

# ChipCHECK

ONLY BY GASTOPS

CC120 Software Interface



## CHIPS ANALYZER (B166500)

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## 5.0 Software Interface

This section describes in detail the ChipCHECK software interface and how to navigate through it. The interface is comprised of a series of 'screens' allowing the User to accomplish various actions. The following are the 'screens' available to the User:

- Welcome (Pass Code Entry)
- Options
- Standardization
- Calibration
- Analysis
- Reports
- Data Exports

The following subsections go into further detail regarding each of the respective 'screens' listed above. It is important to note that at any given point certain buttons will be available for selection by the User and others will be greyed out (until a certain action is achieved). This is done to guide the User through the appropriate sequence of steps and limit the required training. Each screen is designed to have a standard general layout. Figure 5-1 below defines the general layout of each interface screen.

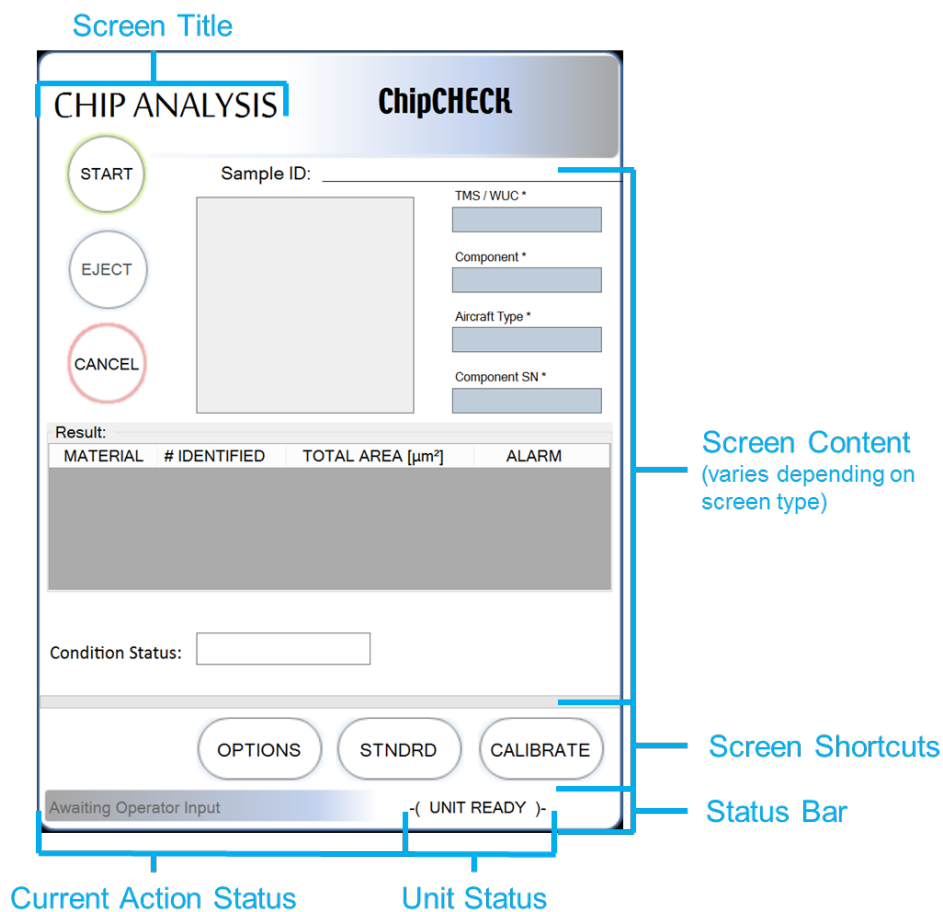


Figure 5-1: Generic Screen Layout

## 5.1 Welcome Screen

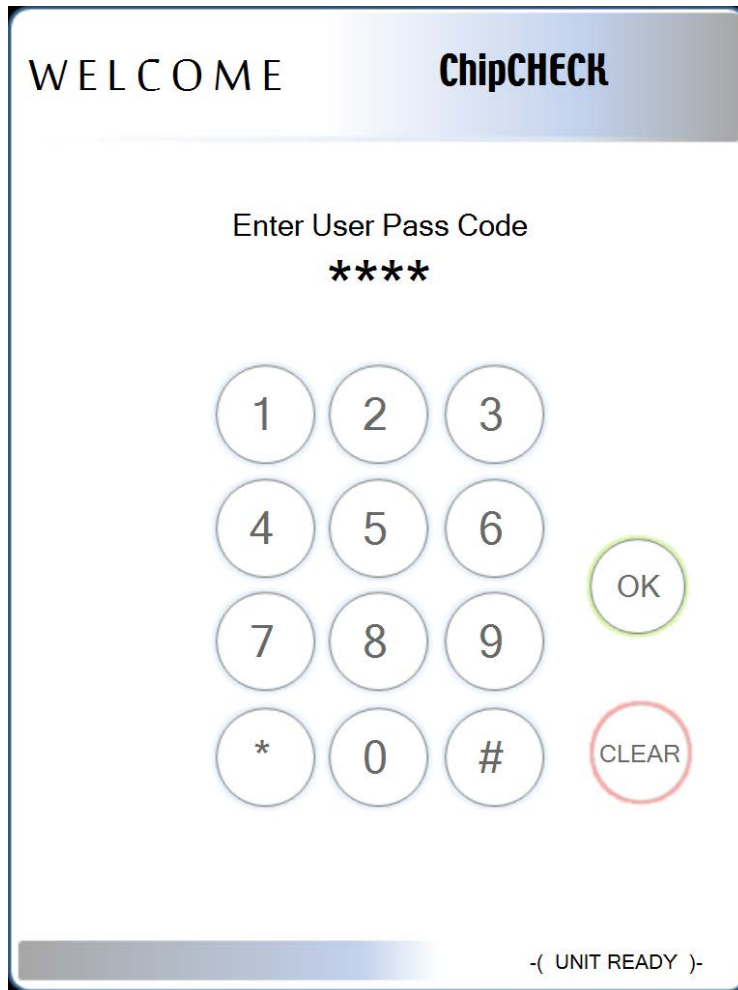


Figure 5-2: Welcome Screen

Once the software is initialized, or after an extended period of no use, the software interface displays the 'Welcome Screen' as shown in Figure 5-2 above. There are multiple types of equipment Users (Operator, Maintenance, Expert). Each are granted different levels of access to a variety of screens and action types. This access is dependent on the pass code entered in the Welcome Screen.

**NOTE:** As seen in Figure 5-2 above, the status bar indicates that the unit is powered and ready, and the User must enter their pass code to proceed.

**Procedure:**

- Enter Passcode** Using the keypad on the screen (or an external keyboard plugged into one of the USB connections on the side of the unit), enter the designated pass code (note that the “OK” button on the right side of the screen will only appear once four digits are entered). Your passcode is confidential and will only show up as a series of asterisks on the screen. The passcodes are provided during training.
- Select “Clear”** If an error is made while entering the pass code, select the “Clear” button to clear all values entered.
- Select “OK”** Once the correct pass code is entered, select the “OK” button to proceed.

