

Crystal Reader & Crystal Miner software v4.0

Instructions for Download & Release Note

For Research Use Only. Not for use in diagnostic procedures.

Product Name

Crystal Reader (S10000) & Crystal Miner software (S20000)

Intended Use

The Crystal Reader software functions as the operating interface to define the experimental settings for the image acquisition of the respective scanner instrument for the Crystal Digital PCR™ workflow.

The Crystal Miner software is the data analysis application of the naica® system. Crystal Miner is used to analyze data from the images acquired, using the Prism3 or Prism6 instrument and Crystal Reader, and to calculate the absolute concentrations of targeted nucleic acids.

Crystal Reader & Crystal Miner software are intended for use by laboratory personnel trained in the techniques of Crystal Digital PCR™. Crystal Reader & Crystal Miner software are intended to only be used with naica® system.

Purpose of the Release Note and Instructions for Download

This document provides an overview of the implemented changes, from the previous software version 3.1.6.3 to version 4.0.10.3, for Crystal Reader and Crystal Miner. Stilla Technologies recommends installing the software update to benefit from all the described bug fixes, feature improvements and new software features that are only available with version 4.0.10.3.

This document provides a step-by-step guide to install the required Crystal Reader and Crystal Miner software updates to run Crystal Digital PCR™ experiments on the naica® system.

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Resources

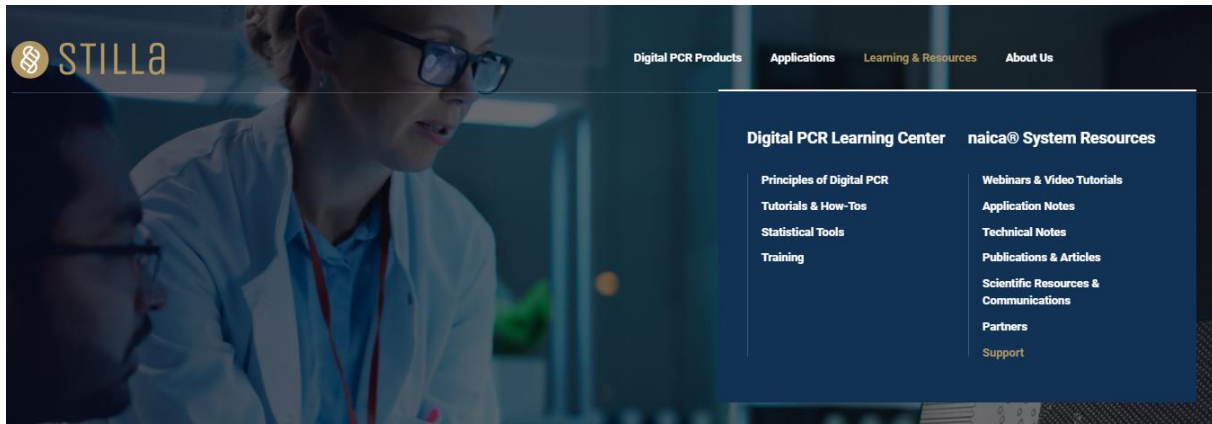
Please consult the latest version of the User Manuals for Crystal Reader and Crystal Miner software. naica® system specific User Manuals are available under the “User Manual” tab in the “Technical Resources” section of the website.

The installer files for Crystal Reader & Crystal Miner software are available for free to download at <https://www.stillatechnologies.com/digital-pcr/naica-system-support/technical-resources/>

