

SOP for CCTVs in SunGuide

BOSCH AutoDome 7000 HD

This Standard Operating Procedure is to provide a standard configuration for CCTV cameras in District 5 for consistent operation in SunGuide, VLC and IVEDDS. Standard settings to check: Network settings, Video/Encoder settings, SNTP (time server type), IP addresses, PTZ settings, Date and Time, RTSP port, NTCIP (port and address), and On Screen Display (ODS).

The following SOP is for the BOSCH AutoDome 7000 HD (7230) IP camera.

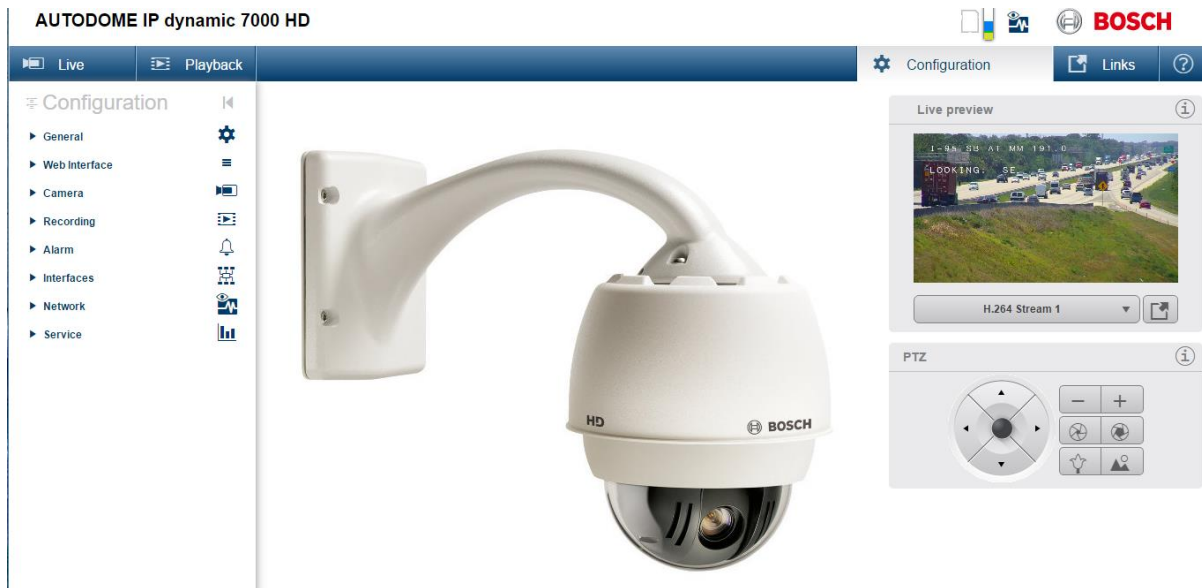
Log into the camera, using Internet Explorer or Chrome to access the camera's user interface. Type in the default IP address.



Click on "Configuration".

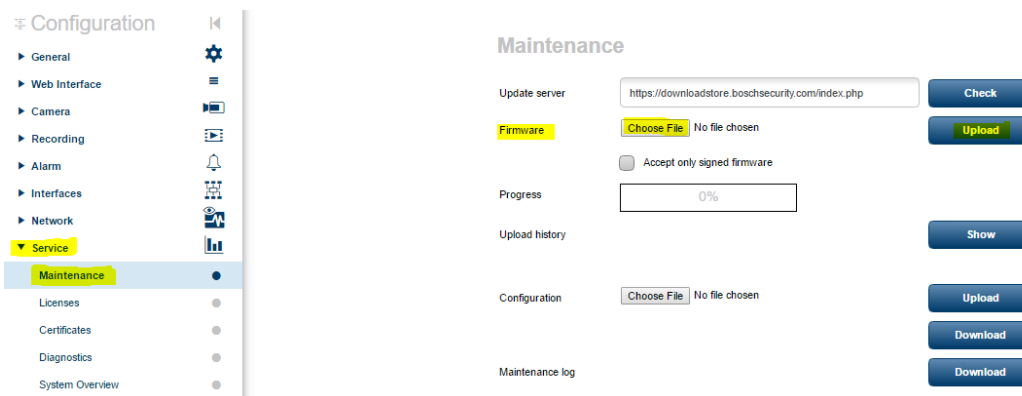


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Click on “Service”.

