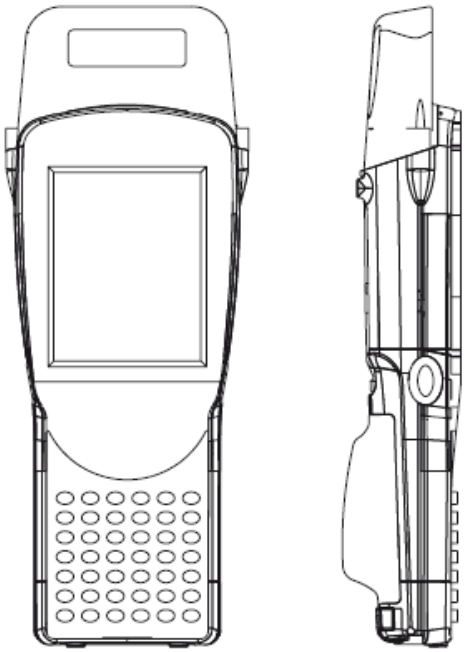
BALLUFF

sensors worldwide

BIS Handheld BISPortal Software

Operation Description, User's Guide and Manual

BIS



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Rev. 2.0

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1 User Instructions

About this guide
This guide describes operation of the BIS Handheld BISPortal Software together with the "Workabout Pro" handheld computer made by Symbol, a Zebra company.

The present guide does not describe:
– Startup, operation and care of the "Workabout Pro" handheld computer,
– Installation and operation of accessories and expansion devices,
– Docking station and standard device interfaces.
This information is found in the manuals from Symbol on its enclosed CD. The most current documentation can be found on the Internet at "www.zebra.com".

The following conventions are used in this manual.
Enumerations are shown as a list with en-dash.
– Entry 1,
– entry 2.

Action instructions are indicated by a preceding triangle. The result of an action is indicated by an arrow.
► Action instruction 1.
⇒Action result.
► Action instruction 2.

Cross-references indicate where additional information on the topic can be found, example:(see Technical
Data" starting page 11).

Buttons are set in brackets, e.g. **[Write]**.

Menu commands are joined with a greater than symbol, e.g. "**Start > Programs**" stands for the menu command <Programs> from the start menu.

Keys or screen tabs are set in angle form, e.g. confirm by pressing ***Enter***.

Important messages will be indicated using the following conventions:
Note: Indicates general information regarding the subject.
Important Note: Indicates an important behavior or action recommended or requiring attention.
WARNING: Indicates important actions that must be taken by the user in order to ensure proper operation or procedure.

Intended use
The BIS _-870 Handheld Programmer with the BISPortal software is a component of the BIS identification systems. Within the identification system it is used for checking, correcting or initializing data carriers.
The Handheld Programmer may be used only for this purpose in an industrial environment corresponding to Class A of the EMC Law.

This description is valid for handhelds processors in series BIS _-870-1-008-…. to BIS _-874-1-008… for C, M and U Series of products.

2 BISPortal Handheld Software Installation Instructions

WARNING:
In order to load the BIS Handheld BISPortal Software, you must have a copy of Microsoft™ ActiveSync® or Windows Mobile® installed on your PC. This software should have come with your version of Windows or Symbol handheld unit. If not available, use the following to acquire the latest version to install and use to load the Template software onto the handheld.

Download and install Microsoft ActiveSync or Windows Mobile from the following link:
https://www.microsoft.com/en-us/download/

Once you have installed either on you PC, use the following instructions to load the BISPortal software onto the handheld unit:

► Connect the handheld to your PC using either a direct USB cable connection or through the SYMBOL handheld cradle USB connection. Follow the ActiveSync or Mobile instructions to create the USB connection to your PC.

⇒ Once either connection has been established, you will be asked to create a partnership with the handheld to your PC. This is not necessary to load the Template software, but can be done for future file transfer. If you wish to establish a partnership with your PC, follow the instructions in either version. If you wish to just load the Template software, use the following instructions.

► Press the **[Cancel]** button for ActiveSync or **[Connect without setting up your device]** button for Mobile this screen. You may be warned that a partnership has not been established. Simply select **[OK]**.



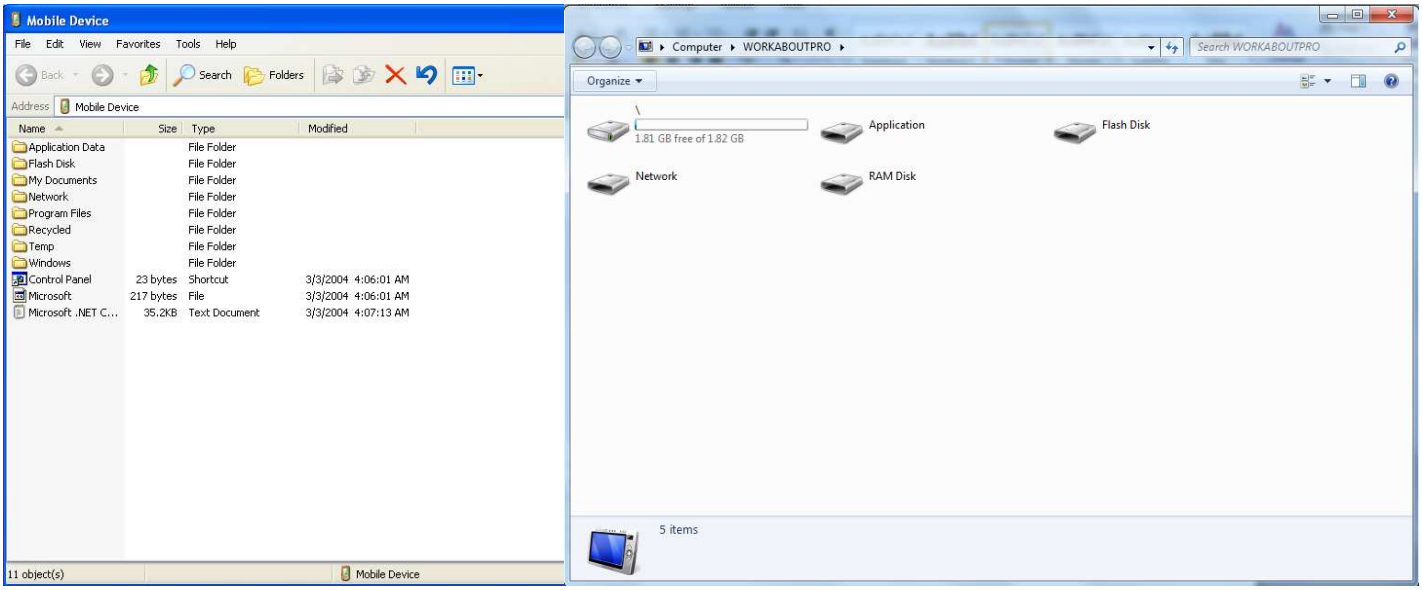


⇒ This will take you to the default window for ActiveSync or Mobile.

► Press the **[Explore]** button for ActiveSync or the **[Browse]** button for Mobile to open the Explorer view of the SYMBOL handheld.

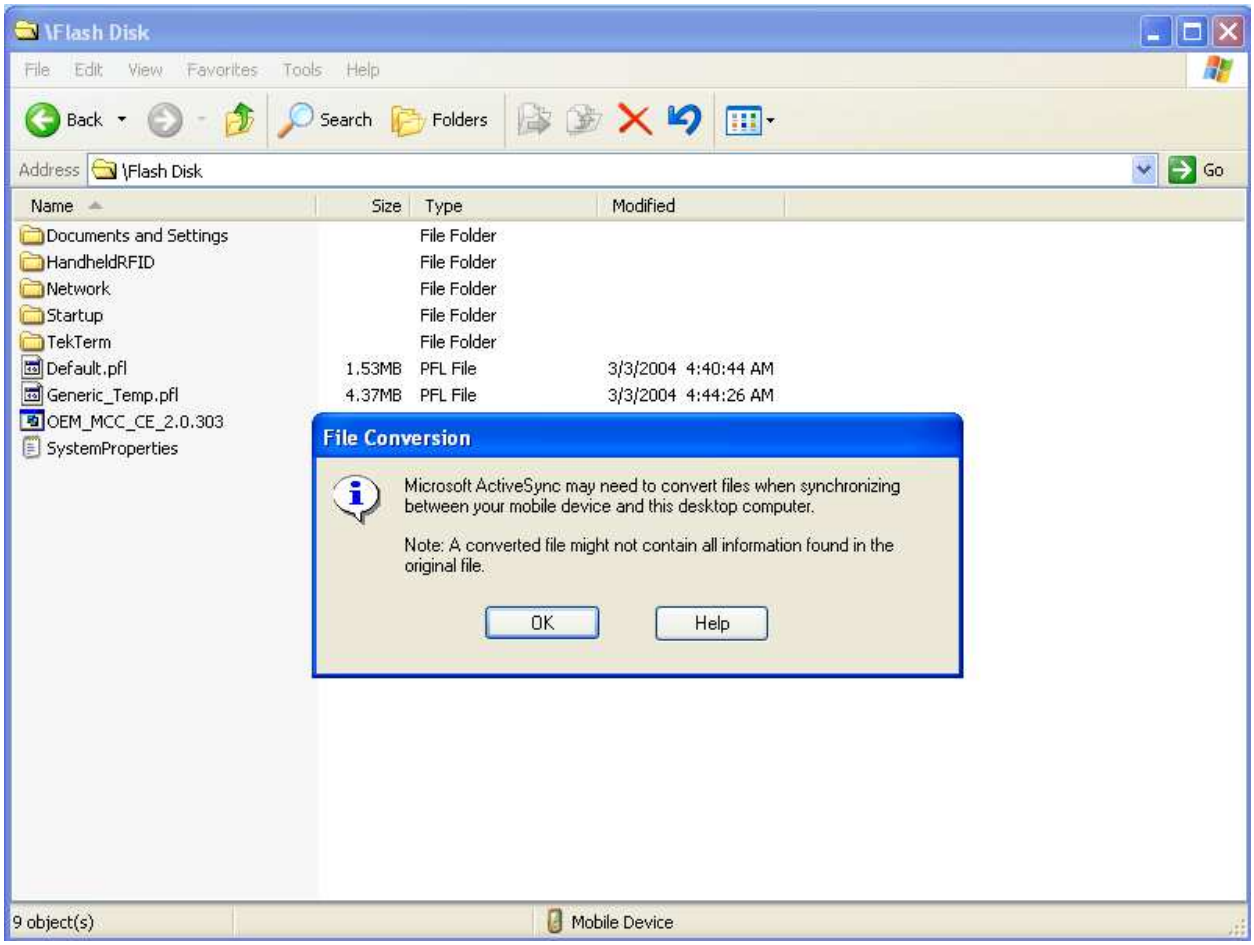


⇒ Once the Explorer or Browse button has been pressed, you will see the file system for the handheld unit.



► Copy the following file from the BISPortal software CD to the Flash Drive folder of the handheld:
BISPortal_Unified-Setup-x.xx.CAB (The x will be the version of the CAB file)

⇒ Once you paste this file, you will see the following message warning you that the file may need to be converted if you are using ActiveSync. *This message will not appear for Mobile.



► If you see this message, press **[OK]**. The files will then be downloaded to the Flash Drive folder of the handheld unit.

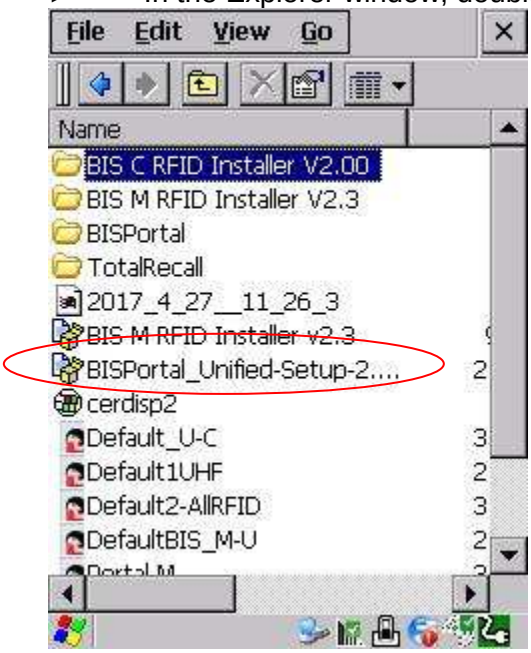
This file contain the BISPortal software itself in Windows CE based zipped or “CAB” files.

► When the file is done being copied, disconnect the handheld from the PC and use the handhelds stylus and screen to execute the following steps.

► From the Desktop screen of the SYMBOL handheld, double click the **[My Device]** icon to open the explorer window.



► In the Explorer window, double click the **Flash Disk** folder to see the folders content.



⇒ In this folder, you will see the file copied:
BISPortal_Unified-Setup-x.xx.CAB (The x will be the version of the CAB file)

WARNING:

► Double click the file BISPortal_Unified-Setup-x.xx.CAB file to install the BISPortal software.

⇒ A window will open asking to install these files in the \Program Files directory.

► Click the **[OK]** button near the top right corner to initiate the installation.



► Once the software package have been installed, you can close the Explorer window by clicking the **[X]** box in the top right corner of the screen.

⇒ If the BISPortal software has installed properly, you will now see an icon on the Desktop called BIS Template.



► Double click on the BISPortal icon to start the software.

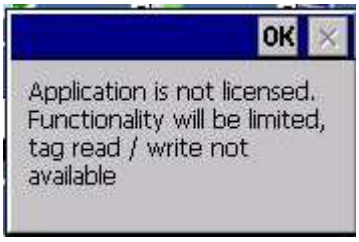
⇒ When the software is started for the first time, the registration information must be entered and then the RFID model type must be selected in order to enable the software for use.

Important Note: The registration code should have been included with the handheld upon receipt of the product. Go to www.balluff.com/software/activate to acquire the activation code.

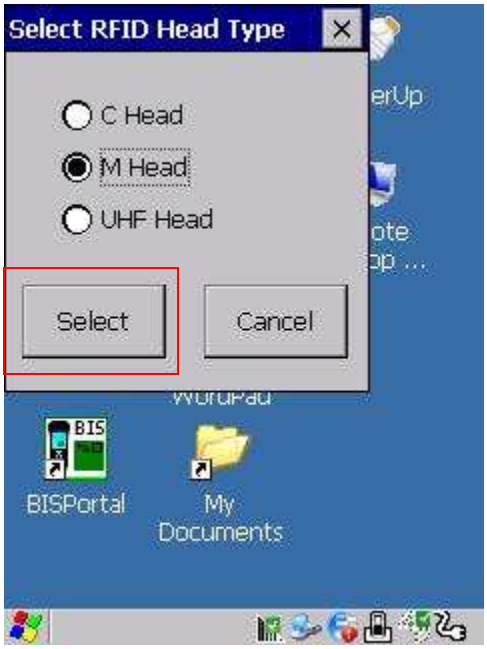
► Enter the registration information.



⇒ If the following error message is received, the registration information was not entered properly. The registration information is case-sensitive and must be entered exactly as it was to get the activation code.



► Next, select the check circle matching the RFID model type installed on the handheld and click the **[Select]** button to activate the associated hardware drivers.



3 Total Recall Backup for SYMBOL OS and Files

WARNING:

In order to be sure the programs, templates and database files created or added to the SYMBOL handheld will be saved after cycling power, a program called "Total Recall" must be used to create a backup "profile" that includes all the newly added files. Please use these instructions or see the instructions included with your SYMBOL handheld for proper use. Be aware that versions of Total Recall may vary slightly, but the functionality is basically the same.

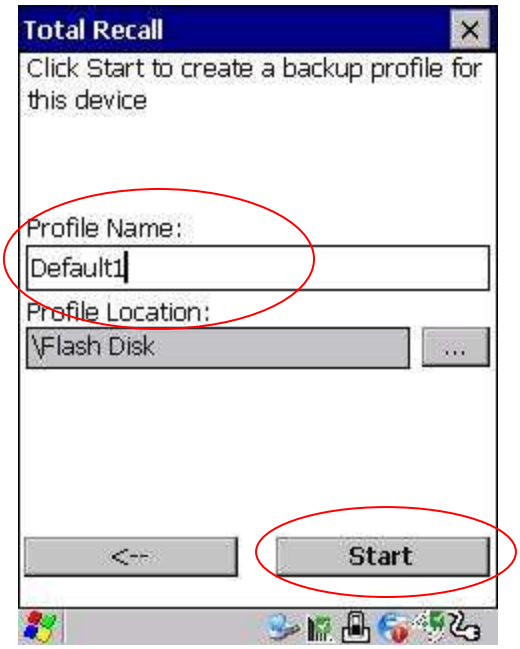
The SYMBOL handheld provides a way to "flash" or record programs to the Flash Memory of the handheld so the programs will be saved and recalled when the handheld is powered down, the battery is removed or when a Cold Restart is executed.

► To create a Total Recall profile, go to the **Start>Settings>Control Panel** menu to access the configuration and settings programs for the handheld.



► Scroll down the open **Control Panel** window to locate the **>Total Recall** program. Double click the **[Total Recall]** icon to execute this program.

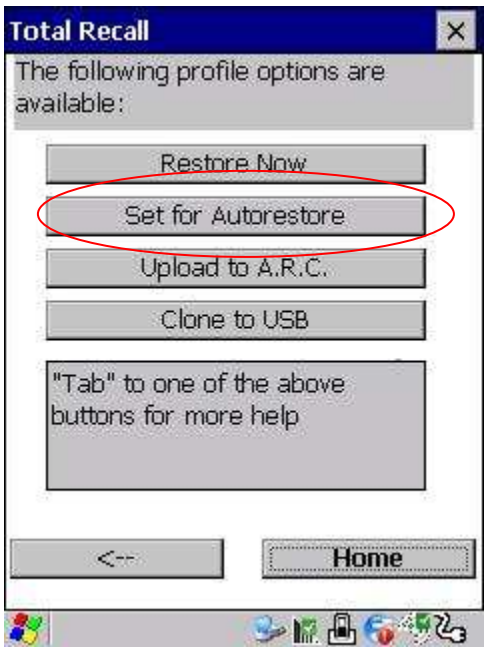
► In the **Total Recall** window, select **[Create Backup]** from the options shown and click the **[Next]** button.



► Enter a profile name in the **Profile Name**: field if desired. Then click on the **[Start]** button to create the backup profile. When finished, click on the **[Finished]** button to return to the menu.

► From the main menu, select the [Manage Profile] button, then select the profile that was created and press the **[Next]** button.

► From the next menu, select the **[Set for AutoRestore]** for the profile.



► After returning to the main menu, press the **[X]** button on the top right of the Total Recall screen and the Control Panel screen to return to the handheld Desktop screen. This completes the Backup and AutoRestore functionality.

