

IP Camera API Parameter Specification

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DOCUMENT HISTORY

Version	Date	Comment
2.01	2009-Aug-27	Initial version.
2.02	2009-Dec-18	<p>HD WDR Camera:</p> <p>Add motion group parameter</p> <p>Add time parameter</p> <p>HD IP Camera:</p> <p>Add resolution</p> <p>Add motion group parameter</p> <p>Add time parameter</p> <p>Add sensor parameter</p> <p>V Series:</p> <p>Add motion group parameter</p> <p>Add time parameter</p> <p>Add sensor parameter</p> <p>IP PTZ:</p> <p>Add resolution</p> <p>Add sensor parameter</p>
2.03	2010-Apr-12	<p>Add 2.1.9 UPnP</p> <p>Add 2.1.10 UPnP NATTraversal</p> <p>Update 2.2.2 Image.I0.Appearance</p> <p>Update 2.2.5 Image.I0.RateControl</p> <p>Update 2.12.2 AudioSource.A0</p> <p>Add 2.1.3 Network.PPPoE</p> <p>Add 2.2.6 Image.I0.Text</p> <p>Add 2.6.3 Time.DST</p> <p>Add 2.13 Recording</p>
2.04	2010-Dec-3	<p>Add model names: V2 (NA222, NV222), V3 (NA322, NV322), V5 (NA052, NV052)</p> <p>Add 2.1.11 Network.Filter</p> <p>Add 2.1.12 Network.IPv6</p> <p>Add 2.1.13 Network.Interface.I0.dot1x</p> <p>Add 2.1.14 Network.QoS</p> <p>Add 2.1.18 SNMP</p> <p>Add 2.1.19 HTTPS</p> <p>Add 2.4.9 Event HTTP notification function</p>

		<p>Add 2.17 Tampering</p> <p>Add 2.19 RS-485 Control</p>
2.05	2011-June-1	<p>Update camera firmware version</p> <p>Add model: Full HD Multiple Streams Series IP Camera</p> <p>Update 2.2.2 Image.I0.Appearance</p> <p>Update 2.2.3 Image.I0.Overlay.MaskWindows</p> <p>Update 2.2.4 Image.I0.Overlay.MaskWindows.M#</p> <p>Update 2.2.7 ImageSource.I0.Sensor</p> <p>Update 2.15.1 Frame skip</p> <p>Add 2.15.2 Frame rate</p> <p>Add 2.20 Storage Management</p>
2.06	2011-Sep-28	<p>Add model: Full HD IP PTZ</p> <p>Update 2.2.2 Image.I0.Appearance</p> <p>Update 2.2.3 Image.I0.Overlay.Maskwindows</p> <p>Update 2.2.4 Image.I0.Overlay.MaskWindows.M#</p> <p>Update 2.2.5 Image.I0.RateControl</p> <p>Update 2.2.7 ImageSource.I0.Sensor</p> <p>Update 2.3 I/O</p> <p>Update 2.4.7 Event activated function(PTZ Camera exclusive)</p> <p>Update 2.6.3 Time.DST</p> <p>Update 2.9 Autopan(PTZ Camera exclusive)</p> <p>Update 2.10 Cruise (PTZ Camera exclusive)</p> <p>Update 2.11 Guard Tour (PTZ Camera exclusive)</p> <p>Update 2.15.2 Frame rate (Full HD Multiple Streams Series/Full HD IP PTZ exclusive)</p> <p>Update 2.16 Motion</p> <p>Add Section 2.18 Network Failure Detection</p> <p>Update 2.19 IR</p>

1 OVERVIEW

This document specifies the parameters and configuration files for the H.264 IP cameras/device mentioned below:

Classification	Model name
HD WDR IP Camera	NH061 NH221 NH071
HD IP Camera	NH062 NH102
V series	V6(NV062) V1(NV102) V2 (NA222, NV222) V3 (NA322, NV322) V5 (NA052, NV052)
IP PTZ	DH510e, DH610e, DH701e DH801 ⁺ e
Video Server	VS201
Full HD Multiple Streams IP Camera	NH063 NH223 NH323 NH053 NH073 W1(NV103) W6(NV063) W2(NV223) W3(NV323) W5(NV053)
Full HD IP PTZ	NH720 NH820

Model List of PTZ Camera Modules

Model name
I: 12X (DIVA) S1: 30x (DIVA) S2: 36x (DIVA) S3: 30x WDR (DIVA) S4: 36x WDR (DIVA)
G: 18x, WDR (Sony) V: 26x, WDR (Sony) T: 36x, WDR (Sony)
R: 22x (Hitachi) M: 23X, WDR (Hitachi) P: 35X, WDR (Hitachi)

1.1 Product and firmware versions

The support for the parameters specified in this document is highly product and release dependent. Please refer to the parameter list for the actual product. This API version is compatible with the following firmware and after.

Classification	Firmware Version
HD WDR IP Camera	d20110113NS
HD WDR IP Camera-Motorized	d20110928NS
HD WDR IP Camera-Zoom	d20110107NS
HD IP Camera	d20111003ANS
V series-A	d20111003ANS
V series-B	d20111003BNS
V series-A-Motorized	d20111003ANS
V series-B-Motorized	d20111003BNS
IP PTZ	d20111003NS
Video Server	d20111003NS
Full HD Multiple Streams IP Camera	d20110926NSA
Full HD IP PTZ	d20110926NSA

1.2 Valid values

The following valid values are used in this document:

Valid values	Description
An integer	Any number between -2147483647 ($-2^{31}-1$) and 2147483647 ($2^{31}-1$).
An unsigned integer	Any number between 0 and 4294967295 ($2^{32}-1$).
<m>	Any number starting from number m.
<m> ... <n>	Any number between number m and number n.
A string	Any string (valid characters: ISO 8859-1).
A domain name	A string limited to contain a domain name.
A host name	A string limited to contain a host name.
An IP address	A string limited to contain an IP address of the format xxx.xxx.xxx.xxx, where xxx is a number between 0 to 255. Example: 192.168.0.250
A MAC Address	A string limited to contain a MAC address of the format xx:xx:xx:xx:xx:xx, where xx is a hexadecimal value. Example: 00:D0:89:00:AC:01
An e-mail address	A string limited to contain an e-mail address.
A URL/URI	A sting limited to contain a URL/URI.
A path	A string limited to contain a path.
A time	A string limited to contain a time of the format hh:mm:ss. Example: 23:01:14
A date	A string limited to contain a date of the format yyyy-mm-dd. Example: 2007-01-01
<value 1> <value 2> <value 3> ...	Enumeration, only the given values are valid. Example: yes no

<p><m><value> ... <n><value></p>	<p><value><m> ... <value><n></p>	<p>Any number between m and n together with value. Example: 1Mbit ... 100Mbit</p>
<p>Read only</p>		<p>Only the default value is valid as value.</p>
<p>Auto generated</p>		<p>Automatically generated value, should not be changed manually.</p>
<p>Hardware dependent</p>		<p>The hardware decides the default value/the valid values.</p>
<p>Everything inside brackets</p>		<p>Description.</p>

2 PARAMETER GROUPS

2.1 General

2.1.1 Brand

Description: Contains information about the brand, name and type of the product.

Configuration file: /etc/sysconfig/brand.conf

[Brand]

Parameter name	Default value	Valid values	Description
Brand	non brand	A string (Auto generated)	The brand of the product.
ProdFullName	IP Camera	A string (Auto generated)	The full name of the product.
ProdNbr	Product dependent	A string (Auto generated)	The product number.
ProdShortName	Product dependent	A string (Auto generated)	The short name of the product.
ProdType	network camera	video server, network camera, network video recorder (Auto generated)	The product type.
WebURL		A string (Auto generated)	The URL to visit for support and information about the product.

2.1.2 Network

Description: Network interface settings. The parameters in this group (as opposed to the subgroups of this group) are static network settings. If the Network.BootProto parameter is "dhcp" these parameters may not be in use so always use the read-only parameters in the subgroups to retrieve actual network settings in use by the operating system.

Configuration file: /etc/sysconfig/network.conf

[Network]

Parameter name	Default value	Valid values	Description
BootProto	none	dhcp, none	Enable/disable dynamic IP address assignment to the device.
IPAddress	192.168.0.250	An IP address	IP Address. The physical address of the device on the network.
SubnetMask	255.255.255.0	An IP address	Subnet mask. Divides the network.
Broadcast	192.168.0.255	An IP address	Broadcast address. Used to disseminate information to several recipients simultaneously.
DefaultRouter	192.168.0.254	An IP address	Default router/gateway used for connecting devices attached to different networks and network segments.
HostName	MegaPixelCamera	A host name	The name of the device on the network, usually the same as the DNS name.
DNSServer1	0.0.0.0	An IP address	Primary Domain Name System server.
DNSServer2	0.0.0.0	An IP address	Secondary Domain Name System server.
Port	80	80 1024 ... 65535	The port of web server.

2.1.3 Network.PPPoE

Description: PPPoE setting for authorized connecting to internet.

Configuration file: /etc/sysconfig/network.conf

[Network.PPPoE]

Parameter name	Default value	Valid values	Description
UserName		A string	User name for PPPoE authorization.
Password		A string	Password for PPPoE authorization.
IPAddress	0.0.0.0	0.0.0.0	A dummy IP address This parameter is read only.
SubnetMask	255.255.255.255	255.255.255.255	A dummy Subnet Mask This parameter is read only.

2.1.4 Network.eth0

Description: Network settings of the first Ethernet interface. Use these parameters to retrieve the network settings actually in use by the operating system.

Configuration file: /etc/sysconfig/network.conf

[Network.eth0]

Parameter name	Default value	Valid values	Description
MACAddress	00:D0:89:xx:xx:xx *	A MAC address (Auto generated)	MAC address. The unique identity of the device. This parameter is read only.
IPAddress	192.168.0.250	An IP address (Auto generated)	IP Address. The physical address of the device on the network. This parameter is read only.

SubnetMask	255.255.255.0	An IP address (Auto generated)	Subnet mask. Divides the network. This parameter is read only.
Broadcast	192.168.0.255	An IP address (Auto generated)	Broadcast address. Used to disseminate information to several recipients simultaneously. This parameter is read only.

* The MAC address of the device is unique for every single product. The first part of the address is however always the same; 00:D0:89. The MAC address is the same as the serial number, which can be found on the product's label.

2.1.5 Network.Routing

Description: Routing table actually in use by the operating system.

Configuration file: /etc/sysconfig/network.conf

[Network.Routing]

Parameter name	Default value	Valid values	Description
DefaultRouter	192.168.0.254	Auto generated	This parameter is read only.

2.1.6 Network.RTSP

Description: Parameters needed by the RTSP daemon.

Configuration file: `/etc/sysconfig/network.conf`

[Network.RTSP]

Parameter name	Default value	Valid values	Description
Enabled	yes	yes	RTSP support. This parameter is read only.
Port	554	554, 1024 ... 65535	The port number for the RTSP daemon.

2.1.7 Network.RTP.R0

Description: Parameters related to multicast RTP.

Configuration file: `/etc/sysconfig/network.conf`

[Network.RTP.R0]

Parameter name	Default value	Valid values	Description
VideoAddress	0.0.0.0	An IP address	The IP address to which the multicast RTP video stream is transmitted. The default value 0.0.0.0 indicates that the multicast is disabled. IP address range is from 224.0.0.0 to 239.255.255.255
MpegVideoPort	0	0, 1024 ... 65535	The port number for the RTP mpeg-4 video stream. 0 means no distribution.
H264VideoPort	0	0, 1024 ... 65535	The port number for the RTP H.264 video stream. 0 means no distribution.

