



ABS MegaCam Series Network Cameras

– Parameter Specification Document

DOCUMENT HISTORY

Version	Date	Supported Firmware	Release Notes
1.00	2007-May-10	V3.0.0.0	Initial version.
1.01	2007-Sep-27		Add focus and autofocus properties.
1.02	2007-Nov-02		1. Modify duration of "Event HW Actions"
			2. Modify Event "Voice Alert Actions"
			3. Modify Event Guard Tour Actions
1.03	2007-Dec-12	V3.0.2.1613	1. Implement Image.I0.Stream
			2. Implement Image.I0.Appearance.Rotation
			3. Remove ImageSource.I0.Sensor.Mirror
			4. Remove ImageSource.I0.Sensor.Flip
			5. Implement Layout.DefaultVideoFormat
			6. Modify Image.I0.Stream.FPS
1.04	2007-Dec-18	V3.0.2.1628	1. Add Audio.A0.HTTPMessageType
			2. AudioSource.A0.AudioEncoding=g721
1.05	2007-Dec-28	V3.0.2.1691	Revise Document
1.06	2008-Jan-04	V3.0.2.1691	Revise Document

1 OVERVIEW

This document specifies the parameters for all IP cameras and video servers.

1.1 Product and firmware versions

The parameters specified in this document could be applied to all products with firmware V3.00.

1.2 Security levels

The security levels column in each parameter table shows the required security level to operate parameters. The numbers represent security levels on the form create/delete for groups and get/set for parameters. To be able to perform an action on a parameter the user needs to have a security level equal to or higher than the corresponding security level of the parameter.

Security level	Description
0	Unprotected, but it is not possible to access the camera setting without at least view rights.
1	View access right needed to access the parameter.
6	Administrator access right needed to access the parameter.
7	Internal parameters that can only be changed by firmware applications or by root.

1.3 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: 192.168.0.90
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: 00:40:8c:cd:00:00
An e-mail address	A string limited to contain an e-mail address.
A URL/URI	A string 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: 2004-02-16
<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

2.1.2 Brand

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

[Brand]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Brand	ABS	A string (Auto generated)	0/7	The brand of the product.
ProdFullName	*	A string (Auto generated)	0/7	The full name of the product.
ProdNbr	*	A string (Auto generated)	0/7	The product number.
ProdShortName	*	A string (Auto generated)	0/7	The short name of the

				product.
ProdType	*	Video Server, Network Camera, Network Video Recorder (Auto generated)	0/7	The product type.
WebURL	http://www. abs.com/dips	A string (Auto generated)	0/7	The URL to visit for support and informati on about the product.

2.1.5 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.

[Network]

Parameter name	Default value	Valid values	Security level (get/set)	Description
BootProto	dhcp	dhcp, none	6/6	Enable/disable dynamic IP address assignment to the device.

Broadcast	192.168.0.255	An IP address	6/6	Broadcast address. Used to disseminate information to several recipients simultaneously.
DefaultRouter	192.168.0.1	An IP address	6/6	Default router/gateway used for connecting devices attached to different networks and network segments.
DNSServer1	0.0.0.0	An IP address	6/6	Primary Domain Name System server.
DNSServer2	0.0.0.0	An IP address	6/6	Secondary Domain Name System server.
DomainName		A domain name	6/6	The name of the domain to which the device belongs.
InterfaceSelectMode	auto	auto, wired	6/6	Interface select mode. Defines how the device chooses

				which network interface to use. In auto mode the wireless interface will be used when a wired network connection cannot be detected. In wired mode only the wired interface will be used, regardless of its' status.
IPAddress	192.168.0.90	An IP address	6/6	IP Address. The physical address of the device on the network.
SubnetMask	255.255.255.0	An IP address	6/6	Subnet mask. Divides the network.

Description: Network dynamic IP service. ABS service to help to translate device IP into number that could found in our website at www.abs.com/dips

2.1.8 Network.Bonjour

Description: Enable/disable Bonjour and set the name to be displayed in Bonjour-clients.

[Network.Bonjour]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	yes	yes,no	6/6	Enable/disable Bonjour.
FriendlyName	<product name> - <MAC>	A string	6/6	The name of the Bonjour device.

2.1.9 Network.DNSUpdate

Description: Dynamic Updates in the Domain Name System (RFC 2136).

[Network.DNSUpdate]

Parameter name	Default value	Valid values	Security level (get/set)	Description
DNSName		absolute domain name	6/6	The name entered here will be associated with the product's IP address in the DNS server.
Enabled	no	yes, no	6/6	Enable/disable dynamic DNS service.
TTL	30	0 ... $<2^{32-1}>$	6/6	This value determines how long (in seconds) the reply from the DNS server should be

				remembered when checking that the domain name for the registered IP address is still valid. This will reduce the amount of network traffic necessary for the unit's operation.
DNSSERVER	www.dyndns.org	<absolute domain name>	6/6	DDNS server
Username		a string username	6/6	username needed to login the DDNS server
Password		a string password	6/6	password needed to login the DDNS server

2.1.10 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.

[Network.eth0]

Parameter name	Default value	Valid values	Security level	Description
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			(get/set)	
Broadcast		An IP address (Auto generated)	6/6	Broadcast address. Used to disseminate information to several recipients simultaneously. This parameter is read only.
IPAddress		An IP address (Auto generated)	6/6	IP Address. The physical address of the device on the network. This parameter is read only.
MACAddress	00:40:8c:xx:xx:xx*	A MAC address (Auto generated)	6/6	MAC address. The unique identity of the device. This parameter is read only.
SubnetMask		An IP address (Auto generated)	6/6	Subnet mask. Divides the network. This parameter is read only.

2.1.12 Network.Filter

Description: IP address filtering. These parameters are used to only accept connections from certain IP addresses or networks.

[Network.Filter]

Parameter name	Default value	Valid values	Security level	Description
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			(get/set)	
Enabled	no	yes,no	6/6	Enable/disable IP address filtering.

2.1.13 Network.Filter.Input

Description: IP addresses filtering for incoming packets.

[Network.Filter.Input]

Parameter name	Default value	Valid values	Security level (get/set)	Description
AcceptAddresses		A string (a space separated list of IP addresses and network addresses in the CIDR notation (IP address/net mask bits))	6/6	Addresses allowed to pass through the filter. Example: 192.168.0/24 will add all the addresses in the range 192.168.1.1 to 192.168.1.254. Note: If accessing the device via a proxy server, the proxy server's IP address must be added to the list of allowed addresses.
Policy	allow	allow,deny	6/6	Allow or deny the addresses access to the device.

2.1.15 Network.Interface.I#

Description: Configuration and status information for one network interface on an device.

[Network.Interface.I0]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Type	802.3	802,3	6/6	The type of the network interface as expressed by the IEEE 802 protocol. This value is read-only.

[Network.Interface.I1]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Type	802.11	802.11	6/6	The type of the network interface as expressed by the IEEE 802 protocol. This value is read-only.

2.1.16 Network.Interface.I#.Active

Description: Settings of this network interface. Use these parameters to retrieve the network settings actually in use by the operating system.

[Network.Interface.I#.Active]

Parameter name	Default value	Valid values	Security level (get/set)	Description
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MACAddresses	xx:xx:xx:xx:xx:xx	A MAC address	6/6	The MAC address of the device.
Active		yes,no	6/6	The in use status of the network interface. yes = the network is currently in use.
IPAddress		An IP address	6/6	The network address of this network interface on the device. SubnetMask An IP address 6/7 The subnet mask.
Broadcast		An IP address	6/6	The broadcast address. Used to disseminate information to several recipients simultaneously.

2.1.17 Network.Interface.I#.Link

Description: The low-level configuration of a network interface.

[Network.Interface.I#.Link]

Parameter name	Default value	Valid values	Security level (get/set)	Description
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			t)	
BootProto	dhcp	dhcp, none	6/6	Enable/disable dynamic IP assignment to this network interface on the device. Media auto auto, 10baseT-HD, 10baseT-FD, 100baseTX-HD, 100baseTX-FD 6/6 Media type on the network interface. Only available on Ethernet interfaces, i.e. if Network.Interface.I#.Type=802.3.