4 BISPortal Software/Hardware Operations

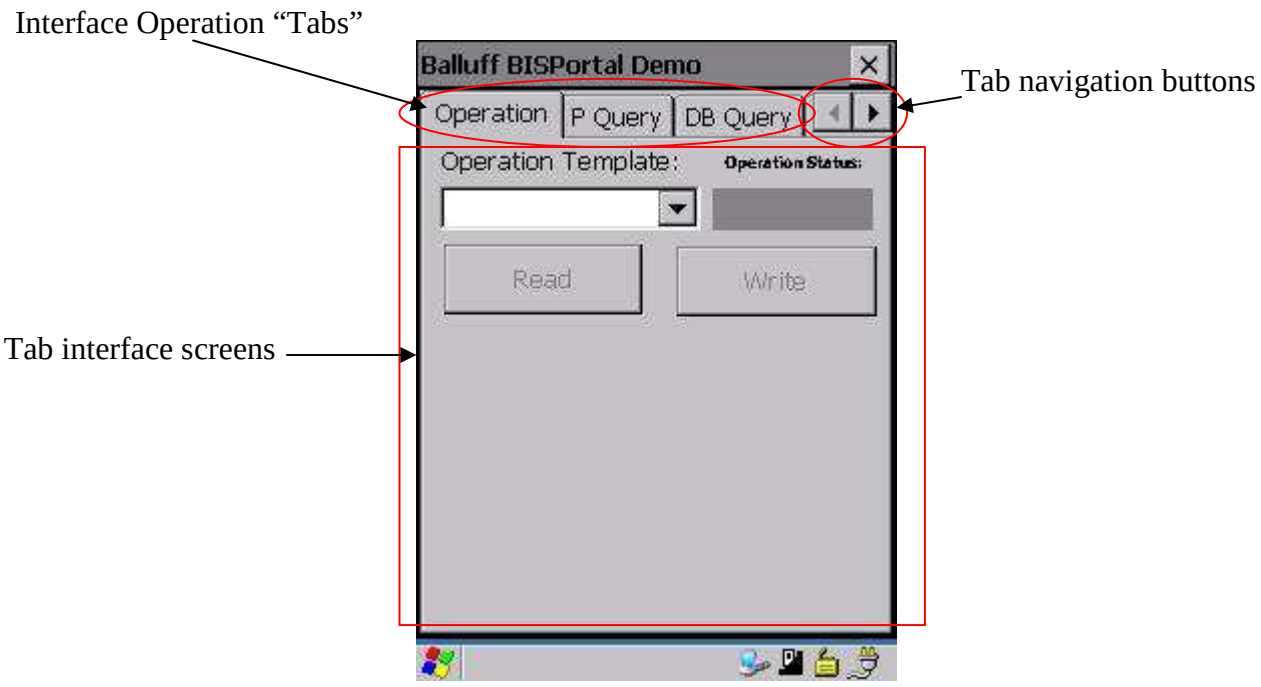
BISPortal software application operation description
The BISPortal application operates on a SYMBOL Workabout Pro handheld device running Windows CE®. The BISPortal software provides the ability to display data read from a Balluff BIS RFID tag and place the data into a formatted data display template. (Refer to section 7, **BIS Portal Development Application Usage** for details regarding template creation and definition.) This software also provides a means to incorporate bar code reads into the displayed data using either a linear laser or 2D imager based code reader pod (if installed).

The BISPortal software allows a user to load and view several different Templates using the same software interface. The BISPortal software also allows the user to Query for specific data read from a tag and to Query a user created and loaded Database file based on the data read from a tag, then load the database files data into the loaded template for additional query if desired. Tag data can also be saved and loaded from .CSV or .XML file formats.

► You start the BISPortal program by double clicking the **BISPortal** icon on the desktop of the handheld. (In order to load a template into the BISPortal interface, you will need to create a template with your custom information using the BIS Portal Development Application on your PC. See section 10, **Custom Template and Database File Creation** for details on Template file creation. Using this program, you will be able to download your custom template and database files to the handheld.)

Once you have created and downloaded template and database files to the handheld, you can then begin to use the template as described in the following. (To learn how to create and download customized template and database files, refer to section 10, **Custom Template and Database File Creation** for instructions.)

The following describes the BISPortal handheld software interface:

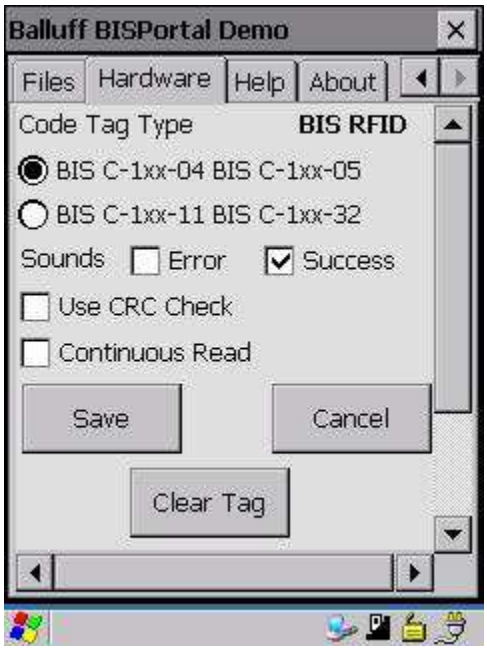


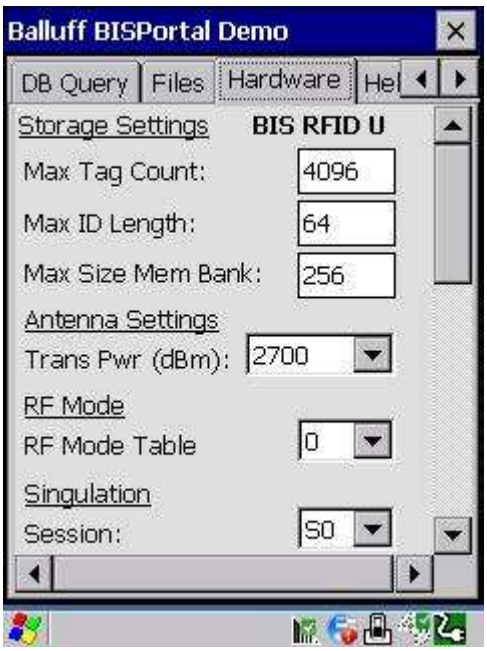
Hardware Configuration Tabs (Screens)
The **Hardware** tab in the interface is used to configure or change the individual accessible option of the specific RFID module installed. The features for each type of RFID module will vary based on its capabilities.

► Depending on the handheld hardware version you have, you can adjust the default RFID hardware parameters by selecting the ***Hardware*** tab on the top of the BISPortal software interface. Use the tab navigation arrows [◄] or [►] on the top right side of the tab row to move the tabs from left to right or vice versa.

NOTE:
The following screen's available settings will vary based on the RFID hardware read/write head type being used.

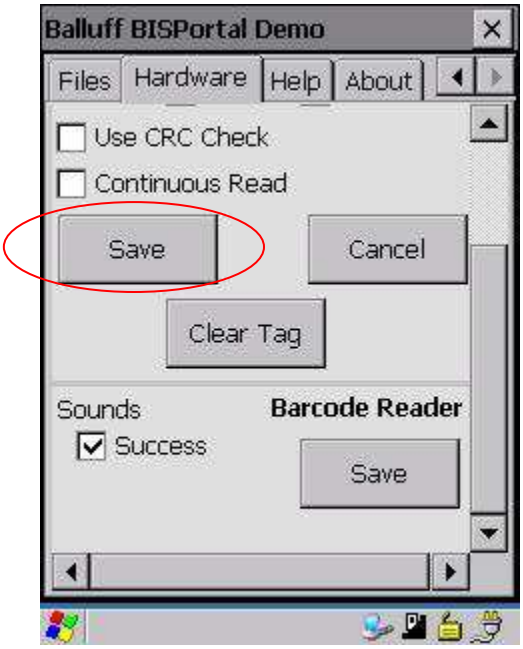
.





⇒ This will open the hardware settings screen showing all the default settings for the specific version of the BIS handheld RFID and bar code reader hardware unit you have.

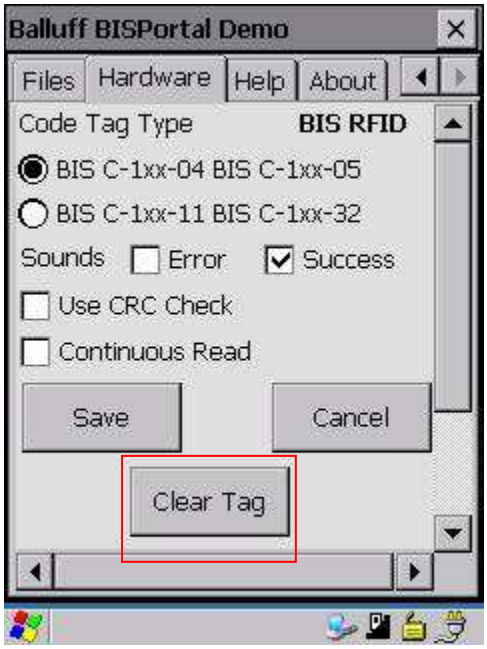
► If any changes are made to either the BIS RFID or Barcode Reader settings, be sure to click the **[Save]** buttons respectively in order to load these settings to the RFID or Barcode module.



(See the Balluff Handheld Programmer guide for the BIS _-87x BIS C or M handheld unit to determine and adjust any of the default operational parameters of the handheld reader. Refer to the Zebra/Symbol web site for details of the Symbol UHF module settings.)

Clear Tag button (only available for use with the BIS C or M RFID versions)
The Clear Tag button is used to clear or erase the data on a tag, replacing any data previously on the tag will “Null” characters. The amount of data cleared is set by the user after pressing the button.

► To clear a tags memory and replace any data with Null characters, press the **[Clear Tag]** button on the ***Hardware*** tab.



⇒ If a password was created for tag clearing, you will be prompted to enter the password in order to proceed. If no password is set, proceed to setting the tag clear size.

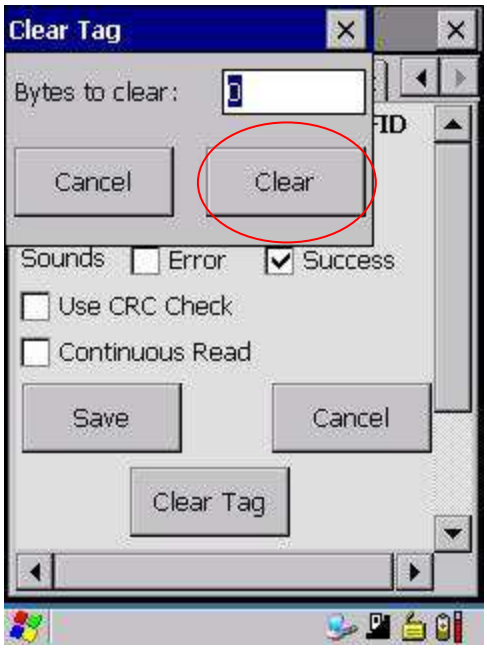
► If a password was created for this function, enter the password now. (Be aware that the password is case sensitive and must be entered correctly to match the password set.)



⇒ If the correct password is entered, you will be prompted to enter the size of the amount of data to be cleared.

► Enter the amount of data starting from the first byte position on the tag that you wish to "clear" or replace with Null characters in bytes. Press the **[Clear]** button to clear the data on the tag. If a password has been set for this function, you will be prompted once again to enter the password.

WARNING:
Entering a byte value greater than the number of bytes present in the memory of the physical tag will result in an error message while clearing the memory. If this occurs, refer to the tags datasheet or online reference at www. balluff.com to verify the size of a tags memory in bytes. And remember that the first byte always start at "0", resulting in one less byte physically then the value stated in the tag data.



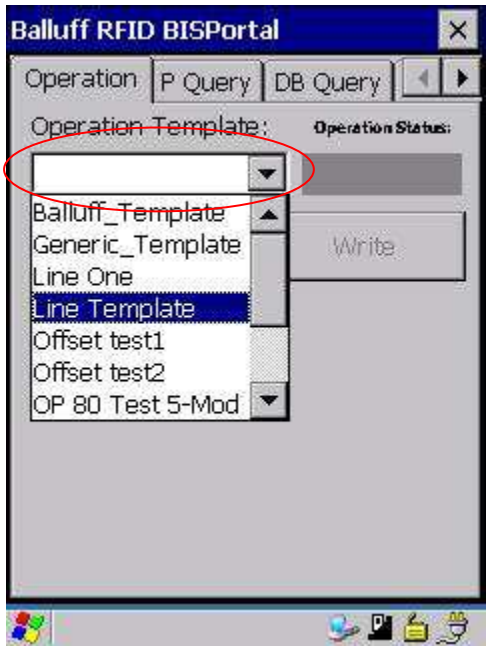
⇒ Once the tag data has been cleared, a bell sound will indicate completion and a small window will appear indicating “Data carrier cleared”. Press the **[OK]** button to close this window. The Clear Tag box will then disappear.

5 Reading or Writing Tag Data

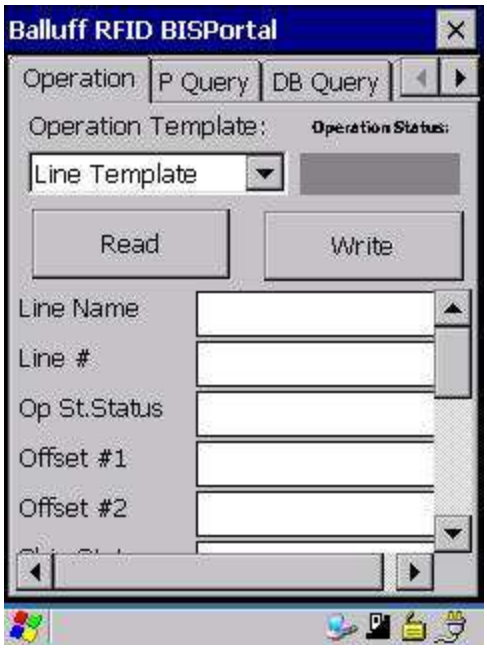
Read operation
A read operation in the BISPortal software allows the user to read data stored on a BIS RFID tag into the memory of the handheld, and then parse the data into a custom display of the data based on the definitions set by a Template file loaded into the memory of the BISPortal software interface.
Note: In order to load a template into the BISPortal interface, you will need to create a template with your custom information using the BIS Portal Development Application on your PC. See section 10, **Custom Template and Database File Creation** for details on Template file creation. Using this program, you will be able to download your custom template and database files to the handheld.

► After starting the BISPortal software, if needed, select the ***Operation*** tab on the top of the BISPortal interface tabs row. Use the tab navigation arrows **[◄]** or **[►]** on the top right side of the tab row to move the tabs from left to right or vice versa.

► Press or select the **Operation Template** pull down to show the Template files available to load into the interface. Select the Template file for use in this list.



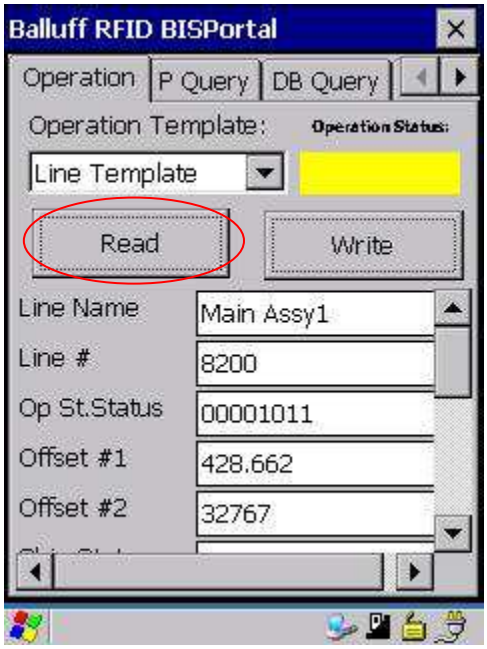
⇒ If the template is opened correctly, the name will appear in the **Operation Template** window and the tabs screen will populate with the rows defined by the chosen Template file.



► For operating the BISPortal software to read a RFID tag, place the appropriate tag matching the handheld hardware version in front of the reader head and press the **[Read]** button on the software screen.

Note: If using the BIS M or C series hardware type, the software will function as described below. If using the BIS U version, skip to the BIS U UHF description after.

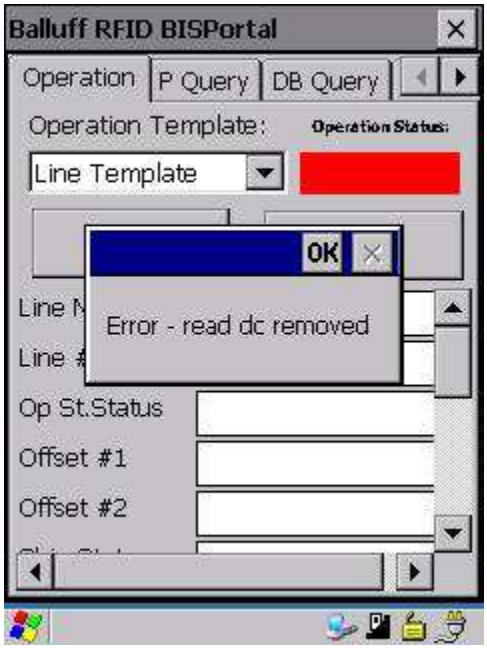
BIS M or C Series Read Functionality



⇒ The **Operation Status** indicator in the top right corner of the screen may flash yellow briefly depending on the amount of data being read. The data should then be read and displayed

according to the template you have loaded on the handheld. (See section 10, **Custom Template and Database File Creation** for details on Template file creation.) Once the read process is started and then completed, you will be notified by a “bell” tone and the Operation Status window will turn green.

⇒ If an error occurs in the read or write process, the **Operation Status** indicator will turn red and an error window message will be displayed with the indicated error description like the one shown below:



⇒ If this occurs, resolve the error message shown and try reading the tag again.

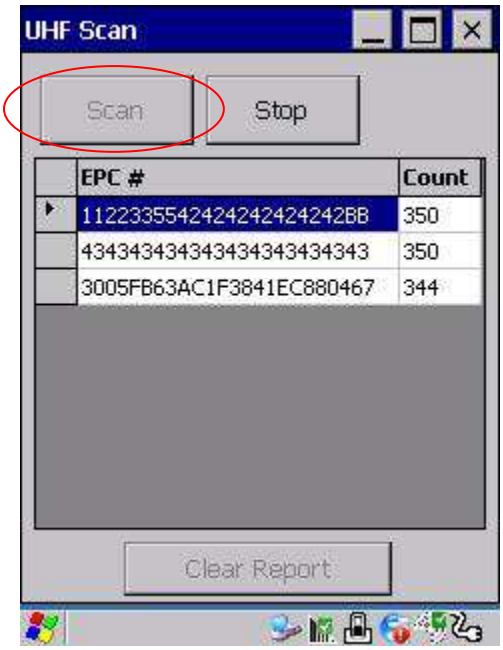
BIS U Series Read Functionality

⇒ After pressing the [Read] button, a popup screen will appear allowing the selection of an individual EPC tag designator from all the tags scanned within range of the U antenna.

► To read and inventory all tags within range of the antenna, press the [Scan] button. All tags detected will show their EPC value in Hex and a count of how many times it was detected while the scan was active.

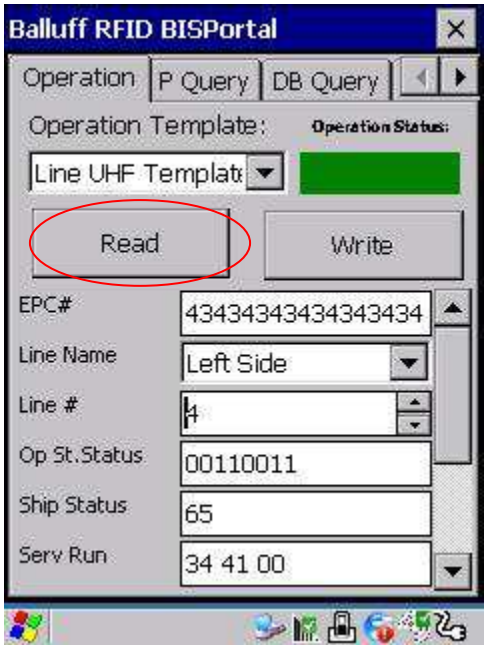
► To stop inventorying tags in the detection field, press the [Stop] button. (Allow a second or two for the scan to complete processing.) When the Scan button is no longer grayed out, the scan has been halted.

