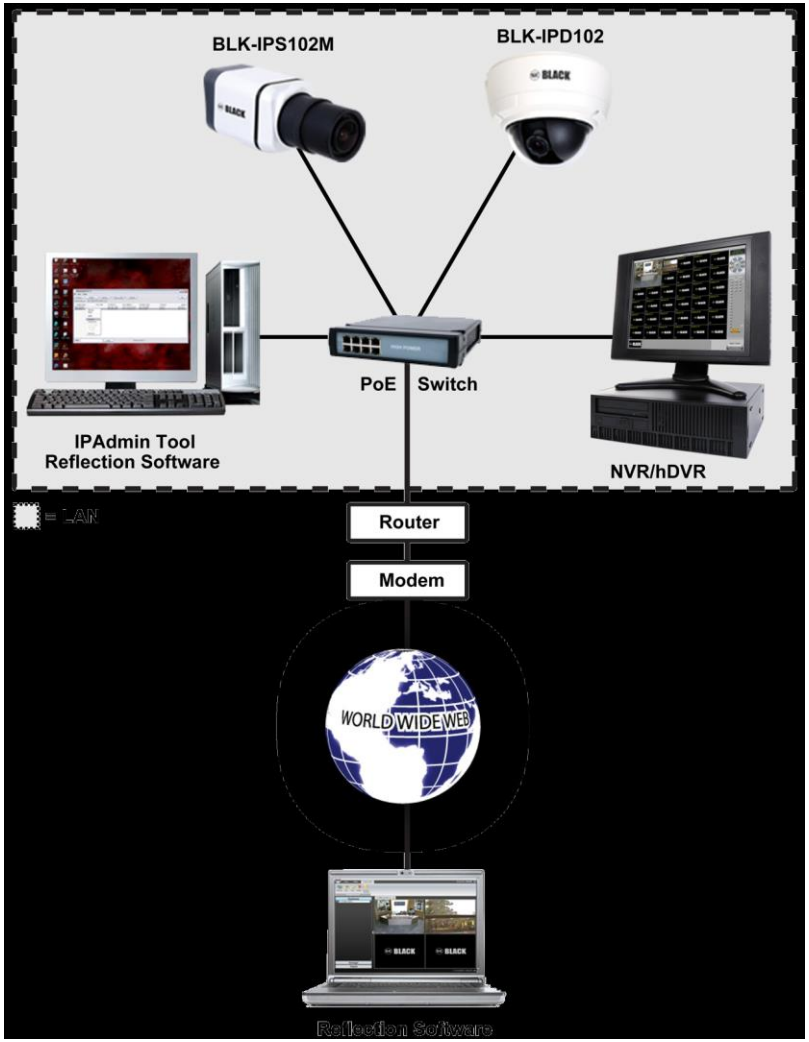
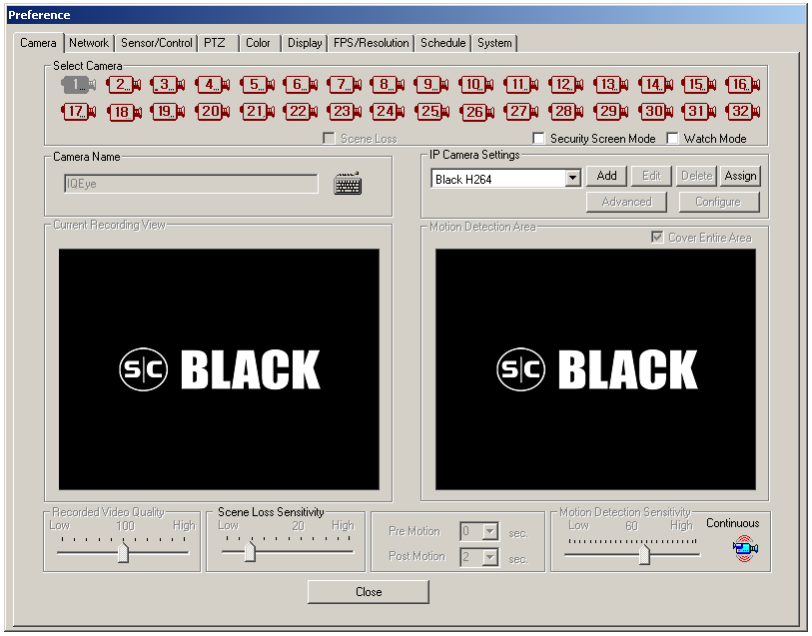
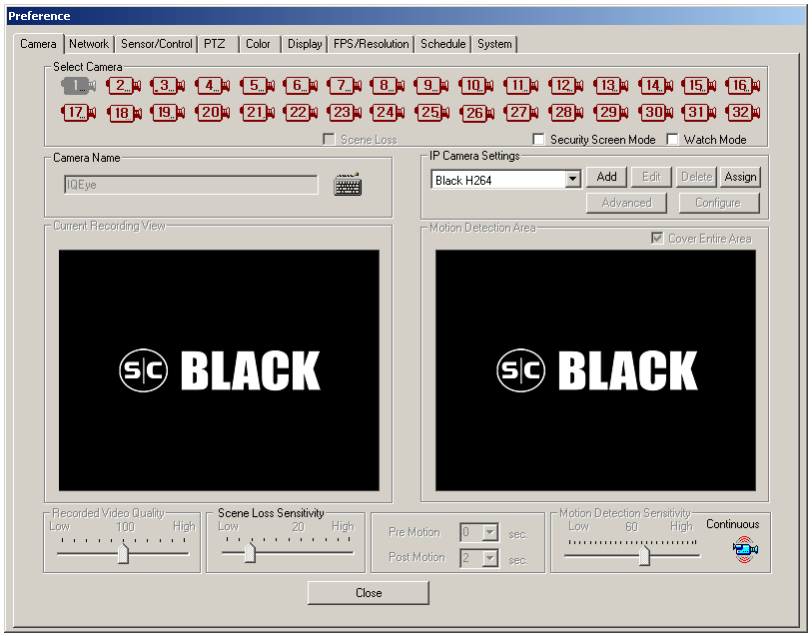
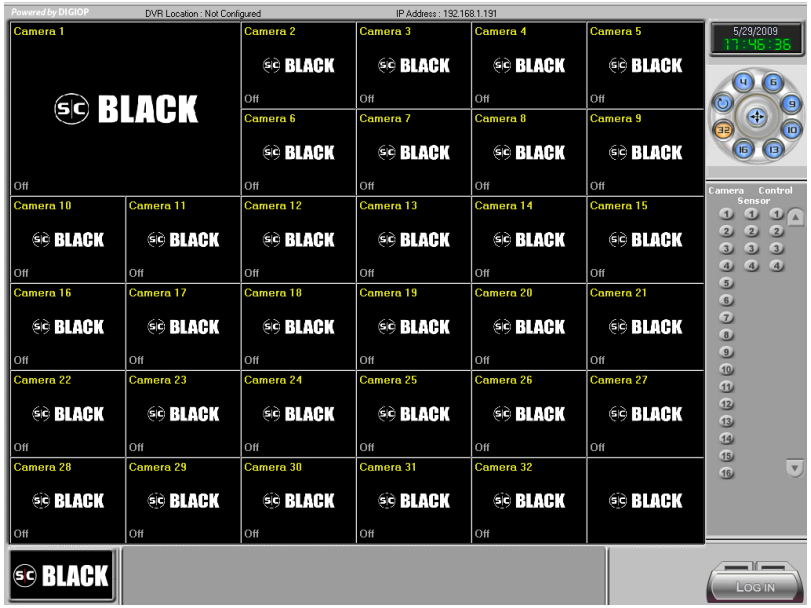
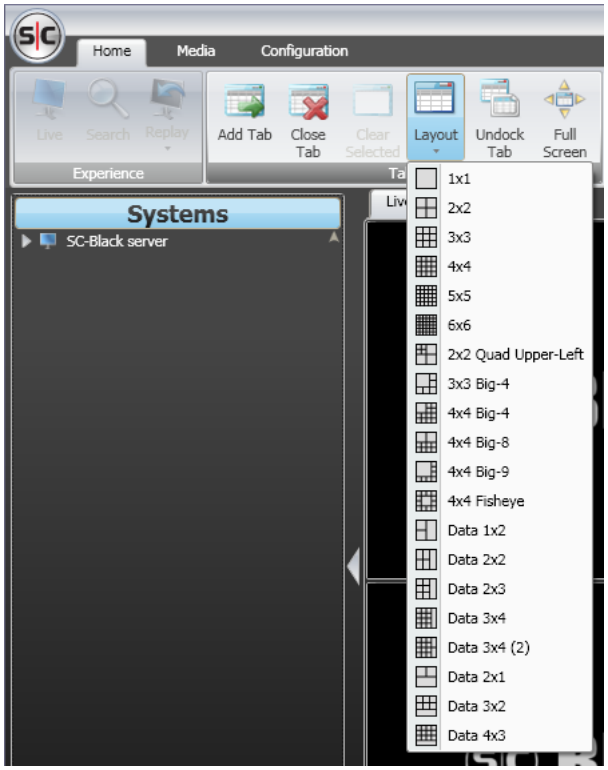
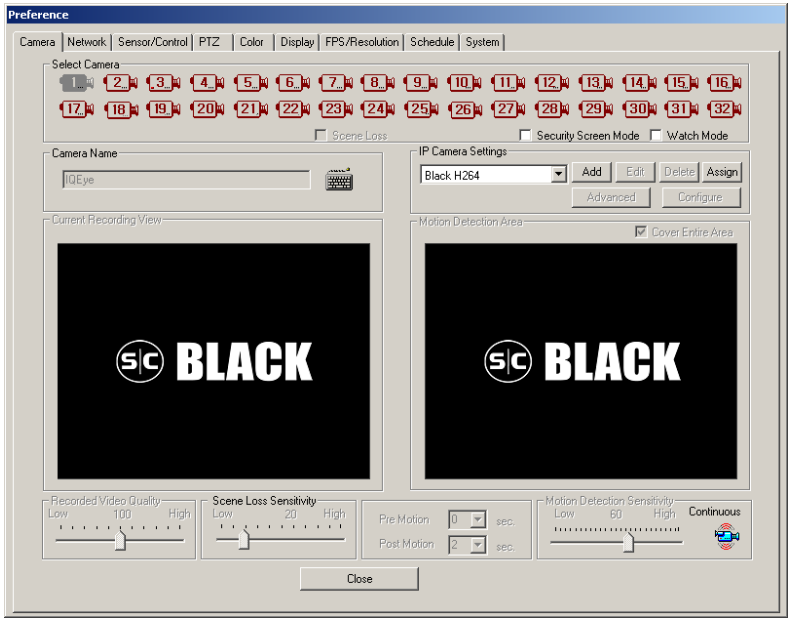
Independent Claim No. 12	HAWK USP RE43,462 E	Product Disclosure	Comments & Reference
The method of simultaneously displaying and storing multiple video images, comprising the steps of: *[12.0]*	***(4:37-44)*** "The present invention implements a …video monitoring system … employing display windowing software… The preferred recording medium…" ***(Abstract, ll. 1-8)*** "A PC-based system for monitoring and storing representative images from video cameras may be utilized for security or other monitoring applications. Camera inputs from digital or analog sources are individually and independently digitized and displayed at a first set of image sizes, sampling rates, and frame rates, and may be stored in digital form on various recording media at a second set of image sizes, sampling rates, and frame rates, and these two sets of sizes and rates may or may not be identical." ***(4:37–41)*** "…an automated video monitoring system by way of a PC-based platform employing display windowing software, with camera sources being interfaced to an input circuit board which includes provisions for image data compression."		"SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 3

