

## TECHNICAL NOTE

**Maple Model(s)****Title**

TN5102

Graphic HMIs

EZware Application Conversion

P/N: 0907-5102

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### Summary

This document provides the guidelines for converting an application from EZware-500 and EZware-5000 to EZwarePlus. This document provides details about the upgrade process and materials needed.

### Solution

Maple Systems offers several innovative HMIs that provide an upgrade path for existing applications. For simple applications, the transition process is fairly smooth. For more complicated applications, the process may require additional efforts and considerations. For optimum success, use the most current version of programming software.

#### COMMUNICATIONS CABLE:

If RS-232 serial communications is used on the application and the upgrade is from an HMI500 model to new HMI, the pin out of the COM port has changed. **Pins 2 and 3 have been swapped and the gender has been changed.** Purchasing a new serial cable for the application is recommended. However, a null modem adapter and gender changer can be used on the existing 500 Series cable instead.

If RS-485 serial communication is used, insert a gender changer on the HMI end of the existing 500 Series cable (null modem not required).

**NOTE:** Due to programming restrictions, applications must be converted from EZware-500 to EZware-5000 before converting the project to EZwarePlus. For optimum success, use the most current version of programming software.

When choosing a new model, keep the following in mind:

- Choose a new model with the same screen dimensions as the old unit.
- The current 4.3" HMIs will fit in the same cutout as the old 4.3" HMIs.
- The current 7" HMIs will fit in the same cutout as the old 5.6" and 7" HMIs. The 7" HMIs combined with a cutout adapter (contact Maple Systems for the appropriate part number) are recommended to replace the old 8" HMIs, or a new 10" can be used by enlarging the cutout.
- The current 10" HMIs are smaller than the old 10" HMIs; it is recommended to use a new 10" HMI and contact Maple Systems about the cutout adapter, or use a current 12" HMI and enlarge the panel cutout.

1. **Download EZware – 500**

1.1. From [www.MapleSystems.com/support.htm](http://www.MapleSystems.com/support.htm) (bottom row, last item)

1.2 After installing the EZware software, connect the configuration 7431-0098A cable.

1.3 Power the HMI (24VDC, 2A)

**To upload from the HMI:**

- In Windows, select Start > Programs > Maple Systems > EZware-500 > EasyManager.
- Select the com port that the configuration cable is connected to and select **Project Download/Upload**
- Click the **Upload** button. This will transfer the HMI executable file to your PC.
- Save the file as an .EOB format under a name and location you choosing.

2. **EZware-5000 will convert the HMI500 project into an HMI5000 project.**

The Translation utility provides a direct step-by-step application conversion from EZware-500 to EZware-5000. This allows you to upgrade without creating a new project from scratch. The Translation utility converts most of the major features of your EZware-500 project into an EZware-5000 project. The conversion process includes:

- Screens, displays, lamps, switches, and counters, etc.
- Text and objects with text
- Buttons
- Animations
- Meter displays
- Bar graphs
- Trend graphs
- Recipes
- Alarms
- Event capture and display
- Simulations
- Multi-language features

## **Conversion Procedure**

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**IMPORTANT:** *Please read this entire document before proceeding with the actual process.*

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**NOTE:** If the application to be converted is an EZware-5000 application, continue to Step 5 on Page 7.

3. **Converting the Project with the Translation Utility:**

Converting projects for an HMI5000 model requires the EZware-5000 configuration software. Do not attempt this process without Version 4.10 or newer of EZware-5000. EZware-5000 is very

similar in operation to the EZware-500 configuration software that is used for the HMI500 models but the EZware-5000 software includes the ability to translate and import projects created in EZware-500.

