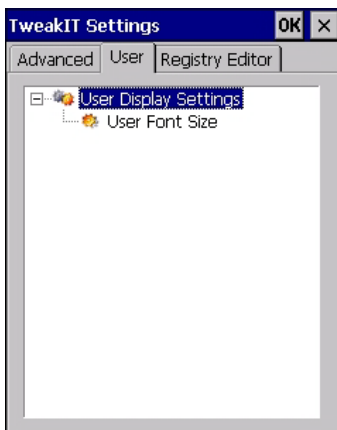


SNTP (Simple Network Time Protocol) Server

The *SNTP Server Name* typed in this dialog box is used to synchronize Omnii time with the server time. A warm reset must be performed once the server name as been entered.

5.14.2 User

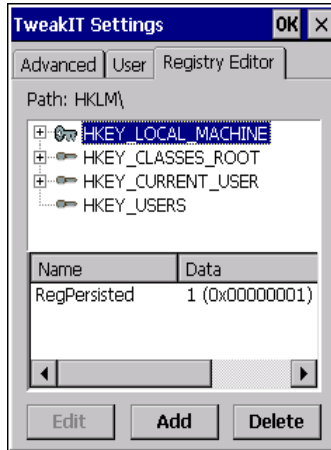
5.14.2.1 User Display Settings



User Font Size

This option allows you to adjust the size of the font used in the Omnii display: *Large*, *Normal*, or *Small*.

5.14.3 Registry Editor



This option is reserved for senior administrators who have a strong understanding of registry keys and values.



Warning: Careless registry editing can cause irreversible damage to Omnii.

7.1 The Omnii Hand-Held Computer (Model 7545)



Note: Performance specifications are nominal and subject to change without notice.

7.1.1 Hardware

Physical Dimensions

- Overall: 100 mm width x 42 mm depth x 230 mm length (3.9 in x 1.6 in x 9 in).
- Keypad area: 75 mm width x 32 mm depth (2.9 in x 1.3 in).

Weight

- With battery pack, EV15 imager, and high impact display 760 g (26.8 oz.)

User Interface

Colour Touch Display:	9.4 cm (3.7 in.) diagonal. VGA/QVGA, 480 x 640 resolution. High visibility version: superior sunlight visibility. High Impact version: withstands 1.25 Joule impact.
Keyboards:	Backlit, high durability hard-capped keys. Large selection of both alpha and numeric formats. For a list of currently available keyboard configurations, see the Keyboard and Keypads Kits list in the Accessories chapter.
Indicators And Controls:	Four multi-colour LEDs indicate the status of the battery, application, radio, and scanner.
Side Buttons:	Volume, Scan, Enter, Vertical Scroll.
Audio:	High volume beeper: 95 dBA Integrated Microphone/Speaker. Optional PTT Speaker. Walkie-talkie style Push-to-Talk: VoIP over Wi-Fi
Vibration:	You can set Omnii to vibrate as a result of a successful or unsuccessful bar code scan.

Power Management

- **Battery Pack:** lithium-ion 5000 mAh capacity with 9-hour life under normal operating conditions (for battery specifications, see “Lithium-ion Smart Battery 5000 mAh (ST3000)” on page 214).
- Advanced Smart Battery with gas gauge.
- 3 power source options: Runs off battery, AC power, or automotive power supplies.
- Backup power: >5 minutes.

Communication

Expansion Ports: MicroSD slot for Flash expansion.
Multiple Internal Multi-Function Expansion Interfaces with:

- 3v3 TTL serial
- USB host
- GPIO

SIM Card slot.

Environmental

Standard Operating Temperature: -20°C to +50°C (-4°F to 122°F)

Storage Temperature: -40°C to +60°C (-40°F to 140°F)
Long exposure to temperatures below -40°C (-40°F) may damage the screen and main battery. Prolonged exposure to temperatures above +60°C (+140°F) will damage the main battery, and temperatures above +70°C (+158°F) may damage the unit.

Rain And Dust Resistance: IEC 60529, classification IP65.

Humidity: 5% - 95% RH non-condensing

ESD: +/- 8 kV contact, +/- 15 kV air discharge.

Omnii RT15 Drop Durability: 1.5 m (5 ft.), 26 drops to polished concrete (powered on, with accessories); multiple 1.8 m (6 ft.) drops to polished concrete.

Omnii XT15 Drop Durability: 1.7 m (5.6 ft.), 26 drops to polished concrete (powered on, with accessories); multiple 2.0 m (6.5 ft.)

drops to polished concrete.

7.1.2 Software

Processor and Memory

- Texas Instruments® OMAP3® Processor 800 MHz
- RAM: 256 MB RAM.
- Flash Memory: configurable from 512 MB to 16 GB.

Operating System

- Microsoft Windows Embedded CE 6.0

Bundled Applications

- Internet Explorer 6
- Wordpad
- ActiveSync

7.1.3 Approvals

Safety:	IEC 60950-1
EMC:	FCC Part 15 Class B EN 55022 EN 55024 EN 301 489
Laser:	IEC 60825-1 Ed. 2.0, Class 1, Class 2 FDA 21 CFR 1040.10 1040.11 Class I, Class II
<i>Bluetooth:</i>	2.0
RF:	<i>Bluetooth</i> and 802.11a/b/g/n: EN300 328, Part 15.247
RoHS compliant:	EU Directive 2002/95/EC

7.2 Lithium-ion Smart Battery 5000 mAh (ST3000)

For safety instructions, please see “Lithium-ion Battery Safety Precautions” in the *Omnii Hand-Held Computer Regulatory & Warranty Guide (PN 8000191)*.

Parameter	Specification
Model Number	ST3000
Chemistry	lithium-ion (Li-Ion)
Capacity	5000 mAh nominal at 1000 mA discharge 20°C to 3.0 V (min)
Battery Life	9 hours, under normal operating conditions.
Voltage	3.7 V nominal (3.0 V min. to 4.2 V max.)
Cell Configuration	2 P1S (2 parallel connected cells)
Max. Charge Voltage	4.2 V +/- 1%
Recommended Charge Termination Timeout	5.0 hr - charging must stop.
Charge Temperature	0°C to +40°C (32°F to +104°F)
Discharge Temperature	-20°C to +50°C (-4°F to +122°F)
Storage Temperature	-20°C to +50°C (-4°F to +122 °F). Storage at elevated temperatures not recommended. 25°C (77 °F)—recommended storage temperature.
Cycle Life	300 cycles minimum with no degradation below 70% of nominal capacity based on 0.5C charge / 0.5C discharge rates (to 3.0 V) @ 23°C (73.4 °F).

Parameter	Specification

7.3.2 802.11a/b/g/n Radio

Parameter	Sub-parameter	Specification
Form Factor		Embedded surface mount module, 11.4 x 9.4 mm * This is a combo module containing both Wi-Fi 802.11a/b/g/n and <i>Bluetooth</i> V2.1+EDR radio
Antenna Port	802.11b/g/n	U.FL jack. Non-diversity. Multiplexed between 802.11b/g/n (2.4GHz) and <i>Bluetooth</i> radio
	802.11a/n	U.FL jack. Non-diversity.
Antenna Type	802.11b/g/n	PCB substrate patch antenna. Covers 2400-2484 MHz @ <2.5:1 VSWR
	802.11a/n	PCB substrate patch antenna. Covers 5150-5860 MHz @ <2.5:1 VSWR
Antenna Gain	802.11b/g/n	1.9 dBi
	802.11a/n	1.9 dBi
Transmit Power	802.11b	+18 dBm typical, +19.5 dBm max
	802.11g	+13 dBm typical, +14.5 dBm max
	802.11a	+12 dBm typical, +13.5 dBm max
	802.11n (2.4 GHz)	+12 dBm typical, +13.5 dBm max
	802.11n (5 GHz)	+12 dBm typical, +13.5 dBm max

Parameter	Sub-parameter	Specification
Frequency Range	802.11b/g/n	2400-2483.5 MHz
	802.11a/n	5150-5350 MHz, 5480-5720 MHz and 5725-5845 MHz
Channels	802.11b/g/n	1 to 14. Up to 14 channels (depending on country). Only 3 channels are non-overlapping.
	802.11a/n	36, 40, 44, 48, 52, 56, 60, 64 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140 149, 153, 157, 161, 165 Up to 24 channels (depending on country). All channels are non-overlapping.
RX Sensitivity	802.11b	-78 dBm @ 11 Mbps
	802.11g	-67 dBm @ 54 Mbps
	802.11a	-67 dBm @ 54 Mbps
	802.11n (2.4 GHz)	-66 dBm @ 65 Mbps
	802.11n (5 GHz)	-66 dBm @ 65 Mbps
Data Rates	802.11b	1,2,5.5,11 Mbps
	802.11a/g	6,9,12,18,24,36,48,54 Mbps
	802.11n	6.5,13,19.5,26,39,52,58.5,65 Mbps
EVM	802.11b	32% max
	802.11g	-26 dB max
	802.11a	-26 dB max
	802.11n (2.4 GHz)	-29 dB max
	802.11n (5 GHz)	-29 dB max
<i>Bluetooth</i> Coexistence		TI Wilink6 proprietary WiFi-BT co-existent scheme.

Bluetooth Radio

Parameter	Specification
Form Factor	Embedded surface mount module, 11.4 x 9.4 mm * This is a combo module containing both Wi-Fi 802.11a/b/g/n and Bluetooth V2.1+EDR radio
Antenna Port	U.FL jack (shared with Wi-Fi 802.11b/g/n radio)
Antenna Type	PCB substrate patch antenna. Covers 2400-2484 MHz @ <2.5:1 VSWR
Antenna Gain	1.9 dBi
Transmit Power	6.5 dBm typical, 8.5 dBm max
Frequency Range	2.400-2.4835 GHz
Channels	79
RX Sensitivity	-90 dBm typical, -70 dBm max
Data Rates	V1.2=732.2 kbps and 57.6 kbps asymmetric, 433.9 kbps symmetric V2.0=2 & 3 Mbps
802.11 Coexistence	TI Wilink6 proprietary WiFi-BT co-existent scheme.

802.15.4 Zigbee Radio

Parameter	Specification
Frequency Range	2405-2480 MHz
Transmitter Power	+10 dBm
Antenna Type & Gain	Chip Antenna, Average gain: -1.9 dBi, Peak Gain: +1.8dBi
Data Rate	250 kbps
Modulation	DSSS QPSK

7.6 Internal Scanners and Imagers

This section lists specifications for the following internal scanners. For a current list of model numbers and descriptions for Omnii scanner pod and back cover kits, please contact your Psion Teklogix representative.

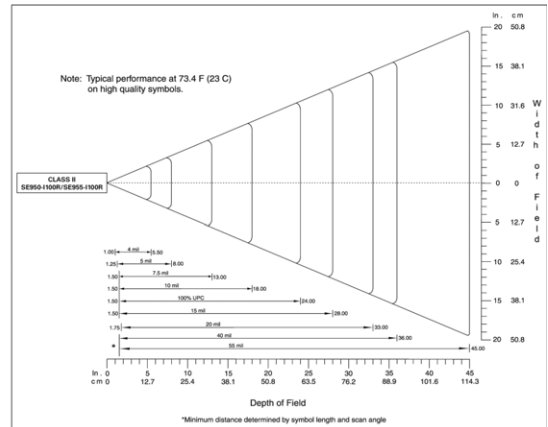
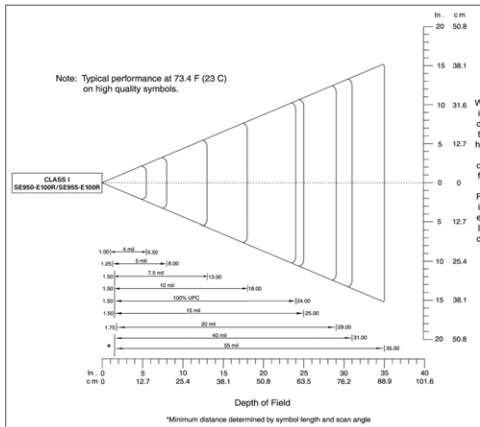
7.6.1 Scanner/Imager Kit Model Numbers

Scanner/Imager	Form Factor and Kit Model No.				
	Standard Pod	Slim Pod	End Cap - HSPA & GPS Antennas	Standard Back Cover Long	Standard Back Cover Short
SE955 Scanners (page 221)		ST9204	ST9604		
SE965 Scanners (page 222)	ST9105		ST9605	ST9705	ST9805
SE1223LR - Long Range (decoded) Scanner (page 223)	ST9102			ST9702	ST9802
SE1224HP - High Performance Scanner (page 225)	ST9101			ST9701	ST9801
SE1524ER - Extended Range Scanner (page 227)				ST9703	ST9803
EV15 1D Standard Range Imager (page 229)	ST9107		ST9607	ST9707	ST9807
EA11 Decoded 2D Imager (page 230)	ST9108	ST9208	ST9608	ST9708	ST9808
EA20X Imager (page 232)	ST9109	ST9209	ST9609	ST9709	ST9809
HHP 5080 Imager/Decoder (page 234)	ST9106	ST9206	ST9606	ST9706	ST9806

7.6.2 SE955 Scanner

Parameter	SE955
Configuration	Decoded
Scan Rate	104 (± 12) scans/sec (bidirectional)
Scan Angle	47°± 3° default / 35° ± 3° reduced
Voltage	3.0-3.6 V± 10%; 5 V± 10%
Ambient Light:	10,000 ft. candles
Laser Safety	IEC 60825
Electrical Safety	UL 60950, EN/IEC 60950
EMI/RFI	FCC Part 15 Class B, EN 55024/CISPR 22, AS 3548, VCCI
Environmental	RoHS Compliant

7.6.2.1 SE955 Decode Zones



7.6.3 SE965 Scanner - TBD

Parameter	SE965

7.6.3.1 SE965 Decode Zones - TBD

7.6.4 SE1223LR - Long Range (Decoded) Scanner

Parameter	SE1223LR
Light Source	Visible Laser Diode 650 nm
Scan Rate	35 (\pm 5) scans/sec (bi-directional)
Scan Angle	23° \pm 2°
Scan Patterns	Linear
Minimum Print Contrast	Minimum 40% absolute dark/light reflectance measured at 650 nm.
Symbologies Supported	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI, UCC/EAN 128, TriOptic Code 39.
Programmable Parameters	Laser On Time, Aim Duration, Power Mode, Trigger Mode, Bi-directional Redundancy, Symbology types/lengths, Data formatting, Serial Parameters, Beeper Tone.
Ambient Light	Artificial: 450 ft. candles (4,844 Lux). Sunlight: 8,000 ft. candles (86,112 Lux).
Power	Input Voltage: 5.0 VDC \pm 10% Input Current: 115 mA typical Standby Current: 70 μ A max.
Laser Classification	Intended for use in CDRH Class II and IEC Class 2 devices
Electrical Safety	UL, VDE, and CUL recognized component laser
Environmental	RoHS-compliant