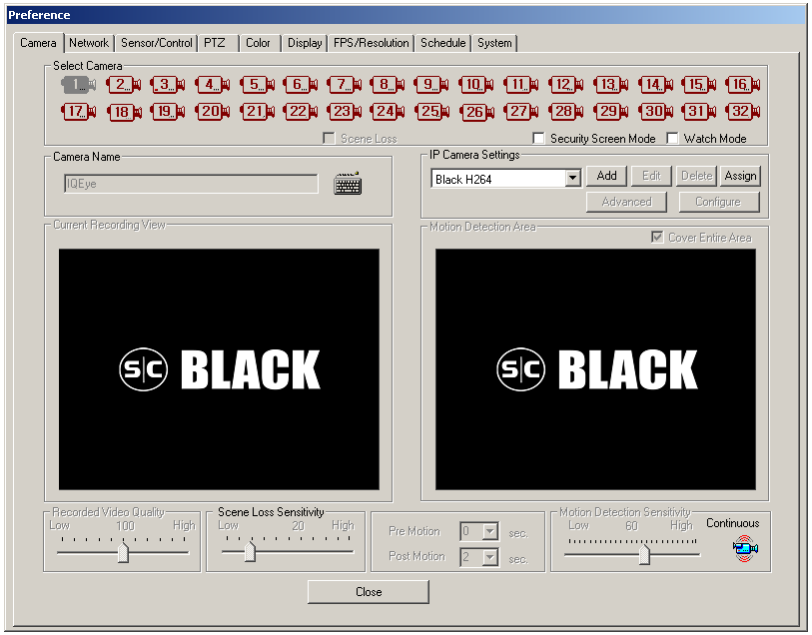
Independent Claim No. 12	HAWK USP RE43,462 E	Product Disclosure	Comments & Reference
receiving video images *at a personal computer based system* from ~~a plurality of~~*one or more* sources; *[12.1]*	***(Abstract, ll. 1-8)*** ***"***A PC-based system for monitoring and storing representative images from video cameras may be utilized for security or other monitoring applications. Camera inputs from digital or analog sources are individually and independently digitized and displayed at a first set of image sizes, sampling rates, and frame rates, and may be stored in digital form on various recording media at a second set of image sizes, sampling rates, and frame rates, and these two sets of sizes and rates may or may not be identical. ***(2:66–3:3)*** "The present invention implements an automated video monitoring system by way of a PC-based platform employing display windowing software, with camera sources being interfaced to an input circuit board which includes provisions for image data compression."	**Source:** **"SECTION 3: EQUIPMENT TESTING AND SYSTEM SETUP"** (Camera selection process). 	"SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 20