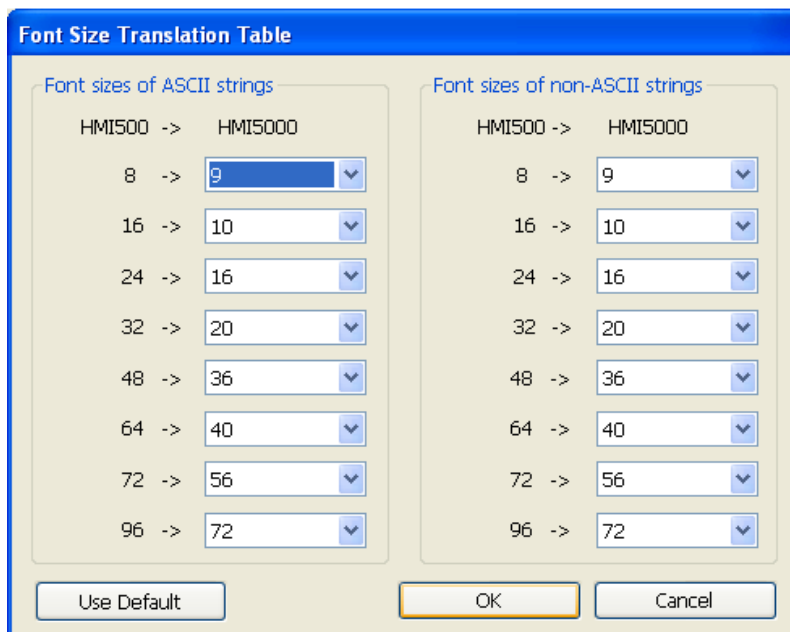
### 3.1. Import Your EZware-500 Project:

To import your EZware-500 project, open EasyBuilder5000, click the *Tools* menu bar and click *Translate HMI500 Project...*

- a. On the HMI500 EOB file, click the *Browse...* button. Select the EZware-500 project file to be converted and click *Open*.
- b. On the HMI5000 project, click the *Browse...* button. Select a file location to store the converted EZware-5000 project file. Enter a file name and click *Open*.
- c. Leave the *Use HMI500 ASCII font files* and the *Use the most suitable font size automatically* boxes checked.

**NOTE:** The EZware-500 configuration software uses proprietary fonts that must be replaced with a Windows TrueType font. EZware-5000 installs three TrueType fonts into the Windows > Fonts folder that closely resemble the fonts used in EZware-500 (HMI 500 16p, HMI 500 24p, HMI 500 8p). Select *Use HMI500 ASCII font files* to use these fonts. If you choose to use another Windows TrueType font (by un-checking *Use HMI500 ASCII font files*), additional alteration may be required after you have converted your project. We recommend using Calibri, if available. Otherwise, another san serif font like Helvetica is recommended.

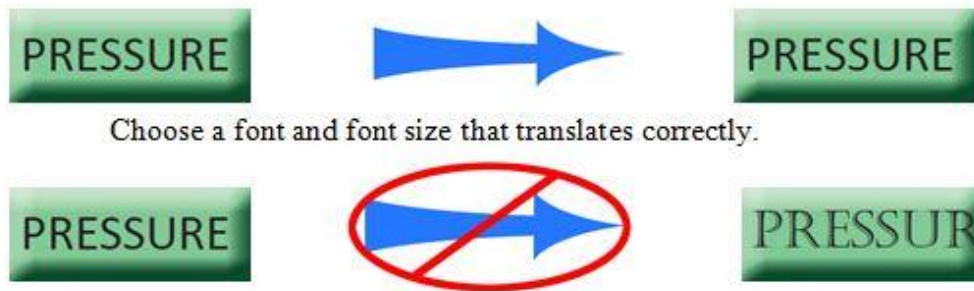
**NOTE:** You can allow EasyBuilder-5000 to automatically adjust the font size by selecting *Use the most suitable font size automatically*. If you uncheck this box, you can click on the *Font Size Table* button, which allows you to customize the transition size of the fonts from EasyBuilder-500 to EasyBuilder-5000 projects. This gives you maximum flexibility in deciding which font and which sizes you would like to use. For the Calibri font, we recommend those items as shown in the table below.



The image shows a dialog box titled "Font Size Translation Table". It contains two columns of settings for font size translation. The left column is for "Font sizes of ASCII strings" and the right column is for "Font sizes of non-ASCII strings". Each column has a header "HMI500 -> HMI5000" and a list of font sizes with corresponding dropdown menus. The font sizes listed are 8, 16, 24, 32, 48, 64, 72, and 96. The dropdown menus are currently set to 9, 10, 16, 20, 36, 40, 56, and 72 respectively. At the bottom of the dialog, there are three buttons: "Use Default", "OK", and "Cancel".

Font sizes of ASCII strings		Font sizes of non-ASCII strings	
HMI500	HMI5000	HMI500	HMI5000
8	9	8	9
16	10	16	10
24	16	24	16
32	20	32	20
48	36	48	36
64	40	64	40
72	56	72	56
96	72	96	72

**IMPORTANT:** We have chosen the Calibri font in this example because it will help the transition to go smoothly. If you choose an incorrect font size or a font that has wide characters, it may cause problems with objects as shown below.