H264VideoPort2	0	0, 1024 ... 65535	The port number for the RTP H.264-2 video stream. 0 means no distribution.
MjpegVideoPort	0	0, 1024 ... 65535	The port number for the RTP mjpeg video stream. 0 means no distribution.
AudioAddress	0.0.0.0	An IP address	The IP address to which the multicast RTP audio stream is transmitted. Read only and depends on VideoAddress.
AudioPort	0	0, 1024 ... 65535	The port number for the RTP audio stream. 0 means no distribution.
TTL	1	1 ... 255	The Time To Live for each UDP packet. This indicates the number of routers/switches that the packet may traverse before being discarded.

2.1.8 Network.HTTP

Description: Parameters needed by the HTTP daemon.

Configuration file: /etc/sysconfig/network.conf

[Network.HTTP]

Parameter name	Default value	Valid values	Description
MjpegPort	8008	1024 ... 65535	The port number for the MJPEG stream over HTTP. This parameter is read only.

2.1.9 Network.UPnP

Description: Enable/disable Universal Plug and Play and set the name to be displayed in UPnP-clients.

Configuration file: /etc/conf/libupnp.conf

[Network.UPnP]

Parameter name	Default value	Valid values	Description
Enabled	yes	yes, no	Enables Universal Plug and Play.
FriendlyName	<product name> - <serial number>	A string	The name of the UPnP device.

2.1.10 Network.UPnP.NATTraversal

Description: The parameters control NAT traversal functionality. NAT traversal is a technique that can be used to open up routers and firewalls to make devices on a LAN accessible from the Internet.

Configuration file: /etc/sysconfig/nat_traversal.conf

[Network.UPnP.NATTraversal]

Parameter name	Default value	Valid values	Description
Enabled	yes	yes, no	Enables/disables NAT traversal.

2.1.11 Network.Filter

Description: Allowing/denying the listed IP addresses to access the IP Camera.

Configuration file: /etc/sysconfig/network.conf

[Network.Filter]

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enables/disables IP filtering function.
Input.Policy	deny	allow deny	Allow or deny access for the IP addresses in the list
Input.AcceptAddresses		An IP address	

* Not applicable for HD WDR IP Cameras.

2.1.12 Network.IPv6

Description: Enables/disables IPv6 protocol with 128-bit addressing.

Configuration file: /etc/sysconfig/network.conf

[Network.IPv6]

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enables/disables IPv6 support

2.1.13 Network.Interface.I0.dot1x

Description: Parameters configurations for network system with EAP-TLS authentication support.

Configuration file: /etc/sysconfig/network.conf

[Network.Interface.I0.dot1x]

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enables/disables EAP-TLS support.
EAPTLS.Identity	admin	A string	Identity for EAP-TLS authentication
EAPTLS.PrivateKeyPassword	12345	A string	Private Key password for EAP-TLS authentication

* Not applicable for HD WDR IP Cameras.

2.1.14 Network.QoS

Description: Classification and Differentiated Services Code Point (DSCP) values for Quality of Service (QoS) configurations.

Configuration file: /etc/sysconfig/network.conf

[Network.QoS]

Parameter name	Default value	Valid values	Description
Class1.Desc	LiveVideo	LiveVideo	Class1 represents video service which consists of applications that stream MJPEG video streams over HTTP, RTP/RTSP and RTSP/HTTP.
Class1.DSCP	0	0 ... 63	DSCP value for video service. DSCP=0 indicates that DSCP is disabled for video service. Applications belong to Class 1

			receive the same forwarding treatment from routers
Class2.Desc	LiveAudio	LiveAudio	Class2 represents audio service, which is only available in the products that support audio.
Class2.DSCP	0	0 ... 63	DSCP value for audio service. DSCP=0 indicates that DSCP is disabled for audio service.
Class4.Desc	Management	Management	Class4 consists of HTTP traffic.
Class4.DSCP	0	0 ... 63	DSCP value for management traffic. DSCP=0 indicates that DSCP is disabled for management traffic.

* Not applicable for HD WDR IP Cameras.

2.1.15 SMTP

Description: Parameters for the Simple Mail Transfer Protocol, for sending e-mail messages between mail servers.

Configuration file: /etc/sysconfig/smtp.conf

[SMTP]

Parameter name	Default value	Valid values	Description
FromEmail		An email address	Sender e-mail address
MailServer1		An IP address or a host name	Primary mail server.
MailServer1port	25	25, 1024 ... 65535	Mail Server-1's SMTP port
MailServer2		An IP address or a host name	Secondary mail server.
MailServer2port	25	25, 1024 ... 65535	Mail Server-2's SMTP port

2.1.16 SMTP.MailServer#

Description: Parameters for the Simple Mail Transfer Protocol, for sending e-mail messages between mail servers.

Configuration file: /etc/sysconfig/smtp.conf

[SMTP.MailServer#]*

Parameter name	Default value	Valid values	Description
EmailTo		An email address	Receiver e-mail address

* **Note:** The # is replaced with a group number 1 and 2, e.g. SMTP.MailServer1.

2.1.17 SMTP.Authentication.A#

Description: Parameters for SMTP authentication.

Configuration file: /etc/sysconfig/smtp_auth.conf

[SMTP.Authentication.A#]*

Parameter name	Default value	Valid values	Description
UserName		A string	The user name for the mail server or the POP server.
Password		A string	The password for the mail server or the POP server.

* **Note:** The # is replaced with a group number 1 and 2, e.g. SMTP.Authentication.A1.

2.1.18 SNMP

Description: Configure the SNMP agent that resides on the managed device in SNMP-managed network.

Configuration file: /etc/sysconfig/snmp.conf

[SNMP]

Parameter name	Default value	Valid values	Description
V1	no	no, yes	Enables/disables SNMPv1
V2c	no	no, yes	Enables/disables SNMPv2
V1ReadCommunity	public	A string	SNMPv1 read-only community name used by the SNMP agent
V1WriteCommunity	private	A string	SNMPv1 read-write community name used by the SNMP agent
Trap.Enabled	no	no, yes	Enables/disables the device to send the trap message back to the management station.
Trap.T0.Address		An IP address	The IP address of the management station.
Trap.T0.Community	public	A string	Trap Community name
Trap.T0.WarmStart.Enabled	no	no, yes	A Warm Start SNMP trap signifies that the SNMP device, i.e. IP Camera, performs software reload.

* Not applicable for HD WDR IP Cameras.

2.1.19 HTTPS

Description: Parameters for Hypertext Transfer Protocol Secure (HTTPS)

Configuration file: /etc/sysconfig/https.conf

[HTTPS]

Parameter name	Default value	Valid values	Description
Port	443	0 ... 65535	HTTPS port The HTTPS mode ensures camera settings and Username/Password info from snooping

* Not applicable for HD WDR IP Cameras.

2.2 H.264/MPEG-4/MJPEG

2.2.1 Image

Description: Common image parameters used for all image configurations.

Configuration file: /etc/sysconfig/image_global.conf

[Image]

Parameter name	Default value	Valid values	Description
MaxViewers	20	20	Max number of simultaneous viewers (does not affect multicast delivery). This parameter is read only.
TimeFormat	24	24	Time format used in text overlay. This parameter is read only.
DateFormat	YYYY-MM-DD	YYYY-MM-DD	Date format used in text overlay. This parameter is read only.

2.2.2 Image.I0.Appearance

Description: Image appearance parameters (resolution, compression, rotation) for each image configuration.

Configuration file: /etc/sysconfig/image_appearance.conf

[Image.I0.Appearance]

Parameter name	Default value	Valid values	Description
Compression	1	0 ... 2	The level of MJPEG image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes.
MjpegCompression	1	0 ... 2	The level of MJPEG image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes.
MjpegQfactor	35	1 ... 70	The value of MJPEG image compression. Higher value means lower compression and higher quality and larger file size.
H264Compression	HD WDR IP Camera: 3 HD IP Camera: 2 V Series: 2	HD WDR IP Camera: 0 ... 5 HD IP Camera: 0 ... 4 V Series: 0 ... 4	The level of H.264 image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes.

	IP PTZ: 2 Video Server: 2 Full HD Multiple Streams series: 2 Full HD IP PTZ: 2	IP PTZ: 0 ... 2 Video Server: 0 ... 2 Full HD Multiple Streams series: 0 ... 4 Full HD IP PTZ: 0 ... 4	
H264_2Compression	HD WDR IP Camera: 3 HD IP Camera: 2 V Series: 2 IP PTZ: 2 Video Server: 2 Full HD Multiple Streams series: 0 Full HD IP PTZ: 0	HD WDR IP Camera: 0 ... 5 HD IP Camera: 0 ... 4 V Series: 0 ... 4 IP PTZ: 0 ... 2 Video Server: 0 ... 2 Full HD Multiple Streams series: 0 ... 1 Full HD IP PTZ: 0 ... 1	The level of H.264-2 image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes.
H264Bitrate	HD WDR IP Camera: 2048 HD IP Camera: 4096 V Series: 4096 IP PTZ: 4096 Video Server: 4096 Full HD Multiple	HD WDR IP Camera: 64 ... 8000 HD IP Camera: 64 ... 8000 V Series: 64 ... 8000 IP PTZ: 64 ... 8000 Video Server: 64 ... 8000 Full HD Multiple	The value of H.264 image compression. Higher value means lower compression and higher quality and larger file size.

	Streams series: 4096 Full HD IP PTZ: 4096	Streams series: 64 ... 8192 Full HD IP PTZ: 64 ... 8192	
H264_2Bitrate	HD WDR IP Camera: 2048 HD IP Camera: 4096 V Series: 4096 IP PTZ: 4096 Video Server: 4096 Full HD Multiple Streams series: 1024 Full HD IP PTZ: 1024	HD WDR IP Camera: 64 ... 8000 HD IP Camera: 64 ... 8000 V Series: 64 ... 8000 IP PTZ: 4096 Video Server: 4096 Full HD Multiple Streams series: 64 ... 2048 Full HD IP PTZ: 64 ... 2048	The value of H.264-2 image compression. Higher value means lower compression and higher quality and larger file size. NOTE: Under the condition Resolution H.264_2 QVGA (30fps Baseline), the maximum value is 1024 kbit/s
Mpeg4Compression	HD WDR IP Camera: 3	HD WDR IP Camera: 0 ... 5	The level of Mpeg-4 image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes.
Mpeg4Bitrate	HD WDR IP Camera: 2048	HD WDR IP Camera: 64 ... 8000	The value of Mpeg-4 image compression. Higher value means lower compression and higher quality and larger file size.
DisplayCompression	yes	yes, no	The compression information shows in the homepage or not.

