

A large, light blue decorative graphic in the top right corner of the blue header. It features a large right-pointing chevron and a stylized 'M' shape, similar to the DataWedge logo.

DataWedge 3.1

Basic Configuration Guide

DataWedge Basic Configuration Guide

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Patents

This product is covered by one or more of the patents listed on the website: www.symbol.com/patents

Warranty

Revision History

Changes to the original manual are listed below:

Change	Date	Description
Rev 1	10/2008	Initial Draft
Rev 2	05/2009	Updated with information to support DataWedge 3.1

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About This Guide

Introduction

DataWedge is a Motorola mobile device application that reads data from input devices, processes the data and sends the data to consumer applications executing in the foreground on the mobile devices.

DataWedge can be installed on Motorola mobile devices that run Windows CE 5.0 and Windows Mobile 5.0 and above operating systems.

DataWedge provides two views into its configuration options; a Basic view and an Advanced view. The Basic view provides more direct and more rapid access to a similar set of configurations options found on prior versions of DataWedge. The Basic view is intended as a starting point to the myriad of configuration options that are available and for those that do not need the advanced features.

This document describes the features and functionality available in the Basic view and explains how it is used to configure the various options.

A separate user guide is available which covers the Advanced view and its configuration options in detail. Refer to the *DataWedge Advanced Configuration Guide* for more information.

Notational Conventions

The following conventions are used in this document:

- “device” refers to any Motorola enterprise mobility device.
- “User” refers to anyone using an application on the device.
- “You” refers to the End User, System Administrator or Technical Support person using this manual as a reference to install, configure, operate, maintain and troubleshoot DataWedge.

- *Italics* are used to highlight the following:
 - Chapters and sections in this and related documents
 - Dialog box, window and screen names
 - Drop-down list and list box names
 - Check box and radio button names
 - Icons on a screen.
- **Bold** text is used to highlight the following:
 - Key names on a keypad
 - Button names on a screen or window.
- bullets (•) indicate:
 - Action items
 - Lists of alternatives
 - Lists of required steps that are not necessarily sequential
- Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.



NOTE This symbol indicates something of special interest or importance to the reader. Failure to read the note will not result in physical harm to the reader, equipment or data.



CAUTION This symbol indicates that if this information is ignored, the possibility of data or material damage may occur.



WARNING! This symbol indicates that if this information is ignored the possibility that serious personal injury may occur.



Chapter 1 Basic Configuration Overview

Introduction

DataWedge provides two views into its configuration options; a Basic view and an Advanced view. Whilst the Advanced view allows access to all the configuration options, the Basic view provides more direct and more rapid access to a similar set of configurations options found on prior versions of DataWedge. The Basic view is intended as a starting point to the myriad of configuration options that are available and for those who have no need of the advanced features.

One of the new features introduced in this version of DataWedge is Profiles. Profiles allow settings to be configured per application so that when that application comes to the foreground DataWedge uses the settings specific to it as defined in the profile.

DataWedge has a default profile, Profile0, which is used when a foreground application does not have a profile associated to it. Profile0 is a generic profile that applies to all applications unless an application has its own profile.

The Basic view is a shortcut to selected configuration options within the default profile, Profile0, exposing a similar set of settings as found on previous version of DataWedge. These same settings are exposed and can be modified through the Advanced view. It is therefore important to note that changes made in one view can affect the other, especially in the case of making changes through the Advanced view to settings which are not exposed in the Basic view such as, for example, disabling the default profile.

The Basic view exposes the Barcode input plug-in, Basic Format process plug-in and Keystroke output plug-in configuration options.

Please refer to [Basic and Advanced View Considerations](#) for more details.

Profile0

Profile0 is the default profile. The Basic view allows the configuration of the default profile's barcode input plug-in, keystroke output plug-in and Basic format process plug-in as described below.

Barcode Input Plug-in

The Barcode input plug-in is responsible for reading data from the integrated barcode reader. The Barcode plug-in supports different types of barcode readers including laser, imager and camscan (Camera Scan). Raw data read from the barcode reader can be processed or formatted using process plug-ins (See [Basic Format Process Plug-in](#)) as required. DataWedge has built-in feedback functionality for the barcode reader to issue user alerts. The feedback settings can be configured according to user requirement.

Keystroke Output Plug-in

The Keystroke output plug-in is responsible for dispatching processed data to the foreground application on the mobile device by emulating keystrokes. Similar to the Barcode Input Plug-in, the Keystroke output plug-in also has feedback functionality.

Basic Format Process Plug-in

The Basic Format (aka Prefix/Suffix) plug-in is similar to the prefix/suffix feature that exists in earlier versions of DataWedge and it allows DataWedge to add either a predefined prefix or a suffix to the captured data before passing it to an output plug-in.

The Basic Format process plug-in allows setting a string, sticky keys, virtual keys, control characters (characters sent by pressing Ctrl key) and escape sequences (See [Escape Sequences Supported by DataWedge](#)) at the beginning or at the end of the data received from the input plug-in. Also this process plug-in can be used to send data in hexadecimal format, append TAB and/or ENTER keys or restrict sending data.

Basic and Advanced View Considerations

As explained above Basic view is a shortcut to selected configuration options within the default profile, Profile0, of DataWedge. The remaining settings such as Advanced Data Formatting and the enabled/disabled state are only configurable through the Advanced view.

Through the advanced view, general settings such as the enabling/disabling of profiles, Profile Selection (Auto/Manual) and Manual Profile may affect the default profile in a way that is not exposed in the Basic view.

After using the Advanced view, in order to use the Basic view successfully, please make sure the following settings are configured via the Advanced view as shown in the following table.

Table 1-1 *Basic and Advanced View Considerations*

Setting	Expected Value
Advanced > Profiles > Profile 0 > Enabled	Ticked. (Profile0 needs to be enabled and this can only be done through the Advanced view)
Advanced > Settings > Profile Selection	Manual
Advanced > Settings > Manual Profile	Profile0

Chapter 2 Getting Started

Installation

The DataWedge installation package is available from the Motorola Product Support site at http://support.symbol.com/support/product/DEV_SW_TOOLS.html.

Installing DataWedge on a PC

Run the DataWedge installation package on the PC. Follow the instructions provided by the installation wizard to complete the installation. The following files/folders are installed on the PC.

- Setup\ - Folder containing DataWedge manual installation files
- INI\DataWedge.ini - DataWedge configuration settings file
- DataWedgeInstaller.exe - Executable program to install DataWedge on a mobile device
- DataWedge Configuration Guide
- Remote Config\ - DataWedge Remote Configuration folder
- Readme.htm - Quick reference file
- WebUpdates.htm - DataWedge updates web location

Installing DataWedge on a Mobile Device

1. Establish a Microsoft ActiveSync® connection between host PC and mobile device.
2. On the host PC, go to Start > Programs > Motorola DataWedge > Install DataWedge to initiate the automatic installation process.
3. A screen displaying installation details appears on the mobile device.

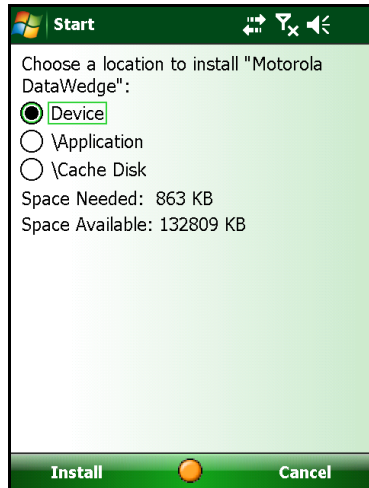


Figure 2-1 *Installation Location Details*

Select the preferred install location using the radio button and press **Install** to proceed with the installation of DataWedge on the mobile device.

4. Wait a few moments while DataWedge is installed to the mobile device. After a successful installation, a message window appears to announce that DataWedge is installed.

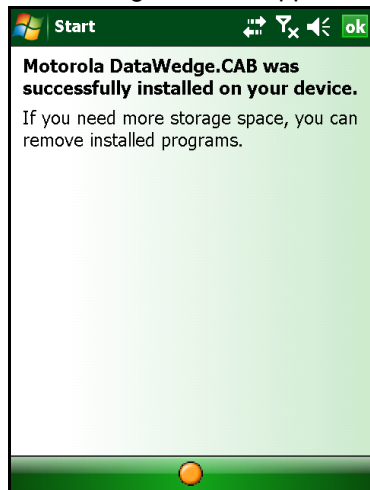


Figure 2-2 *Successful Installation Notification*

Tap ok to close the message window.

5. After the installation is completed DataWedge starts automatically.

Please refer to the *DataWedge Advanced Configuration Guide* for details on different options available for installing DataWedge on a Mobile Device.

DataWedge Demonstration Application

The DataWedge Demonstration is an application that advertises the value of DataWedge and allows the user to see the scanned data in a list. It is automatically launched when the user successfully scans a barcode while the mobile device is displaying the Windows Mobile Today Screen or the Windows CE Desktop. The DataWedge Demonstration is enabled by default, but the user can turn it off by making an alteration in DataWedge settings (See [Configuring Desktop Autostart Option](#)).