- d. Check the Delete “Direct Window” objects which are triggered with LB9060~9069, 9080, 9081 box. Check *Delete “Direct Window” objects* if you use any Direct Windows objects in your current application to display popup keypads. The EZware-5000 configuration software has a more efficient method of displaying keypads.
- e. Click the *Translate* button. The EZware-5000 software will proceed to convert your EZware-500 project into an EZware-5000 project. Depending upon the size and complexity of your project, this may take a few seconds. When *Succeeded* is displayed, click the *Exit* button.
- f. Click *File... Open*. Choose the EZware-5000 project that you just created, and then click *Open*.

If the screen resolution of the new model is different than the original application, the settings in the new model must be changed to fit the screen properly.

#### 4. **Resizing:**

- 4.1. One more step is required to convert your project file into one that can be downloaded into your HMI. Because many models have a slightly different display size, you must select a different model in the Systems Parameters box:
  - a. Click the *Edit* menu, and then click *System Parameters*.
  - b. Click on the *Model* tab. Change the HMI model.  
**From:** XXX  
**To:** Model corresponding to HMI (or model with corresponding screen resolution in EZwarePlus).  
Then click *OK*.
  - c. A popup window will appear:



- d. There are four options for resizing the project. Select *Resize pop-up windows* and *Resize objects* under *General windows*. If you want the keypads to be resized appropriately for the new screen size, select *Resize keyboard windows* and *Resize function key objects* under *Keyboard windows*.
- e. Click *OK*. Now you can proceed to save, compile, and download the project into your unit. The converted project is ready to be installed into your new HMI. But before you do, it is best to review each screen and make any minor adjustments that you may feel necessary. Some features (like password security) are fundamentally different in the new software, so please check your project thoroughly before downloading to your HMI.  
**NOTE:** If you need to convert to EZwarePlus, continue to Step 5 on Page 7.

## Conversion Utility Checklist

Most features convert without problems. However, there are a few features that have been improved that may require additional attention. Here is a checklist of these features.

- Window Names:** The window names in the Window No. Tree are not converted. In EZware-5000, the window names revert to the window numbers (i.e., Window\_10, Window\_11, etc.).
- Numeric Input objects:** Numeric Input objects in EZware-500 use pre-made keypad objects, typically on Windows 50-54. Windows 50 and 51 have keypads with a view area which shows the current number being input into the keypad. In EZware-500, this register is tagged to LW9073. EZware-5000 uses a new location for the view area: LW9150. Therefore, as part of your conversion, you must edit Windows 50 and 51 and change the AD0 (ASCII Display Object 0) Read Address from LW9073 to LW9150.
- Number keypad with Maximum and Minimum Limits:** These keypads also have two Numeric Display objects that show the Minimum and Maximum limits as set in the Numeric Input Register. These convert erroneously to 32-bit signed. Change the data format to 32-bit float for both of these registers.
- Security Password feature:** In EZware-500, this feature was screen-based and supported only three level security passwords. In EZware-5000, the security feature is greatly enhanced with six levels and twelve unique user passwords. Due to suggestions we have received from customers, we have changed the security feature from screen-based to object-based, making it more versatile. Therefore, the security feature in EZware-500 is not converted into EZware-5000. If you use the security feature, you must manually add this feature into the converted project.

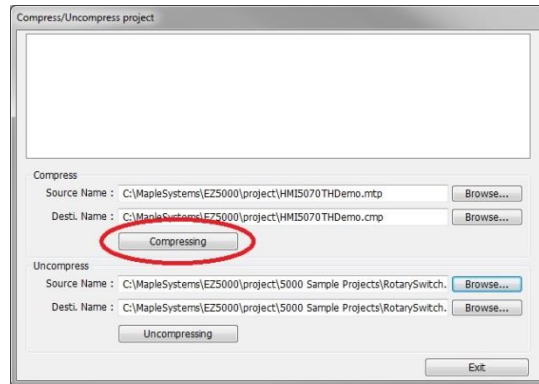
**NOTE:** Go to the Support Center on our website and view the educational video entitled, “Security Features of the Maple Systems HMI5000 Series.” You can also download a Security sample project from the “Sample Projects” link.

