

EzConfig II™ Pilot's Guide and EzFuel™ Pilot's Guide

EzConfig II™ Pilot's Guide

OVERVIEW

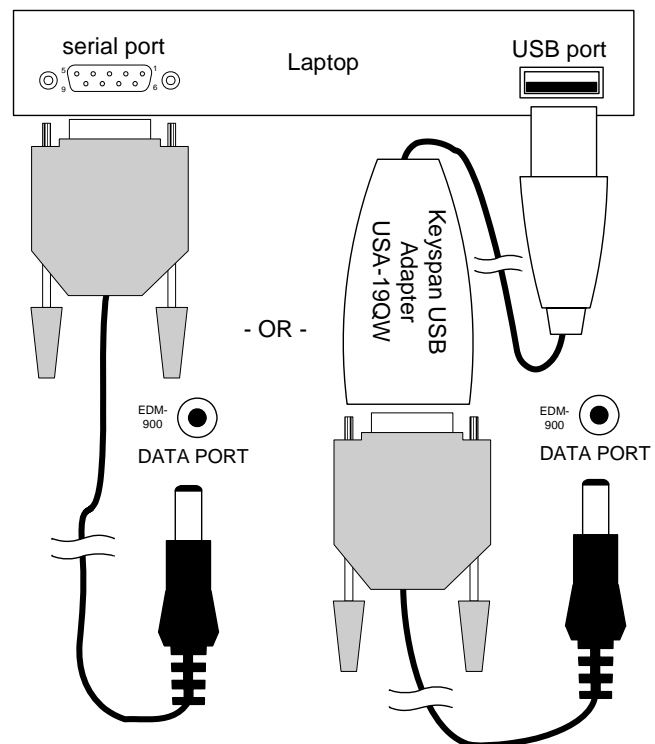
This program assists you in configuring the EDM-900, EDM-930 and EDM-930T. In this guide they will all be called EDM. The EDM has numerous parameters that control the operation of the unit. All the user parameters can be modified either by (1) using the four-button interface on the front panel of the EDM or (2) by using EzConfig II—described here—that provides a windows based utility that facilitates modifying these various parameters in a user-friendly way.

EDMs approved as primary instruments have preset alarm limits and do not allow changing of these alarm limits and cautionary ranges for the following measurements: oil temperature, oil pressure, fuel pressure, fuel quantity, cylinder head temperature, turbine inlet temperature, manifold pressure, and RPM. Other non-primary parameters may be changed by the user.

INSTALLATION

On your PC, create a new folder and copy the EzConfig II install files to that folder on your hard drive, or you may execute EzCfgrl_Setup.exe directly from the supplied discs. Install EzConfig II™ onto your PC by running EzCfgrl_Setup.exe from that folder. Follow the directions in the install program.

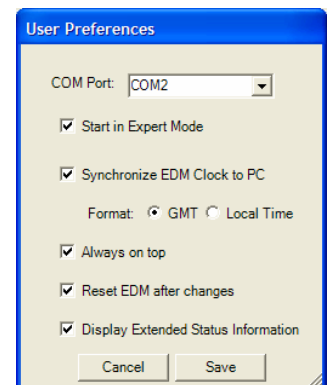
Connect to the computer serial port using the supplied serial cable or to the USB port using an optional Keyspan USB Serial Adapter (available from JPI). You must install the serial adapter driver that is supplied with the Keyspan serial adapter. Insert the small round plug into the data connector on the EDM and the other end into either (1) the computer serial port or (2) to the USB port using the Keyspan adapter. Both types of connections are shown in the illustration.



COMMUNICATIONS PORT SELECTION

EzConfig II can use any available serial port. EzCfgrl will search for the EDM on all COM ports until it finds it. If you want to use a different communications port, you must specify which port to use:

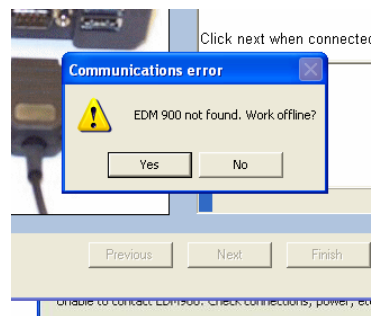
1. From any EzConfig II window, click the Edit menu item, then click on Preferences.



2. On the User Preferences window, select the COM Port pull down window and select the desired COM port.
3. Click on the **Save** button.

