How To:
XDi and ET Series Calculator
Network Bandwidth and Storage Capacity

Version 1.01

(August 5, 2016)

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1 Overview

This document describes how to use the network bandwidth and storage estimator.

The network bandwidth and storage estimator is a useful web-based tool for user to estimate the network bit rate and storage capacity to record the images when the video stream's parameters such as resolution, quality and frame rates are changed.

2 Prerequisite

A web browser is needed to access the network bandwidth and storage estimator program.

- Recommended web browser
  - Internet Explorer: version 11.0.9600.17728 or higher
  - Chrome: version 41.0.2272.118m or higher

3 Program Description

Open your web browser and visit:
http://www.costarvideo.com/Resources/Calculators/XDi-Series-Storage-Calculator

3.1 NVR (Network Video Recorder)

- NVR Model: NVR model name
- HDD Capacity: Storage capacity value that is used to calculate the recordable time length.
- Bandwidth Unit : Displayed bandwidth measurement unit
    - bps (bit per second) / Kbps / Mbps
    - Bps (Byte per second) / KBps / MBps

3.2 IP Camera

- Camera Model: Camera model name that is connected to the NVR
- Number of Cameras: Number of the selected camera model that is connected to the NVR
- Insert Camera: Insert the selected camera to calculate the network bandwidth and storage calculation.
- ▼: Set the live, remote and record video profile

If you select ▼ button, then the following window will be shown in your browser.

- Live/Remote Video Profile
    - Live 1: 1st live video profile
    - Live 2: 2nd live video profile
    - Remote: Remote video profile
- Record Video Profile
    - Time Lapse: Continuous recording mode
    - Events: Post-event mode
    - Note) Pre-event mode is not included in the estimator program

- Encode: Video encoding format
  - Currently, H.264 format is supported only
- Resolution: Video resolution
  - 352x240, 640x360, 704x480, 1280x720, 1920x1080 and so on.
- Frame Rate: Video frame rate
  - 1, 2, 3, 4, 5, 10, 15, 30 fps (frame per second)
- Video Quality: Video quality
  - Basic, standard, high, very high
- Bandwidth: Bandwidth value when the encode, resolution, frame rate and video quality parameters are selected by user
- Event Ratio: The ratio of event recording data compared to the entire recording data
  (e.g. 15%: event recording data = 15%, continuous recording data = 85%)

3.3 Selected Cameras

If the 'Insert Camera' is pressed, then the selected camera will be added to the 'Selected Cameras' list as shown below.

You can estimate the network bandwidth throughput for transmitting the live, recording or remote video data.

Selected Cameras						
Camera Model	Number of Cameras	Bandwidth				Menu
		Recording	Live	Remote	Total	
CDI2109VW	1	8.19 Mbps	8.19 Mbps	1.34 Mbps	17.72 Mbps	M x ▲
						▼
Total	1	8.19 Mbps	8.19 Mbps	1.34 Mbps	17.72 Mbps	

- Bandwidth: The estimated result of live, recording, remote and total bandwidth
  - Total bandwidth value can be set to maximum bandwidth value based on the performance of each NVR.
- M : Modify the video profile of selected camera(s)
  - If you press this button, then the video profile setting window will be displayed and you can modify the configuration of video file.
- x : Remove the selected camera(s)
- Especially, the recording bandwidth result is used to calculate the disk capacity and recordable time length.

3.4 Required Disk Capacity

This information helps user to estimate the disk capacity to record the video images during defined duration.

Required Disk Capacity	Set Record Duration :	10 Hour(s) ▼	
Duration	1 Hour	1 Day	1 Month
Capacity	3.52 GB	84.38 GB	2.55 TB

- Duration: The duration that the video images of selected cameras should be recorded.
- Capacity: The disk capacity that is needed to store the video images during the defined duration

- Set Record Duration: User can set the record duration manually. If this option is checked, the duration will be changed to the user defined value as follows.

Required Disk Capacity	✔ Set Record Duration :	100	Day(s) ▾
Duration			100 Day(s)
Capacity			10.3 TB

3.5 Recordable Time Length

This information helps user to estimate the time length that can be recorded in the defined disk capacity.

Recordable Time Length	☐ Set Disk Capacity :	1	TB ▾	
Disk Size	Hours	Days	Months	
1 TB	233	9.7	0.3	

- Disk Size: The total size of disks that are installed in the NVR internally and externally.
- Set Disk Capacity: User can set the disk capacity manually. If this option is enabled, the disk size will be changed to the user defined value as follows.

Recordable Time Length	✔ Set Disk Capacity :	8	TB ▾	
Disk Size	Hours	Days	Months	
8 TB	1,864.1	77.7	2.6	

Version History

Version	Writer	Revision Date	Remarks
1.00	Daniel Lee	Apr. 20. 2015	Initial Release
1.01	Jeff Cullop	Aug. 05. 2016	Costar Video Update