ADDENDUM

IPGSCAN SOFTWARE
TCP API COMMANDS

Document ID: DOCSOUGGUIXX0001 REV 1 (DCO 3062) | **Published:** March 23, 2019

© 2019 IPG Photonics Corporation. All Rights Reserved.

DISCLAIMER

© 2019 IPG Photonics Corporation. All Rights Reserved.

You may not copy, reproduce, transmit, store in a retrieval system or adapt this publication, in any form, in any media or by any means, without the prior written permission of IPG Photonics Corporation (IPG), except as allowed under applicable copyright laws. Permitted copies shall bear the same copyright and proprietary notices which were contained on the original version.

This User Guide is provided "as is" and is subject to change and revision without notice. IPG believes that the information provided is accurate and reliable; however, IPG makes no warranty or representation, express or implied, regarding this document, including without limitation any implied warranties of merchantability or fitness for a particular use, purpose or application, either alone or in combination with any other device, equipment, apparatus, materials or process. Users must take full responsibility for their application of any products.

Further, IPG does not assume responsibility for use of the information contained in this document or for any infringement of patents or other rights of third parties that may result from its use. IPG shall not be liable for errors in or omissions from this document or for any incidental, consequential, indirect or special damages, including without limitation, lost profits, lost production costs or similar damages, in connection with the furnishing, performance or use of this material.

IPG grants no license, directly or indirectly, under any patent or other intellectual property rights from use of the information provided herein.

IPG, IPG Photonics and the IPG Logo are registered trademarks of IPG Photonics Corporation. IPG has identified words that are considered trademarks. Neither the presence nor absence of trademark identifications affects the legal status of any trademarks.

Patent Rights

This product is patented. See the product for more information.

US Export Control Compliance

IPG is committed to complying with U.S. and foreign export, import and customs requirements. Export and re-export of lasers and other products manufactured by IPG are subject to U.S. and foreign laws and regulations, including the US Export Administration Regulations administered by the Department of Commerce, Bureau of Industry and Security. The applicable restrictions vary depending on the specific product involved, intended application, the product destination and the intended user. In some cases, an individual validated export license is required from the US Department of Commerce prior to resale or re-export of certain products.

You are ultimately responsible for exporting any IPG product in accordance with the Export Administration Regulations and the U.S. Customs and Border Protection Regulations. IPG recommends that you obtain your own legal advice when attempting to export. All export and custom classifications and information provided by IPG is subject to change without notice. IPG makes no representation as to the accuracy or reliability of the classification information provided. The stated classification only applies to equipment as it left the IPG factory. Any modifications or changes after leaving the IPG facility will be your responsibility to obtain further classifications. IPG is in no way responsible for any damages whether direct, consequential, incidental, or otherwise, suffered by you as a result of using or relying upon such classifications, groups, or symbols for any purpose whatsoever.

Information relating to U.S. export rules and regulations can be found at the U.S. Bureau of Industry and Security Website. Information related to U.S. Customs and Border Protection can be found at the U.S. Customs Website.

PREFACE

Ensure you read and understand this User Guide in its entirety and familiarize yourself with the operating and maintenance instructions before you use the product. IPG strongly recommends that all operators of the product read and pay particular attention to all safety information contained herein prior to operating the product.

This User Guide should stay with the product to provide you and all future operators, users, and owners of the product with important operating, safety, and other information.

Audience

The audience for this User Guide is system integrators and technicians responsible for installing and operating the product in industrial and non-industrial installations.

Technical Support

Most issues and questions regarding the safety, setup, operation, and maintenance of IPG products can be resolved by carefully reading this User Guide. If you have questions regarding the safety, setup, operation or maintenance of your IPG product, please call our Customer Service department at 508-373-1157.

Language

The original instructions is in English.

TCP API Commands

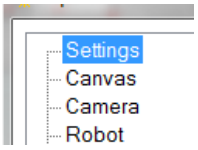
This section describes the TCP API commands for controlling IPGScan externally. The commands are ASCII based strings that are sent through a TCP/IP connection to IPGScan, so the software can respond accordingly.

All commands should be followed by a carriage return (ASCII #13) and a line feed (ASCII #10). For example: JobOpen MyJob<CR><LF>.

Prior to sending any commands a connection between the computer running IPGScan and the device trying to control it, must exist. In this case, IPGScan will behave as a Server while the external device will be the Client requesting a connection to IPGScan.