## 5.2 Options Screen

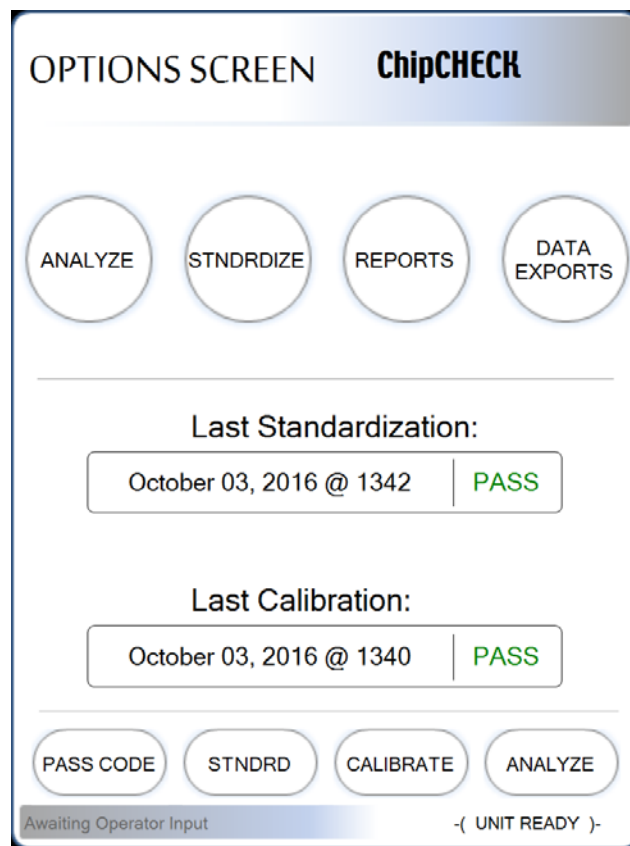


Figure 5-3: Options Screen

The “Options” screen is the main hub for all possible actions allowed to the User. The User can now do one of the following actions:

- Analyze Run an analysis on a prepared sample (see Section 4.0)
- Standardize Ensure that the system is still in calibration and performing properly
- Reports View existing reports on previously run samples
- Data Exports Export the data collected between any two dates to .csv format

The User simply selects the button that corresponds to their desired action. This can be done either in the main screen content or through the screen shortcuts at the bottom of the screen.

This “Options Screen” also provides the User with data regarding the last time the Standardization and Calibration were run – along with their respective results. Note that it is recommended that “Standardization” be completed at a minimum of every 48 hours and after each time the unit is moved.

In the event that the ‘Analyze’ button is selected and:

- It has been at least 48 hours since the last analysis was completed.
- It is the first analysis being completed since the unit was powered up.

The User will be reminded that Standardization should be run. This reminder screen is shown in Figure 5-4. If the User selects “Skip”, then the software interface will continue to the “Chip Analysis” screen (See Section 5.5). If the User selects “Standardize”, then the software interface will continue to the “Standardization” screen (See Section 5.3).

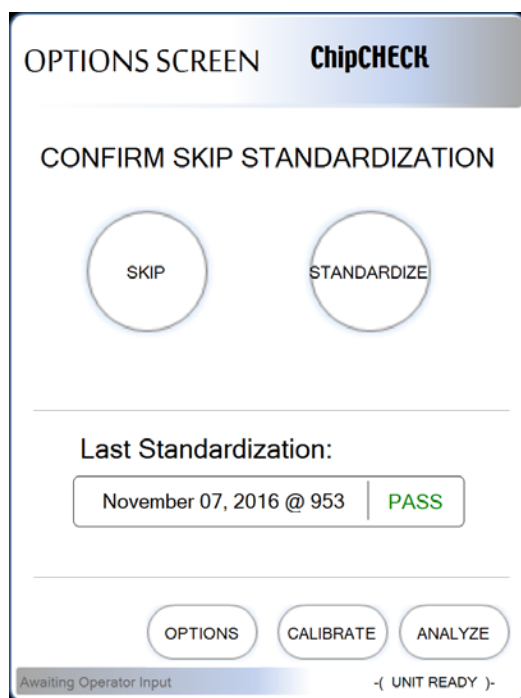


Figure 5-4: Confirm Skip Standardization Screen

## 5.3 Standardization Screen

The screenshot shows the 'STANDARDIZATION ChipCHECK' screen. At the top, there are three circular buttons: 'START' (green border), 'SKIP' (blue border), and 'CANCEL' (red border). Below these is a text input field labeled 'Insert Sample Patch:'. The screen then displays three sections, each with a title and a corresponding text input field: 'Result of Standardization', 'Reason for Failure:', and 'Recommendation:'. At the bottom of the screen, it shows 'Last Standardization: October 03, 2016 @ 1342 PASS' in green text. Below this are three rounded rectangular buttons: 'OPTIONS', 'CALIBRATE', and 'ANALYZE'. At the very bottom, there is a status bar with 'Awaiting Operator Input' on the left and '-( UNIT READY )-' on the right.