2.1.18 Network.Interface.I#.Manual

Description: The manual configuration of a network interface.

[Network.Interface.I#.Manual]*

Parameter name	Default value	Valid values	Security level (get/set)	Description
IPAddress	192.168.0.1000	An IP addresses	6/6	The network address of this network interface on the device.
SubnetMask	255.255.255.0	An IP addresses	6/6	Subnet mask for the network interface. Divides the network.
Broadcast	192.168.0.255	An IP addresses	6/6	Broadcast address. Used to disseminate

				information to several recipients simultaneously.
DefaultRouter	192.168.0.254	An IP address	6/6	Default router/gateway used for connecting devices attached to different networks and networks segment.

2.1.19 Network.Interface.I#.ZeroConf

Description: Enable/disable automatic configuration of link local IP address. The negotiated network settings are located in this group, and are used in parallel with the settings of the Network.Interface.I#.Active group.

I.e. both addresses can be used simultaneously.

[Network.Interface.I#.ZeroConf]*

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	yes	yes,no	6/6	Enable/disable zero configuration.
IPAddress		An IP address (Auto generated)	6/6	These values shall not be configured. They are retrieved directly from the interface.
SubnetMask		An IP address	6/6	These values shall not be configured.

		(Auto generated)		They are retrieved directly from the interface.
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2.1.22 Network.Resolver

Description: Enable /disable retrieval of Domain Name System settings from DHCP server. The actual DNS settings in use by the operating system are located in this group.

[Network.Resolver]

Parameter name	Default value	Valid values	Security level (get/set)	Description
NameServer1		Auto generated	6/6	This parameter is read only.
NameServer2		Auto generated	6/6	This parameter is read only.
ObtainFromDHCP	yes	yes,no	6/6	Specifies if the DNS server should be obtained from a DHCP server.
Search		Auto generated	6/6	This parameter is read only.

2.1.23 Network.Routing

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

[Network.Routing]

Parameter name	Default value	Valid values	Security level (get/set)	Description
DefaultRouter		Auto	6/6	This

		generated		parameter is read only.
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2.1.25 Network.RTP

Description: Parameters related to multicast RTP.

[Network.RTP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
NbrOfRTPGroups	Hardware dependent	1 ...	6/6	The number of RTP groups. One group for each possible multicast presentation (i.e. video source).
StartPort	50000	1024 ... 65532	6/6	The RTP port range defines the range of ports from which the video/audio ports are automatically selected. This feature is useful if the product is connected to a NAT router with manually configured port mapping. Note: Each RTP session needs 4

				ports, which means 4 ports for each unicast session (audio and video) or 4 ports for the multicast session in total.
EndPort	50999	1025 ... 65535	6/6	<p>The RTP port range defines the range of ports from which the video/audio ports are automatically selected. This feature is useful if the product is connected to a NAT router with manually configured port mapping.</p> <p>Note: Each RTP session needs 4 ports, which means 4 ports for each unicast session (audio and video) or 4 ports for the multicast session in total.</p>

2.1.27 Network.RTSP

Description: Parameters needed by the RTSP daemon.

[Network.RTSP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	yes	yes,no	6/6	Enable/disable RTSP support. If disabled, only multicast RTP is available for MPEG delivery.
Port	554	554, 1024 ... 65535	6/6	The port number for the RTSP daemon.

2.1.28 Network.UPnP

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

[Network.UPnP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	yes	yes,no	6/6	Enables Universal Plug and Play.
FriendlyName	<product name> - <serial number>	A string	6/6	The name of the UPnP device.

2.1.29 Network.UPnP.NATTraversal

Description: These 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.

[Network.UPnP.NATTraversal]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes,no	6/6	Enables/disables NAT traversal.
Router		An IP address	6/6	If an IP address is entered NAT traversal will be attempted with that router. If none is entered, the server will automatically try to discover a router.
ExternalIPAddress		An IP address	6/6	The external IP address of the NAT router. This value shall not be configured, it is set by the system itself.
Active	no	yes,no	6/6	This parameter is set to yes if NAT traversal was successful. This value shall not be configured, it is set by the system itself.
MinPort	32768	1 ... 65535	6/6	The first time NAT traversal is enabled, a random port between MinPort and

				MaxPort will be selected as the TCP port to map in the router. If port mapping is successful, that port will be used thereafter. You can limit the random range by setting MinPort and MaxPort.
MaxPort	65535	1 ... 65535	6/6	The first time NAT traversal is enabled, a random port between MinPort and MaxPort will be selected as the TCP port to map in the router. If port mapping is successful, that port will be used thereafter. You can limit the random range by setting MinPort and MaxPort.

2.1.31 Network.ZeroConf

Description: Enable /disable automatic configuration of link local IP address. The negotiated network settings are located in this group, and are used in parallel with the setting of the Network.eth0 group.

I.e. both addresses can be used simultaneously.

[Network.ZeroConf]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes,no	6/6	Enable/disable zero configuration.
IPAddress		Auto generated	6/6	This parameter is read only.
SubnetMask		Auto generated	6/6	This parameter is read only.

2.1.33 SMTP

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

[SMTP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
FromEmail		An e-mail address	6/6	E-mail address of the individual or device from which the e-mail is sent.
MailServer1		An IP address or a host name	6/6	Primary mail server.
Port	25	1 ~ 65535	6/6	A Port of SMTP server
ToEmail		An e-mail address	6/6	E-mail address of the individual which receiver the e-mail.
Subject		Subject	6/6	Mail subject.

2.1.34 SMTP.Authentication.A#

Description: Parameters for SMTP authentication.

[SMTP.Authentication.A0]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes,no	6/6	Enable/disable authentication.
UserName		A string	6/6	The user name for the mail server or the POP server.
Password		A string	6/6	The password for the mail server or the POP server.
WeakestMethod	Login	Login,Plain,CRAM-MD5	6/6	The weakest method allowed for mail server login.
UsePOP	no	yes,no	6/6	Login to a POP server.
POPServer		An IP address or a host name	6/6	The IP address or host name of the POP server.

*Note: The # is replaced with a group number 1 or 2. The number is representing mail server 1 and mail server

2.1.37 System

Description: Parameters for HTTP access to the device.

[System]

Parameter name	Default value	Valid values	Security level (get/set)	Description
BoaPort	80	1 ... 65535	6/6	HTTP port number.
AlternateBoaPort	80	0 ... 65535	6/6	Secondary HTTP port number. Disable by setting it to zero. This parameter is set automatically when NAT traversal is enabled.
BoaProtViewer	password	password, anonymous	6/6	password = Password is required to access the view pages. anonymous = Anybody on the network can access the product's

				view pages (but not the Admin tools) in a browser, and without having to log in.
HTTPPort	80	80	6/6	HTTP port number.
HTTPViewerPort	2000	2000	6/6	HTTP port number for viewer/recorder API.

2.1.39 Time

Description: Common time information which tell the time zone, how date and time is synchronized and the offset related to the chosen time zone and Coordinated Universal Time, UTC.

[Time]

Parameter name	Default value	Valid values	Security level (get/set)	Description
ObtainFromDHCP	yes	yes,no	6/6	DHCP servers may provide names/IP addresses for local/remote NTP servers. Enable this feature by setting this parameter to yes.
ServerDate		A date	6/6	The date (yyyy-mm-dd) when the device's time was set manually or synchronized with

				the computer.
ServerTime		A time	6/6	The time (hh:mm:ss) when the device's time was set manually or synchronized with the computer.
SyncSource	Product dependent	PC, NTP, None	6/6	The source to synchronize the time with; PC, NTP or None (manually).
TimeZone	GMT	GMT-1200, .. GMT-1000, GMT, GMT+1000, ... GMT+1200	6/6	Time zone.
UTCOffset	00:00:00	A time	6/6	Time difference (hh:mm:ss) between the time zone and Coordinated Universal Time (UTC). -01:00:00 = -1 hour, i.e. 1 hour after UTC. 00:00:00 = 0 hour, 01:00:00 = 1 hour, i.e. before UTC.

