IP Camera API Parameter Specification

Revision: 2.03

Date: 2010-Apr-12

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DOCUMENT HISTORY

Version	Date	Comment
2.01	2009-Aug-27	Initial version.
2.02	2009-Dec-18	**ICA-HM131/ICA-HM126 Series:** Add motion group parameter Add time parameter Add sensor parameter **ICA-H652:** Add resolution Add sensor parameter
2.03	2010-Apr-12	Add 2.1.9 UPnP Add 2.1.10 UPnP NATTraversal Update 2.2.2 Image.I0.Appearance Update 2.2.5 Image.I0.RateControl Update 2.12.2 AudioSource.A0 Add 2.1.3 Network.PPPoE Add 2.2.6 Image.I0.Text Add 2.6.3 Time.DST Add 2.13 Recording

1 OVERVIEW

This document specifies the parameters and configuration files for H.264 IP camera including WDR IP Camera, HD IP Camera, V series, and IP PTZ series. The chart below is the classification.

Classification	Model name
Mini Dome	ICA-HM131 / ICA-HM131R
Box Cam	ICA-HM126 / ICA-HM126R
Speed Dome	ICA-H652

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
ICA-HM131/ICA-HM126	t20100707NS
ICA-HM131R/ICA-HM126R	t20100707NS
ICA-H652	

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: 192.168.0.20
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: 00:30:4F:00:11:AA
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: 2010-01-01
<value 1> <value 2> <value 3> ...		Enumeration, only the given values are valid. Example: yes no
<m><value> ... <n><value>	<value><m> ... <value><n>	Any number between m and n together with value. Example: 1Mbit ... 100Mbit
Read only		Only the default value is valid as value.
Auto generated		Automatically generated value, should not be changed manually.
Hardware dependent		The hardware decides the default value/the valid values.
Everything inside brackets		Description.

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	192.168.0.20	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 SubnetMask. 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	00:30:4F:xx:xx:xx *	A MAC address (Auto generated)	MAC address. The unique identity of the device. This parameter is read only.
IPAddress	192.168.0.20	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; 00:30:4F. 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
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 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	MailServer1's SMTP port
MailServer2		An IP address or a host name	Secondary mail server.
MailServer2port	25	25, 1024 … 65535	MailServer2's SMTP port

2.1.12 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.

2.1.13 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.

2.2 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	**ICA-HM131/HM126 Series:** 2 **ICA-H652:** 2	**ICA-HM131/HM126 Series:** 0 … 4 **ICA-H652:** 0 … 2	The level of H.264 image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes.
H264Bitrate	**ICA-HM131/HM126 Series:** 4096 **ICA-H652:** 4096	**ICA-HM131/HM126 Series:** 64 … 8000 **ICA-H652:** 64 … 8000	The value of H.264 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	**ICA-HM131/HM126 Series:** 720p, 720p **ICA-H652:** d1, d1	**ICA-HM131/HM126 Series:** 720p, 720p d1, 720p cif, 720p 1080p, disable disable, 1080p The format is <resolution_MJPEG>, <resolution_H.264> **ICA-H652:** d1, d1 cif, d1	The image resolution. **ICA-HM131/HM126 Series:** The former parameter shows the resolution in MJPEG stream, and the latter one stands for H.264 stream. **ICA-H652:** The former parameter shows the resolution in MJPEG stream, and the latter one stands for H.264 stream. quadvga=1280x960 sxga=1280x1024

		The format is <resolution_MJPEG>, <resolution_H.264>	720p=1280x720 d1=720x480(NTSC) d1=720x576(PAL) vga=640x480 qvga=320x240 cif=352x240(NTSC) cif=352x288(PAL) qcif=176x144 disable= not supported
Rotation	**ICA-HM131/HM126 Series:** 0	**ICA-HM131/HM126 Series:** 0, flip, mirror, rotate	Rotates the image. 0 = Normal. flip = up/down inversion. mirror = left/right inversion rotate = both up/down and left/right inversion
H264VideoKeyFrameInterval	**ICA-HM131/HM126 Series:** 30	**ICA-HM131/HM126 Series:** 1…128	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.
Deinterlace	**ICA-H652:** 0	**ICA-H652:** 0…2	**ICA-H652:** 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	**ICA-HM131/HM126 Series:** black	**ICA-HM131/HM126 Series:** black, white, yellow, red, green, blue, cyan, magenta	The mask color
Type	**ICA-HM131/HM126 Series:** solid	**ICA-HM131/HM126 Series:** solid, transparency	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	**ICA-HM131/HM126 Series:** no	**ICA-HM131/HM126 Series:** no, yes	The mask enable or disable
XPos	**ICA-HM131/HM126 Series:** 10, when#=0; 20, when#=1	**ICA-HM131/HM126 Series:** 0 ...59	The mask X position
YPos	**ICA-HM131/HM126 Series:** 10, when#=0; 10, when#=1	**ICA-HM131/HM126 Series:** 0 ... 32	The mask Y position
Width	**ICA-HM131/HM126 Series:** 8	**ICA-HM131/HM126 Series:** 0 ... 59	The mask width
Height	**ICA-HM131/HM126 Series:**	**ICA-HM131/HM126 Series:**	The mask height

	5	0 … 32	

*** Note:** the # is replaced with a group number starting from 0 to 1 for ICA-HM131/HM126 Series.

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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 1st 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 2nd H.264 streaming rate controller operates in Variable Bit Rate (VBR) or constant bit rate (CBR) mode.
MaxFPS	30	**ICA-HM131/HM126:** 30,15 **ICA-HM131R/HM126R:** 30 **ICA-H652:** 30	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, must be set to cbr for this parameter to take effect.
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.
String		A string	The text to show at the Position in the image.