► To select an individual tag to read with the open Template, select the tag EPC to transfer it to the Operation tab. This tags data will then be the data that the Read operation will collect and input into the open Template rows as defined by the Template.



► To select an individual tag to read with the open Template, select the tag EPC to transfer it to the Operation tab. This tags EPC data will then be automatically transferred to the Read operation screen.

⇒ Press the [Read] button to activate the read function and the tags data will be collected and into the open Template rows as defined by the Template.

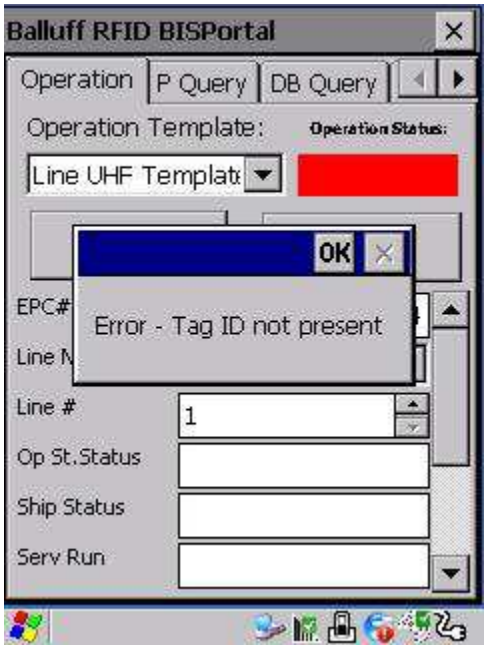


⇒ A green indicator in the **Operation Status:** indicator will indicate that the Read operation was carried out successfully.

⇒ If an error occurs in the Scan process, an error window message will be displayed with the following indicating that no tag was within the detection field or possibly the tag is not operating properly like the one shown below:



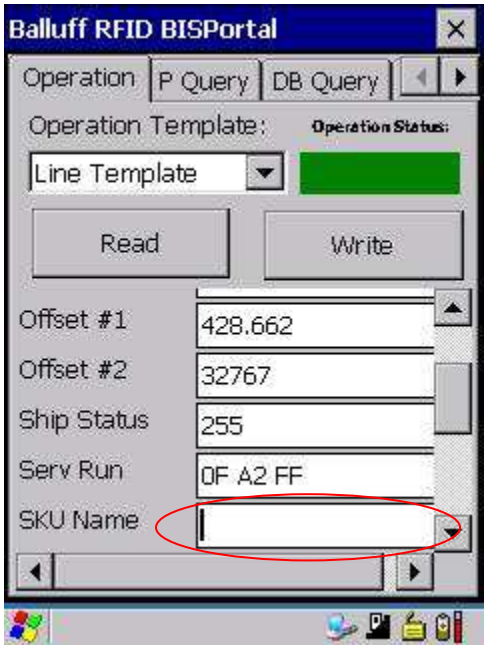
⇒ If an error occurs or the tag is not in the detection field in the read or write process, the **Operation Status** window will turn red and an error window message will be displayed with the indicated error description like the one shown below:



Bar code read operation

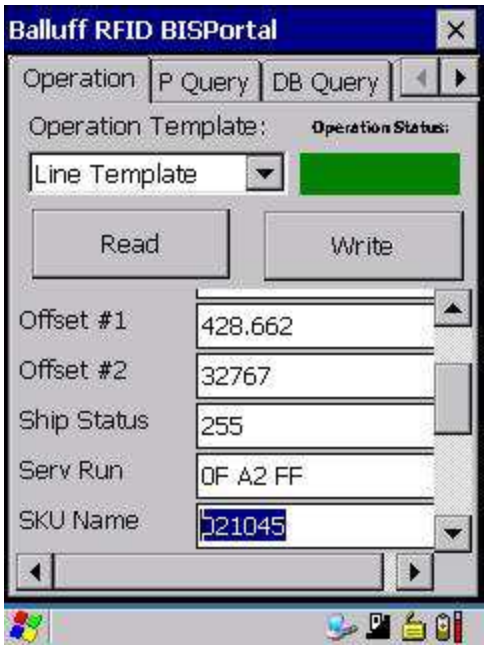
If a bar code reader pod has been installed on your handheld, use the following steps to read the bar code data into the open template. (A defined row(s) in the template must be available to place the bar codes data in, otherwise the existing data in the row will be replaced by the bar codes data. See section 10, **Custom Template and Database File Creation** for details on Template file creation with bar code data.)

► To read a bar code into a template, click on the data field in the row you wish the read data to written as shown in the example.



⇒ A blinking cursor should appear in the data field chosen.

► Place the bar code to be read in front of the bar code pods imaging area and press a trigger designated for the bar code read. (Typically set to either or both of the handhelds side soft buttons and/or center scan button on the top of the unit's keypad.)



⇒ The data read should be filled into the data row selected.

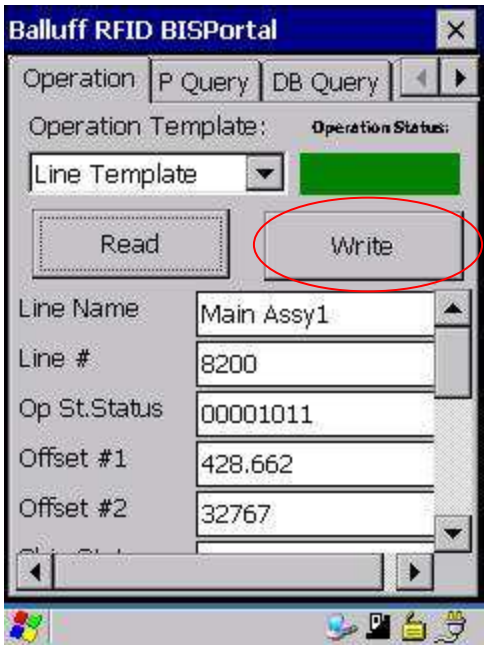
Note: The data row to be used for the bar codes data should be defined in the template with the appropriate data type being read. In most cases, the recommended data type to be used is ASCII. If the codes data is greater than the characters defined for that rows data field, the data will roll over into the next rows until completed. If an error occurs noting an incorrect data type, check and correct the data type and length defined in you template.

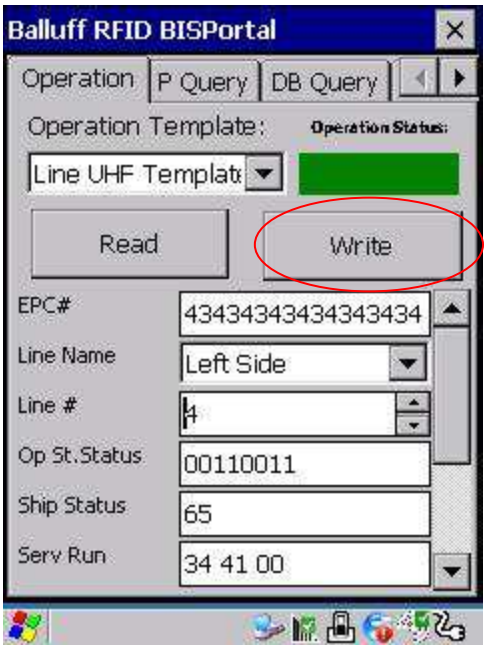
Important Note: It is recommended that any bar code data to be added be done using additional rows defined as ASCII data fields at the end of a template. This is the recommended method to prevent accidental loss or corruption of read RFID data elsewhere in the template.

Write operation
A write operation in the BISPortal software allows the user to change data previously read or write new data to a BIS RFID tag. The data is written back to the tag based on the reverse of the defined data in the Template file currently open in the Operation tab. (In order to load a template into the BISPortal interface, you will need to create a template with your custom information using the BIS Portal Development Application on your PC. See section 10, **Custom Template and Database File Creation** for details on Template file creation. Using this program, you will be able to download your custom template and database files to the handheld.)

► For operating the BISPortal software to write data to a RFID tag, enter the data into each of the corresponding data rows data fields following the template format you created by clicking on the field and entering or changing the information. (See section 10, **Custom Template and Database File Creation** for details on Template file creation.)

► Once all of the changes have been made to the fields, press the **[Write]** button.

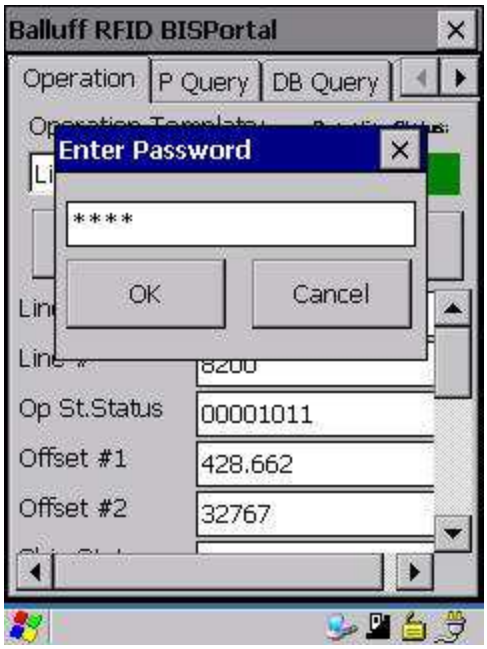




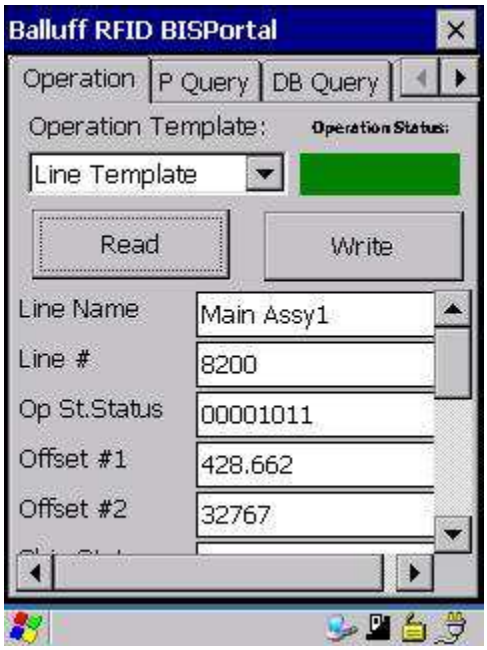
⇒ Once the Write button is pressed, if a password has been set in the template you will be prompted to enter a password to complete the writing of data to the tag. (The password characters are case sensitive.)

► Enter the password for writing and the handheld will proceed with completing the writing process.

Important Note: The write password is case sensitive. Follow exact character case to properly enter password.

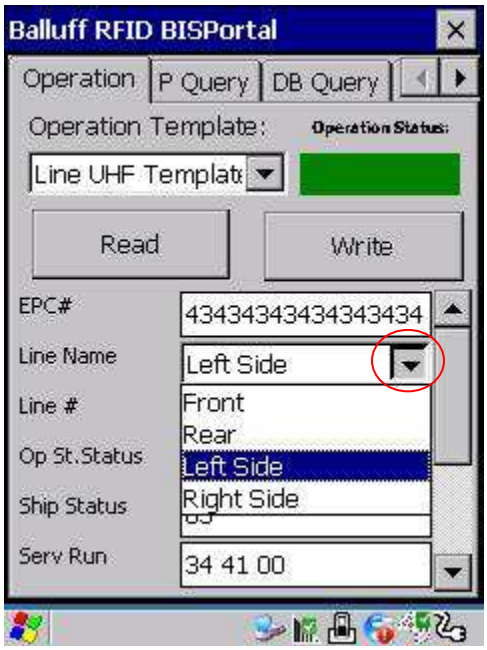


⇒ Once the write process is complete, you will be notified by a “bell” tone and the Status window on the top right will turn green.



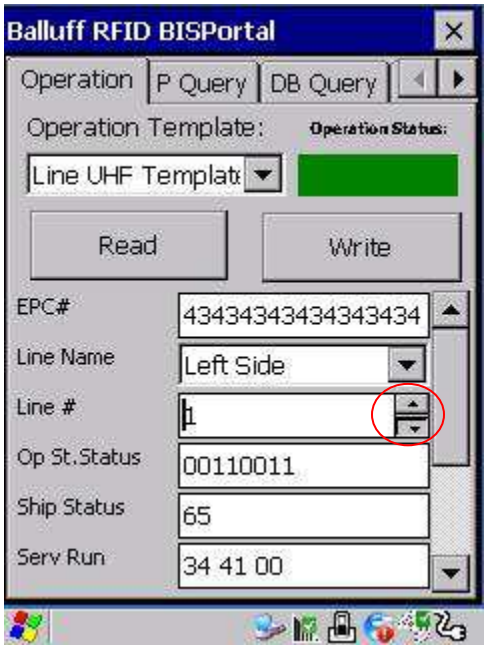
Template Row Dropdown
If a Template has been pre-defined with a dropdown in the data rows field, it will allow the user to select from a list of pre-defined row data options to select from to populate the rows data and write pre-defined data to the tag.

► On the right side of the row with the defined dropdown, press the ▼ (down arrow) button to revel the dropdown selection menu and select the choice to be used. This selection will automatically be entered into the rows data field.



Template Row Increment/Decrement
If a Template has been pre-defined with a value increment/decrement function in the rows data field, it will allow the user to increment the numerical or decrement the value by a pre-defined numerical value to populate the rows data and write to the tag as defined by the Template.

► On the right side of the row with the defined increment/decrement, press the ▲▼ (up or down arrow) button to change the value based on the pre-defined criteria in the Template. This new value will automatically be entered into the rows data field.

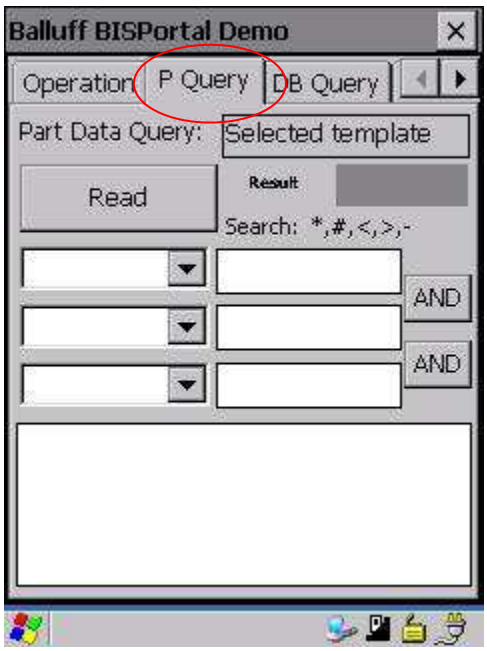


6 Using Part Query

Part Query Description
Using the Part Query tab (feature) in the BISPortal software interface allows the user to “query” or search for up to three specific rows of information defined in a template from an RFID tag. This feature can be used to make the read process easier, especially in larger templates, preventing the need to scroll through large amounts of data rows. This feature also allows for basic logic operation to quickly determine if know data appears in a tags defined data areas, providing a pass/fail status based on the logic function. To configure and use a Part Query, refer to the following steps.

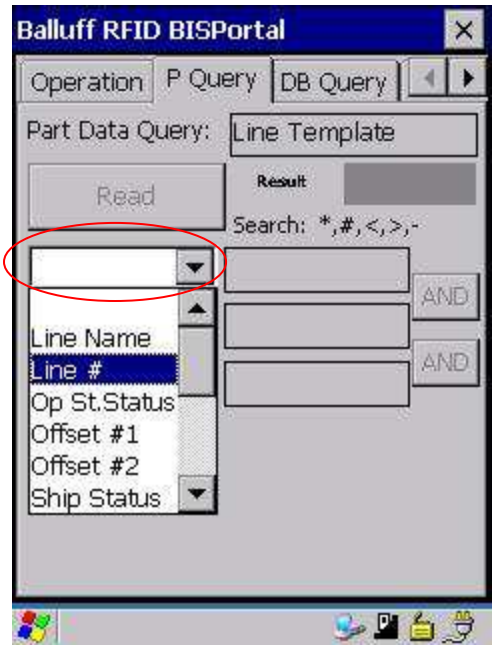
Note: A Template file must first be selected in the ***Operation*** tab before a Part Query can be used.

► Click on the ***P Query*** tab on the top tab line in the BISPortal interface. Use the tab navigation arrows **[◄]** or **[►]** on the top right side of the tab row to move the tabs from left to right or vice versa.



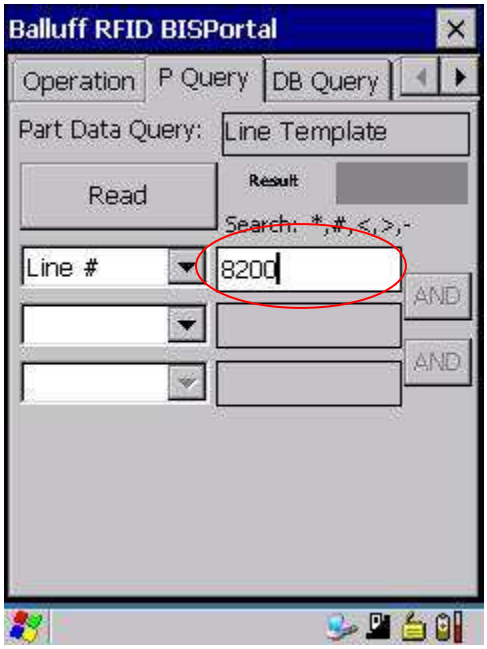
⇒ This will bring the Part Query tabs screen up.

► Start by clicking on or selecting the top data row selection dropdown to choose a rows data field to query. Click on the rows name you wish to use for the search.

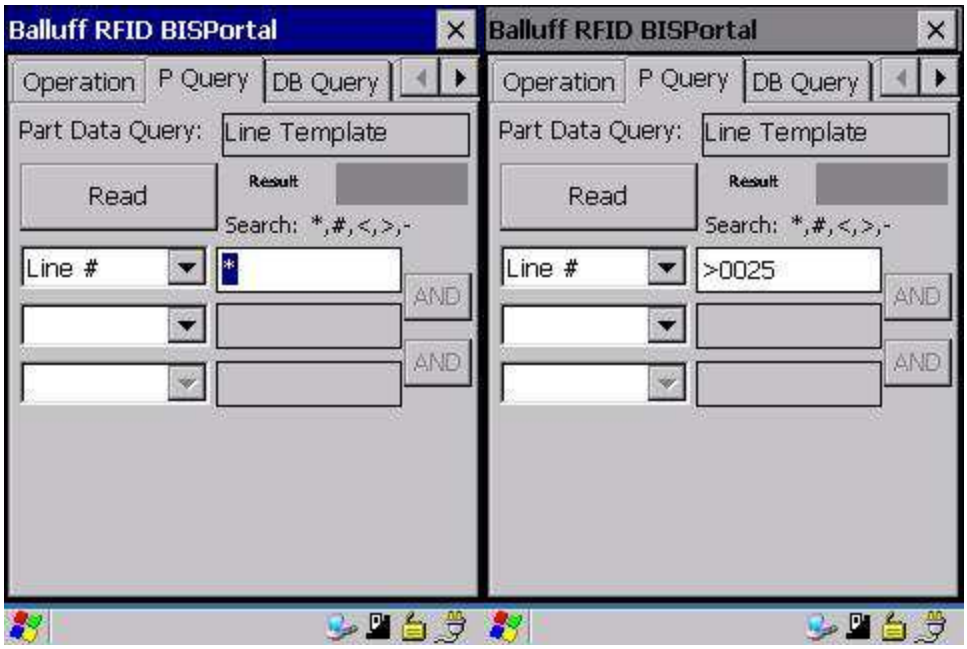


⇒ If an RFID tag has already been read, its data will automatically be entered into the data field for that row. If no tag was previously read, no data will appear in the data field.