Click on “Maintenance”. Browse and Upload the provided Firmware file for the camera.



Click on “Service”.

Click on “System Overview”. Check the System to see if the Firmware was loaded.

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The screenshot shows the SunGuide configuration interface. On the left is a 'Configuration' sidebar with a tree view. The 'Service' category is expanded, and 'System Overview' is selected. The main area displays the 'System Overview' page with a table of system parameters.

Parameter	Value
Device type	AUTODOME IP starlight 7000 HD (CPP4)
Commercial type number	VG5-7130-EPC4
Serial number	044012156001100033
Product ID	0x23
Product variant ID	0x07
Hardware ID	0x4d
IP address	[REDACTED]
MAC address	00-07-5F-8B-31-EC
Firmware version	6.50.0133 (33510650)
Min. firmware version	5.90
Hardware version	F0004D43
Crypto-coprocessor version	4
Audio option	Yes
Storage medium attached	No
Initiator name	iqn.2005-12.com.bosch.unit00075f8b31ec
System controller version	04.23.00.06 / 04.00.01.06
CMC version	01.10.00.02 / 01.01.00.01
Stream 1	ITS
Stream 2	IVEDDS
Temperature	100 °F/38 °C (max. 127 °F/53 °C)
Cloud state	Not running (Automatic IP assignment not active)
Open source licenses	

Click on “Network”.

The screenshot shows the 'Configuration' sidebar with the 'Network' option highlighted in yellow. The sidebar contains the following items: General, Web Interface, Camera, Recording, Alarm, Interfaces, Network, and Service.

Click on “Network Services”.

Ensure these options are checked with the appropriate port number under Services

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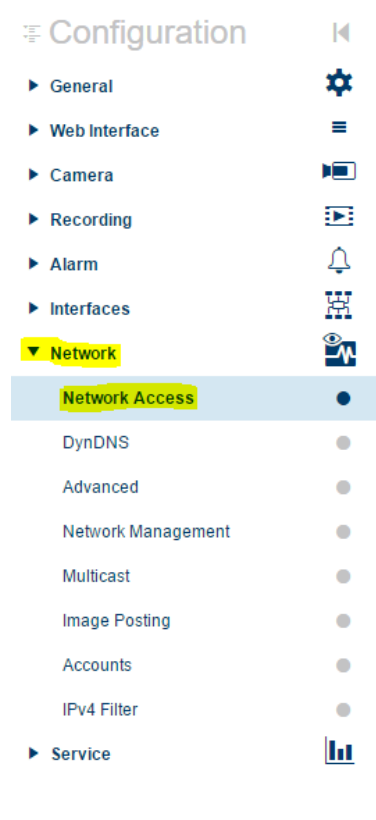
**The cogs direct you to later configuration changes within the SOP*

The screenshot displays the SunGuide configuration interface. On the left is a 'Configuration' sidebar with a tree view. The 'Network' section is expanded, and 'Network Services' is selected. The main content area shows the 'Network Services' configuration page. It lists various services with checkboxes for enabling them and gear icons for further configuration. A 'Set' button is located at the bottom right.

Service	Enabled	Port	Config
HTTP	<input checked="" type="checkbox"/>	(port 80)	
HTTPS	<input checked="" type="checkbox"/>	(port 443)	
RTSP	<input checked="" type="checkbox"/>	(port 554)	
RCP	<input checked="" type="checkbox"/>	(port 1756)	
SNMP	<input checked="" type="checkbox"/>	(port 161)	
ISCSI	<input checked="" type="checkbox"/>	(port 3260)	
UPNP	<input type="checkbox"/>		
NTP Server	<input checked="" type="checkbox"/>		
Discover	<input checked="" type="checkbox"/>	(port 1800)	
ONVIF discovery	<input checked="" type="checkbox"/>		
GB/T 28181	<input type="checkbox"/>		
Password reset mechanism	<input checked="" type="checkbox"/>		
Ping Response	<input checked="" type="checkbox"/>		

Click on "Network Access".