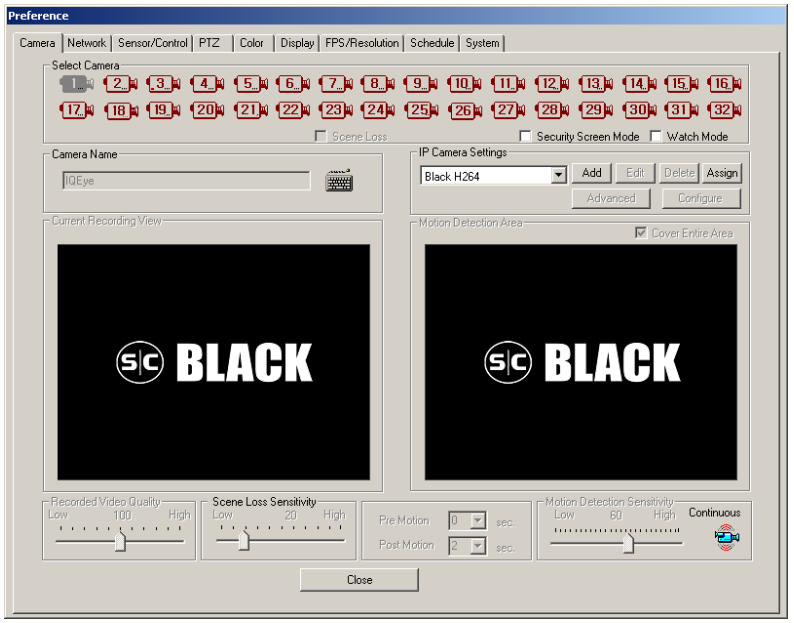
Independent Claim No. 12	HAWK USP RE43,462 E	Product Disclosure	Comments & Reference
digitizing~~one or more~~*any* of the images ~~if~~ not already in digital form *using an analog-to-digital converter*; *[12.2]*	***(Abstract, ll. 1-8)*** "A PC-based system for monitoring and storing representative images from video cameras may be utilized for security or other monitoring applications. Camera inputs from digital or analog sources are individually and independently digitized and displayed at a first set of image sizes, sampling rates, and frame rates, and may be stored in digital form on various recording media at a second set of image sizes, sampling rates, and frame rates, and these two sets of sizes and rates may or may not be identical. ***(2:66–3:3)*** "The present invention implements an automated video monitoring system by way of a PC-based platform employing display windowing software, with camera sources being interfaced to an input circuit board which includes provisions for image data compression."	***Note:*** *Not required for NVR if digitization step is performed in the camera itself.*  *Note that the example above identifies an H.264 input source.*	"SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 20