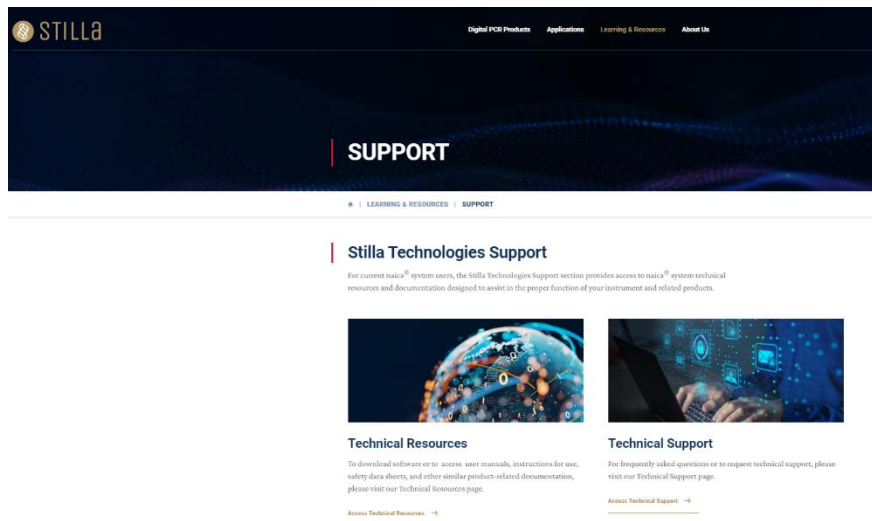
Download and Installation

Visit www.stillatechnologies.com

Under “Learning & Resources” and select “**Support**”



Select “**Technical Resources**”



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To access the restricted area please proceed by entering the user-specific credentials.

The user specific credentials were provided during the initial installation of the naica® system.

If you do not have the required details to access the restricted “Technical Resources” section, please contact your regional support team.



This is a restricted page. Please login.

Username or Email Address

Password

Remember Me

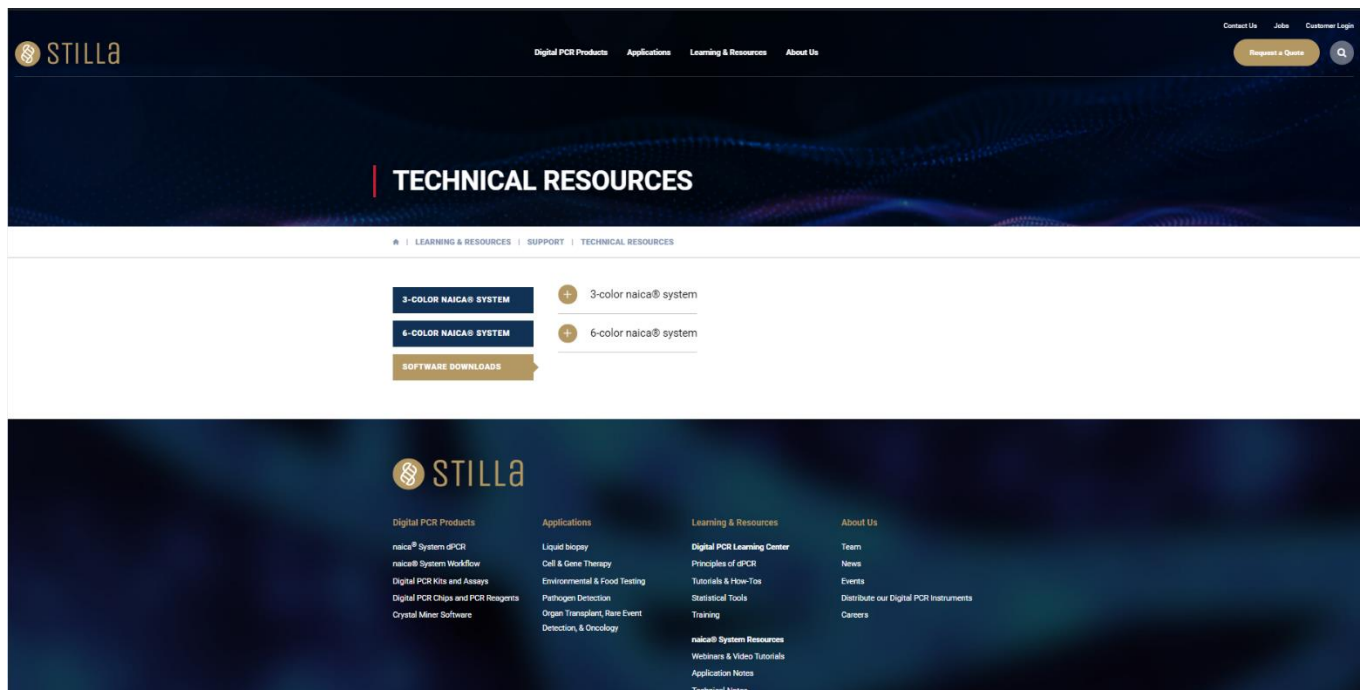
LOG IN

Lost your password? [Click here.](#)