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NOTE: Click Set/SAVE after every configuration setting for that window before moving to the next menu item.

1. Network settings:

Set the following parameters for the “Network Access”.

<i>DHCP is disabled</i>	<Off>
<i>IP address</i>	<10.X.X.X>
<i>Subnet mask</i>	<255.255.255.X>
<i>Gateway</i>	<10.X.X.X>
<i>Network MTU (byte)</i>	<1500>

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Network Access

Automatic IPv4 assignment

DHCP

Ethernet

IPv4

IP address

Subnet mask

Gateway address

IPv6

Automatic address

IP address

Prefix length

Gateway address

DNS server address 1

DNS server address 2

Video transmission

TCP rate control

HTTP browser port

HTTPS browser port

HSTS

RCP+ port 1756

Telnet support

HSTS

RCP+ port 1756

Telnet support

Interface mode ETH

Network MSS [Byte]

iSCSI MSS [Byte]

Network MTU [Byte]

Click "Set and Reboot".

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After Reboot, log into the camera, use Internet Explorer or Chrome to access the camera's user interface. Type in the assigned IP address.



Click on "Configuration".

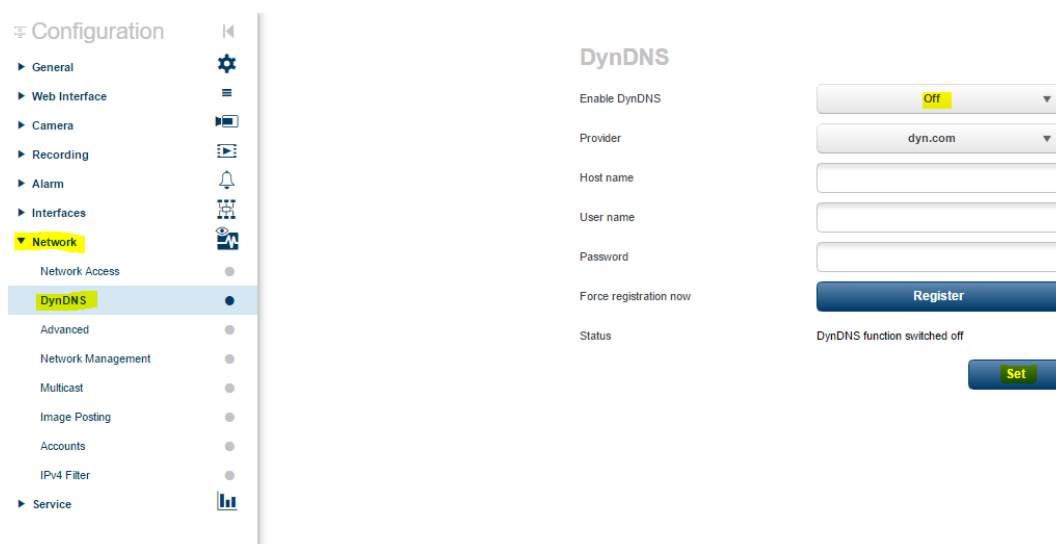


Click on "Network."

Click on "DynDNS."

Set the following parameters for the "DynDNS" setting.

