elVP5600

Intel Gen7 Core i7-7600U/i5-7300U Mobile NVR Supporting 8-Channel PoE IP Cameras

User's Manual





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Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references.

- > All cautions and warnings on the device should be noted.
- All cables and adapters supplied by EverFocus are certified and in accordance with the material safety laws and regulations of the country of sale. Do not use any cables or adapters not supplied by EverFocus to prevent system malfunction or fires.
- > Make sure the power source matches the power rating of the device.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- > Always completely disconnect the power before working on the system's hardware.
- No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
- If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
- > Always disconnect this device from any AC supply before cleaning.
- > While cleaning, use a damp cloth instead of liquid or spray detergents.
- > Make sure the device is installed near a power outlet and is easily accessible.
- Keep this device away from humidity.
- Place the device on a solid surface during installation to prevent falls.
- > Do not cover the openings on the device to ensure optimal heat dissipation.
- > Watch out for high temperatures when the system is running.
- > Do not touch the heat sink or heat spreader when the system is running.
- > Never pour any liquid into the openings. This could cause fire or electric shock.
- As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.
- If any of the following situations arises, please contact our service personnel (ts@everfocus.com.tw):
 - Damaged power cord or plug
 - Liquid intrusion to the device
 - Exposure to moisture
 - Device is not working as expected or in a manner as described in this manual
 - The device is dropped or damaged
 - Any obvious signs of damage displayed on the device
- DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE SPECIFICATION) TO PREVENT DAMAGE.

FCC Statement



This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte.

Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

RoHS Requirements

設備名稱 (Equip	設備名稱 (Equipment): 網路數位錄放影機,型號(型式)/ Type designation (Type): elVP5600					
單元Unit	限用物質	限用物質及其化學符號 Restricted substances and its chemical symbols				
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr+6)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
印刷電路板及 電子零組件 PCB & Other Components	0	0	0	0	0	0
外部訊號連接 器及線材 Wires & Connectors for External Connections	0	0	0	Ο	0	0
外殼 Chassis	0	0	0	0	0	0
中央處理器與 內存 CPU & RAM	0	0	0	0	0	0
硬碟 Hard Disk	0	0	0	0	0	0
電源 PSU	0	0	0	0	0	0

O:表示該有毒物質在該部件所有均質材料中的含量均在SJ/T 11363-2006標準規定的限量要求以下。

The quantity of poisonous or hazardous substances or elements found in each of the component's parts is below the SJ/T 11363-2006-stipulated requirement.

X:表示該有毒物質至少在該部件的某一均質材料中的含量超出 SJ/T 11363-2006標準規定的限量要求。 The quantity of poisonous or hazardous substances or elements found in at least one of the component's parts is beyond the SJ/T 11363-2006-stipulated requirement.

備註:一、此產品所標示之環保使用期限,係指在一般正常使用狀況下。二、上述部件物質中央處理器、内存、硬碟、電源為選購品。The Environment Friendly Use Period as labeled on this product is applicable under normal usage only

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Chapter



1. Introduction

The eIVP5600 is one of EverFocus' eIVP series AI mobile NVRs adopting Intel[®] 7th Gen. Core[™] i5/i7 Processor and Movidius[™] Myriad[™] X AI core module.

The model supports up to 8 PoE ports with individual LAN chips. Featuring smart PoE functionality, the eIVP5600 can remotely check or reboot the connected PoE devices if any of the PoE devices are not working properly.

The eIVP5600 also supports wide operating temperature ranging from -20°C to 70°C and wide DC range of DC 10-36V. It also features comprehensive storage options including up to two 2.5" HDD/SSD bays (optional) and an mSATA slot, and 2 RS-232/422/485 ports for connecting to other devices.