To define the IP Address and Port Number in which the IPGScan server engine will be listening to incoming connections follow the steps below:

1. Open IPGScan
2. Click on View -> Options
3. On the three to the left, click on Settings

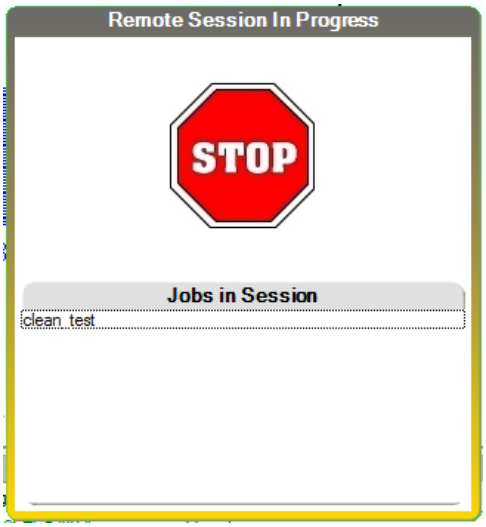


4. Scroll down to TCP/IP

TCP/IP	
Actions Port	89
Command Port	88
Encoding	UTF8
IP Address	0.0.0.0

5. Select the Encoding type for the ASCII characters
6. Select the IP Address (if more than one interface is installed in the computer) and Command Port number for the Server engine.
7. Restart IPGScan

NOTE | When a job is run using TCP commands, a message will appear in IPGScan showing remote session is in progress:



JobOpen

Parameters: *Filename*

Returns: "*Filename* opened"

Description: Opens a job file in the IPGScan Jobs folder. Filename should not have the "wjb" extension.

Error: "*Error: Filename* not found"

Troubleshooting: Job doesn't exist or can't be opened. Check that spelling and case is correct. Weird symbols in job names may also cause this error.

Example: JobOpen MyJob<CR><LF>

JobStart

Parameters: *Filename*

Returns: "*Filename* started…"

Description: Starts welding *Filename* job. If no job is specified, an error occurs. Filename should not have the "wjb" extension.

Error: "*Error*: ScanController not connected" , "*Error*: Weld in progress" or "*Error*: *Filename* not opened"

Troubleshooting: Check that a scanner is connected by using the ScannerGetStatus command. If another weld is in progress you must halt that weld before starting another. Check if the correct *Filename* is specified.

Example: JobStart MyJob<CR><LF>

JobStop / JobAbort

Parameters: *Filename*

Returns: "*Filename* Stopped" or "*Filename* Aborted"

Description: Abort will terminate the job immediately. Stop will wait until the current job is complete before stop

Error: "*Error*: No running Job found"

Troubleshooting: No job is currently running.

Example: JobStop MyJob<CR><LF>, JobAbort MyJob<CR><LF>

JobClose

Parameters: *Filename*

Returns: "*Filename* closed"

Description: Closes current job. The remote session dialog will be closed

Error: "*Error: Filename* not closed"

Troubleshooting: Check if the job is running by using JobGetStatus command. No job can be running for IPGScan to close.

Example: JobClose MyJob<CR><LF>

JobList

Parameters: none

Returns: List of filenames inside IPGScan's Jobs folder. Carriage return (\n) is appended at the end of every job in the list.

Description: List all available jobs in IPGScan's Jobs folder.

Error: "*Error*: IPGScan directory not found"

Troubleshooting: "C:\IPGScan\Jobs" folder cannot be found. Check that this folder exists on the file system.

Example: JobList<CR><LF>

ConnectionGetStatus

Parameters: none

Returns: Returns Computer Name in which IPGScan is running.

Description: Check if you are correctly connected to IPGScan.

Error: "*Error*: No TCP Connection"

Troubleshooting: Check IP Address and Port numbers.

Example: ConnectionGetStatus<CR><LF>

ScannerGetStatus

Parameters: none

Returns: Name of the scanner that IPGScan is currently connected.

Description: Used to inform if IPGScan is connected to a specific scanner

Error: “ ”

Troubleshooting: If an empty string was returned, no scanner is connected.

Example: ScannerGetStatus<CR><LF>

JobGetStatus

Parameters: none

Returns: Status of IPGScan (Idle or Busy).

Description: Returns the status of IPGScan. Returns busy if job is running.

Error: none

Troubleshooting: none

Example: JobGetStatus<CR><LF>

GetEncoding

Parameters: none

Returns:Text Encoding Scheme - UTF8

Description: Returns text encoding scheme set in Options.

Error: none

Troubleshooting: none

Example: GetEncoding<CR><LF>

ScannerGetStartBit

Parameters: none

Returns:Start Bit – True/False.