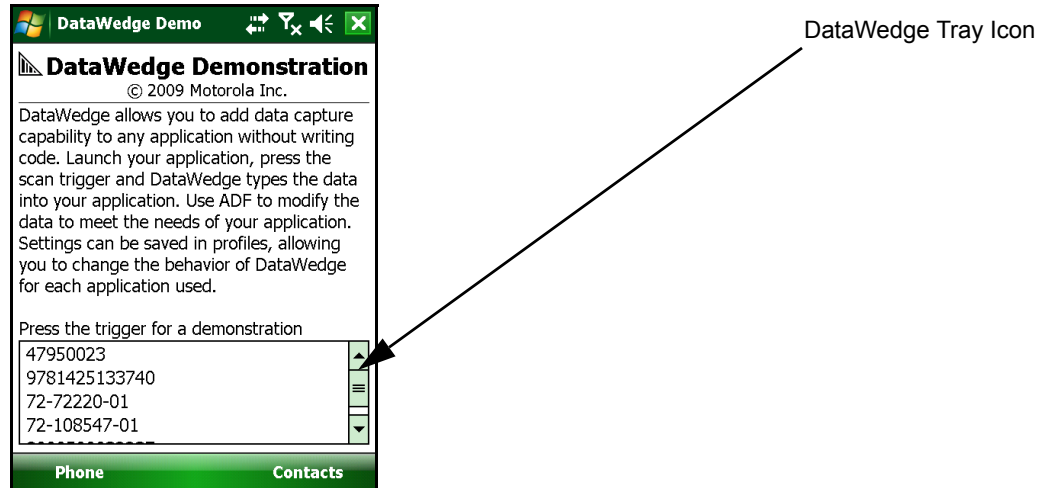


Figure 2-3 *DataWedge Demonstration Screen*

The DataWedge Demonstration application screen displays the barcode data line-by-line at the bottom of the screen. Use the scroll to view the barcode data.

To close the DataWedge Demonstration, tap the close button located at the far right of the title bar.

DataWedge Tray Icon

DataWedge is launched on the mobile device upon successful installation. The DataWedge icon appears on the windows taskbar to indicate that DataWedge is in operation. Tap on the icon to open the DataWedge tray icon menu.

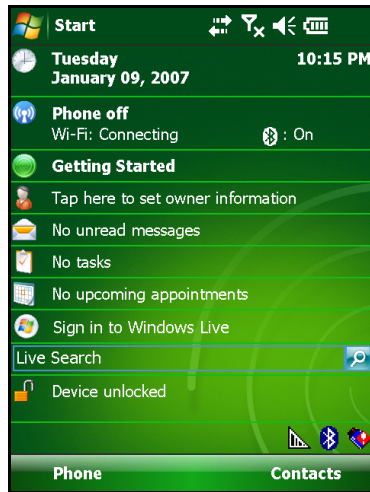


Figure 2-4 Mobile Device Desktop (DataWedge Icon)

DataWedge Tray Icon Menu

Use the tray icon menu to start/stop DataWedge, to access basic/advanced configuration modes and to terminate DataWedge activities on the mobile device.

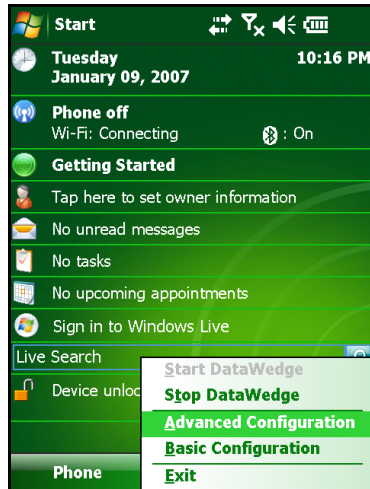


Figure 2-5 *DataWedge Tray Icon Menu*

- Select *Start DataWedge* to launch DataWedge on the mobile device.
- Select *Stop DataWedge* to stop DataWedge on the mobile device. When this option is selected, DataWedge can be launched again using the tray icon menu.
- Select *Advanced Configuration* to launch advanced configuration mode.
- Select *Basic Configuration* to launch basic configuration mode.
- Select *Exit* to close DataWedge on the mobile device. When this option is selected, DataWedge is shut down and the tray icon is hidden as well. To start DataWedge again use the Start Menu.

Uninstalling DataWedge

DataWedge can be uninstalled from the mobile device via the host PC or by using the Add/Remove Programs applet on the mobile device.

Remove DataWedge via Host PC

Method 1

1. Establish a Microsoft ActiveSync® connection between host PC and the mobile device.
2. On the host PC, go to Start > Programs > Motorola DataWedge > DataWedge Installer.
3. When the *Applications Already Installed* prompt appears, select **No** to move to the *Add/Remove Programs* window.

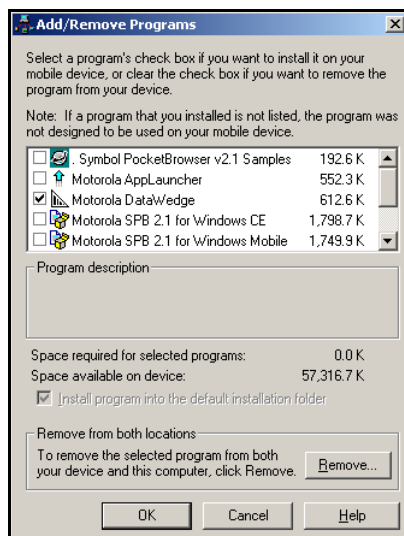


Figure 2-6 Add/Remove Programs Window

4. De-select the checkbox alongside Motorola DataWedge and press **OK** to remove DataWedge from the mobile device.

Method 2

1. Establish a Microsoft ActiveSync® connection between the mobile device and the host PC.
2. In the *Notification Area* of the host PC, right click the ActiveSync icon and select *Open Microsoft ActiveSync* option or alternatively, double-click the ActiveSync icon to open the Microsoft ActiveSync window.
3. In the Microsoft ActiveSync window go to Tools > Add/Remove Programs.
4. De-select the checkbox alongside Motorola DataWedge and press **OK** to remove DataWedge from the mobile device.

✓ **NOTE** Apart from the described methods, DataWedge can be uninstalled from both the host PC and from the mobile device by highlighting Motorola DataWedge from the list in the *Add/Remove Programs* window and pressing the **Remove** button under *Remove from both locations* panel. Press **OK** when the *Remove Application* dialog box appears, to confirm removal of DataWedge from the mobile device and the host PC. This option only removes the temporarily stored CAB file from the host PC and not the DataWedge program group which includes Readme, DataWedge Configuration Guide etc.

Chapter 3 Configuring Basic View

Introduction

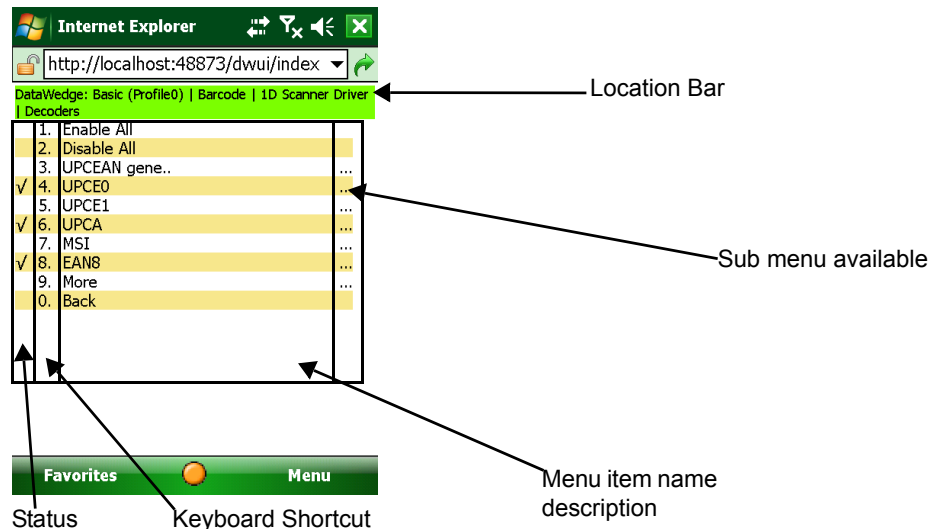
DataWedge configuration is handled through a browser based interface. It consists of a hierarchy of menus which can be navigated using the keypad or the touch-sensitive screen (if present). The DataWedge configuration settings are saved in XML files.

- ✓ **NOTE** DataWedge can be remotely configured via the PC using the Remote Configuration option available in DataWedge programs group. The configuration screens in DataWedge Remote Configuration procedure is identical to DataWedge configuration running on the mobile device, i.e. it is a PC emulation of DataWedge configuration. Refer to the *DataWedge Advanced Configuration Guide* for more details.

Navigate through the basic view menu items to access basic configuration options.

General Format of User Interface

The DataWedge configuration user interface (UI) has a number of elements. Running across the top of the page is a location bar, which indicates the current location within the menu hierarchy.



The menu item list is formatted into four columns. The first is a status column indicating whether the item is enabled or not, where applicable. The second column gives the keyboard shortcut for that menu item, enabling navigation of the menu without the need of touch screen input. Column three is the name/description of the menu item. The fourth column is a sub menu indicator that generally displays ellipses ("...") if a sub menu is available for that menu item. Access the sub menu by selecting that menu item.

The "0" item is universally used as the shortcut to navigate to the previous page. In the main menu only, the "0" item is used to exit from the configuration utility.

Launching Basic Configuration

To launch DataWedge basic configuration view, select *Basic Configuration* from the DataWedge tray icon menu.