STARTUP

When EzConfig II starts, it attempts to communicate with the EDM. If it cannot do so, it will display the following message:



If the EDM is not connected to the COM you can choose to work offline and download the configuration to your EDM at a later time. Select the configuration file that you want to modify.

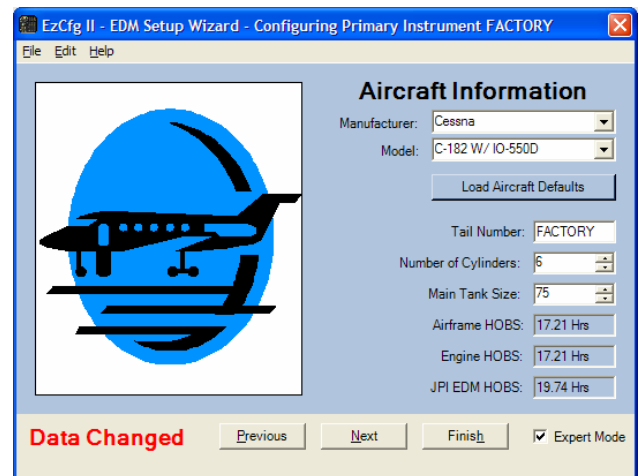
If you make a change to any permitted parameter, you will see the red **Data Changed** message on the bottom left of the window. This tells you the configuration in your PC is now different than in the EDM and the data must be downloaded to the EDM before the changes can take effect.

Aircraft Information window

If communications are successfully established, EzConfig II receives all parameter information from the EDM and displays the Aircraft Information window.

If the EDM is a primary instrument configured for a particular aircraft, the information about that aircraft—make and model—will be displayed on a pop-up window. Close the window and you will be able to make configuration changes on any non-primary measurements.

If the EDM is a primary instrument that has not yet been configured for a particular aircraft, you will be able to select the make and model of the aircraft into which the EDM will be installed. **You may only do this once. Be careful to select the correct aircraft.**



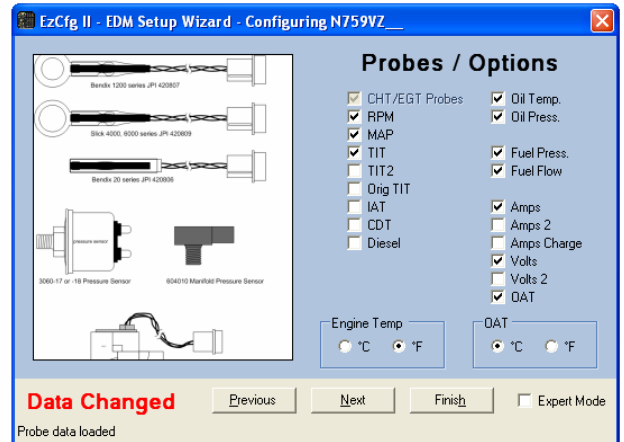
On the Aircraft Information window you may configure the EDM for the number of cylinders—4 or 6—and the total main fuel tank capacity.

Click **Next** to continue, or click **Finish** to go to the Ready to Save Changes window.

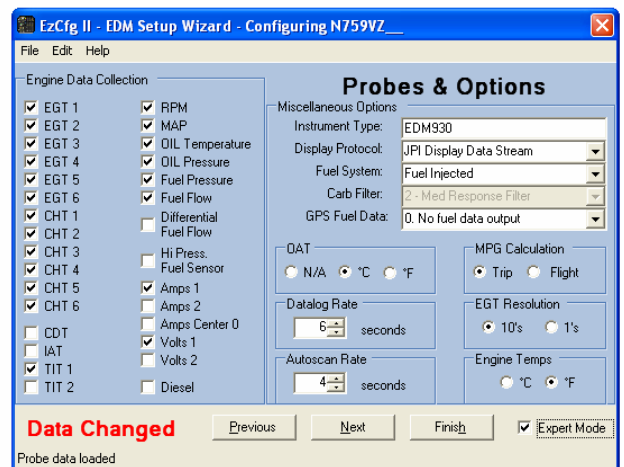
Probe/Option Window

The Probe/Option window shows you which probes and options are installed on your EDM. If you disconnect a probe or option sensor you can use this window to tell the EDM to remove that measurement from the display to avoid an error display message.