DynDNS is disabled <Off>

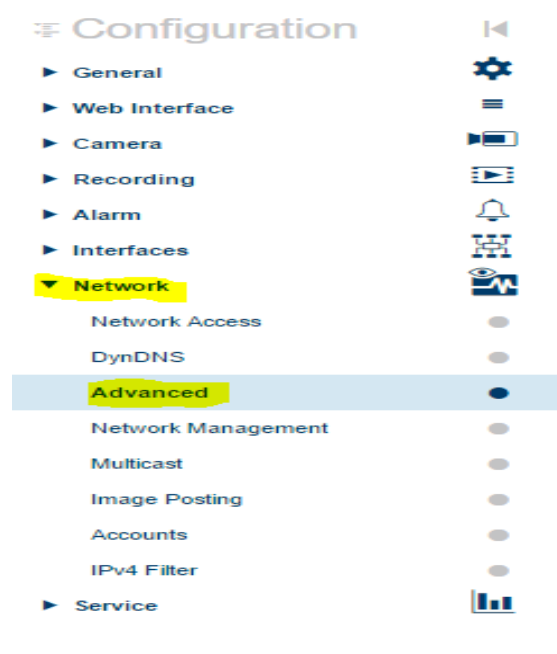


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Click “Set”.

Click on “Network.”

Click on “Advanced.”



Set the following parameters for the “Advanced” setting.

RTSP Port: < 554 >

NTCIP Port: < 4439 >

NTCIP Address: < 1 >

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Advanced

Cloud-based services

Operation

RTSP

RTSP port

802.1x

Authentication

Identity

Password [EAP-MD5]

Certificates [EAP-TLS]

NTCIP

Port

Address

TCP metadata input

TCP port

Sender IP address

Click "Set".

Click on "Network".

Click on "Network Management".

Set the following parameters for the "Network Management" setting.

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SNMP:

< On > **OR** <SNMP v1 Legacy>

**Updated firmware will have SNMP v1 Legacy*

UPnP:

< Off >

The screenshot shows the SunGuide configuration interface. On the left is a navigation menu with 'Configuration' expanded and 'Network Management' selected. The main content area is titled 'Network Management' and contains three sections: 'SNMP', 'UPnP', and 'Quality of service'. The 'SNMP' section has a dropdown menu set to 'On', two text input fields for '1. SNMP host address' and '2. SNMP host address' both containing '0.0.0.0', and a 'Select' button for 'SNMP traps'. The 'UPnP' section has a dropdown menu set to 'Off'. The 'Quality of service' section has five input fields: 'Audio' (0), 'Video' (0), 'Control' (0), 'Alarm video' (0), and 'Post-alarm time' (15 s). A 'Set' button is located at the bottom right of the configuration area.

Network Management

This is a detailed view of the 'Network Management' configuration form. It features three main sections: 'SNMP', 'UPnP', and 'Quality of service'. The 'SNMP' section includes a dropdown menu set to 'SNMP v1 legacy', two text input fields for '1. SNMP host address' and '2. SNMP host address' both containing '0.0.0.0', and a 'Select' button for 'SNMP traps'. The 'UPnP' section has a dropdown menu set to 'Off'. The 'Quality of service' section contains five input fields: 'Audio' (0), 'Video' (0), 'Control' (0), 'Alarm video' (0), and 'Post-alarm time' (15 s). A 'Set' button is positioned at the bottom right of the form.

Click "Set".

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Click on “Network.”

Click on “Multicast”

Set the following parameters for the “Multicast” setting Stream 1 and Stream 2.

Enable: < check box >

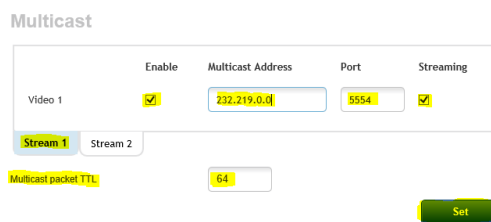
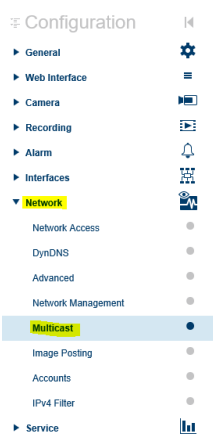
Multicast Address: < If provided 232.219.X.X >