► Click on and enter the data you wish to search for into the rows data field.



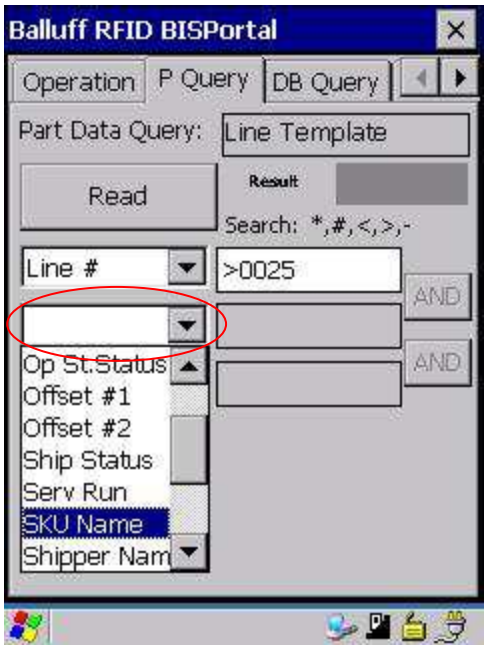
► If a wild card search is desired, use one of the wild card search characters available followed with the data if necessary as shown in the next two examples:



Note: Either data or a wild card search character with or without data must be entered into the data field or the query will fail. The available wild card search characters are displayed under the open template name window. The allowed wild cards are:

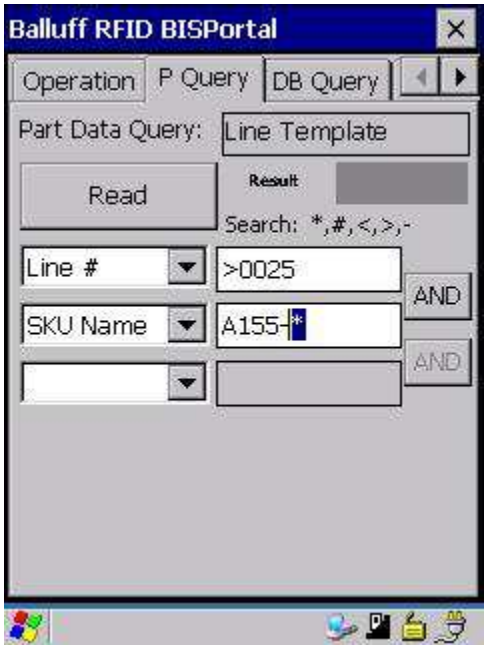
***** = any data available
# = single character or number data available
< = less than the value entered (only useful with number data fields)
> = greater than the value entered (only useful with number data fields)
- = a range of values starting with a minimum value, the – sign and the maximum value (for example: 0 – 999, only useful with number data fields)

► If additional searches are required, click on or select the second and third data rows selection dropdown to choose the rows data field to query. Click on the rows name you wish to use for the search.

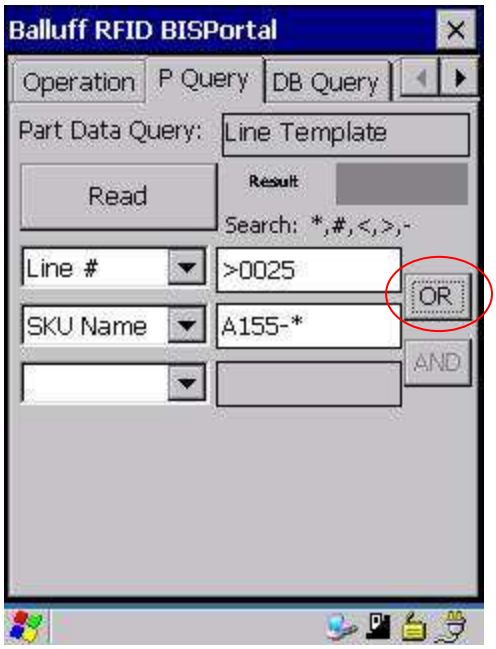


⇒ If an RFID tag has already been read, its data will automatically be entered into the data field for that row. If no tag was previously read, no data will appear in the data field.

► Click on and enter the data you wish to search for into the rows data field. As before, if a wild card search is desired, use one of the wild card search characters available followed with the data if necessary.

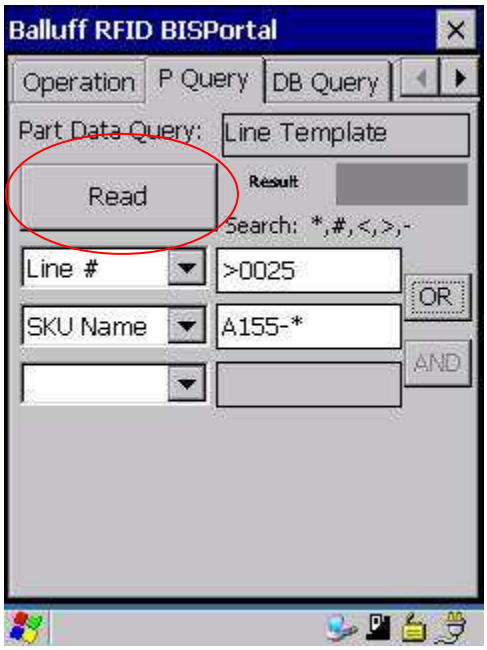


► The logic button on the far right side between each row can be used to determine the search logic between each row, starting with the first, then second and finally the third. Available logic is an **[And]** or an **[Or].** An “And” requires both rows to be true, an “Or” only requires one of the rows to be true.

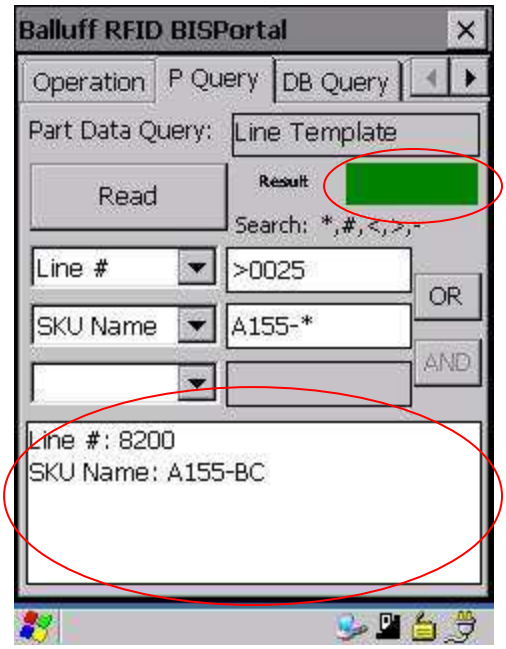


⇒ Pressing the logic button will toggle between the And and Or logic function.

► To execute the query, click the **[Read]** button.



⇒ When a query has been executed, the pass/fail results will be displayed in the **Results** window on the top right corner of the tabs screen.



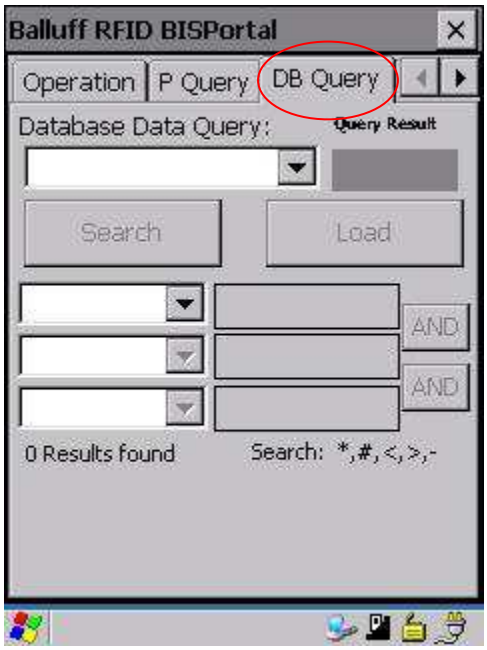
⇒ Query results, if found will be displayed on the bottom of the tabs screen in a separate window. (No data will be displayed if a failed result occurs.)

7 Using Database Query

Database Query Description
Using the Database Query tab (feature) in the BISPortal software interface allows the user to "query" or search for up to three specific rows of information defined in a template from a loaded database file on the handheld. This feature can be used to make a comparison between read RFID data and data in a database file or to find data in a database file based on data read from and RFID tag. If query data is found in the database file, the remaining data in the database file can then be "loaded" into the open template and seen in the ***Operation*** tabs data display. This feature also allows for basic logic operation to quickly determine if know data appears in a databases defined data areas, providing a pass/fail status based on the logic function. (See section 10, **Custom Template and Database File Creation** for details on Template file creation and how to format a database file.)To configure and use a Database Query, refer to the following steps.

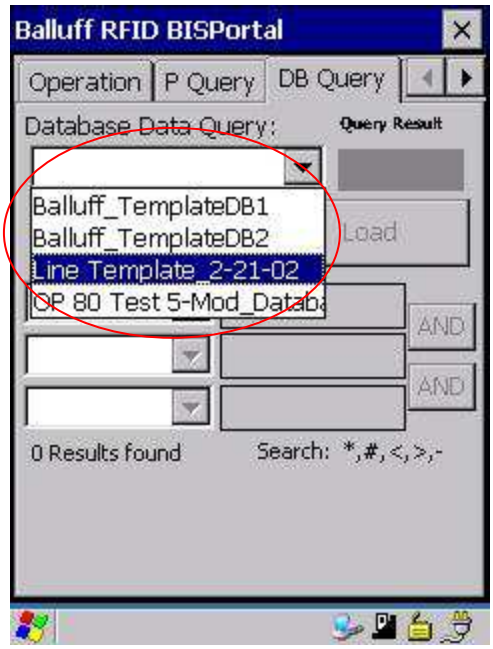
Note: A Template file must first be selected in the ***Operation*** tab before a Database Query can be used.

► Click on the ***DB Query*** tab on the top tab line in the BISPortal interface. Use the tab navigation arrows **[◄]** or **[►]** on the top right side of the tab row to move the tabs from left to right or vice versa.



⇒ This will bring the Database Query tab screen up.

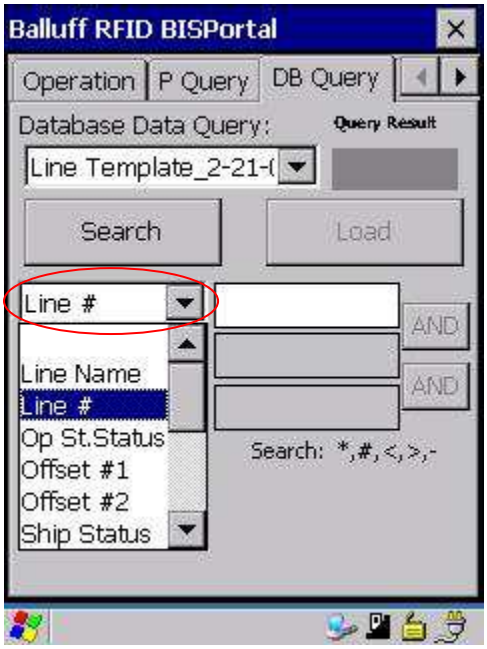
► To make a database query, you must first select a database file to query. Click on the **Database Data Query** file select dropdown and select a database file.



⇒ The database file name will appear in this window.

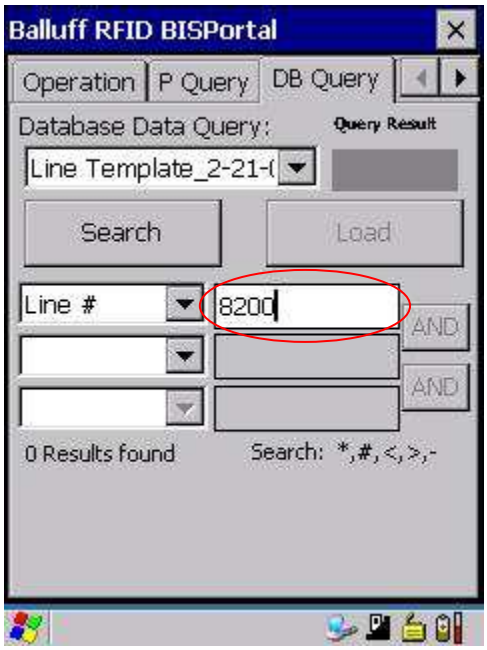
Note: If the selected database file row data fields do not match the structure of the template, you will receive an error indicating the database does not match the template file open. An improperly formatted database file will result in unreliable search results. (See section 10, **Custom Template and Database File Creation** for details on Template file creation and database file formatting.)

► Start by clicking on or selecting the top data row selection dropdown to choose a rows data field to query. Click on the rows name you wish to use for the search.



⇒ If an RFID tag has already been read, its data will automatically be entered into the data field for that row. If no tag was previously read, no data will appear in the data field.

► Click on and enter the data you wish to search for into the rows data field.

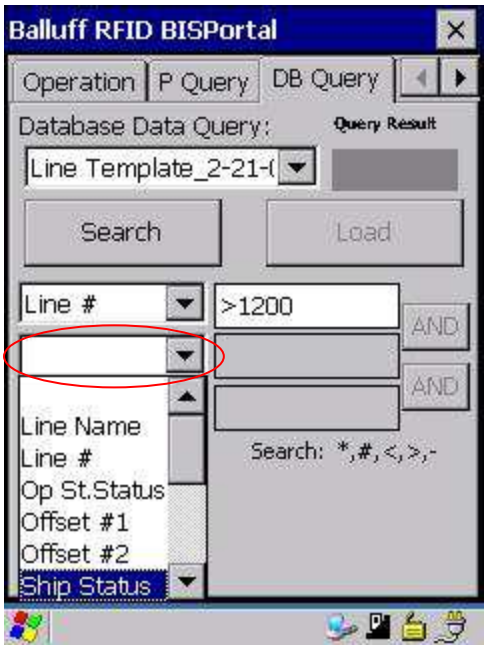


► If a wild card search is desired, use one of the wild card search characters available followed with the data if necessary as used in a Part Query.

Note: Either data or a wild card search character with or without data must be entered into the data field or the query will fail. The available wild card search characters are displayed under the open template name window. The allowed wild cards are:

***** = any data available
# = single character or number data available
< = less than the value entered (only useful with number data fields)
> = greater than the value entered (only useful with number data fields)
- = a range of values starting with a minimum value, the – sign and the maximum value (for example: 0 – 999, only useful with number data fields)

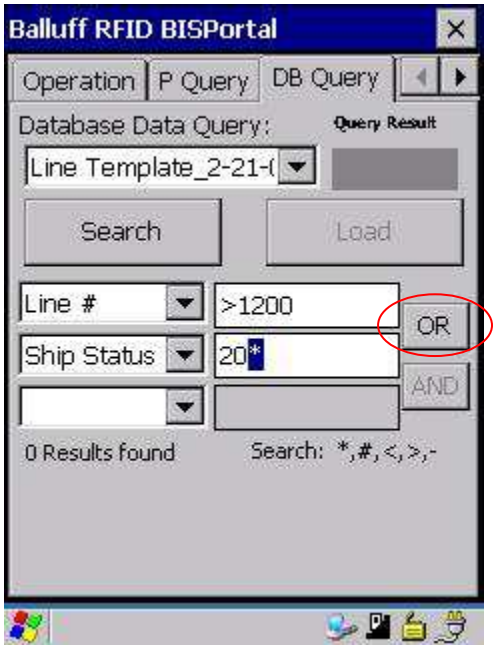
► If additional searches are required, click on or select the second and third data rows selection dropdown to choose the rows data field to query. Click on the rows name you wish to use for the search.



⇒ If an RFID tag has already been read, its data will automatically be entered into the data field for that row. If no tag was previously read, no data will appear in the data field.

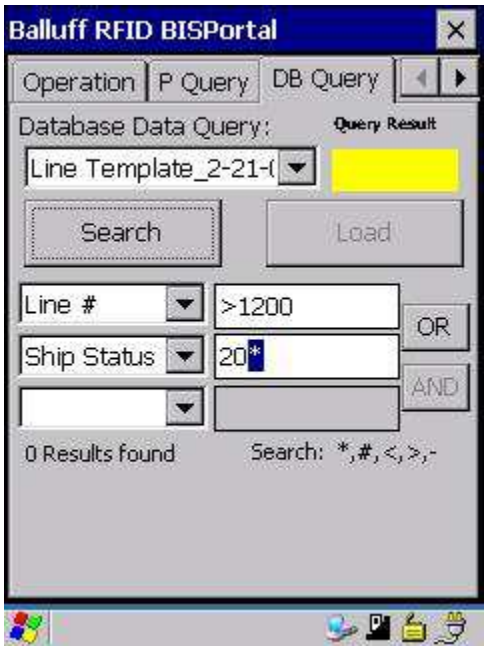
► Click on and enter the data you wish to search for into the rows data field. As before, if a wild card search is desired, use one of the wild card search characters available followed with the data if necessary.

► The logic button on the far right side between each row can be used to determine the search logic between each row, starting with the first, then second and finally the third. Available logic is an **[And]** or an **[Or].** An “And” requires both rows to be true, an “Or” only requires one of the rows to be true.

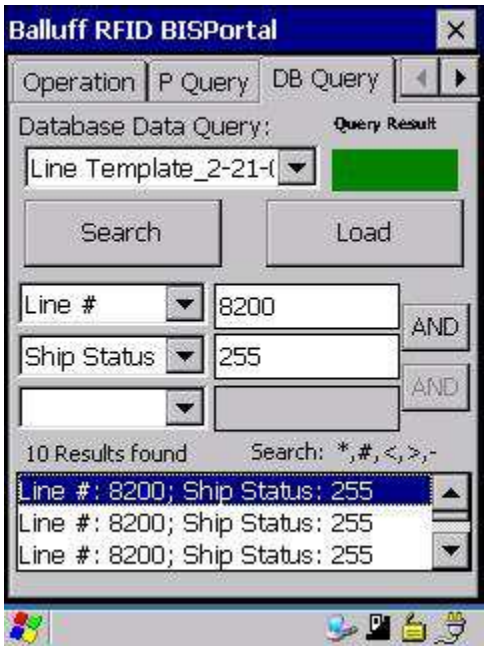


⇒ Pressing the logic button will toggle between the And and Or logic function.

► To execute the query, click the **[Search]** button.



