

# Optimizing Buffer Settings

## Xitron Navigator Technical Note

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### Optimizing the print buffer setting

The print buffer is a portion of RAM that has been reserved to hold bitmapped data just before it is sent to the imagesetter. This allows the imagesetter to have instant access to data as soon as it is ready for it. Briefly, it prevents the RIP from falling behind the imagesetter, allowing the imagesetter to run at full speed and eliminating "stop-starts."

The optimum setting for the print buffer will depend on the type and size of your imagesetter, and the resolution at which you are running. There is no easy formula to determine the perfect setting for your print buffer.

The print buffer is represented graphically while the RIP is imaging. The job being imaged is represented on the rip as a box that fills with black as the data for the job is moved to the imagesetter. If you look closely at the graphic of the imaging job you will notice that the box is filled first by gray and then by black. The gray represents the data in the print buffer.

By examining the following aspects of production you can determine whether or not you need to change your print buffer settings.

1. Are you getting "Data Under-run" errors?

This is a distinct sign that your print buffer is not set high enough. A Data Under Run error occurs when the imagesetter is requesting more bitmap data and there is none waiting to be sent to it. If the print buffer runs out of information, the imagesetter will not have the instant access to bitmap data that it needs to continue.

2. Examine the graphic representation of an imaging job. This is a box on the rip that fills with black as the job is sent to the imagesetter.

There should be a gray bar that appears before the job starts imaging and remains slightly in front of the black as it fills the box.

If there is too much gray (print buffer) in front of the black (data sent to the imagesetter) you are devoting too much memory to the print buffer which could be put to better use by the RIP or the operating system. In this case reduce the amount entered for the print buffer.

If there is very little gray (print buffer) in front of the black (data sent to the imagesetter) or you can see no gray at all, your print buffer is dangerously low. In this case you will want to increase the amount of RAM allocated to your print buffer. This can be tricky if you are imaging large pages, as the progress window shows the printer buffer's size relative to the entire physical size of the page.

The number that you enter for the print buffer is in thousands of bytes. For instance, if you were to enter 1024 as the value for your print buffer, this would set aside one megabyte (1024k). It is a good idea to optimize this setting – not too high, not too low. Try not to make large jumps, test between each setting to see if you have achieved the results you desire.

**IMPORTANT NOTE:** Print Buffer settings that are too high can often cause more problems than settings that are too low. This is one case where more is NOT always better.

### **Optimizing the network buffer**

The Network buffer is a portion of memory set aside for network communications, it is only important when publishing a RIP input as an AppleTalk device or as a Named Pipe from the RIP's input manager. If you are not using AppleTalk or Named Pipe from the RIP's input manager set this value to 64.

A high value for the network buffer will not necessarily increase printing speeds. The goal of this buffer is to keep network communication (printing to the RIP) moving at maximum speed. Normally the RIP will process an incoming file as it arrives. There are times, however, when the imaging processes will require large amounts of the RIP's resources and it cannot keep up with the incoming data. Rather than stopping the incoming data, the information is placed in the network buffer temporarily until the RIP can catch up with the network communication.

When a file is printed to the rip a progress window will appear. This window provides information about the channel the job is coming from and shows the number of bytes that have arrived. You will notice that there is a set of parenthesis ( ) to the right of the number of bytes read. This represents the network buffer. If a number appears in these parenthesis, the rip has used that much of the network buffer.

For best results, the number in parenthesis should never equal or exceed the amount of network buffer that you have allocated. If it does on a regular basis, you will improve RIP performance by increasing the network buffer size. Keep in mind that the memory dedicated to the network buffer cannot be used for anything else. If you do not have a lot of memory it may be better to leave the network buffer at a lower setting.