



User Manual

Microdigital IP-cameras
with built-in Ivideon software

Table of Contents

Ivideon: basic concepts	3
What is Ivideon?	3
What is an IP camera with built-in Ivideon software?.....	3
How to access your surveillance cameras?.....	3
Attaching an IP camera to your Ivideon account	4
Camera settings	4
Camera Web Interface.....	4
Network settings.....	5
Wi-Fi settings.....	6
Motion detector settings.....	7
Sound recording settings.....	8
Video stream settings.....	9
Upload bandwidth configuration.....	10
Frame rate settings.....	11
Resolution settings.....	11
Elimination of the "traveling wave" effect.....	12
Setting up access to the Internet via proxy-server.....	12
Date and time settings.....	13
Recording video archive on a micro SD card.....	14

Ivideon: basic concepts

What is Ivideon?

Ivideon is a system that allows you to easily organize video surveillance at any place: office, apartment, house, shop, enterprise.

Ivideon features:

- You only need a computer and web- or IP-camera to set your own video surveillance system;
- The installation process is extremely simple: connect your surveillance cameras to a computer, configure the Internet connection and attach the cameras to your Ivideon account.

What is an IP camera with built-in Ivideon software?

An IP camera with built-in Ivideon software works with Ivideon cloud by itself — there is no need to connect it to a computer. It is an independent element of your video surveillance system, you can just attach it to your Ivideon account — and you will be able to access it from anywhere over the Internet.

How to access your surveillance cameras?

If you attach your camera to your Ivideon account, you will be able to access it from any place and any way you like:



via your personal account on the Ivideon website;



on Android devices via Ivideon for Android;



on your iPhone®, iPad® or iPod® via Ivideon mobile application for iOS;



on other mobile devices via the mobile version of the Ivideon website;



on your computer via desktop version of the Ivideon Client application.

Attaching an IP camera to your Ivideon account

To use your camera with built-in Ivideon, attach it to your personal account on the Ivideon website - www.िवideon.com. If you do not have an Ivideon account yet, please visit www.िवideon.com and sign up.

- 1 Prepare the camera for connection. Connect it to your router with an Ethernet cable. Get ready to plug the power cable into the camera.
- 2 Log into your account at www.िवideon.com. Go to [My cameras](#) tab and click [Add a camera or a DVR](#). Follow the instructions.

Attention! If you need to reattach your camera, follow the instructions above, but first delete the camera from your personal account.

Camera Settings

Camera Web Interface

Microdigital IP-cameras can be configured via their web-interface. To access it, type the IP-address of the camera in your browser. If you don't know the IP-address of your camera, you can see it in the [Microdigital IP installer](#) application (can be found on the Microdigital CD supplied with the camera. Also, the application is available for downloading on the Microdigital website). Click [Admin](#) in the top menu. Default settings for accessing the camera: login - [root](#), password - [root](#).

The camera web-interface will be displayed correctly only in Internet Explorer 8 or higher with the [Active X MDiViewer](#) plugin installed (will be prompted to install automatically).

Network settings

Network settings can be configured via the [Microdigital IP-installer](#) application.

Attention! [MICRODIGITAL IP Installer](#) works only on Windows. On other operations systems, the Wi Fi settings can be configured only via the camera Web Interface.

- 1 Connect your camera to a computer or a router with an Ethernet cable.
- 2 Install and open the [MICRODIGITAL IP Installer](#) application.
- 3 Press the [Search product](#)  icon. Wait until the searching process is finished, the camera should appear in the list. During the searching process we recommend disabling all the blocking programs (antiviruses, firewalls, etc.).
- 4 Wait until the searching process is finished, the camera should appear in the list. Right-click on your camera and select [Setup product IP](#).
- 5 Select the type of network connection: [DHCP](#) if your network is running a DHCP server (automatically receive network settings from router). If you don't have a DHCP server on your network, select [Static](#) and configure the network settings for your camera manually. If you camera doesn't support Wi-Fi connection, skip to Step 9.
- 6 Click the [Scan AP](#) button and select the Wi-Fi network you want to connect your camera to.
- 7 In the [Auth Mode](#) line select the encryption method used on your Wi-Fi network. You can check the Wi-Fi encryption settings on any device that is already connected to your Wi-Fi network.
- 8 Type your Wi-Fi password in the [WPAPSK](#) line.

- 9 Type the password for your camera in the **Admin Password** line (By default - **root**) and press **Set**.
- 10 Wait until the searching is finished. Unplug the camera power supply, disconnect the Ethernet cable and turn on the power.
- 11 Wait for 3-5 minutes and press the Search product icon again. Wait until the searching is finished, the camera should appear in the list.