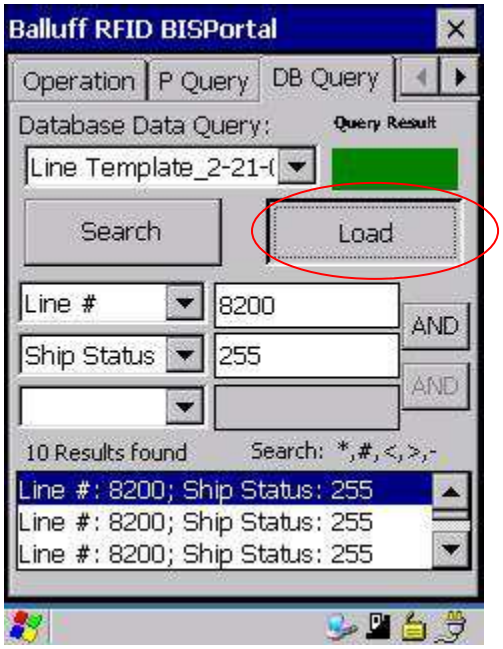
⇒ When a search is executing, the **Query Result** indicator may turn yellow to indicate a search in progress. When a query has finished executing, the pass/fail results will be displayed in the **Query Results** window on the top right corner of the tabs screen.



⇒ Query results, if found will be displayed on the bottom of the tabs screen in a separate window. (No data will be displayed if a failed result occurs.) If a search returns valid results, the **Load** button will become active allowing data to be loaded into the open template in the ***Operation*** tab.

Note: If the **"Read Before Query"** check box in the **>Advanced Configuration>User Settings** menu of the template configuration created in the **BIS Portal Development Application** has been set or checked, when executing a search, the handheld will read an RFID tag before executing the search in the database file, then use the data read from the tag for each search row defined.

► To load the database data into the open template in the ***Operation*** tab, click the **[Load]** button.



⇒ Once the Load button is clicked, the available data in the database file will be transferred into the active template in the ***Operation*** tab and the handheld screen will change automatically to the Operation tabs screen to show the data.

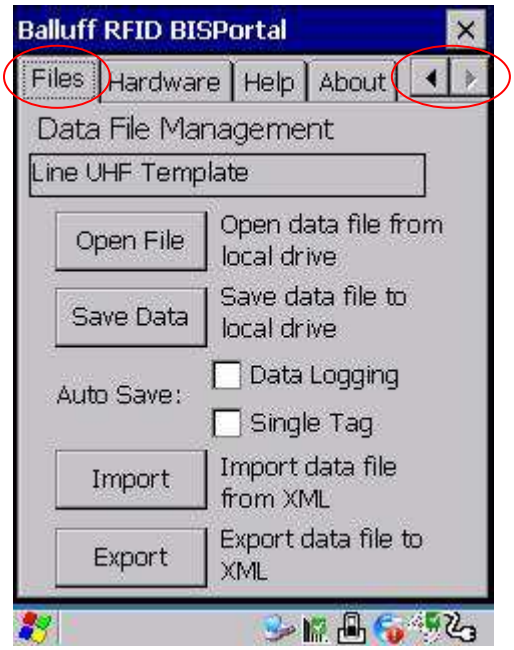
Important Note: Data being loaded into the template in the ***Operation*** tab will replace any data that existed previously. Be sure to save the data in the ***Operation*** tab using the ***File*** tab's **Save Data** function. (See chapter 8, **Saving or Opening Tag Data Files**.)

8 Saving or Opening Tag Data Files

Tag data file operations definition
The Data File Management tab provides a way to both save a load template data files into or from the handheld. There are two file formats available for this process. The first file format allows a user to save or open files containing the template data in a .csv file format. (A comma-separated values (CSV) file stores tabular data (numbers and text) in plain-text form.) The other file format is an .xml file format and saves both the tags most recent read data from the template and the template row information in an XML format. This allows the user to see the data in the template XML formatting the template itself is created and stored in.

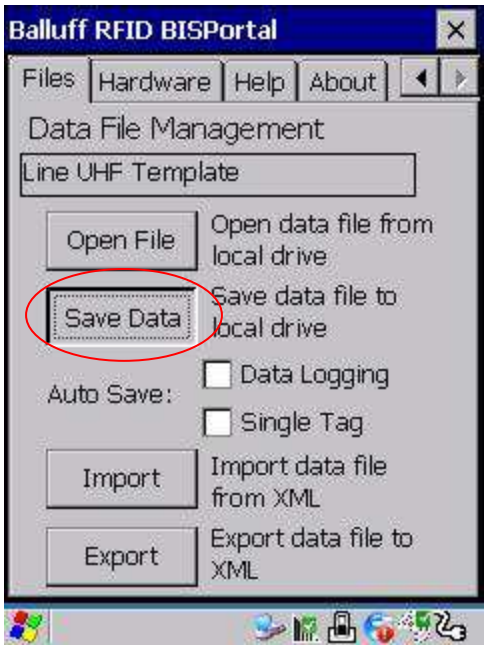
This tab also allows for the activation of automatic continuous tag data logging read from each tag into a single data file and the automatic saving of a single tags read data into an individual data file per each tag in the .csv file format only.

Save data file operation
► To save data read from a RFID tag into the ***Operation*** tab (this will include any bar code data read into the open data template), select or click on the ***File*** tab. Use the tab navigation arrows **[◄]** or **[►]** on the top right side of the tab row to move the tabs from left to right or vice versa.



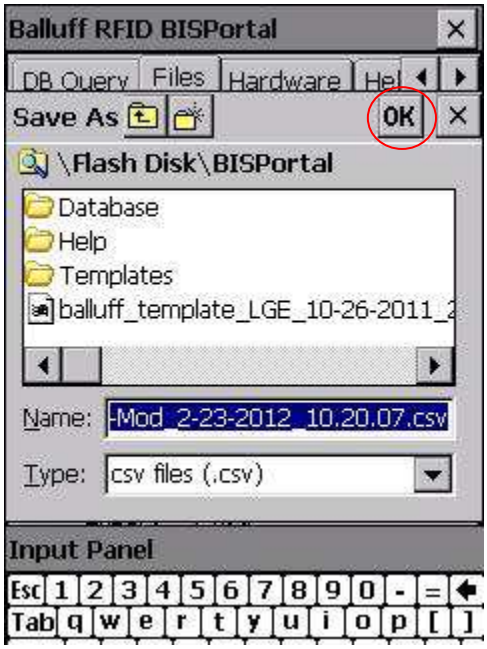
⇒ You should see the name “Data File Management” above the name of the open data template currently being used.

► To save the current data in the open template in a .csv file format (data row name and data field’s data only), click on the **[Save Data]** button.



⇒ You will be prompted to enter name for the file in the default file location set in the BIS Portal Development Application software in the **>Advanced Configuration>User Settings** menu in the **Data Path** field.

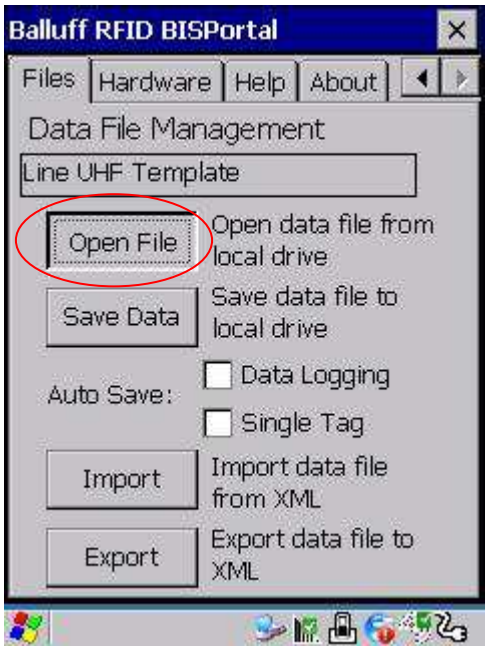
► Change and enter the name of the .csv file if you choose and click the **[OK]** button in the top right corner of the save window to save the file.



Note: By default, the BISPortal software will use the open Template name and the current date and time stamp as the default file name. This name can be changed or altered with the use of the handhelds interface.

Opening tag data file operation

► To open a previously saved tag data file, click the **[Open File]** button.



⇒ A Windows file window will open allowing you to choose a file from default location set in the BIS Portal Development Application or from any location on the handheld.

► Select or highlight the file you wish to open and click the **[OK]** button to open the file.



Note: Attempting to open and place data from a .csv file that does not match the open template format will result in a data miss-match error message and the data file will not be opened.

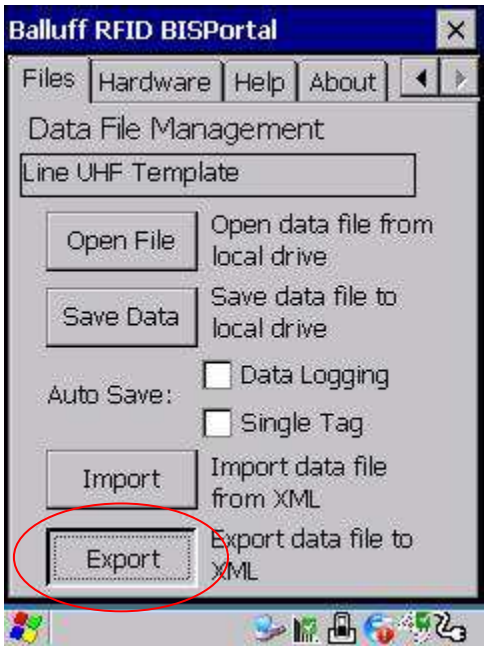
Important Note: Opening a file from within the handhelds memory will permanently overwrite the existing data in the displayed template in the ***Operation*** tab with the newly opened files data. Be sure to save the data displayed in the template before opening a file if the present data is required again.

A .csv files contents can be viewed using several software programs including Microsoft WordPad©, Word™ or Excel™.

Save template XML and data file operation

► To save the template XML and data read from a RFID tag into the ***Operation*** tab (this will include any bar code data read into the open data template), select or click on the ***File*** tab. Use the tab navigation arrows **[◄]** or **[►]** on the top right side of the tab row to move the tabs from left to right or vice versa.

► To save the templates XML data and current data in the open template in an .xml file format (open template row XML data and data fields data), click on the **[Export]** button.



⇒ You will be prompted to enter name for the file in the default file location set in the BIS Portal Development Application software in the **>Advanced Configuration>User Settings** menu in the **Data Path** field.

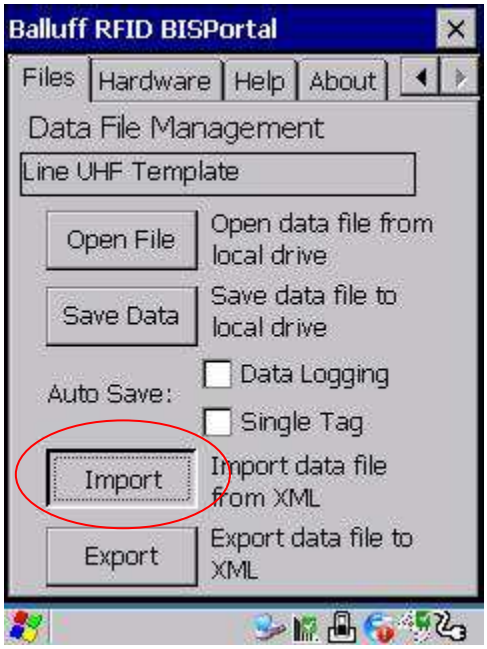
► Change and enter the name of the .xml file if you choose and click the **[OK]** button in the top right corner of the save window to save the file.



Note: By default, the BISPortal software will use the open Template name and the current date and time stamp as the default file name. This name can be changed or altered with the use of the handhelds interface.

Opening template XML and data file operation

► To open a previously saved XML and tag data file, click the **[Import]** button.



⇒ A Windows file window will open allowing you to choose a file from default location set in the BIS Portal Development Application or from any location on the handheld.

► Select or highlight the file you wish to open and click the **[OK]** button to open the file.



Note: Attempting to open and place data from an .xml file that does not match the open template format will result in a data miss-match error message and the data file will not be opened.

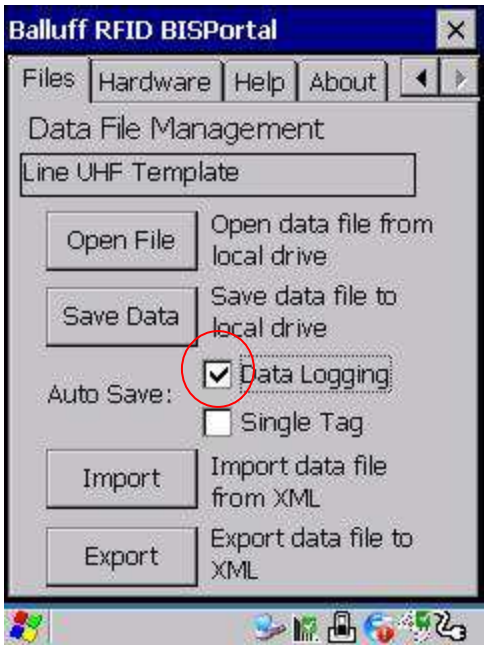
Important Note: Opening a file from within the handhelds memory will permanently overwrite the existing data in the displayed template in the ***Operation*** tab with the newly opened files data. Be sure to save the data displayed in the template before opening a file if the present data is required again.

The .xml file content can be viewed using any program, like Microsoft Explorer© which will allow you to view XML data formats. The example below is of a saved data file and its content view using Explorer.

Enabling a continuous Data Logging data operation

► To enable the automatic and continuous logging of all a tags data, click on the check box to the left of the **Data Logging** text in the middle of the tab.

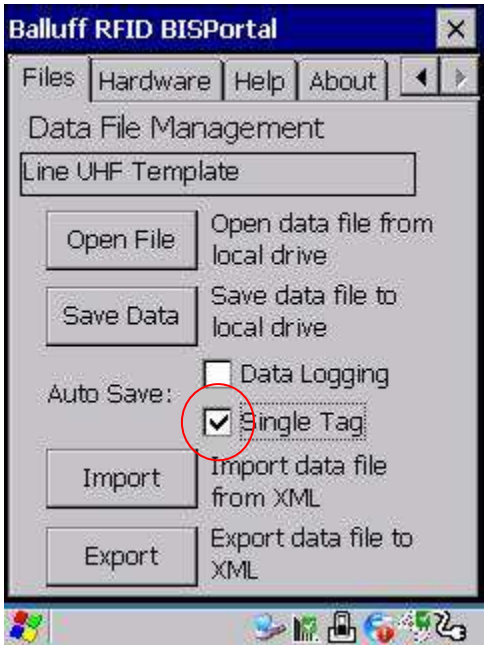
⇒ This will open a .CSV data and continuously log any read tag into the same file in individual rows of data until either the BISPortal software is closed or the check box is unchecked. The file will be saved with the time/date stamp at which it was first created.



Enabling individual Single Tag Data Logging operation

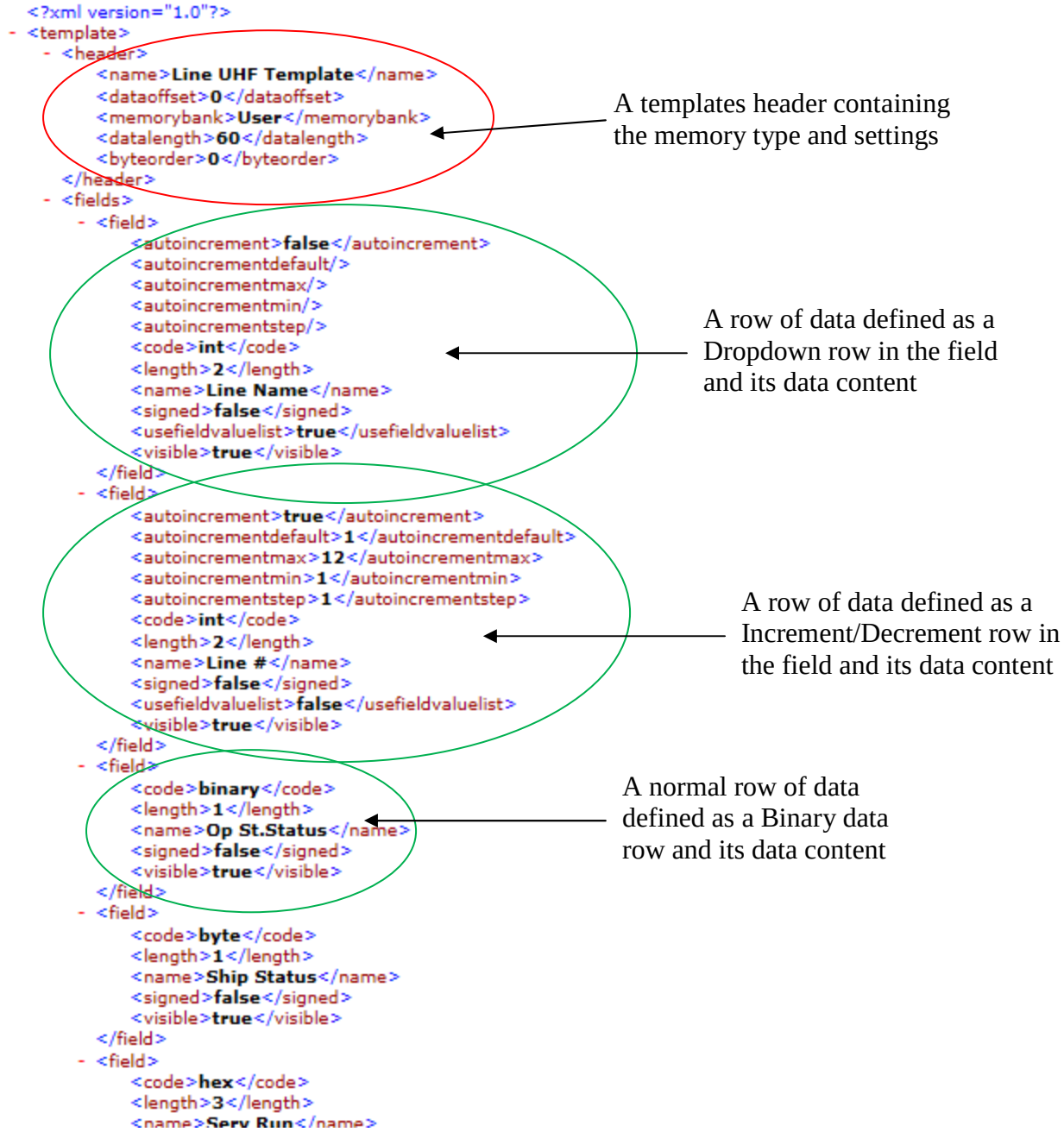
► To enable the automatic logging of a single tags data into an individual data file, click on the check box to the left of the **Single Tag** text in the middle of the tab.

⇒ This will open a .CSV data and store any read tag into a single file and the file closed when completed until the check box is unchecked. The file will be saved with the time/date stamp at which it was first created.



