

# BD™ Spigot to BD FACSTM Software Conversion Guide

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Class I (1) Laser Product

## FCC information

**WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTICE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense. Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits. This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## History

Revision	Date	Change made
23-13291-00 Rev. 01	4/2011	New document

# Introduction

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This guide describes the differences between BD™ Spigot software and BD FACS™ Software sorter software, how to prepare for an upgrade from Spigot to Software, and how to use Spigot (if needed) after Software is installed.

If you purchased a new BD Influx™ system with BD FACS Software sorter software and Spigot is not installed, no upgrade is necessary. This guide is intended for BD service personnel and for current BD Influx and BD Spigot users.

This guide includes the following sections:

- [New terminology \(page 2\)](#)
- [Preparing for the BD FACS Software upgrade \(page 5\)](#)
- [Importing cytometer settings from BD Spigot software \(page 7\)](#)
- [Switching between BD Spigot and BD FACS Software \(page 9\)](#)

## New terminology

### Introduction

This topic lists the terminology that differs between BD Spigot software and BD FACS Software sorter software.

### System components

BD Spigot software (old)	BD FACS Software (new)
Simple Config window	Cytometer settings
WDU	Sort stage
Events number	The laser sequence assigned by order/position of the laser in the Cytometer Settings pane.
Trigger thresholds scaled to data display bins. 0–255 for Lin or Log.	Trigger threshold changes are scaled for Lin or Log to the data value for Lin or Log. For Log, the displayed threshold value is the power of 10 of the arithmetic plot scale value. A Log value of 2.5 means $10^{2.5} = 316$ on the plot.
Sort rack	Sort monitoring rack
Sort config window	Sort Settings window

### Drops and sort modes

BD Spigot software (old)	BD FACS Software (new)
Purity - Yield	1-drop Purity
Purity - Recovery	1.5-drop Purity
Enrich	1.5-drop Enrich
Large Particle Recovery	1-drop Single
Custom	User-defined
Drop Phase Gate	Phase Mask

<b>BD Spigot software (old)</b>	<b>BD FACS Software (new)</b>
Test Deflection Left/Right	Test deflection of all activated streams
Charge Amplitude	Maximum Drop Charge (Volts)
<i>New term</i>	Short flash (half of long flash)

### Configuration

<b>BD Spigot software (old)</b>	<b>BD FACS Software (new)</b>
Save Configuration	Save Workspace
Open Full Configuration	Restore Workspace
Open Experimental Setup	Restore Workspace and deselect bringing in Sort Layout

### Acquisition

<b>BD Spigot software (old)</b>	<b>BD FACS Software (new)</b>
Take List	Record
Display Limit (slider)	Default Display Count (Recording Settings window)

### Sort device control

<b>BD Spigot software (old)</b>	<b>BD FACS Software (new)</b>
Sorting Container	Sort Device
Present Tray	Eject
Save Offsets	Set Home

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## Compensation

BD Spigot software (old)	BD FACS Software (new)
Has manual compensation only	Has both manual and automatic compensation
Enable compensation	Compensation using software (ADCs) and hardware (DSPs). Use ADCs to display raw data and to calculate data. Use DSPs to sort with compensated data.
Save/not save compensated parameters	Save all compensation parameters
*(parameter name) = hardware compensation	DSP Parameter = *(parameter name) = hardware compensation

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## Plots

BD Spigot software (old)	BD FACS Software (new)
Thumbnail plots, lookup tables (LUT)	Plots (on a worksheet)

## Gating

BD Spigot software (old)	BD FACS Software (new)
Select no gate, left, half left, right, half right, and Save on the Take List window	Stopping gate
Gate data	Storage gate
Directional gating	Gating with assignment to direction
1-D	Interval gate
Outside gate	Boolean NOT gate
Boolean gating	Hierarchical gating (implicit Boolean AND)

## Preparing for the BD FACS Software upgrade

### Introduction

This topic describes the steps that current BD Influx and BD Spigot users must complete before beginning the upgrade to BD FACS Software sorter software.

### Important information

Depending on your current hardware configuration, upgrades can include the physical replacement of computer hardware and firmware. It is important to migrate specific BD Spigot files to an external hard drive or network folder if you want to retain data and FCS files, specific system configurations, and tray configurations. Saved data includes FCS files, Spigot software configurations, sort reports, and compensation matrices.

Hardware configuration files are instrument-specific files that BD Spigot uses to properly interact with the cytometer. These files will be needed in case BD Spigot software needs to be reinstalled on your system.

Tray files contain positional information about sort devices and can be imported into BD FACS Software sorter software. It is especially important to back up any specially designed tray files for non-standard formats.