The installer files for Crystal Reader & Crystal Miner software are available for free under “SOFTWARE DOWNLOADS”

<https://www.stillatechnologies.com/digital-pcr/naica-system-support/technical-resources/>

Select the naica® system specific software download page to download the respective download files specific to the naica® system configuration



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3-color naica® system	6-color naica® system
Setup_CrystalReader_Prism3_v4.0.10.3.exe	Setup_CrystalReader_Prism6_v4.0.10.3.exe
	MIPIController v1.1.4.3
Setup_CrystalMiner_v4.0.10.3.exe	

To update the Crystal Reader and Crystal Miner software to the latest version, double click on the respective software product and proceed with the supported download instructions.

6-color naica® system users are instructed to also download and install the updated MIPIController v1.1.4.3 to benefit for enhanced system performances.

Separate installer files for Opal Chip

The above listed Crystal Reader & Crystal Miner software v4.0 installer files only supports Crystal Digital PCR™ experiments using the following chip consumables:

- Sapphire Chip
- Ruby Chip

Separate installer files for Opal Chip experiments are available on request.

Please contact the respective territory technical support team.

Crystal Reader & Crystal Miner software v4.0 Instructions for Download & Release Note



Release Notes

The section below provides an overview of the implemented changes, from the previous software version 3.1.6.3 and v3.1.6.3.SP1, to version 4.0.10.3, for Crystal Reader and Crystal Miner.

The information is provided for

- New software features
- Feature enhancements
- Bug fixes

Common for both Crystal Reader & Crystal Miner software

Feature enhancements	Description
Updated Chamber Quality flags	<p>In previous software version three types of quality flags were presented in the naica® system software.</p> <p>With software version 4.0.10.3 only two types of quality flags are presented in Crystal Reader and Crystal Miner software</p> <p>There are two types of chamber quality flag:</p> <ul style="list-style-type: none">■ • “Green” quality flag, indicates that the chamber and its picture are good quality.■ • “Yellow” quality flag, indicates that the software detected major alteration of the analyzed chamber quality parameters. Visual inspection of the Droplet Crystal is required to determine if the experiment may have to be repeated. <p>Details are available in the respective User Manual for Crystal Reader & Crystal Miner software.</p> <p>Opening an experiment in software v4.0 previously analyzed with a scanning template using software v3.1 or below: Green / Yellow quality flag remains </p> <p>Re-analyzing an experiment previously analyzed with software v3.1 or below using a scanning template from software v4.0 Green / Yellow quality flag becomes </p>
Improved file loading time	<p>For all naica® systems the file loading time was significantly reduced for applications run on the provided Stilla Technologies hardware equipment.</p> <p><i>Note! Differences in loading time performances for Crystal Reader and Crystal Miner installed on other workstations are expected. Please refer to the User Manual for external workstation specifications, required to run naica® system software applications, for optimal loading time performance.</i></p>

Crystal Reader & Crystal Miner software v4.0 Instructions for Download & Release Note

With software v4.0 all ScanningTemplate files are updated

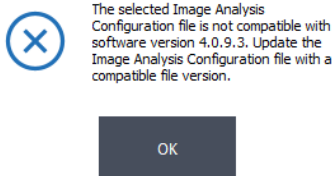
All default scanning templates have been improved and will automatically update with the v4.0 installers.

6-color naica® system users will benefit from

- Increased robustness to tile motion and droplet motion
- Improved separability.

3-color naica® system users will benefit from:

- Improved recognition of droplets, including better exclusion of smaller droplets and wetted droplets.



Note! For the 3-color naica® system all Prism3_Sapphire Chip scanning templates released with previous software versions become incompatible with the new available software v4.0.

Only ScanningTemplate_Prism3_SapphireChip files with the ending “_v2.1.ncx” will be compatible with software version 4.0

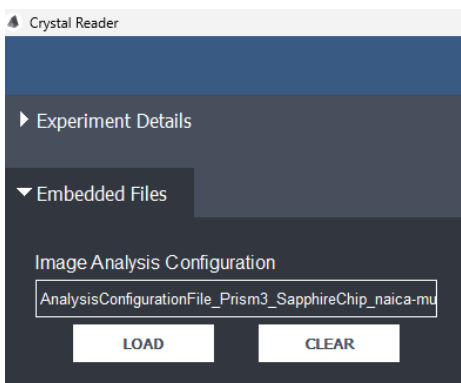
The error message will appear if an incompatible ScanningTemplate_Prism3_SapphireChip file is used.