2.1.40 Time.DST

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

[Time.DST]

Parameter name	Default	Valid	Security	Description
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	value	values	level (get/set)	
Enabled	no	yes,no	6/6	Enable/disable DST (Daylight Saving Time)
Offset	01:00:00	A time	6/6	The amount of time the clock should be turned back/forward (hh:mm:ss), due to DST.
StartDay	0	1 ... 31, 0 ... 6	6/6	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	6/6	The number of months since January in the range 0 to 11.
StartTime	00:00:00	A time	6/6	Indicates the time (hh:mm:ss) when DST should

				<p>be enabled. StartTime = 02:00:00 means that DST should be enabled two hours after midnight.</p>
StartTypeOfDate	0	-1,0,1 ... 31	6/6	<p>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 =</p>

				<p>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> <p>Example 4: StartTypeOfDate = 15, StartDay = 0, The third Sunday of the month</p>
StopDay	0	1 ... 31, 0 ... 6	6/6	<p>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.</p>
StopMonth	0	0 ... 11	6/6	The number of

				months since January in the range 0 to 11.
StopTime	00:00:00 0	A time	6/6	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 ... 31	6/6	DST can either end on an exact date, or a specific weekday of the month. See the description of StartTypeOfDate above.

2.1.41 Time.NTP

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

[Time.NTP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Server	0.0.0.0	An IP address or a host name	6/6	The NTP server to connect to when synchronizing the time in the device.
Update	01:00:00	A time	6/6	Time interval

				(hh:mm:ss) between connections to the NTP server.
VolatileServer		An IP address or a host name	6/6	The name/IP address of the NTP server, received from the DHCP server. Only one NTP server is currently supported. The NTP server name/IP address will be valid only until the next DHCP renewal or reboot.

2.1.42 Network.PPPoE

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

[Network.PPPoE]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes,no	6/6	Enable/disable PPPoE dial function
Username		a string username	6/6	username needed to login the PPPoE server
Password		a string password	6/6	password needed to login the PPPoE server

IPAddress		An IP address (Auto generated)	6/6	IP Address. The physical address of the device on the network. This parameter is read only.
SubnetMask		An IP address (Auto generated)	6/6	Subnet mask. Divides the network. This parameter is read only.
DefaultRouter		An IP address (Auto generated)	6/6	Default Router Address. This parameter is read only.
NameServer1		An IP address (Auto generated)	6/6	DNS get from PPPoE server.
Status	Disconnect	Connect, Disconnect, Connect Fail	6/6	PPPoE connect status.

2.1.43 Network.DIPS

Description: Dynamic IP service

[Network.DIPS]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Server	www.abs.com/dips	yes, no	6/6	Enable/disable dynamic IP

				services
Enabled	no	yes, no	6/6	Enable/disable dynamic IP services
ID		a string	6/6	Device ID for DIPS

2.2 JPEG/MJPEG/MPEG

2.2.1 Image

Description: Common image parameters used for all image configurations.

[Image]

Parameter name	Default value	Valid values	Security level (get/set)	Description
DateFormat	*	YYYY.MM.DD Www, Www.Mmm DD, YYYY, Www.DD.MM.YYYY, YYYY-MM-DD, Www Mmm D YYYY, MM/DD/YYYY1	6/6	Date format used in text overlay.
MaxViewers	10	1 ... 10	6/6	Max number of simultaneous viewers (does not affect multicast delivery).
TimeFormat	24	12,24	6/6	Time format used in text overlay.

2.2.2 Image.I0

Description: Image configuration. Contains the name of the image configuration and which image source it is connected to.

[Image.I0]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	1	A string	6/6	Name of the source.

*Note: only support one source.

2.2.3 Image.I0.Appearance

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

[Image.I0.Appearance]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Resolution	CIF	CIF, QCIF, VGA, 1024x768	6/6	The image resolution. Default corresponding to mjpeg properties(refer Layout.DefaultVideoFormat).
Compression	30	0 ... 100	6/6	The level of image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes. MPEG-4: The compression setting maps to the qscale used when

				quantizing the video stream. This mapping has been made in such a way as to give as similar result as using the same setting for M-JPEG.
Rotation	0	A string	6/6	<p>The supported image rotations separated by commas. E.g. 0,90,180,270. For products not supporting image rotation the value is 0.</p> <p>0 : Normal 90 : Mirror 180 : Mirror + Flip 270 : Flip</p>

[Image.IO.Appearance1] - Profile for mpeg4 vga

Parameter name	Default value	Valid values	Security level (get/set)	Description
Resolution	VGA	VGA	6/6	The image resolution.
Compression	30	0 ... 100	6/6	<p>The level of image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes. MPEG-4: The compression setting maps to the qscale used when quantizing the video stream. This mapping has been made in such a way as</p>

				to give as similar result as using the same setting for M-JPEG.
Enabled	yes	yes,no	6/6	Profile enabled : multi-profile mode

[Image.I0.Appearance2] - Profile for mpeg4 cif

Parameter name	Default value	Valid values	Security level (get/set)	Description
Resolution	CIF	CIF	6/6	The image resolution.
Compression	30	0 ... 100	6/6	The level of image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes. MPEG-4: The compression setting maps to the qscale used when quantizing the video stream. This mapping has been made in such a way as to give as similar result as using the same setting for M-JPEG.
Enabled	yes	yes,no	6/6	Profile enabled : multi-profile mode

[Image.I0.Appearance3] - Profile for mpeg4 qcif

Parameter name	Default value	Valid values	Security level (get/set)	Description
----------------	---------------	--------------	--------------------------	-------------

Resolution	QCIF	QCIF	6/6	The image resolution.
Compression	30	0 ... 100	6/6	The level of image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes. MPEG-4: The compression setting maps to the qscale used when quantizing the video stream. This mapping has been made in such a way as to give as similar result as using the same setting for M-JPEG.
Enabled	yes	yes,no	6/6	Profile enabled : multi-profile mode

[Image.IO.Appearance4] - Profile for mjpeg

Parameter name	Default value	Valid values	Security level (get/set)	Description
Resolution	CIF	CIF, QCIF, VGA	6/6	The image resolution.
Compression	30	0 ... 100	6/6	The level of image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes. MPEG-4: The

				compression setting maps to the qscale used when quantizing the video stream. This mapping has been made in such a way as to give as similar result as using the same setting for M-JPEG.
Enabled	yes	yes,no	6/6	Profile enabled : multi-profile mode

[Image.I0.Appearance5] - Profile for mega mpeg4

Parameter name	Default value	Valid values	Security level (get/set)	Description
Resolution	1024x768	1024x768	6/6	The image resolution.
Compression	30	0 ... 100	6/6	The level of image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes. MPEG-4: The compression setting maps to the qscale used when quantizing the video stream. This mapping has been made in such a way as to give as similar result as using the same setting for M-JPEG.
Enabled	no	yes,no	6/6	Profile enabled : mega

				mode
--	--	--	--	------

[Image.I0.Appearance6] - Profile for mega mjpeg

Parameter name	Default value	Valid values	Security level (get/set)	Description
Resolution	1024x768	1024x768	6/6	The image resolution.
Compression	30	0 ... 100	6/6	The level of image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes. MPEG-4: The compression setting maps to the qscale used when quantizing the video stream. This mapping has been made in such a way as to give as similar result as using the same setting for M-JPEG.
Enabled	no	yes,no	6/6	Profile enabled : mega mode

2.2.5 Image.I0.Overlay

Description: Image overlay parameters for each image configuration.

[Image.I0.Overlay] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes,no	6/6	Whether to show the overlay image or not. The overlay image is stored in a file given by the parameter Image.OverlayPath.
XPos	0	An unsigned integer	6/6	The overlays upper left corner is positioned at this horizontal position (0 = to the left).
YPos	0	An unsigned integer	6/6	The overlays upper left corner is positioned at this horizontal position (0 = to the top).

*Note: The # is replaced with a group number starting from zero, e.g. Image.I0.Overlay.