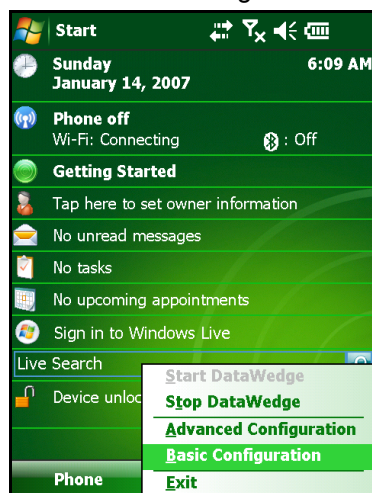


Figure 3-7 Launching Basic View (DataWedge Tray Icon Menu)

Main Configuration Menu

A main configuration menu is displayed on the screen when the Basic configuration is launched on the mobile device. This page consists of four menu items, namely *Barcode input*, *Keystroke output*, *Basic format* and *Exit*.

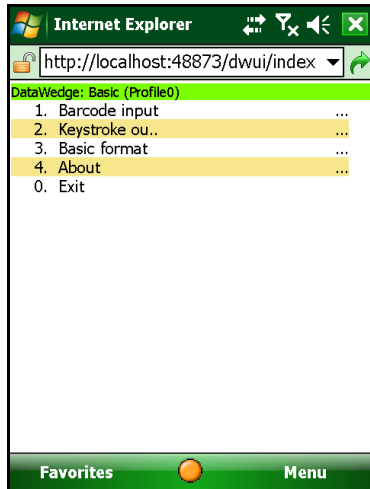


Figure 3-8 Main Configuration Menu Page

Use the appropriate keyboard shortcut or the touch screen to navigate through the main menu.

- Select *Barcode Input* to access the barcode plug-in configuration menu.
- Select *Keystroke output* to access the keystroke plug-in configuration menu.
- Select *Basic format* to access the basic format plug-in configuration menu.
- Select *About* to display product information of DataWedge.
- Select *Exit* to exit from DataWedge basic configuration mode.

✓ **NOTE** Do not press any buttons until configuration menu is fully loaded as it might hamper the loading process.

Configuring Barcode Input Plug-in

The barcode plug-in reads the captured data from barcode scanners and queues the data for processing.

Select *Barcode input* from the DataWedge basic configuration main menu to move to the *Barcode* menu page.

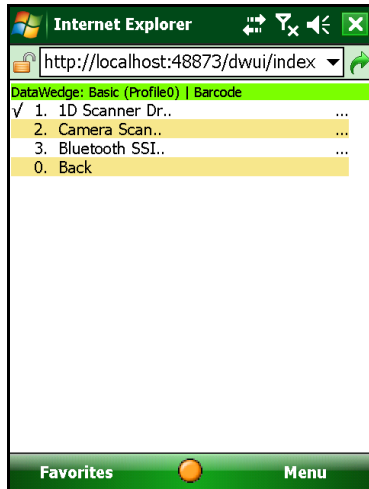


Figure 3-9 Scanner Device Selection Page

Use this page to select the scanner device. This page lists all scanner devices available in the mobile device.

When the scanner device is selected, DataWedge configuration moves to the scanner configuration main page where all configurable options for that scanner are listed.

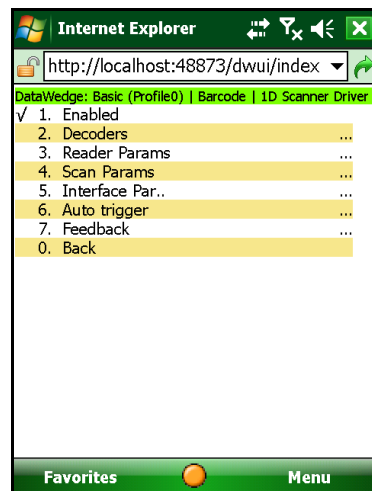


Figure 3-10 Scanner Configuration Main Menu

The following is a brief description of the menu items on the scanner plug-in configuration page.

- Select *Enabled* to enable/disable the scanner. Disabling the scanner makes DataWedge basic configuration mode inoperable.
- Select *Decoders* to access the supported decoders for the scanner.
- Select *Reader Params* to access the reader parameters for the scanner. (See [Reader Parameters](#))
- Select *Scan Params* to access the scanner parameters for the scanner. (See [Scanner Parameters](#))

- Select *Interface Params* to access the interface parameters for the scanners. (See [Interface Parameters](#))
- Select *Auto trigger* to enable/disable auto trigger mode for the scanner. When enabled, the scanner continuously reads barcodes. Use this feature for Motorola Micro Kiosks, such as the MK500. (See [Enable/Disable Auto Trigger Mode](#))

✓ **NOTE** Use of this feature on a battery powered mobile device is not recommended because it can cause the battery to discharge more rapidly.

- Select *Feedback* to configure the notification options for the scanner. (See [Input Plug-in Feedback Settings](#))

Enabling/Disabling the Scanner

Select *Enable* to enable the scanner. When the scanner is enabled, a tick (✓) is displayed alongside the *Enabled* item. To disable, select *Enable* again to toggle the *Enabled* state.

Configuring Scanner Decoders

Before using the scanner to capture data ensure that the required symbologies are enabled. Select the *Decoders* option from the scanner configuration menu to move to the page listing all decoders supported by the scanner.

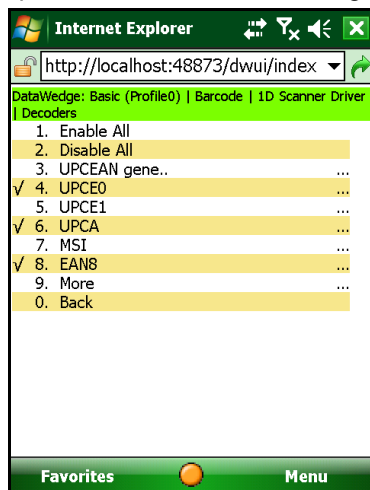


Figure 3-11 *Decoders List*

This menu page lists all the decoders supported by the scanner. Use the *More* option to navigate through the list to configure additional decoders.

- Select *Enable All* to enable all decoders for the selected barcode scanner.
- Select *Disable All* to disable all the decoders.

Configuring Decoders

Select the decoder name from the list, to navigate to the page containing the configurable parameters for that particular decoder.

Example

Configuring EAN8 Decoder

Select *EAN8* from the list to move to the EAN8 decoder configuration page.

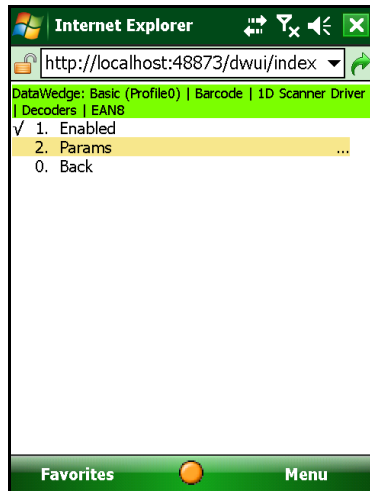


Figure 3-12 EAN8 Decoder Page

The *Enabled* option changes the enable/disable status of the EAN8 decoder. When enabled the scanner allows reading of EAN8 barcodes.

Select *Params* to configure additional parameters of the EAN8 decoder.

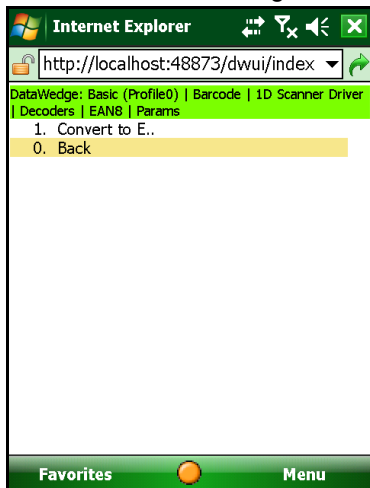


Figure 3-13 EAN8 Params Page

Use the *Convert to EAN13* option to enable/disable conversion of EAN8 barcodes to EAN13 barcodes. A tick (✓) is displayed when this option is enabled.

Configuring Reader Parameters

Select *Reader Params* from the scanner configuration menu to configure reader specific parameters.

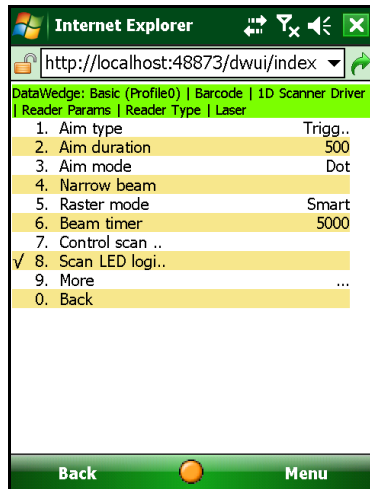


Figure 3-14 Reader Parameters Page

Reader Parameters

The *Reader Parameters* settings differ depending on the barcode reader type. See [Laser Scanner Reader Parameters](#) and [Imager Reader Parameters](#) for details.