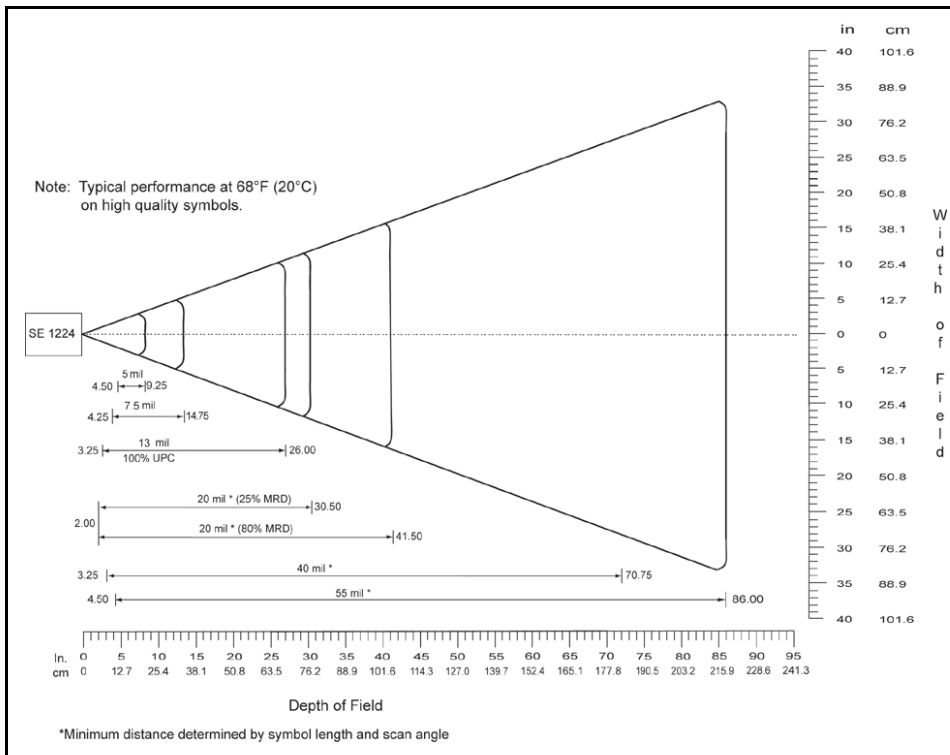
7.6.4.1 SE 1223LR Decode Zone

4,844 Lux to 86,112 Lux				
Mil Size	Minimum Range Inches	Width of Field Inches	Maximum Range Inches	Width of Field Inches
10	11	2	24	5
15	7.5	1	39	8
20	7.5	1	48	10
40	10	2	90	19
55	10	2	120	24
70 reflective	48		200	40
100 reflective	60		240	48
High quality symbols in normal room light.				

7.6.5 SE1224HP - High Performance Scanner

Parameter	SE1224HP
Type	Laser Class 2
Light Source	Visible Laser Diode 650 nm
Scan Rate	35 (\pm 5) scans/sec (bi-directional)
Scan Angle/Field of View	42° (typical), 30° (narrow)
Scan Patterns	Linear
Minimum Print Contrast	Minimum 25% absolute dark/light reflectance measured at 650 nm.
Symbologies	UPC/EAN, Code 128, UCC/EAN 128, RSS, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI.
Programmable Parameters	Laser On Time, Aim Duration, Power Mode, Trigger Mode, Bi-directional Redundancy, Symbology types/lengths, Data formatting.
Ambient Light	Artificial: 450 ft. candles (4844 Lux). Sunlight: 8000 ft. candles (86112 Lux).
Laser Output Power (peak)	1.35 mW

7.6.5.1 SE1224HP Decode Zones

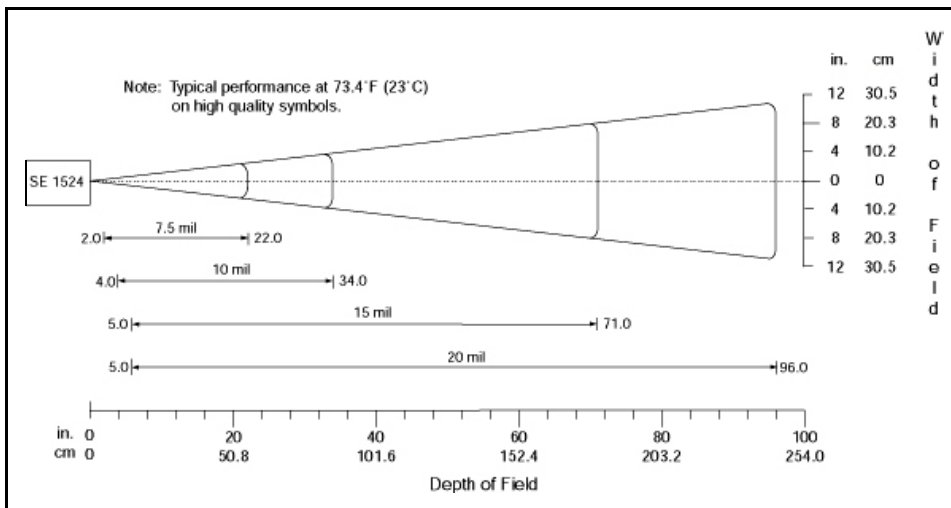


7.6.6 SE1524ER - Extended Range Scanner

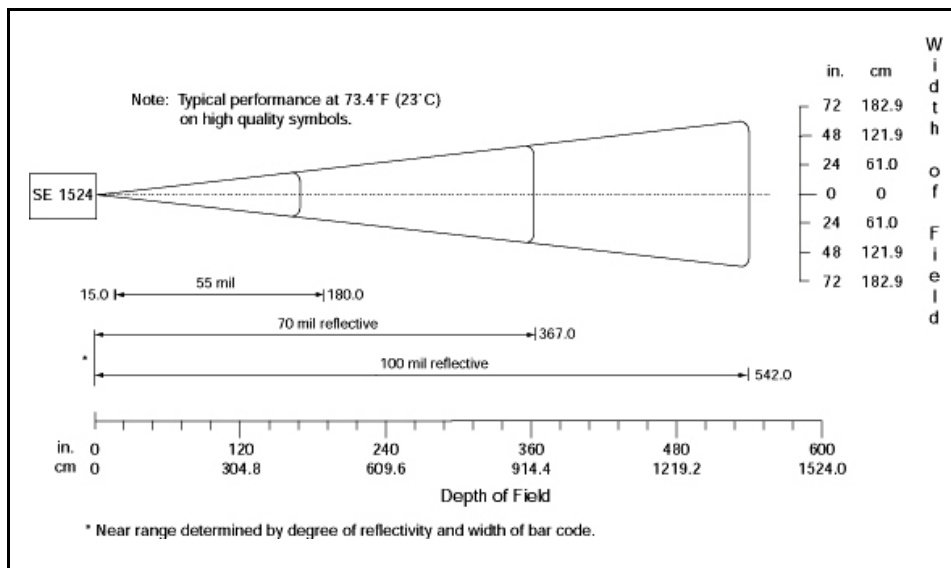
Parameter	Specification
Type	Laser Class 2
Light Source	Visible Laser Diode 650 nm
Scan Rate	35 (\pm 5) scans/sec (bi-directional).
Scan Angle/Field of View	13.5° \pm 0.7°
Scan Patterns	Linear
Minimum Print Contrast	Minimum 25% absolute dark/light reflectance measured at 650 nm.
Symbologies	UPC/EAN, Code 128, UCC.EAN128, RSS, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI.
Programmable Parameters	Laser On Time, Aim Duration, Power Mode, Trigger Mode, Bi-directional Redundancy, Symbology types/lengths, Data formatting.
Ambient Light	Artificial: 450 ft. candles (4,844 Lux) Sunlight: 4,000 ft. candles (86,112 Lux).
Laser Output Power (peak)	1.26 mW

7.6.6.1 SE1524ER Decode Zones

SE1524ER Decode Zone A (Short Range, Small Codes)



SE1524ER Decode Zone B (Long Range, Large Codes)



7.6.7 EV15 Imager

Parameter	Specification
Light Source	617 nm highly visible LED
Scan Angle	40°
Minimum Print Contrast	Minimum 25%
Minimum X. Dimension	0.1 mm (4 mils)
Reading Distance	Up to 90 cm (35 in)
Symbologies	UPC (E&A), EAN, RSS, Code 39, Code 128, UCC/EAN 128, ISBN, ISBT, Interleaved, Matrix, Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, PDF417, Micro PDF417
Ambient Light	Works in any lighting conditions, from 0 to 100,000 lux

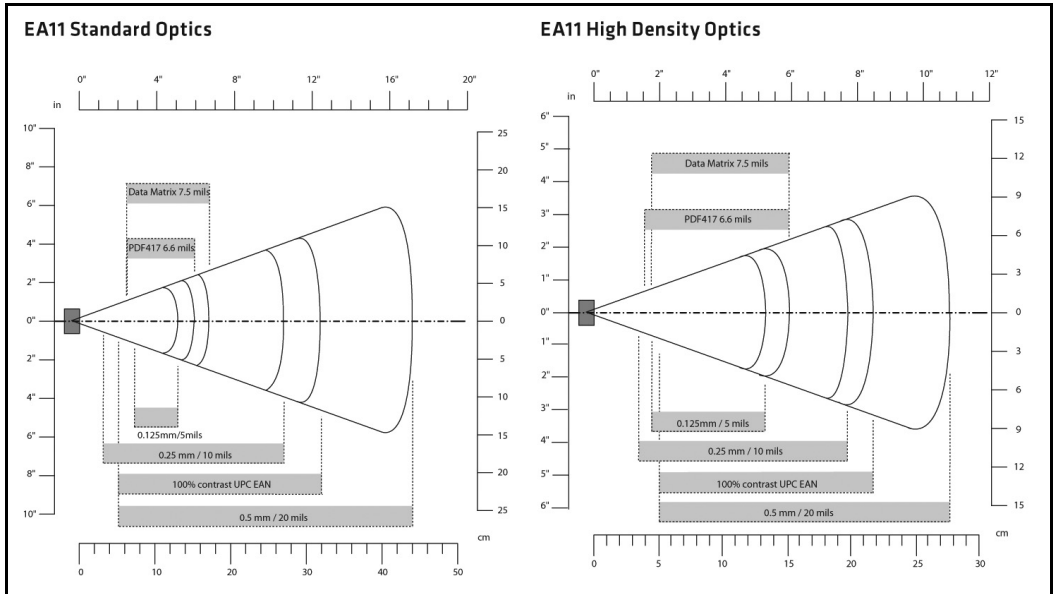
7.6.7.1 EV15 Imager Decode Zone

0 Lux to 100,000 Lux		
Mil Size	Minimum Range Inches	Maximum Range Inches
5	2.5	7
10	3	14
UPC	2	14.5
20	2.5	22
40	3	35.5
High quality symbols in normal room light.		

7.6.8 EA11 Decoded 2D Imager

Parameter	Specification
Scan Rate	2D mode: 56 images/s auto adaptive
Linear Emulation Mode	200 scans/s auto adaptive
Scan Angle	38.9° (horizontal), 25.4° (vertical)
Optical Resolution	752 (H) x 480 (V) pixels, 256 gray levels
Print Contrast	down to 25%
Versions	Standard range and high density
Symbologies - 1D	EAN/UPC, GS1 Databar (limited expanded & omni-directional), RSS, Code 39, Code 128, UCC/EAN 128, ISBN, ISBT, Interleaved/Matrix/Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, postal codes (Australian Post, BPO, Canada Post, Dutch Post, Japan Post, PostNet, Sweden Post)
Symbologies - 2D	Data Matrix, PDF417, Micro PDF 417, Codablock Maxicode, QR, Aztec GS1 composite codes
Voltage (optics)	3.3V -5% / +10% (typical values)
Operating Current	170mA - 310mA (lighting condition dependent)
Power Saving Mode	2mA
Ambient Light	Works in any lighting conditions, from 0 to 100,000 lux
Regulatory Approvals	UL, VDE certified, RoHS compliant

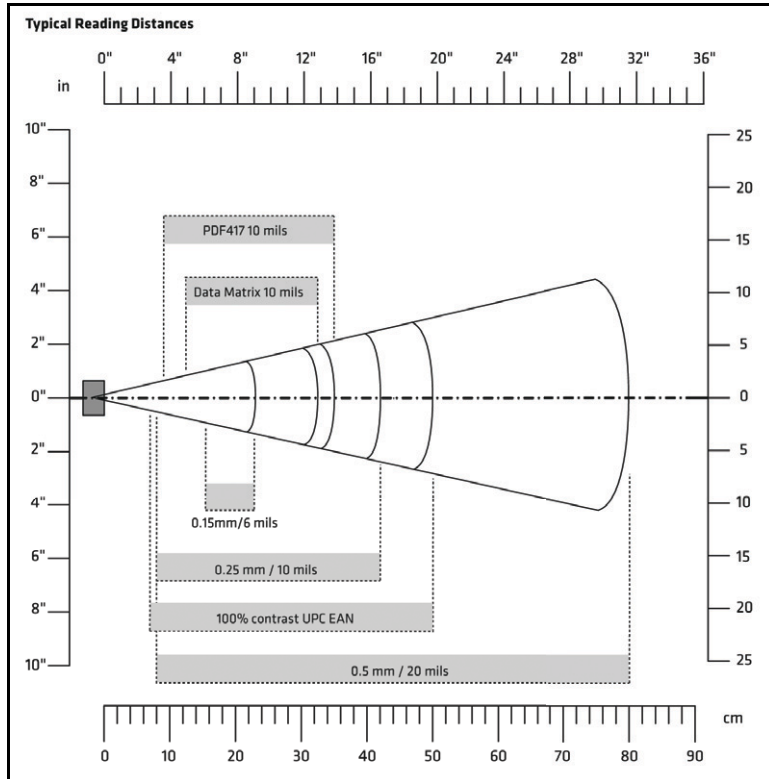
7.6.8.1 EA11 Typical Reading Distances



7.6.9 EA20X Imager

Parameter	Specification
Light Source	617nm highly visible LED, 650nm laser framing/aiming
Scan Rate	2D mode: 60 images/s auto adaptive
Linear Emulation Mode	200 scans/s auto adaptive
Scan Angle	26.0° (horizontal), 16.8° (vertical)
Framing Angles	25.0° (horizontal), 16.0° (vertical)
Optical Resolution	752 (H) x 480 (V) pixels, 256 gray levels
Print Contrast	down to 30% on 1D, 35% on 2D
Minimum Resolution	1D symbologies 0.15 mm (6 mil), Stacked (PDF417) 0.17 (6.6 mil) and 2D matrix 0.18 (7mil)
Symbologies - 1D	EAN/UPC, GS1 Databar (limited expanded & omni-directional), RSS, Code 39, Code 128, UCC/EAN 128, ISBN, ISBT, Interleaved/Matrix/Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, postal codes (Australian Post, BPO, Canada Post, Dutch Post, Japan Post, PostNet, Sweden Post)
Symbologies - 2D	Data Matrix, PDF417, Micro PDF 417, Codablock Maxicode, QR, Aztec GS1 composite codes
Voltage	3.3V± 5%
Operating Current	410mA @ 3.3V scanning with power save
Power Saving Mode	7mA
Ambient Light	From 0 to 100,000 lux
Regulatory Approvals	UL, cUL, VDE certified, RoHS compliant, Class 2 Laser

7.6.9.1 EA20X Typical Reading Distances



7.6.10 HHP 5080 Imager/Decoder

Parameter	Specification
Focal Point - SR	7 inches (17.8 cm) from lens plate
Focal Point - SF	4.5 inches (11.4 cm) from lens plate
Image Sensor	752 x 480 CMOS sensor
Motion Tolerance	4 inches per second
Rotational Sensitivity	360°
Viewing Angle	±40°
Ambient Light	Total darkness to 100,000 lux (full sunlight)
Illumination LEDs	626 nm ± 30 nm
Aiming	LEDs: 526 nm ± 30 nm Laser: 650 nm ± 10 nm
Input Voltage - Imager	3.3 VDC ± 5% (23°C)
Input Voltage - HHP 5080	3.0 VDC to 5.5 VDC (23°C)
Current Draw - Imager	Max. Operating Current: 100 mA; Standby Current: 100 µA
Current Draw - HHP 5080	Average Current (Interlaced Mode): 510 mA; Standby Current: 120 µA ; Peak: 600 mA
Symbologies: 2 Dimensional	PDF417, MicroPDF417, MaxiCode, Data Matrix, QR Code, Aztec, Aztec Mesa, Code 49, UCC Composite
Linear	Code 39, Code 128, Codabar, UPC, EAN, Interleaved 2 of 5, Reduced Space Symbology, Code 93, Codablock
Postal	Postnet (US), Planet Code, BPO 4 State, Canadian Post, Japanese Post, KIX (Netherlands) Post

7.6.10.1 HHP 5080 Working Range

Data is characterized at 23°C (73.4°F) and 0 lux ambient light.