2.2.6 Image.I0.Overlay.MaskWindows

Description: Privacy mask parameters for each image configuration.

[Image.I0.Overlay.MaskWindows] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Color	black	black,grey,white,red	6/6	The privacy mask color.

2.2.7 Image.I0.Overlay.MaskWindows.M#

Description: Privacy mask parameters for each image configuration.

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

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes,no	6/6	Enable/disable privacy mask.
XPos	0	An unsigned integer	6/6	The overlays upper left corner is positioned at this horizontal position (0=to the left).
YPos	0	An unsigned integer	6/6	The overlays upper left corner is positioned at this vertical position (0=to the top).
Width	0	An unsigned integer	6/6	Width of the specified mask.
Height	0	An unsigned integer	6/6	Height of the specified mask.

*Note: The # is replaced with a group number starting from zero, e.g. Image.I0.Overlay.MaskWindows.M0

2.2.8 Image.I0.RateControl

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

[Image.I0.RateControl#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
----------------	---------------	--------------	--------------------------	-------------

Mode	vbr	vbr,cbr	6/6	Specifies whether the rate controller operates in Variable Bit Rate (VBR) or constant bit rate (CBR) mode.
TargetBitrate	384	384 ... 2048 Mpeg4 VGA 128 ... 1024 Mpeg4 QVGA 24 ... 320 Mpeg4 QQVGA 128 ... 1024 JPEG QVGA	6/6	The target bit rate, in kbit/s, for CBR mode.
MaxFps?	30	1 ... 30	6/6	The rate controller will not produce streams with a frame rate higher than this value. Note 1: The parameter Image.I0.RateControl.Mode must be set to cbr for this parameter to take effect. Note 2: If also setting the parameter Image.I0.Stream.FPS to a value, the lowest value will apply for the MPEG-4 stream.
MaxCompression	100	0 ... 100	6/6	The rate controller will not produce

				streams with compression higher than this value.
MinCompression	0	0 ... 100	6/6	The rate controller will not produce streams with compression lower than this value. Note: Image.IO.Appearance.Compression overrides this value.

*Note: The # is replaced with a profile number, e.g.
Image.IO.RateControl for profile0, Image.IO.RateControl1 for profile1

2.2.9 Image.IO.Stream

Description: Image streaming parameters for each image configuration.

[Image.IO.Stream#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
FPS	30	VGA NTSC : 30, 20, 15, 10, 7, 6, 5, 4, 3, 2, 1 VGA PAL : 25, 20, 12, 6, 5, 4, 3, 2, 1 MEGA MPEG4 : 15, 10, 7, 5, 4, 3, 2, 1 MEGA	6/6	Limits the frame rate available to each viewer.

		MJPEG : 5, 4, 3, 2, 1		
--	--	--------------------------	--	--

*Note: The # is replaced with a profile number, e.g.
Image.I0.!Stream for stream of profile0, Image.I0.!Stream for
stream of profile1

2.2.10 Image.I0.Text

Description: Image text overlay parameters for each image configuration.

[Image.I0.Text] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
BGColor	black	white, black, transparent, semitransparent	6/6	Text background color.
ClockEnabled	no	yes,no	6/6	Shows the time at the Position in the image.
Color	white	white, black	6/6	Text color.
DateEnabled	no	yes,no	6/6	Shows the date at the Position in the image.
Position	top	top,bottom	6/6	Positions text at top or bottom of the image.
String		A string	6/6	The text to show at the Position in the image.
TextEnabled	no	yes,no	6/6	Shows the

				String at the Position in the image.
--	--	--	--	--------------------------------------

* Note: The # is replaced with a group number starting from zero, e.g. Image.I0.Text.

2.2.12 ImageSource

Description: The number of image sources (video inputs/chips or CCD/CMOS chips).

[ImageSource]

Parameter name	Default value	Valid values	Security level (get/set)	Description
NbrOfSources	1 in one-input products	An unsigned integer (Read only)	6/6	Number of image sources/inputs.

2.2.13 ImageSource.I0

Description: The name of the image source, only support on image source.

[ImageSource.I0] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	Video in one-input video products.	A string	6/6	Name of the image source/input.

2.2.14 ImageSource.I0.DayNight

Description: Parameters related to the behaviour of the IR cut filter. This parameter group is product dependent and only available in some network cameras.

[ImageSource.IO.DayNight] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
IrCutFilter	no	yes,no,schedule	6/6	The behaviour of the IR cut filter. yes = IR filter always enabled. no = IR filter always disabled. schedule = IR filter removed by schedule.

* Note: The # is replaced with a group number starting from zero, e.g. ImageSource.IO.Video.

2.2.16 ImageSource.IO.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.

[ImageSource.IO.Sensor]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Brightness	50	0 ... 100	6/6	The image brightness.
Contrast	50	0 ... 100	6/6	The image contrast.
Sharpness	Product	Product	6/6	The image

	dependent	dependent		sharpening.
Exposure	auto	auto,hold	6/6	The image exposure. Note: Valid values are product dependant.
NightVision	off	on,off	6/6	Will increase sensitivity in low light environments when on.
WhiteBalance	auto	auto,hold	6/6	The image white balance.
AntiBlooming	no	yes, no	6/6	The image anti-blooming. (cmos sensor only)
LocalOutput	no	yes, no	6/6	Local output image. (ccd sensor only)

2.2.17 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.

[ImageSource.I0.Video] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
DetectedType	none	none,pal,ntsc	6/6	Which type of video source that is connected.

2.4 Guard Tour

2.4.1 GuardTour.G#

Description: Contains parameters to create PTZ guard tours.
Maximum support 16 guardtours.

[GuardTour.G#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Running	no	yes,no	6/6	Enable/disable the guard tour.
Name		A string, GuardtourName	6/6	The name of the guard tour.

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

2.4.2 GuardTour.G#.Tour.T#

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

[GuardTour.G#.Tour.T#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
PresetNbr	0	An unsigned integer	6/6	The number of the PTZ preset position.
Position	1	An unsigned integer	6/6	In which order to

				view this preset position.
Movespeed	70	An unsigned integer	6/6	The speed at which to move the camera to this preset position.
WaitTime	10	An unsigned integer	6/6	The view time for this preset position in seconds or minutes.
WaitTimeViewType	Seconds	Seconds, Minutes	6/6	The time unit for the WaitTime.

* Note: The # is replaced with a group number starting from zero, e.g. GuardTour.G0.Tour.T0.

2.4.1 GuardAutoPan

Description: Contains parameters to create PTZ autopan.

[GuardAutoPan]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Running	no	yes,no	6/6	Enable/disable the guard autopan.

2.5 PTZ

Note! Unless otherwise noted, write able parameters may not be directly modified by for instance CGI calls to param.cgi. Instead parameter modification is achieved implicitly by various PTZ CGI calls. For instance, PTZ.PTZDrivers.Driver# is set by the PTZ framework when a driver is installed. Setting it directly however, will cause inconsistencies.

2.5.1 PTZ

Description: Various Pan Tilt Zoom parameters. All write able parameters may be directly modified.

[PTZ]

Parameter name	Default value	Valid values	Security level (get/set)	Description
BoaProtPTZOperator	password	password	6/6	ptz control need authentication
NbrOfSerPorts	1	1	6/6	Number of camera input.

2.5.2 PTZ.PTZDrivers

Description: List of installed PTZ drivers.

[PTZ.PTZDrivers]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Driver0	none	none	6/6	The name of the driver.
Driver1	Pelco-D	Pelco-D	6/6	The name of

				the driver.
Driver2	Pelco-P	Pelco-P	6/6	The name of the driver.
Driver3	ABS	ABS	6/6	The name of the driver.

2.5.6 PTZ.SerDrivers

Description: List of PTZ drivers associated with serial ports.

[PTZ.SerDrivers]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Ser0Driver	none	none, Pelco-D, Pelco-P, ABS	6/6	PTZ drivers associated with camera input

2.5.10 PTZ.Driver#

Description: These groups are created dynamically when a driver is installed, based on the configuration file of the driver. '#' denotes the index for the driver when installed. The parameters here are only used as default values for other parameter groups.