Independent Claim No. 12	HAWK USP RE43,462 E	Product Disclosure	Comments & Reference
displaying at least certain of the digitized images in separate windows on a *personal computer based* display device, using a first set of temporal and spatial parameters associated with each image in each window; *[12.3]*	***(Abstract, ll. 1-8)*** "A PC-based system for monitoring and storing representative images from video cameras may be utilized for security or other monitoring applications. Camera inputs from digital or analog sources are individually and independently digitized and displayed at a first set of image sizes, sampling rates, and frame rates, and may be stored in digital form on various recording media at a second set of image sizes, sampling rates, and frame rates, and these two sets of sizes and rates may or may not be identical. ***(2:66–3:3)*** "The present invention implements an automated video monitoring system by way of a PC-based platform employing display windowing software, with camera sources being interfaced to an input circuit board which includes provisions for image data compression." ***(4:64-65)*** "Fig. 1 shows a computer monitor display for a system configured in accordance with Mode I as listed in Fig. 15."	 **Typical SC Black server multi-image display**	"SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 14

Independent Claim No. 12	HAWK USP RE43,462 E	Product Disclosure	Comments & Reference
		"**Layout Options** In the view frames you can create camera layouts that fit the specific needs of your surveillance objectives. Multiple tabs can be setup, with 2x2 frame grids to layouts for up to 36 cameras. Select the layout you prefer and then drag your cameras or DVR to a frame from the left panel. Add a new tab and create a different layout, or drag cameras from different DVRs to the same layout on a single tab. " 	"SC Black – *Reflection Software Quick Start Guide",* Page 1