Symbology	Size (mil)	Near	Far
SR			
Linear	8.3 (.020cm)	3.5 in. (8.9cm)	7.6 in. (19.3cm)
PDF417	10 (.025cm)	3.1 in. (7.9cm)	9 in. (22.9cm)
UPC	13 (.033cm)	2.1 in. (5.3cm)	13.2 in. (33.5cm)
Data Matrix	15 (.038cm)	2.3 in. (5.8cm)	10.2 in. (25.9cm)
QR	15 (.038cm)	3.1 in. (7.9cm)	8.8 in. (22.4cm)
MaxiCode	35 (.089cm)	2.0 in. (5.1cm)	13.0 in. (33cm)
SF			
PDF417	6.6 (.017cm)	2.8 in. (7.1cm)	6 in. (15.2cm)
Linear	7.5 (.019cm)	2.5 in. (6.4cm)	6.5 in. (16.5cm)
Data Matrix	12.5 (.021cm)	3.4 in. (8.6cm)	5.7 in. (14.5cm)
QR	8.3 (.021cm)	3.4 in. (8.6cm)	5.4 in. (13.7cm)
Linear	10 Linear	2.2 in. (5.6cm)	7.6 in. (19.3cm)
UPC	13 (.033cm)	2.0 in. (5.1cm)	8.9 in. (22.6cm)

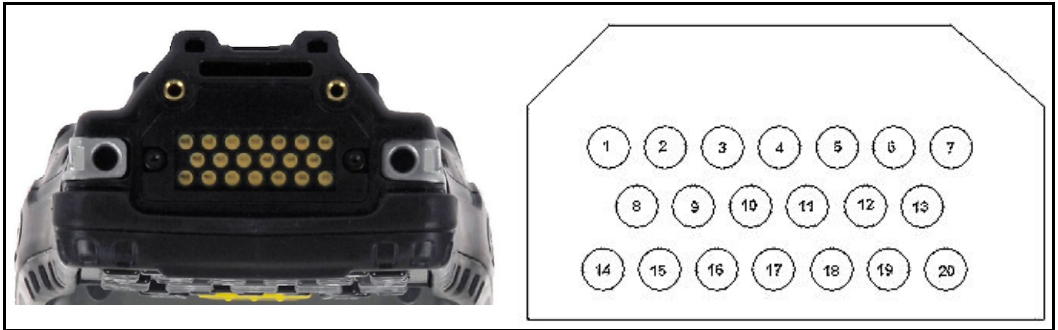
APPENDIX A

PORT PINOUTS

A.1 Docking Connector	A-3
A.2 Battery Contacts	A-4

A.1 Docking Connector

The docking interface on the base of Omnii is custom-designed to dock with a device via an array of spring-mounted pins.



The following are the pin assignments of the interface.

Table A.1 Docking Connector Pinout

Pin #	Signal	Pin #	Signal
1	GROUND	11	USB_OTG_P
2	DC_IN	12	USB_OTG_M
3	DOCK_LOW_PWR	13	CHARGE_IN
4	GROUND	14	GROUND
5	USB_OTG_VBUS	15	DC_IN
6	CHARGE_IN	16	UART_RX
7	GROUND	17	GROUND
8	DC_IN	18	UART_TX
9	USBH_P	19	CHARGE_DATA
10	USBH_M	20	GROUND

A.2 Battery Contacts

Figure A.1 Battery Contact Pinout



Pin #	Signal Name	Description
1	BATT-RAW	Positive lead of battery.
-		Plastic Rip - provides mechanical polarity.
2	BATT-RAW	Positive lead of battery.
3	BATT-CLK	SMBus data clock.
4	BATT-ID	0 Ω to NEG.
5	BATT-DATA	SMBus bi-directional data line.
6	GND	Negative lead of battery.
7	GND	Negative lead of battery.

APPENDIX B

WIRELESS ZERO CONFIG

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B.3.1 Rearranging Preferred Networks	B-8
B.3.2 Deleting A Preferred Network	B-9
B.3.3 Changing Network Properties	B-9

B.1 Wireless Information

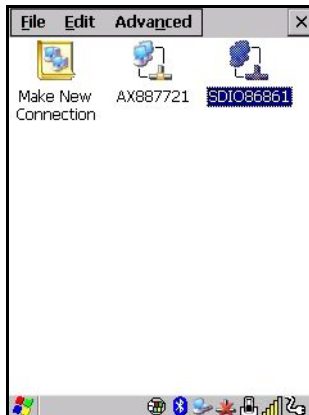
Wireless Zero Config, the Windows native supplicant, can be used to configure the radio. To ensure that *Wireless Zero Config* is activated, refer to “Wi-Fi Config: Advanced Tab” on page 29.

- Tap on **Start>Settings>Network and Dial-up Connections**.



- Choose the **radio icon** representing the radio you want to set up—in the sample screen in Figure B.2, this is labelled as *SDIO86861*

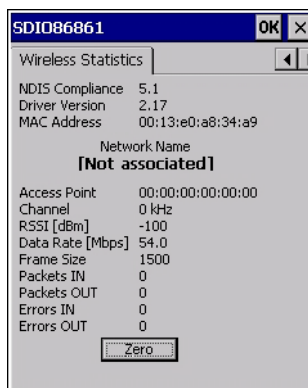
Figure B.2 802.11 Wireless LAN Settings Window



B.1.1 Wireless Statistics Tab

When you choose the **Wireless LAN** icon, an **802.11 Wireless LAN Settings** window is displayed. This tab lists your radio statistics. Choosing the *Zero* button resets the statistics of the last four items—Packets IN, Packets OUT, IN errors and OUT errors.

Figure B.3 Wireless Statistics

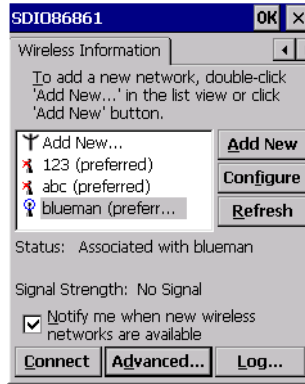


B.1.2 Wireless Information Tab

This tab displays existing networks to which you can connect, and it allows you to add a new network or modify the settings for an existing network.

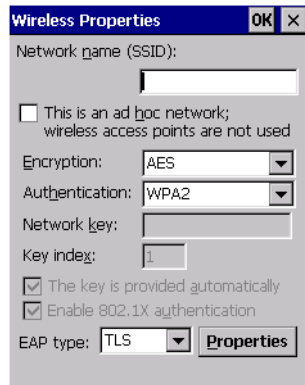
- **Configure** button: To change the settings in an existing network, highlight the network you want to modify, and tap on the **Configure** button to display the **Wireless Properties** dialog box.
- **Connect** button: To force connection to a specific, existing network, highlight the network to which you want Omnii to connect, and tap on the **Connect** button.

Figure B.4 Wireless Information Tab



This tab lists available networks—any access points that are broadcasting an SSID, and it lists preferred networks—networks that you have configured. Since access points are generally secure, they will most likely not be listed here. By default, Omnii attempts to connect to preferred networks. This behaviour can be changed by enabling *Automatically connect to non-preferred networks* in the *Advanced* dialog box (see Figure B.6).

- To add a new configuration, tap on the **Add New** button. A blank *Wireless Properties* dialog box is displayed.



Wireless Properties

- Type the appropriate SSID (Service Set Identifier) in the **Network name (SSID):** dialog box. The *Network name* field can contain a maximum of 32 characters. The name assigned here is listed as a preferred network.



Important: *Keep in mind that Omnii will only communicate with access points that are configured with the same SSID.*

- **Ad Hoc And Infrastructure:** If you are using an *Infrastructure* network—one in which the hand-helds must pass data through an access point—leave the checkbox next to *This is an ad hoc network* blank.

If you are using an *Ad Hoc* network—a network in which the hand-helds pass data directly to other Ad Hoc devices without an access point—add a checkmark in the checkbox next to *This is an ad hoc network* to enable Ad Hoc.

- **Encryption:** *WEP* (Wired-Equivalent Privacy) encryption prevents others from accidentally accessing your network. If you are not using encryption, you can choose *Disabled* from the drop-down encryption menu. Otherwise, leave this field as is.

AES (Advanced Encryption Standard) is a standard for protecting data through encryption. AES supports key sizes of 128 bits, 192 bits and 256 bits and will serve as a replacement for the Data Encryption Standard (DES), which has a key size of 56 bits. In addition to the increased security that comes with larger key sizes, the AES algorithm is a symmetrical block cipher that can encrypt (encipher) and decrypt (decipher) information.

- **Authentication:** 802.11 supports several subtypes of network authentication services: *Open*, *Shared*, *WPA*, and *WPA-PSK*. Under *Open* authentication, any wireless station can request authentication. The station that needs to authenticate with another wireless station sends an authentication management frame that contains the identity of the sending station. The receiving station then sends back a frame that indicates whether it recognizes the identity of the sending station.

Under *Shared* authentication, each wireless station is assumed to have received a secret shared key over a secure channel that is independent from the 802.11 wireless network communications channel.

Under *WPA* and *WPA-PSK* authentication, the use of 802.1x authentication is required. For wireless networks *without* a Remote Authentication Dial-In User Service (RADIUS) infrastructure, WPA supports the use of a preshared key. For wireless networks *with* a RADIUS infrastructure, Extensible Authentication Protocol (EAP) and RADIUS is supported.

- **Network Key:** This text box is used to specify a 5 or 13 ASCII character sequence or an equivalent 10 or 26 Hexadecimal digit sequence that matches the active WEP key on the access point.

To assign a *Network key*, highlight **The key is provided automatically**, and *uncheck* the checkbox to disable this option.

Figure B.5 Network Key and Key Index



- **Key Index:** This field is used to identify the WEP key. Enter a value from **1** to **4**.
- **Enable 802.1x authentication:** *802.1X* is the IEEE standard that offers additional security for local area networks. It provides authentication for user devices attached to an Ethernet network, whether wired or wireless. A security protocol packet such as TLS or MD5 encapsulated in an *EAP* is used in conjunction with the 802.1X standard to authenticate users at the MAC layer. Available EAPs are listed in the drop-down menu next to the *EAP* option.
To activate 802.1X, highlight **802.1x authentication**, and check the checkbox.
- **EAP Type (Extensible Authentication Protocol):** This drop-down menu lists the EAP types available on your system. The items in this drop-down menu will vary depending on your network setup. Keep in mind also that some authentication protocols require that you select a Certificate. By selecting the *Properties* button, you will be able to select a *Certificate*. “Certificates” on page 95 provides a website that outlines how to create certificates for your network.
- **Saving and exiting the radio setup:** Once you’ve completed the configuration, press [ENTER], or tap on OK.

The connection you created will be listed in the *Wireless Information* tab as a preferred network. The radio will search for the SSID and compare the WEP and authentication information you specified. If there is a match between the hand-held settings and the access point settings, the hand-held will communicate on the network through the access point.

B.2 Assigning An IP Address

If your network is not using a DHCP server, you will need to assign an IP address. Refer to “IP Address” on page 26 for details about assigning an IP address.

B.2.1 Name Server

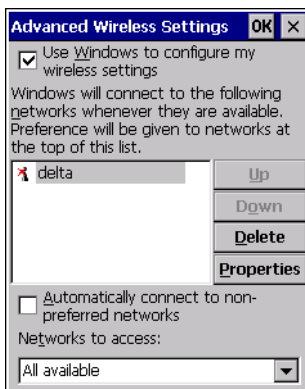
Refer to “Name Server” on page 28 for details about this option.

B.3 Advanced Features

To display the *Advanced Wireless Settings* dialog box:

- Tap on the **Advanced** button in the *Wireless Information* tab. (Refer to Figure B.4.) This window lists the available preferred networks.

Figure B.6 Advanced Settings



B.3.1 Rearranging Preferred Networks

Omnii attempts to connect with the networks listed in this dialog box in sequence, beginning at the top of the list. If you need to rearrange this list of networks—move networks up and down in the list:

- Tap in the *Networks List*, and highlight the **network** that you want to move up or down in the list.
- To move the highlighted item in the list upward or downward, tap on the **Up** or **Down** button.

B.3.2 Deleting A Preferred Network

To delete a network from this list:

- In the *preferred networks* list, highlight the **network** you want to remove.
- Tap on the **Delete** button.

B.3.3 Changing Network Properties

To change the properties of an existing preferred network:

- Highlight the **network** that you want to modify.
- Tap on the **Properties** button.
- Make any necessary changes in the *Wireless Properties* dialog box, and press **[ENTER]** to save the changes.

APPENDIX C

BAR CODE SETTINGS - TBD

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C.1 Bar Code Settings

The *Teklogix Scanners* icon in the *Control Panel* provides dialog boxes in which you can tailor bar code scanner configurations and choose the bar codes your scanner will recognize.



The parameters are preset with the default settings of the decoded scanner installed in the unit. For a listing of available scanners and their specifications, please refer to Chapter 7: “Specifications”.

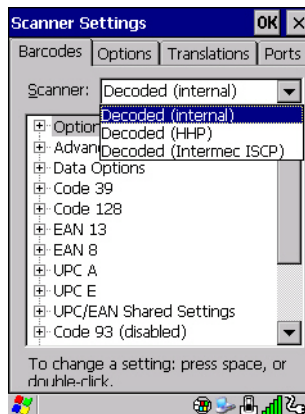


Note: To enable a newly-installed scanner, press and hold down the [FN] key and the [ENTER/Power] key simultaneously for a minimum of three seconds.