Port: (Stream 1) < 5554 >, (Stream 2) < 5556 >

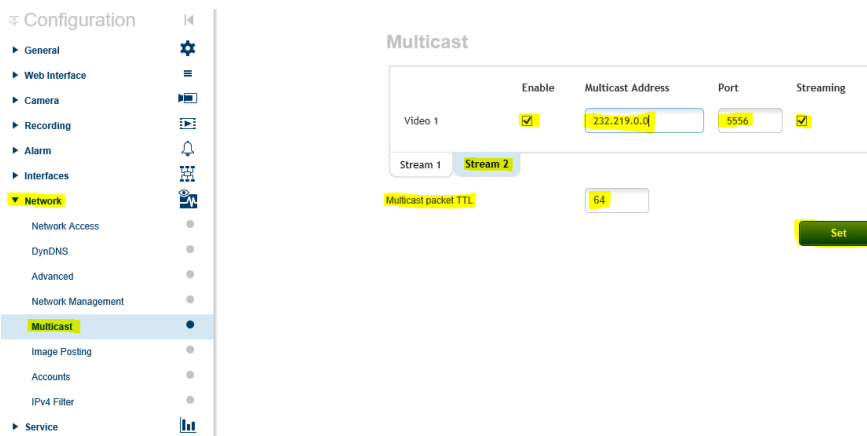
Streaming: < check box >

Multicast packet TTL: < 64 >

(NOTE: The same multicast IP is used for both stream 1 and stream2)



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Click "Set".

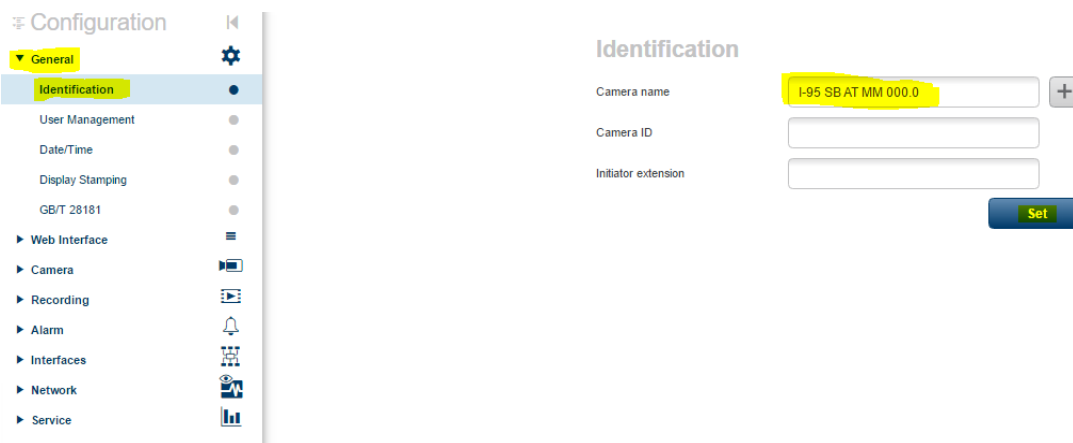
Click on "General".

Click on "Identification".

Type the Camera Name or Camera Location.