The eIVP5600 is complied with the MIL-STD-810G standard for the utmost viability for vehicular use. It supports onboard GPS, GLONASS and CAN bus. Besides, the model is also CE, FCC and RoHS certified. The eIVP5600 AI mobile NVR carries everything you need for computing on the road.

elVP5600 Model SKU

SKU1: elVP5600-i5 (i5-7300U; PoE x 4) SKU2: elVP5600-i5 (i5-7300U; PoE x 8) SKU3: elVP5600-i7 (i7-7600U; PoE x 4) SKU4: elVP5600-i7 (i7-7600U; PoE x 8)

1.1 Features

- In-vehicle network video recorder platform
- Intel[®] 7th Gen. Core[™] i5/i7 processor
- 260-pin DDR4 2133 MHz SODIMM x 2, total up to 32GB (optional)
- Intel[®] Integrated Graphics Engine supports 2 display outputs by HDMI x 1, DP x 1
- Realtek[®] Ethernet x 10 ports (PoE x 8, GbE x 2)
- Supports up to 8-channel IP cameras
- Intel Movidius AI core module (optional)
- Supports CAN Bus 2.0B (optional)
- CE, FCC, RoHS certified



1.2 Dimensions



1.3 Packing List

•	NVR x 1	•	mSATA Screw x 1
•	DC Power Terminal Block x 1	•	2.5" SATA SSD Installation Kit x 1 (includes 4
•	DC Out Cable x 1 (power supply for		screws, 1 SATA cable, 1 SSD power cable)
	cameras)	•	CD x 1 (see Note 3)

Note:

- 1. Equipment configurations and supplied accessories vary by country. Please consult your local EverFocus office or agents for more information. Please also keep the shipping carton for possible future use.
- 2. Contact the shipper if any items appear to have been damaged in the shipping process.
- 3. The CD contains the User Manual and some Drivers for the system. If you can't find the required drivers from the CD, please go to our website for related drivers. www.everfocus.com.tw



1.4 Front Panel



No.	Name	Description
1	Power Button	Press the button to turn on or turn off the system.
2	Antenna	Connects the antenna to the mobile NVR for 3G / 4G / WiFi functions.
3	LED Indicator	HDD: When storage is reading/writing data, the LED will flashes green. Wireless 1-3: Mini Card WLED (Slot1 w/LED1, Slot2 w/LED2, Slot3 w/LED3.
4	DP Port	DP display output.
5	PoE Ports	LAN3~8 with PoE function for connecting to the IP cameras.
6	USB3.0 Ports	USB3.0 ports.
7	Reset	Press the button to restart the system.
8	LAN/WAN	Two 10/100/1000 Base-Tx Ethernet ports for connecting to the network.





1.5 Rear Panel



No.	Name	Description	
1	Antenna	Connects the antenna to the mobile NVR for 3G / 4G / WiFi functions.	
2	CAN Bus	CAN Bus 2.0B Connector.	
3	SIM Card Slot	SIM Card slots.	
4	HDMI Port	HDMI display output.	
5	COM Ports	RS-232 ports.	
6	Power Output	A total of 12VDC, 2A power supply to the connected cameras. Please refer to 2.2 DC Power Out Cable.	
7	Digital IO	Digital IO connector.	
8	Audio Input	Connects to audio input devices, such as microphones. Note that the microphones with a (built-in) amplifier and external power supply are required.	
9	Audio Output	Connects to an audio output device, such as speakers. Note that the speakers with a (built-in) amplifier and external power supply are required.	
10	Fuse	Fuse Connector.	
11	Power Input	Insert the supplied DC Power Terminal Block and then connect the system to a DC 10-36V power source.	
12	Remote Power	Remote button.	



Chapter



2. Connection and Installation

2.1 Storage Installation

The eIVP5600 supports mSATA and 2.5" SATA SSD for storage.

2.1.1 mSATA drive Installation

- 1. Make sure the NVR is power-off.
- 2. Unscrew the four screws on the bottom cover and then remove the bottom cover.



3. Unscrew the 6 screws.





4. Lift up the case to remove the top cover.



5. Turn the case to the other side and find the mSATA interface on the motherboard. Screw your mSATA drive to the mSATA Interface using the supplied **mSATA Screw**.



6. Screw back the top cover and bottom cover.

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2.1.2 2.5" SATA SSD/HDD Installation

You can install one 2.5" SATA SSD/HDD inside the NVR.