Resolution	<p>HD WDR IP</p> <p>Camera: 720p, disable, 720p, disable</p> <p>HD IP Camera: 720p, 720p, disable</p> <p>V series: 720p, 720p, disable</p> <p>IP PTZ: d1, d1, disable</p> <p>Video Server: d1, d1, disable</p> <p>Full HD Multiple Streams series: disable, 1080p, d1</p> <p>Full HD IP PTZ: disable, 1080p, d1</p>	<p>HD WDR IP</p> <p>Camera: Combination of quadvga(CCD), sxga(CMOS), 720p, d1, vga, qvga, cif, qcif, and disable. The format is <resolution_MJPEG>, <resolution_MPEG-4>, <resolution_H.264-1>, <resolution_H.264-2></p> <p>HD IP Camera: Combination of sxga, 720p, d1, cif, disable The format is <resolution_MJPEG>, <resolution_H.264-1>, <resolution_H.264-2></p> <p>V Series: Combination of 1080p, sxga, 720p, d1, vga, qvga, qvga_baseline, cif, qcif, and disable The format is <resolution_MJPEG>, <resolution_H.264-1>, <resolution_H.264-2></p> <p>IP PTZ: d1, d1, disable cif, d1, disable disable, d1, cif disable, d1, d1 The format is</p>	<p>The image resolution.</p> <p>HD WDR IP Camera: First parameter shows the resolution in MJPEG stream; the second one represents the resolution of MPEG-4 image, and the last one stands for H.264 stream.</p> <p>HD IP Camera/V Series/IP PTZ/Video Server: The first parameter shows the resolution in MJPEG stream, the middle parameter in H.264 stream-1, and the last one in H.264 stream-2.</p> <p>Full HD Multiple Streams series/Full HD IP PTZ: The first parameter shows the resolution in MJPEG stream, the middle parameter in H.264 stream-1, and the last one in H.264 stream-2.</p> <p>3m= 2048x1536 5m= 2592x1944 1080p= 1920 x1080 quadvga=1280x960 sxga=1280x1024 720p=1280x720 xga=1024x768 svga=800x600 d1=720x480(NTSC) d1=720x576(PAL) vga=640x480 qvga=320x240 cif=352x240(NTSC) cif=352x288(PAL) qcif=176x144</p>
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		<p><resolution_MJPEG>, <resolution_H.264-1>, <resolution_H.264-2></p> <p>Video Server: d1, d1, disable cif, d1, disable disable, d1, cif disable, d1, d1</p> <p>The format is <resolution_MJPEG>, <resolution_H.264-1>, <resolution_H.264-2></p> <p>Full HD Multiple Streams series:</p> <p><u>2M model:</u> Combination of 1080p, sxga, 720p, d1, cif, vga, xga, svga, sxga, and disable</p> <p>The format is <resolution_MJPEG>, <resolution_H.264>, <resolution_H.264_2></p> <p><u>3M model:</u> 3m <resolution_H.264>;</p> <p>Combination of 1080p, sxga, 720p, d1, cif, vga, xga, svga, sxga, and disable</p> <p>The format is <resolution_MJPEG>, <resolution_H.264>,</p>	<p>disable= not supported</p> <p>Note:</p> <ol style="list-style-type: none"> 1) sxga is not available for Full HD Multiple Streams 10x/18x Zoom AF IP Camera. 2) 3m/5m is H.264 single stream<resolution_H.264> only. 3) Full HD IP PTZ not support: cif only & dual cif streams
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		<p><resolution_H.264_2 ></p> <p><u>5M model:</u> 3m, 5m</p> <p><resolution_H.264>; Combination of 1080p, sxga, 720p, d1, cif, vga, xga, svga, sxga, and disable</p> <p>The format is <resolution_MJPEG>, <resolution_H.264>, <resolution_H.264_2 ></p> <p>Full HD IP PTZ: Combination of 1080p, sxga, 720p, d1, cif, vga, xga, svga, sxga, and disable</p> <p>The format is <resolution_MJPEG>, <resolution_H.264>, <resolution_H.264_2 ></p>	
Rotation	<p>HD WDR IP Camera: 0</p> <p>HD IP Camera: 0</p> <p>V series: 0</p> <p>Full HD Multiple Streams series: 0</p> <p>Full HD IP PEZ:</p>	<p>HD WDR IP Camera: 0, flip, mirror, rotate</p> <p>HD IP Camera: 0, flip, mirror, rotate</p>	<p>Rotates the image. 0 = Normal. flip = up/down inversion. mirror = left/right inversion rotate = both up/down and left/right inversion clockwise/counterclockwise = 90 degree rotation</p>

	0	V series: 0, flip, mirror, rotate Full HD Multiple Streams series: 0, flip, mirror, rotate, clockwise, counterclockwise Full HD IP PTZ: 0, flip, mirror, rotate, clockwise, counterclockwise	
H264VideoKeyFrameInterval	HD WDR IP Camera: 30 (NTSC) 25 (PAL) HD IP Camera: 30 V series: 30 Full HD Multiple Streams series: 60 (NTSC) 50 (PAL) Full HD IP PTZ: 60 (NTSC) 50 (PAL)	HD WDR IP Camera: 1...30 HD IP Camera: 2...64 V series: 2...64 Full HD Multiple Streams series: 2 ... 64 Full HD IP PTZ: 2 ... 64	This is the H.264 streaming GOV Length, the frame interval between 2 intra-coded picture, which is the start of decoding. The default value depends on the TV system user choose.
H264_2VideoKeyFrameInterval	HD WDR IP Camera:	HD WDR IP Camera:	This is the 2nd H.264 streaming GOV Length, the

	30(NTSC) 25(PAL) HD IP Camera: 30 V series: 30 Full HD Multiple Streams series: 60 (NTSC) 50 (PAL) Full HD IP PTZ: 60 (NTSC) 50 (PAL)	1...30 HD IP Camera: 2...64 V series: 2...64 Full HD Multiple Streams series: 2 ... 64 Full HD IP PTZ: 2 ... 64	frame interval between 2 intra-coded picture, which is the start of decoding. The default value depends on the TV system user choose.
Mpeg4VideoKeyFrameInterval	HD WDR IP Camera: 30 (NTSC) 25 (PAL)	HD WDR IP Camera: 1...30	This is the Mpeg-4 streaming GOV Length, the frame interval between 2 intra-coded picture, which is the start of decoding. The default value depends on the TV system user choose.
Deinterlace	IP PTZ: 0 Video Server: 0	IP PTZ: 0...2 Video Server: 0...2	0 = 3D Deinterlacing 1 = Intra Field Deinterlacing 2 = Inter Field Deinterlacing

2.2.3 Image.I0.Overlay.MaskWindows

Description: The group is for the setting of mask color and mask type.

Configuration file: /etc/sysconfig/image_overlay.conf

[Image.I0.Overlay.MaskWindows]

Parameter name	Default value	Valid values	Description
Color	HD WDR IP Camera:	HD WDR IP Camera:	The mask color

	<p>black</p> <p>HD IP Camera:</p> <p>black</p> <p>V Series:</p> <p>black</p> <p>Full HD Multiple Streams series:</p> <p>black</p> <p>Full HD IP PTZ:</p> <p>black</p>	<p>black, white, yellow, red, green, blue, cyan, magenta</p> <p>HD IP Camera:</p> <p>black, white, yellow, red, green, blue, cyan, magenta</p> <p>V Series:</p> <p>black, white, yellow, red, green, blue, cyan, magenta</p> <p>Full HD Multiple Streams series:</p> <p>black, white, yellow, red, green, blue, cyan, magenta</p> <p>Full HD IP PTZ:</p> <p>black, white, yellow, red, green, blue, cyan, magenta</p>	
Type	<p>HD WDR IP Camera:</p> <p>solid</p> <p>HD IP Camera:</p> <p>solid</p> <p>V Series:</p> <p>solid</p> <p>Full HD IP PTZ:</p> <p>solid</p>	<p>HD WDR IP Camera:</p> <p>solid, transparency</p> <p>HD IP Camera:</p> <p>solid, transparency</p> <p>V Series:</p> <p>solid, transparency</p> <p>Full HD IP PTZ:</p> <p>solid, transparency</p>	The mask type

2.2.4 Image.I0.Overlay.MaskWindows.M#

Description: The group is for enabling mask.

Configuration file: /etc/sysconfig/image_overlay.conf

[Image.I0.Overlay.MaskWindows.M#] *

Parameter name	Default value	Valid values	Description
Enabled	HD WDR IP Camera: no HD IP Camera: no V Series: no Full HD Multiple Streams series: no Full HD IP PTZ: no	HD WDR IP Camera: no, yes HD IP Camera: no, yes V Series: no, yes Full HD Multiple Streams series: no, yes Full HD IP PTZ: no, yes	The mask enable or disable
XPos	HD WDR IP Camera: 28, when#=0; 44, when#=1; 60, when#=2; 76, when#=3; 92, when#=4 HD IP Camera: 10, when#=0; 20, when#=1 V Series: 10, when#=0; 20, when#=1 Full HD Multiple Streams series:	HD WDR IP Camera: 0 ... 159 HD IP Camera: 0 ...59 V Series: 0 ...59 Full HD Multiple Streams series: 0 ... 79	The mask X position

	<p>10, when#=0; 25, when#=1; 40, when#=2; 55, when#=3; 70, when#=4</p>		
YPos	<p>HD WDR IP Camera: 22</p> <p>HD IP Camera: 10, when#=0; 10, when#=1; 10, when#=2; 10, when#=3; 10, when#=4</p> <p>V Series: 10, when#=0; 10, when#=1</p> <p>Full HD Multiple Streams series: 10, when#=0; 10, when#=1; 10, when#=2; 10, when#=3; 10, when#=4</p>	<p>HD WDR IP Camera: CCD: 0 ... 119 CMOS: 0 ... 127</p> <p>HD IP Camera: 0 ... 32</p> <p>V Series: 0 ... 32</p> <p>Full HD Multiple Streams series: 0 ... 63</p>	The mask Y position
Width	<p>HD WDR IP Camera: 8</p> <p>HD IP Camera: 8</p> <p>V Series: 8</p> <p>Full HD Multiple Streams series: 8</p> <p>Full HD IP PTZ: 8</p>	<p>HD WDR IP Camera: 0 ... 160</p> <p>HD IP Camera: 0 ... 59</p> <p>V Series: 0 ... 59</p> <p>Full HD Multiple Streams series: <u>2M Model:</u> 0 ... 120 <u>3M Model:</u> 0 ... 128 <u>5M Model:</u> 0 ... 162</p>	The mask width

		Full HD IP PTZ: 1... 80	
Height	HD WDR IP Camera: 8 HD IP Camera: 5 V Series: 5 Full HD Multiple Streams series: 5 Full HD IP PTZ: 5	HD WDR IP Camera: CCD: 0 ... 120 CMOS: 0 ... 128 HD IP Camera: 0 ... 32 V Series: 0 ... 32 Full HD Multiple Streams series: <u>2M Model:</u> 0 ... 67 <u>3M Model:</u> 0 ... 96 <u>5M Model:</u> 0 ... 121 Full HD IP PTZ: 1...60	The mask height

* **Note:** the # is replaced with a group number starting from 0 to 4 for HD WDR IP Camera, Full HD Multiple Streams Series Camera and Full HD IP PTZ; 0 to 1 for HD IP Camera and V series.

2.2.5 Image.I0.RateControl

Description: Parameters to control the bit rate (bandwidth) from the server.

Configuration file: /etc/sysconfig/image_ratecontrol.conf

[Image.I0.RateControl]

Parameter name	Default value	Valid values	Description
H264Mode	vbr	vbr, cbr	Specifies whether the 1 st H.264 streaming rate controller operates in Variable Bit Rate (VBR) or constant bit rate (CBR) mode.
H264_2Mode	vbr	vbr, cbr	Specifies whether the 2 nd H.264 streaming rate controller operates in Variable Bit Rate (VBR) or constant bit rate (CBR) mode.
Mpeg4Mode	vbr	vbr, cbr	Specifies whether the Mpeg4 streaming rate controller operates in Variable Bit Rate (VBR) or constant bit rate (CBR) mode.
MaxFPS	30	HD WDR IP Camera: 30,15 HD IP Camera: 30 V Series-A: 30,15 V Series-B: 30 IP PTZ: 30 Video Server: 30 Full HD Multiple	The rate controller will not produce streams with a frame rate higher than this value. This parameter is read only. Note : These parameters Image.I#.RateControl.H264Mode, Image.I#.RateControl.H264_2Mode, Image.I#.RateControl.Mpeg4Mode, must be set to cbr for this parameter to take effect.

		Streams series: 30 Full HD IP PTZ: 30	
MinFPS	1	1	The rate controller will try not to produce streams with a frame rate lower than this value. This parameter is read only.