Here you also may select the temperature units for engine measurements—°F or °C—and the units for outside air temperature (OAT) measurements.



If you check the Expert Mode box on the lower, right side of the window, you can select more configuration parameters. Refer to the EDM Pilot's Guide for a description of each of these parameters.



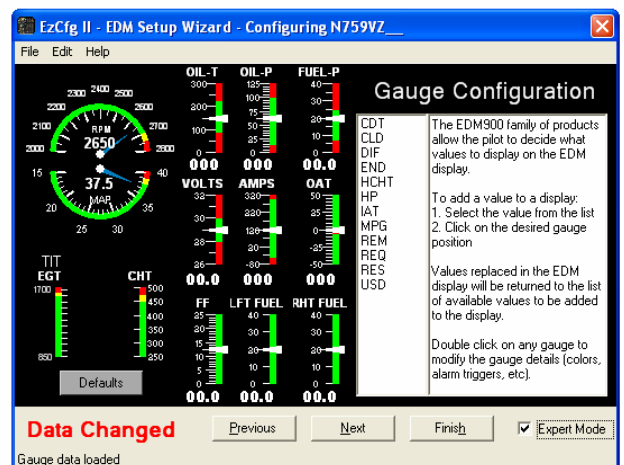
Gauge Configuration Window

The gauge configuration window lets you select the position of each of the measurements displayed in the gauge portion of the EDM screen. It also lets you select the minimum and maximum scale, the alarm limits, and the color band positions for normal, warning and alarm ranges.

To add or change a measurement to be displayed:

1. Select the measurement from the list on the right.
2. Click on the desired gauge position.

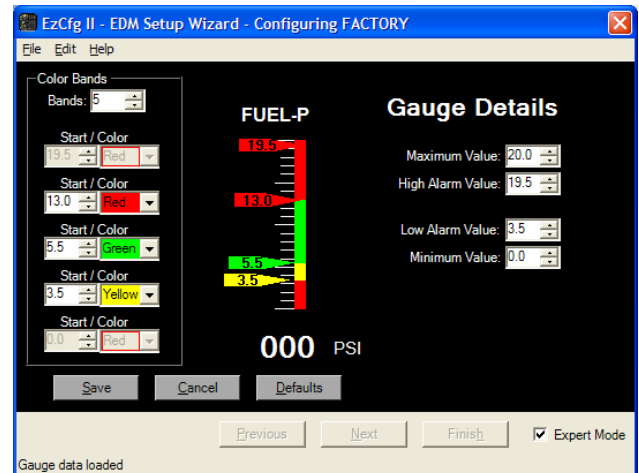
Measurements that are no longer on the EDM gauge section will be returned to the list of available measurements to be added to the display.



Double click on any gauge—including RPM and MAP—to modify the gauge details (colors, alarm limits, minimum and maximum values).

Fuel pressure will be used as an example how to configure each gauge.

Note: In the case of primary measurements, you cannot change any gauge details. EzConfig II in some cases will limit the values you can select in each gauge details field, depending on the type of measurement. EzConfig II will only allow settings that result in integer scale values that are multiples of 5, 10, 25, 50 or 100 so that there is not a scale value such as 21.333 on the final gauge.



Color Bands Section

You can select the number of different color bands for each gauge with the top pull-down **Bands** field in the Color Bands section of the window. Normally there will be two to five color bands available, but in some cases—depending on the measurement—there will be fewer than five available. After you select the number of color bands, a **Start/Color** field will appear for each color band.

For measurements where there is a high alarm value, you cannot select the color or start position of the uppermost color band because that position is defined by the high alarm value instead and will be red. Similarly, for measurements where there is a low alarm value, you cannot select the color or start position of the lowest color band because that position is defined by the minimum value instead and will be red.

You can choose the position of a band by clicking on the flag on the left side of the example gauge and sliding it up or down. This will change the appropriate field in the Color Bands section or the Gauge Details section of the window.

Gauge Details Section

The Gauge Details section lets you enter the minimum and maximum values on the gauge and the high alarm value and low alarm value, if applicable. For some gauges, the minimum will always be zero (such as oil pressure). Some gauges may have only a high alarm, or only a low alarm, or no alarm value. EzConfig II will only allow settings that result in integral scale values that are multiples of 5, 10, 25, 50 or 100 so that there is not a scale value such as 21.333 on the final gauge.