For information on configuring the Options, Translations, and Ports settings, see “Teklogix Scanners” on page 158.

C.1.1 Scanner Options

The drop-down menu to the right of the *Scanner* option allows you to choose configurations for one of the following scanner types, depending on what is installed in/on your hand-held: *Decoded (internal)*, *Decoded (HHP)*, *Decoded (Intermec ISCP)*, and *Non-decoded Scanners*.



The symbologies listed change to reflect the scanner you choose and the bar codes it supports. Always defer to your bar code scanner’s programming manual when in doubt about the availability or settings for any parameter.



*Note: Your Omnii comes preconfigured from the factory for internal scanner types. The type of scanner installed can be determined from the **System** icon in the Control Panel, under the System Properties tab.*



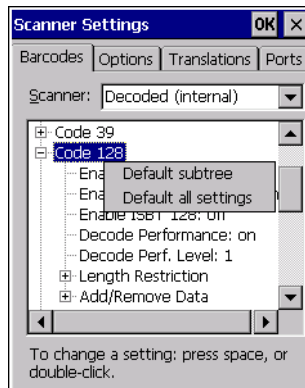
Important: *To improve the decode speed and performance, enable (set to 'on') only those codes that are required by the application.*

Keep in mind that some bar code types are only available when an internal imaging scanner is installed. All internal scanners can be configured using these dialog boxes.

C.1.2 Restoring Default Settings

If you want to restore the factory defaults after making changes, the defaults can be applied to a selected parameter, sub-tree of parameters, or all scanner parameters.

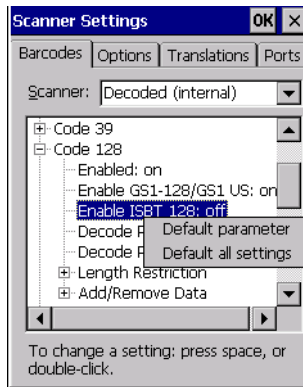
- Press and hold on a symbology (e.g., Code 128) to display a pop up a menu.



- Choose **Default subtree** to reset only the parameters in the symbology you selected, or choose **Default all settings** to reset all scanner parameters to default settings.

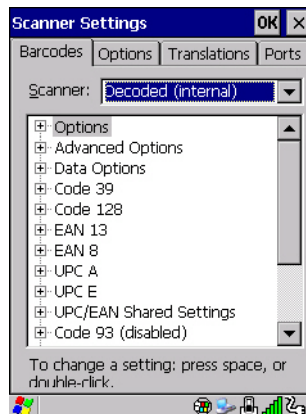
To reset a single parameter to its default setting:

- Press and hold on the parameter you want to reset.



- Choose **Default parameter** to reset the parameter to the default setting.

C.2 Decoded (Internal) Scanners



- Tap on the **Scanner** drop-down menu, and choose **Decoded (internal)**.

C.2.1 Options



Note: Some options are available only for specific scanners. Refer to the option names in this section for scanner model identification.

Dot Time (msec)

The value selected for Dot Time (msec) determines (in milliseconds) how long the targeting dot remains on before the scanner switches to a normal scan sweep. When you double-tap

on this parameter, a dialog box is displayed in which you can enter a value of *0 msec*, *200 msec* or *400 msec*. A value of **0** (zero) disables the target dot.

Laser On Time

The value assigned to this parameter determines how long the laser will remain on when the scan button or trigger is pressed.

Double-tapping on this parameter displays a dialog box in which you can enter a value between *5* and *99*. The value is measured in tenths of seconds.

C.2.2 Decoded (Internal) Advanced Options

Scan Mode

You can set the method of scanning by setting this parameter to *Scan beam only*, *Aim with Scan: 1 trigger pull*, *Aim with Scan: 2 trigger pulls*, *Aim with Scan on trigger release*, and *Continuous Scan Mode*. Default is *Scan beam only*.

Aim Duration

This parameter determines the total time the aiming pattern appears before the scanner laser begins sweeping. When you double-tap on this parameter, a dialog box is displayed in which you can enter a value from *0* to *30* (0 to 3 sec.). A value of **0** (zero) disables the aiming-dot.

Minimum Cancel Time

The value assigned to this parameter determines the time delay before the scanner is turned off, once the scanner trigger or button is released. This gives the scanner a minimum amount of time to complete its current decode before the scan is cancelled when you quickly trigger on/off.

Power Mode

This parameter is a power-saving option. Tapping on it displays a screen listing two power mode options: *Continuous Power* and *Low Power*.

In *Continuous Power* mode, the scanner is always on, waiting for a trigger pull or serial communication.

In *Low Power* mode, the scanner is in a standby state, drawing minimal power until a trigger pull or serial communication wakes it. Keep in mind that while this option is more suitable for battery powered applications, there will be a slight delay while the scanner powers up to scan a bar code.

Low Power Timeout

To extend laser life, you can select the time the scanner remains active following a successful decode. The scanner wakes from low power mode when a bar code is scanned—a successful decode restores normal flashing.

This is only used if the unit's *Trigger Mode* has been changed to *Continuous On*. If the unit is used in a fixed mount this parameter might be used, but not if the unit is used as a hand-held.

When you double-tap on this parameter, a dialog box is displayed in which you can choose a value of *30 sec.*, *1 min.*, *2 min.* or *3 min.*



Note: This parameter is only used if the Trigger Mode has been set to Continuous On and Omnii is mounted in a fixed position; otherwise, 'Low Power Timeout' is not used.

Parameter Scanning

Setting this parameter to **on** enables decoding of parameter bar codes.

Linear Security Level

This parameter allows you to select the security level appropriate for your bar code quality. There are four levels of decode security for linear code types (e.g., Code 39, Interleaved 2 of 5). Higher security levels should be selected for decreasing levels of bar code quality. As security levels increase, the scanner's decode speed decreases.

Double-tapping on this parameter displays a dialog box in which you can enter a value from **1** to **4**.

Linear security level 1 specifies that the following code types must be successfully read twice before being decoded:

Code Type	Length
Codabar	All
MSI Plessey	4 or less
D 5 of 5	8 or less
I 2 of 5	8 or less

Linear security level 2 specifies that all types of codes must be successfully read twice before being decoded.

Linear security level 3 specifies that code types other than the following must be successfully read twice before being decoded. The following codes must be read three times:

Code Type	Length
MSI Plessey	4 or less
D 2 of 5	8 or less
I 2 of 5	8 or less

Linear security level 4 requires that all code types be successfully read three times before being decoded.

Bi-Direction Redundancy



Note: This parameter is only valid if a “Linear Security Level” is enabled.

When this parameter is enabled, a bar code must be successfully scanned in both directions (forward and reverse) before being decoded.

C.2.3 Decoded (Internal) Data Options

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

When you double-tap on this parameter, a dialog box is displayed in which you can choose a transmit code: *None*, *AIM* or *Symbol*.

Scan Data Format

This parameter allows you to change the scan data transmission format.

Double-tapping on **Scan Data Format** displays the following options from which you can choose a data format: *data (as-is)*, *data [S1]*, *data [S2]*, *data [S1][S2]*, *[P] data*, *[P] data [S1]*, *[P] data [S2]* and *[P] data [S1][S2]*.

Prefix [P], Suffix [S1] and Suffix [S2]

A prefix and/or one or two suffixes may be appended to scan data for use in data editing. When you double-tap on these parameters, dialog boxes are displayed in which you can enter a value from **0** to **255**.

Delete Char Set ECIs

Setting this parameter to **on** enables the scanner to delete any escape sequences representing Character Set ECIs (Extended Channel Interpretations [also known as GLIs]) from its buffer before transmission.

When this parameter is enabled, the scanner transmits data from PDF417 and MicroPDF417 bar codes containing Character Set ECIs, even when the ECI Protocol is disabled.

ECI Decoder

Setting this parameter to **on** enables the scanner to interpret any Extended Channel Interpretations (ECIs) supported by the scanner. This parameter has no effect on symbols that were not encoded using ECIs.

If this parameter is set to **off** and a symbol that was encoded using an ECI escape is scanned, the scanner transmits the ECI escape followed by the uninterpreted data.

C.2.4 Code 39

Enabled

Setting this parameter to **on** enables “Code 39”.

Enable Trioptic Code 39



Note: “Trioptic Code 39” and “Full ASCII” should not be enabled simultaneously. The scanner does not automatically discriminate between these two symbologies.

Trioptic Code 39 symbols always contain six characters. Setting this parameter to **on** allows this type of symbology to be recognized.

Convert To Code 32



Note: “Code 39” must be enabled in order for this parameter to function.

Setting this parameter to **on** allows the scanner to convert the bar code from “Code 39” to “Code 32”.

Code 32 Prefix



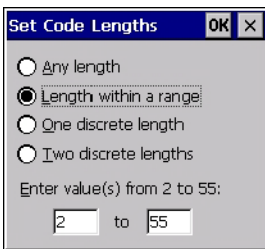
Note: “Convert to Code 32” must be enabled in order for this parameter to function.

When this parameter is enabled, the prefix character “A” is added to all “Code 32” bar codes.

Set Length L1 and Set Length L2

Lengths for “Code 39” can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes labelled *Set Code Lengths* where you can define the code length that will be decoded by your scanner.



Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from **2** to **55**.

Check Digit Verification

When this parameter is enabled, the integrity of a “Code 39” symbol is checked to ensure that it complies with specified algorithms.



Note: Only those “Code 39” symbols that include a MOD 43 check digit are decoded when this parameter is enabled.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Full ASCII

If this parameter is enabled, the characters +, %, and / are used as escape characters. The combination of an escape character and the next character is converted to an equivalent ASCII character.

Decode Performance

If this parameter is enabled, one of three decode levels can be chosen in the *Decode Performance Level* parameter.

Decode Perf. Level

This parameter provides three levels of decode performance or “aggressiveness” for Code 39 symbols. Increasing the performance level reduces the amount of required bar code orientation—this is useful when scanning very long and/or truncated bar codes. Keep in mind that increased levels reduce decode security.

When you double-tap on this parameter, a dialog box is displayed in which you can enter a decode performance level of between **1** and **3**.

Length Restriction

The parameters in this sub-menu allow you to define the length of the bar codes that will be decoded using either the *Field Size* parameter or the *Minimum Size* and *Maximum Size* parameters (see below). The order of operation to either match the *Field Size* or determine if the length falls between the *Minimum Size* and *Maximum Size* is as follows:

- Strip the leading and trailing characters.
- Add the prefix and suffix characters.
- Count the number of characters remaining to either match the field size or determine if the length falls between the minimum and maximum size.

Field Size

When a value is assigned for this parameter, only bar codes that match the field size exactly can be transmitted. If a value is assigned to this parameter, a *Minimum Size* and *Maximum Size* value is not required.

Minimum Size and Maximum Size

When a value is assigned to these parameters, only bar code lengths that fall between the minimum and maximum value can be decoded. If values are assigned to these parameters, a *Field Size* value is not required.

Add/Remove Data

Prefix Char

This character, if non-zero, is added before a successfully decoded bar code. Press the key you want to insert in the dialog box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

Suffix Char

This character, if non-zero, is added after a successfully decoded bar code. Press the key you want to insert in the dialog box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

Strip Leading

This parameter determines the number of characters that will be removed from the beginning of the bar code before the prefix character is added.



*Note: For Code 39 bar codes, the “AIAG Strip” is performed **before** the “Strip Leading”.*

Strip Trailing

The value entered in this parameter determines the number of characters that will be removed from the end of the bar code before the suffix character is added.

C.2.5 Code 128

Enabled

Set this parameter to **on** to enable “Code 128”.

Enable GS1-128/GS1 US

Previously UPC/EAN and UCC, the GS1-128/GS1 US types of bar code include group separators and start codes.

Enable ISBT 128

To successfully scan this type of bar code, this option must be set to **on**.

Decode Performance

If this parameter is set to **on**, one of three decode levels assigned to the *Decode Performance Level* parameter can be selected.

Decode Perf. Level

This parameter provides three levels of decode performance or “aggressiveness” for Code 128 symbols. Increasing the performance level reduces the amount of required bar code orientation, allowing you to scan at an angle horizontal to the bar code. This is useful when scanning very long and/or truncated bar codes. Keep in mind that increased levels reduce decode security. There is a limitation that it can only be used with one fixed length.

When you double-tap on this parameter, a dialog box is displayed in which you can enter a decode performance level of between **1** and **3**.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.6 EAN 13

Enabled

Set this parameter to **on** to enable “EAN 13”.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.7 EAN 8

Enabled

Set this parameter to **on** to enable “EAN 8”.

EAN-8 Zero Extend

When this parameter is enabled, five leading zeros are added to decoded EAN-8 symbols, making them compatible in format to EAN-13 symbols. Disabling this parameter returns EAN-8 symbols to their normal format.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.8 UPC A

Enabled

Set this parameter to **on** to enable “UPC A”.

UPC-A, Check Digit

If you enable this parameter, the check digit is included with the decoded bar code data.

UPC-A, Preamble

When you double-tap on this parameter, a dialog box is displayed where you can choose one of three options for lead-in characters for UPC-A symbols transmitted to the host device:

System Char—system character transmitted with the data,

Country Code and System Char—both the country code (“0” for USA) and system character are transmitted with the data, or

None—no preamble is transmitted. The lead-in characters are considered part of the symbol.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.9 UPC E

Enabled UPC-E

Set this parameter to **on** to allow “UPC E” bar code scans.

Enabled UPC-E1

Set this parameter to **on** to allow “UPC-E1” (zero suppressed) bar code scans.

UPC-E and UPC-E1 Check Digit

If you enable one or both of these parameters, a check digit is included with the decoded bar code data.

UPC-E and UPC-E1 Preamble

When you double-tap on one of these parameters, a dialog box is displayed where you can choose one of three options for lead-in characters for UPC-E and UPC-E1 symbols transmitted to the host device:

System Char—system character transmitted with the data,

Country Code and System Char—both the country code (“0” for USA) and system character are transmitted with the data, or

None—no preamble is transmitted. The lead-in characters are considered part of the symbol.

Conv. UPC-E To UPC-A

This parameter converts UPC-E (zero suppressed) decoded data to UPC-A format before transmission. After conversion, data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit).

Conv. UPC-E1 To UPC-A

This parameter converts UPC-E1 (zero suppressed) decoded data to UPC-A format before transmission. After conversion, data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit).

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.10 UPC/EAN Shared Settings

The parameters you set here are a shared across all available UPC and EAN bar codes.

Enable Bookland EAN

Setting this parameter to **on** allows your scanner to recognize Bookland EAN bar codes.

Supplementals

Supplementals are additionally appended characters (2 or 5).

Double-tapping this parameter displays a list of options. If Ignore is chosen, UPC/EAN is decoded and the supplemental characters are ignored. If Decode is chosen, UPC/EAN symbols are decoded with supplementals. Autodiscriminate works in conjunction with the *Supp. Redundancy* parameter.

Supp. Redundancy

With “Autodiscriminate” selected in the *Supplementals* parameter, *Supp. Redundancy* adjusts the number of times a symbol without supplementals is decoded before transmission.