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**Before you begin**

If the computer having Spigot software is connected to a network, it must be disconnected from the network prior to upgrade.

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**Migrating saved data and FCS files**

To migrate saved data:

1. Locate the folder(s) where you saved BD Spigot configurations and data files (may include FCS files, sort reports, and compensation matrices).
  2. Copy the files to an external or network drive.
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**Migrating system configuration files**

To migrate system configuration files:

1. Locate the Spigot system configuration files at the following location:

C:\Program Files\Cytopeia\Spigot

2. Back up the following files to an external or network drive:
  - spigot.ini
  - wduconfig.wdu
  - sysconfig.xml
  - AutoLoadSpigotCfg.xml
  - StreamDeflection.xml
  - CytekConfig.xml
  - TrayEditor.exe



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**Migrating tray configuration files**

To migrate tray configuration files:

1. Locate the **Trays** folder at the following location:  
C:\Program Files\Cytopeia\Spigot\trays
  2. Back up the entire folder to an external or network drive.
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## Importing cytometer settings from BD Spigot software

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**Introduction**

This topic describes how to import existing cytometer settings from previous versions of BD Spigot software using BD FACS Software sorter software.

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**Requirements**

- You must be running BD FACS Software sorter software to perform this procedure.
  - You must have access to BD Spigot data files.
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**Procedure**

To import cytometer settings from BD Spigot:

1. Select **Cytometer > Import Spigot Settings**.

The **Select Cytometer File** dialog opens.

2. Navigate to a folder containing the Spigot configuration files and select the desired configuration.

Configuration files are the files that you loaded in Spigot using **Open Experimental Setup** or **Open Full Configuration**.

3. Click **Open**.

The configuration file imports and sets the BD Influx electronics with the following settings.

Category	Settings
System settings	<ul style="list-style-type: none"><li>● PMT Power</li><li>● PMT Log Amplification Enable/Disable</li><li>● PMT Voltage</li><li>● Laser Delay</li><li>● Trigger Channel</li><li>● Trigger Threshold</li><li>● ADC DC Mode Enable/Disable</li><li>● ADC Laser Select</li><li>● Integrator Baseline</li><li>● Integrator Threshold</li><li>● Integrator Channel</li><li>● Integrator Gain</li></ul>
Sort settings	<ul style="list-style-type: none"><li>● Drop Delay</li><li>● Stream Focus</li><li>● Deflection Gain</li><li>● Drop Amplitude</li><li>● Drop Phase</li><li>● Sort Extra Window</li><li>● Drop Frequency</li><li>● Sort Mode</li></ul>

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# Switching between BD Spigot and BD FACS Software

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**Introduction** This topic describes how to switch between BD FACS Software sorter software and BD Spigot software.

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- Assumptions**
- The system has received a standard upgrade.
  - The pre-existing Spigot computer is being used as the cytometer interface.
  - A new computer having Windows® 7 operating system is used for BD FACS Software software.
  - The system contains only one keyboard and mouse attached to the user interface computer.
  - The cytometer electronics have been upgraded to version 7.1.4.
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**Connecting to Spigot**

To connect to Spigot software, the cytometer interface that starts automatically during start must be turned off (the system service stopped).

**To stop the cytometer interface and connect to Spigot software:**

1. From the Windows 7 **Start** menu, start the remote desktop application and connect to the 192.168.111.1 address.

This connects you to the computer where the cytometer service is running under Windows XP.

2. Log in to the computer.

The user password is BDIS.

3. On the desktop for the cytometer interface computer, double-click the **Stop Cytometer Interface Service** icon.

If the icon is not present, navigate to **Control Panel > Administrative Tools > Services > Cytoserver** and select **Stop Cytoserver** to stop the cytometer interface.

4. Turn off the Auxiliary Power switch.  
This turns off the cytometer electronics.
  5. Wait 30 seconds and turn the Auxiliary Power switch on.  
The cytometer electronics have been cycled.
  6. Start Spigot software.  
You can use Spigot through the remote desktop application.
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**Returning to  
BD FACS Software  
software**

**To use BD FACS Software after using Spigot:**

1. Close Spigot software.
  2. Turn off the Auxiliary Power switch.  
This turns off the cytometer electronics.
  3. Wait 30 seconds and turn the Auxiliary Power switch on.  
The cytometer electronics have been cycled.
  4. On the cytometer interface computer's desktop, double-click the **Start Interface Service** icon.  
  
Listen for two beeps to ensure that the cytometer interface has successfully connected to the cytometer electronics.  
  
If the icon is not present, navigate to **Control Panel > Administrative Tools > Services > Cytoserver** and select **Start Cytoserver** to start the cytometer interface.
  5. Close the remote desktop application.
  6. Start BD FACS Software sorter software.
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