2.2.6 Image.I0.Text

Description: Image text overlay parameters for each image configuration.

Configuration file: /etc/sysconfig/image_text.conf

[Image.I0.Text]

Parameter name	Default value	Valid values	Description
DateEnabled	no	yes, no	Shows the date at the Position in the image.
ClockEnabled	no	yes, no	Shows the time at the Position in the image.
TextEnabled	no	yes, no	Shows the String at the Position in the image.
Color	black	HD WDR IP Camera: black, white, red, transparent	Text color.
BGColor	transparent	HD WDR IP Camera: black, white, red, transparent	Text background color.

String		A string	The text to show at the Position in the image.
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2.2.7 ImageSource.I0.Sensor

Description: Parameters for each CCD/CMOS image source. This parameter group is product dependent and only available in network cameras. Check the product specification for supported parameters, default values and valid values.

Configuration file: /etc/sysconfig/image_source.conf

[ImageSource.I0.Sensor]

Parameter name	Default value	Valid values	Description
Exposure	<p>HD WDR IP</p> <p>Camera: auto</p> <p>HD IP Camera: auto</p> <p>V Series: auto</p> <p>IP PTZ: auto</p> <p>Full HD Multiple Streams series: Auto</p> <p>Full HD IP PTZ: auto</p>	<p>HD WDR IP</p> <p>Camera: auto, autoiris, flickerless, manual</p> <p>HD IP Camera: NTSC: auto, autoiris, fixedshutter(10000, 5000, 2500, 1250, 667, 333, 167, 111, 100, 83, 56, 40, 28, 20, 14, 10, 5, 3, 1)</p> <p>PAL:auto,autoiris, fixedshutter(10000, , 3333, 1666, 833, 400, 200, 133, 100, 83, 66, 46, 33, 23, 16, 8, 4, 2 ,1)</p> <p>V Series: NTSC: auto, autoiris, fixedshutter(10000, 5000, 2500, 1250, 667, 333, 167, 111, 100, 83, 56, 40, 28,</p>	<p>The image exposure</p> <p>HD IP Camera & V Series:</p> <p>NTSC: fixedshutter <10000>: 1 sec. , <5000>: 1/2 sec., <2500>: 1/4 sec., <1250>: 1/8 sec., <667>: 1/15 sec., <333>: 1/30 sec., <167>: 1/60 sec., <111>: 1/90 sec., <100>: 1/100 sec., <83>: 1/120 sec., <56>: 1/180 sec., <40>: 1/250 sec., <28>: 1/350 sec., <20>: 1/500 sec., <14>: 1/725 sec., <10>: 1/1000 sec., <5>: 1/2000 sec., <3>: 1/3000 sec., <1>: 1/10000 sec.</p>

		<p>20, 14, 10, 5, 3, 1) PAL: auto, autoiris, fixedshutter(10000, 3333, 1666, 833, 400, 200, 133, 100, 83, 66, 46, 33, 23, 16, 8, 4, 2 ,1) IP PTZ: Sony auto, shutterpriority0 ... 21, irispriority1 ... 17 brightpriority1 ... 31 fixedshutter 0.....21 Hitachi auto, shutterpriority0 ... 14, irispriority1 ... 17 fixedshutter 0 ... 14 DIVA auto, shutterpriority6 ... 21 fixedshutter0.....21 Full HD Multiple Streams series: NTSC: auto, autoiris, fixedshutter(10000, 5000, 2500, 1250, 667, 333, 167, 111, 83, 56, 40, 28, 20, 14, 10, 5, 3, 1) PAL: auto, autoiris, fixedshutter(6666, 3333, 1666, 833, 400, 200, 133, 100, 83, 66, 46, 33, 23, 16, 8, 4, 2, 1)</p>	<p>PAL: fixedshutter <10000>: 1/1.5 sec., <3333>: 1/3 sec., <1666>: 1/6 sec., <833>: 1/12 sec., <400>: 1/25 sec., <200>: 1/50 sec., <133>: 1/75 sec., <100>: 1/100 sec., <83>: 1/120 sec., <66>: 1/150 sec., <46>: 1/215 sec., <33>: 1/300 sec., <23>: 1/425 sec., <16>: 1/600 sec., <8>: 1/1250 sec., <4>: 1/2500 sec., <2>: 1/3500 sec. , <1>: 1/10000 sec. Full HD Multiple Streams series: NTSC: fixedshutter <10000>: 1 sec., <5000>: 1/2 sec., <2500>: 1/4 sec., <1250>: 1/8 sec., <667>: 1/15 sec., <333>: 1/30 sec., <167>: 1/60 sec., <111>: 1/90 sec., <83>: 1/120 sec., <56>: 1/180 sec., <40>: 1/250 sec., <28>: 1/350 sec., <20>: 1/500 sec., <14>: 1/725 sec., <10>: 1/1000 sec., <5>: 1/2000 sec.,</p>
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		<p>Full HD IP PTZ: auto, shutterpriority5 ... 21, irispriority1 ... 17, manualpreset</p>	<p><3>: 1/3000 sec., <1>: 1/10000 sec. PAL: fixedshutter <6666>: 1/1.5 sec., <3333>: 1/3 sec., <1666>: 1/6 sec., <833>: 1/12 sec., <400>: 1/25 sec., <200>: 1/50 sec., <133>: 1/75 sec., <100>: 1/100 sec., <83>: 1/120 sec., <66>: 1/150 sec., <46>: 1/215 sec., <33>: 1/300 sec., <23>: 1/425 sec., <16>: 1/600 sec., <8>: 1/1250 sec., <4>: 1/2500 sec., <2>: 1/3500 sec., <1>: 1/10000 sec.</p> <p>Full HD IP PTZ: NTSC: shutterpriority <21>: 1/10000 sec., <20>: 1/6000 sec., <19>: 1/4000 sec., <18>: 1/3000 sec., <17>: 1/2000 sec., <16>: 1/1500 sec., <15>: 1/1000 sec., <14>: 1/725 sec., <13>: 1/500 sec., <12>: 1/350 sec., <11>: 1/250 sec., <10>: 1/180 sec., <9>: 1/125 sec., <8>: 1/100 sec., <7>: 1/90 sec.,</p>
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			<6>: 1/60 sec., <5>: 1/30 sec. PAL: shutterpriority <21>: 1/10000 sec., <20>: 1/6000 sec., <19>: 1/3500 sec., <18>: 1/2500 sec., <17>: 1/1750 sec., <16>: 1/1250 sec., <15>: 1/1000 sec., <14>: 1/600 sec., <13>: 1/425 sec., <12>: 1/300 sec., <11>: 1/215 sec., <10>: 1/150 sec., <9>: 1/120 sec., <8>: 1/100 sec., <7>: 1/75 sec., <6>: 1/50 sec., <5>: 1/25 sec.
Exposure.MinShutterSpeed	HD WDR IP Camera: 8 HD IP Camera: 8 V Series: 8 Full HD Multiple Streams series: 8	HD WDR IP Camera: NTSC: 1, 2, 4, 8, 15, 30 PAL: 1, 2, 4, 8, 12, 25 HD IP Camera: NTSC: 1, 2, 4, 8, 15, 30 PAL: 1, 2, 4, 8, 12, 25 V Series: NTSC: 1, 2, 4, 8, 15, 30 PAL: 1, 2, 4, 8, 12, 25 Full HD Multiple Streams series: NTSC: 1, 2, 4, 8, 15, 30	The image max shutter speed. HD WDR IP Camera: NTSC: <1>: 1/30 sec., <2>: 1/15 sec., <4>: 1/8 sec., <8>: 1/4 sec., <15>: 1/2 sec., <30>: 1 sec. PAL: <1>: 1/25 sec., <2>: 1/12 sec., <4>: 1/6 sec., <8>: 1/3 sec., <12>: 1/1.5 sec., <25>: 1 sec.

		PAL: 1, 2, 4, 8, 12, 25	HD IP Camera & V Series: NTSC: <1>: 1/30 sec., <2>: 1/15 sec., <4>: 1/8 sec., <8>: 1/4 sec., <15>: 1/2 sec., <30>: 1 sec. PAL: <1>: 1/25 sec., <2>: 1/12 sec., <4>: 1/6 sec., <8>: 1/3 sec., <25>: 1/1.5 sec., Full HD Multiple Streams series: NTSC: <1>: 1/30 sec., <2>: 1/15 sec., <4>: 1/8 sec., <8>: 1/4 sec., <15>: 1/2 sec., <30>: 1 sec. PAL: <1>: 1/25 sec., <2>: 1/12 sec., <4>: 1/6 sec., <8>: 1/3 sec., <12>: 1/2 sec., <25>: 1/1.5 sec.,
Exposure.Manual.Shutter	HD WDR IP Camera: NTSC: 56 PAL: 67	HD WDR IP Camera: NTSC: 1, 2, 3, 5, 6, 10, 13, 20, 28, 40, 56, 80, 100, 111, 167, 333,	<10000>: 1 sec., <5000>: 1/2 sec., <2500>: 1/4 sec., <1250>: 1/8 sec., <667>: 1/15 sec., <333>: 1/30 sec.,

		<p>667, 1250, 2500, 5000, 10000</p> <p>PAL: 1, 2, 4, 6, 8, 10, 16, 24, 33, 47, 67, 83, 100, 133, 200, 400, 833, 1667, 3333, 6666, 10000</p>	<p><167>: 1/60 sec., <111>: 1/90 sec., <100>: 1/100 sec., <80>: 1/125 sec., <56>: 1/180 sec., <40>: 1/250 sec., <28>: 1/350 sec., <20>: 1/500 sec., <13>: 1/725 sec., <10>: 1/1000 sec., <6>: 1/1500 sec., <5>: 1/2000 sec., <3>: 1/3000 sec., <2>: 1/4000 sec., <1>: 1/10000 sec.</p> <p>PAL: <10000>: 1 sec., <6666>: 1/1.5 sec., <3333>: 1/3 sec., <1667>: 1/6 sec., <833>: 1/12 sec., <400>: 1/25 sec., <200>: 1/50 sec., <133>: 1/75 sec., <100>: 1/100 sec., <83>: 1/120 sec., <67>: 1/150 sec., <47>: 1/215 sec., <33>: 1/300 sec., <24>: 1/425 sec., <16>: 1/600 sec., <10>: 1/1000 sec., <8>: 1/1250 sec., <6>: 1/1750 sec., <4>: 1/2500 sec., <2>: 1/3500 sec., <1>: 1/10000 sec.</p>
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Exposure.Manual.Gain	HD WDR IP Camera: 0	HD WDR IP Camera: 0, 170, 340, 510, 680, 850, 1020, 1190, 1360, 1530, 1700, 1871, 2041, 2211, 2381, 2551, 2721, 28911, 3061, 3231, 3401	<0 >: 0db, <170>: 1db, <340>: 2db, <510>: 3db, <680>: 4db, <850>: 5db, <1020>: 6db, <1190>: 7db, <1360>: 8db, <1530>: 9db, <1700>: 10db, <1871>: 11db, <2041>: 12db, <2211>: 13db, <2381>: 14db, <2551>: 15db, <2721>: 16db, <2891>: 17db, <3061>: 18db, <3231>: 19db, <3401>: 20db
Exposure.AutoIris.ShutterSpeed	HD WDR IP Camera: NTSC: 40 PAL: 47	HD WDR IP Camera: NTSC: 333, 167, 111, 100, 80, 56, 40, 29, 20, 14, 10 PAL: 400, 200, 133, 100, 83, 67, 47, 33, 24, 17, 10	NTSC: <333>: 1/30 sec., <167>: 1/60 sec., <111>: 1/90 sec., <100>: 1/100 sec., <80>: 1/125 sec., <56>: 1/180 sec., <40>: 1/250 sec., <29>: 1/350 sec., <20>: 1/500 sec., <14>: 1/725 sec., <10>: 1/1000 sec. PAL: <400>: 1/25 sec., <200>: 1/50 sec., <133>: 1/75 sec.,

			<100>: 1/100 sec., <83>: 1/120 sec., <67>: 1/150 sec., <47>: 1/215 sec., <33>: 1/300 sec., <24>: 1/425 sec., <17>: 1/600 sec., <10>: 1/1000 sec.
Exposure.ManualPreset.Shutter	Full HD IP PTZ: 6	Full HD IP PTZ: 5 ... 21	
Exposure.ManualPreset.AGCGain	Full HD IP PTZ: 6	Full HD IP PTZ: 1 ... 17	
Exposure.ManualPreset.Iris	Full HD IP PTZ: 6	Full HD IP PTZ: 1 ... 15	
WhiteBalance	HD WDR IP Camera: auto HD IP Camera: auto V Series: auto IP PTZ: auto Full HD Multiple Streams series: auto Full HD IP PTZ: auto	HD WDR IP Camera: auto, fixed_indoor, fixed_outdoor, manual0 ... 63 HD IP Camera: auto, manual V Series: auto, manual IP PTZ: <u>Sony</u> auto, fixed_indoor, fixed_outdoor, ATW, manual <u>Hitachi</u> auto, manual	The image white balance.