When you double-tap on this parameter, a dialog is displayed in which you can enter a value between **2** and **20**. A value of 5 or above is recommended when Autodiscriminate is selected and you are decoding a mix of UPC/EAN symbols with and without supplementals.

Security Level

This parameter controls the tolerance for decoding edge-to-edge UPC/EAN bar codes. Double-tapping on this parameter displays a dialog box in which you can choose a level from **0** to **3**. Lower values have a lower tolerance for misreads, but they also increase the time it takes to decode the bar code.

Linear Decode

Linear Decode applies to code types containing two adjacent blocks (e.g., UPC-A, EAN-8, EAN-13). When enabled (set to **on**), a bar code is transmitted only when both the left and right blocks are successfully decoded within one laser scan. This option should be enabled when bar codes are in proximity to each other.

2D UPC Half Block Stitching

Setting this parameter to **on** enables “UPC Half Block Stitching” for an omnidirectional engine only.

C.2.11 Code 93

Enabled

Set this parameter to **on** to enable “Code 93”.

Set Length L1 and Set Length L2

Lengths for “Code 93” can be set for *Any Length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those bar codes of a specified length. Choosing *Two discrete lengths* allows you to specify two lengths of bar codes that may be decoded. *Length within a range* allows you to decode any bar code with a length that falls within a specified range (e.g. between **10** and **15** characters). The minimum and maximum values for the range are **4** and **55**, respectively.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.12 Codabar

Enabled

Set this parameter to **on** to enable “Codabar”.

Set Length L1 and Set Length L2

Lengths for “Codabar” can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those bar codes of a specified length. Choosing *Two discrete lengths* allows you to specify two lengths of bar codes that may be decoded. *Length within a range* allows you to decode any bar code with a length that falls within a specified range (e.g. between **10** and **15** characters). The minimum and maximum values for the range are **5** and **55**, respectively.

CLSI Editing

When enabled, this parameter strips the start and stop characters and inserts a space after the first, fifth, and tenth characters of a 14-character Codabar symbol.



Note: Symbol length does not include start and stop characters.

NOTIS Editing

When enabled, this parameter strips the start and stop characters from decoded Codabar symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.13 MSI Plessey

Enabled

Set this parameter to **on** to enable “MSI Plessey”.

Set Length L1 and Set Length L2

Lengths for “MSI Plessey” can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those bar codes of a specified length. Choosing *Two discrete lengths* allows you to specify two lengths of bar codes that may be decoded. *Length within a range* allows you to decode any bar code with a length that falls within a specified range (e.g. between **10** and **15** characters). The minimum and maximum values for the range are **6** and **55**, respectively.

Check Digits

Double-tapping on this parameter displays a dialog box in which you can choose *One* or *Two* check digit(s).

If this parameter is set to *One*, it is assumed that the last digit is a check digit. If “Check Digits” is set to *Two*, it is assumed that the last two digits are check digits.



*Note: If **Two check digits** is selected, an MSI Plessey “Check Digit Algorithm” must also be selected. See below for details.*

Transmit Check Digit

If this parameter is enabled, the check digit is included with the bar code data.

Check Digit Algorithm

When the *Two MSI Plessey* check digits option is selected, an additional verification is required to ensure integrity. Double-tapping on this parameter displays a dialog box in which you can choose the algorithm to be used: *MOD 10/MOD 11* or *MOD 10/MOD 10*.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.14 Interleaved 2 of 5

Enabled

Set this parameter to **on** to enable “Interleaved 2 of 5”.

Set Length L1 and Set Length L2

Lengths for “Interleaved 2 of 5” can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those bar codes of a specified length. Choosing *Two discrete lengths* allows you to specify two lengths of bar codes that may be decoded. *Length within a range* allows you to decode any bar code with a length that falls within a specified range (e.g. between **10** and **15** characters). The minimum and maximum values for the range are **4** and **14**, respectively.

Check Digit Verification

When enabled, this parameter checks the integrity of an I 2 of 5 symbol to ensure it complies with a specified algorithm: either USS (Uniform Symbology Specification) or OPCC (Optical Product Code Council).

Transmit Check Digit

If this parameter is enabled, the check digit is included with the bar code data.

Convert To EAN 13

If this parameter is enabled, an I 2 of 5 bar code is converted to EAN 13.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.15 Discrete 2 of 5

Enabled

Set this parameter to **on** to enable “Discrete 2 of 5”.

Set Length L1 and Set Length L2

Lengths for “Discrete 2 of 5” can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those bar codes of a specified length. Choosing *Two discrete lengths* allows you to specify two lengths of bar codes that may be decoded. *Length within a range* allows you to decode any bar code with a length that falls within a specified range (e.g. between **10** and **15** characters). The minimum and maximum values for the range are **1** and **12**, respectively.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.16 RSS Code (Reduced Space Symbology)

Enable

Setting any of these parameters to **on** enables “2D RSS Code” scanning capability.

Enable RSS-14 (Reduced Space Symbology)

RSS-14 code can be either purely linear or split in half with one half stacked on top of the other half. Stacking the code reduces the bar code length, and providing the nominal height of the code is maintained, it can be omni-directionally scanned.

Enable RSS Limited

“RSS-Limited” is restricted, in that it can only encode 14 digit GTINs (global trade item number) that begin with either a *0* or a *1*. It is not stackable and is not designed to be read omni-directionally.

Enable RSS Expanded

“RSS Expanded” uses the same application identifiers as UCC/EAN-128 codes but it can be split into sections and stacked several rows high, reducing the length of the symbol, while increasing the capacity of data that can be stored. “RSS Expanded” code can be omni-directionally scanned.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.17 Composite



Important: *To successfully read this type of bar code, the two types of symbologies included in a composite bar code must be enabled.*

A composite symbol includes multi-row 2D components making it compatible with linear and area CCD scanners along with linear and rastering laser scanners. The options available for this parameter represent multi-level components of a composite symbol.

Enable CC-C and Enable CC-AB

To activate these components, set the parameters to **on**.

Enable TLC-39

This composite component integrates MicroPDF417 with the linear code. Setting this parameter to **on** enables this parameter.

C.2.18 PDF-417

Enabled

Setting this parameter to **on** enables PDF-417 two dimensional (2D) coding.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.2.19 Micro PDF-417

Enabled

Setting this parameter to **on** enables “2D Micro PDF-417” bar code scanning. Micro PDF-417 is a multi-row symbology that is useful for applications requiring greater area efficiency but lower data capacity than PDF-417.

Code 128 Emulation

When this parameter is enabled, the scanner transmits data from certain Micro PDF-417 symbols as if it was encoded in Code 128 symbols.

If Code 128 Emulation is enabled, the following Micro PDF-417 symbols are transmitted with one of the following prefixes:

JC1 if the first codeword is 903-907, 912, 914, 915

JC2 if the first codeword is 908 or 909

JC0 if the first codeword is 910 or 911

If Code 128 Emulation is set to off, the Micro PDF-417 symbols are transmitted with one of the following prefixes:

JL3 if the first codeword is 903-907, 912, 914, 915

JL4 if the first codeword is 908 or 909

JL5 if the first codeword is 910 or 911

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

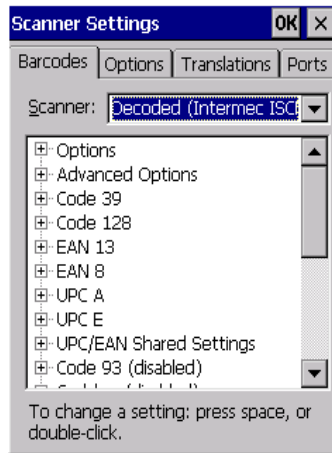
Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.3 Decoded (HHP)

To configure imagers, please see Appendix D: “Teklogix Imagers Applet”.

C.4 Decoded (Intermec ISCP)



- Tap on the **Scanner** drop-down menu, and choose **Decoded (Intermec ISCP)**.

C.4.1 Decoded (ISCP) Options

Laser On Time

The value assigned to this parameter determines how long the laser will remain on when the scan button or trigger is pressed.

Double-tapping on this parameter displays a dialog box in which you can enter a value between **1** and **10** seconds.

C.4.2 Decoded (ISCP) Advanced Options

Continuous Scan Mode

Setting this parameter to **on** keeps the laser on and continuously decoding as long as the scanner button is pressed and held down.

Minimum Cancel Time

The value assigned to this parameter determines the time delay before the scanner is turned off, once the scanner trigger or button is released. This gives the scanner a minimum amount of time to complete its current decode before the scan is cancelled when you quickly trigger on/off.

Low Power Timeout

To extend laser life, you can select the time the scanner remains active following a successful decode. The scanner wakes from low power mode when a bar code is scanned—a successful decode restores normal flashing.

When you double-tap on this parameter, a dialog box is displayed in which you can choose a value of *30 sec*, *1 min*, *2 min*, or *3 min*.



*Note: This parameter is only used if the Trigger Mode has been set to **Continuous On** and the unit is mounted in a fixed position; otherwise, 'Low Power Timeout' is not used.*

Parameter Scanning

Setting this parameter to **Enabled** allows decoding of parameter bar codes.

Same Read Validate

The data is only transmitted after repeated reads give the same result. The value assigned at this parameter determines the number of reads required, from *0* to *10* times.

Same Read Timeout

Prevents the same bar code from being read more than once. The value assigned determines after what time period the scanner will timeout, from *0* to *2550 msec*.

Diff Read Timeout

Prevents unwanted reading of other bar codes on the same label. The value assigned determines after what time period the scanner will timeout, from *0* to *2550 msec*.

Add AIM ID Prefix

The *AIM ID* (Association for Automatic Identification and Mobility) is an international bar code identifier. When this parameter is enabled, the *AIM ID* is inserted at the beginning of the decoded bar code.

C.4.3 Code 39

Enable

Setting this parameter to **on** enables “Code 39”.

Full ASCII

If this parameter is enabled, the characters +, %, and / are used as escape characters. The combination of an escape character and the next character is converted to an equivalent ASCII character.

Reading Range

Determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

Start/Stop Transmit

Setting this parameter to **on** enables the transmission of start and stop characters, which are usually not transmitted. Code 39 can start and end with either a * or a \$ character (see also the next parameter).

Accepted Start Char

This parameter allows you the option of using one of the two start/stop characters or both (\$ char, * char, \$ and * char).

Check Digit Verification

Uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted. The available options are: *Disabled*, *MOD 43 Check*, *French CIP*, or *Italian CIP*.



Note: French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.

Italian CIP (Italian pharmaceutical) is also known as Code 32. It is transmitted as a standard Code 39 if checksum is not validated.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.4 Code 128

Enabled

Setting this parameter to **on** enables “Code 128”.

GS1-128

“GS1-128” is the GS1 implementation of the Code 128 barcode specification. The former correct name was UCC/EAN-128.

GS1-128 Identifier

“GS1-128 Identifier” allows the AIM ID “]C1” for EAN 128 to be transmitted or removed. By default, this identifier is transmitted if EAN 128 is enabled.

GTIN Compliant

GTIN (global trade item number) processing transmits EAN 128 as the 14-character EAN/UCC GTIN. To use GTIN processing, you must activate the EAN 128 symbology.



Important: When EAN 128 and GTIN processing are both activated, it is not possible to read normal EAN 128 Codes.

FNC1 Conversion

“FNC1 Conversion” allows the FNC1 character to be converted to another character for applications that cannot use the default <GS> Group Separator or hex (1d).

Double-tapping on this option displays a dialog box listing the allowable range: 0 to 255.

Enable ISBT 128

To successfully scan this type of bar code (International Society of Blood Transfusion), this option must be set to **on**. If you enable this type of bar code, Code 128/EAN 128 is deactivated to avoid any confusion.

ISBT Concat Transmit

The codes are not concatenated by default. You need to choose one of the options provided for this parameter to send concatenated code. Choosing *Only Concatenated Codes* transmits only concatenated codes—single codes will not be transmitted. Choosing *Concatenated or Single* transmits single codes or concatenated codes. If only one code of a pair is read, that

code will be transmitted as a single code. If both codes in a pair are detected, they will be concatenated provided that “ISBT Concat Any Pair” (see below) is enabled.

ISBT Concat Any Pair

Enabling this parameter causes all code pairs that can be, to be concatenated even if they do not comply with Section 4.1 of the “ISBT 128 Bar Code Symbology and Application Specification for Labeling of Whole Blood and Blood Components” (June 2000, Version 1.2.1).

Reading Range

Determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

Check Digit Verification

The available options for this parameter are *Disabled* or *French CIP*. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.



Note: French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.5 EAN 13

Enabled

Set this parameter to **on** to enable “EAN 13”.

ISBN Conversion

When this parameter (International Standard Book Number) is enabled, the first 3 characters (‘978’) are ignored and the checksum (0.9, ‘X’) is calculated on the remaining characters.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.6 EAN 8

Enabled

Set this parameter to **on** to enable “EAN 8”.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Convert To EAN 13

If this parameter is enabled, an EAN 8 bar code is converted to EAN 13.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.7 UPC A

Enabled

Set this parameter to **on** to enable “UPC A” bar code scanning recognition.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Transmit Number System

If this parameter is enabled, the number system digit is transmitted with the decoded bar code data.

Convert To EAN 13

If this parameter is enabled, a UPC A bar code is converted to EAN 13.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.8 UPC E Settings

Enabled

Set this parameter to **on** to enable “UPC E”.

Enable UPC-E1

Set this parameter to **on** to allow “UPC-E1” (zero suppressed) bar code scans.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Transmit Number System

If this parameter is enabled, the number system digit is transmitted with the decoded bar code data.

Convert To UPC-A

This parameter converts UPC E (zero suppressed) decoded data to UPC A format before transmission. After conversion, data follows UPC A format and is affected by UPC A programming selections (e.g. Check Digit).

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.9 UPC/EAN Shared Settings

The setting assigned to the “Addendum” parameter associated with this option is shared across all UPC and EAN bar codes.

Addendum

An addendum is a separate bar code, supplementary to the main bar code. This parameter provides two options: *Not Required but Transmitted if Read* or *Required and Transmitted*.

- Double-tap on **Addendum** to display a dialog box listing your options.
- Highlight an item, and tap on **OK**.

When “Addendum” is set to *Not Required but Transmitted if Read*, the scanner searches for an addendum and if one exists, appends it to the main bar code. When the parameter is set to *Required and Transmitted*, the scanner does not accept the main bar code without an addendum.

Addendum Add-on 2 and Addendum Add-on 5

Enabling these parameters sets the length of the addendum bar code to either 2 or 5 characters.

Addendum Security

If you tap on “Addendum Security”, a dialog box is displayed in which you can define the security level of add-on 2 or add-on 5 with a value from 0 to 100. As security levels increase, the scanner decode speed decreases.

GTIN Compliant

GTIN (global trade item number) processing transmits EAN 128 as the 14-character EAN/UCC GTIN. To use GTIN processing, you must activate the EAN 128 symbology.



Important: When EAN 128 and GTIN processing are both activated, it is not possible to read normal EAN 128 Codes.

Reading Range

This parameter determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

C.4.10 Code 93

Enabled

Set this parameter to **on** to enable “Code 93”.