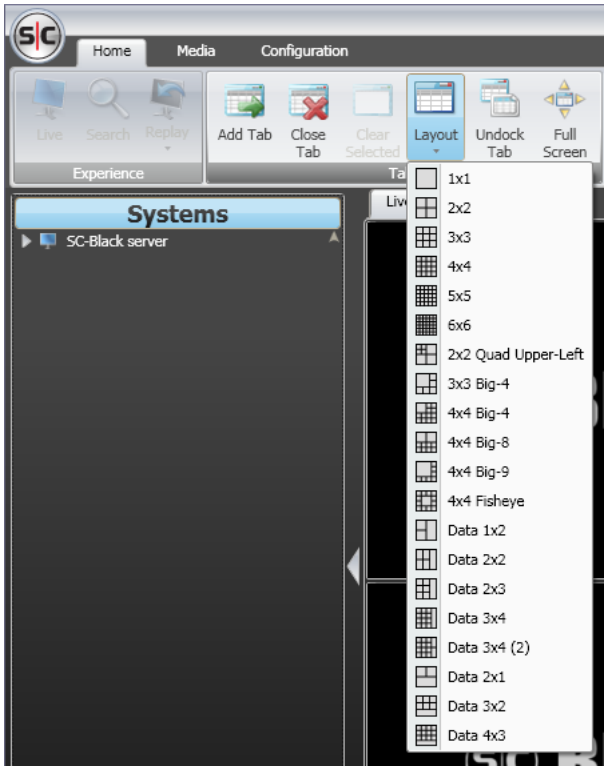
Independent Claim No. 12	HAWK USP RE43,462 E	Product Disclosure	Comments & Reference
		 *Note that the example above shows Tab for setting "**FPS/Resolution**" for each input source.*	"SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 20

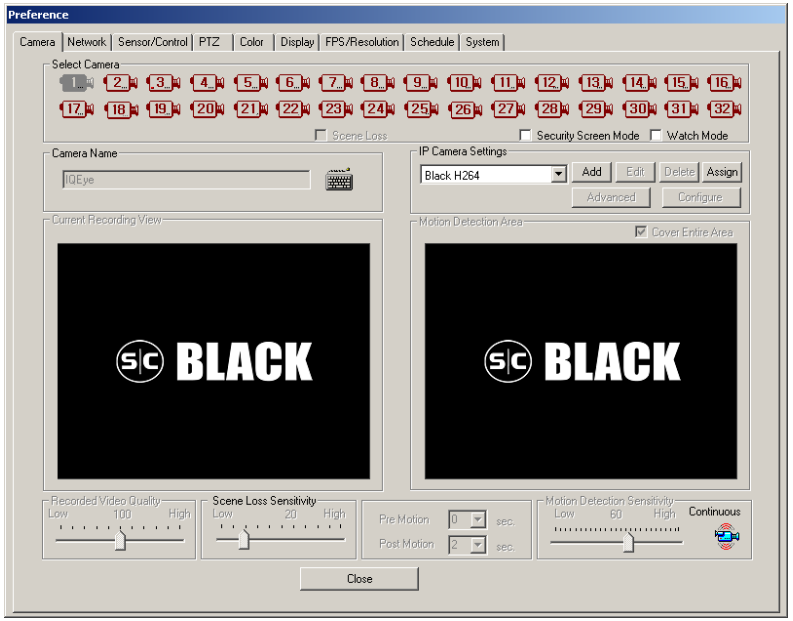
Independent Claim No. 12	HAWK USP RE43,462 E	Product Disclosure	Comments & Reference
~~simultaneously storing the displayed images~~*converting one or more of the video source images into a data storage format* using a second set of temporal and spatial parameters associated with each image*; and [12.4]*	***(6:34–40)*** "It should be noted that there is no requirement that the image sizes or frame rates utilized for the video display match those utilized for the storage media. In practice, these two specifications may not agree, and will be determined by other factors, such as operator manipulation of the displayed image sizes or changes resulting from the detection of alarm conditions." ***Note:*** *The computer storage format is a "container" for the audio and video information, which is encoded in some compression codec. Popular computer storage formats include MOV, AVI, etc.* *This claim element deals with converting a video file which has been compressed according to some established codec (like H.264), into a computer-readable container file (like MOV, or Quicktime).*	 **"**Smoothness of the recorded video is dependent upon several factors including compression level, capture size, and the maximum frame rate of your recorder. Most NVR/hDVRs record at frame rates of 30, 90, or 120 frames per second (fps). The frame rate of your NVR/hDVR is divided between each channel being recorded. For example, a 90 fps DVR recording 4 channels will record 22.5 fps per channel, which will appear fairly smooth. By contrast, a 120 fps NVR/hDVR recording 9 channels will record 13 fps, which will not appear smooth and fluid, particularly when compared to a normal TV broadcast at 29.97 fps."	"SC Black *-NVR and Hybrid DVR Systems Setup Guide",* Page 20 "SC Black *-NVR and Hybrid DVR Systems Setup Guide",* Page 26

