Laser Exposure Control Parameters

These parameters tune the laser exposure time. They can be used to improve the scanner's performance under difficult conditions.

[MinLaserOn] [MaxLaserOn] [DefaultLaserOn] [ImagePercentage] [LaserThreshold] [AutoexposeLaser] [SaturatedIntensity] [SaturatedPercentage] [BackgroundSubtraction]

MinLaserOn

Value Range:	0.01 to 650.0
Default Value:	0.01
Units:	milliseconds
Location:	inside a ScannerConfig block

The minimum length of time the laser will turn on. Sometimes, for very dark materials at a long distance, the laser will not be found at all, which will cause the automatic laser exposure to stop working. If you experience this, increasing **MinLaserOn** will generally solve the problem. If too much of your laser line is blue in Laser View, then you should lower **MinLaserOn.**

MaxLaserOn

Value Range:	0.01 to 650.0
Default Value:	5.0
Units:	milliseconds
Location:	inside a ScannerConfig block

The maximum length of time the laser will turn on. Sometimes, for very dark materials or scanning at a distance, a larger **MaxLaserOn** value is needed to get a good scan. If Laser View data is all red and missing in some places along the scan, then increasing this value may help. This can also be important in encoder-driven scanning to ensure that two interleaved scanners won't overlap and cause cross talk.

DefaultLaserOn

Value Range:	0.01 to 650.0
Default Value:	(**MinLaserOn** + **MaxLaserOn**)/2
Units:	milliseconds
Location:	inside a ScannerConfig block
Firmware Req:	1945 and later

The laser on time used initially and whenever too few profile points are found. It **DefaultLaserOn** is too low, dark objects may not be detected. If too few points are found, the auto-exposure won't determine that it should drive up the exposure. Raising the **DefaultLaserOn** will usually fix the problem.

ImagePercentage

Value Range:	1 to 100
Default Value:	100
Units:	percentage
Location:	inside a ScannerConfig block
Firmware Req:	565 and later

ImagePercentage specifies what percentage of the image to use to find data points. This value is inversely proportionate to the maximum number of scans you can get per second, barring exposure limitations. For example, if you only use 20% of the image, you can get up to 1000 scans per second, assuming the exposure time doesn't exceed 1 ms. Image reading starts from the far end of the scanner's view and moves closer.

LaserThreshold

Value Range:	0 to 1023
Default Value:	120
Units:	brightness
Location:	inside a ScannerConfig block

LaserThreshold is the minimum brightness a data point must have to be considered a valid data point. If ambient light is causing stray data points, raising this value can help. If the laser is not being detected on a piece's darker parts, lowering this value can help. This value is generally set between 80 and 200.

AutoexposeLaser

Value Range:	true or false
Default Value:	true
Location:	inside a ScannerConfig block

This will cause the scanner to automatically control the exposure time, ensuring quality data on a wide range of surfaces. Set this parameter to false only if you want the laser exposure time to remain constant for a specific purpose.

SaturatedIntensity

Value Range:	0 to 1023
Default Value:	800
Units:	brightness
Location:	inside a ScannerConfig block

This is how bright a data point must be to be considered saturated. Only up to **SaturatedPercentage** of the data points are allowed to have a brightness over this level.

SaturatedPercentage

Value Range:	1 to 100
Default Value:	30
Units:	percentage
Location:	inside a ScannerConfig block

The maximum percentage of the pixels in a scan that are allowed to be as bright as the **SaturatedIntensity**.

BackgroundSubtraction

> **Important Note**
>
> On JS-25 models, BackgroundSubtraction is not supported and will be ignored.

Value Range:	true or false
Default Value:	true
Location:	inside a ScannerConfig block

Enabling background subtraction substantially improves the scanner's ambient light immunity, but it also cuts the maximum scan rate in half.