Status: After you click the Convert Waves button, this column shows the outcome of the conversion - if the conversion succeeded or if there was an error.

You can double-click a cell to display a modal Data Browser dialog for closer inspection of a wave.

Select one or more cells in the list and click Edit Waves to close the dialog and display a table showing those waves. If you click Edit Waves when no cells are selected in the list, all of the waves are displayed in the table.

Two checkboxes under the list of waves control whether waves requiring non-trivial changes and trivial changes are displayed in the list.

Waves containing non-ASCII text using a text encoding other than UTF-8 are deemed to require a non-trivial change. Also, text waves in which the text data content appears to contain binary data but which are not yet marked as binary are deemed to require a non-trivial change.

Waves containing ASCII text only but which are marked as using a non-UTF-8 text encoding are deemed to require a trivial change. Because the text is ASCII only, and because ASCII text is the same in all text encodings used in Igor waves, no actual text conversion is required. The wave elements just need to be marked as UTF-8.

You may find it convenient to convert the waves requiring trivial changes only first to get them out of the way so that you can focus on those that require non-trivial conversion.

Two checkboxes under the list of waves control whether home waves and shared waves are displayed in the list. Converting shared waves increases the possiblity that the conversion may adversely affect other experiment but this is usually a concern only if you need Igor6 compatibility.

Below the checkboxes, Igor displays an explanation of what waves need conversion.

If no items in the list are selected, clicking the Convert Waves button converts all of the waves in the list. The Status column then indicates if the conversion succeeded or failed.

If items are selected in the list, the Convert Waves button changes to Convert Selected Waves. Clicking the button converts the selected waves only.

After doing a conversion, the Convert Waves button changes to Refresh. Clicking Refresh refreshes the list, showing waves remaining to be converted, if any.

The Strings Tab

The Strings tab lists the global string variables in the experiment and allows you to convert those that need conversion.

As described under **String Variable Text Encodings** on page III-478, unlike waves, there is no text encoding setting for string variables. Consequently Igor treats each string variable as if it contains UTF-8 text when printing it to the history area or when displaying it in an annotation or control panel or otherwise treating it as text.

If a string was created in Igor6 or before and contains non-ASCII characters, treating it as UTF-8 results in incorrect characters being displayed. The Strings tab allows you to fix this by converting such strings to UTF-8.

The following types of strings do not need to be converted:

- Strings containing only ASCII characters
- Strings that are already valid as UTF-8
- Strings that appear contain binary data (typically created by procedure packages)

This leaves non-ASCII, non-binary strings that are not valid as UTF-8 to be converted.

To convert text to UTF-8, Igor needs to know the text encoding in effect when the text was entered. For string variables created in Igor7 and later, this will be UTF-8, and such string variables require no conversion. String variables created in Igor6 or before typically use MacRoman, Windows-1252, or Shift JIS (Japanese) text encodings and require conversion if they contain non-ASCII text.

An experiment may contain a combination of non-UTF-8 strings and UTF-8 strings. This happens if you create non-ASCII strings in Igor6 or before and then create more non-ASCII strings in the same experiment in Igor7 or later.

Since string variables have no text encoding settings, there is no way for Igor to know what text encoding was used to create them. Instead, in the Strings tab of the dialog, Igor uses the text encoding selected in the pop-up menu below the list of strings. When you enter the dialog, the pop-up menu is set to the text encoding governing the experiment, if it is known. As described below, you may need to choose a different text encoding from the pop-up menu.

The list in the Strings tab comprises three columns:

String: Lists the full data folder path to the string variable.

Contents: Shows the contents of the string variable.

The contents of strings that need to be converted are displayed assuming that their text was entered using the text encoding selected in the pop-up menu. If the displayed contents appear incorrect then you probably need to select another text encoding.

Strings that appear to contain binary are not converted and are displayed using hex escape codes for bytes that don't appear in normal ASCII text, such as "\x00" to represent a null byte.

Strings that are already valid as UTF-8, which includes ASCII strings since ASCII is a subset of UTF-8, also do not need to be converted and are displayed as UTF-8.

Status: The Status column displays the following:

Can be converted	The string can be converted to UTF-8 using the text encoding selected in the popup menu. The string will be converted when you click the Convert Strings button if it is selected or if no strings are selected.
Converted to UTF-8	The string was converted to UTF-8 using the text encoding selected in the popup menu. This appears after you click the Convert Strings button.
<An error message>	The string needs to be converted but can not be converted using the text encoding selected in the popup menu.
ASCII	The string is plain ASCII and does not need to be converted.
Valid non-ASCII UTF-8	The string contains non-ASCII text that is valid as UTF-8 and does not need to be converted.
Binary detected	The string appears to contain binary data and will not be converted.

Two checkboxes under the list of strings control whether strings that require conversion or do not require conversion are displayed in the list.

Strings that contain non-ASCII text that is not valid as UTF-8 and which do not appear to contain binary data need to be converted to UTF-8. Such strings appear in the list when the Show Strings That Need to be Converted checkbox is checked.

Strings that that appear to contain binary data, are all ASCII, or contain non-ASCII text that is already valid as UTF-8 do not need to be converted to UTF-8. Such strings appear in the list when the Show Strings That Do Not Need to be Converted checkbox is checked. You may want to display these strings to verify that their contents looks right.