Laser Scanner Reader Parameters**Table 3-1** Laser Scanner Reader Parameters

Reader Parameters	Laser Values	Description
Reader Type	Laser	Laser type scan engine is used.
Aim type	Trigger mode:	On/off controlled by the trigger.
	Trigger Hold mode:	Trigger can be released but it remains active for the specified period of time.
	Timed Release mode:	Activation stops after a specified period of time, even if the trigger is held.
Aim duration	0 - 60,000 ms	Sets the amount of time (0 - 60,000 ms in increments of 100 ms).
Aim mode	Dot, Slab, Reticle, None	Describes the aiming modes to use Dot – Projects a dot used for aiming Slab – Projects a line used for aiming Reticle – Projects an aiming pattern used for framing a barcode. None – set to none to disable this
Narrow beam	Enable, Disable	Sets the scan beam width to normal or narrow. Enable – Enable narrow beam Disable – Disable narrow beam (enable normal beam)
Raster mode	Smart	Creates a single scan line which opens vertically for PDF417 symbols using the Smart Raster feature. This feature auto detects the type of bar code presented and adjusts its pattern accordingly. This provides optimal performance on 1D, PDF417, and EAN/UCC.
	Cyclone	A scan pattern which decodes 1D symbologies in any orientation.
	None	Raster mode disabled.
	Open Always	Opens the laser to a full sized raster pattern. Decodes 1D and PDF417. NOTE Raster Mode is not supported on all devices.
Beam timer	0 - 60,000 ms	Sets the maximum amount of time that the laser remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the laser to stay on.
Control scan LED	Enable, Disable	Not supported, do not modify default setting.
Scan LED logic level	Enable, Disable	Not supported, do not modify default setting.
Klasse Eins enable	Enable, Disable	Not supported, do not modify default setting.
Bidir. redundancy	Enable, Disable	Sets the read direction for the bar code redundancy. Bidirectional reads in both directions.

Table 3-1 *Laser Scanner Reader Parameters*

Reader Parameters	Laser Values	Description
Linear security level Linear Sec (Laser only)		Sets the number of times a bar code is re-read to confirm an accurate decode.
	All twice:	All twice: Two times read redundancy for all bar codes.
	All thrice:	All thrice: Three times read redundancy for all bar codes.
	Long and Short:	Long and Short: Two times read redundancy for long bar codes, three times for short bar codes.
	Redundancy + length:	Redundancy + length: Two times read redundancy based on redundancy flags and code length.
	Short or Codabar	Short or Codabar: Two times read redundancy if short bar code or CODABAR.
Pointer timer	0 - 60,000 ms	Sets the maximum amount of time that the pointer remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the pointer to stay on.
Raster height	0-100 in.	Sets the Raster Height from 0 to 100 inches in increments of 5 in. Raster Height is not supported on all devices.
DBP Mode		Describes what type of Digital Bar Pulse (DBP) is being produced by the scan engine.
	Normal	Normal – tells the engine to produce normal DBP.
	Composite	Composite – tells the engine to produce composite DBP, which is 2 different sets of DBP data multiplexed together for better decode performance. Note: If the device does not support I2C or if using an older engine the default value for DBP Mode is Normal. An attempt to change this mode to Composite results in an E_SCN_NOTSUPPORTED error.

Imager Reader Parameters**Table 3-2** *Imager Reader Parameters*

Reader Parameters	Imager Values	Description
Reader Type	Imager	Imager type engine is used.
Aim type	Trigger mode:	On/off controlled by the trigger.
	Timed hold mode:	Trigger can be released but it remains active for the specified period of time.
	Timed Release mode:	Activation stops after a specified period of time, even if the trigger is held.
	Presentation	Special mode enables scanning when motion is detected in front of the imager. (Currently only supported by MK500)

Table 3-2 Imager Reader Parameters

Reader Parameters	Imager Values	Description
Aim duration	0 - 60,000 ms	Sets the amount of time (0 - 60,000 ms in increments of 100 ms).
Aim mode	Dot, Slab, Reticle, None	Describes the aiming modes to use Dot – Projects a dot used for aiming Slab – Projects a line used for aiming Reticle – Projects an aiming pattern used for framing a barcode. None – set to none to disable this NOTE Both Dot and Slab options are invalid for imager, thus if selected the setting is overridden to reticle mode.
Beam timer	0 - 60,000 ms	Sets the maximum amount of time that the laser remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the laser to stay on.
Pointer timer	0 - 60,000 ms	Sets the maximum amount of time that the Pointer Timer remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the Pointer Timer to stay on. NOTE This parameter is not supported on all devices.
Img capt. timeout	0 - 60,000 ms	Sets the maximum amount of time for the Image Capture Timeout (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the Image Capture Timeout to stay on. NOTE This parameter is not supported on all devices.
Img comp. timeout	0 - 60,000 ms	Sets the maximum amount of time for the Image Compress Timeout (0 - 60,000 ms in increments of 100 ms). NOTE Image Compress Timeout is not supported on all devices.
Linear security		Sets the number of times a bar code is read to confirm an accurate decode.
	All twice:	All twice: Two times read redundancy for all bar codes.
	All thrice:	All thrice: Three times read redundancy for all bar codes.
	Long and Short:	Long and Short: Two times read redundancy for long bar codes, three times for short bar codes.
	Short or Codabar	Short or Codabar: Two times read redundancy if short bar code or CODABAR.
Focus mode	Fixed, Auto	Fixed mode is the only supported focus mode.
Focus position	Far, Near	Specifies the Fixed setting, focus position for Far is 9 inches and focus position for Near is 5 inches.
Poor quality mode	Enable, Disable	This parameter allows poor quality 1D bar codes to be read, BUT adversely affecting the overall decoding performance. Enable – Enables poor quality decoding for 1D barcodes. Disable – Disables poor quality decoding for 1D barcodes.

Table 3-2 Imager Reader Parameters

Reader Parameters	Imager Values	Description
Picklist mode	Disabled, Enabled/HW reticule, Software reticule	<p>This parameter allows the imager to decode only the bar code that is directly under the cross-hair/reticule (+) part of the AIM pattern. This feature is most useful in applications where multiple bar codes may appear in the field of view during a decode session and only one of them is targeted for decode. When enabled, bPicklistMode overrides dwAimMode if no aiming is chosen and use the AIM_MODE_RETICLE mode. When enabled, bPicklistMode may adversely affect overall decoding performance.</p> <p>Disabled – Disables picklist mode, so any bar code within the field of view can be decoded.</p> <p>Enable/HW reticule – Enables picklist mode, so only the bar code under the cross-hair can be decoded.</p> <p>Software reticule - Enables picklist mode, so only the bar code under the cross-hair can be decoded. In this mode the reticule is seen on the viewfinder as oppose to on the barcode surface. Especially used with Camera Scan.</p>
DPM Mode	Enable, Disable	<p>This parameter allows Direct Part Marking (DPM) bar codes to be read but may adversely affect overall decoding performance. DPM is a way of stamping bar codes directly on physical objects.</p> <p>Support for this feature is available on DPM enabled mobile computers only. If this feature is not available and user attempts to enable it, an error (E_SCN_NOTSUPPORTED) results.</p> <p>Enable – Enables decoding of DPM bar codes.</p> <p>Disabled – Disables decoding of DPM bar codes.</p> <p>NOTE This feature cannot be turned on in conjunction with Picklist as both these modes are mutually exclusive. An attempt to turn on both results in an error (E_SCN_NOTSUPPORTED).</p>
Illumination mode	Auto, Always off, Always On	<p>Illumination modes to use.</p> <p>Possible values are:</p> <p>Auto Illumination – In this mode the auto-exposure algorithms decides whether illumination is required or not.</p> <p>Always on – In this mode external illumination is always on.</p> <p>Always off – In this mode external illumination is always off.</p>
VF left pos.	0 – 600	This setting displays the top left X coordinate of the viewfinder window.
VF top pos.	0 – 800	This setting displays the top left Y coordinate of the viewfinder window.
VF right pos.	0 – 600	This setting displays the bottom right X coordinate of the viewfinder window.

Table 3-2 Imager Reader Parameters

Reader Parameters	Imager Values	Description
VF bottom pos.	0 – 800	This setting displays the bottom right Y coordinate of the viewfinder window.
VF mode	Disabled, Enabled, Static reticule, Dynamic reticule	This setting displays the Viewfinder modes supported for scanning. Possible values are: Disable - Viewfinder is not displayed during aiming and scanning. Enabled - Only Viewfinder is enabled. Static Reticule - Displays the Viewfinder as well as draws a red reticule in the center of the screen which helps tracking the barcode. Dynamic Reticule - Displays the Viewfinder as well as draws a red reticule in the center of the image. If the barcode in the image is 'decodable' the reticule turns green to indicate this.
VF feedback	Disabled, Enabled, Reticule	This parameter allows selection of the different feedback parameters on a successful decode. Possible values are: Disabled - This mode disables any visual feedback on a successful decode. Enabled - This mode displays the last image that successfully decoded. The duration for which the image is displayed can be set by the Viewfinder feedback time. Reticule - This mode displays the last image that successfully decoded and also draws a reticule in the center of the image.
VF feedback time	0 - 60,000 ms	This displays the Time for which the visual display selected by Viewfinder feedback mode. For more information Please refer <i>Motorola Enterprise Mobility Developer Kit for C Help</i> .
Inverse 1d Mode	Disabled, Enabled, Auto	This parameter allows the user to select decoding on inverse 1D barcodes. Disabled - Disables decoding of inverse 1D symbologies. Enabled - Enables decoding of only inverse 1D symbologies. Auto - Allows decoding of both positive as well as inverse 1D symbologies.

Configuring Scan Parameters

Select *Scan Params* to configure the scan parameters.