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.11 Codabar

Enabled

Set this parameter to **on** to enable “Codabar”.

Start/Stop Transmit

Codabar can use the following sets of characters as start and stop characters:

a, b, c, d

A, B, C, D

a, b, c, d, /, t, n, *, e

DC1, DC2, DC3, DC4

Thus, when a set is chosen, the first and last digits of a Codabar message must be one of those characters and the body of the message should not contain these characters. Setting this parameter to *Not Transmitted* strips the start and stop characters from this bar code.

CLSI Library System

When enabled, spaces are inserted after characters 1, 5, 10 in the 14-character label (used in the USA by libraries using the CLSI system).

Check Digit Verification

When enabled, this parameter checks the integrity of a symbol to ensure it complies with a specified algorithm—either USS (Uniform Symbology Specification) or OPCC (Optical Product Code Council).

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Set Length L1, Set Length L2, and Set Length L3

Lengths for “Codabar” can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can choose to set L1 as *Minimum Length* or L1,L2,L3 as *Fixed Length*.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.12 MSI Plessey

Enabled

Set this parameter to **on** to enable “MSI”.

Enable Plessey

Set this parameter to **on** to enable “Plessey”.

Check Digit Verification

The available options for this parameter are MOD 10 Check and Double MOD 10 Check. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Plessey Transmit Check Digit

If the check digit is to be transmitted with the Plessey data, this parameter must be enabled.

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Plessey Minimum Length

Minimum lengths for the Plessey bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.13 Code 11

Enabled

Set this parameter to **on** to enable “Code 11”.

Check Digit Verification

The available options for this parameter are *MOD 10 Check* and *Double MOD 10 Check*. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.14 Interleaved 2 of 5

Enabled

Set this parameter to **on** to enable “Interleaved 2 of 5”.

Reading Range

This parameter determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

Check Digit Verification

The available options for this parameter are *Disabled*, *MOD 10 Check* and *French CIP*. “Check Digit Verification” uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.



Note: French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Set Length L1, Set Length L2, and Set Length L3

Lengths for “Interleaved 2 of 5” can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can chose to set L1 as *Minimum Length* or L1,L2,L3 as *Fixed Length*.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.15 Matrix 2 of 5

Enabled

Set this parameter to **on** to enable “Matrix 2 of 5”.

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.16 Discrete 2 of 5

Enabled

Set this parameter to **on** to enable “Discrete 2 of 5”.

Standard 2 of 5 Format

This parameter allows you to choose a standard format—either *Identicon* (6 start/stop bars) or *Computer Identics* (4 start/stop bars).

Check Digit Verification

The available options for this parameter are *Disabled* and *MOD 10 Check*. “Check Digit Verification” uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Set Length L1, Set Length L2, and Set Length L3

Lengths for “Discrete 2 of 5” can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can choose to set L1 as *Minimum Length* or L1,L2,L3 as *Fixed Length*.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.17 Telepen

Enabled

Set this parameter to **on** to enable “Telepen”.

Format

This parameter allows you to set the bar code character format to either *ASCII* or *Numeric*.

Minimum Length

Minimum lengths for the bar code can be set from 0 to 255. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.18 RSS Code (Reduced Space Symbology)

Enable

Setting this parameter to **on** enables “RSS Code” scanning capability.

Enable RSS-14

RSS-14 code can be either purely linear or split in half with one half stacked on top of the other half. Stacking the code reduces the bar code length, and providing the nominal height of the code is maintained, it can be omni-directionally scanned.

Enable RSS Limited

“RSS-Limited” is restricted, in that it can only encode 14 digit GTINs (global trade item numbers) that begin with either 0 or 1. It is not stackable and is not designed to be read omni-directionally.

Enable RSS Expanded

“RSS Expanded” uses the same application identifiers as UCC/EAN-128 codes but they can be split into sections and stacked several rows high, reducing the length of the symbol, while increasing the capacity of data that can be stored. “RSS Expanded” code can be omni-directionally scanned.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.19 Composite



Important: *To successfully read this type of bar code, the two types of symbologies included in a composite bar code must be enabled.*

A composite symbol includes multi-row 2D components making it compatible with linear and area CCD scanners along with linear and rastering laser scanners.

The options available for this parameter represent multi-level components of a composite symbol.

Enable CC-C and Enable CC-AB

To activate these components, set these parameters to **on**.

Linear Transmission Only

When *Linear Transmission Only* is enabled, only the linear code portion of the composite bar code is transmitted when scanned.

UPC-EAN Composite Message

This option allows you to choose how UPC-EAN shared bar codes are transmitted: *Always Linked*, *Never Linked* or *Auto-discriminate*.

C.4.20 TLC-39

Enabled

This composite component integrates MicroPDF417 with the linear Code 39 symbol. Setting this parameter to **on** enables this parameter.

Linear Transmission Only

When *Linear Transmission Only* is enabled, only the linear portion of the composite bar code is transmitted when scanned.

Security Level

This parameter is used to differentiate between TLC-39 and standard Code 39. Tapping on *Security Level* displays a dialog box in which you can assign a value from 0 to 100. The higher the value assigned, the lower the decode rate.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.21 PDF-417

Enabled

Set this parameter to **on** to enable “2D PDF-417”.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.22 Micro PDF-417

Enabled

Set this parameter to **on** to enable “2D Micro PDF-417”.

Code 128 Emulation

When this parameter is enabled, the scanner transmits data from certain Micro PDF-417 symbols as if it was encoded in Code 128 symbols.

If Code 128 Emulation is enabled, the following Micro PDF-417 symbols are transmitted with one of the following prefixes:

]C1 if the first codeword is 903-907, 912, 914, 915

]C2 if the first codeword is 908 or 909

]C0 if the first codeword is 910 or 911

If Code 128 Emulation is set to **off**, the Micro PDF-417 symbols are transmitted with one of the following prefixes:

]L3 if the first codeword is 903-907, 912, 914, 915

]L4 if the first codeword is 908 or 909

]L5 if the first codeword is 910 or 911

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.4.23 Codablock

Enable Codablock A

Set this parameter to **on** to enable “Codablock type A”.

Enable Codablock F

Set this parameter to **on** to enable “Codablock type F”.

Length Restriction

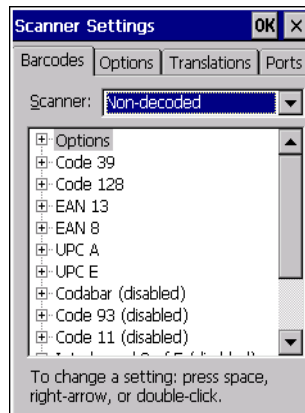
Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5 Non-Decoded Scanners

Figure C.1 Non-Decoded Scanner Options



- Tap on the **Scanner** drop-down menu, and choose *Non-decoded*.

All the available bar code symbologies for this type of scanner can be selected in this tab.

A ‘plus’ sign (+) to the left of the menu item indicates that a sub-menu of parameters is attached.

- Tap on the + sign to display the sub-menu.

- To change a parameter value, double-tap on the parameter. If you need to type a value, a dialog box is displayed in which you can type a new value. If you need to change a *yes* or *no* value, double-tapping on the parameter toggles between *yes* and *no*.

If you're using the keyboard:

- Highlight the bar code you want to work with, and press the [RIGHT] arrow key to display the sub-menu.
- Use the [UP] and [DOWN] arrow keys to highlight a parameter.
- To change a parameter value, press [SPACE] or the [RIGHT] arrow key. If a field requires text entry, a text box is displayed in which you can enter the appropriate value.

C.5.1 Options

- Tap on the + sign next to *Options* to display these parameters.

Dot Time (msec)

The value selected for “Dot Time (msec)” determines (in milliseconds) how long the targeting dot remains on before the scanner switches to a normal scan sweep. When you double-tap on this parameter, a dialog box is displayed in which you can enter a value from 0 to 3000. A value of 0 (zero) disables the target dot.

Short Code

When enabled, this parameter allows scanning of short 12 of 5 bar codes (2 characters). When disabled, these short bar codes are rejected.

Enabling “Short Code” may reduce the robustness of the decoding since the hand-held must decode more potential bar codes; it is therefore not recommended for general-purpose bar codes with 4 or more characters.

Verify

The value entered for this parameter determines the number of correct additional decodes required after the initial decode, prior to a bar code being accepted. Higher values significantly increase the time it takes to decode a bar code but also improve the reliability of the decoded bar code.

Security

This parameter controls the tolerance for decoding edge-to-edge bar codes (Code 93, Code 128, UPC/EAN). Lower values have a lower tolerance for misreads, but they also increase the time it takes to decode the bar code. The default value of 30 is generally a good compromise setting.

C.5.2 Code 39

Enabled

Set this parameter to **on** to enable “Code 39”.

Full ASCII

If this parameter is enabled, the characters +, %, and / are used as escape characters. The combination of an escape character and the next character is converted to an equivalent ASCII character.

Include Check

If this parameter is enabled, the check digit is included with the decoded bar code data.

AIAG Strip

If this parameter is enabled, the AIAG data identifier is removed from each decoded Code 39 label. The data identifier occurs in the first position next to the Code 39 start character. It can be a single alphabetic character or a series of numeric digits followed by an alphabetic character. This identifier defines the general category or specific use of the data contained in the rest of the bar code.



Note: If your unit is operating with the Psion Teklogix TESS application, this parameter should not be used in conjunction with the TESS AIAG feature. This is because the hand-held performs the strip function before it processes the data through the AIAG feature; if the prefix is stripped, the data is not identified as AIAG.

Error Accept

If the “Err Accept” and “AIAG Strip” parameters are enabled, all label data without an AIAG identifier character is accepted. If the “Err Accept” parameter is disabled and the “AIAG Strip” parameter is enabled, the label data is not accepted.

MOD Checks

This parameter allows you to choose the check digit calculated: *MOD 43 Check*, *MOD 10 Check* or *None*.

- Double-tap on **MOD Checks** to display your options.
- Tap on a check digit to highlight it, and tap on **OK**.

If you choose *None*, a check is not executed.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.3 Code 128

Enabled

Set this parameter to **on** to enable “Code 128”.

Include Sym

Setting “Include Sym” to **on** causes the group separator(s) and start code contained in this type of bar code to be displayed on the screen.



Note: This option is available only when ‘EAN/UCC 128’ is selected.

Variations

When using Code 128, you can choose the bar code variation the scanner will recognize. The options available are Standard, UCC 128 and EAN/UCC 128.

- Double-tap on **Variations** to display a dialog box listing your options.
- Tap on a variation to highlight it, and then tap on **OK**.

If you choose *None*, a check is not executed.

Standard

Enable *Standard* if “Code 128” is desired.

UCC 128

UCC 128 is a variation of “Code 128”.

EAN/UCC 128

To successfully scan this type of bar code, “EAN/UCC 128” must be enabled. “EAN/UCC” bar codes include group separators and start codes.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.4 EAN 13

Enabled

Set this parameter to **on** to enable “EAN 13”.

Enable Bookland EAN

Setting this parameter to **on** allows your scanner to recognize Bookland EAN bar codes.

Include Country

If this parameter is enabled, the country code is included with the decoded bar code data.

Include Check

If this parameter is enabled, the check digit is included with the decoded bar code data.

Addendum



Important: *Before “Addendum” can take effect, the “Short Code” parameter (see page C-40) must be enabled.*

An addendum is a separate bar code, supplementary to the main bar code. This parameter provides three options: Disabled, Optional and Required. Depending on the value chosen for this parameter, an addendum is recognized or ignored.

- Double-tap on **Addendum** to display a dialog box listing your options.

- Highlight an item, and tap on **OK**.

When “Addendum” is set to *Disabled* the scanner does not recognize an addendum. If this parameter is set to *Optional* the scanner searches for an addendum and if one exists, appends it to the main bar code. When the parameter is set to *Required* the scanner does not accept the main bar code without an addendum.



Note: Setting Addendum to Optional will reduce performance. This value should only be used if some bar codes actually have addendums.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.5 EAN 8

Enabled

Set this parameter to **on** to enable “EAN 8”.

Include Check

If this parameter is enabled, the check digit is included with the decoded bar code data.

Addendum



Important: Before “Addendum” can take effect, the “Short Code” parameter (see page C-40) must be enabled.

See “Addendum” on page C-43.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.6 UPC A

Enabled

Set this parameter to **on** to enable “UPC A”.

Include Number Sys

If this parameter is enabled, the number system digit is included with the decoded bar code data.

Include Check

If this parameter is enabled, the check digit will be included with the decoded bar code data.

Addendum



Important: Before “Addendum” can take effect, the “Short Code” parameter (see page C-40) must be enabled.

Refer to “Addendum” on page C-43.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.7 UPC E

Enabled

Set this parameter to **on** to enable “UPC E”.

Convert to UPC-A

Setting this parameter to **on** results in a non-standard decoding that returns 12 digits from the 6 digit UPC E bar code.

Include Number Sys

If this parameter is enabled, the number system digit is included with the decoded bar code data.

Include Check

When enabled, the check digit is included with the decoded bar code data.

Addendum



Important: Before “Addendum” can take effect, the “Short Code” parameter (see page C-40) must be enabled.

Refer to “Addendum” on page C-43.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.8 Codabar

Enabled

Set this parameter to **on** to enable “Codabar”.

Strip Start/Stop Chars

Codabar uses the characters A, B, C, and D as start and stop characters. Thus, the first and last digits of a Codabar message must be A, B, C, or D, and the body of the message should not contain these characters. Setting this parameter to **on** strips the start and stop characters from this bar code.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.9 Code 93

Enabled

Set this parameter to **on** to enable “Code 93”.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.10 Code 11

Enabled

Set this parameter to **on** to enable “Code 11”.

Include Check

If “Include Check” is enabled, the check digit is included with the decoded bar code data.

Check Digits

This parameter can be set to None, One Check Digit or Two Check Digits.

- Double-tap on this parameter to display a dialog box listing your options.
- Highlight the check digit you want to use, and tap on **OK**.

If this parameter set to *One Check Digit*, it is assumed that the last digit is a check digit.

If this parameter is set to *Two Check Digits*, it is assumed that the last two digits are check digits.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.11 Interleaved 2 of 5

Enabled

Set this parameter to **on** to enable “Interleaved 2 of 5”.

MOD 10 Check

If this parameter is enabled, the “MOD 10” check digit is calculated. This calculation is the same as the Code 39 MOD 10 check digit.

ITF Check

If this parameter is enabled, the ITF-14/16 MOD 10 check digit is calculated.

Include Check

If this parameter is enabled, the check digit is included with the decoded bar code data.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.12 MSI Plessey

Enabled

Set this parameter to **on** to enable “MSI Plessey”.

One Check Digit

If this parameter is enabled, it is assumed that the last digit is a check digit.

Include Check

If this parameter is enabled, the check digit is included with the decoded bar code data.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.13 Discrete 2 of 5**Enabled**

Set this parameter to **on** to enable “Discrete 2 of 5”.

MOD 10 Check

If this parameter is enabled, the MOD 10 check digit is calculated. This calculation is the same as the Code 39 MOD 10 check digit.

ITF Check

If this parameter is enabled, the ITF-14/16 MOD 10 check digit is calculated.