		<p><u>DIVA</u> auto, fixed_indoor, fixed_outdoor, manual</p> <p>Full HD Multiple Streams series: auto, ATW, manual</p> <p>Full HD IP PTZ: auto, fixed_indoor, fixed_outdoor, ATW, manual</p> <p>Full HD IP PTZ: auto, fixed_indoor, fixed_outdoor, ATW, manual</p>	
WhiteBalance.Rgain	<p>HD IP Camera: 57</p> <p>V Series: 57</p> <p>IP PTZ: <u>Sony</u> 100 <u>Hitachi</u> 40 <u>DIVA</u> 10</p> <p>Full HD Multiple Streams series: 57</p> <p>Full HD IP PTZ: 57</p>	<p>HD IP Camera: 0 ... 127</p> <p>V Series: 0 ... 127</p> <p>IP PTZ: <u>Sony</u> 0 ... 255 <u>Hitachi</u> 0 ... 198 <u>DIVA</u> 0 ... 255</p> <p>Full HD Multiple Streams series: 0 ... 127</p> <p>Full HD IP PTZ: 0 ... 255</p>	Rgain value when whitebalance mode is manual, only available in IP PTZ.

WhiteBalance.Bgain	HD IP Camera: 54 V Series: 54 IP PTZ: <u>Sony</u> 90 <u>Hitachi</u> 50 <u>DIVA</u> 19 Full HD Multiple Streams series: 54 Full HD IP PTZ: 54	HD IP Camera: 0 ... 127 V Series: 0 ... 127 IP PTZ: <u>Sony</u> 0 ... 255 <u>Hitachi</u> 0 ... 198 <u>DIVA</u> 0 ... 255 Full HD Multiple Streams series: 0 ... 127 Full HD IP PTZ: 0 ... 255	Bgain value when whitebalance mode is manual, only available in IP PTZ.
Backlight	HD WDR IP Camera: off IP PTZ: off Full HD IP PTZ: off	HD WDR IP Camera: on, off IP PTZ: on, off Full HD IP PTZ: on off	Enable/Disable Backlight Compensation.
Brightness	HD WDR IP Camera: 0 HD IP Camera: 128 V Series: 128 Full HD Multiple Streams series: 128	HD WDR IP Camera: 0 ... 63 HD IP Camera: 0 ... 255 V Series: 0 ... 255 Full HD Multiple Streams series:: 0 ... 255	The image brightness.

Sharpness	HD WDR IP Camera: 128 HD IP Camera: 0 V Series: 0 IP PTZ: 6 Full HD Multiple Streams series: 4 Full HD IP PTZ: 3	HD WDR IP Camera: 0 ... 255 HD IP Camera: 0 ... 15 V Series: 0 ... 15 IP PTZ: 1 ... 15 Full HD Multiple Streams series: 0 ... 15 Full HD IP PTZ: 1 ... 15	The image sharpening.
Contrast	HD WDR IP Camera: 128 HD IP Camera: 64 V Series: 64 Full HD Multiple Streams series: 64	HD WDR IP Camera: 0 ... 255 HD IP Camera: 0 ... 255 V Series: 0 ... 255 Full HD Multiple Streams series: 0 ... 255	The image contrast.
ColorLevel	HD WDR IP Camera: 128 HD IP Camera: 64 V Series: 64 Full HD Multiple Streams series: 64	HD WDR IP Camera: 0 ... 255 HD IP Camera: 0 ... 255 V Series: 0 ... 255 Full HD Multiple Streams series: 0 ... 255	
Hue	HD IP Camera: 128	HD IP Camera: 0 ... 255	

	V Series: 128 Full HD Multiple Streams series: 128	V Series: 0 ... 255 Full HD Multiple Streams series: 0 ... 255	
Digitalzoom	HD WDR IP Camera: 1 HD IP Camera: 1 IP PTZ: off Full HD Multiple Streams series 1	HD WDR IP Camera: 1 ... 16 HD IP Camera: 1 ... 12 IP PTZ: on, off Full HD Multiple Streams series off, 1 ... 8	The image digital zoom
Expcomp	IP PTZ: 8 Full HD IP PTZ: 8	IP PTZ: 1 ... 15 Full HD IP PTZ: 1 ... 15	Exposure compensation
Freeze	IP PTZ: off	IP PTZ: on, off	Freeze the image
Flip	IP PTZ: off Full HD IP PTZ: off	IP PTZ: off, ME, image Full HD IP PTZ: off ME	
Wdr	HD WDR IP Camera: off IP PTZ: off Full HD Multiple	HD WDR IP Camera: off, 1 ... 4 IP PTZ: off,on	Enable/Disable WDR function.

	Streams series: off Full HD IP PTZ: off	Full HD Multiple Streams series: off, 1 ... 3 Full HD IP PTZ: off, on	
NoiseReduction	HD WDR IP Camera: off IP PTZ: <u>Hitachi (P Model only)</u> 1 Full HD Multiple Streams series: off	HD WDR IP Camera: off, low, high IP PTZ: <u>Hitachi (P Model only)</u> Off, 1...4 Full HD Multiple Streams series: off, Low, middle, high, spq, spq,3dnrlow, spq,3dnrmiddle, spq,3dnrhigh	Enable/Disable Noise Reduction function. <spq> stands for "smart picture quality". SPQ function drastically minimizes motion blur and provides clear images
2DNR	IP PTZ: <u>DIVA</u> off Full HD IP PTZ: off	IP PTZ: <u>DIVA</u> on, off Full HD IP PTZ: on, off	Enable/Disable 2D Noise Reduction function.
3DNR	IP PTZ: <u>DIVA</u> off	IP PTZ: <u>DIVA</u> on,	Enable/Disable 3D Noise Reduction function.

		off	
SpeedByZoom	Full HD IP PTZ: off	Full HD IP PTZ: on, off	
Inverse	IP PTZ: off	IP PTZ: on, off	
AutoCalibration	IP PTZ: off Full HD IP PTZ: off	IP PTZ: on, off Full HD IP PTZ: on, off	
Stabilizer	IP PTZ: <u>DH701/801+ (Only P Model)</u> off	IP PTZ: <u>DH701/801+ (Only P Model)</u> on, off	
ICR	Full HD IP PTZ: auto	Full HD IP PTZ: auto, manualon, manualoff	

2.2.8 ImageSource.I0.Video

Description: Parameters for each video image source. This parameter group is product dependent. Check the product specification for supported parameters, default values and valid values.

Configuration file: /etc/sysconfig/image_source.conf

[ImageSource.I0.Video]

Parameter name	Default value	Valid values	Description
DetectedType	ntsc	ntsc,	Which type of TV system is

		pal	used. (Read only) Note: The value is product dependent
ModuleType		IP PTZ: hitachi, sony, dyna	Which type of camera module is used. (Read only), only available in IP PTZ. The values are product dependent.

2.3 I/O

2.3.1 Input

Description: Parameters for hardware input(s).

Configuration file: /etc/sysconfig/inputs.conf

[Input]

Parameter name	Default value	Valid values	Description
NbrOfInputs	Hardware specific	An unsigned integer (Read only)	Number of inputs. Read only.

2.3.2 Input.I#

Description: Parameters for hardware input(s).

Configuration file: /etc/sysconfig/inputs.conf

[Input.I#]*

Parameter name	Default value	Valid values	Description
Name	HD WDR IP Camera/HD IP Camera/V Series/IP	A string	The name of the input. This parameter is read only.

	PTZ/Full HD Multiple Streams series: Input 1 Full HD IP PTZ: Input 1 Input 2 Input 3 Input 4		
Trig	closed	open, closed	Determines when to trigger.

* **Note:** The # is replaced with a group number starting from 0, e.g. Input.I0.

2.3.3 Output

Description: Parameters for hardware output(s).

Configuration file: /etc/sysconfig/outputs.conf

[Output]

Parameter name	Default value	Valid values	Description
NbrOfOutputs	Hardware specific	An unsigned integer (Read only)	Number of outputs.

2.3.4 Output.O#

Description: Parameters for hardware output(s).

Configuration file: /etc/sysconfig/outputs.conf

[Output.O#]

Parameter name	Default value	Valid values	Description
Name	HD WDR IP Camera/HD IP	A string	The name of the output. Read only

	Camera/V Series/IP PTZ/Full HD Multiple Streams series: Output 1 Full HD IP PTZ: Input 1 Input 2		
Active	open	HD WDR IP Camera/HD IP Camera/V Series/IP PTZ/Full HD Multiple Streams series: open, closed Full HD IP PTZ: open	The active state of the output. Full HD IP PTZ: open(Read only)

2.4 Events

2.4.1 Event.E#

Description: This group defines an event, which is a set of parameters describing how and when the product performs certain actions.

Configuration file: /etc/sysconfig/event.conf

[Event.E#] *

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Event enabled (disabled events are never triggered).
FileName	image.jpg	A string	Base filename for uploaded image files.
Suffix	0	0-3	Suffix to base name for uploaded image files.
MaxSequenceNumber	0	0 ... 9999999	The maximum value of when using a sequence number as file suffix. At this value the counter will wrap to 0.

* **Note:** the # is replaced with a group number, e.g. Event.E0.Enabled means triggered by digital input, Event.E1.Enabled means triggered by motion detection.Event.E2 Enabled means triggered by tampering activity.

2.4.2 Event HW Actions

Description: This group defines an action that controls a digital output.

Configuration file: /etc/sysconfig/event.conf

[Event.E#.Actions.A0] *

Parameter name	Default value	Valid values	Description
Enabled	yes	yes, no	Enable or disable the HW output
Type	N	N	Type of action. N = Notification.
Protocol	HW	HW	Protocol.
Output	1	1	Output number to activate.

* **Note:** the # is replaced with a group number, 0 means triggered by digital input, 1 means triggered by motion detection input. 2 means triggered by tampering alarm input e.g. Event.E0.Actions.A0.

2.4.3 Event FTP Actions

Description: This group defines an action that uploads message files to an FTP server.