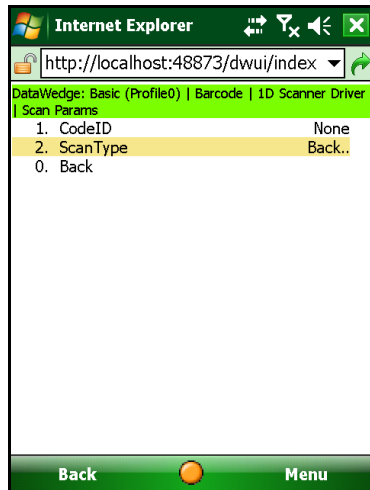


Figure 3-15 Scanner Parameter Page

Use this menu to access and configure the scan parameters.

- Select *CodeID* to specify the CodeID.
- Select *Scan Type* to specify the type of Code ID to be reported.

See [Scan Parameters](#) for more details.

Scanner Parameters

Below table lists all the scan parameters.

Table 3-3 Scan Parameters

Scan Parameters	Values	Description
Code ID Type	None	Default setting. No prefix
	Symbol	A Symbol defined single character prefix.
	AIM	A standard based three character prefix.
Scan Type	Foreground	Foreground reads combine only with other foreground reads and preempt background reads.
	Background	The scan takes place in the background, but only if no foreground reads are pending.
	Monitor	No scanning is requested, but if scanning is initiated by another application, a monitor read receives a copy (if the code type is appropriate).



NOTE By default, the Scan Type is set to 'Background'. This allows DataWedge to share the scanner with other scan enabled applications. Setting this parameter to 'Foreground' is not recommended as this may interfere with other scan enabled applications or vice versa.

Configuring Interface Parameters

Select *Interface Params* from the scanner configuration menu to set the interface parameters.

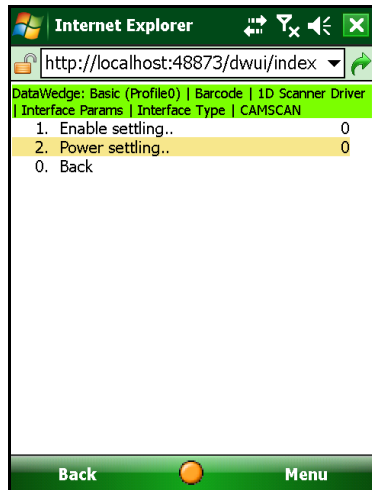


Figure 3-16 *Interface Parameter Page*

Select a parameter from the list to modify the default value assigned to it.

See [Interface Parameters](#) for more details.

Interface Parameters

Table 3-4 *Interface Parameters*

Interface Parameter	Values
Interface Type	Lighthouse - Lighthouse ASIC Camscan - Camera port interface QSNAC - QSNAC interface SSI - SSI interface LS48XX - LS48XX interface
Power Settle Time	0 - 100 ms
Enable Settle Time	0 - 100 ms
Low Power Time	0 - 60,000 ms

Enable/Disable Auto Trigger Mode

From the barcode plug-in configuration main menu, select *Auto trigger* to enable auto trigger mode for the scanner. When this feature is enabled, the scanner is activated when movement is detected beneath it and automatically scans barcodes. Use this feature for Motorola Micro Kiosks, such as the MK2200.

✓ **NOTE** Use of this feature on a battery powered mobile device is not recommended because it can cause the battery to discharge more rapidly

By default this feature is disabled on DataWedge. When enabled a tick (✓) is displayed alongside Auto trigger menu item. To disable, select the menu item again to toggle the state.

✓ **NOTE** Use of this feature with the camera is not recommended because the Viewfinder is given precedence over the other foreground applications and therefore, DataWedge configuration interface can be obscured. Use the DataWedge Remote Configuration to change DataWedge settings whilst in this mode.

Input Plug-in Feedback Settings

Select the *Feedback* option from the scanner configuration menu to navigate to the feedback settings page where the feedback parameters can be configured.

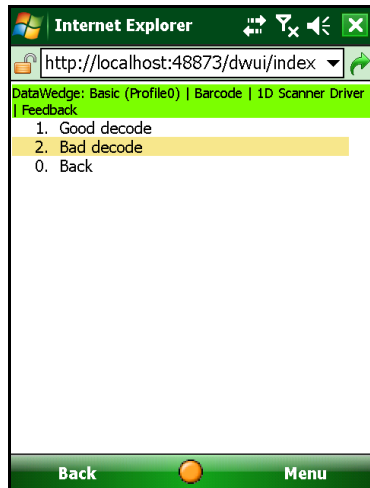


Figure 3-17 Feedback Selection Page

Use DataWedge configuration pages to configure the feedback settings for the selected input plug-in.

The scanner plug-in has two events which feedback settings need to be configured. The feedback mechanism uses the LED, Beeper and Wave Files to provide feedback to the user.

- Select *Good decode* to configure feedback settings for a successful decode.
- Select *Bad decode* to configure feedback settings for an unsuccessful decode.

Select either Good decode or Bad decode from the list to move to the corresponding page where the feedback options are listed.

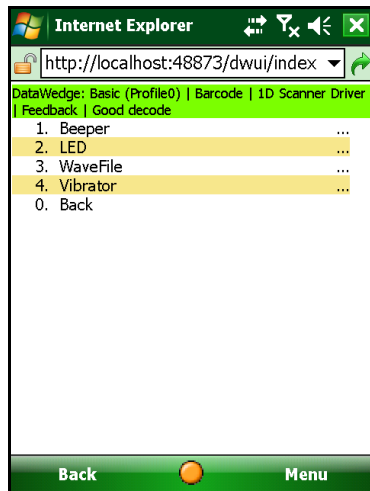


Figure 3-18 Feedback Module Selection Page

Select a feedback option from the list to configure it.

- Select the *Beeper* option to access and configure Beeper feedback.
- Select the *LED* option to access and configure LED feedback.
- Select the *WaveFile* option to access and configure Wave File feedback.
- Select the *Vibrator* option to access and configure Vibrator feedback module.

Configuring Beeper Feedback Settings

Select *Beeper* to configure beeper feedback settings.

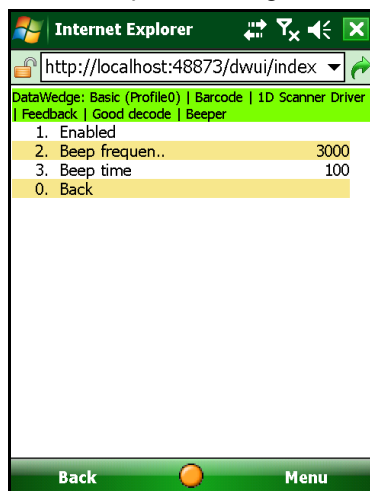


Figure 3-19 Beeper Configuration Page

- Select *Enabled* option to enable or disable the beeper feedback. When enabled, a tick (✓) is displayed alongside the *Enabled* item. To disable, select Enable again to toggle the Enabled state.
- Select *Beep frequency* option to set the Beep frequency. A form appears allowing the beep frequency to be changed. Enter the desired value and press **Save** to save.

- Select *Beep time* option to set the beep duration. A form appears allowing the beep duration to be changed. Enter the desired time (in milliseconds) and press **Save** to save.

Configuring LED Feedback Settings

Select LED to configure the LED feedback settings.

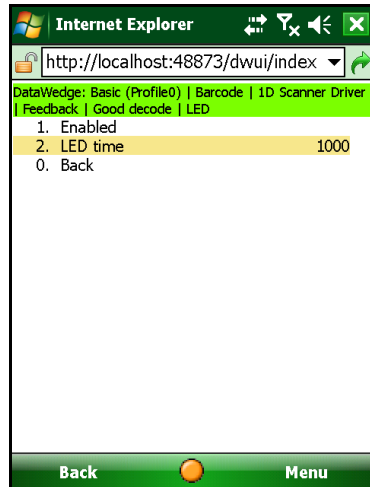


Figure 3-20 LED Configuration Page

- Select *Enabled* option to enable or disable the LED feedback.
- Select *LED time* option to set the LED time. Enter the time duration (in milliseconds) in the form that appears and press **Save** to save.

Configuring WAV Feedback Settings

Select WaveFile to configure WAV feedback setting.

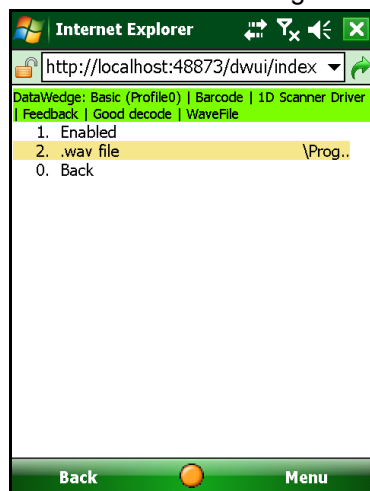


Figure 3-21 Wave File Configuration Page

Select *Enabled* option to enable or disable the WaveFile feedback.

Select *.wav file* option to specify the WAV file to be used. Enter the path/filename of the .wav file in the form that appears and press **Save** to save.

Configuring Vibrator Feedback Settings

Select Vibrator to configure vibrator feedback module settings.