Attention! The network settings must allow the camera to gain access to the Internet network. For the correct operation of the device, we recommend setting up the following DNS settings: **DNS1 - 8.8.8.8**, **DNS2 - 8.8.4.4**.

Wi-Fi settings

- 1 Open the camera web interface. In the side menu select «**Network Configuration**» → «**Network Configuration**».
- 2 Select **DHCP Client** as the type of network connection if you have a DHCP server running on your network. Otherwise select **Static IP**.
- 3 Click the **Scan AP** button and select the Wi-Fi network you want to connect your camera to.
- 4 In the **Auth Mode** line select the encryption method used on your Wi-Fi network. You can check the Wi-Fi encryption settings on any device that is already connected to your Wi-Fi network.
- 5 Type **root** in the **KEY** field.

Motion Detector

Ivideon starts the archive recording only when the motion detector is triggered. If the motion detector is disabled, the video feed will not be stored on an SD-card nor in the cloud. To configure motion detection on your camera, perform the following steps:

- 1 Open the camera web interface. In the side menu click [Device Configuration](#) → [Camera & Motion](#) → [Motion Detection](#).
- 2 Select [Enable](#).
- 3 Set the detection area. Active segments are displayed in green, inactive are shown in red. Click on a segment to activate / deactivate it. Click [Check All](#) or [Uncheck All](#) to activate or deactivate all segments.
- 4 Adjust the motion detector sensitivity — [Motion Sensitivity](#). Optimal values are 0 - 10. Click the [Apply](#) button.

The screenshot displays the Ivideon web interface for configuring motion detection. The browser window title is "Network Video System - A. X" and the address bar shows "172.17.2.132/admin/aindex.asp".

The left sidebar menu includes:

- Quick Configuration
 - Step 1
 - Step 2
 - Step 3
 - Step 4
 - Step 5
 - Finish
- Ivideon
 - System Configuration
 - Network Configuration
 - Device Configuration
 - Serial Ports
 - Privacy Zone
 - Camera & Motion
 - Camera Control
 - Motion Detection**
 - Primary Stream
 - Secondary Stream
 - DI/DO
 - DI Status/DO Control
- Advanced Configuration
- Recording Configuration
- Utilities

The main content area is titled "Motion Detection" and contains the following controls:

- Motion Detection:** Radio buttons for Enable and Disable.
- Camera & Motion Detection Area:** A video feed with a grid overlay. A red text overlay reads "Motion Detected".
- Check All** and **Uncheck All** buttons.
- Motion Sensitivity:** A slider set to 30.

At the bottom of the page are three buttons: **Back**, **Apply**, and **Default**.

Sound recording settings

If your camera is equipped with a microphone, you may need to enable and configure sound, which will be broadcasted along with the video feed and recorded on an SD-card.

1

Open the camera web interface. In the side menu click [Device Configuration](#) → [Camera & Motion](#).

2

In the opened window, set the [Audio](#) flag to [Enable](#) and press [Apply](#).

The screenshot shows a web browser window with the address bar displaying `172.17.2.132/admin/aindex.asp`. The left sidebar contains a navigation menu with the following items:

- Quick Configuration
 - » Step 1
 - » Step 2
 - » Step 3
 - » Step 4
 - » Step 5
 - » Finish
- Ivideon
 - System Configuration
 - Network Configuration
 - Device Configuration
 - Serial Ports
 - » Privacy Zone
 - » **Camera & Motion**
 - » DI/DO
 - » DI Status/DO Control
- Advanced Configuration
 - Recording Configuration
 - Utilities

The main content area is titled "Camera & Motion Configuration" and contains the following settings:

Video with Flexible Extra System data	<input type="checkbox"/> Enable	
Video with user defined message	<input type="checkbox"/> Enable	
Video with PPP status	<input type="checkbox"/> Enable	
Video with camera name	<input type="checkbox"/> Enable	
Video with server name	<input type="checkbox"/> Enable	
Video with IP address	<input type="checkbox"/> Enable	
Audio	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	
Time Stamp	<input checked="" type="radio"/> On <input type="radio"/> Off	
Primary Stream	Frame Rate	30 fps
	Image Size	640 x 480
	Encoding Standard	<input type="radio"/> M-JPEG <input checked="" type="radio"/> H.264
Secondary Stream	Frame Rate	30 fps
	Image Size	320 x 240
	Encoding Standard	<input type="radio"/> M-JPEG <input checked="" type="radio"/> H.264

At the bottom of the configuration area, there are two buttons: **Back** and **Apply**.

Video stream settings

By default the camera is configured in optimal settings.

If the upload bandwidth is low (for example, if you're using a 3G-modem), it's possible to configure the video stream settings in accordance with your requirements.