- ❑ **Message Board:** The Message Board Window Type is not implemented in EZware-5000.
- ❑ **Alarms:** The Alarm Scan and Event Log are combined into the Alarm (Event) Log object in EZware-5000.
- ❑ **Trend Display:** The scroll controls are now built into the Trend Display, so separate Set Word objects to scroll the display are no longer required. The scroll controls can be turned on and off in the Trend Display properties. If the Hold control was used, it must be enabled in the Trend Display properties. Scale graphics next to the Trend Display may need to be realigned.
- ❑ **Event Display:** The scroll controls are now built into the Event Display, so separate Set Word objects to scroll the display are no longer required. Display items will need to be reconfigured in the Event Display properties.
- ❑ **Recipe Transfer object:** This feature has been combined into a new feature in EZware-5000 called the Data Transfer (Trigger-based) object. The feature should work properly after conversion.
- ❑ **Tag Library:** Although tags are supported in EZware-5000, any tag library that was created in EZware-500 is not converted over into the new software. This is because the tag library is stripped from the project file when compiled in EZware-500 to minimize the project file size. You can export the Tag file in your EZware-500 project to a CSV file. But before you import it into the EZware-5000 software, you must edit the CSV file and add a new column (Column B) which lists the communications driver that you assigned to each tag. **Please see our Technical Note 5035 entitled “Converting HMI500 Series Tags to the HMI5000 Series.”**
- ❑ **Label Library:** Labels are imported into the EZware-5000 software as long as an object that references the label exists. Otherwise, you can export the Label Library in EZware-500 into a CSV file, modify the CSV file to fit the new format used in EZware-5000, and then import the CSV into your converted file.
- ❑ **System Tags:** Some system tags in reserved local memory have been changed in EZware-5000 and may not map correctly after conversion.
- ❑ **PLC Communications Drivers:** The EZware-5000 software supports many more communication protocols than EZware-500. If you find that you require a PLC communications driver that is not supported in EZware-5000, please contact Maple Systems.
- ❑ **Macros:** We have not identified any conversion issues with Macros. However, you should verify that your Macros are operating correctly after converting.
- ❑ **Popup Windows:** In EZware-500, a popup window could have a Function Key configured to “Change window” back to the window that called the popup window, closing the popup window at the same time. In EZware-5000, a Function Key on a popup must be configured to go to a different full screen window (or to “Close” the window) or the popup window won’t close.

For Function Keys configured to open popup windows, open the Properties and make sure that “Close this popup window when parent window is closed” is checked. Uncheck it only if you prefer the popup window to stay on the screen.

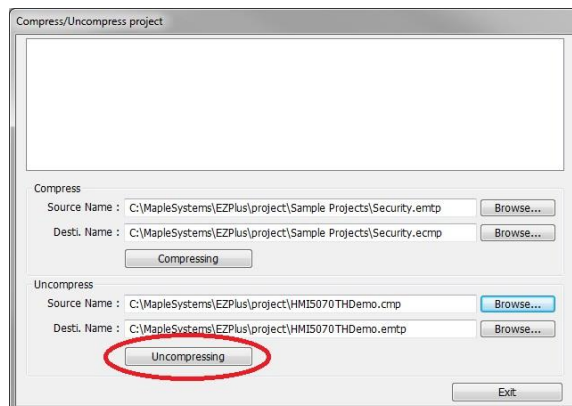
5. **If converting from EZware-5000 to EZwarePlus:**

- 5.1. Compress the file created in EZware-5000. Open the project in EasyBuilder-5000 and run the Compress utility (Tools > Compress/Uncompress).



This creates a new file with the same name as the project but with a \*.cmp extension. The compress utility bundles the project file (\*.mtp) with the library files that are linked to the project.

- 5.2. Uncompress the Project in EZwarePlus. Copy the compressed file (\*.cmp) into the EZwarePlus project folder (C:\MapleSystems\EZPlus\Project). Open EZwarePlus and run the Uncompress utility (Tools > Compress/Uncompress).



This extracts the \*.mtp file and the library files and places them in the Project folder and Library folder, respectively.

**NOTE:** Beginning with EZwarePlus v2.00, the project file extension was changed to \*.emtp. It will still open \*.mtp files, but saves them as \*.emtp files.

**For Allen-Bradley Users:** If the project has UDTs associated with it, the Data Type files are also compressed and uncompressed along with the project file and library files. Backup the Data Type files if you have already created UDTs with the Structure Editor in EZwarePlus. If the EasyBuilder-5000 project was created in v4.42 or v4.50, see Technical Note 5088, “Using the New Structure Editor” for instructions on exporting the Data Types from the old AB Data Type Editor and importing them into the new Structure Editor.