Example of an exported .XML data file

The following text represents a data file that was exported as a .XML with some data row fields defined.




```
<?xml version="1.0"?>
- <template>
  - <header>
      <name>Line UHF Template</name>
      <dataoffset>0</dataoffset>
      <memorybank>User</memorybank>
      <datalength>60</datalength>
      <byteorder>0</byteorder>
    </header>
  - <fields>
    - <field>
        <autoincrement>false</autoincrement>
        <autoincrementdefault/>
        <autoincrementmax/>
        <autoincrementmin/>
        <autoincrementstep/>
        <code>int</code>
        <length>2</length>
        <name>Line Name</name>
        <signed>false</signed>
        <usefieldvaluelist>true</usefieldvaluelist>
        <visible>true</visible>
      </field>
    - <field>
        <autoincrement>true</autoincrement>
        <autoincrementdefault>1</autoincrementdefault>
        <autoincrementmax>12</autoincrementmax>
        <autoincrementmin>1</autoincrementmin>
        <autoincrementstep>1</autoincrementstep>
        <code>int</code>
        <length>2</length>
        <name>Line #</name>
        <signed>false</signed>
        <usefieldvaluelist>false</usefieldvaluelist>
        <visible>true</visible>
      </field>
    - <field>
        <code>binary</code>
        <length>1</length>
        <name>Op St.Status</name>
        <signed>false</signed>
        <visible>true</visible>
      </field>
    - <field>
        <code>byte</code>
        <length>1</length>
        <name>Ship Status</name>
        <signed>false</signed>
        <visible>true</visible>
      </field>
    - <field>
        <code>hex</code>
        <length>3</length>
        <name>Serv Run</name>
```

Example of a Data Logging .CSV text data file

The following text represents a data file that was created and saved using the Data Logging option checked on the Files tab window when opened in Excel for example.

Timestamp	Line Name	Line #	Op St.Status	Ship Status	Serv Run	SKU Name	Shipper Name	Shipper Zip	Country
7/20/2017 10:58	12609	12865	110011	65	34 41 00	5D17623	DHL	21002	1
7/20/2017 10:59	12609	12865	110011	65	34 41 00	4A24625	UPS	31862	1
7/20/2017 10:59	65526	65535	11111010	186	FF E2 01	2B24165	FedEx	21918	1
7/20/2017 11:03	0	0	0	0	00 00 00	3D25146	UPS	61806	1
7/20/2017 11:04	3	6	11111010	121	FF E2 01	1A77986	UPS	60118	1
7/20/2017 11:04	1	10	11111010	1	FF E2 01	3D99063	UPS	10158	1
7/20/2017 11:04	0	0	0	0	00 00 00	9F1000	DHL	90154	1

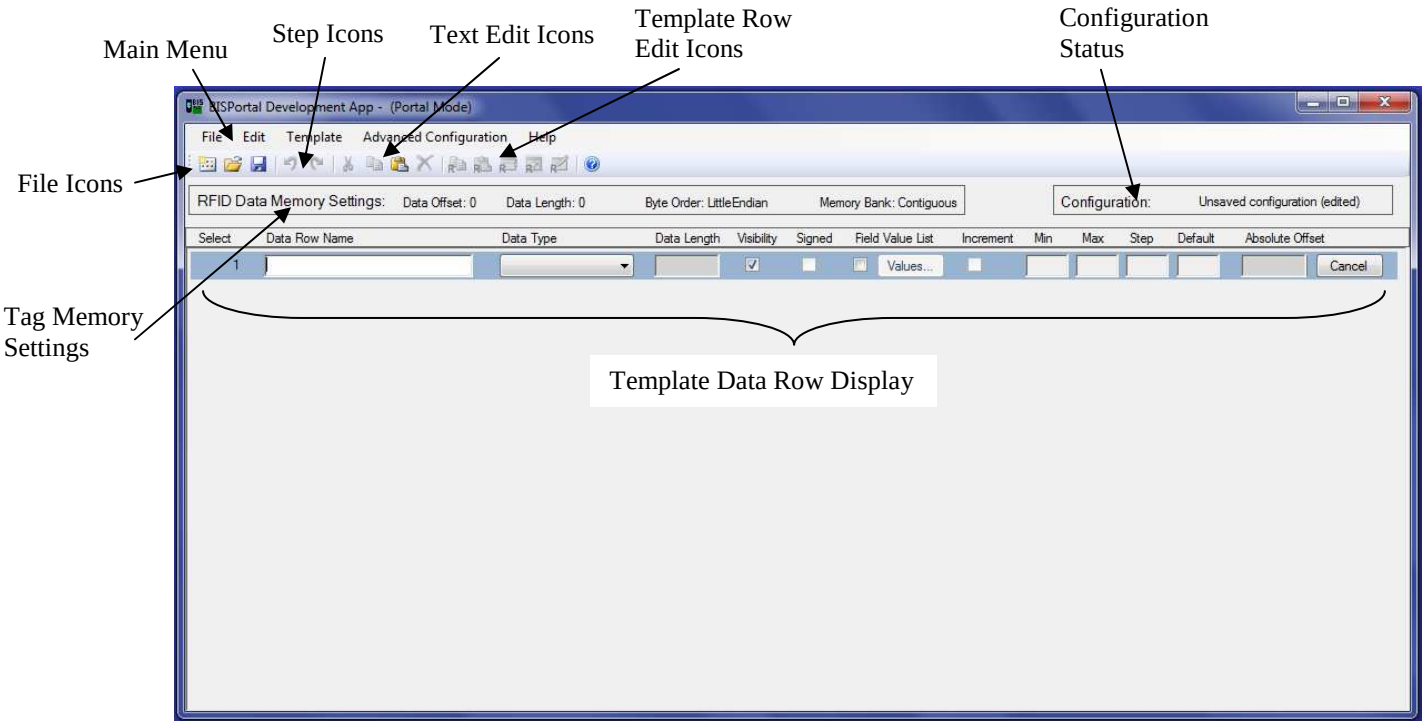
9 BIS Portal Development Application Usage

BIS Portal Development Application and Template description
Templates files are XML documents that contain the definitions and necessary information for the BISPortal software to properly parse the data collected from the RFID tag, convert the ASCII data read from the tag into the proper format for display and place the data into the proper display row.

The PC based application called BIS Portal Development Application is used to develop the Template .xml file and set the necessary user configuration/settings for the handheld. This application is also used to automatically upload the created template and settings to the handheld using ActiveSync or Windows Mobile.
Important Note: ***Be sure ActiveSync for XP or Windows Mobile for Windows 7 or higher are loaded on your PC before attempting to use the BIS Portal application*****.**

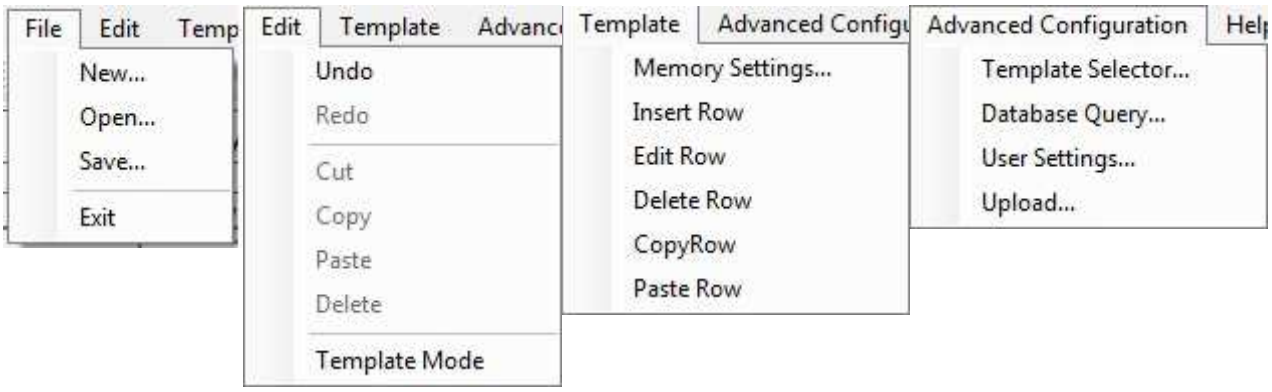
BIS Portal Development Application Installation
To install the BIS Portal application, download it from www.Balluff.com and execute the installer "Setup.exe" file or place the BIS Handheld software CD received with your handheld into your PC's CD ROM drive and locate the director file named "BISPortal-DevApp". Inside this directory, locate and execute the "Setup.exe" file. Follow the on-screen instruction and install the application. Once the application is installed, you should be able to use the application by clicking the "BIS Portal Development Application" located in the newly created Balluff folder in your **>Start>Programs>Balluff** folder area of Windows.

BIS Portal Development Application Layout
The following describes the layout of the BIS Portal Development Application software:



BIS Portal Development Application descriptions

Main Menu – The main menu is used to access all the functions of the development application using a text menu based method.



File Icons – The file icons are used to set the new template or configuration type, open an existing template or configurations type or to save a template or configuration type.



Step Icons – The step icons are used to “Undo” the last operation or “Redo” the last operation if it was reversed.



Text Edit Icons – The text edit icons are all simple text editing operations on any text used in the template row definitions.



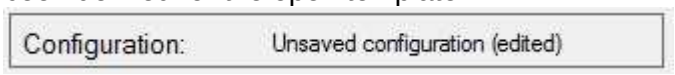
Template Row Edit Icons – The row icons are used to edit an individual row of data setup in the template data row display.



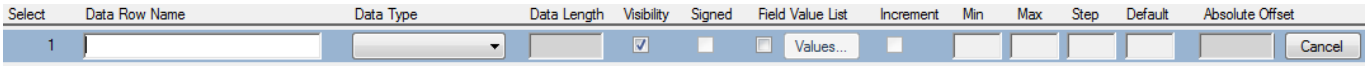
Tag Memory Settings – This is used to display the current tag memory defined and the byte order being used in data definitions.



Configuration Status – This is used to display the status of the current configuration that has been defined for the open template.



Template Data Row Display – This area is used to build and display a template that will become the custom .xml template used by the handheld software.



The defined features in the development application are used to make navigation and template creation an easier process without the need for creating customer .xml files in a XML editor.

10 Custom Template and Database File Creation

Template creation description
As mentioned previously, the BISPortal handheld software works by taking data from a XML reference file and using the defined contents to build the data fields displayed on the handheld software interface. The BIS Portal Development Application uses a graphic based interface to define a template and convert the graphic definitions into XML code read by the handhelds BISPortal software.

A template is defined by creating a set of rows containing the data to be displayed on the handhelds display. Each of the rows to be created will contain a user define text field used to represent the following:

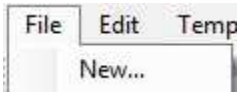
- rows name for the data in user terminology,
- the actual data read from an RFID tag based on its sequentially read memory position on the RFID tag,
- the definition if the data will be visible on the handhelds display,
- if the tag data format to be displayed will be numerically signed (+ or +/-),
- if a text based dropdown menu will be used in a row to represent an integer value,
- if an increment/decrement option will be used in a row to change an integer value,
- if the sequential memory position being used should be changed or skipped forward to a new one based on an Absolute Offset position reference.

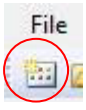
Template creation/modification
A template file is an XML file that can be created and modified by a user using the BIS Portal Development Application on a PC. The template files can then be uploaded to the handheld using this application along with any user settings. The following steps explain how to define a template to be created, the creation of a row of data to be displayed and the necessary configuration and user settings to be used by the handheld's BISPortal software.

(*The BIS Portal Development Application can be found in the Balluff directory created in the "Start" menu of your PC*. See section 9, **BIS Portal Development Application Usage.**)

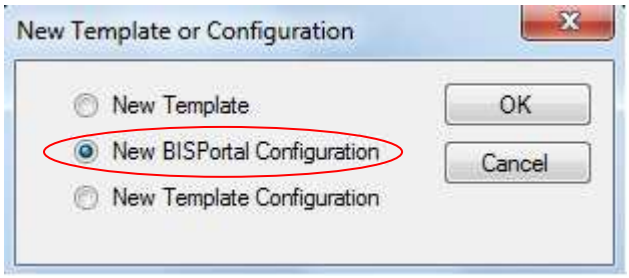
► Locate and click on **>Balluff>BIS Portal Development Application** in your PC's Start menu.

► Go to **>File>New** or click on the **Start New Template or Configuration** icon in the top left corner under the File menu.



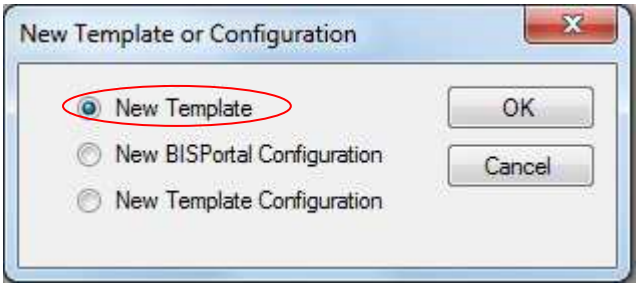
or


► Select **[New BISPortal Configuration]** to set the development software to a BISPortal only configuration mode.



► Go again to **>File>New** or click on the **New Template/Configuration** icon in the top left corner under the File menu.

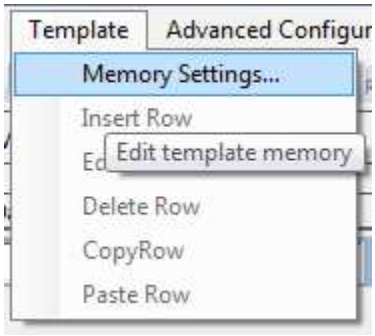
► Select **[New Template]** to start the creation of a new template.



⇒ A new blank data row should already be present in the data row display.

Template memory settings
Before beginning the creation of a template, the tags data memory type and tag memory to be read by the handheld reader should be set. Making these settings will tell the handheld reader what type of memory is being read, contiguous (Low or High Frequency) or bank based (UHF Ultra-high Frequency) and where to begin reading data from and to what position to read to on the RFID tag. To setup the memory setting, use the following steps.

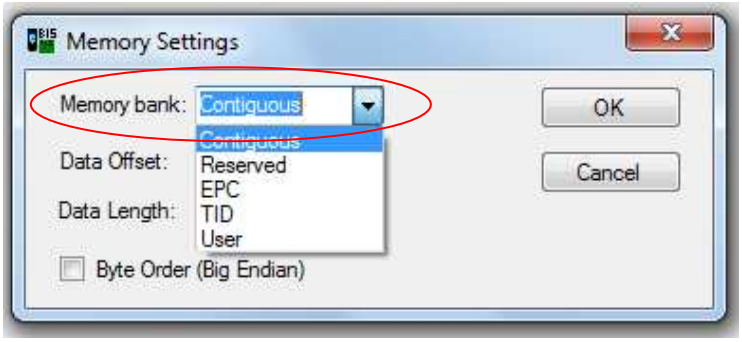
► Click on **>Template>Memory Settings** menu.



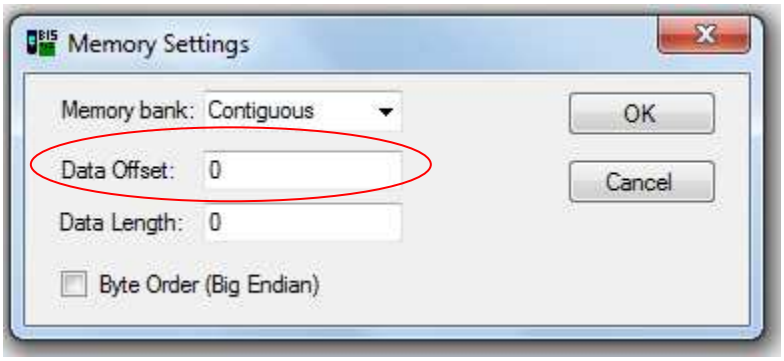
⇒ This will open the memory setting window.

► Click on the **Memory Bank** down arrow to show the different memory type options.

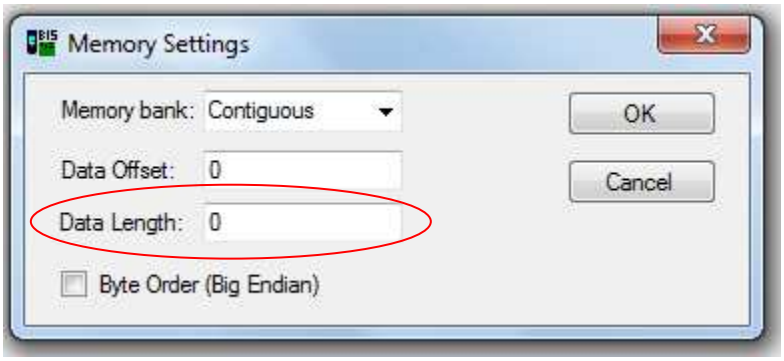
⇒ For LF or HF tags, choose **Contiguous**, for UHF tags choose the memory bank type: **Reserved, EPC, TID** or **User**. See tag manufacturers information to determine which UHF bank to use.



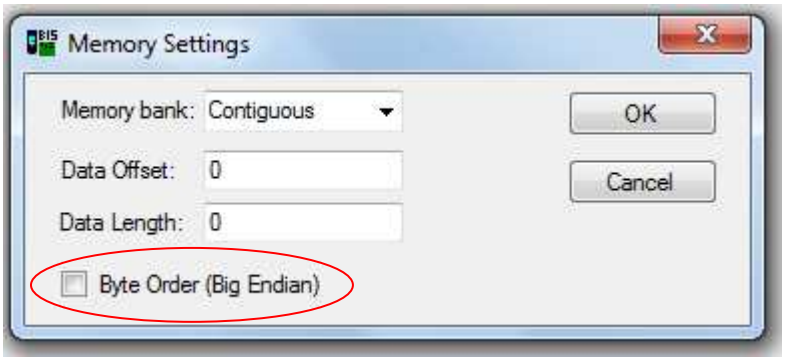
► Click on the **Data Offset** field and enter the numerical value representing the starting position in the tags memory you wish to start reading data from. (For example, entering a value of “0” will cause the handheld reader to begin reading data from the first or zero byte on the tag when the Read button is clicked on the handhelds user interface.)



► Click on the **Data Length** field and enter the numeric value representing the number of bytes from the Data Offset you wish to read from the tag. (For example, enter a value of 60 will cause the handheld reader to read a total of 40 bytes of data into the templates memory array starting from the Data Offset position.)



► Click on the **[Byte Order]** box to select the byte order that the data will be read into a given data field by.



- Big-endian is an order in which the "big end" (most significant value in the sequence) is stored first (at the lowest storage address).
- Little-endian is an order in which the "little end" (least significant value in the sequence) is stored first.

For example, with a big-endian setting, the two bytes required for the hexadecimal number 4F52 would be stored as 4F52 in storage (if 4F is stored at storage address 1000, for example, 52 will be at address 1001). With a little-endian setting, it would be stored as 524F (52 at address 1000, 4F at 1001).

The default setting for the BIS Portal software is always **Big Endian.** The box must be checked to use **Little Endian.** Please verify with the system writing the tags which method the tags are being written to. Most systems in the west use Big Endian by default.

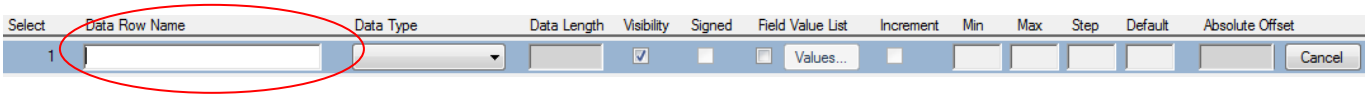
► Click the **[OK]** button to enter these settings. Click the **[Cancel]** button to cancel the process and data entered.

⇒ Once the data is entered, the values you have entered should appear similar to the following in the **RFID Data Memory Settings** area on the screen:



Data row usage
Once the tags data memory has been defined use the following steps to configure a row of data.