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	**ICA-HM131/HM126 Series:** auto	**ICA-HM131/HM126 Series:** NTSC: auto, autoiris,	The image exposure

	ICA-H652: auto	fixedshutter(10000, 5000, 2500, 1250, 667, 333, 167, 111, 100, 83, 56, 40, 28, 20, 14, 10, 5, 3, 1) PAL: auto, autoiris, fixedshutter(10000, 5000, 3333, 1666, 833, 400, 200, 133, 100, 83, 66, 46, 33, 23, 16, 8, 4, 2 ,1) **ICA-H652:** auto, shutterpriority6 … 21 fixedshutter0…..21	
Exposure.MinShuttrtSpeed	**ICA-HM131/HM126 Series:** 8	**ICA-HM131/HM126 Series:** NTSC: 1, 2, 4, 8, 15, 30 PAL: 1, 2, 4, 8, 12, 25	The image max shutter speed.
WhiteBalance	**ICA-HM131/HM126 Series:** **ICA-H652:** auto	**ICA-HM131/HM126 Series:** auto, manual **ICA-H652:** auto, fixed_indoor, fixed_outdoor, manual	The image white balance.
WhiteBalance.Rgain	**ICA-HM131/HM126 Series:** 57 **ICA-H652:** 10	**ICA-HM131/HM126 Series:** 0 … 127 **ICA-H652:** 0 … 255	Rgain value when whitebalance mode is manual, only available in IP PTZ.
WhiteBalance.Bgain	**ICA-HM131/HM126 Series:** 54	**ICA-HM131/HM126 Series:** 0 … 127	Bgain value when whitebalance mode is manual, only available in IP

	ICA-H652: 19	**ICA-H652:** 0 … 255	PTZ.
Backlight	**ICA-H652:** off	**ICA-H652:** on, off	Enable/Disable Backlight Compensation.
Brightness	**ICA-HM131/HM126 Series:** 128	**ICA-HM131/HM126 Series:** 0 … 255	The image brightness.
Sharpness	**ICA-HM131/HM126 Series:** 0 **ICA-H652:** 6	**ICA-HM131/HM126 Series:** 0 … 15 **ICA-H652:** 1 … 15	The image sharpening.
Contrast	**ICA-HM131/HM126 Series:** 64	**ICA-HM131/HM126 Series:** 0 … 255	The image contrast.
ColorLevel	**ICA-HM131/HM126 Series:** 64	**ICA-HM131/HM126 Series:** 0 … 255	
Hue	**ICA-HM131/HM126 Series:** 128	**ICA-HM131/HM126 Series:** 0 … 255	
Digitalzoom	**ICA-H652:** off	**ICA-H652:** on, off	The image digital zoom
Expcomp	**ICA-H652:** 8	**ICA-H652:** 1 … 15	Exposure compensation
Freeze	**ICA-H652:** off	**ICA-H652:** on, off	Freeze the image
Flip	**ICA-H652:**	**ICA-H652:**	

	off	off, ME, image	
Wdr	**ICA-H652:** off	**ICA-H652:** off, on	
2DNR	**ICA-H652:** off	**ICA-H652:** on, off	Enable/Disable 2D Noise Reduction function.
3DNR	**ICA-H652:** off	**ICA-H652:** on, off	Enable/Disable 3D Noise Reduction function.
Inverse	**ICA-H652:** off	**ICA-H652:** on, off	
AutoCalibration	**ICA-H652:** off	**ICA-H652:** on, off	
Stabilizer	**ICA-H652:** off	**ICA-H652:** on, off	

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, pal	Which type of TV system is used. (Read only) Note: The value is product dependent
ModuleType		**ICA-H652:** hitachi, sony, dyna	Which type of camera module is used. (Read only), only available in ICA-H652. 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	Input 1	A string	The name of the input. This parameter is read only.
Trig	closed	open, closed	Determines when to trig.

* **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.O0

Description: Parameters for hardware output(s).

Configuration file: /etc/sysconfig/outputs.conf

[Output.O0]

Parameter name	Default value	Valid values	Description
Name	Output 1	A string	The name of the output. Read only
Active	open	open, closed	The active state of the output.