Figure 5-5: Standardization Screen

A Standardization of the unit is recommended to be completed once each day prior to the use of the instrument. When the Standardization procedure is run, the system runs a test standard whose results are compared against expected criteria to confirm that the system is performing properly. As a result, this test standard is unique and should be monitored and kept in a safe place.

The "Standardization" screen shows when the last Standardization was completed and what the result was. The unit should not be used if the "Last Result" of the Standardization is "FAIL". If the "Last Result" of Standardization is "FAIL" then run the Calibration Sequence (refer to Section 5.4).

## 5.4 Calibration Screen

**CALIBRATION** **ChipCHECK**

START CANCEL

Insert Sample Patch: \_\_\_\_\_

Image Calibration ( $\mu\text{m}$  : pixel):

Camera to Table Calibration:

---

Insert Sample Patch \_\_\_\_\_

Camera to Laser Calibration:

OPTIONS STNDRD ANALYZE

Awaiting Operator Input                      -( UNIT READY )-

Figure 5-6: Calibration Screen

In order for the unit to perform properly and provide the required results it must be in Calibration. The 'Calibration' of the unit is the optical alignment of all components interior to the unit that, when used together, provide the results and analysis capabilities to the operator. The Calibration sequence is an automated sequence and should only be run when the "Standardization" sequence results in three (3) subsequent failures. As with the Standardization, the Calibration sequence is completed using a specific standard that must be monitored and kept in a safe place.

## 5.5 Analysis Screen

**CHIP ANALYSIS** **ChipCHECK**

START  
EJECT  
CANCEL

Sample ID: \_\_\_\_\_

TMS / WUC \*  
\_\_\_\_\_  
Component \*  
\_\_\_\_\_  
Aircraft Type \*  
\_\_\_\_\_  
Component SN \*  
\_\_\_\_\_

Result:

MATERIAL	# IDENTIFIED	TOTAL AREA [µm <sup>2</sup> ]	ALARM

Condition Status: \_\_\_\_\_

OPTIONS    STNDRD    CALIBRATE

Awaiting Operator Input                      -( UNIT READY )-

Figure 5-7: Analysis Screen

Once the unit is both Calibrated and Standardized, analyses can be run on prepared samples. Refer to Sections 4.1.1 and 4.1.2 for instructions on how to prepare and insert the sample into the unit.

Refer to Section 4.5 for the procedure on how to run an analysis.

## 5.6 Reports Screen (Results Viewer)

The results from every analysis run on the unit are saved to the database and can be viewed at a later date or exported to PDF.

Refer to Section 4.6 for the procedure to access all analysis reports.