To retrieve compatibility with previously customized scanning template files there are two options:

1. Starting with new software v4.0 ScanningTemplate file

- Open Crystal Reader
- Go to “New Experiment” and browse a new software v4.0 default ScanningTemplate file
 - All default ScanningTemplate files are available at C:\Program Files\Stilla\CystalReader\templates
- Modify all experiment parameters according to the specific assay
- “Save” or “Save as” experiment file in Crystal Reader
- To save as new Scanning Template file open the experiment file in Crystal Miner
- Go to “I/O” and “Save as template (.ncx)”.

2. Updating previously customized (v3.1 or below) ScanningTemplate files

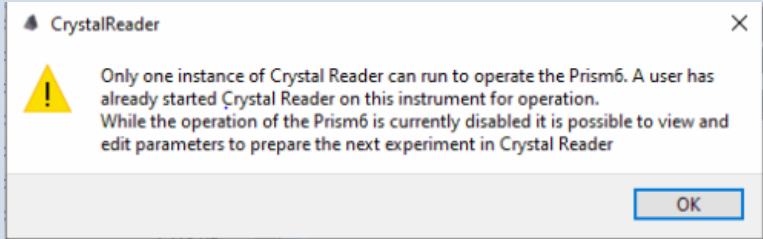
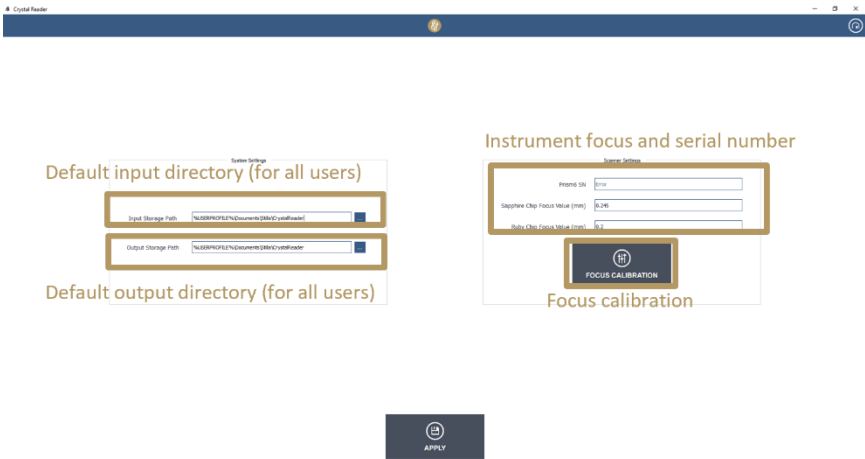


- Open Crystal Reader
- Open the previously customized ScanningTemplate file
- Go to the “Embedded Files” section and load the respective new software v4.0 Image Analysis Configuration file (.yaml).
 - All Image Analysis Configuration files are available at C:\Program Files\Stilla\CystalMiner\config
- “Save” or “Save as” experiment file in Crystal Reader
- To save as new Scanning Template file open the experiment file in Crystal Miner
- Go to “I/O” and “Save as template (.ncx)”.


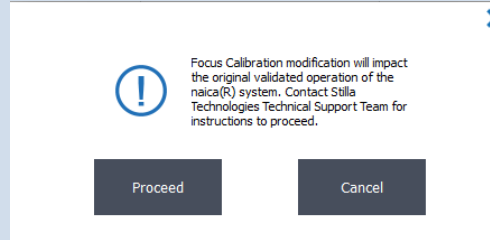
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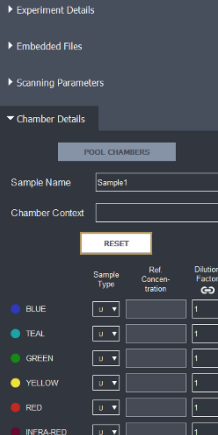
Instructions for Download & Release Note