Configuration file: /etc/sysconfig /event.conf

[Event.E#.Actions.A1] *

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enable or disable the ftp notification
Type	N	N	Type of action. N = Notification.
Protocol	FTP	FTP	Protocol. This parameter is read only.
Server	F0	F0 ... Fn (n = number)	Primary FTP server ID. Refers to

		of FTP event servers - 1)	a parameter group under root.EventServers.FTP. Example: "F0" refers to the parameter group root.EventServers.FTP.F0.
Server2	F1	F0 ... Fn (n = number of FTP event servers - 1)	Secondary FTP server ID.

* **Note:** the # is replaced with a group number, 0 means triggered by digital input, 1 means triggered by motion detection input. 2 means triggered by tampering alarm input. e.g. Event.E0.Actions.A1.

2.4.4 Event SMTP Actions

Description: This group defines an action that sends message mail to a mail server.

Configuration file: /etc/sysconfig/event.conf

[Event.E#.Actions.A2] *

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enable or disable the smtp notification
Type	N	N,	Type of action. N = Notification.
Protocol	SMTP	SMTP	Protocol.
EmailTo	E0	E0, E1	Refers to SMTP.MailServer1.EmailTo Primary SMTP consignee. Refers to a parameter group under root.SMTP. The parameter is read only. Example: "E0" refers to the parameter group root.SMTP.MailServer1.EmailTo

EmailTo2	E1	E0, E1	Refers to SMTP.MailServer1.EmailTo Primary SMTP consignee. Refers to a parameter group under root.SMTP Example: "E0" refers to the parameter group root.SMTP.MailServer1.EmailTo
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* **Note:** the # is replaced with a group number, 0 means triggered by digital input, 1 means triggered by motion detection input. 2 means triggered by tampering alarm input. e.g. Event.E0.Actions.A2.

2.4.5 Event Upload Image by FTP Actions

Description: This group defines an action that uploads image files to an FTP server.

Configuration file: /etc/sysconfig/event.conf

[Event.E#.Actions.A3] *

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enable or disable the ftp notification
Type	U	U	Type of action. U = Upload.
Protocol	FTP	FTP	Protocol. This parameter is read only.
Server	F0	F0 ... Fn (n = number of FTP event servers - 1)	Primary FTP server ID. Refers to a parameter group under root.EventServers.FTP. Example: "F0" refers to the parameter group root.EventServers.FTP.F0.
PreFrame	5	1 ... 20	Number of pre-trigger frames.
PostFrame	5	1 ... 20	Number of post-trigger frames.

IncludeBestEffort	no	yes, no	Use best effort duration (continue image upload)
BestEffortDuration	0	0 ... 99999	Best effort duration (in number of seconds). If IncludeBestEffort = yes and BestEffortDuration = 0, the duration will be as long as the event is triggered.
BestEffortInterval	0	0 ... 15	Image frequency during best effort.

* **Note:** the # is replaced with a group number, 0 means triggered by digital input, 1 means triggered by motion detection input. 2 means triggered by tampering alarm input. e.g. Event.E0.Actions.A3.

2.4.6 Event Upload Image by SMTP Actions

Description: This group defines an action that uploads image files to an SMTP server

Configuration file: /etc/sysconfig /event.conf

[Event.E#.Actions.A4] *

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enable or disable upload image by SMTP
Type	U	U	Type of action. U = Upload.
Protocol	SMTP	SMTP	Protocol. This parameter is read only.
EmailTo	E0	E0, E1	Primary SMTP server ID. Refers to a parameter group under root.SMTP.MailServer# Example: "E0" refers to the parameter group root. SMTP.MailServer1

PreFrame	5	1 ... 20	Number of pre-trigger frames.
PostFrame	5	1 ... 20	Number of post-trigger frames.
IncludeBestEffort	no	yes, no	Use best effort duration (continue image upload)
BestEffortDuration	0	0 ... 99999	Best effort duration (in number of seconds). If IncludeBestEffort = yes and BestEffortDuration = 0, the duration will be as long as the event is triggered.
BestEffortInterval	0	0 ... 15	Image frequency during best effort.

* **Note:** the # is replaced with a group number, 0 means triggered by digital input, 1 means triggered by motion detection input. 2 means triggered by tampering alarm input .e.g. Event.E0.Actions.A4.

2.4.7 Event activated function (PTZ Camera exclusive)

Description: This group defines an action that proceed PTZ function like Preset/Autopan/Sequence/Cruise.

Configuration file: /etc/sysconfig /event.conf

[Event.E#.Actions.A5] *

Parameter name	Default value	Valid values	Description
Enabled	IP PTZ: no	IP PTZ: yes, no Full HD IP PTZ: yes, no	Enable or disable upload image
Type	IP PTZ: N	IP PTZ: N	Type of action N = Notification

Protocol	IP PTZ: PTZ	IP PTZ: PTZ	Protocol
Function	IP PTZ: 1 Full HD IP PTZ: 1	IP PTZ: 1 ... 4 Full HD IP PTZ: 1 ... 4	1: preset 2: sequence 3: autopan 4: cruise
FunctionLine		IP PTZ: An unsigned integer Full HD IP PTZ: An unsigned integer	Depends on PTZ function
DwellTime	IP PTZ: 0 Full HD IP PTZ: 0	IP PTZ: 0 ... 127 Full HD IP PTZ: 0 ... 127	Only for preset function. The dwell time from start point to end point.

* **Note:** the # is replaced with a group number, 0 means triggered by digital input, 1 means triggered by motion detection input. 2 means triggered by tampering alarm input .e.g. Event.E0.Actions.A5.

2.4.8 Event recording function

Description: This group defines an action that proceed recording function when event occurs.

Configuration file: /etc/sysconfig /event.conf

[Event.E#.Actions.A6] *

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enable or disable event recording function
Type	R	R	Type of action. R = Recording This parameter is read only
Protocol	RECORD	RECORD	Protocol of action. This parameter is read only

PreTime	1	1 ... 3	Number of pre-trigger time (in seconds).
BestEffortInterval	0	0 ... 99999	Time interval between frames during best effort (in milliseconds).

* **Note:** the # is replaced with a group number, 0 means triggered by digital input, 1 means triggered by motion detection input. e.g. Event.E0.Actions.A6.

2.4.9 Event HTTP notification function

Description: This group defines an action that sends notifications to an HTTP server.

Configuration file: /etc/sysconfig /event.conf

[Event.E#.Actions.A8] *

Parameter name	Default value	Valid values	Description
Enabled	No	yes, no	Enable or disable HTTP notification function
Type	N	N	Type of action. N = HTTP Notification This parameter is read only
Protocol	HTTP	HTTP	Protocol of action. This parameter is read only
Server	H0	H0, H1	HTTP server ID. Refers to a parameter group under root.EventServers.HTTP. Example: "H0" refers to the parameter group root.EventServers.HTTP.H0.
CustomParams		A string	Custom parameters to add to URL. Example: "foo=bar". Spaces are not allowed in this

			field and all text must be URI-encoded (RFC2396). Example: to set the CGI parameter 'example' to 'Y & Z' enter example=Y+%26+Z in this field.
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* The parameters mentioned above are currently available for HD WDR IP Camera, HD IP Camera, V Series Camera, Full HD Multiple Streams Series Camera and Full HD IP PTZ.

2.5 Event servers

2.5.1 EventServers.FTP.F#

Description: This group defines an FTP server that can be used by an event to upload files to.

Configuration file: /etc/sysconfig/eventservers.conf

[EventServers.FTP.F#] *

Parameter name	Default value	Valid values	Description
Address		An IP address or a host name	IP address or host name of the server
Login		A string	FTP user name
Password		A string	FTP password.
UploadPath		A string	Directory where uploaded files go.
Port	21	0 ... 65535	FTP port.
Passive	no	yes, no	Use passive FTP.

* **Note:** the # is replaced with a group number starting from 0 to 1, e.g. EventServers.FTP.F0.

2.5.2 EventServers.HTTP.H#

Description: This group defines an HTTP server that can be used by an event to send notification messages to.

Configuration file: /etc/sysconfig/eventservers.conf

[EventServers.HTTP.H#] *

Parameter name	Default value	Valid values	Description
Address		An IP address or a host name	URL to the server, including name of CGI script to handle the request. Example: "http://192.168.254.10/cgi-bin/upload.cgi".
Login		A string	HTTP user name
Password		A string	HTTP password.

***Note:** the # is replaced with a group number starting from 0 to 1, e.g. EventServers.HTTP.H0.

*The parameters mentioned above are currently available for HD WDR IP Camera, HD IP Camera & V Series Camera, Full HD Multiple Streams Series Camera and Full HD IP PTZ.

2.6 Time

2.6.1 Time

Description: Common time information which tell the time zone, how date and time is synchronized.

Configuration file: /etc/sysconfig/systemtime.conf

[Time]

Parameter name	Default value	Valid values	Description
SyncSource	None	PC, NTP, None	The source to synchronize the time with; PC, NTP or None (manually).

TimeZone	GMT	GMT-12, ... GMT-1, GMT, GMT+1, ... GMT+12	Time zone.
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2.6.2 Time.NTP

Description: Contain parameters required when setting time and date with the NTP protocol.

Configuration file: /etc/sysconfig/time_handler.conf

[Time.NTP]

Parameter name	Default value	Valid values	Description
Server	0.0.0.0	An IP address or a host name	The NTP server to connect to when synchronizing the time in the IP Camera
Update	hour	hour, day, week	Time interval between connections to the NTP server.

2.6.3 Time.DST

Description: Contain parameters required to manage Daylight Saving Time, DST.

Configuration file: /etc/sysconfig/time_handler.conf

[Time.DST]

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enable/disable DST (Daylight Saving Time)

Offset	01:00:00	00:00:00 ... 23:59:59	The amount of time the clock should be turned back/forward (hh:mm:ss), due to DST.
StartDay	1	1 ... 31, or 0 ... 6	The meaning of StartDay depends on StartTypeOfDate. If StartTypeOfDate is 0 (exact date), the StartDay should be interpreted as the day of the month. Otherwise StartDay indicates the day of a week, e.g. 0=Sunday, 1=Monday, etc.
StartMonth	0	0 ... 11	The number of months since January in the range 0 to 11.
StartTime	00:00:00	A time	Indicates the time (hh:mm:ss) when DST should be enabled. StartTime = 02:00:00 means that DST should be enabled two hours after midnight.
StartTypeOfDate	0	-1, 0, 1, 2, 3, 4	DST can be set as either start from an exact date or from a specific weekday of a month. StartTypeOfDate determines how to interpret StartDay. If 0, then StartDay is an exact date, otherwise it is a day of a week. 0 = StartDay is the exact date as specified (1-31). -1 = The weekday specified in StartDay is the last one of the month. 1: The weekday specified in StartDay is the first one of the month. 2: The weekday specified in StartDay is the second one of

			<p>the month.</p> <p>3: The weekday specified in StartDay is the third one of the month.</p> <p>4: The weekday specified by StartDay is the fourth one of the month.</p> <p>Example1: StartTypeOfDate = 0 StartDay = 12 The 12th of the month</p> <p>Example2: StartTypeOfDate = -1 StartDay = 0 The last Sunday of the month</p> <p>Example 3: StartTypeOfDate = 1 StartDay = 5 The first Friday of the month</p>
StopDay	1	1 ... 31, or 0 ... 6	The meaning of StopDay depends on StopTypeOfDate. If StopTypeOfDate is 0 (exact date) then StopDay should be interpreted as the day of the month. Otherwise StopDay indicates the number of days since Sunday in the range 0 to 6.
StopMonth	0	0 ... 11	The number of months since January in the range 0 to 11.
StopTime	00:00:00	A time	Indicates the time (hh:mm:ss) when DST should be disabled. StopTime = 02:00:00 means that DST should be disabled two

			hours after midnight.
StopTypeOfDate	0	-1, 0, 1, 2, 3, 4	DST can be set as either end on an exact date, or a specific weekday of the month. See the description of StartTypeOfDate above for further details.