2.5.10.2 Per camera

An absolute operation means moving to a certain position, relative operation means moving relative to the current position. Below the value is true if the operation is supported by the driver installed on index #. CGI parameters referred to apply to the PTZ control section in Video HTTP API.

[PTZ.Driver#.Support.S0]

Parameter name	Default value	Valid values	Security level	Description
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			(get/set)	
AbsolutePan	false	true,false	0/6	true if absolute pan is supported.
RelativePan	false	true,false	0/6	true if relative pan is supported.
AbsoluteTilt	false	true,false	0/6	true if absolute tilt is supported.
RelativeTilt	false	true,false	0/6	true if relative tilt is supported.
AbsoluteZoom	false	true,false	0/6	true if absolute zoom is supported.
RelativeZoom	false	true,false	0/6	true if relative zoom is supported.
DigitalZoom	false	true,false	0/6	true if digital zoom is supported.
AbsoluteFocus	false	true,false	0/6	true if absolute focus is supported.
RelativeFocus	false	true,false	0/6	true if relative focus is supported.
AutoFocus	false	true,false	0/6	true if autofocus is supported.
AbsoluteIris	false	true,false	0/6	true if absolute iris is supported.
RelativeIris	false	true,false	0/6	true if relative iris is supported.
AutoIris	false	true,false	0/6	true if autoiris is supported.
ContinuousPan	false	true,false	0/6	true if continuous pan is supported.
ContinuousTilt	false	true,false	0/6	true if continuous tilt is supported.
ContinuousZoom	false	true,false	0/6	true if continuous zoom is supported.
ContinuousFoc	false	true,fal	0/6	true if continuous

us		se		focus is supported.
ContinuousIris	false	true,false	0/6	true if continuous iris is supported.
Auxiliary	false	true,false	0/6	true if the CGI parameter "auxiliary=<string>" is supported.
ServerPreset	false	true,false	0/6	true if the "serverpreset" CGI parameters are supported.
DevicePreset	false	true,false	0/6	true if the "devicepreset" CGI parameters are supported.
SpeedCtl	false	true,false	0/6	true if the CGI parameter speed=<int> is supported.
JoyStickEmulation	false	true,false	0/6	true if it is possible to emulate joy-stick behavior.
IrCutFilter	false	true,false	0/6	true if the CGI parameter ircutfilter=<string> is supported (see valid values for PTZ.Driver #.Various.V0.IrCutFilter).
AutoIrCutFilter	false	true,false	0/6	true if infrared cut filter can be inserted/removed automatically.
Backlight	false	true,false	0/6	true if the CGI parameter

				backlight= <string> is supported (see valid values for PTZ.Driver #.Various.V0.Backlig ht).
OSDMenu	false	true,fal se	0/6	true if OSD menu is supported
ActionNotificati on	Hardwar e depende nt	true,fal se	0/6	true if the PTZ driver can send messages to other internal applications when it starts and stops movements. Makes it possible to trigger events on arrival to a preset position.
ProportionalSp eed	Hardwar e depende nt	true,fal se	0/6	true if the product support proportional speed when using the command continuouspan tiltmo ve, i.e. adjusting the movement speed in the image proportional to the zoom level used.
GenericHTTP	false	true,fal se	0/6	true if the product support generic HTTP, i.e. support direct communication with the PTZ unit using serial.cgi.
LensOffset	false	true,fal se	0/6	true if the lens offset parameters are supported.

When it is possible to obtain the current position from the driver, e.g. the current pan position, it is also possible to apply limit restrictions to the requested operation. For instance, if an absolute pan to position 150 is requested, but the upper limit is set to 140, the new pan position will be 140. This is the purpose of all but the last two parameters here, whose purpose is to calibrate image centering.

[PTZ.Driver#.Limit.L0]

Parameter name	Default value	Valid values ¹	Security level (get/set)	Description
MinPan	-180	-180 ... 180	0/6	Lower limit for pan position.
MaxPan	-180	-180 ... 180	0/6	Upper limit for pan position.
MinTilt	-180	-180 ... 180	0/6	Lower limit for tilt position.
MaxTilt	-180	-180 ... 180	0/6	Upper limit for tilt position.
MinZoom	1	1 ... 9999	0/6	Lower limit for zoom position.
MaxZoom	9999	1 ... 9999	0/6	Upper limit for zoom position.
MinFocus	1	1 ... 9999	0/6	Lower limit for focus position.
MaxFocus	9999	1 ... 9999	0/6	Upper limit for focus position.
MinIris	1	1 ... 9999	0/6	Lower limit for iris position.
MaxIris	9999	1 ... 9999	0/6	Upper limit for iris position.
MinFieldAngle	1	1 ... 1000	0/6	Minimal field angle for the (zoom) lens, used to

				calibrate image centering.
MaxFieldAngle	30	1 ... 1000	0/6	Maximal field angle for the (zoom) lens, used to calibrate image centering.

1 May be overridden by configuration file for driver. Maximal value must be \geq minimal value.

[PTZ.Driver#.Various.V0]

Parameter name	Default value	Valid values	Security level (get/set)	Description
CtlQueueing	false	true,false	0/6	true if control queuing is enabled. If enabled, access to controlling the PTZ unit is limited to the client currently possessing the control.
CtlQueueLimit	20	1 ... 100	0/6	Maximal number of clients in control queue.
CtlQueuePollTime	20	5 ... 3600	0/6	The maximum time in seconds between poll-requests, which an existing client in the control queue must send, to

				stay active in the queue.
CamId	-1	An integer	0/6	Identifies a PTZ unit (camera) on a serial port, often set by a dip switch on the unit.
DeviceType		A string	0/6	Used by the driver to handle minor differences for the same device.
PanEnabled	true	true,false	0/6	true if pan is enabled.
TiltEnabled	true	true,false	0/6	true if tilt is enabled.
ZoomEnabled	true	true,false	0/6	true if zoom is enabled.
FocusEnabled	false	true,false	0/6	true if focus is enabled.
AutoFocus	false	true,false	0/6	true if autofocus is enabled.
AutoIris	false	true,false	0/6	true if autoiris is enabled
HomePresetSet	true	true,false	0/6	true if there is any home preset position available, should not be directly modified.
IrCutFilterEnabled	false	true,false	0/6	true if there is a possibility to remove/insert the infrared cut off filter.

IrCutFilter	on	on,off,auto2	0/6	on if infrared cut filter is enabled.
BackLightEnabled	false	true,false	0/6	true if there is possibility to use backlight compensation.
BackLight	false	true,false	0/6	true if backlight compensation is used.
ProportionalSpeedEnabled	*	true,false	0/6	true if the product support proportional speed when using the command continuouspan tilt move, i.e. adjusting the movement speed in the image proportional to the zoom level used.
MaxProportionalSpeed	200	1 ... 1000	0/6	The maximum continuous movement speed in 1/100 of fields of view per second. Example: 200 = max 2.00 fields of view per second.
LensOffsetX	0	-9999 ... 9999	0/6	x coordinate of sensor center to lens center vector; unit is 1/10000 of the sensor width.

				Used by the areazoom CGI parameter. Only applicable if the driver support lens offset.
LensOffsetY	0	-9999 ... 9999	0/6	y coordinate of sensor center to lens center vector; unit is 1/10000 of the sensor height. Used by the areazoom CGI parameter. Only applicable if the driver support lens offset.

1 Integer ranges may be overridden by configuration file for driver.

2 Only valid if PTZ.Driver#.Support.S0.AutoIrCutFilter is true.

* Product dependent. In addition to above groups Support, Limit and Various, there are 2 driver-specific groups, UserBasic and UserAdv. The parameters in these groups are determined by the configuration file of the driver and are hence not known in advance. They are instead described on the help pages that come with the driver installation.

2.5.11 Camera parameter groups

When a camera is mapped to a serial port with a driver associated, dynamic parameter groups corresponding to 2.5.10.2 are created and initiated with values from the driver groups.