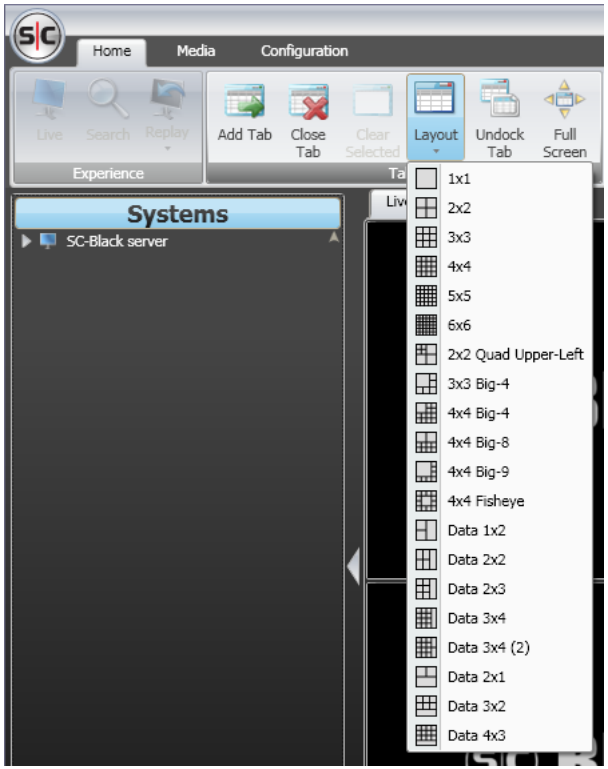
Independent Claim No. 12	HAWK USP RE43,462 E	Product Disclosure	Comments & Reference
simultaneously storing the converted images in a storage device. [12.5]	***(3:64–67)*** "It is a further object of the invention to provide extended recording time for event-logging or security applications by means of either tape-based, or disk-based, or both tape-based and disk-based data recording means." ***(3:30–40)*** "Storage of images may be implemented by way of a tape back-up device, such as a DAT or 8-mm tape recorder, which are capable of storing as much as 960 hours of monitoring images, or by way of disk storage devices, preferably including removable disk drives such as magneto-optical disks or PCMCIA-compatible disk-drive modules. Images are preferably stored as a succession of data-compressed representations, corresponding to various window sizes sampled at diverse update rates; however, though the image representations need not be identical to the sizes and rates used for video monitors displaying the various images."	This screen is used to assign a camera to a specific NVR:  **"**Smoothness of the recorded video is dependent upon several factors including compression level, capture size, and the maximum frame rate of your recorder. Most NVR/hDVRs record at frame rates of 30, 90, or 120 frames per second (fps). The frame rate of your NVR/hDVR is divided between each channel being recorded. For example, a 90 fps DVR recording 4 channels will record 22.5 fps per channel, which will appear fairly smooth. By contrast, a 120 fps NVR/hDVR recording 9 channels will record 13 fps, which will not appear smooth and fluid, particularly when compared to a normal TV broadcast at 29.97 fps."	"SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 20 "SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 26

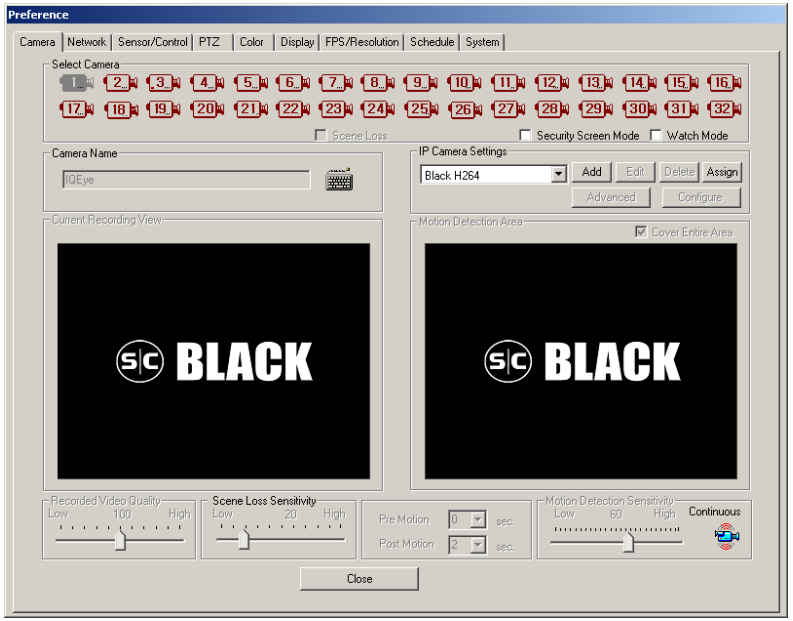
Dependent Claim No. 13	HAWK USP RE43,462	Product Disclosure	Comments & Reference
The method of claim 12, the temporal parameters including frame rate. *[13.0]*	As is well-understood in the industry, the term “temporal parameters” covers both data rate and update rate (frame rate).		