2.7 Properties

Description: Contains information about the firmware and system of the product. It also contains information about product dependent functionality and functionality that have no ordinary parameters. All user levels should be able to access the property parameters.

Note: The Properties parameters are product dependent. If a parameter does not exist, the functionality is not supported.

2.7.1 Properties.API

Configuration file: `/etc/sysconfig/properties.conf`

[Properties.API.HTTP]

Parameter name	Default value	Valid values	Description
Version		An unsigned integer	The supported HTTP API version (only the first digit).

2.7.2 Properties.Audio

Configuration file: `/etc/sysconfig/properties.conf`

[Properties.Audio]

Parameter name	Default value	Valid values	Description
Audio		yes, no	The product has audio support.
Format	g711,g726	A string	The supported formats separated by commas, e.g. g711,g726.

2.7.3 Properties.Firmware

Configuration file: /etc/sysconfig/properties.conf

[Properties.Firmware]

Parameter name	Default value	Valid values	Description
BuildNumber		An unsigned integer	The build number for the current firmware in use.
BuildDate		A string	The build date for the current firmware in use.
Version		A string	The firmware version in use.

2.7.4 Properties.Image

Configuration file: /etc/sysconfig/properties.conf

[Properties.Image]

Parameter name	Default value	Valid values	Description
Rotation		A string	The supported image rotations separated by commas. E.g. 0,flip,mirror,rotate. For products not supporting image rotation the value is 0.
Resolution		A string	The supported resolutions separated by commas. E.g. quadvga, vga, qvga, cif, qcif.
Format		A string	The supported image format. E.g. mjpeg,mpeg4.

2.7.5 Properties.PTZ

Configuration file: /etc/sysconfig/properties.conf

[Properties.PTZ]

Parameter name	Default value	Valid values	Description
PTZ		P/T/Z cam, P/T cam, Z/F cam, fixed cam	Function type of the product support. Read only.

2.8 PTZ

2.8.1 PTZ.PresetPos

A dynamic parameter group PTZ.PresetPos.P# is created for each new preset position.# merely denotes the number of the dynamic parameter group and has no connection to any preset position numbers mentioned below.

Description: Dynamic parameter groups, each representing a preset position

Configuration file: /etc/dynamic/ptz.conf

[PTZ.PresetPos.P#]

Parameter name	Default value	Valid values	Description
Pos		<zoom>,<pan>,<tilt>	Preset position. This parameter is read only.
Label		A string	Preset name. This parameter is read only.

2.8.2 PTZ.Limit

Configuration file: /etc/dynamic/ptz.conf

[PTZ.Limit.L0]

Parameter name	Default value	Valid values	Description
Mintilt	0	-10 ... 10	Lower limit for tilt position
Maxtilt	90	80 ... 100 If image flip 170... 190	Upper limit for tilt position

2.9 Autopan(PTZ Camera exclusive)

2.9.1 Autopan.A#

Description: Contain parameters to create PTZ autopan

Configuration file: /etc/ sysconfig /autopan.conf

[Autopan.A#]

Parameter name	Default value	Valid values	Description
Running	no	yes, no	Enabled/disable the autopan
StartPan		-180 ... 180	Start pan position. This parameter is read only.
EndPan		-180 ... 180	End pan position. This parameter is read only.
Direction		left, right	Direction of PTZ autopan function This parameter is read only.
Speed		0 ... 3	Speed of PTZ autopan function This parameter is read only.

* **Note:** the # is replaced with a group number starting from zero, e.g. Autopan.A0

2.10 Cruise (PTZ Camera exclusive)

2.10.1 Cruise.C#

Description: Contain parameters to create PTZ cruise

Configuration file: /etc/sysconfig/cruise.conf

[Cruise.C#]

Parameter name	Default value	Valid values	Description
Running	no	yes, no	Enabled/disable the cruise
State	idle	idle, setting	Cruise setting state. This parameter is read only.

* **Note:** the # is replaced with a group number starting from zero, e.g. Cruise.C0

2.11 Guard Tour (PTZ Camera exclusive)

2.11.1 GuardTour.G#

Description: Contains parameters to create PTZ guard tours

Configuration file: /etc/dynamic/guardtour.conf

[GuardTour.G#]

Parameter name	Default value	Valid values	Description
Running	no	yes, no	Enabled/disable the guardtour

* **Note:** the # is replaced with a group number starting from zero, e.g. GuardTour.G0

2.11.2 GuardTour.G#.Tour.T#

Description: The PTZ preset positions that are included in the guard tour.

Configuration file: /etc/dynamic/ guardtour.conf

[GuardTour.G#.Tour.T#]

Parameter name	Default value	Valid values	Description
PresetNbr	1	1 ... 256	The number of the PTZ preset position.
MoveSpeed	10	0 ... 14	The speed at which to move camera to this preset position.
WaitTiime	1	0 ... 255	The view time for this preset position in seconds.

2.12 Audio

2.12.1 Audio

Description: Common audio parameters used for all audio configurations.

Configuration file: /etc/sysconfig/audio.conf

[Audio]

Parameter name	Default value	Valid values	Description
DuplexMode	disable	full, half, post, get disable	How the audio should be transferred. full = Full duplex - simultaneous two-way audio. Transmit and receive audio at the same time. half = Half duplex - non simultaneous two-way audio. Audio only allowed in one direction at a time.

			<p>post = Simplex. Audio to the server.</p> <p>get = Simplex. Audio from the server.</p> <p>disable=Disable the Audio function.</p>
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2.12.2 AudioSource.A0

Description: Parameters for each audio source (audio input/chip).

Configuration file: /etc/sysconfig/audio_source.conf

[AudioSource.A0]

Parameter name	Default value	Valid values	Description
BitRate	Encoder dependent	ulaw , alaw, 16000, 24000, 32000, 40000	The output bit rate (bits per second) from the encoder. G711 Standard ulaw , alaw (64000) G726 Standard 16000, 24000, 32000, 40000
InputGain	3	0 ... 6	Gain settings level for sound received from client.
OutputGain	3	0 ... 6	Gain setting level for sound transmitted to client(s).

2.13 Recording

2.13.1 Recording.R0

Description: Recording parameters used for recording schedule.

Configuration file: /etc/sysconfig/recording.conf

[Recording.R0]

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enable/disable recording function
Weekdays	0000000	0000000 ... 1111111 (Only 0 or 1 is valid for each digit)	Enable recording on specific weekdays. The maximum significant bit stands for Sunday, and second digit for Monday etc... 0 is disable, and 1 is enable
Starttime	00:00	00:00 ... 23:59	Indicates the time (hh:mm) when recording should be enabled. Starttime = 02:00 means that recording should be started two hours after midnight.
Duration	00:00	00:00 ... 168:00	Time interval for recording.

2.14 DDNS

2.14.1 DDNS

Description: Common DDNS parameters used for all DDNS configurations.

Configuration file: /etc/sysconfig/ddns.conf

[DDNS]

Parameter name	Default value	Valid values	Description
Enabled	no	yes, no	Enable/disable DDNS function
Provider	1	1,2	The provider list contains two hosts that provide DDNS services. Please connect to the service provider's website to make sure the service charges.
Hostname		A string	Please input the hostname that is registered in the DDNS server.
Login		A string	The username for logging on to the DDNS server
Password		A string	The password for logging on to the DDNS server

2.15 Frame skip

2.15.1 Frame skip

Description: Common frame skip parameters used for all frame skip configurations.

Configuration file: /etc/sysconfig/frameskip.conf

[Frameskip]

Parameter name	Default value	Valid values	Description
Mjpeg	0	0 ... 6	<p>HD WDR IP Camera:</p> <p>0: No skip, default</p> <p>1: Frame skipping at 2 frame internal</p> <p>2: Frame skipping at 5 frame internal</p> <p>3: Frame skipping to 1 frame</p> <p>HD IP Camera:</p> <p>0: No skip, default</p> <p>1: Frame skipping at 5 frame internal</p> <p>2: Frame skipping at 10 frame internal</p> <p>3: Frame skipping at 15 frame interval</p> <p>V Series/IP PTZ/Video Server:</p> <p>0: No skip, default</p> <p>1: Frame skipping at 5 frame internal</p> <p>2: Frame skipping at 10 frame internal</p> <p>3: Frame skipping at 15 frame interval</p> <p>4: Frame skipping at 2 frame interval</p>
H264	0	0 ... 3	
Mpeg4	HD WDR IP Camera: 0	HD WDR IP Camera: 0 ... 3	

			<p>5: Frame skipping at 3 frame interval</p> <p>6: Frame skipping at 4 frame interval</p>
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2.15.2 Frame rate (Full HD Multiple Streams Series/Full HD IP PTZ

exclusive)

Description: Common frame rate parameters used for all frame rate configurations.

Configuration file: /etc/sysconfig/framerate.conf

[Framerate]

Parameter name	Default value	Valid values	Description
Mjpeg	<p>NTSC 30</p> <p>PAL 25</p>	<p>NTSC 1 ... 30</p> <p>PAL 1 ... 25</p>	<p>Setting frame rate to desired value.</p> <p>Beware the maximum frame rate of NTSC and PAL TV system is different</p>
H264	<p>NTSC 30</p> <p>PAL 25</p>	<p>NTSC 1 ... 30</p> <p>PAL 1 ... 25</p>	<p>Setting frame rate to desired value</p> <p>Beware the maximum frame rate of NTSC and PAL TV system is different</p>
H264_2	<p>NTSC 30</p> <p>PAL 25</p>	<p>NTSC 1 ... 30</p> <p>PAL 1 ... 25</p>	<p>Setting frame rate to desired value</p> <p>Beware the maximum frame rate of NTSC and PAL TV system is different</p>

2.16 Motion

2.16.1 Motion.M#

Description: The group is for adding/deleting motion detection window.

Configuration file: /etc/sysconfig/motion.conf

[Motion.M#] *

Parameter name	Default value	Valid values	Description
Enabled	<p>HD WDR IP Camera: yes, when #=0; no, when #=1 to 9</p> <p>HD IP Camera: yes, when #=0; no, when #=1 to 9</p> <p>V Series: yes, when #=0; no, when #=1 to 9</p> <p>IP PTZ: yes, when #=0; no, when #=1 to 9</p> <p>Full HD Multiple Streams series: yes, when #=0; no, when #=1 to 9</p> <p>Full HD IP PTZ: yes, when #=0; no, when #=1 to 9</p>	<p>HD WDR IP Camera: yes, no</p> <p>HD IP Camera: yes, no</p> <p>V Series: yes, no</p> <p>IP PTZ: yes, no</p> <p>Full HD Multiple Streams series: Yes, No</p> <p>Full HD IP PTZ: Yes, No</p>	Motion detection window enable or disable
Left	<p>HD WDR IP Camera: 5, when #=0,5; 10, when #=1,6; 15, when #=2,7; 20, when #=3,8; 25, when #=4,9</p> <p>HD IP Camera:</p>	<p>HD WDR IP Camera: 0 ... 39</p> <p>HD IP Camera: 0 ... 39</p> <p>V Series: 0 ... 39</p> <p>IP PTZ:</p>	Motion detection window left axis