## 5.7 Data Exports Screen

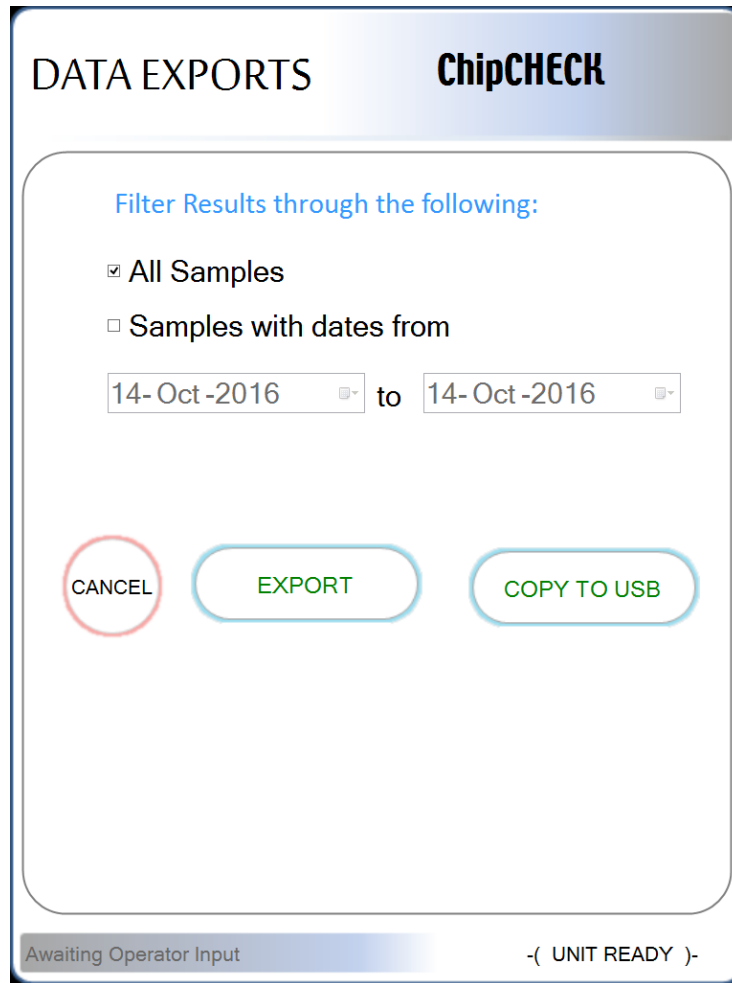


Figure 5-8: Data Exports Screen

The results from each analysis are stored in the unit's internal database. Through the 'Data Exports' screen the User is able to export results collected from some, or all, previously run analyses. This export capability renders the results to be extracted from the database and stored in a single .csv file. The User has the option to export either all samples collected and stored in the database or samples that were collected between specific dates.

**NOTE:** That exported results are purged from the database.

### Data Export Procedure:

<b>Select the samples to be exported:</b> "All Samples"	If it is desired to export all samples in the database, select the checkbox adjacent to "All Samples".
<b>Select the samples to be exported:</b> "Samples with dates from"	If it is desired to export samples in the database between two specific dates, select the checkbox adjacent to "Sample with dates from", and then select the range of dates from the two date fields provided. Select the small calendar icon next to the date fields in order to bring up a calendar that will aide in the selection of the desired date.
<b>Select "Export"</b>	Clicking "Export" will save the .csv file to the ChipCHECK hard drive.
<b>Select "Copy to USB"</b>	Clicking "Copy to USB" will allow exported .csv files to be moved from the ChipCHECK hard drive to an external USB flash drive (the file is not accessible to the user otherwise). Note that the external flash drive must be installed in the USB port on the left side of the ChipCHECK unit prior to selecting this function. Refer to Section 5.8 for instructions on using the "Copy to USB" functionality.

## 5.8 Copy to USB Screen

Reports and data that are exported to .csv files are saved to the ChipCHECK's hard drive. The Copy To USB screen allows a User to copy these files to an external USB flash drive. This screen also allows a user to delete reports or .csv files from the ChipCHECK hard drive. This screen is accessed when required from either the "Data Exports" screen (for .csv data export files), or from the "Chip Analysis" or "Report" screen (for .pdf report files).

The file naming convention for data export files is "EXP\_yymmdd\_hhmmss.csv". The "yymmdd" portion of the name identifies the date that the file was created in a year/month/date format (each 2 digits). The "hhmmss" portion identifies the time that the file was created in an hour/minute/second format (each 2 digits).

The file naming convention for report files is "RPT\_yysnsnsncccc.pdf". The "YY" portion of the name identifies the year the file was created (2 digits). The "snsnsn" portion of the name identifies the serial number of the ChipCHECK unit (six digits). The "cccc" portion of the name is a counter that increments for each report generated on the unit, starting at 1 (this number restarts at the start of a new year).

**Copy To USB Procedure:**

- |                                   |   |
|-----------------------------------|---|
| <b>Insert a USB flash drive</b>   | Insert a USB flash drive into the ChipCHECK USB port (see Figure 5-9).  |
| <b>Select "Copy To USB"</b>       | From the "Data Exports" screen (for .csv data export files), or from the "Report" screen (for .pdf report files), press the "Copy To USB" button.                                       |
| <b>Select the files to copy</b>   | In the "Copy To USB" screen, there are two boxes, labelled "FROM" (on the left) and "TO" (on the right) (see Figure 5-10). In the "FROM" box, select the file(s) that are to be copied. |
| <b>Press the copy button</b>      | Press the copy button (the blue arrow between the "FROM" and "TO" boxes). The files will appear in the "TO" box.  |
| <b>Remove the USB flash drive</b> | Remove the USB flash drive from the ChipCHECK USB port.   |
| <b>Select "CLOSE"</b>             | Press the "CLOSE" button to return to the previous screen.  |