- 1. Make sure the NVR is power-off.
- 2. Unscrew the four screws on the bottom cover and then remove the bottom cover from the housing.



3. Turn the bottom cover to the other side. Place an 2.5" SATA SSD onto the inner side of the bottom cover, align the SSD screw holes, and then use the supplied 4 screws to screw the SSD to the bottom cover from the outside of the bottom cover.



- Inner side of the Bottom Cover
- 4. Connect one end of the supplied SATA cable and SSD power cable to the motherboard.





6.

5. Connect the other end of the SATA cable and SSD power cable to the SSD.



Screw the bottom cover back to the housing.

2.1.3 Storage Compatibility List

Please go to the product page (Download) on EverFocus' Website <u>www.everfocus.com.tw</u> to see the latest Storage Compatibility List. It's recommended to use the storage models listed on the Storage Compatibility List to ensure your storage devices are compatible.



2.2 GPS Antenna Installation

The eIVP5600 supports onboard GPS. To enable the GPS function, connect a GPS Antenna to the antenna port.

- 1. Make sure the NVR is power-off.
- 2. Unscrew the four screws on the bottom cover and then remove the bottom cover.



3. Find the GPS connector on the motherboard. Connect one end of the **RF cable** to the **GPS connector** and the other end to the **Antenna port**.



- 4. Screw the GPS antenna to the Antenna port.
- 5. Screw the bottom cover back to the model.



2.3 RAM Installation

The eIVP5600 supports 260-pin DDR4 2133 MHz SODIMM x 2. You can install the RAM on the DIMM port of the motherboard.

- 1. Make sure the NVR is power-off.
- 2. Unscrew the four screws on the bottom cover and then remove the bottom cover.



3. Find the DIMM port on the motherboard and install the RAM.



- 4. The second DIMM port is on the other side of the motherboard. To use the second DIMM port, follow **Step 3** and **Step 4** in *2.1 Storage Installation* to remove the Top Cover from the model and turn the motherboard to the other side.
- 5. Screw back the front cover and bottom cover to the model.



2.4 DC Out Cable

The eIVP5600 provides a total of 12V/2A DC output with four sets of power output wires (+/-) for the connected IP cameras.

Connect the supplied **DC Out Cable** to the **DC Out** port on the rear panel of the NVR.







Chapter



3. Jumpers and Connectors on the Motherboard

Users can use the jumpers and connectors to configure different applications.

Component Side





Solder Side





3.1 List of Jumpers

You can refer to the jumpers listed as below to configure your application.

Label	Function
CN10	Clear CMOS
CN14	ATX/AT Selection
CH15	COM1 Ring/ +5V/ +12V Selection
CN16	CAN Bus UART/USB Selection
CN18	CAN Bus Program Firmware

3.1.1 Clear CMOS (CN10)

Pin	Function
1-2	Clear
2-3	Protected (Default)

3.1.2 ATX/AT Selection (CN14)

Pin	Function
1-2	ATX
2-3	AT (Default)

3.1.3 COM1 Ring/ +5V/ +12V Selection (CN15)

Pin	Function
1-2	+ 5V
3-4	Ring (Default)
5-6	+ 12V

3.1.4 CAN Bus UART/USB Selection (CN16)

Pin	Function
1-2	UART
2-3	USB (Default)



3.1.5 CAN Bus Program Firmware (CN18)

Pin	Function
1-2	Protected (Default)
2-3	Program



3.2 List of Connectors

You can refer to the connectors listed as below to configure your application.

Label	Function
SW1	Power Button
SW3	Software Reset
SW4	Power on/off delay selection
VGA1	CRT Port
SW1	Power Button
CN5	Front Panel Connector
CN3	Board to Board Connector
DP1	Display Port
CN4	LAN3~LAN6 (With PoE Function)
CN1	USB3 & USB4 Connector with LAN2 (10/100/1000 Base-Tx Ethernet) Connector
CN2	USB1 & USB2 Connector with LAN1 (10/100/1000 Base-Tx Ethernet) Connector
SW2	Software Reset
CN19	Power In & Remote Button
CN20	Digital I/O Connector
CN21	+ 12V Output
COM1	COM4 RS-232 Serial Port Connector
COM2	COM3 RS-232 Serial Port Connector
СОМЗ	COM1 & COM2 RS-232/422/485 Serial Port Connector
HDMI1	HDMI
CN17	SIM Card (With SLOT2)
CN24	SIM Card (With SLOT3)
CN22	CAN Bus 2.0B Connector
AUDIO1	Audio Connector
CN11	Fuse Connector
SW3	Power on/off delay select