► The following image is what should appear as the first row of a new template. Start by double clicking the first and clicking in the data field of the **Data Row Name**.



⇒ This should show an open text field with a blinking cursor.

► Type in the custom name you wish to give this row of data. You can use up to 14 characters in the description. You can use any character that can be displayed using a standard keyboard based on the language support of your Windows OS version. Some special characters may be supported, but this must be tested on a trial and error basis.

► Click on the **Data Type** dropdown and select the numerical format you wish the data for the row to be formatted in.



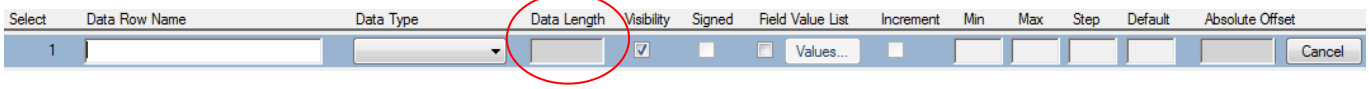
⇒ The following list describes the data types that can be used:

Data Type:	Maximum Data Length	Signed
ASCII	16 alpha/numeric characters	No
Binary	1	No
BCD	2	Yes
Byte	1	No
Integer	2	Yes
Long Integer	4	Yes
*Floating Point	4	Yes
Hexadecimal	8	Yes

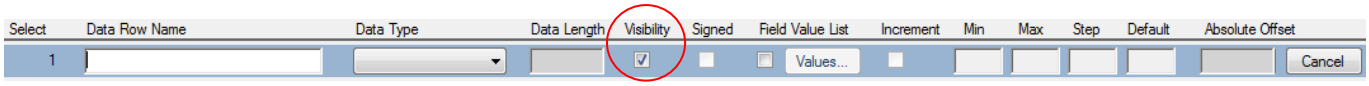
(Data type chart)

*Floating Point or Decimal numerical value that can be entered up to a value of 7 digits (including the decimal point) with a “length” of 4. This is the maximum number of digits before the decimal point is limited to an accuracy of 4 (eg. 29.9999). Any more than four digits will result in the fifth digit being rounded up or down from 5.

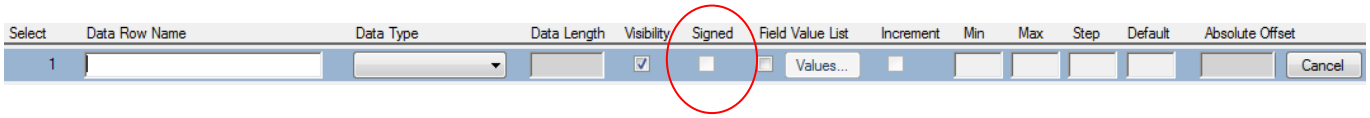
► Click on the **Data Length** field and enter the length of the bytes of tag data to be used to create the rows displayed data. Use the chart above for reference to the possible data lengths based on the Data Type used.



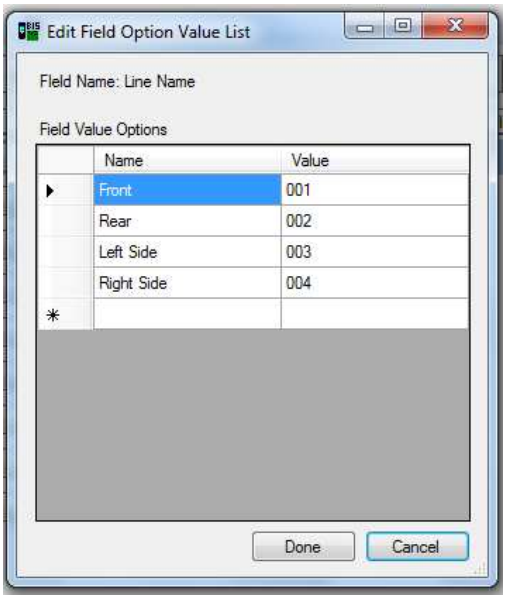
► Click on the **Visibility** box to select if the data field will be displayed and made accessible to the user. A check mark (√) indicates the field will be visible. The default for each new row is visible.



► Click on the **[Signed]** box to select if the data field’s data can be signed. A check mark indicates that the field’s data can be signed. (The default for this setting is unsigned or un-checked.) Refer to the Data Type chart to determine if the Data Type can be used as a signed value. If the check box is greyed out, signing is not possible with the data type selected.

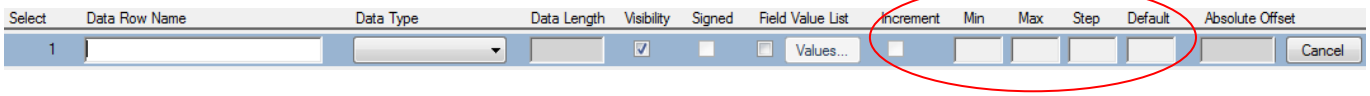


► To use a dropdown selection menu to enter the rows data in the handhelds template row, check the check box under **Field Value List** to activate it and then click on the **[Values]** button to open the list editor.



⇒ This dropdown selection menu can only be used with an integer value or ASCII value row definition. The column **Name** will allow any ASCII based character or symbol to be entered up to 12 characters long, and will be what is displayed when a user opens the list on the handhelds screen. The column **Value** will be the data that will be written to the tags memory and must match the data type defined in the templates row.

► To use an increment/decrement integer value in a row in the handhelds template row, check the box under the **Increment** to activate it and fill in the **Min, Max, Step** and **Default** numerical data options to the right.



⇒ The **Min** value is the lowest value that will be allowed, **Max** is the largest, **Step** is the incrementing value that will be used every time the value is changed and **Default** is the value that will appear on the handhelds template row when first opened.

Note: This function only works if a rows **Data Type** is defined as an **Int** or **Long** integer.

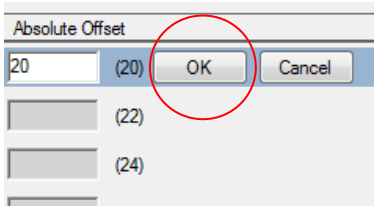
► Click on the **Absolute Offset** data field and enter a numerical value to represent the absolute sequential position of that fields data byte from the beginning of the tag data read into memory. Use the value in the **()** to determine the position of the data pointer in the tags data array as a reference.



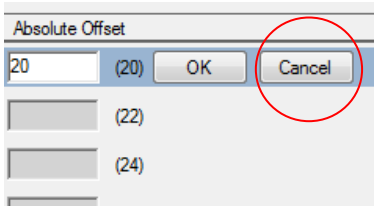
The use of Absolute Offset allows you to move forward or “skip” sequentially to a new data position in the tag’s data array in memory starting from the declared Data Offset in the **RFID Data Memory Settings**. (For example, if you enter an Absolute Offset of 20, the rows data bytes to be processed will begin 20 bytes from the Data Offset declared. So if you stated with a tag memory position Data Offset of 0, the 20th byte in the tags data memory array is where the data pointer will move and begin reading data from for the row. See the next example screen.)

Important Note: Absolute Offset can only be used sequentially. The offset value entered cannot be before the current position noted in the previous Rows **()**. Data positions before the current position cannot be re-read. Unstable reader results will occur on the handheld if proper procedure is not followed.

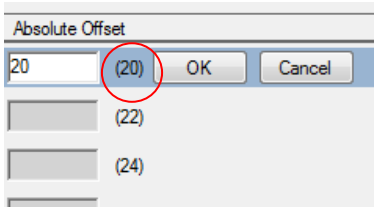
► To complete the process and enter a row of data, press the **[OK]** button to the right side of the row.



► To cancel the entry procedure and reset the row, press the **[Cancel]** button to the right side of the row.



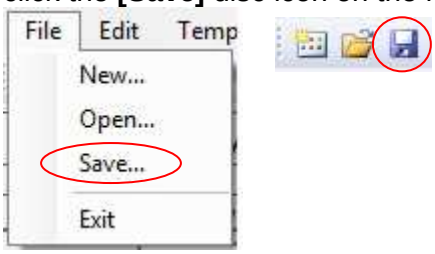
⇒ The value at the end of each row before the **[OK]** button in parentheses **()** represents the starting memory location in bytes that the data in the row will be read/written to on a tag. In the example below, byte 20 is where that rows data will be read from or written to in the physical tags memory.



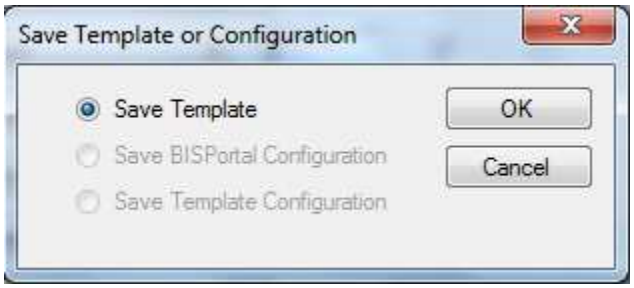
Saving a created Template

You want to be sure to save a template after you have finished creating it. This process will only save the template on the PC you are using at the time, it will not save the template on the handheld. (To save a template to the handheld, go to section 9, **Template Configuration and Upload**.) Use the following steps to save a template on the PC. There are two ways to save a template, either using the **File** menu or the save icon.

► To save a template to your local PC's hard drive, select **>File>Save** on the menu bar, or click the **[Save]** disc icon on the left most icon bar.



► The **Save Template or Configuration** window will open. Click on the **Save Template** option. Click the **[OK]** button and when the Windows save window appears, name your template and save it conventionally.

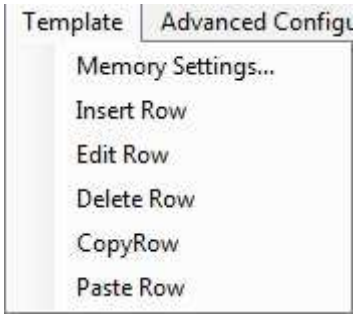


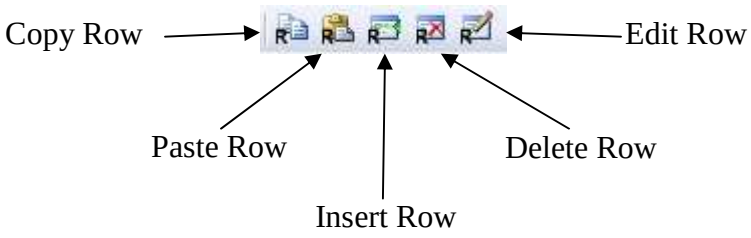
Important Note: The name you call your template file will also be the name created used to open the file in the BISPortal handheld software. It is suggested that you use a file name descriptive of the template you have created for easy identification within the BISPortal handheld software screens.

Template Row creation/modification

An individual row of a template file contains the information to display a single row of data on an equipped handhelds display. The following steps instruct how to create, copy, delete and edit data rows in the BIS Portal Development Application.

To work with the template rows, two methods can be employed. You can either use the **>Template** menu option located in the main menu bar or you can use the easy icons located directly below the main menu.





Template Row insertion
There are two methods for inserting a new row. You can either insert a row after the last row created or you can insert a row before a row. Use the following steps to insert a row:

► To insert a row after the last row in a template, be sure no row is selected (highlighted). (To un-select a row, click one time on the highlighted row.) Then either select **>Insert Row>Template** or click the **[Insert Row]** icon from the template row icons.



► To insert a row above another row, select the row you wish to insert the row above by clicking on the left side of the row. Then select **>Insert Row>Template** or click the **[Insert Row]** icon from the template row icons.



Template Row edit
To edit a blank template row or edit a row that already has data, use the following steps:

► Select the row you wish to edit by clicking the row. This will highlight the row. Then select **>Edit Row>Template** or click the **[Edit Row]** icon from the template row icons.



Template Row delete
To delete a row from a template, use the following steps:

► Select the row you wish to delete by clicking the row. This will highlight the row. Then select **>Delete Row>Template** or click the **[Delete Row]** icon from the template row icons.



Template Row copy
To copy a row in a template, use the following steps:

► Select the row you wish to copy by clicking the row. This will highlight the row. Then select **>Copy Row>Template** or click the **[Copy Row]** icon from the template row icons.



⇒ This will also make the Paste row icon active.

Template Row paste
There are two ways to paste a copied row in a template. You can either paste a row directly below a selected (highlighted) row, or paste (append) a row to the end of the template. To paste a row in a template, use the following steps:

► To paste a row directly below a select (highlighted) row, select the row you wish to paste the row below. This will highlight the row. Then select **>Paste Row>Template** or click the **[Paste Row]** icon from the template row icons.



► To paste or append a row at the end of the template, be sure no rows are selected. (To un-select a row, click one time on the highlighted row.) Then select **>Paste Row>Template** menu or click the **[Paste Row]** icon from the template row icons.



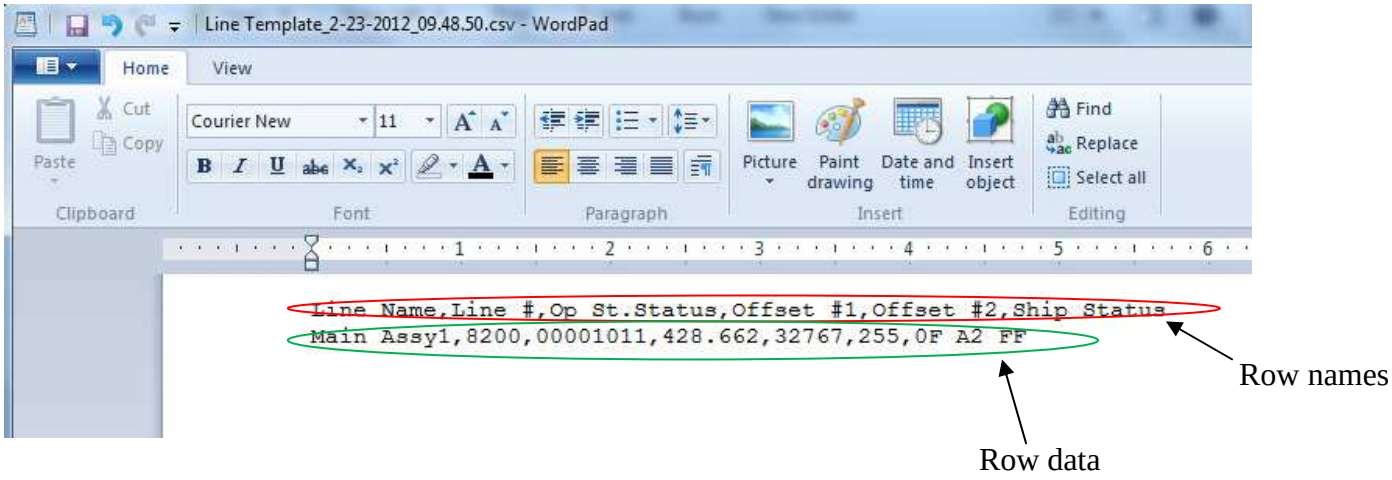
Database file creation
A database file is a .txt based formatted file that can be used in the BISPortal handheld software when doing Database Query's. A TXT file is a plain text file format with comma delimited or comma-separated values similar to a CSV file which stores tabular data (numbers and text) in plain-text form. This file format is a file format supported as an export file format by most database systems. (Consult your IT personnel for determining the method for creating this format from your system.)

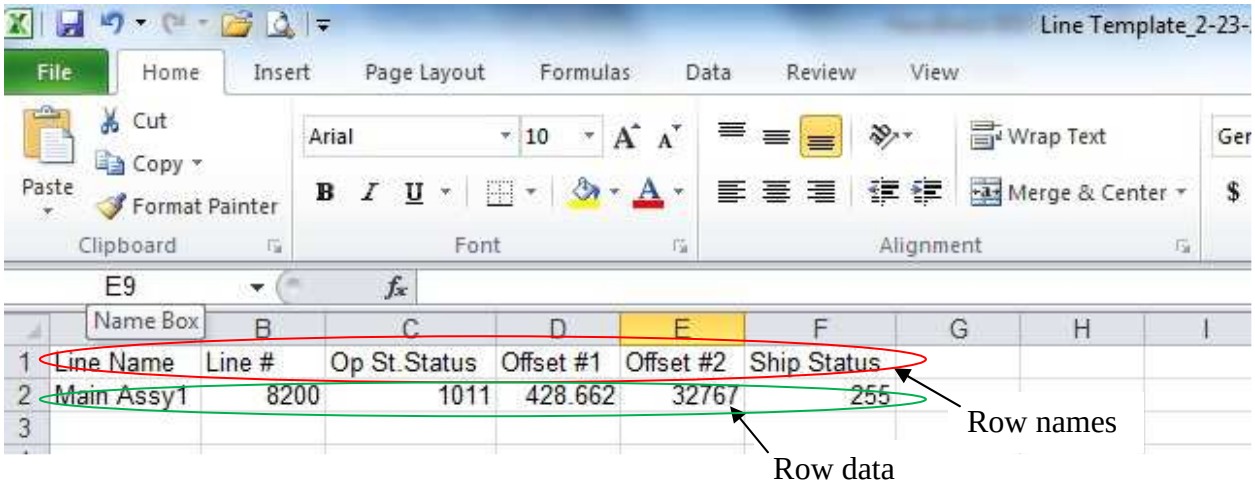
A database file used by the Database Query (***DB Query***) tab screen in the BISPortal handheld software to compare data from either the current templates data in the ***Operation*** tab or data read directly from the RFID tag based on the currently open template on the handheld when the **[Search]** button is pressed to the data in the user loaded database (.txt) file. Data in the database file must be formatted to match the current templates formatting. The following information is meant to help guide the design of the necessary data formatting for a database file that can be used in the Database Query on a handheld.

The easiest method to determine how the formatting of the data in a database must be created is to load the template in the BISPortal handheld software to be used, read data into the template then save the data into a .csv file to see the comma delimited formatting. Use the following steps to create the .csv file.

► Load the template with data from an RFID tag by reading data into the template using the **[Read]** button in the ***Operation*** tab. (See section 5, **Reading or Writing Tag Data** for instructions on loading a template and reading RFID tag data into the template.)

► Then save the data using the ***File*** tab's **[Save Data]** button to save a .csv formatted file. (See section 8, **Saving or Opening Tag Data Files** for instructions on saving read data to a .csv file.) The templates row titles and a single row of formatted data will be saved in this file format and can be view as shown in the example below.