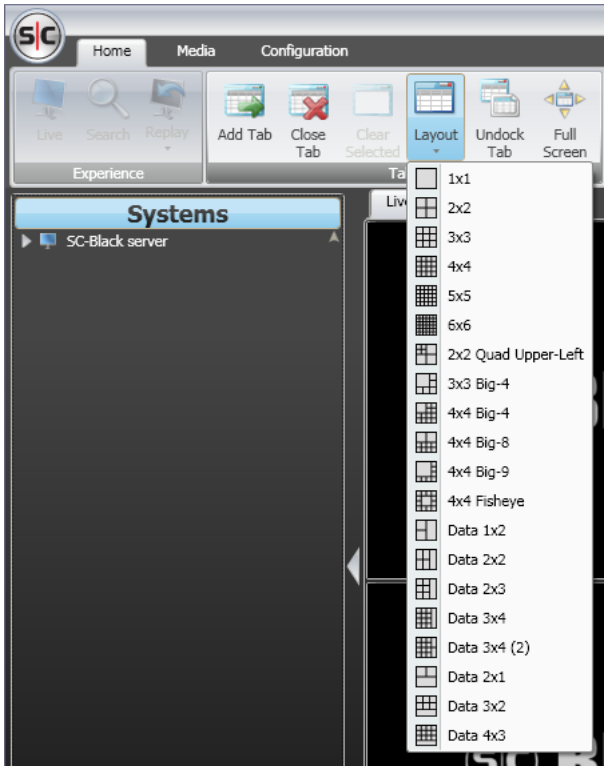
Dependent Claim No. 14	HAWK USP RE43,462	Product Disclosure	Comments & Reference
The method of claim 12, the spatial parameters including image dimension in pixels. *[14.0]*	As is well-understood in the industry, the term “spatial parameters” covers pixel dimensions (resolution)		

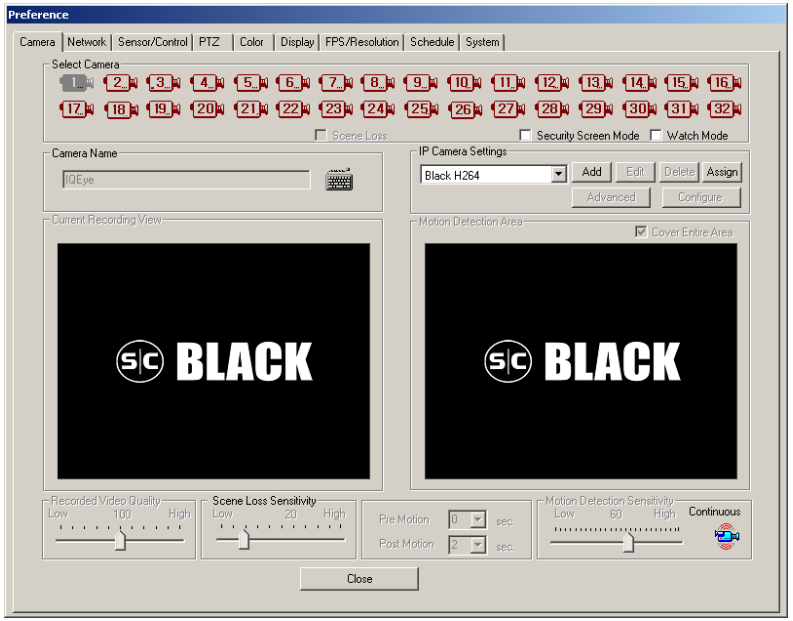
Dependent Claim No. 9	HAWK USP RE43,462	Product Disclosure	Comments & Reference
The method of claim ~~8~~*12*, further including the step of receiving a command to set the frame rate and resolution associated with the display and storage of a particular image. *[9.0]*	***(2:66–3:3)*** "The present invention implements an automated video monitoring system by way of a PC-based platform employing display windowing software, with camera sources being interfaced to an input circuit board which includes provisions for image data compression." ***(6:34–40)*** "It should be noted that there is no requirement that the image sizes or frame rates utilized for the video display match those utilized for the storage media. In practice, these two specifications may not agree, and will be determined by other factors, such as operator manipulation of the displayed image sizes or changes resulting from the detection of alarm conditions." ***(8:28–42)*** "It will be appreciated that in any of these implementations, alarm or sensor signals may be utilized to automatically re-configure the system operating mode, as, for example, increasing the frame rate or image size for an image source associated with the sensor which has initiated the alarm signal condition. As explained above, the displayed windows and image sizes may be reconfigured into an operating mode different from the reconfiguration of the digital storage mode. If desired, the operator may choose to allow the system to automatically adjust the compression ratio utilized for a particular window in response to alarm signal conditions. Alternatively, the compression ratio may be adjusted in response to the selection by the operator of a particular window for closer monitoring, by switching to an image window having larger dimensions in pixels."	"**Layout Options** In the view frames you can create camera layouts that fit the specific needs of your surveillance objectives. Multiple tabs can be setup, with 2x2 frame grids to layouts for up to 36 cameras. Select the layout you prefer and then drag your cameras or DVR to a frame from the left panel. Add a new tab and create a different layout, or drag cameras from different DVRs to the same layout on a single tab. " 	"SC Black – *Reflection Software Quick Start Guide",* Page 1