E.g. when camera <i> is mapped to a serial port associated with driver <j>, groups PTZ.Support.S<i>, PTZ.Limit.L<i>, etc, are created and initiated with values from PTZ.Driver<j>.Support.S0

PTZ.Driver<j>.Limit.L0, etc. All these parameters may be directly modified.

2.5.12 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. Maximum support 64 presets. Description: Dynamic parameter groups, each representing a preset position.

[PTZ.PresetPos.P#]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Pos	None	<p>A : 2 delimited string with the following content:</p> <p><Name>: A valid preset position name according to the PTZ control section in ABS HTTP API.</p> <p><Type>: server, device</p> <p><No>: 1, ... for <Type> = server, -1 for <Type> = device</p> <p><DevicePresetNo>: An integer</p> <p><DriverNo>:</p>	1/6	<p>Holds all necessary information about the preset position.</p> <p><Name>: The name of the preset position.</p> <p><Type>: The type of preset position, "server" for server preset positions, "device" for device preset positions.</p> <p><No>: The number of the server preset position, -1 for device preset positions.</p> <p><DevicePresetNo>: The number of the device preset position, not significant if <Type> = "server" and the</p>

		1, ... <CamNo>: 1, ... <Pan>: -180 ... 1801, 10000 <Tilt>: -180 ... 1801, 10000 <Zoom>: 1 ... 99991, 10000 <Focus>: 1 ... 99991, 10000 <Iris>: 1 ... 99991, 10000 <Home>: true, false		position is not emulated by a driver preset position. <DriverNo>: The number (index) of the concerned driver. <CamNo>: The number of the concerned camera. <Pan>: The pan position if known, else 10000. <Tilt>: The tilt position if known, else 10000. <Zoom>: The zoom position if known, else 10000. <Focus>: The focus position if known, else 10000. <Iris>: The iris position if known, else 10000. <Home>: true if the preset position is the home position for the camera, else false. Example of a server preset position (number 3) emulated by a device preset position (number 12): Entrance~server: 3: 1 2: 1: 2: 45: -10: 10000: 100 00: 10000: false
--	--	--	--	---

1 May be overridden by configuration file for driver.

2 Except for Name, delimited by ~.

2.5.13 PTZ.Preset.P#

Description: Preset PTZ position configuration.

[PTZ.Preset.P#]*

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	Hardware dependent	A string	1/6	The name of the preset position.
ImageSource	Hardware dependent	0 (in products with 1 ImageSource), 0 ... 4 (in products with 4 ImageSource (4 inputs + Quad))	1/6	The ImageSource. I 0 this Preset.P# configuration is connected to.
HomePosition	0	An unsigned integer	1/6	The Position.P# group number of the home position.

* Note: The # is replaced with a group number starting from zero, e.g. PTZ.Preset.P0

2.5.14 PTZ.Preset.P#.Position.P#

Description: Position and zoom parameters for each preset PTZ position configuration.

[PTZ.Preset.P#.Position.P#]*

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	Hardware dependent	A string	1/6	The name of the position.
Data	Hardware dependent	A string	1/6	The pan, tilt and zoom values of the position.

A ":" delimited string with zero or more of the following

"<parameter>=<value>" pairs:

pan=<min pan> ... <max pan>1

tilt=<min tilt> ... <max tilt>2

zoom=<min zoom> ... <max zoom>3

* Note: The # is replaced with a group number starting from zero, e.g. PTZ.Preset.P0.Position.P0

1 <min pan> and <max pan> is equal to the values of the parameters PTZ.Limit.L#.MinPan and PTZ.Limit.L#.MaxPan.

2 <min tilt> and <max tilt> is equal to the values of the parameters PTZ.Limit.L#.MinTilt and PTZ.Limit.L#.MaxTilt.

3 <min zoom> and <max zoom> is equal to the values of the parameters PTZ.Limit.L#.MinZoom and PTZ.Limit.L#.MaxZoom.

2.6 Motion Detection

2.6.1 Motion.M#

Description: Contain dynamic parameters, which define the properties of a Motion Detection window.

[Motion.M#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
----------------	---------------	--------------	--------------------------	-------------

Name	DefaultWindow	A string	6/6	A user's window identification, e.g. "Door" or "Window".
ImageSource	0	0 ... 3	6/6	In Which image source the motion detection window is located.
Left	200	0 ... 9999	6/6	The coordinate for the left boundary of the rectangular motion detection window. The full value range is related to the full image width and 0 is counted from the left hand side of the image.
Right	4000	0 ... 9999	6/6	The coordinate for the right boundary of the rectangular motion detection window. The full value range is related to the full image width and 0 is counted from the left hand side of the image.
Top	200	0 ... 9999	6/6	The coordinate for the upper boundary of the rectangular motion detection window. The full value range is related to

				the full image height and 0 is counted from the upper side of the image.
Bottom	4000	0 ... 9999	6/6	The coordinate for the bottom boundary of the rectangular motion detection window. The full value range is related to the full image height and 0 is counted from the upper side of the image.
WindowType	include	exclude, include	6/6	Describes the type of the motion detection window. An exclude window, i.e. do not perform motion detection in the window. An include window, i.e. perform motion detection in the window area.
Sensitivity	90	0 ... 100	6/6	This tunes the "object difference from the background"-sensitivity, i.e. difference in terms of color and/or structure.

				A high value detects even very small changes and can e.g. trigger on image noise if set too high. A very low value requires on the other hand a very dramatic change with e.g. a dark object appearing in an almost white scene (or vice versa).
ObjectSize	15	0 ... 100	6/6	Defines the size in percent of the object to result in detection. For a small value, even very small changes trigger the detection while a very large value requires a very large object to trigger the detection.

* Note: The # is replaced with a group number starting from zero, e.g. Motion.M0.

2.7.1 Tampering.T#

Description: Contain parameters which define the properties of the camera tampering application.

2.8 I/O

2.8.1 Input

Description: Parameters for hardware input(s).

[Input]

Parameter name	Default value	Valid values	Security level (get/set)	Description
NbrOfInputs	Hardware specific	An unsigned integer (Read only)	0/6	Number of inputs.

2.8.2 Input.l#

Description: Parameters for hardware input(s).

[Input.l#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	Input # + 1	A string	6/6	The name of the input.
ControlSource		A string	6/6	The control source of the input.
Trig	closed	open,closed	6/6	Determines when to trig.

* Note: The # is replaced with a group number starting from zero, e.g. Input.l0.

2.8.3 Output

Description: Parameters for hardware output(s).

[Output]

Parameter name	Default value	Valid values	Security level (get/set)	Description
NbrOfOutputs	Hardware specific	An unsigned integer (Read only)	0/6	Number of outputs.

2.8.4 Output.O#

Description: Parameters for hardware output(s).

[Output.O#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	Output # + 1	A string	6/6	The name of the output.
ControlSource		A string	6/6	The control source of the input.
Active	closed	open, closed	6/6	The active state of the output.
Button	none	none,pulse,actinact	6/6	The button type associated with this output.
PulseTime	0	An integer	6/6	The pulsetime for the pulse button connected

				to this output, if any.
--	--	--	--	-------------------------

* Note: The # is replaced with a group number starting from zero, e.g. Output.10.

2.9 Serial port

Description: Controls the functionality/purpose of the serial ports and some configuration that is shared by various applications. Note that some applications have their own settings for baudrate, parity etc.

2.9.1 Serial

[Serial]

Parameter name	Default value	Valid values	Security level (get/set)	Description
NbrOfPorts	1	1 (Read only)	0/6	Number of serial ports.
PurposePort0	PTZ	PTZ (Read only)	6/6	The current usage of the serial port. PTZ = Pan Tilt Zoom. Supports PTZ control and serial port control according to ABS HTTP API. Requires an installed PTZ driver.

2.9.2 Serial.Ser0

[Serial.Ser#] *

Parameter	Default	Valid values	Security	Description
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name	value		level (get/set)	
BaudRate	9600	300, 600, 1200, 2400, 2400, 4800, 9600, 19200, 38400, 57600, 115200, (for RS485 also 230400 and 460800)	6/6	The baudrate used in the serial communication.
DataBits	8	7, 8	6/6	The number of data bits.
StopBits	1	1,2	6/6	The number of stop bits.
Parity	None	None, Even,Odd	6/6	The parity.