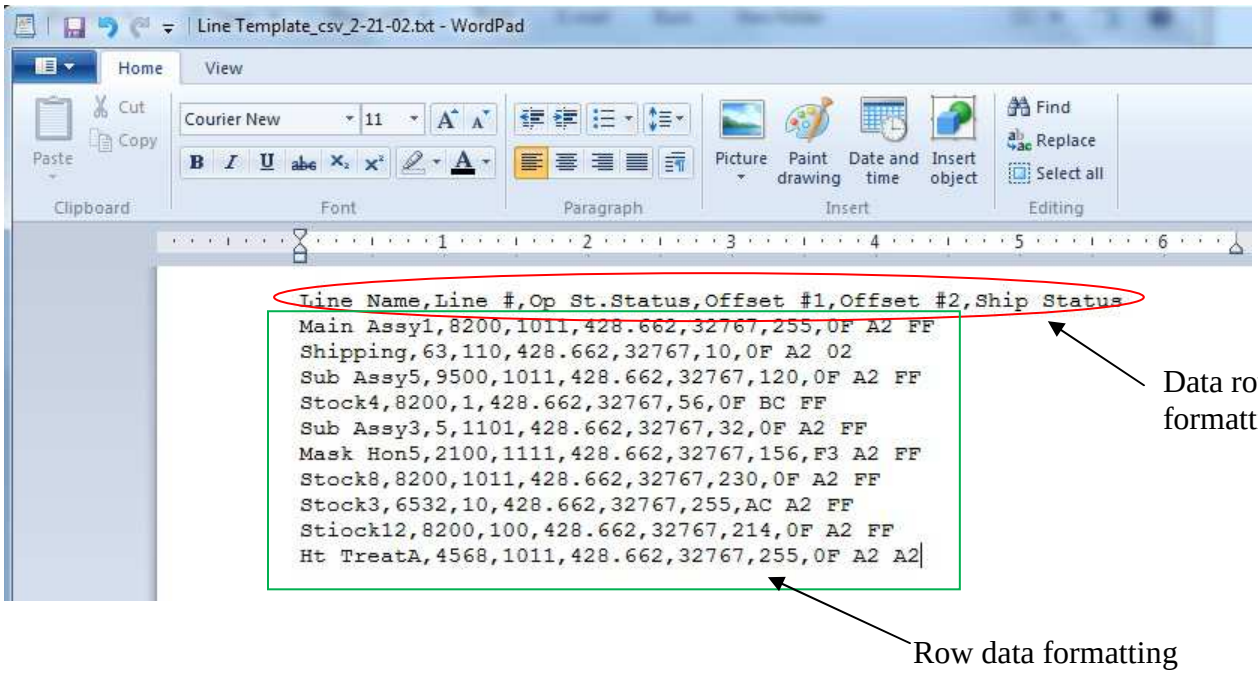




⇒ Microsoft WordPad© or Excel© can be used to view or edit the file contents of a .csv.

Note: If the data is to be re-saved in these programs, but sure to choose a CSV (comma delimited) .csv format. Otherwise the files will not be usable for the BISPortal software.

Once the formatting has been created, the resulting database file must be created or exported from a database in a comma delimited or comma-separated (CSV) format, then saved into a .txt or plain text file format. The file contents below demonstrate an example database file using this described file formatting.



Note: If the row titles or the row data do not match the formatting in the template being used, the BISPortal handheld software will error when trying to load the database file. Not all row titles must be used in the database file, but data must align with titles by comma separation in order to prevent improper data loading.

***Note:** A shortcut exists to create a Database file from data that already exists on tags is to enable the Data Logging function in the File tab of the handheld. This log file will be in a .CSV format. Using a PC and Excel, open and convert the contents into a table with individual columns for each data value in the template, then delate the first column with the time/date stamp, so only the columns with data and their column name exists. Resave the file as a .TXT file in your PC's configured BISPortal directory in the "**Data/Database**" directory.

This file should then be uploaded back to the handheld using the **Database** menu option with the new file name selected and the **Upload** menu option with the template, or by manually copying the file directly to the handheld and placing it in the "**FlashDisk/BISPortal/Database**" folder. See section 11, **Template Configuration and Upload** for more details on using the **Upload** option.

11 Template Configuration and Upload

Template/database and configuration upload description
In order for the BISPortal handheld software to be able to load and run the template and database files you have created along with any configuration and user settings you may have, it must first be configured and uploaded to the handheld. This process will upload the template files, database files and user settings automatically.

Template configuration and upload procedure
The procedure for configuring and uploading a template are described below. The process of uploading all the files and setting the user settings is handled automatically once the process has been started by the user.

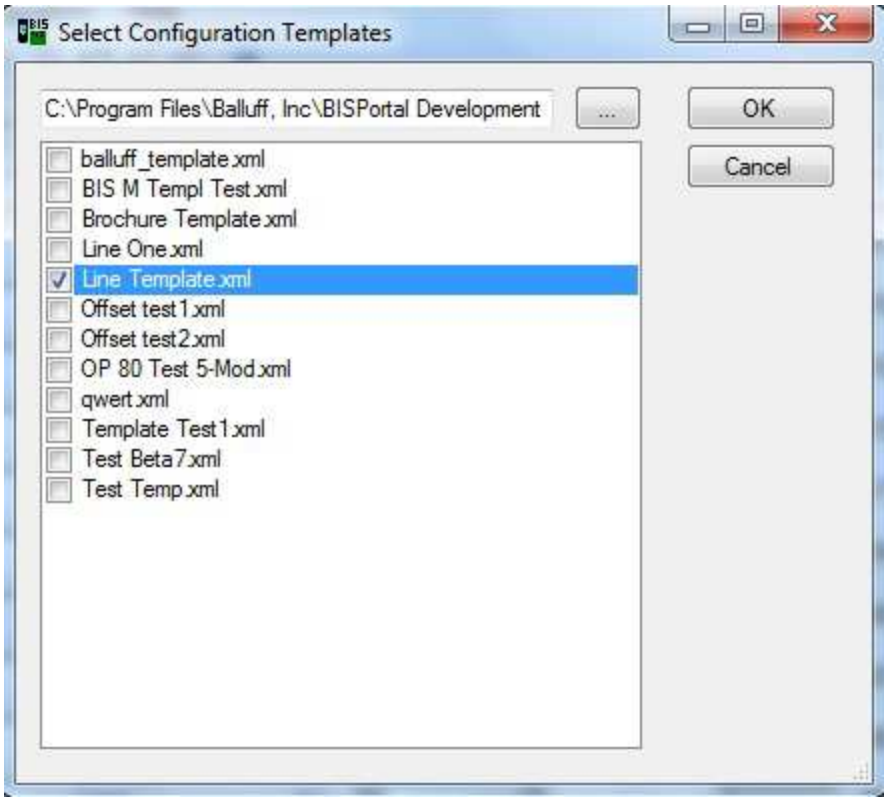
Template and database file configuration
To configure template and database files for use on a handheld, use the following steps.

Important Note: Once an upload is performed, the BISPortal handheld software MUST be closed and restarted in order for any changes in user settings to take effect. If this is not done, the handheld will continue to use the original settings. This could cause access to function you may want protected by passwords.

► Click on the **>Advanced Configuration>Template Selector** option on the main menu. This will open the Template Selector file window.



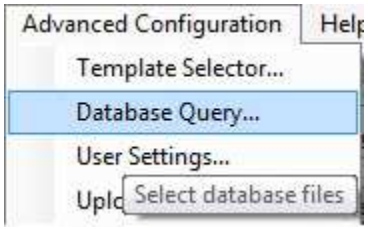
► From within this window, select the name of the Template file(s) you wish to upload to the handheld by clicking on the check box to the left side of the Template files name as shown in the next example.



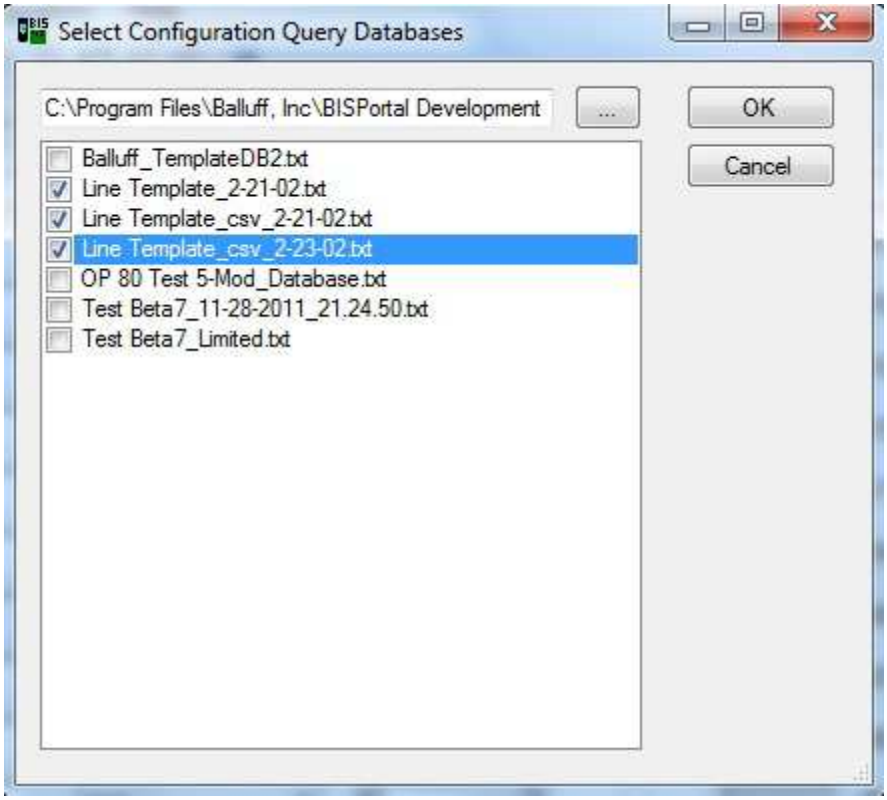
► After selecting the Template(s) you wish to upload, click the **[OK]** button.

⇒ This will set the Template files that will be uploaded to the handheld.

► Click on the **>Advanced Configuration>Database Query** option on the main menu. This will open the Database file Selector window.



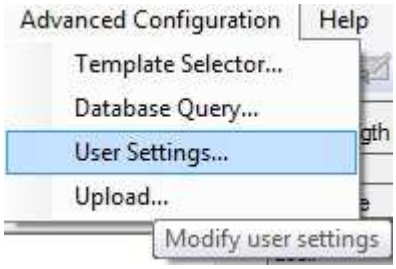
► From within this window, select the name of the Database file(s) you wish to upload to the handheld by clicking on the check box to the left side of the Database files name as shown in the next example.



► After selecting the Database(s) you wish to upload, click the **[OK]** button.

⇒ This will set the Database files that will be uploaded to the handheld.

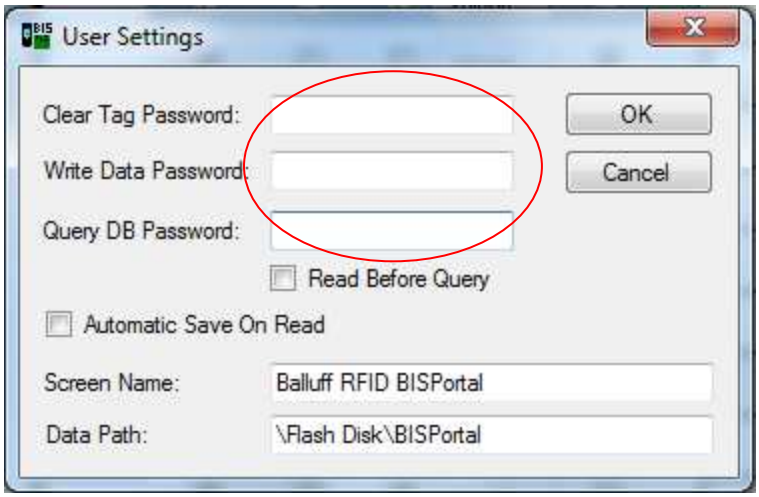
► Go to and click on the **>Advanced Configuration> User Settings…** option on the main menu.



⇒ This will open the User settings window.

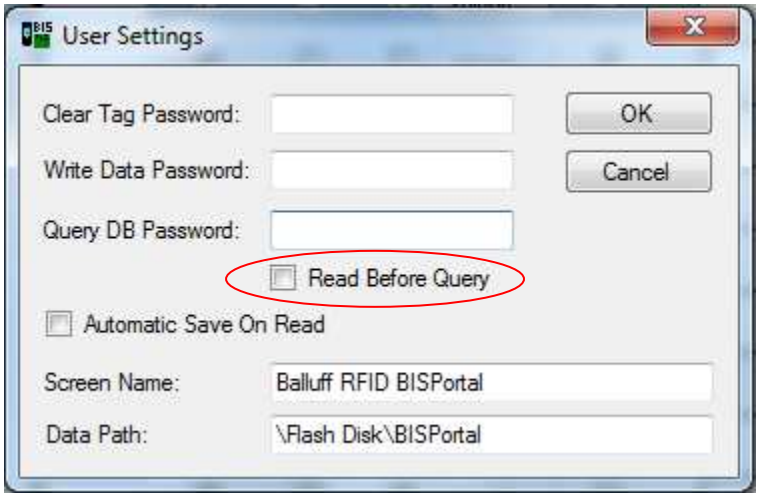
► To change the **Tag Clear, Write Data or DB Query Password:** click on the password field and type in the password you wish to use to lock that handheld functional process with.

Important Note: Once a password is entered and uploaded, it cannot be changed from the handheld and will require the uploaded process to be repeated again. These passwords are case sensitive and only alpha/numeric characters should be used without spaces.



⇒ The way the passwords appear in these fields is the exact way a user must enter them in the BISPortal handheld interface.

► To perform a reading of an RFID tag before performing a database file search, check the **Read Before Query** check box. If this box is checked, the handheld will require the presence of a tag before performing a Database Query, otherwise the query will fail with a no-tag presence error.



► To automatically save the tag data after every read in to a separate .CSV file, check the **Automatic Save On Read** check box. This will save this data in individual files after read regardless of the setting in the handheld.

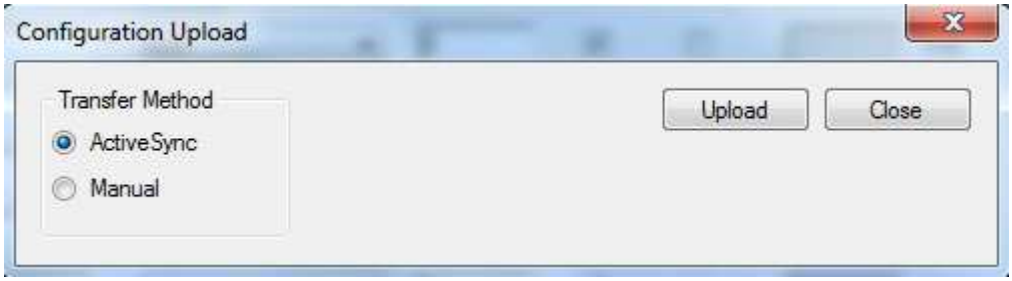
► You can change the name that appears at the top of the BISPortal handheld interface screen if desired. The default name is “Balluff RFID BISPortal”. This name can be changed up to 24 characters. Click on the **Screen Name:** and change the name as desired.

► To change the default file location for data files on the handheld, click on the **Data Path:** field and change the path location.

Important Note: It is recommended to use the default path as this will allow the software users to find and store files easily. This will also provide for a backup in a FRAM memory location in the handheld in case of power disruption.

► After entering the passwords and setting you wish to upload, click the **[OK]** button.

► Finally, go to and click on the **>Advanced Configuration> Upload…** option on the main menu.



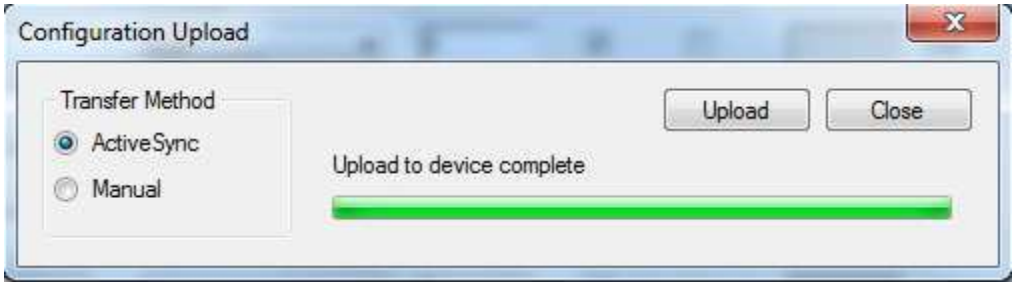
⇒ This will open the **Configuration Upload** process window.

For normal purposes of the BISPortal software, only the **ActiveSync** option is required. If you are using Windows 7, Windows Mobile will automatically be used instead of ActiveSync. If **Manual** is chosen, follow the screen directions to complete the upload process.

Important Note: To use the upload feature of this software, you must have previously loaded Windows ActiveSync or Windows Mobile on you PC and configure them to work with the USB port of you PC. (For instructions on these two programs, please consult section 2, **BISPortal Handheld Software Installation Instructions** or the Windows website for additional details.) Neither of these software programs is included on the Template software CD.

► To begin the process of uploading the template, be sure the handheld is in its cradle properly and available to the PC by checking either the ActiveSync or Windows Mobile interfaces. (Consult ActiveSync or Windows Mobile help files for additional assistance in this process.)

► Click the **[Upload]** button in this window to begin the template upload process.



► Upon completion of the upload process, press the **[Close]** button in this window to close the Configuration Upload window.

Appendix

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ASCII table

Decimal	Hex	Control Code	ASCII	Decimal	Hex	ASCII	Decimal	Hex	ASCII
0	00	Ctrl @	NUL	43	2B	+	86	56	V
1	01	Ctrl A	SOH	44	2C	,	87	57	W
2	02	Ctrl B	STX	45	2D	-	88	58	X
3	03	Ctrl C	ETX	46	2E	.	89	59	Y
4	04	Ctrl D	EOT	47	2F	/	90	5A	Z
5	05	Ctrl E	ENQ	48	30	0	91	5B	[
6	06	Ctrl F	ACK	49	31	1	92	5C	\
7	07	Ctrl G	BEL	50	32	2	93	5D	[
8	08	Ctrl H	BS	51	33	3	94	5E	^
9	09	Ctrl I	HT	52	34	4	95	5F	_
10	0 A	Ctrl J	LF	53	35	5	96	60	`
11	0B	Ctrl K	VT	54	36	6	97	61	A
12	0C	Ctrl L	FF	55	37	7	98	62	B
13	0D	Ctrl M	CR	56	38	8	99	63	c
14	0E	Ctrl N	SO	57	39	9	100	64	d
15	0F	Ctrl O	SI	58	3 A	:	101	65	e
16	10	Ctrl P	DLE	59	3B	;	102	66	f
17	11	Ctrl Q	DC1	60	3C	<	103	67	g
18	12	Ctrl R	DC2	61	3D	=	104	68	h
19	13	Ctrl S	DC3	62	3E	>	105	69	I
20	14	Ctrl T	DC4	63	3F	?	106	6 A	j
21	15	Ctrl U	NAK	64	40	@	107	6B	k
22	16	Ctrl V	SYN	65	41	A	108	6C	L
23	17	Ctrl W	ETB	66	42	B	109	6D	m
24	18	Ctrl X	CAN	67	43	C	110	6E	n
25	19	Ctrl Y	EM	68	44	D	111	6F	o
26	1 A	Ctrl Z	SUB	69	45	E	112	70	p
27	1B	Ctrl [	ESC	70	46	F	113	71	q
28	1C	Ctrl \	FS	71	47	G	114	72	r
29	1D	Ctrl]	GS	72	48	H	115	73	s
30	1E	Ctrl ^	RS	73	49	I	116	74	t
31	1F	Ctrl _	US	74	4 A	J	117	75	u
32	20		SP	75	4B	K	118	76	V
33	21		!	76	4C	L	119	77	W
34	22		"	77	4D	M	120	78	X
35	23		#	78	4E	N	121	79	Y
36	24		$	79	4F	O	122	7 A	Z
37	25		%	80	50	P	123	7B	{
38	26		&	81	51	Q	124	7C	|
39	27		'	82	52	R	125	7D	}
40	28		(	83	53	S	126	7E	~
41	29		)	84	54	T	127	7F	DEL
42	2 A		*	85	55	U			

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