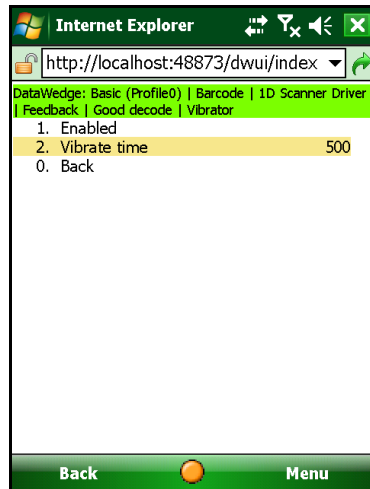


Figure 3-22 *Vibrator Configuration Page*

- Select *Enabled* option to enable/disable the vibrator feedback module.
- Select *Vibrate time* option to specify the vibrate duration (in milliseconds). Enter the desired value in the text entry field and press **Save** to save.

Configuring Keystroke Output Plug-in

The Keystroke output plug-in dispatches data to the foreground application in the form of keystrokes. The Keystroke plug-in can receive data either directly from input plug-ins or via process plug-ins.

Select *Keystroke output* to move to Keystroke configuration main menu page.

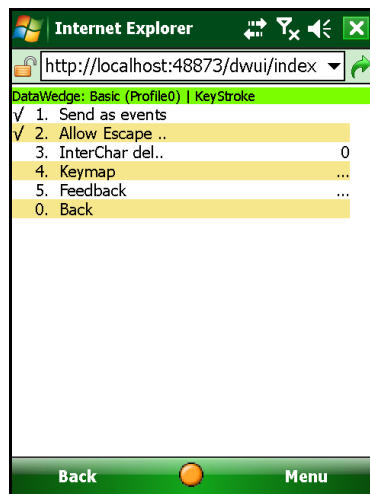


Figure 3-23 Keystroke Plug-in Configuration Page

- Select *Send as events* to enable sending keystrokes as keyboard events. When enabled, a tick (✓) is displayed alongside Send as events menu item. To disable this feature, select the menu item again to toggle the state. When disabled, Keystrokes are sent to the foreground application as messages. This feature must be disabled to send ASCII printable characters to the foreground application in non-English operating systems. Otherwise the Input Method Editor (IME) of the non-English operating system may process the keystroke data and give out language specific outputs.
- Select *Allow Escape chars* to enable DataWedge to recognize escape sequences in the incoming data and convert them to keystrokes. A tick (✓) is displayed alongside the menu item when this feature is enabled. To disable this feature, select the menu item again. When disabled, escape sequences are sent as data.
- Select *InterChar delay* option to specify the delay to be inserted between each keystroke character that is sent.
- Select *Keymap* to specify the keymap settings.
- Select *Feedback* to specify the feedback settings for events handled by the output plug-in.

This page is the entry point to the keystroke output plug-in configuration. When moving back to the previous page a dialog box is displayed, prompting confirmation to save any changes made to the keystroke output plug-in. Press **OK** to save changes. Press **Cancel** to revoke any changes.

Allow Escape Characters

The *Allow Escape chars* option configures the Keystroke plug-in to recognize escape sequences in the incoming data buffer. When this option is enabled DataWedge can process the escape characters in an incoming data stream and also send escape characters to the foreground application via the Keystroke plug-in. Disabling this option causes DataWedge to leave escape characters unchanged. For example if a barcode contains characters "\r" and if Allow Escape chars is enabled, then DataWedge replaces the "\r" with a carriage return character.

However, if Allow Escape chars property is disabled DataWedge treats the "\r" as regular characters, leaving them unchanged. The above scenario is also true for data modifications done via Basic format process plug-in.

Table 3-5 *Escape Sequences Supported by DataWedge*

Escape Sequence	Description
\b	Backspace
\f	Form feed
\n	New line
\r	Carriage return
\S	Sticky key
\t	Horizontal tab
\uhhhh	Unicode character in hexadecimal notation.
\vhh	Virtual key represented in hexadecimal notation
\xhh	ASCII character in hexadecimal notation

Inter Character Delay

The inter character delay is the delay (in milliseconds) that is inserted between each keystroke character that is sent.

Select the *InterChar delay* option to move to a dialog where the inter character delay can be specified.

Use the mobile device keypad or the onscreen keyboard to enter the inter character delay and press **Save** to save.

Configuring Keymap Settings

The keymap configuration is used to translate characters from the incoming data to alternative characters before sending to the foreground application.

Select *Keymap* to move to keymap configurations page.

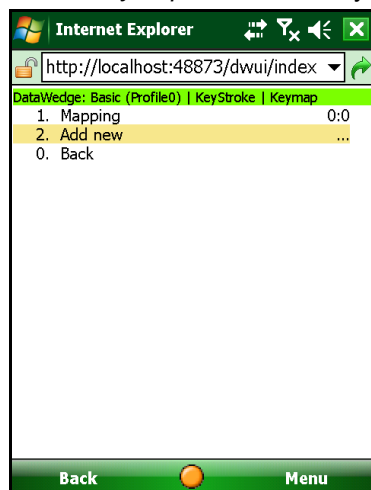


Figure 3-24 *Keymap Configuration Page*

Adding a Keymap

Select *Add new* to add a new key-mapping. A new option titled *Mapping* is added to the keymap configuration page.

Select the *Mapping* option to configure the new keymap.

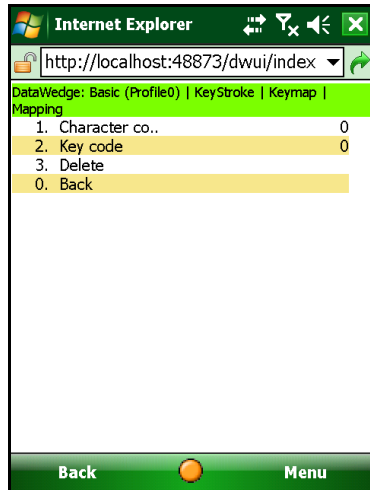


Figure 3-25 Key Mapping Main Page

- Select *Character code* to specify the ASCII value of the incoming character.
- Select *Key code* to specify the virtual key value of the alternate character.
- Select *Delete* to delete the selected key mapping.

Modifier Keys

Modifier keys are special keys that modify the normal action of another key, when two are pressed in combination. For example, <Alt> + <F4> in Microsoft Windows is used to close the program in a active window. By themselves, modifier keys usually does nothing. The most widely used modifier keys are Ctrl, Shift and Alt keys.

Table 3-6 Modifier Key Values

Modifier Key	Key Value (Decimal)	Key Value (Hexadecimal)
Shift	256	100
Ctrl	512	200
Alt	1024	400

Key Mapping Examples

The examples below explains the procedure of setting keymaps.

Example1

The following example describes how to configure the Keystroke plug-in to simulate SHIFT+8 for left round bracket "(" instead of SHIFT+9 which is the default (101 keyboard) mapping. This is a typical scenario encountered when using an application via Remote Desktop which uses a 106 keyboard (Japanese Keyboard) and scans a barcode containing an open round bracket.

1. Use the *Character code* option to specify the incoming character code that needs to be altered by the Keystroke plug-in.

In the text box enter the character code for open round bracket as decimal 40 (40 is the decimal representation of "(" according to the ASCII table) and press the **Save** button.

2. Use the *Key code* option to enter the outgoing key code combination and press **Save**.

Since the outgoing key code is a combination of two keys (SHIFT+8) it is represented as a the sum of "SHIFT" and "8"

The virtual key value in decimal format for Shift key is 256 (See [Modifier Key Values](#)). The virtual key value of character "8" is 56 (See [Virtual Key Codes](#)). Therefore the Key code is;

$$\text{Shift} + 8 = 256 + 56 = 321$$

Refer to [Virtual Key Codes](#) for key value information. Refer to the [ASCII Table](#) for character code values.

Output Plug-in Feedback Settings

Select *Feedback* from the Keystroke plug-in configuration page to move to *Feedback* menu page. Use the output plug-in feedback configuration page to set feedback properties for the Keystroke plug-in.

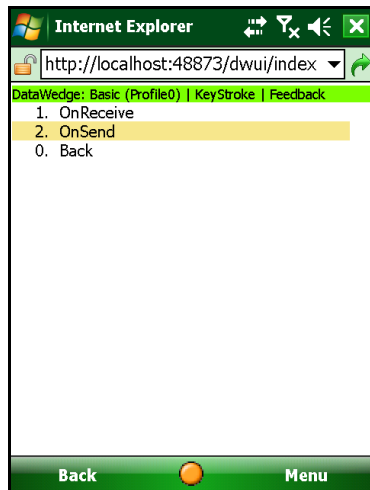


Figure 3-26 Feedback Main Menu Page

- Select *OnReceive* to configure feedback settings for data receive events which are triggered when the Keystroke plug-in receives data.
- Select *OnSend* to configure the feedback settings when the Keystroke plug-in sends data.

The feedback configuration options for the output plug-in are the same as those for the input plug-in. Please refer [Input Plug-in Feedback Settings](#) for additional details.

Configuring Basic Format Process Plug-in

Select *Basic format* from the main menu to configure the basic format process plug-in. When selected, DataWedge configuration moves to the basic format plug-in main menu page.