Specific for Crystal Reader software

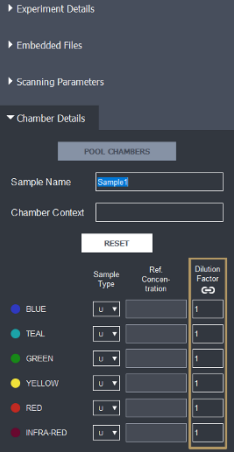
Crystal Reader	Description
<p>Feature enhancements</p> <p>For all naica® systems only one Crystal Reader application can control an instrument at a time. If one instance of the Crystal Reader application is opened it must be closed before another Crystal Reader application can be opened to operate a scanning instrument.</p>	 <p><i>Crystal Reader v4.0 pop-up displayed at launch of Crystal Reader when another Crystal Reader controls the respective instrument (Prism3/Prism6)</i></p>
<p>Crystal Reader “Settings” page without local user account management</p>	<p>Easier access to admin parameters:</p> <ul style="list-style-type: none"> • Default input / output directory accessible for all users. • Focus parameters & serial number accessible for all users.  <p>The screenshot shows the 'System Settings' page with the following sections highlighted:</p> <ul style="list-style-type: none"> Default input directory (for all users): Input Storage Path: %USERPROFILE%\Documents\SRMG\input\data Default output directory (for all users): Output Storage Path: %USERPROFILE%\Documents\SRMG\output\data Instrument focus and serial number: Includes fields for 'Frame On', 'Sample Chip Focus Value (mm)', and 'Only Chip Focus Value (mm)', along with a 'FOCUS CALIBRATION' button. An 'APPLY' button is located at the bottom center.

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Crystal Reader	Description	
<p>Feature enhancements</p> <p>Focus calibration updates</p>	 	<p>Focus calibration scanner settings available for Ruby Chip. Please refer to the respective User Manual (Prism3 / Prism6) for detailed instructions for focus calibration.</p> <p>Software v4.0 will display a warning message to confirm that previously validated system parameters are modified with the focus calibration routine.</p>

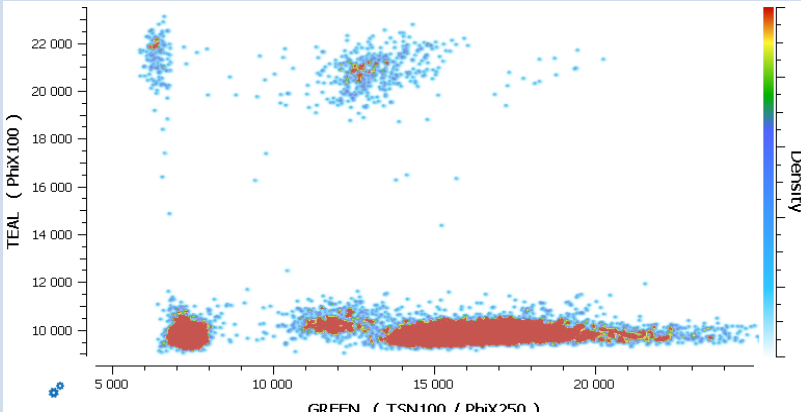
Crystal Reader	Description	
<p>Bug fixes</p> <p>Added “Load Sample” feature for Ruby Chip in Experiment Details</p>	<p>The “Load Samples” feature, that allows users to import a pipetting plan from an Excel template for Ruby Chip experiments, was added.</p> <p>When creating a new experiment based on a Ruby Chip template and clicking on the “LOAD SAMPLES” button, the Crystal_Reader_Sample_Template for Ruby Chip will be available at C:/Program Files/Stilla/CrystalReader/templates.</p>	
<p>De-bugged “RESET” chamber feature in Chamber Details</p>		<p>The “RESET” button in “Chamber Details” resets the chamber context.</p>