2.11 Events

2.11.1 Event.E#

Description: This group defines an event, which is a set of parameters describing how and when the product performs certain actions. Maximum support 30 events.

[Event.E#]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	NewEvent	A string	6/6	The name of the event.
Type	T	S, T	6/6	Scheduled or

				Triggered event.
Enabled	yes	yes, no	6/6	Event enabled (disabled events are never triggered).
Active	no	yes,no	6/6	If the event is currently triggered.
HWInputs	xxxx	nnnn, where n = {x,0,1}	6/6	Hardware input trigger pattern. x = do not trigger. 0 = trigger on inactivation. 1 = trigger on activation. Example 1: "1xxx" means trigger when digital input 1 is activated. Example 2: "xx0x" means trigger when digital input 3 is inactivated. Example 4: "1xx1" means trigger when digital input 1 and 4 are activated. Example 5: "xxxx" means don't trigger on hardware inputs. Note: Cannot be combined with SWInputs, use either SWInput or HWInputs.
SWInput		A string	6/6	Software input trigger pattern. Motion detection: M<motion window no>

Weekdays	1111111	A string	6/6	Pattern of weekdays when the event should trigger. Example 1: "0111110" means trigger on Monday ... Friday. Example 2: "1000000" means trigger on Sunday.
Starttime	00:00	A time	6/6	Time when the event should start to trigger in format "hh:mm". Example 1: "07:30" means trigger at 7:30 am. Example 2: "19:30" means trigger at 7.30 pm.
Duration	00:00	A time	6/6	How long the event should trigger in format "hours:minute". Max 168:00 hours.

2.11.2 Event FTP Actions

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

[Event.E#.Actions.A#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Protocol	FTP	FTP	6/6	Protocol.
Server		blank, F0 ... Fn (n = number of	6/6	FTP server ID. Refers to a parameter group under

		FTP event servers - 1)		EventServers.FTP. Example: "F0" refers to the parameter group EventServers.FTP.F0. Server2 blank, F0 ... Fn (n = number of FTP event servers - 1) 6/6 Secondary FTP server ID.
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* Note: the # is replaced with a group number, e.g.
Event.E0.Actions.A0.

2.11.4 Event HW Actions

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

[Event.E#.Actions.A#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Protocol	HW	HW	6/6	Protocol.
Output	1	1 ... 4	6/6	Output number to activate.
Duration	0	An unsigned integer	6/6	How long the output should be active in seconds, 0 means that the output should be active for as long as the event is triggered. -1 means that the output should be active forever.

* Note: the # is replaced with a group number, e.g.
 Event.E0.Actions.A0. * Note: current duration=0 means no
 action

2.11.5 Event SMTP Actions

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

[Event.E#.Actions.A#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Protocol	SMTP	SMTP	6/6	Protocol.
EmailTo		A string	6/6	E-mail address.
Subject		A string	6/6	Subject line.
Message		A string	6/6	Message body.

2.11.7 Event PTZ Actions

Description: This group defines an action that makes a camera go to a preset PTZ position.

[Event.E#.Actions.A#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Protocol	PTZ	PTZ	6/6	Protocol.
Preset		P0 ... Pn (n = max number of preset positions - 1)	6/6	Which PTZ.PresetPos.P# to move to.

* Note: the # is replaced with a group number, e.g.
Event.E0.Actions.A0.

2.11.8 Event Guard Tour Actions

Description: This group defines an action that runs a Guard Tour.

[Event.E#.Actions.A#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Protocol	GUARDTOUR	GUARDTOUR	6/6	Protocol.
Name		A string	6/6	Which GuardTour?.G# to move to.

* Note: the # is replaced with a group number, e.g.
Event.E0.Actions.A0.

2.11.9 Event IR Actions

Description: This group defines an action that open the IR light.

[Event.E#.Actions.A#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Protocol	IR	IR	6/6	Protocol.

* Note: the # is replaced with a group number, e.g.
Event.E0.Actions.A0.

2.11.10 Event Voice Alert Actions

Description: This group defines an action that runs a voice alert.

[Event.E#.Actions.A#] *

Parameter	Default	Valid	Security	Description
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name	value	values	level (get/set)	
Protocol	VOICE	VOICE	6/6	Protocol.
Duration	0	An unsigned integer	6/6	How long the output should be active in seconds, 0 means that the output should be active for as long as the event is triggered. -1 means that the output should be active forever.

* Note: the # is replaced with a group number, e.g. Event.E0.Actions.A0. * Note: current duration=0 means no action

2.12 Event servers

2.12.1 EventServers.FTP.F0

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

[EventServers.FTP.F0]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	FTPServer0	A string	6/6	A descriptive name.
Address		An IP address or a host name	6/6	IP address or host name of the server
Login		A string	6/6	FTP user name

Password		A string	6/6	FTP password.
UploadPath		A string	6/6	Directory where uploaded files go.
Port	21	0 ... 65535	6/6	FTP port.
Passive	no	yes, no	6/6	Use passive FTP.

2.13 Notification

2.13.1 Notify

Description: Parameters for sending notification when the IP address is changed.

2.13.4 Notify.SMTP

Description: Parameters for notifications by e-mail.

[Notify.SMTP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes,no	6/6	Enable sending notifications by e-mail.
Subject		A string	6/6	The message to include in the "Subject" field in the e-mail notification.
ToEmail		An e-mail address or a list of e-mail addresses separated by ;	6/6	The recipient(s) for the e-mail.

2.16 Properties

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.

2.16.1 Properties.API

[Properties.API.HTTP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Version		An unsigned integer	0/6	The supported HTTP API version (only the first digit).

2.16.2 Properties.Audio

[Properties.Audio]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Audio		yes,no	0/6	The product has audio support.
Format		A string	0/6	The supported formats separated by commas, e.g. g711,g721,g723.

2.16.3 Properties.Firmware

[Properties.Firmware]

Parameter name	Default value	Valid values	Security level (get/set)	Description
BuildDate		A string	0/6	The build date for the current firmware in use.
BuildNumber		An unsigned integer	0/6	The build number for the current firmware in use.
Version		A string	0/6	The firmware version in use.

2.16.4 Properties.GuardTour

[Properties.GuardTour]

Parameter name	Default value	Valid values	Security level (get/set)	Description
GuardTour		yes,no	0/6	The product has Guard Tour support.

2.16.5 Properties.HTTPS

[Properties.HTTPS]

Parameter name	Default value	Valid values	Security level (get/set)	Description
HTTPS		yes, no	0/6	The product has HTTPS support.

2.16.6 Properties.Image

[Properties.Image]

Parameter name	Default value	Valid values	Security level	Description
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			(get/set)	
Format		A string	0/6	The supported formats separated by commas. E.g. jpg,mjpeg,mpeg4,bitmap.
Resolution		A string	0/6	The supported resolutions separated by commas. E.g. 4CIF,CIF,QCIF. Note: In products with widescreen support, only the currently available resolutions will be shown, i.e. enabling/disabling widescreen mode will affect the value of this parameter.
Rotation		A string	0/6	The supported image rotations separated by commas. E.g. 0,90,180,270. For products not supporting image rotation the value is 0.
				0 : Normal 90 : Mirror 180 : Mirror + Flip 270 : Flip

2.16.7 Properties.ImageSource

[Properties.ImageSource]

Parameter name	Default value	Valid values	Security level (get/set)	Description
DCIris	no	yes, no	0/6	The product has DC Iris support.
Sensor	ov7670	ov7670, ov9655,	0/6	Image sensor type of the

		ov7725, tw9910, MT9M131		product.
Anti-Blooming	yes	yes, no	0/6	The product has Anti-Blooming support.
WhiteBalance	yes	yes, no	0/6	The product has WhiteBalance support.
Exposure	yes	yes, no	0/6	The product has Exposure support.
PowerFrequency	yes	yes, no	0/6	The product has PowerFrequency support.