Include Check

If this parameter is enabled, the check digit is included with the decoded bar code data.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

C.5.14 IATA 2 of 5

Enabled

Set this parameter to **on** to enable “IATA 2 of 5”.

MOD 10 Check

If this parameter is enabled, the MOD 10 check digit is calculated.

ITF Check

If this parameter is enabled, the ITF-14/16 MOD 10 check digit is calculated.

Include Check

If this parameter is enabled, the check digit is included with the decoded bar code data.

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single character prefix already selected, the code ID character is inserted between the prefix and the decoded symbol.

Length Restriction

Refer to “Length Restriction” on page C-11 for details.

Add/Remove Data

Refer to “Add/Remove Data” on page C-12 for details.

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The *Teklogix Imagers* applet is used to create, modify, delete, and activate imager settings. The principal uses of the application are to decode bar codes and to capture images. This imager services application is used for cameras and imagers to configure linear (1D), stacked linear, matrix (true 2D) and postal bar codes. A *Demonstration Application* is provided to demonstrate how the imager works. Refer to “Demo” on page 71 for details.

D.1 Required Applets

In order to configure imaging, the *Manage Triggers* applet must be present in the Control Panel, along with the *Teklogix Imagers* applet.



Note: The Teklogix Imagers icon is only displayed when the appropriate imager is installed in your Omnii. If there is an imager installed but this icon is not present, additional software (ICS) may need to be installed.

To enable a newly-installed imager, press and hold down the [FN] key and the [ENTER/Power] key simultaneously for a minimum of three seconds.

D.2 Presets

There are two methods that can be used to configure an imager using the *Teklogix Imagers* applet:

- Use a predefined preset.
- Create a custom preset based on a predefined preset.



Important: It is strongly recommended that a predefined preset is used whenever possible. Each predefined preset contains a coherent group of settings that are known to work together in the intended environment. In almost all situations, at least one of the predefined presets results in a satisfactory outcome.

A *preset* is a group of exposure and image correction settings. Each preset configures the imager for a specific purpose such as bar code decoding or image capture.

Presets also allow easier and faster configuration of the imager after power-on or resume from suspend.

The predefined presets are generic and satisfy most user requirements. A custom preset can be created for a specific user application, such as: include only specified bar codes, read only a specified number of bar codes or for reading unusual media.

Every preset belongs to a preset type. The following preset types are available:

- Imaging for photo capture.
- Imaging for bar code decoding.
- Symbology selection.

At any time, only one preset of each type can be designated as the user-selected *active* preset.

D.2.1 Predefined Presets

Predefined presets are built into the imaging software and cannot be changed. The predefined presets allow you to use the imager to perform specified tasks without having to understand and set numerous variables. In almost all cases these predefined presets are sufficient.

D.2.2 Bar Code Predefined Presets (Barcoding Tab)

These presets encompass the majority of the most popular bar codes and their subtypes. The *bar code decoding symbology* predefined presets define which bar codes can be decoded. The *bar code decoding camera* predefined presets determine how the bar code images are captured.

D.2.2.1 Bar Code Decoding Symbology Predefined Presets

The following presets select groups of similar bar codes for decoding.



Note: It is recommended that the default preset be used whenever possible.

My Default

This preset uses the *Symbology Settings* menu to define the preset. For details about the *Symbology Settings* menu, refer to “Barcoding Tab – Configuring Symbologies” on page D-17.

Factory Default

This preset enables the decoding of frequently used bar codes.

All

This preset enables the decoding of all bar codes that the imager can decode.

Linear

This preset enables the decoding of all the 1D symbologies that the imager can decode.

Linear and PDF417

This preset enables the decoding of all the 1D and PDF symbologies that the imager can decode.

Matrix

This preset enables the decoding of all 2D symbologies that the imager can decode.

Postal

This preset enables the decoding of all the postal symbologies that the imager can decode.

D.2.2.2 Bar Code Decoding Camera Predefined Presets

The following presets enable successful bar code image capture in almost all conditions.



Note: It is recommended that the default preset be used whenever possible.

Default

This preset works in a wide range of conditions. It is optimized for a normal office lighting (about 300 Lux).

Low Light

This preset is designed for very dark conditions such as inside a warehouse where the lights are kept low, or inside an unlit truck. This preset increases either the exposure time or the gain.

Low Power

This preset minimizes the use of the flash so as to conserve the battery power on the hand-held.

Glossy Surface

This preset minimizes the use of the flash so as to reduce reflection. This preset is used to read bar codes that are behind glass, or inside the plastic window of an envelope.

D.2.3 Image Capture Predefined Presets (Imaging Tab)

The following presets enable successful image capture in almost all conditions.



Note: It is recommended that the default preset be used whenever possible.

Default

This preset works in a wide range of conditions. It is optimized for a normal office lighting (about 300 Lux).

Motion

This preset uses a shorter exposure time so as to freeze motion.

Low Light Near

This preset is designed for dark conditions, it uses a longer exposure time and includes the flash.

D.3 Using the Teklogix Imagers Applet

D.3.1 Configuring the Image Capture Presets (Imaging Tab)

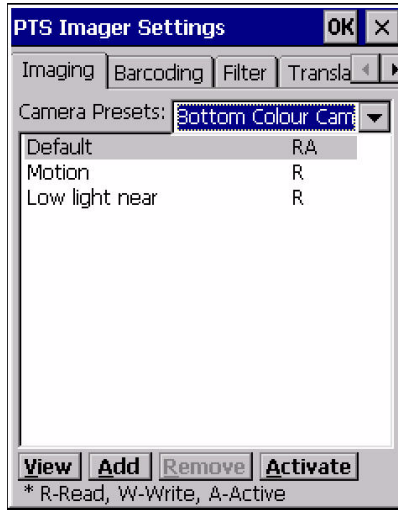
To configure the image capture presets, open the dialog box as follows:

- Tap on **Start>Settings>Control Panel**.
- Tap on the **Teklogix Imagers** icon, and if it's not already selected, tap on the **Imaging** tab.



The following screen is displayed.

Figure D.1 Imaging Tab



This window lists all the presets, both predefined and custom. Presets are identified as follows:

- Predefined presets are marked as ‘R’ *read-only*.
- Custom presets are marked as ‘RW’ *read and write*.
- One preset—either predefined or custom—is marked as ‘A’ *active*.

D.3.1.1 Selecting a Camera

To select a camera:

- Tap on the **Camera Presets** drop-down menu to view the camera options.
- Choose a **camera**—specifically, *Front Imager* which is located at the top of the unit.

D.3.1.2 Setting the Active Preset

An active preset has an *A* to the right. To set an active preset:

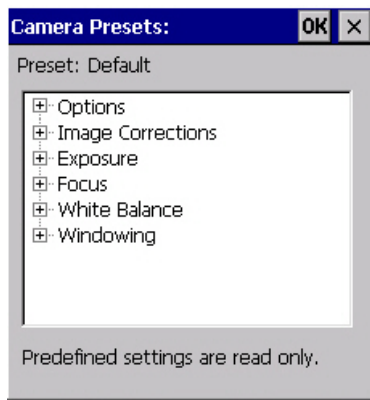
- Highlight the preset, and tap on the **Activate** button.

D.3.1.3 Viewing a Preset

To view the parameter settings in a preset:

- Highlight a preset, and double-tap on the **View** button.

The associated preset window is displayed.



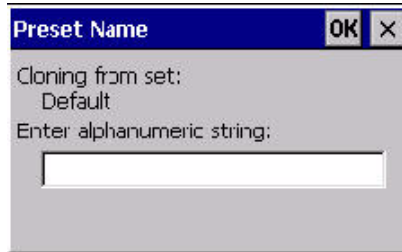
- Tap on the + sign to expand the lists so that you can view the parameter settings.

D.3.1.4 Creating a Custom Preset

A new custom preset is created by modifying a preset—either a predefined preset or an existing custom preset. To create a custom preset:

- Highlight a preset, and tap on the **Add** button.

A screen like the sample below is displayed.



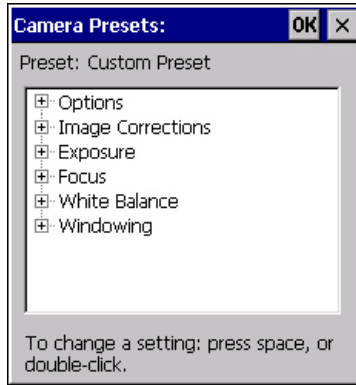
- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

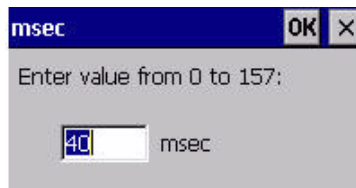
D.3.1.5 Modifying a Custom Preset

The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

- Highlight the custom preset, and double-tap on the **Edit** button.



- Tap on the + symbols to expand the lists so that you can view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
 - Highlight the parameter, and then press the [SPACE] key or double-click on the parameter.
 - An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
 - For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
 - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. Either method toggles between the two available values.
 - When you've completed your edits, tap on **OK**.
- The parameter list is displayed; the new value for the changed parameter is shown.
- Tap on **OK** to exit to the preset list and save the changes.

D.3.1.6 Removing a Custom Preset

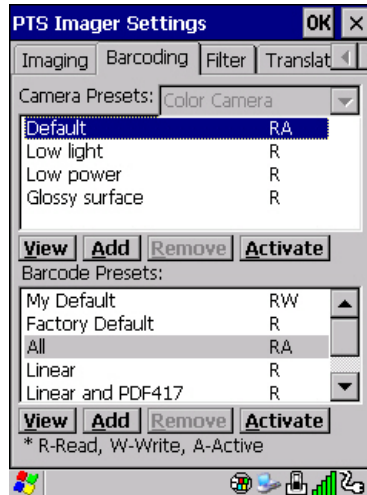
- Highlight the custom preset you want to delete, and tap on the **Remove** button. A window is displayed warning you that you are about to remove a preset.
- Tap on **Yes** to remove the preset or **No** to cancel the operation.

D.3.2 Configuring the Bar Code Decoding Camera Presets (Barcoding Tab)

To configure the bar code decoding camera presets:

- Tap on **Start>Settings>Control Panel>Teklogix Imagers**.
- Tap on the **Barcoding** tab.

Figure D.2 Camera Presets



Note: The top portion of the window displays the bar code decoding camera presets.

This window lists all the presets, both predefined and the custom. Presets are identified as follows:

- Predefined presets are marked as read-only. For a description, review “Predefined Presets” on page D-4.
- Predefined presets are marked as ‘R’ *read-only*.
- Custom presets are marked as ‘RW’ *read and write*.
- One preset—either predefined or custom—is marked as ‘A’ *active*.

D.3.2.1 Selecting a Camera

To select a camera:

- Tap on the **Camera Presets** drop-down menu to view the camera options.
- Choose a **camera**—specifically, *Front Imager* which is located at the top of the unit.

D.3.2.2 Setting the Active Preset

An active preset has an *A* to the right; in Figure D.3 on page 14, the active preset is *Default*.

To set an active preset:

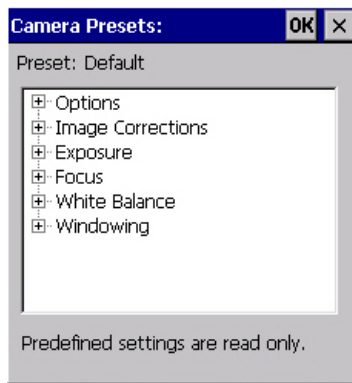
- Highlight the preset, and tap on the **Activate** button.

D.3.2.3 Viewing a Preset

To view the parameter settings in a preset:

- Highlight a preset, and double-tap on the **View** button.

The associated preset window is displayed.



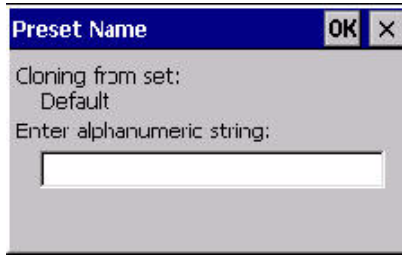
- Tap on the + sign to expand one of the lists so that you can view the parameter settings.

D.3.2.4 Creating a Custom Preset

A new custom preset is created by modifying a preset—either a predefined preset or an existing custom preset. To create a custom preset:

- Highlight a preset, and tap on the **Add** button.

A screen like the sample following is displayed.



- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

D.3.2.5 Modifying a Custom Preset

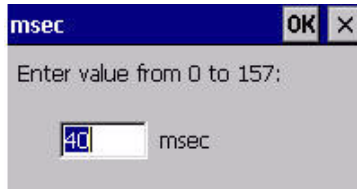
The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

- Highlight the custom preset, and double-tap on the **Edit** button.



- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
 - Highlight the parameter, and then press the **[SPACE]** key or double-click the parameter.

- An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
- For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
 - Highlight the parameter and then press the [SPACE] key, or double-click on the parameter. Either method toggles between the two available values.
- When you've completed your edits, tap on **OK**.

The parameter list is displayed; the new value for the changed parameter is shown.

- Tap on **OK** to exit to the preset list and save the changes.

D.3.2.6 Removing a Custom Preset

- Highlight the custom preset you want to delete, and tap on the **Remove** button. A window is displayed warning you that you are about to remove a preset.
- Tap on **Yes** to remove the preset or **No** to cancel the operation.

D.3.3 Configuring the Bar Code Decoding Symbologies (Barcoding Tab)

To configure the bar code decoding camera presets:

- Tap on **Start>Settings>Control Panel>Teklogix Imagers**.



- Tap on the **Barcoding** tab.

Figure D.3 Viewing Bar Code Decoding Symbolologies



Note: The bottom portion of the window displays the bar code decoding bar code presets.

D.3.3.1 Setting the Active Preset

An active preset has an *A* to the right; in Figure D.3 on page 14, the active preset is *Default*. To set an active preset:

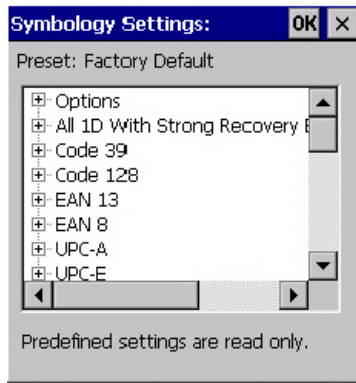
- Highlight the preset, and tap on the **Activate** button.

D.3.3.2 Viewing a Preset

To view the parameter settings in a preset:

- Highlight a preset, and double-tap on the **View** button.

The associated preset window is displayed.



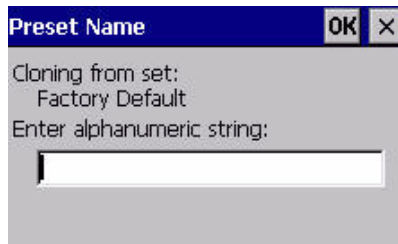
- Tap on the + sign to expand one of the lists so that you can view the parameter settings.

D.3.3.3 Creating a Custom Preset

A new custom preset is created by modifying a preset—either a predefined preset or an existing custom preset. To create a custom preset:

- Highlight a preset, and tap on the **Add** button.