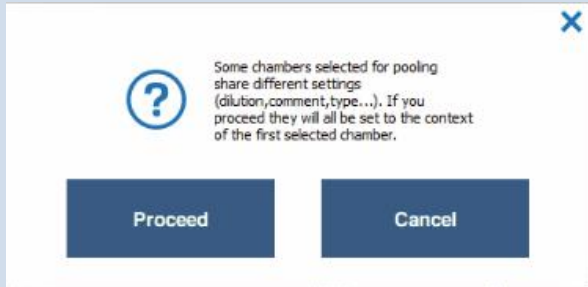
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Crystal Reader	Description										
Bug fixes											
De-bugged modification of dilution factor interaction in Chamber Details		Dilution factor link fixed.									
Corrected Prism3 exposure times in Scanning Parameters	<p>Prism3 users can set scanning parameters to exposure times between 1-5000ms in Crystal Reader software v4.0</p> <table border="1" data-bbox="505 856 1469 1022"> <thead> <tr> <th>Crystal Reader version number</th> <th>3.1</th> <th>4.0</th> </tr> </thead> <tbody> <tr> <td>Min exposure time allowed (ms)</td> <td>20</td> <td>1</td> </tr> <tr> <td>Max exposure time allowed (ms)</td> <td>999</td> <td>5000</td> </tr> </tbody> </table>		Crystal Reader version number	3.1	4.0	Min exposure time allowed (ms)	20	1	Max exposure time allowed (ms)	999	5000
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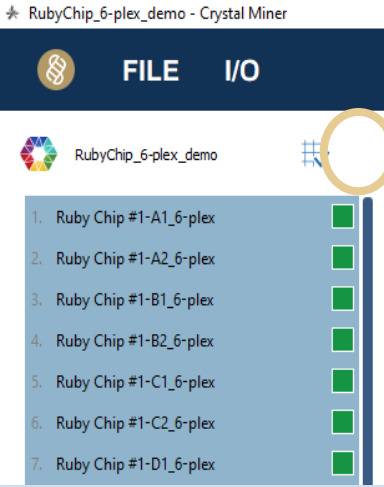
Specific for Crystal Miner software


Crystal Miner	Description
New software features	
Heatmap visualization	<p>The Heatmap visualization is a convenient analysis tool to identify 2D zones. When droplet clusters are not well separated, the heatmap visualization feature will support the definition of the distinctive droplet clusters. In heatmap visualization mode, the colormap represents the different droplet density levels in the fluorescence populations. Droplet densities are visualized utilizing a color gradient.</p>  <p>Details are available in the respective User Manual for Crystal Miner software.</p>

Crystal Miner	Description
Feature enhancements	
Updated consistent chamber pooling behavior	 <p>In software v4.0, the sample context of samples elected for pooling is checked by Crystal Miner and the user is warned when inconsistencies are detected.</p>
Changed output location for files (NCM, NCP, NCA, NCX, XLSX/CSV export, PDF report)	<p>In previous software releases (v3.1 and below) the default output path for saving was the installation folder of Crystal Miner software.</p> <p>With software v4.0, the default output path for saving is the location of the latest file opened in Crystal Miner.</p>

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Crystal Miner	Description	
<p>Feature enhancements</p> <p>Removed Experiment Quality flag</p>		<p>In previous software versions an Experiment Quality flag was presented in the naica® system software.</p> <p>With software version 4.0.10.3 the experiment quality flag was removed, as GLP requires chamber quality validation of individual samples, rather than concluding an experimental outcome based on an overall experiment quality flag.</p>

Crystal Miner	Description	
<p>Bug fixes</p> <p>“Result Table” data is exported from Crystal Reader Experimental Details and cannot be modified in Crystal Miner to protect experimental input details from scanning to analysis.</p>		

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Technical Support Contact Information

Stilla Technologies

F-94800 Villejuif, FRANCE

Online Technical Support is also available at: www.stillatechnologies.com/technical-support/

For help and technical advice or any issue regarding Crystal Reader & Crystal Miner software update contact us:

For customers in Europe, China, and Africa:

Monday to Friday, 9:30 AM - 6:30 PM Central European Time (CET).

Closed on French bank holidays.

Phone: (+33) 9 82 27 47 47

Email: support@stilla.fr.

For customers in America, Asia (excluding China) and Oceania

Monday to Friday, 8:00 AM – 6:00 PM, Eastern Standard Time (EST).

Closed on American bank holidays.

Phone: 1-833-888-0150 ext. 1

Email: support@stilla-inc.com

Pat.: www.stillatechnologies.com/patents

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