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 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.
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,	Refers to

		E1	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

*** 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 -	Primary FTP server ID. Refers to a parameter group under

		1)	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 InludeBestEffort = yes and BestEffortDuration = 0, the duration will be as long as the event is triggered.
BestEffortInterval	0	0 … 15	Image frequence 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,	Primary SMTP server ID. Refers

		E1	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 InludeBestEffort = yes and BestEffortDuration = 0, the duration will be as long as the event is triggered.
BestEffortInterval	0	0 … 15	Image frequence 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 (ICA-H652 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	**ICA-H652:** no	**ICA-H652:** yes, no	Enable or disable upload image
Type	**ICA-H652:**	**ICA-H652:**	Type of action

	N	N	N = Notification
Protocal	**ICA-H652:** PTZ	**ICA-H652:** PTZ	Protocol
Function	**ICA-H652:** 1	**ICA-H652:** 1 … 4	1: preset 2: sequence 3: autopan 4: cruise
FunctionLine		**ICA-H652:** An unsigned integer	Depends on PTZ function
DwellTime	**ICA-H652:** 0	**ICA-H652:** 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.

2.5 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.

2.6 Time

2.6.1 Time

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

Configuration file: /etc/sysconfig/systime.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.

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 number of days since Sunday in the range 0 to 6.
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, or 0, or 1 … 31	DST can either start on an exact date, or a specific weekday of the month. StartTypeOfDate indicates how to interpret

			StartDay. If 0, then StartDay is an exact date, otherwise it is a weekday. 0 = StartDay is an exact date (1-31). -1 = The weekday specified by StartDay is the last in the month. 1 to 31 = The first weekday specified by StartDay that has a date larger than or equal to this. Example: StartTypeOfDate = 0 StartDay = 12 The 12th of the month Example2: StartTypeOfDate = -1 StartDay = 0 The last Sunday of the month Example 3: StartTypeOfDate = 1 StartDay = 5 The first Friday of the month Example 4: StartTypeOfDate = 15 StartDay = 0 The third Sunday of the month
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, or 0, or 1 … 31	DST can either end on an exact date, or a specific weekday of the month. See the description of StartTypeOfDate above.

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 respresenting 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(IP PTZ 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		**ICA-H652:** -180 … 180	Start pan position. This parameter is read only.
EndPan		**ICA-H652:** -180 … 180	End pan position. This parameter is read only.
Direction		**ICA-H652:** left, right	Direction of PTZ autopan function This parameter is read only.
Speed		**ICA-H652:** 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(IP PTZ 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	**ICA-H652:** 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 (IP PTZ 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. post = Simplex. Audio to the server. get = Simplex. Audio from the server. disable=Disable the Audio function.

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:

[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 ... 3	**ICA-HM131/HM126 Series:**

H264	0	0 … 3	0: No skip, default 1.: Frame skipping at 5 frame internal 2.: Frame skipping at 10 frame internal 3.: Frame skipping at 15 frame interval **ICA-H652:** 0: No skip, default 1.: Frame skipping at 5 frame internal 2.: Frame skipping at 10 frame internal 3.: Frame skipping at 15 frame interval

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	**ICA-HM131/HM126 Series:** yes, when #=0; no, when #=1 to 9	**ICA-HM131/HM126 Series:** yes, no	Motion detection window enable or disable
Left	**ICA-HM131/HM126 Series:** 5, when #=0,5; 10, when #=1,6; 15, when #=2,7;	**ICA-HM131/HM126 Series:** 0 … 39	Motion detection window left axis

	20, when #=3,8; 25, when #=4,9		
Right	**ICA-HM131/HM126 Series:** 8, when #=0,5; 13, when #=1,6; 18, when #=2,7; 23, when #=3,8; 28, when #=4,9	**ICA-HM131/HM126 Series:** 0 … 39	Motion detection window right axis
Top	**ICA-HM131/HM126 Series:** 6, when #=0 to 4 11, when # =5 to 9	**ICA-HM131/HM126 Series:** 0 … 29	Motion detection window top axis
Bottom	**ICA-HM131/HM126 Series:** 9, when #=0 to 4 14, when # =5 to 9	**ICA-HM131/HM126 Series:** 0 … 29	Motion detection window bottom axis

*** 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	**ICA-HM131/HM126 Series:** 1	**ICA-HM131/HM126 Series:** 1 … 10	Motion detection sampling pixel interval
DetectionLevel	**ICA-HM131/HM126 Series:** 10	**ICA-HM131/HM126 Series:** 1 … 100	Motion detection level

Sensitivity	**ICA-HM131/HM126 Series:** 80	**ICA-HM131/HM126 Series:** 1 … 100	The sensitivity of detection block
TimeInterval	**ICA-HM131/HM126 Series:** 10	**ICA-HM131/HM126 Series:** 0 … 7200	The time interval of detection

2.17 IR

2.17.1 IR Mode

Description: Set different mode of IR

Configuration file: /etc/sysconfig/ir.conf

[IR]

Parameter name	Default value	Valid values	Description
Mode	auto	auto manualon manualoff	Remove IR cut filter automatically / manually.