Dependent Claim No. 9	HAWK USP RE43,462	Product Disclosure	Comments & Reference
		 *Note that the example above shows Tab for setting "**FPS/Resolution**" for each input source.*	"SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 20

Dependent Claim No. 10	HAWK USP RE43,462	Product Disclosure	Comments & Reference
The method of claim 9, wherein the command is based upon an operator input. *[10.0]*	***(2:66–3:3)*** "The present invention implements an automated video monitoring system by way of a PC-based platform employing display windowing software, with camera sources being interfaced to an input circuit board which includes provisions for image data compression." ***(6:34–40)*** "It should be noted that there is no requirement that the image sizes or frame rates utilized for the video display match those utilized for the storage media. In practice, these two specifications may not agree, and will be determined by other factors, such as operator manipulation of the displayed image sizes or changes resulting from the detection of alarm conditions."	"**Layout Options** In the view frames you can create camera layouts that fit the specific needs of your surveillance objectives. Multiple tabs can be setup, with 2x2 frame grids to layouts for up to 36 cameras. Select the layout you prefer and then drag your cameras or DVR to a frame from the left panel. Add a new tab and create a different layout, or drag cameras from different DVRs to the same layout on a single tab. " 	"SC Black – *Reflection Software Quick Start Guide",* Page 1

Dependent Claim No. 10	HAWK USP RE43,462	Product Disclosure	Comments & Reference
		 *Note that the example above shows Tab for setting "**FPS/Resolution**" for each input source.*	"SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 20

Dependent Claim No. 11	HAWK USP RE43,462	Product Disclosure	Comments & Reference
The method of claim 9, wherein the command is based upon an external stimulus. *[11.0]*	***(6:34–40)*** "It should be noted that there is no requirement that the image sizes or frame rates utilized for the video display match those utilized for the storage media. In practice, these two specifications may not agree, and will be determined by other factors, such as operator manipulation of the displayed image sizes or changes resulting from the detection of alarm conditions." ***(8:28–42)*** "It will be appreciated that in any of these implementations, alarm or sensor signals may be utilized to automatically re-configure the system operating mode, as, for example, increasing the frame rate or image size for an image source associated with the sensor which has initiated the alarm signal condition. As explained above, the displayed windows and image sizes may be reconfigured into an operating mode different from the reconfiguration of the digital storage mode. If desired, the operator may choose to allow the system to automatically adjust the compression ratio utilized for a particular window in response to alarm signal conditions. Alternatively, the compression ratio may be adjusted in response to the selection by the operator of a particular window for closer monitoring, by switching to an image window having larger dimensions in pixels."	"**Layout Options** In the view frames you can create camera layouts that fit the specific needs of your surveillance objectives. Multiple tabs can be setup, with 2x2 frame grids to layouts for up to 36 cameras. Select the layout you prefer and then drag your cameras or DVR to a frame from the left panel. Add a new tab and create a different layout, or drag cameras from different DVRs to the same layout on a single tab. " 	"SC Black – *Reflection Software Quick Start Guide",* Page 1

Dependent Claim No. 11	HAWK USP RE43,462	Product Disclosure	Comments & Reference
		 *Note that the example above shows Tab for setting "**FPS/Resolution**" for each input source.* *Note also that provisions are included for setting "Motion Detection Sensitivity".*	"SC Black -*NVR and Hybrid DVR Systems Setup Guide",* Page 20