Figure 5-9: ChipCHECK USB Port Location

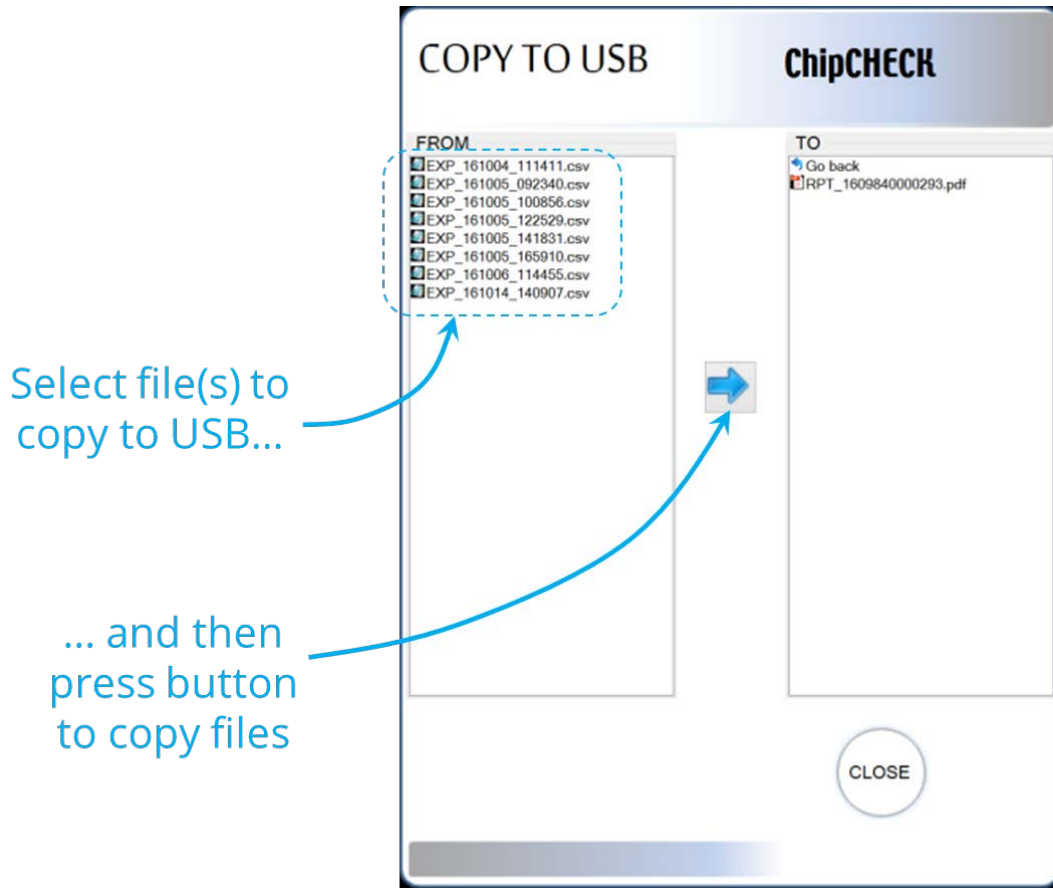


Figure 5-10: Copy to USB Screen

**File Delete Procedure:**

- |  |   |
|--|---|
| <b>Insert a USB flash drive (optional)</b> | Insert a USB flash drive into the ChipCHECK USB port (see Figure 5-9). Note that this step is optional. Inserting a USB flash drive will allow a User to delete files from the USB flash drive. |
| <b>Select "Copy To USB"</b>                | From the "Data Exports" screen (for .csv data export files), or from the "Report" screen (for .pdf report files), press the "Copy To USB" button.   |
| <b>Select the files to delete.</b>         | In the "Copy To USB" screen, there are two boxes, labelled "FROM" (on the left) and "TO" (on the right) (see Figure 5-10). Select the file(s) that are to be deleted from the "FROM" box.       |
| <b>Press the delete button</b>             | Press the delete button (the red "x" between the "FROM" and "TO" boxes). After pressing the button, the selected files will be deleted (see Figure 5-11).                                       |
| <b>Remove the USB flash drive</b>          | If a USB flash drive was inserted, then remove it from the ChipCHECK USB port.  |
| <b>Select "CLOSE"</b>                      | Press the "CLOSE" button to return to the previous screen.  |