Description: Returns Boolean value of Start Bit.

Error: Error: ScanController not connected.

Troubleshooting: none

Example: ScannerGetStartBit<CR><LF>

ScannerGetEnableBit

Parameters: none

Returns: Enable Bit – True/False.

Description: Returns Boolean value of Enable Bit.

Error: Error: ScanController not connected.

Troubleshooting: none

Example: ScannerGetEnableBit <CR><LF>

ScannerGetPortA

Parameters: none

Returns: Port A value - 0x01FF0FFF.

Description: Returns hex value of Port A.

Error: Error: ScanController not connected.

Troubleshooting: none

Example: ScannerGetPortA<CR><LF>

ScannerGetStatus

Parameters: none

Returns: Connected scanner’s name.

Description: Returns the name of currently connected scanner.

Error: Error: Not Connected

Troubleshooting: none

Example: ScannerGetStatus<CR><LF>

JobGetStatus

Parameters: none

Returns: Job running status – Idle/Busy.

Description: Returns job running status.

Error: none

Troubleshooting: none

Example: JobGetStatus<CR><LF>

ScannerLock

Parameters: *scannerName*

Returns: *scannerName* is locked.

Description: Locks scanner.

Error: various errors can be returned here

Troubleshooting: none

Example: ScannerLock *scannerName*<CR><LF>

ScannerUnlock

Parameters: *scannerName*

Returns: *scannerName* is unlocked.

Description: Unlocks scanner.

Error: various errors can be returned here

Troubleshooting: none

Example: ScannerUnlock *scannerName*<CR><LF>

ScannerInit

Parameters: none

Returns: Currently locked scanner is initialized.

Description: Initializes currently locked scanner.

Error: various errors can be returned here

Troubleshooting: none

Example: ScannerInit<CR><LF>

ScannerParkAt

Parameters: Galvo position to set to.

Returns: ParkAt done.

Description: Parks galvos at specified position.

Error: none

Troubleshooting: none

Example: ScannerParkAt 5 5 5<CR><LF>

ScannerGetWorkspacePosition

Parameters: none

Returns: Galvo Position: 5 5 5 .

Description: Returns current galvo position.

Error: none

Troubleshooting: none

Example: ScannerGetWorkspacePosition <CR><LF>

ScannerGetList

Parameters: none

Returns: *scannerName1*
scannerName2
…
End Of Scanner List

Description: Returns the list of scanners currently on network.

Error: none

Troubleshooting: none

Example: ScannerGetList<CR><LF>

ScannerGetConnectionStatus

Parameters: *scannerName*

Returns: Scanner '*scannerName*' is Busy

Description: Returns connection status of a scanner.

Error: none

Troubleshooting: none

Example: ScannerGetConnectionStatus *scannerName*<CR><LF>

SystemSetVariable

Parameters: *variableNumber* value

Returns: SystemSetVariable Done.

Description: Sets register variable.

Error: none

Troubleshooting: none

Example: SystemSetVariable 1 IPG<CR><LF>

SystemGetVariable

Parameters: *variableNumber*

Returns: SystemGetVariable 'Variable 1' value is ' ipg'

Description: Gets register variable.

Error: none

Troubleshooting: none

Example: SystemGetVariable 1<CR><LF>

JobGetStatus2

Parameters: none

Returns: JobGetStatus2 Group: '*groupName*', Object Name: '*objectName*'

Description: Returns currently executing group and object name.

Error: none

Troubleshooting: none

Example: JobGetStatus2<CR><LF>

JobLastRunSuccessful

Parameters: none

Returns:True/False

Description: Returns the status of last job run.

Error: none

Troubleshooting: none

Example: JobLastRunSuccessful<CR><LF>

Help

Parameters: none

Returns:List of commands

Description: Returns list of commands.

Error: none

Troubleshooting: none

Example: Help<CR><LF>

Help

Parameters: *command*

Returns: command help

Description: Returns help string for specified command

Error: none

Troubleshooting: none

Example: Help *command*<CR><LF>

To learn more, visit www.ipgphotonics.com.

© 2019 IPG Photonics Corporation. All rights reserved. This user guide and any data disclosed therein is the property of IPG Photonics Corporation and its affiliates, and constitutes and contains proprietary information. Neither receipt nor possession of this document confers or transfers any right to duplicate, use, or disclose any information contained herein except as expressly authorized in writing by IPG Photonics Corporation. No representations and warranties are made hereby, except in a binding purchase order.