The camera has 2 video channels and you can set different values for each channel.

- **Primary Stream** — video from this channel is used for recording and watching live video in high quality.
- **Secondary Stream** — video from this channel is used when you watch live video in middle and low quality.

The screenshot shows a web browser window with the address bar displaying "172.17.2.132/admin/aindex.asp". The page title is "Network Video System - A X". The left sidebar contains a navigation menu with the following items:

- Quick Configuration
 - » Step 1
 - » Step 2
 - » Step 3
 - » Step 4
 - » Step 5
 - » Finish
- Ivideon
 - System Configuration
 - Network Configuration
 - Device Configuration
 - Serial Ports
 - » Privacy Zone
 - » Camera & Motion
 - » Camera Control
 - » Motion Detection
 - » Primary Stream
 - » Secondary Stream
 - » DI/DO
 - » DI Status/DO Control
- Advanced Configuration
- Recording Configuration
- Utilities

The main content area displays the "Camera Configuration (Primary Stream)" settings for "Camera 1". The settings are as follows:

Camera Name	Camera 1
Rate Control Mode	CBR Mode ▾
Bit Rate Control	1.0 Mbps ▾
GOP Structure	45 [1~64]

At the bottom of the configuration area, there are three buttons: "Back", "Apply", and "Default".

Notice : The camera name can be 21 alphanumeric or 10 unicode.

Upload bandwidth configuration

- 1 Open the camera web interface. In the side menu click [Device Configuration](#) → [Camera & Motion](#) → [Primary Stream](#).
- 2 On the [Camera Configuration \(Primary Stream\)](#) setup panel, select [CBR mode](#) for the parameter [Rate Control Mode](#) and set the required upload bandwidth in the [Bit Rate Control](#) line. Click [Apply](#).
- 3 Similarly, set settings for the second channel of the camera ([Secondary stream](#)).

Attention! For the proper operation of the device, the [Bit Rate Control](#) parameter must be less than or equal to your Internet upload bandwidth.

The screenshot shows a web browser window with the address bar displaying `172.17.2.132/admin/aindex.asp`. The page title is "Network Video System - A X". On the left, there is a navigation menu with categories: "Quick Configuration" (Step 1-5, Finish), "Ivideon" (System, Network, Device Configuration, Serial Ports, Privacy Zone, Camera & Motion, Camera Control, Motion Detection, Primary Stream, Secondary Stream, DI/DO, DI Status/DO Control), "Advanced Configuration", "Recording Configuration", and "Utilities". The "Device Configuration" section is expanded to "Camera & Motion", which is further expanded to "Primary Stream".

The main content area is titled "Camera Configuration (Primary Stream)". It contains a table with the following settings:

Camera Name	Camera 1
Rate Control Mode	<input checked="" type="checkbox"/> CBR Mode <input type="checkbox"/> VBR Mode
Bit Rate Control	
GOP Structure	45 [1~64]

Below the table are three buttons: "Back", "Apply", and "Default".

Notice : The camera name can be 21 alphanumeric or 10 unicode.

Frame rate settings

- 1 Open the camera web interface. In the side menu click «Device Configuration» → «Camera & Motion».
- 2 On the **Camera & Motion configuration** panel set the required frame rate per second (fps). Click **Apply**. Similarly, set settings for the second channel of the camera (**Secondary stream**).

Resolution settings

- 1 Open the camera web interface. In the side menu click «Device Configuration» → «Camera & Motion».
- 2 On the **Camera & Motion configuration** panel set the required resolution for the **Image Size** parameter. Click **Apply**. Similarly, set settings for the second channel of the camera (**Secondary stream**).

The screenshot shows the 'Camera & Motion Configuration' page in a web browser. The browser address bar shows '172.17.2.132/admin/aindex.asp'. The sidebar on the left contains the following menu items:

- Quick Configuration
 - » Step 1
 - » Step 2
 - » Step 3
 - » Step 4
 - » Step 5
 - » Finish
- Ivideon
 - System Configuration
 - Network Configuration
 - Device Configuration
 - » Serial Ports
 - » Privacy Zone
 - » Camera & Motion
 - » DI/DO
 - » DI Status/DO Control
- Advanced Configuration
 - Recording Configuration
 - Utilities

The main configuration area is titled 'Camera & Motion Configuration' and contains the following settings:

Video with Flexible Extra System data	<input type="checkbox"/> Enable	
Video with user defined message	<input type="checkbox"/> Enable	
Video with PPP status	<input type="checkbox"/> Enable	
Video with camera name	<input type="checkbox"/> Enable	
Video with server name	<input type="checkbox"/> Enable	
Video with IP address	<input type="checkbox"/> Enable	
Audio	<input type="radio"/> Enable <input checked="" type="radio"/> Disable	
Time Stamp	<input checked="" type="radio"/> On <input type="radio"/> Off	
Primary Stream	Frame Rate	30 fps (selected)
	Image Size	15 fps
	Encoding Standard	7.5 fps
Secondary Stream	Frame Rate	3.75 fps
	Image Size	1 fps
	Encoding Standard	320 x 240
		<input type="radio"/> M-JPEG <input checked="" type="radio"/> H.264

At the bottom of the page, there are two buttons: 'Back' and 'Apply'.