Camera name: <Example: I-95 NB AT MM 000.0>

Camera name: <Example: SR 50 at JYP>

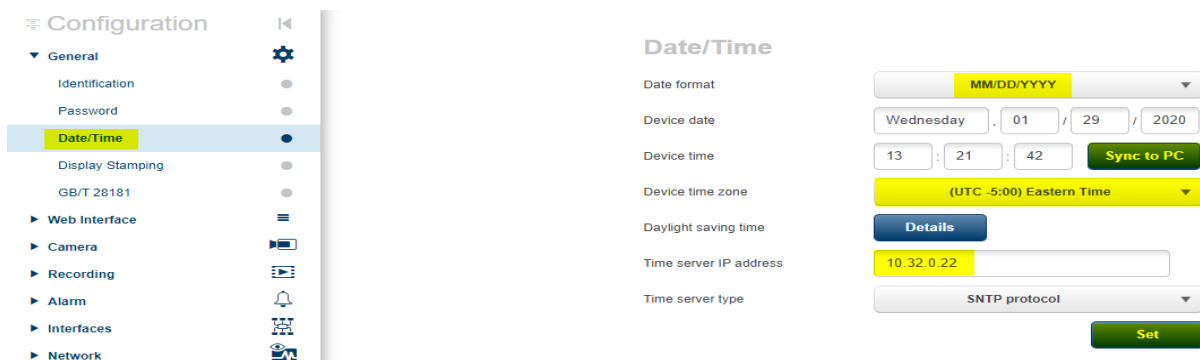


Click "Set".

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Click “Date/Time”. Set the following parameters for the “Date/Time”.

- Date format:* < MM/DD/YYYY >
- Device Time Zone:* < Select (UTC -5:00) Eastern Time >
- Device Time format:* < Select Sync to PC >
- Time Server IP Address* <10.32.0.22>



Click “Set”.

Click “Display Stamping”. Set the following parameters for the “Display Stamping”.

- Camera name stamping:* < Top >
- Camera OSD:* < On >
- Transparent Background:* <Check box>

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Display Stamping

Camera name stamping	<input type="button" value="Top"/>	
Logo	<input type="button" value="Choose File"/> No file chosen	<input type="button" value="Upload"/>
Logo position	<input type="button" value="Off"/>	
Time stamping	<input type="button" value="Off"/>	
Display milliseconds	<input type="button" value="Off"/>	
Alarm mode stamping	<input type="button" value="Off"/>	
Alarm message	<input type="text" value=""/>	(max. 31 characters)
Title OSD	<input type="button" value="Momentary"/>	Position (XY) <input type="text" value="0"/> / <input type="text" value="0"/> (0...255)
Camera OSD	<input type="button" value="On"/>	Position (XY) <input type="text" value="0"/> / <input type="text" value="240"/> (0...255)
Transparent background	<input checked="" type="checkbox"/>	
Video authentication	<input type="button" value="Off"/>	
Signature interval [s]	<input type="text" value="0"/>	
		<input type="button" value="Set"/>

Click "Set".

2. Camera Video/Encoder settings:

Click on "Camera".

Click on "Encoder Profile".

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The screenshot displays the SunGuide configuration interface. On the left is a navigation menu under the heading "Configuration". The "Camera" section is expanded, and "Encoder Profile" is selected and highlighted in blue. The main content area shows the "Encoder Profile" configuration for "Profile 6". The settings are as follows:

- Profile name: HD Image Optimized
- Target bit rate: 8000 kbps
- Maximum bit rate: 12000 kbps
- Encoding interval: 30.00 fps (indicated by a slider and text)
- Video resolution: 432p (only for SD streams)

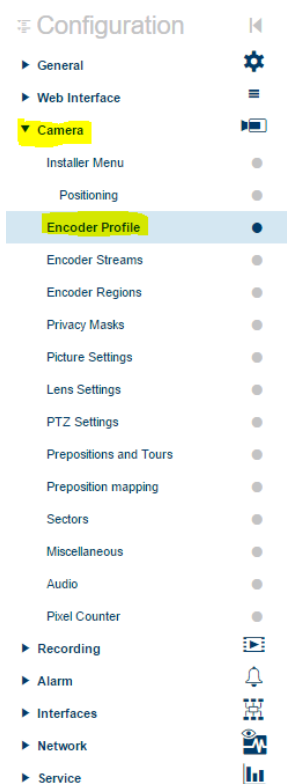
At the bottom right of the configuration panel, there are three buttons: "Expert Settings >>", "Default", and "Set".

Click on "Profile 6".

Set the following parameters for the **Profile 6** Tab.