Saving the Data

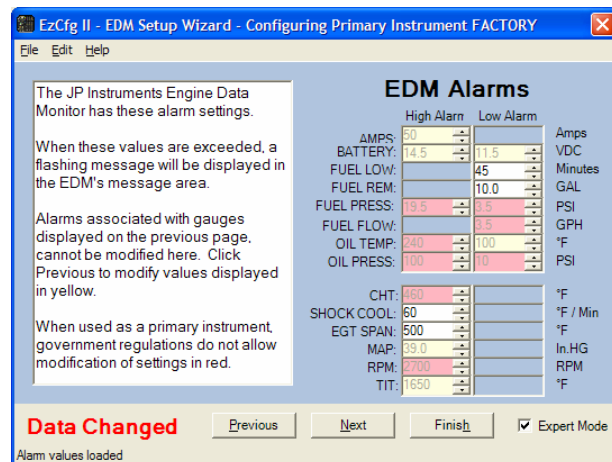
When you have completed the new configuration for the gauge, click on **Save** to save the configuration in the PC. **This will not save to the EDM at this time.** If you want to discard your changes for the gauge, click on **Cancel**. In either case you will return to the Gauge Configuration window. When you have changed all the gauges for your aircraft, click on **Next** to move to the following window.

EDM Alarms Window

The EDM Alarms window lets you change some alarm limits. When these values are exceeded, a flashing message will be displayed in the EDM's message area. Alarms associated with gauges displayed on the previous Gauge Configuration Window, cannot be modified here. Click **Previous** to modify values displayed in yellow. When used as a primary instrument, government regulations do not allow modification of settings in red.

You may change any parameter shown in black.

When you have changed all the alarms for your aircraft, click on **Next** to move to the following window.



EDM Calibration Window

The EDM Calibration window lets you change various calibration parameters.

OAT Adjustment

Adjust the indicated temperature up or down by up to 10°. For example, +3 adjusts the OAT reading 3° higher.

TIT Adjustment

Adjust the TIT display. If you have the original TIT gauge wired in parallel with the EDM, check the **Original TIT** check box. For example, if the EDM reads 100° less than the aircraft's TIT gauge, set the TIT Adjustment field to read +100.

HOBS on RPM

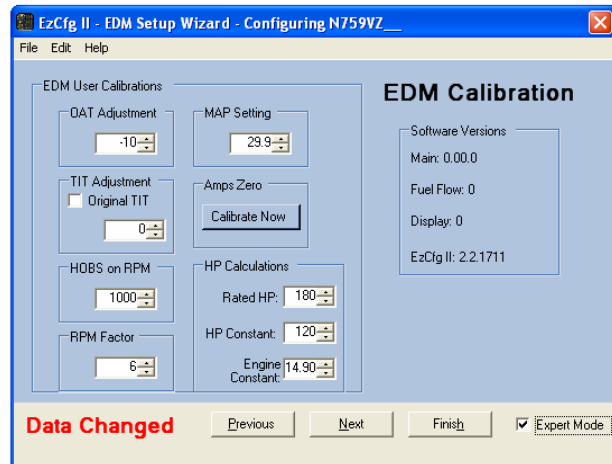
This adjustment sets the value of the minimum RPM to enable to Hobs the counter in the EDM.

MAP Setting

Sets the manifold pressure calibration (and sets the oil pressure and fuel pressure zero points). Set the MAP Setting to the same value as shown on your aircraft's manifold pressure gauge. For a more accurate setting, refer to the EDM Pilot's Guide on how to determine this value.

Amps Zero

Note: Do not perform this operation without a full understanding of the calibration procedure. Failure to do this will result in an amps gauge that is not properly calibrated. You must remove one sense wire from the shunt and connect it to the other terminal before you click on the **Calibrate Now** button. The Amps Zero can be used to set the zero amps value of the amps gauge. With no current flowing through the amps shunt, click on the **Calibrate Now** button.



HP Calculations

These adjustments set the parameters for the HP calculations in the EDM. Set the **Rated HP** for your particular aircraft. Set the **HP Constant** using the procedure described in the EDM Pilot's Guide. Set the **Engine Constant** to 14.9 for normally aspirated or turbo normalized engines; set it to 13.75 for turbo boost engines.