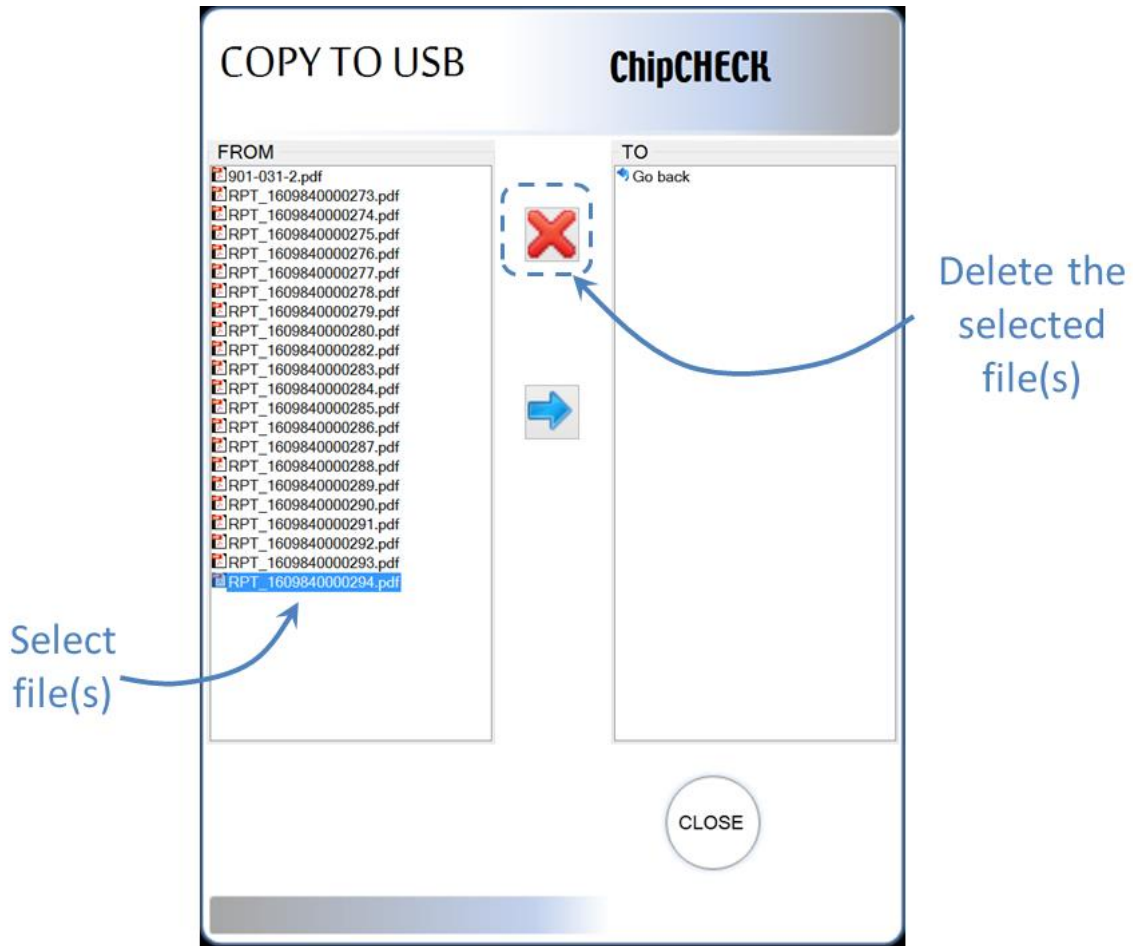


Figure 5-11: Copy to USB Screen: Delete Files