BIOPAC Developer Suites



Tools for Scripting, Network Data Transfer, Hardware & Software APIs

Scripting • Network Data Transfer • Hardware API • Software API

BIOPAC Basic Scripting

New scripting language development option for Acq*Knowledge* 4.1 or above allows for viewing of runtime variables, creating new and editing existing script files, triggering of individual script functions for testing, and accessing breakpoints and single step functionalities.

- Single Step Execution mode halts execution after each individual line of a macro, allowing users to step through macros line by line for debugging and development purposes.
- The Variables Explorer window shows the contents of the scripting language variables.

	e				Online Help	
Diselas Cosist MD150 Workflass	Werden Urle	Contents	Index Bookmarks			
Display Script MP150 Workflow Script Editor	window Help			ListDirectory	Search Exporting Data, Disk Operations, and Persistence Contents "dirPath" { Files Folders } "refStrArrayName"	
Variables Explorer			BIOPAC Basic Language Reference Manual Conventions Structure of BIOPAC Basic User Interfaces		Lists the contents of a directory on disk. This may be useful for macros that are doing batch processing on bunches of files or subdirectories. The return array will contain all the names of the files and directories. To get a full path, the path to the directory must be prepended to the string contents. This command does not list hidden files.	
Single Step Execution		▶ Text Loc	rfaces alization and Transla with Graphs and Gra	Parameter		
Step 企業T	<u></u>	 Measurer Transfor 	ments	dirPath	string Fully qualified absolute forward slash separated path to the directory whose contents should be listed. This path is not required to end in a final path separator.	
Example Scripts 🕨 🕨	Acquisition Example	Working	with Journals with Hardware	Files	literal If present, list only files within the directory.	
	asdf		g Data, Disk Operati	Folders	Iteral If present, list only folders within the directory. Name of the string array to be filled with the contents of the directory, either files or folders as	
	File Export Make RR Interval Spreadsheet	Other Co Dynamic	mmands String Length Support	retStrArrayNan	ne string appropriate. Any previous content contained in this string array will be destroyed.	
	README	Network Da	ta Transfer Reference		If dirPath does not refer to a valid directory, the resulting array will be empty.	
	Remove Linear Regression Trend Rich Dialog Example				d Exporting Data mands function on AcqKnowledge formatted graph files. The native file format allows for storage of journal	
	······································			text, waveform of	Intrands function on Acquinowedge formatted graph niles. The harve nile format allows for storage of journal tata, markers, display and other layout information. It may not be possible to perform all data analysis ge and the BIOPAC Basic environment, however. To interact with third party programs, data must be	
000	Script Editor				exported from the AcqKnowledge environment, ItoWever, to interact with third party programs, data mass be orting data:	
				-	ta "Hename" { Acq3 MATLAB WFDB Text { Header NoHeader } { Time NoTime } Space } { MacLineEnding PCLineEnding UnixLineEnding } Excel WAV { Mono	
Save As Check Syntax	Script file:	File Ex	port.bbs	\$	Space } { MacLineshaing Fullheshaing Unixlineshaing } Excel WAV { MOND Raw { Float Double } { LittleEndian BigEndian } { Sequential Interleaved > relVar	
Revert Delete Run	Macro:	OnOn	enFile	\$	file on disk with the current granh data. This emorts the entire data of the granh window into the desired.	
	inacio.	onop	chi ne			
				1	1	
; OnOpenFile						
; ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;						
; This BIOPAC Basic script shows a	n example of how to perform bat	ch file	Measurements		Text Appearance	
 ; conversion. It illustrates basic user prompts, listing directory ; loops, and file export. ; Copyright 2009 BIOPAC Systems, Inc. ; All Rights Reserved 			ry cont Waveforms Event Summary Graph Journal Hardware Performance		Font: Monaco	
					ront. Monaco	
					Size: 9	
			Networking Script Editor		Display	
Display an informational prompt	to the user describing the exam	ple	Other	S-11	Tab width: 4 spaces	
					Syntax Coloring	
<pre>Prompt "This example script exports if a = 2</pre>	s all graph files within a dire	ctory t			Comments	
; cancel button pressed Halt					String constants	
endif					Keywords	
1 more than the second s					QtScript blocks	
; Prompt the user to choose a direct	ctory		L			
ChooseDirectoryPrompt "Convert gray	oh files in which directory?",	AS, z			Cancel OK	
<pre>if z = 1 ; User clicked cancel in the di</pre>	alon so stop macro execution			- 1		
Halt	turoy, so stop motro execution				J	
endif				4		
C)) 4 1		
					22	

BIOPAC Developer Suites

Network Data Transfer

Network Data Transfer (NDT) is a real-time data transfer system that allows access to the data being acquired into a graph by Acq*Knowledge* for use in an external application; the computer used to run the Acq*Knowledge* process and the custom application may be the same computer.

- Allows third party applications—including the Vizard VR development environment—to tap into the data stream generated by the MP unit and Acq*Knowledge* during acquisitions.
- Provides networking facilities that allow for integration into a distributed application environment.
- Provides basic controls to allow external applications to query and control the Acq*Knowledge* application state.

Hardware API Research MP160/MP36R or Education MP36/MP35 (Windows only)

The hardware API gives developers control over BIOPAC MP160, MP36R, MP36 and MP35 acquisition units to

Acquire data

Set triggers

• Get the status of the MP unit

ACOKNOWLEDGE

Third-party

Applications

Not available for MP40 or MP45

- Acquire at different sample rates
- Use the Analog Output channelsUse the Digital I/O

The implementation of these functions is compiled into a Windows 32-bit DLL called "mpdev.dll." The interface is documented in C/C++ but any programming language that is able to utilize Windows 32-bit DLLs should be able to access the BIOPAC Hardware API. The hardware API includes sample projects for C/C++, C#, LabVIEW (v8.2), MATLAB, and VB.NET Site Licenses are available for the Hardware API; see BHAPI-9, BHAPI-24, and BHAPI-99 to extend the number of concurrent licenses.

Software API read-only access to AcqKnowledge 4.4 or above generated files (Windows only)

The BIOPAC File Format Application Programming Interface (API) is a software library to identify and parse information in BIOPAC's ACQ binary file format for programmers to use when creating applications for alternative analysis. Use the base functions in a variety of combinations for use in a new application.

- Initialize an ACQ file structure
- Close an ACQ file structure
- Retrieve channel information
- Retrieve samples by segment of a specified channel
- Retrieve all samples of a specified channel
- Retrieve a particular sample of a specified channel
- Retrieve samples by time slice of a specified channel
- Retrieve Journal Text

RINPA

- Retrieve marker information
- Retrieve marker text of a specified marker



Video Tutorials Available!

Contact BIOPAC to learn more or request a quotation!