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Profile name: < iVEDDS >
Target bit rate: < 500 kbps>
Maximum bit rate: < 1100 kbps>
Encoding Interval: <30.00 fps>
Video resolution: < 240p >



Encoder Profile

The image shows the 'Encoder Profile' configuration page in the SunGuide interface. The page has a tabbed interface with tabs for Profile 1 through Profile 8. The 'Profile 6' tab is selected and highlighted in yellow. The configuration fields are as follows: Profile name (text input: iVEDDS), Target bit rate (text input: 500 kbps), Maximum bit rate (text input: 1100 kbps), Encoding interval (range slider: 30.00 fps), and Video resolution (dropdown menu: 240p). There are three buttons at the bottom right: 'Expert Settings >>', 'Default', and 'Set'.

Click "Expert Settings".

GOP Structure: <IBBP>

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The screenshot shows the configuration page for Profile 6 in SunGuide. The 'Profile 6' tab is selected. The parameters are as follows:

Parameter	Value	Unit/Note
Profile name	iVEDDS	
Target bit rate	500	kbps
Maximum bit rate	1100	kbps
Encoding interval	30.00	fps (30.00 fps)
Video resolution	240p	(only for SD streams)
GOP structure	IBBP	
Averaging period	No averaging	
I-frame distance	Auto	
Min. P-frame QP	Auto	
I/P-frame delta QP	-6	
Background delta QP	13	
Object delta QP	-12	

Buttons: Expert Settings << (highlighted), Default, Set

Click "Set".

Click on "Profile 8".

Set the following parameters for the **Profile 8** Tab.

Profile name: < ITS >
Target bit rate: < 1500 kbps >
Maximum bit rate: < 6000 kbps >
Encoding Interval: <30.00 fps >
Video resolution: < 240p >

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The image shows the SunGuide Configuration interface. On the left, a navigation menu lists various settings under 'Camera', with 'Encoder Profile' highlighted. The main area displays the 'Encoder Profile' configuration for Profile 8. The profile name is 'ITS'. Under 'Intelligent streaming', 'Bit rate optimization' is set to 'Off', 'Maximum bit rate' is 6000 kbps, 'Averaging period' is 'No averaging', and 'Target bit rate' is 1500 kbps. The 'Encoding interval' is set to 30.00 fps. The 'Video resolution' is 352 x 240. There are 'Default' and 'Set' buttons at the bottom, and an 'Expert Settings >>' button on the right.

Click "Expert Settings".

GOP Structure:

<IBBP>

This screenshot shows the 'Encoder Profile' configuration in expert mode. The profile name is 'ITS'. The 'Target bit rate' is 1500 kbps, 'Maximum bit rate' is 6000 kbps, and 'Encoding interval' is 60.00 fps. The 'Video resolution' is 240p. The 'GOP structure' is set to 'IBBP'. The 'Averaging period' is 'No averaging'. The 'I-frame distance' is set to 'Auto', 'Min. P-frame QP' is 'Auto', 'I/P-frame delta QP' is -6, 'Background delta QP' is 13, and 'Object delta QP' is -12. There are 'Default' and 'Set' buttons at the bottom, and an 'Expert Settings <<' button on the right.

Click "Set".

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Click on “Encoder Streams”.

Set the following parameters for the “Encoder Streams”.

Property Stream 1: < H.264 MP 720p50/60 fixed >

Non-recording profile: < 8: ITS >

Property Stream 2: < H.264 MP SD >

Non-recording profile: < 6: iVEDDS >

JPEG Stream: <Max>

Max. Frame Rate: <25 fps>

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The screenshot displays the SunGuide configuration interface. On the left is a navigation menu under the heading "Configuration". The menu items are: General, Web Interface, Camera (expanded), Encoder Streams (selected), Encoder Regions, Privacy Masks, Picture Settings, Lens Settings, PTZ Settings, Prepositions and Tours, Preposition mapping, Sectors, Miscellaneous, Audio, Pixel Counter, Recording, Alarm, Interfaces, Network, and Service. The main content area is titled "Encoder Streams" and shows settings for "Video 1" (I-95 SB AT MM 205.2). It contains three sections: "Stream 1" with "Property" set to "H.264 MP 720p50/60 fixed", "Non-recording profile" set to "8: ITS", and "Current profile" set to "ITS"; "Stream 2" with "Property" set to "H.264 MP SD", "Non-recording profile" set to "6: IVEDDS", and "Current profile" set to "IVEDDS"; and "JPEG stream" with "Resolution" set to "Max.", "Max. frame rate" set to "25 fps", and "Picture quality" set to a slider between "Low" and "High". A "Set" button is located at the bottom right of the configuration area.