Elimination of the "traveling wave" effect

If you use your camera indoors, you may notice a "wave" effect on the picture. To eliminate this effect, open the camera web-interface. In the side menu click [Device Configuration](#) → [Camera & Motion](#) → [Camera Control](#).

In the opened window, switch the [Power Frequency](#) flag to [50Hz](#) and press [Apply](#).

Attention! After any change in the video settings, the Ivideon service must be restarted. To stop the service, open the camera web interface. In the side menu, select [Ivideon](#) and click the [Stop Ivideon Service](#) button. Wait until the page refreshes and click the [Start Ivideon Service](#) button.

Setting up access to the Internet via proxy-server

If you use a proxy server to access the Internet, select [Ivideon](#) in the side menu and enter the proxy URL in the [Configure HTTP Proxy](#) section. Otherwise, leave this field empty.

Network Video System - A X

172.17.2.132/admin/aindex.asp

Quick Configuration

- » Step 1
- » Step 2
- » Step 3
- » Step 4
- » Step 5
- » Finish

Ivideon

- System Configuration
- Network Configuration
- Device Configuration
 - Serial Ports
 - » Privacy Zone
 - » Camera & Motion
 - » [Camera Control](#)
 - » Motion Detection
 - » Primary Stream
 - » Secondary Stream
 - » DI/DO
 - » DI Status/DO Control

Advanced Configuration

Recording Configuration

Utilities

Camera Control

Power Frequency 50Hz 60Hz

Contrast (Default:18, 0 ~ 242)

Brightness (Default:8, 0 ~ 255)

Mirror Control

Environment Indoor Outdoor

Date and time settings on the camera

For proper recording of the archive, set correct date and time settings:

- 1 Open the camera web interface.
- 2 In the side menu, select «System Configuration» → «Date & Time».
- 3 On the [Local Date & Time Configuration](#) panel, check the [Change Time Zone](#) box and indicate your Time Zone. Click [Apply](#) and then [Reboot](#).
- 4 Wait until the camera reboots and go to the panel [Local Date & Time Configuration](#) . Press the [Get NTP server time](#) button. If the time settings haven't been set, you should adjust it manually.

The screenshot shows a web browser window with the address bar displaying "172.17.2.132/admin/aindex.asp". The left sidebar contains a navigation menu with the following items: Quick Configuration (with sub-items Step 1-5 and Finish), Videon (with sub-items System Configuration, Date & Time, Admin. Password, Access Control, and User Registration), Network Configuration, Device Configuration, Advanced Configuration, Recording Configuration, and Utilities. The main content area is titled "Local Date & Time Configuration" and contains the following form fields:

Date (yyyy/mm/dd)	2014 / 3 / 14
Time (hh:mm:ss)	20 : 35 : 59
Time Zone	<input checked="" type="checkbox"/> Change Time Zone Europe/Moscow
Service	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
NTP server address	pool.ntp.org
NTP server time	<input type="button" value="Get NTP server time"/>

At the bottom of the form are three buttons: Back, Apply, and Refresh.

Notice If you change the 'Time Zone' and click 'Apply' button, we strongly recommend to reboot this Network Video System.

Recording video archive on a microSD card

To store video archive on an SD card, you will need 1 - 32 GB microSD and speed class 6 or higher. To configure archive recording, perform the following steps:

- 1 Open the camera web interface. In the side menu click [Ivideon](#) and press the [Stop Ivideon Service](#) button.
- 2 Insert the microSD card into the camera.
- 3 In the side menu click «[Recording Configuration](#)» → «[SD Configuration](#)» → «[SD Status & Format](#)».
- 4 Select [1st SD](#) and press [Partition and Format](#). Wait until the formatting is finished. Press the [Reboot](#) button.
- 5 In the side menu click [Ivideon](#) and in the [Configure Video Archive](#) section enable the [Enable Video Archive](#) flag.
- 6 Press [Start Ivideon Service](#).

Attention! If you need to remove the SD-card from your camera, you need to stop the Ivideon Service first (see step 1 above). Unplug the power supply and remove the card.