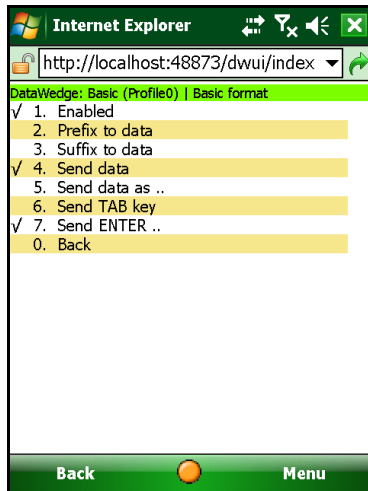


Figure 3-27 Basic Format Process Plug-in Configuration Menu

- Select *Enabled* option to enable or disable the Basic format process plug-in. When enabled, a tick (✓) is displayed alongside Enabled menu item. To disable, select the menu item again to toggle the state.
- Select *Prefix to data* to add a string to the beginning of the data.
- Select *Suffix to data* to add a string to the end of the data.
- Select *Send data* to transfer the captured data to the foreground application. This option is enabled by default. Disabling this option prevents the actual data from been transmitted. The prefix and suffix strings, if present, are still transmitted even if this option is disabled.
- Select *Send data as hex* to send the data in hexadecimal format.
- Select *Send ENTER* key to append an enter character to the processed data.
- Select *Send TAB* key to append a tab character to the processed data.

Special Characters Supported by Basic format

The Basic format process plug-in supports the following special characters.

- Standard Escape Characters (See- [Escape Sequences Supported by DataWedge](#))
- Virtual Keys (See - [Virtual Key Codes](#))
- Hex representation of ASCII characters (See - [ASCII Table](#))
- Unicode Characters
- Sticky Keys (See [Sticky Key Definitions](#))

Sticky Keys

The format for sticky keys is defined as follows;

`\S(C|A|S)x[0..*]\E(C|A|S)`

The definitions of the sticky keys are described below.

Table 3-7 *Sticky Key Definitions*

Key Code	Description
<code>\S, \s</code>	Start sticky key
<code>(C c)</code>	C = CTRL
<code>(A a)</code>	A = ALT
<code>(S s)</code>	S = SHIFT
<code>x[0..*]</code>	0 or more character keys
<code>\E, \e</code>	End Sticky key.

When using sticky keys, use lower case characters to define key combinations. The key combination meanings may change the result depending on the characters used. For example, to depict CTRL+a, use `\Sca` or `\SCa`. If `\SCA` is used DataWedge emulates the key combination as CTRL+SHIFT+A which does not yield the required result.



NOTE In order to allow the escape characters to be supported, enable the "Allow Escape chars" option in the Keystroke output plug-in.

Basic Format Examples

Example1 - Displaying output data Line-by-line

The example below describes how to configure the Basic format process plug-in to alter the output data to be displayed line-by-line as shown.

Start

1234567890

End

For the Prefix, the word "Start" is followed by \r which inserts a carriage return before the data.

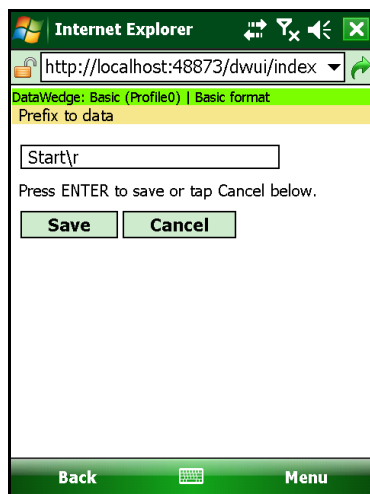


Figure 3-28 Prefix Setting

For the Suffix a \r is set before the word "End" which means the data is followed by a carriage return and then the word "End".

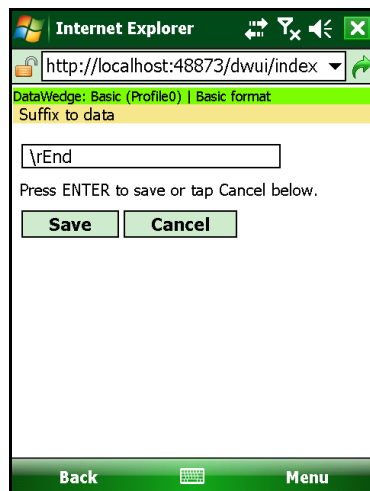


Figure 3-29 Suffix Setting

Example2 - Sending a linefeed after Data

A linefeed can be generated by typing CTRL+j on a keyboard. To emulate this in DataWedge, enter the Suffix string as \Scj\Ec.

Example3 - Fill a text field & press the OK button in a form

Where a form consists of a text input box and a submit button, DataWedge can be set to populate the text input box, then set focus to and press the button. This achieved by setting the Suffix as \Scim\Ec to simulate Tab and Enter.

Example4 - Make all characters uppercase

If the input data consists purely alpha characters (i.e. a-z), these can be converted to upper case simply by holding down the SHIFT keys while sending the characters. To achieve this effect in DataWedge, set the Prefix as \Ss and Suffix as \Es. This converts all lower case alpha characters in the data to uppercase.

Example5 - Open an MS Word document on a remote computer and print the data

Connect to a remote PC via Remote Desktop and launch MS Word. Set the prefix as \Safn\Es. This opens a new MS Word document and enter the data into the document.

To enter the data and automatically print that data afterwards, set the suffix as \Safp\Ea\Scm\Ec. After entering the data this invokes the MS Word File menu, selects Print and presses the enter key causing the document to be printed.



Appendix A Useful Information

Special Scenarios

Preventing Data Loss in Remote Desktop

When using the Remote Desktop application to run an application on a remote Windows server, certain conditions (such as a slow connection) can cause occasional keystrokes to be ignored by Remote Desktop or by the application it is running.

In this case, specify a value of 20ms or more for the InterChar delay.

Similarly, some applications may have trouble dealing with large amounts of rapidly occurring keystrokes, as might be generated when scanning barcodes such as PDF417. Setting a suitable InterChar delay can mitigate this problem.

Virtual Key Codes

The following table lists virtual key codes for a generic keyboard.

Key	Hex Virtual Key Code	Key Code (No Modifier)	Key Code (SHIFT+Key)	Key Code (CTRL+Key)
0	30	48	304	560
1	31	49	305	561
2	32	50	306	562
3	33	51	307	563
4	34	52	308	564
5	35	53	309	565
6	36	54	310	566
7	37	55	311	567
8	38	56	312	568
9	39	57	313	569
A	41	65	321	577
B	42	66	322	578
C	43	67	323	579
D	44	68	324	580
E	45	69	325	581
F	46	70	326	582
G	47	71	327	583
H	48	72	328	584
I	49	73	329	585
J	4A	74	330	586
K	4B	75	331	587
L	4C	76	332	588
M	4D	77	333	589
N	4E	78	334	590
O	4F	79	335	591
P	50	80	336	592
Q	51	81	337	593
R	52	82	338	594
S	53	83	339	595
T	54	84	340	596
U	55	85	341	597
V	56	86	342	598
W	57	87	343	599
X	58	88	344	600
Y	59	89	345	601
Z	5A	90	346	602
Space	20	32	288	544
Escape	1B	27	283	539
;	BA	186	442	698

Key	Hex Virtual Key Code	Key Code (No Modifier)	Key Code (SHIFT+Key)	Key Code (CTRL+Key)
=	BB	187	443	699
,	BC	188	444	700
-	BD	189	445	701
.	BE	190	446	702
/	BF	191	447	703
`	C0	192	448	704
[DB	219	475	731
\	DC	220	476	732
]	DD	221	477	733
'	DE	222	478	734
F1	70	112	368	624
F2	71	113	369	625
F3	72	114	370	626
F4	73	115	371	627
F5	74	116	372	628
F6	75	117	373	629
F7	76	118	374	630
F8	77	119	375	631
F9	78	120	376	632
F10	79	121	377	633
F11	7A	122	378	634
F12	7B	123	379	635
Page Up	21	33	289	545
Page Down	22	34	290	546
End	23	35	291	547
Home	24	36	292	548
Left	25	37	293	549
Up	26	38	294	550
Right	27	39	295	551
Down	28	40	296	552
Insert	2D	45	301	557
Delete	2E	46	302	558
Backspace	08	8	264	520
Tab	09	9	265	521
Print Screen	2C	44	300	556
Shift	10	16	272	528
Ctrl	11	17	273	529
Caps Lock	14	20	276	532
Enter	0D	13	269	525