Click "Set".

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Click on “Picture Settings”.

Ensure that the following parameters for the “Picture Settings” are set.

Configuration

- General
- Web Interface
- Camera**
 - Installer Menu
 - Positioning
 - Encoder Profile
 - Encoder Streams
 - Encoder Regions
 - Privacy Masks
 - Picture Settings**
 - Lens Settings
 - PTZ Settings
 - Prepositions and Tours
 - Preposition mapping
 - Sectors
 - Miscellaneous
 - Audio
 - Pixel Counter
- Recording
- Alarm
- Interfaces
- Network
- Service

Picture Settings

Current mode	Custom
White balance	ATW
Red gain	0
Blue gain	0
Saturation	170%
Color hue	0°
Intelligent DNR	<input checked="" type="radio"/> On <input type="radio"/> Off
Gain control	<input checked="" type="radio"/> AGC <input type="radio"/> Fixed
Fixed gain	2
Maximum gain level	High
AE-response speed	Medium
Sharpness	12
Shutter mode	Automatic exposure
Shutter	1/60
Maximum automatic exposure	1/4
Top shutter speed	1/10000
Backlight compensation	<input type="radio"/> On <input checked="" type="radio"/> Off
High sensitivity	<input type="radio"/> On <input checked="" type="radio"/> Off
Stabilization	<input type="radio"/> On <input checked="" type="radio"/> Off
High dynamic range	<input type="radio"/> On <input checked="" type="radio"/> Off
Night mode	Auto
Night mode threshold	30

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Click on “Lens Settings”.

Ensure that the following parameters for the “Lens Settings” are set.

The screenshot shows the SunGuide configuration interface. On the left is a navigation menu with 'Configuration' expanded to 'Camera', and 'Lens Settings' selected. The main panel displays the 'Lens Settings' configuration page with the following parameters:

- Focus:**
 - Autofocus: **Autofocus** (dropdown)
 - Focus speed: **4** (slider)
 - IR focus correction: On Off
 - Day near limit [m]: **0.3** (slider)
 - Night near limit [m]: **0.1** (slider)
- Iris:**
 - Auto iris: **Constant** (dropdown)
 - Auto iris level: **8** (slider)
- Zoom:**
 - Maximum zoom speed: **Fast** (dropdown)
 - Zoom limit: **30x** (dropdown)
 - Digital zoom: Standard Enhanced Off

Click on “PTZ Settings”.

Ensure that the following parameters for the “PTZ Settings” are set.

The screenshot shows the SunGuide configuration interface. On the left is a navigation menu with 'Configuration' expanded to 'Camera', and 'PTZ Settings' selected. The main panel displays the 'PTZ Settings' configuration page with the following parameters:

- Auto pan speed: **30** (slider)
- Inactivity: **Off** (dropdown)
- Inactivity period: **2 min** (dropdown)
- Number of sectors: **16** (dropdown)
- Auto pivot: On Off
- Freeze frame: On Off
- Turbo mode: On Off
- Azimuth: On Off
- Max. PT speed [%]: **50** (slider)
- Tracking zoom-out limit [%]: **50** (slider)
- Tracking idle time [s]: **30** (slider)
- Auto pan left limit: **Set** / **Show** (buttons)
- Auto pan right limit: **Set** / **Show** (buttons)
- Tilt up limit: **Set** / **Clear** (buttons)
- Tour A: **Start Recording** (button)
- Tour B: **Start Recording** (button)
- Compass: On Off
- North point: **Clear** (button)

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Click on Live and PTZ camera.



Log out of camera.