Fuel Level Parameters Window

The Fuel Level Parameters window lets you set the fuel tank capacity of the main tanks and the auxiliary tanks, the fuel level parameters for the left and right tanks, and the K-factors. Refer to the EDM Pilot's Guide to determine how to choose the tanks capacities and the K-factor(s).

Use the EzFuel program—described in the appendix at the end of this manual—to determine the values of the fuel level parameters.

The screenshot shows the 'EzCfg II - EDM Setup Wizard - Configuring SN00001_' window. The 'Fuel Level Parameters' section is active. It includes a 'Clear Fuel Table' button, a 'Units' dropdown set to 'Gallons', and checkboxes for 'Left Tank', 'Center Tank', and 'Right Tank'. The 'Left Tank' and 'Right Tank' are checked. Below these are input fields for 'Size' (80.0) and 'Empty' (0.0) for both tanks. A 'Fuel Flow Data' section on the left shows 'Main Tank Usable' (75 Gal), 'Aux Tank Size' (0 Gal), and 'K Factor 1' and 'K Factor 2' (both 2990). At the bottom, there is a 'Data Changed' status bar and buttons for 'Previous', 'Next', 'Finish', and 'Expert Mode' (checked).

Ready to Save Changes Window

EzConfig II now has all information necessary to configure your EDM. Click **Finish** to send the updated configuration to the EDM.

IMPORTANT: During this final configuration step, your EDM must remain ON until this wizard exits.

The screenshot shows the 'EzCfg II - EDM Setup Wizard - Configuring SN00001_' window. The 'Ready to Save Changes' section is active. It includes a 'Set EDM Clock' checkbox (checked), a 'GMT' radio button, and a 'Local Time' radio button. Below these is a text box with the following text: 'Saving data to EDM', '*** DO NOT DISTURB ***', 'EDM clock synchronized', 'Writing display configuration', 'Display configuration saved', and 'Writing EDM configuration'. At the bottom, there is a 'Data Changed' status bar and buttons for 'Previous', 'Next', 'Finish', and 'Expert Mode' (checked). A progress bar is also visible.

Editing an EDM Configuration Offline

If your EDM900 or EDM930 is not yet installed, you can still prepare much of the unit's one-time setup by editing a default configuration shipped with EzConfig II. This process will allow you to specify gauge placement, limits and markings for your EDM gauges. When you have complete customization of your information, the configuration data can be save to a file for upload to the EDM after installation is complete.

Creating a new configuration file

When EzConfig II is started, it will search for an EDM connected to your computer, running EzConfig II. If no EDM is found, you will be given the opportunity to continue with "Offline Configuration." If you choose to work offline, you must select a starting point for configuration. This can be the "Factory.cfg" file supplied with EzConfig II or a previously customized configuration for your EDM. After loading the selected file, you can select "Save As" from the program's "File" menu.

Uploading a configuration file to the EDM

After proper communication has been established with the EDM, you can choose to upload a previously customized configuration to the EDM by selecting "Load" from the program's "File" menu. A file selection box will be displayed. You can choose to reload the basic factory configuration by selecting the "Factory.cfg" file, or select a previously customized configuration. When a file is selected to open, the program will read the EDM configuration, display, and fuel settings from data files stored on the computer. Now that the updated EDM configuration is in memory, it can be uploaded to the EDM by clicking the "Finish" button.

Saving the current EDM configuration to a file

At any time during an "online" EzConfig II configuration session, you may save your current changes by selecting the "Save" or "Save As" commands from the "File" menu.

To capture the current EDM configuration, connect the computer to the EDM and read the current configuration using the "Start" and "Next" buttons in EzConfig II wizard. After the configuration is downloaded from the EDM, you may save the configuration to a disk file as described above.

Editing an existing configuration file

To edit an existing configuration file, start EzConfig II and when asked to work offline, answer "Yes." When the open file dialog appears, select the desired configuration file and click "Open." Use the normal EzConfig II controls to modify the configuration and when satisfied with the configuration changes, select "Save" from the "File" menu.

TECHNICAL SUPPORT

JPI Technical support can be reached at:

JP Instruments
Technical Support Department
3185-B Airway Ave.
Costa Mesa CA 92626-4601 USA

Ph: (714) 557-3805
Fax: (714) 557-9840
e-mail JPITECH@PACBELL.NET
website <http://www.jp instruments.com>