Figure A-1 Virtual Key Codes

ASCII Table

Decimal	Hex	Keystroke(s)	ASCII Char	Virtual Key Code	Unicode Char
0	0	SHIFT+CTRL+2	(null)	818	
1	1	CTRL+A	(soh)	577	
2	2	CTRL+B	(stx)	578	
3	3	CTRL+C	(etx)	579	
4	4	CTRL+D	(eot)	580	
5	5	CTRL+E	(enq)	581	
6	6	CTRL+F	(ack)	582	
7	7	CTRL+G	(bel)	583	
8	8	Backspace	Backspace (bs)	8	Backspace
9	9	Tab	Tab (tab)	9	Tab
10	0A	Enter	Enter (lf)	10	Enter
11	0B	CTRL+K	(vt)	587	
12	0C	CTRL+L	(np)	588	
13	0D	CTRL+M	Enter (cr)	13	Enter
14	0E	CTRL+N	(so)	590	
15	0F	CTRL+O	(si)	591	
16	10	CTRL+P	(dle)	592	
17	11	CTRL+Q	(dc1)	593	
18	12	CTRL+R	(dc2)	594	
19	13	CTRL+S	(dc3)	595	
20	14	CTRL+T	(dc4)	596	
21	15	CTRL+U	(nak)	597	
22	16	CTRL+V	(syn)	598	
23	17	CTRL+W	(etb)	599	
24	18	CTRL+X	(can)	600	
25	19	CTRL+Y	(em)	601	
26	1A	CTRL+Z	(eof)	602	
27	1B	Esc	Escape (esc)	27	Esc
28	1C	CTRL+\	(fs)	732	
29	1D	CTRL+]	(gs)	733	
30	1E	SHIFT+CTRL+6	(rs)	822	
31	1F	SHIFT+CTRL+-	(us)	957	
32	20	Space	Space	32	Space
33	21	SHIFT+1	!	305	!
34	22	SHIFT+'	"	478	"
35	23	SHIFT+3	#	307	#
36	24	SHIFT+4	\$	308	\$
37	25	SHIFT+5	%	309	%
38	26	SHIFT+7	&	311	&
39	27	'	'	222	'
40	28	SHIFT+9	(313	(
41	29	SHIFT+0)	304)
42	2A	SHIFT+8	*	312	*
43	2B	SHIFT+=	+	443	+
44	2C	,	,	188	,
45	2D	-	-	189	-
46	2E	.	.	190	.
47	2F	/	/	191	/
48	30	0	0	48	0
49	31	1	1	49	1
50	32	2	2	50	2
51	33	3	3	51	3
52	34	4	4	52	4
53	35	5	5	53	5
54	36	6	6	54	6
55	37	7	7	55	7
56	38	8	8	56	8
57	39	9	9	57	9
58	3A	SHIFT+;	:	442	:
59	3B	;	;	186	;
60	3C	SHIFT+<	<	444	<
61	3D	=	=	187	=
62	3E	SHIFT+>	>	446	>
63	3F	SHIFT+/?	?	447	?

Decimal	Hex	Keystroke(s)	ASCII Char	Virtual Key Code	Unicode Char
64	40	SHIFT+2	@	306	@
65	41	SHIFT+A	A	321	A
66	42	SHIFT+B	B	322	B
67	43	SHIFT+C	C	323	C
68	44	SHIFT+D	D	324	D
69	45	SHIFT+E	E	325	E
70	46	SHIFT+F	F	326	F
71	47	SHIFT+G	G	327	G
72	48	SHIFT+H	H	328	H
73	49	SHIFT+I	I	329	I
74	4A	SHIFT+J	J	330	J
75	4B	SHIFT+K	K	331	K
76	4C	SHIFT+L	L	332	L
77	4D	SHIFT+M	M	333	M
78	4E	SHIFT+N	N	334	N
79	4F	SHIFT+O	O	335	O
80	50	SHIFT+P	P	336	P
81	51	SHIFT+Q	Q	337	Q
82	52	SHIFT+R	R	338	R
83	53	SHIFT+S	S	339	S
84	54	SHIFT+T	T	340	T
85	55	SHIFT+U	U	341	U
86	56	SHIFT+V	V	342	V
87	57	SHIFT+W	W	343	W
88	58	SHIFT+X	X	344	X
89	59	SHIFT+Y	Y	345	Y
90	5A	SHIFT+Z	Z	346	Z
91	5B	[[219	[
92	5C	\	\	220	\
93	5D]]	221]
94	5E	SHIFT+6	^	310	^
95	5F	SHIFT+-	_	445	_
96	60	`	`	192	`
97	61	A	a	65	a
98	62	B	b	66	b
99	63	C	c	67	c
100	64	D	d	68	d
101	65	E	e	69	e
102	66	F	f	70	f
103	67	G	g	71	g
104	68	H	h	72	h
105	69	I	i	73	i
106	6A	J	j	74	j
107	6B	K	k	75	k
108	6C	L	l	76	l
109	6D	M	m	77	m
110	6E	N	n	78	n
111	6F	O	o	79	o
112	70	P	p	80	p
113	71	Q	q	81	q
114	72	R	r	82	r
115	73	S	s	83	s
116	74	T	t	84	t
117	75	U	u	85	u
118	76	V	v	86	v
119	77	W	w	87	w
120	78	X	x	88	x
121	79	Y	y	89	y
122	7A	Z	z	90	z
123	7B	SHIFT+[{	475	{
124	7C	SHIFT+\		476	
125	7D	SHIFT+]	}	477	}
126	7E	SHIFT+~	~	448	~
127	7F	CTRL+Backspace	␣	520	␣

Figure A-2 Regular ASCII Table (Character 0-127)

Decimal	Hex	Keystroke(s)	ASCII Char	Virtual Key Code	Unicode Char
128	80	None	Ç	0	€
129	81	None	ü	0	
130	82	None	é	0	,
131	83	None	ä	0	f
132	84	None	ä	0	„
133	85	None	ä	0	...
134	86	None	ä	0	†
135	87	None	ç	0	‡
136	88	None	ê	0	ˆ
137	89	None	ë	0	‰
138	8A	None	è	0	Š
139	8B	None	ï	0	ç
140	8C	None	ï	0	œ
141	8D	None	ï	0	
142	8E	None	Ä	0	Ž
143	8F	None	Ä	0	
144	90	None	É	0	
145	91	None	æ	0	ˆ
146	92	None	Æ	0	ˆ
147	93	None	ô	0	“
148	94	None	ô	0	”
149	95	None	ò	0	•
150	96	None	û	0	—
151	97	None	û	0	—
152	98	None	ÿ	0	˜
153	99	None	Ö	0	™
154	9A	None	Ü	0	š
155	9B	None	ç	0	›
156	9C	None	£	0	œ
157	9D	None	¥	0	
158	9E	None	Ps	0	ž
159	9F	None	f	0	ÿ
160	A0	None	á	0	
161	A1	None	í	0	ı
162	A2	None	ó	0	ç
163	A3	None	ú	0	£
164	A4	None	ñ	0	¤
165	A5	None	Ñ	0	¥
166	A6	None	#	0	ı
167	A7	None	e	0	š
168	A8	None	é	0	ˆ
169	A9	None	ı	0	©
170	AA	None	ˆ	0	#
171	AB	None	½	0	«
172	AC	None	¼	0	ˆ
173	AD	None	ı	0	ˆ
174	AE	None	«	0	®
175	AF	None	»	0	ˆ
176	B0	None	»	0	®
177	B1	None	»	0	±
178	B2	None	»	0	²
179	B3	None	»	0	³
180	B4	None	»	0	ˆ
181	B5	None	»	0	μ
182	B6	None	»	0	¶
183	B7	None	»	0	ˆ
184	B8	None	»	0	ˆ
185	B9	None	»	0	ˆ
186	BA	None	»	0	®
187	BB	None	»	0	»
188	BC	None	»	0	¼
189	BD	None	»	0	½
190	BE	None	»	0	¾
191	BF	None	»	0	¿

Decimal	Hex	Keystroke(s)	ASCII Char	Virtual Key Code	Unicode Char
192	C0	None	ˆ	0	À
193	C1	None	ˆ	0	Á
194	C2	None	ˆ	0	Â
195	C3	None	ˆ	0	Ã
196	C4	None	ˆ	0	Ä
197	C5	None	ˆ	0	Å
198	C6	None	ˆ	0	Æ
199	C7	None	ˆ	0	Ç
200	C8	None	ˆ	0	È
201	C9	None	ˆ	0	É
202	CA	None	ˆ	0	Ê
203	CB	None	ˆ	0	Ë
204	CC	None	ˆ	0	Ì
205	CD	None	ˆ	0	Í
206	CE	None	ˆ	0	Î
207	CF	None	ˆ	0	Ï
208	D0	None	ˆ	0	Ð
209	D1	None	ˆ	0	Ñ
210	D2	None	ˆ	0	Ò
211	D3	None	ˆ	0	Ó
212	D4	None	ˆ	0	Ô
213	D5	None	ˆ	0	Õ
214	D6	None	ˆ	0	Ö
215	D7	None	ˆ	0	×
216	D8	None	ˆ	0	Ø
217	D9	None	ˆ	0	Ù
218	DA	None	ˆ	0	Ú
219	DB	None	ˆ	0	Û
220	DC	None	ˆ	0	Ü
221	DD	None	ˆ	0	Ý
222	DE	None	ˆ	0	Þ
223	DF	None	ˆ	0	ß
224	E0	None	α	0	à
225	E1	None	β	0	á
226	E2	None	γ	0	â
227	E3	None	π	0	ã
228	E4	None	Σ	0	ä
229	E5	None	σ	0	å
230	E6	None	μ	0	æ
231	E7	None	τ	0	ç
232	E8	None	Φ	0	è
233	E9	None	Θ	0	é
234	EA	None	Ω	0	ê
235	EB	None	δ	0	ë
236	EC	None	∞	0	ì
237	ED	None	φ	0	í
238	EE	None	ε	0	î
239	EF	None	∏	0	ï
240	F0	None	≡	0	ð
241	F1	None	±	0	ñ
242	F2	None	≥	0	ò
243	F3	None	≤	0	ó
244	F4	None	∫	0	ô
245	F5	None	∫	0	õ
246	F6	None	÷	0	ö
247	F7	None	≈	0	÷
248	F8	None	°	0	ø
249	F9	None	˙	0	ù
250	FA	None	˙	0	ú
251	FB	None	√	0	û
252	FC	None	ˆ	0	ü
253	FD	None	²	0	ý
254	FE	None	ˆ	0	þ
255	FF	None	ˆ	0	ÿ

Figure A-3 Extended ASCII Table (Character 128-255)

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