	<p>5, when #=0,5; 10, when #=1,6; 15, when #=2,7; 20, when #=3,8; 25, when #=4,9</p> <p>V Series:</p> <p>5, when #=0,5; 10, when #=1,6; 15, when #=2,7; 20, when #=3,8; 25, when #=4,9</p> <p>IP PTZ:</p> <p>5, when #=0,5; 10, when #=1,6; 15, when #=2,7; 20, when #=3,8; 25, when #=4,9</p> <p>Full HD Multiple Streams series:</p> <p>5, when #=0,5; 10, when #=1,6; 15, when #=2,7; 20, when #=3,8; 25, when #=4,9</p> <p>Full HD IP PTZ:</p> <p>5, when #=0,5; 10, when #=1,6; 15, when #=2,7; 20, when #=3,8; 25, when #=4,9</p>	<p>0 ... 39</p> <p>Full HD Multiple Streams series:</p> <p>0 ... 39</p> <p>Full HD IP PTZ:</p> <p>0 ... 39</p>	
Right	<p>HD WDR IP Camera:</p> <p>8, when #=0,5; 13, when #=1,6; 18, when #=2,7; 23, when #=3,8; 28, when #=4,9</p> <p>HD IP Camera:</p>	<p>HD WDR IP Camera:</p> <p>0 ... 39</p> <p>HD IP Camera:</p> <p>0 ... 39</p> <p>V Series:</p> <p>0 ... 39</p> <p>IP PTZ:</p>	<p>Motion detection window right axis</p>

	<p>8, when #=0,5; 13, when #=1,6; 18, when #=2,7; 23, when #=3,8; 28, when #=4,9</p> <p>V Series:</p> <p>8, when #=0,5; 13, when #=1,6; 18, when #=2,7; 23, when #=3,8; 28, when #=4,9</p> <p>IP PTZ:</p> <p>8, when #=0,5; 13, when #=1,6; 18, when #=2,7; 23, when #=3,8; 28, when #=4,9</p> <p>Full HD Multiple Streams series:</p> <p>8, when #=0,5; 13, when #=1,6; 18, when #=2,7; 23, when #=3,8; 28, when #=4,9</p> <p>Full HD IP PTZ:</p> <p>8, when #=0,5; 13, when #=1,6; 18, when #=2,7; 23, when #=3,8; 28, when #=4,9</p>	<p>0 ... 39</p> <p>Full HD Multiple Streams series:</p> <p>0 ... 39</p> <p>Full HD IP PTZ:</p> <p>0 ... 39</p>	
Top	<p>HD WDR IP Camera:</p> <p>6, when #=0 to 4 11, when # =5 to 9</p> <p>HD IP Camera:</p> <p>6, when #=0 to 4 11, when # =5 to 9</p> <p>V Series:</p>	<p>HD WDR IP Camera:</p> <p>0 ... 32</p> <p>HD IP Camera:</p> <p>0 ... 29</p> <p>V Series:</p> <p>0 ... 29</p> <p>IP PTZ:</p>	<p>Motion detection window top axis</p>

	<p>6, when # =0 to 4 11, when # =5 to 9</p> <p>IP PTZ:</p> <p>6, when # =0 to 4 11, when # =5 to 9</p> <p>Full HD Multiple</p> <p>Streams series:</p> <p>6, when # =0 to 4 11, when # =5 to 9</p> <p>Full HD IP PTZ:</p> <p>6, when # =0 to 4 11, when # =5 to 9</p>	<p>0 ... 29</p> <p>Full HD Multiple</p> <p>Streams series:</p> <p>0 ... 29</p> <p>Full HD IP PTZ:</p> <p>0 ... 29</p>	
Bottom	<p>HD WDR IP Camera:</p> <p>9, when # =0 to 4 14, when # =5 to 9</p> <p>HD IP Camera:</p> <p>9, when # =0 to 4 14, when # =5 to 9</p> <p>V Series:</p> <p>9, when # =0 to 4 14, when # =5 to 9</p> <p>IP PTZ:</p> <p>9, when # =0 to 4 14, when # =5 to 9</p> <p>Full HD Multiple</p> <p>Streams series:</p> <p>9, when # =0 to 4 14, when # =5 to 9</p> <p>Full HD IP PTZ:</p> <p>9, when # =0 to 4 14, when # =5 to 9</p>	<p>HD WDR IP Camera:</p> <p>0 ... 32</p> <p>HD IP Camera:</p> <p>0 ... 29</p> <p>V Series:</p> <p>0 ... 29</p> <p>IP PTZ:</p> <p>0 ... 29</p> <p>Full HD Multiple</p> <p>Streams series:</p> <p>0 ... 29</p> <p>Full HD IP PTZ:</p> <p>0 ... 29</p>	<p>Motion detection window bottom axis</p>
Pos		<p>Full HD Multiple</p> <p>Streams series/</p> <p>Full HD IP PTZ:</p> <p>val1,val2,val3,val4,va l5,val6</p> <p>val1 = h264 or</p>	<p>val1 : tells which stream is being connected</p> <p>val2 : to divide the image into small rectangular grids.</p> <p>Ex:40(grid)x 30(grid) or 40x21 or others</p>

		h264_2 or jpeg val2 = width x height val3 = 0~ (width - 1) val4 = 0~ (width - 1) val5 = 0~ (height - 1) val6 = 0~ (height - 1)	val3 : to set the left point of the motion window val4 : to set the right point of the motion window val5 : to set the top point of the motion window val6 : to set the bottom point of the motion window
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* **Note:** the # is replaced with a group number starting from 0 to 9, e.g. Motion.M0.

2.16.2 Motion

Description: The group is for the setting of motion detection window.

Configuration file: /etc/sysconfig/motion.conf

[Motion]

Parameter name	Default value	Valid values	Description
SamplingInterval	HD WDR IP Camera: 1 HD IP Camera: 1 V Series: 1 Full HD Multiple Streams series: 1 Full HD IP PTZ: 1	HD WDR IP Camera: 1 ... 10 HD IP Camera: 1 ... 10 V Series: 1 ... 10 Full HD Multiple Streams series: 1 ... 10 Full HD IP PTZ: 1 ... 10	Motion detection sampling pixel interval
DetectionLevel	HD WDR IP Camera: 10 HD IP Camera: 10 V Series: 10 Full HD Multiple Streams series: 10 Full HD IP PTZ: 10	HD WDR IP Camera: 1 ... 100 HD IP Camera: 1 ... 100 V Series: 1 ... 100 Full HD Multiple Streams series: 1 ... 100 Full HD IP PTZ: 1 ... 100	Motion detection level
Sensitivity	HD WDR IP Camera: 80 HD IP Camera: 80 V Series: 80	HD WDR IP Camera: 1 ... 100 HD IP Camera: 1 ... 100 V Series: 1 ... 100	The sensitivity of detection block

	Full HD Multiple Streams series: 80 Full HD IP PTZ: 80	Full HD Multiple Streams series: 1 ... 100 Full HD IP PTZ: 1 ... 100	
TimeInterval	HD WDR IP Camera: 10 HD IP Camera: 10 V Series: 10 Full HD Multiple Streams series: 10 Full HD IP PTZ: 10	HD WDR IP Camera: 0 ... 7200 HD IP Camera: 0 ... 7200 V Series: 0 ... 7200 Full HD Multiple Streams series: 0 ... 7200 Full HD IP PTZ: 0 ... 7200	The time interval of detection

2.17 Tampering

2.17.1 Tampering Alarm

Description: Minimum duration in the camera tampering settings determines the timing of identifying tampering events and reacting as prearranged.

Configuration file: /etc/sysconfig/tampering.conf

[Tampering Alarm]

Parameter name	Default value	Valid values	Description
MinDuration	20	10 ... 3600	Time for processing video analysis to decide whether camera tampering has occurred. Minimum duration time range is within 10 to 3600 seconds.

* The parameter mentioned above is currently only available for HD IP Camera, V Series Camera, Full HD Multiple Streams Series Camera and Full HD IP PTZ.

2.18 Network Failure Detection

2.18.1 Network Failure Detection

Description: Network Failure Detection allows to ping another IP device in the network within a predetermined time interval.

Configuration file: /etc/sysconfig/networkfailureddetection.conf

[Network Failure Detection]

Parameter name	Default value	Valid values	Description
DetectAddress	0.0.0.0	An IP Address	The IP address of the target IP device
DetectInterval	1	1 ... 99	Interval of time to ping another network IP address.

* The parameter mentioned above is currently only available for HD IP Camera, V Series Camera, IP PTZ and Video Server.

2.19 IR

2.19.1 IR Mode

Description: Set different mode of IR

Configuration file: /etc/sysconfig/ir.conf

[IR]

Parameter name	Default value	Valid values	Description
Mode	auto	HD WDR IP Camera: auto manualon manualoff V Series: auto	auto: remove IR cut filter (ICR) automatically manualon/manualoff: remove ICR manually lightsensor: IR LEDs switched

		<p>manualon manualoff <u>Built-in IR LED</u> <u>model:</u> auto manualon manualoff lightsensor, lighton, lightoff</p> <p>Full HD Multiple Streams series: auto manualon manualoff smart <u>Built-in IR LED</u> <u>model:</u> manualon manualoff lightsensor, lighton, lightoff</p> <p>Full HD IP PTZ: auto manualon manualoff</p>	<p>on/off automatically. When IR LEDs are turn on, ICR will be removed; when IR LEDs are turned off, ICR will be off.</p> <p>lighton: IR LEDs are forced on; ICR on</p> <p>lightoff: IR LEDs are forced off; ICR off</p> <p>smart: IR cut filter keeps open(night mode) in the scenario that IR illumination is dominant</p>
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2.20 RS-485 Control

2.20.1 RS-485 Control

Description: This group defines an action that allows implementation of RS-485 control for the models with RS-485 control support.

Configuration file: /etc/sysconfig/rs485protocol.conf

[RS485Control]

Parameter name	Default value	Valid values	Description
Switch	HD WDR IP Camera: 0 V Series: 0 Video Server: 0 Full HD Multiple Streams series: 0	HD WDR IP Camera: 0, 1 V Series: 0, 1 Video Server: 0, 1 Full HD Multiple Streams series: 0, 1	Enable/disable RS-485 control
Mode	HD WDR IP Camera: 0 V Series: 0 Full HD Multiple Streams series: 0	HD WDR IP Camera: 0 ... 6 V Series: 0 ... 6 Full HD Multiple Streams series: 0 ... 6	Each number presents a protocol with specified baud rate. 0 = DSCP 9600 1 = PelcoD 2400 2 = PelcoD 4800 3 = PelcoD 9600 4 = PelcoP 2400 5 = PelcoP 4800 6 = PelcoP 9600
Protocol	Video Server: dscp	Video Server: dscp	The protocol assigned for the Video Server

	<p>Full HD Multiple Streams series:</p> <p>dscp</p>	<p>Pelcod</p> <p>Pelcod</p> <p>Full HD Multiple Streams series:</p> <p>dscp</p> <p>Pelcod</p> <p>Pelcod</p>	<p>and Full HD Multiple Streams series.</p>
Baudrate	<p>Video Server:</p> <p>9600</p> <p>Full HD Multiple Streams series:</p> <p>9600</p>	<p>Video Server:</p> <p>9600</p> <p>4800</p> <p>2400</p> <p>Full HD Multiple Streams series:</p> <p>9600</p> <p>4800</p> <p>2400</p>	

2.21 Storage Management

2.21.1 Storage Management

Description: Describe the parameter for Micro SD card storage management feature.

Configuration file: /etc/sysconfig/storage.conf

[Storage.S0]

Parameter name	Default value	Valid values	Description
Cleanuplevel	85	1 ... 99 (Unit: percentage)	If the value of CleanupPolicyActive is yes , the data stored in the memory card of an IP Camera will be deleted in two cases: <ol style="list-style-type: none">1. The stored data exceeds the preconfigured capacity percentage (Cleanuplevel) of the memory card.2. The stored data older than a specified number of days(CleanupMaxAge)
CleanupMaxAge	1	1 ... 999 (Unit: day)	
CleanupPolicyActive	no	no, yes	