

First Line Calculator

The First Line Calculator utility has two primary functions:

- **Disk Usage Estimation.** Calculate the amount of disk space required to record video at various settings, or calculate the amount of video that can be stored in the available disk space.
- **Bandwidth Calculator.** Calculate the amount of bandwidth required to remotely view video at various settings.

These utilities are covered in the following sections.



DISK USAGE ESTIMATION

To estimate the amount of disk space required to store recorded video, run First Line Calculator and select the Disk Usage Estimation tab.

1. Enter the camera settings.

Enter the following settings for connected cameras:

- **Number of Cameras.** This can be up to 32 cameras depending on the DVX model.
- **Frame Size.** This can be any number from 7000 to 40000 bytes.
- **Frames Per Second.** This is limited by the hardware and number of cameras. FrameServer-based systems record 60 frames per second per camera, whereas XP systems record 12 or 20 frames per second per camera, depending on the desired configuration.
- **Activity Level.** This is an estimate of how much motion occurs in a camera's view. Low activity is about 7%; medium activity is about 12%; high activity is about 20%.

2. Divide cameras into groups.

You can enter settings for up to three types of cameras sorted in the following columns:

- **Primary.** This is a group of cameras that share the same frame size, frames per second, and activity level.
- **Secondary.** This is a group of cameras that share similar settings that are different from the primary group.
- **PTZ/Free Run.** These cameras run PTZ tours or are configured to record continuously. This group has an activity level of 100% by default.

NOTE: The total number of cameras in the three columns cannot exceed the number of inputs available on the system.

EXAMPLE: Suppose you have a fully populated DVX 16000. Ten of the cameras record 15000-byte images at 1 frame per second; four cameras record 25000-byte images at 3 frames per second; and two PTZ cameras record 15000-byte images at 1 frame per second. You could enter the first 10 cameras in the Primary column, the next four cameras in the Secondary column, and the final 2 cameras in the PTZ/Free Run column.

3. Select a duration.

Finally, enter the duration of recording in the Desired Recording Time field on the Space Requirements tab. For example, if you want to see the amount of disk space required to store video at the specified settings for 30 days, enter 30 and select the Days option. You can also select the duration in Hours.

4. View the required disk space.

The amount of disk space required (in gigabytes) is displayed in the Required Disk Space field.

NOTE: Reverse Calculation

You can also estimate the duration of recording possible based on the size of the disk space available. To do this, complete steps 1 and 2, and then select the Time Available tab. Enter the available disk space (in gigabytes). The amount of time you could record video at the specified settings is displayed in the Available Recording Time field. You can view this duration in Days or Hours.



BANDWIDTH CALCULATOR

To estimate the amount of bandwidth required to view video remotely, run First Line Calculator and select the Bandwidth Calculator tab.

1. Enter the camera settings.

Enter the following settings for connected cameras:

- **Frame Size.** This can be any number from 7000 to 40000 bytes.
- **Frames Per Second.** This is limited by the hardware and number of cameras. FrameServer-based systems record 60 frames per second per camera, whereas XP systems record 12 or 20 frames per second per camera, depending on the desired configuration.

2. Divide cameras into groups.

You can enter settings for up to three types of cameras sorted in the following columns:

- **Primary.** This is a group of cameras that share the same frame size, frames per second, and activity level.
- **Secondary.** This is a group of cameras that share similar settings that are different from the primary group.
- **PTZ/Free Run.** These cameras run PTZ tours or are configured to record continuously.

3. Enter the RemoteView Client settings.

Enter the following remote client settings:

- **Scale Level.** This is the scale level selected in the RemoteView application. A setting of zero downloads video of the quality at which it is recorded. A setting of 1 downloads video at 80–85% quality. Each successive setting, up to 5, downloads video at a progressively lower quality.
- **Number of Cameras Viewed by Each Remote User.** The greater the number of cameras viewed at a time by each user, the more bandwidth required.
- **Number of Concurrent Viewers.** This is the number of users connected remotely to the DVX server at a given time.

4. View the required bandwidth.

The amount of bandwidth required to view video at the specified settings is displayed in the Bandwidth Used field. You can view the results in kilobits, kilobytes, megabits, or megabytes per second. The amount of a typical 10Mb or 100Mb LAN consumed by the indicated amount of bandwidth is also displayed.