2.16.8 Properties.Motion

[Properties.Motion]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Motion		yes, no	0/6	The product has Motion Detection support.

2.16.9 Properties.PTZ

[Properties.PTZ]

Parameter name	Default value	Valid values	Security level (get/set)	Description
PTZ		yes, no	0/6	The product has Pan Tilt support.
Zoom		yes, no	0/6	The product has Zoom support.

Focus		yes, no	0/6	The product has focus support.
AutoFocus		yes, no	0/6	The product has autofocus support.
DigitalPTZ		yes,no	0/6	The product has digital Pan Tilt Zoom support.
RS485		yes,no	0/6	The product has RS485 support.

2.16.10 Properties.Recorder

[Properties.Recorder]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Recorder		yes,no	0/6	The product has recorder support.

2.16.11 Properties.System

[Properties.System]

Parameter name	Default value	Valid values	Security level (get/set)	Description
HardwareID		A string	0/6	The hardware ID for the product.
Language		A string	0/6	The current language in use.
SerialNumber		A string	0/6	The unit's serial number.

2.16.12 Properties.Tampering

[Properties.Tampering]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Tampering	no	yes,no	0/6	The product has camera tampering support.

2.16.13 Properties.TemperatureSensor

[Properties.TemperatureSensor]

Parameter name	Default value	Valid values	Security level (get/set)	Description
TemperatureSensor		yes,no	0/6	The product has a temperature sensor.

2.16.14 Properties.Wireless

[Properties.Wireless]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Wireless		yes,no	0/6	The product has wireless support.

2.16.15 Properties.IR

[Properties.IR]

Parameter name	Default value	Valid values	Security level (get/set)	Description
IR		yes,no	0/6	The product has IR support.

2.16.16 Properties.VideoOut

[Properties.VideoOut]

Parameter name	Default value	Valid values	Security level (get/set)	Description
VideoOut		yes,no	0/6	The product has video output support.

2.16.17 Properties.HardwareReset**[Properties.HardwareReset]**

Parameter name	Default value	Valid values	Security level (get/set)	Description
HardwareReset		yes,no	0/6	The product has video HardwareReset support.

2.17 Web interface**2.17.1 Layout**

Description: Parameters that define how the live view page looks and works.

[Layout]

Parameter name	Default value	Valid values	Security level (get/set)	Description
DefaultVideoFormat	mjpeg	mjpeg,mpeg4	0/6	The default video format to be shown.

2.18 Wireless

2.18.1 Network.Wireless

Description: Parameters for wlan (802.11b) settings. To setup these parameters, check your wireless access point and use same settings in your device. These parameters are also in a text file, CONFIG.TXT, accessible over USB.

[Network.Wireless]

Parameter name	Default value	Valid values	Security level (get/set)	Description
ESSID		A string, up to 32 alphanumeric characters are accepted, but no space characters.	6/6	The name of the wireless network the device is configured for. The name must be exactly the same as used in the wireless access point, or the connection will not be established. ESSID is called SSID by some vendors. Note: Leaving this parameter blank means that the device will attempt to access the nearest open network.
Mode	managed	managed, ad-hoc, auto	6/6	The type of wireless network to associate with, managed (using an

				access point), ad-hoc (not using an access point) or auto. Auto should only be used in factory default situations.
SecurityMode	none	none, wpa-psk, wep	6/6	Security mode.
Channel	auto	auto, 1 ~ 14	6/6	channel

2.18.2 Network.Wireless.W0

Description: Parameters for wlan (802.11b) settings. To setup these parameters, check your wireless access point and use same settings in your device. These parameters are also in a text file, CONFIG.TXT, accessible over USB.

[Network.Wireless.W0]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Method	WPA-PSK	WPA-PSK	6/6	Security method.
Enabled	no	yes,no	6/6	Enable/disable WPA-PSK security.
GenerationMethod	psk-phrase	psk-phrase,psk-hex	6/6	Defines which of the parameters below that is used as pre-shared key.

Passphrase		A string, 8 - 63 ascii chars	6/6	The passphrase must match the passphrase in the wireless access point. When passphrase is used, the parameter GenerationMe thod must be set to "psk-phrase".
Key		64 Hex chars	6/6	The key must match the key in the wireless access point. When key is used, the parameter GenerationMe thod must be set to "psk-hex".

2.18.2 Network.Wireless.WEP

Description: Parameters for WEP encryption of wlan (802.11b). To setup these parameters, check your wireless access point and use same settings in your device. These parameters are also in a text file, CONFIG.TXT, accessible over USB.

[Network.Wireless.WEP]

Parameter name	Default value	Valid values	Security level	Description
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			(get/set)	
Authentic ation	open	open, shar ed	6/6	The WEP authentication method.
Enabled	no	yes, no	6/6	Enable/disable WEP encryption over the wireless link.
KeyLengt h	128	64, 128	6/6	Set the strength of the wireless encryption.
Generatio nMethod	manual	manual, A SCII, pass phrase	6/6	This parameter must tell which of the parameters below that is used and how to interpret them. Manual hex always works, while ASCII and passphrase are easier to remember.
Passphras e		A string of 31 character s	6/6	The passphrase must match the passphrase in the wireless access point. When passphrase is used, parameter GenerationMethod must be set to "passphrase"
Key1		A string	6/6	The keys must match the keys in the wireless access point. They could either be in hex format or in ASCII and must match

				<p>parameter GenerationMethod, see above. Hex (manual) - the string must be exactly 10 hex characters for 64-bit WEP and 26 hex characters for 128-bit WEP. (Hex chars are 0123456789ABCDE F) ASCII - The string must be exactly 5 characters for 64-bit WEP and 13 characters for 128-bit WEP.</p>
Key2		A string	6/6	
Key3		A string	6/6	
Key4		A string	6/6	
ActiveKey	1	1 ... 4	6/6	<p>Which key to use when transmitting. The key should be changed every now and then, to increase the security of the wireless connection.</p>

2.19 Audio

2.19.1 Audio

Description: Common audio parameters used for all audio configurations.

[Audio]

Parameter name	Default value	Valid values	Security level (get/set)	Description
DuplexMode	get	get,full	6/6	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.
NbrOfConfigs	1	1	6/6	Number of audio configurations.

2.19.2 Audio.A#

Description: Audio configuration. The name of the audio configuration, which audio source it is connected to and whether it should be enabled or not.

[Audio.A0]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	yes	yes,no	6/6	Enable/disable this audio configuration.

HTTPMessage Type	singlepart	singlepart,m ultipart	1/6	How the audio should be streamed. Some proxies require multipart streaming.
Name		A string	6/6	The name of the configuration.
Source	0	An integer	6/6	Which AudioSource.A# this Audio.A# configuration is connected to.

2.19.3 AudioSource

Description: The number of audio sources (audio inputs/chips).

[AudioSource]

Parameter name	Default value	Valid values	Security level (get/set)	Description
NbrOfSources	1	An unsigned integer	0/6	Number of audio sources (audio input/chips).

2.19.4 AudioSource.A#

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

[AudioSource.A0]

Parameter name	Default value	Valid values	Security level (get/set)	Description
AudioEncoding	Hardware dependent	g726,amr	6/6	The audio codec to use.

BitRate	Encoder dependent	G711: 64000 G726: 24000, 32000 AAC (8 khz): 8000, 16000, 24000, 32000 AAC (16 khz): 16000, 24000, 32000, 48000, 64000	6/6	The output bit rate (bits per second) from the encoder.
SampleRate	Hardware dependent	80002 160002	6/6	The clock rate for the audio sampling.
InputGain	0	mute, -60, -57, -54 ... -3, 0, 3, 6 ... 21, 24, 27, 30	6/6	Gain settings in dB for sound received from client.
OutputGain	0	mute, -60, -57, -54 ... -3, 0, 3, 6 ... 21, 24, 27, 30	6/6	Gain setting in dB for sound transmitted to client(s).

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

1 Product-dependent. Check the corresponding Property parameter.

2 Product-dependent.