A screen like the sample following is displayed.



- Type the **name** of the new preset in the dialog box.
- Tap on **OK** to save your changes.

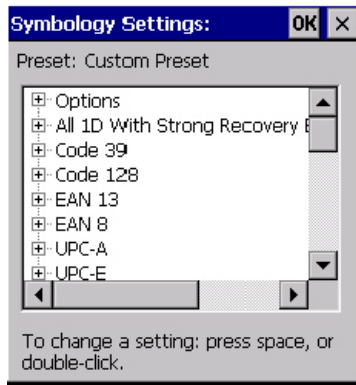
The preset list is displayed; the new custom preset appears at the end of the list. It is marked as read and write.

D.3.3.4 Modifying a Custom Preset

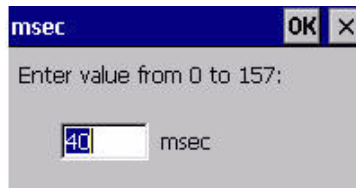
The parameter values in a custom preset can be modified. It is recommended that very few changes be made to a custom preset. To ensure that it will work reliably, it should be as close as possible to the original predefined preset. To change a parameter value:

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- Highlight the custom preset, and double-tap on the **Edit** button.



- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
 - Highlight the parameter, and then press the **[SPACE]** key or double-click the parameter.
 - An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
 - For a parameter that toggles between two values such as *on* or *off* and *enabled* or *disabled*:
 - Highlight the parameter and then press the **[SPACE]** key, or double-click on the parameter. Either method toggles between the two available values.
 - When you've completed your edits, tap on **OK**.
- The parameter list is displayed; the new value for the changed parameter is shown.
- Tap on **OK** to exit to the preset list and save the changes.

D.3.3.5 Removing a Custom Preset

- Highlight the custom preset you want to delete, and tap on the **Remove** button. A window is displayed warning you that you are about to remove a preset.
- Tap on **Yes** to remove the preset or **No** to cancel the operation.

D.3.4 Barcoding Tab - Configuring Symbologies

To view the *Symbology Settings* options:

- Tap on the **Barcoding** tab, highlight **All** and then double-tap the **View** button.

To edit a default preset, you must first *activate* it:

- Tap on **My Default**, and tap on the **Activate** button – an *A* appears to the right of *My Default*.

Once the preset is activated, you can enable or disable the bar codes the imager will read.

- Highlight **My Default** in the *Barcoding* tab.
- Double-tap on the **Edit** button.

None of the other bar code decoding predefined presets are changed.

D.3.4.1 Symbology Settings

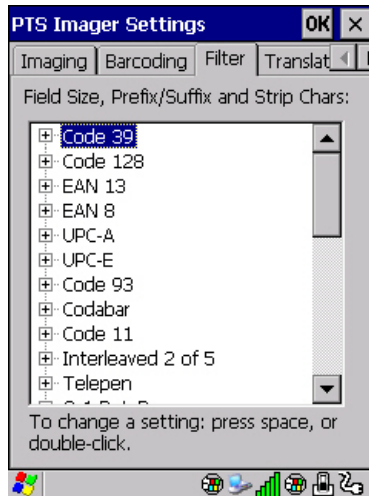


Note: For descriptions of the bar code symbologies, review “Bar Code Symbologies – Descriptions” on page D-22.

D.3.5 Filter Tab - Manipulating Bar Code Data

To configure rules for manipulating bar code data:

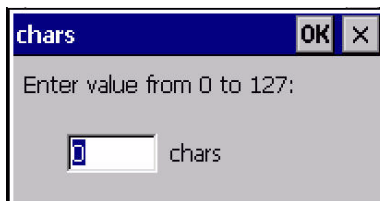
- Tap on **Start>Settings>Control Panel**.
- Tap on the **Teklogix Imagers** icon, and then tap on the **Filter** tab.



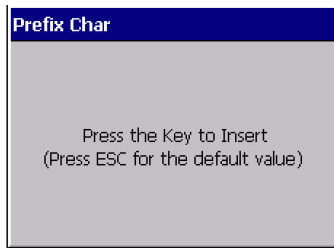
D.3.5.1 Modifying a Bar Code Setting

The rules for manipulating data from selected bar code symbologies can be modified. To change the settings for a symbology:

- Tap on the + symbols to expand the lists and view the parameter settings.
- Scroll through the parameter list until you reach the parameter that you want to change.
- For a parameter that can take a *range* of values:
 - Highlight the parameter, and then press the [SPACE] key or double-click the parameter.
 - An associated dialog box containing the valid range of values for the parameter and the current setting like the sample screen following is displayed.



- Type a value in the field provided.
- For a parameter that takes a single character:
 - Highlight the parameter and then press the [SPACE] key, or double-click the parameter. The following screen is displayed:



- When you've completed your edits, tap on **OK**.

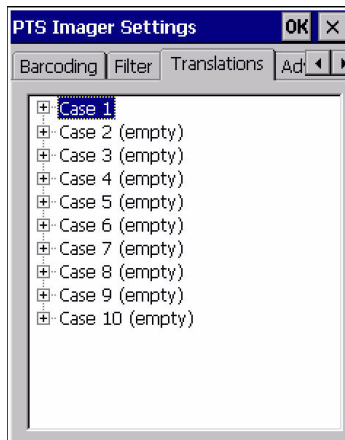
D.3.6 Translation Tab - Configuring Rules

Translation rules enable the automatic processing of bar code data. Up to 10 cases can be defined, each consisting of up to 10 sequential rules.



Note: Changes made to the translations configuration using the Teklogix Scanner Control Panel program are synchronized with changes made here. Changes made in either place affect both translation tables.

- Tap on **Start>Settings>Control Panel**.
- Tap on the **Teklogix Imagers** icon, and then tap on the **Translations** tab.



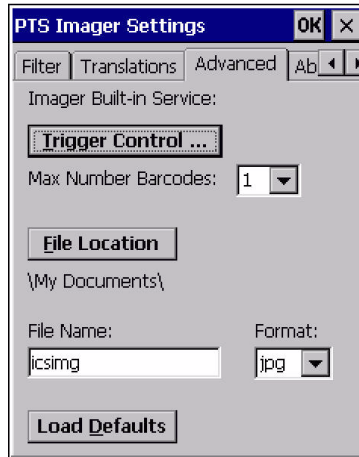
For instructions on adding, editing, and removing translation rules, refer to “Translations Tab” on page 164.

D.3.7 Advanced Tab

D.3.7.1 File Locations for Captured Images

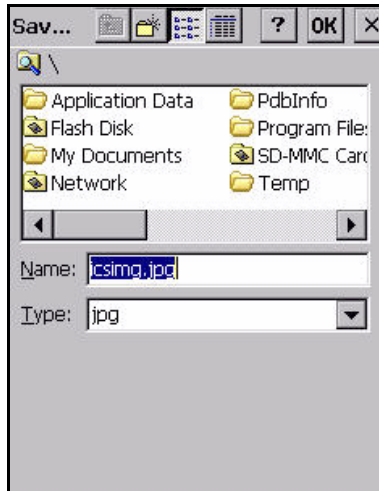
To configure the location for saved images, open the dialog box as follows:

- Tap on **Start>Settings>Control Panel**.
- Tap on the **Teklogix Imagers** icon, and then tap on the **Advanced** tab.



To define the location where imager files will be stored:

- Tap on the **File Location** button.



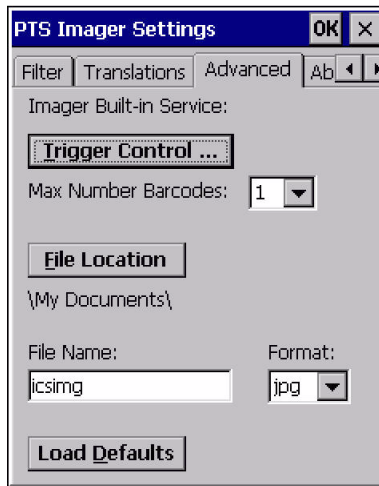
- Type the file **Name**, choose the **Folder** and file **Type**.
- Choose the **Location** in which your files will be saved.
- When you have completed all the changes, tap on the **Save** button.

D.3.7.2 Configuring Triggers

Viewing the Trigger Configuration

The trigger on Omnii is configured using the *Manage Triggers* applet. The *Teklogix Imagers* applet provides a shortcut to the *Manage Triggers* applet.

- In the *Advanced* tab, tap on the **Trigger Control** button.
- To view all the triggers and the hardware devices that are configured to use them, tap in the checkbox next to **Show all modules**.



Adding, Editing and Removing Triggers

For instruction about adding, editing and removing triggers, refer to “Manage Triggers” on page 111.

D.4 Bar Code Symbolologies - Descriptions

To view all symbolologies available for the imager:

- Tap on the **Barcoding** tab, highlight **All**, and then double-tap the **View** button.



*Note: Remember that if you want to **edit** the symbolologies, the preset you want to change must be active. Highlight the **preset** you want to edit, and tap on the **Activate** button – an **A** is added at the far right of the preset. With the activated preset highlighted, double-tap on the **Edit** button.*

D.4.1 Options

Auto Retry On Failed Decode Enabled

Setting this parameter to *on* allows the imager to repeat the image capture attempt if the initial attempt fails. The number of retries is dependent on the value assigned in the next parameter, *Max Number of Auto Retry*. If this parameter is set to *off*, the imager will only attempt the image capture once.

Max Number of Auto Retry

The value assigned for this parameter governs the number of times the imager will attempt to capture a bar code if the first attempt fails to a maximum of 99 times.

Decoder Timeout

This parameter determines the maximum time that the decoder will spend searching for barcode on captured image. The value assigned here is dependent on the type of bar code and quality of the image being capture. For example, the value may need to be increased to compensate for larger bar codes with more data encoded or for poor quality images. On the other hand, the value can be decreased for smaller, good quality images. The allowable value ranges from 200 to 500 msec.

Perspective Pattern Enabled - TBD

Document perspective correction manipulates a captured image—usually a document—so that it appears that the camera was perpendicular to the image plane, when in fact the image was distorted because the camera was at an angle to the image plane. After perspective correction all lines that are parallel on the original, are parallel on the image, and the image is displayed as it appears on the original page. When this parameter is enabled,

Single Target Mode Enabled

When this parameter is enabled, the decoder assumes that a single bar code exists in the image and that it is located in the centre of the image.

Add AIM ID Prefix

The *AIM ID* (Association for Automatic Identification and Mobility) is an international bar code identifier. When this parameter is enabled, the *AIM ID* is inserted at the beginning of the decoded bar code.

D.4.2 All 1D With Strong Recovery Enabled

Enabled

Setting this parameter to *on*.

D.4.3 Code 39

Enabled

Setting this parameter to *on* makes “Code 39” readable to the imager.

Full ASCII Enabled

If this parameter is enabled, the characters +, %, and / are used as escape characters. The combination of an escape character and the next character is converted to an equivalent ASCII character.

Check Char

When this parameter is enabled, before data is output, the “Code 39” symbol integrity is verified based on a parity character that must be present in the code. If the parity character is not part of the code, the code is not output. Keep in mind the parity character may not be part of your output setup; in this case, this parameter should be turned *off*.

Check Char Strip

If this parameter is set to *on*, check characters – if present – are not output.

D.4.4 Code 128

Enabled

Set this parameter to *on* to enable “Code 128”.

D.4.5 EAN 13

Enabled

Set this parameter to *on* to enable “EAN 13”.

Supplements 2 and Supplements 5

Supplements are additions to EAN/UPC codes. These addendums can be 2 or 5 characters in length. Usually, data from an addendum is a suffix to the main symbol output data.

Mandatory Enabled

When this parameter is set to *on*, the imager does not accept the main bar code without a supplement.

D.4.6 EAN 8

Enabled

Set this parameter to *on* to enable “EAN 8”.

Supplements 2 and Supplements 5

Supplements are additions to EAN/UPC codes. These addendums can be 2 or 5 characters in length. Usually, data from an addendum is a suffix to the main symbol output data.

Mandatory Enabled

When this parameter is set to *on*, the imager does not accept the main bar code without a supplement.

D.4.7 UPC-A

Enabled

Set this parameter to *on* to enable “UPC-A”.

Supplements 2 and Supplements 5

Supplements are additions to EAN/UPC codes. These addendums can be 2 or 5 characters in length. Usually, data from an addendum is a suffix to the main symbol output data.

Mandatory Enabled

When this parameter is set to *on*, the imager does not accept the main bar code without a supplement.

D.4.8 UPC-E

Enabled

Set this parameter to *on* to enable “UPC E”.

Supplements 2 and Supplements 5

Supplements are additions to EAN/UPC codes. These addendums can be 2 or 5 characters in length. Usually, data from an addendum is a suffix to the main symbol output data.

Mandatory Enabled

When this parameter is set to *on*, the imager does not accept the main bar code without a supplement.

D.4.9 Code 93

Enabled

Set this parameter to *on* to enable “Code 93”.

D.4.10 Codabar

Enabled

Set this parameter to *on* to enable “Codabar”.

D.4.11 Interleaved 2 of 5

Enabled

Set this parameter to *on* to enable “Interleaved 2 of 5”.

Check Char

When this parameter is set to *on*, the integrity of a “Interleaved 2 of 5” symbol is checked to ensure that it complies with specified algorithms.

Check Char Strip

If you enable this parameter, a check character is stripped from the decoded bar code data.

D.4.12 GS1 DataBar

GS1 DataBar

Set this parameter to *on* to enable the imager to read “GS1 Databar” symbols.

Minimum and Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – 4 to 74.

D.4.13 2D PDF-417

Enabled

Set this parameter to *on* to enable “2D PDF-417”.

D.4.14 2D Micro PDF-417

Enabled

Set this parameter to *on* to enable “2D Micro PDF-417”.

D.4.15 2D Data Matrix

Enable

Set this parameter to *on* to enable “2D Data Matrix”.

Inverse Enabled

TBD

Rectangular Enabled

TBD

D.4.16 2D QR Code

Enabled

Set this parameter to *on* to enable “2D QR Code”.

D.4.17 2D Maxicode

Enabled

Set this parameter to *on* to enable “2D Maxicode”.

D.4.18 2D Aztec

Enabled

Set this parameter to *on* to enable “2D Aztec”.

D.4.19 Postal: PlaNET

Enabled

Set this parameter to *on* to enable “Postal: PlaNET”.

D.4.20 Postal: PostNET

Enabled

Set this parameter to *on* to enable “Postal: PostNET”.

D.4.21 Postal: Australian

Enabled

Set this parameter to *on* to enable “Postal: Australian”.

D.4.22 Postal: Canadian

Enabled

Set this parameter to *on* to enable “Postal: Canadian”.

D.4.23 Postal: Japanese

Enabled

Set this parameter to *on* to enable “Postal: Japanese”.

D.4.24 Postal: Kix

Enabled

Set this parameter to *on* to enable “Postal: Kix”.

D.4.25 Postal: Korean

Enabled

Set this parameter to *on* to enable “Postal: Korean”.

D.4.26 Postal: Royal

Enabled

Set this parameter to *on* to enable “Postal: Royal”.

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