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DIMM1	DIMM2 Slot
DIMM2	DIMM1 Slot
SLOT1	Mini Card Connector (only USB) half size
SLOT2	Mini Card Connector (PCIe + USB) full size
SLOT3	Mini Card Connector (only USB) full size
MSATA1	Mini-SATA Connector
SATA1	Primary Serial ATA Connector
SATA2	Secondary Serial ATA Connector
LED4	SATA LED
LED1~LED3	Mini Card Wled (SLOT1 w/LED1, SLOT2 w/LED2, SLOT3 w/LED3

3.2.1 Front Plane Connector (CN5)

Pin	Signal	Pin	Signal
1	PWR_SW#	2	FPANSWH#
3	GND	4	HWRST#
5	GND	6	FPANSWH#

3.2.2 COM4 RS-232 Serial Port Connector (COM1)

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	СТЅ
9	RI	10	



3.2.3 COM3 RS-232 Serial Port Connector (COM2)

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	

3.2.4 COM1 & COM2 RS-232/422/485 Serial Port Connector (COM3)

Pin	Signal	Pin	Signal
1	DCD	2	RXD (RS422 RX-)
3	TXD (RS485 Data- /RS422 TX-)	4	DTR (RS422 RX+)
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	

3.2.5 Digital I/O Connector (CN20)



Pin	Signal	Pin	Signal
1	GND	2	+GP_V
3	GPI0	4	GPO0
5	GPI1	6	GPO1
7	GPI2	8	GPO2
9	GPI3	10	GPO3



3.2.6 Power In & Remote Button (CN19)



Pin	Signal	Pin	Signal
1	ACC	2	GND_PRI
3	PWR_IN	4	REMOTE_SW
5	GND	6	PS_ON#

3.2.7 CAN Bus 2.0B Connector (CN22)



Pin	Signal	Pin	Signal
1	CAN DATA +	2	CAN DATA -

3.2.8 Power on/off delay select (SW3)

	Power On Delay			Power Off Day			ay	
Switch Pin Number	6	7	8	Time (sec.)	5	4	3	Time (sec.)
	off	off	off	5	off	off	off	180
	off	off	on	10	off	off	on	300
	off	on	off	15	off	on	off	900
Control	off	on	on	30	off	on	on	1800
Table	on	off	off	Null	on	off	off	2-Day
	on	off	on	Null	on	off	on	Null
	on	on	off	Null	on	on	off	Null
	on	on	on	Null	on	on	on	Null



Chapter

4

4. AMI BIOS Setup

4.1 System Test and Initialization

The board uses certain routines to perform testing and initialization. If an error, fatal or non-fatal, is encountered, a few short beeps or an error message will be outputted. The board can usually continue the boot up sequence with non-fatal errors.

The system configuration verification routines check the current system configuration against the values stored in the CMOS memory. If they do not match, an error message will be outputted, in which case you will need to run the BIOS setup program to set the configuration information in memory.

There are three situations in which you will need to change the CMOS settings:

- You are starting your system for the first time
- You have changed your system's hardware
- The CMOS memory has lost power and the configuration information is erased

The system's CMOS memory uses a backup battery for data retention, which is to be replaced once emptied.



4.2 AMI BIOS Setup

The AMI BIOS ROM has a pre-installed Setup program that allows users to modify basic system configurations, which is stored in the batter y-backed CMOS RAM and BIOS NVRAM so that the information is retained when the power is turned off.

To enter BIOS Setup, press or <F2> immediately while your computer is powering up.

The function for each interface can be found below.

- Main Date and time can be set here. Press <Tab> to switch between date elements
- Advanced Enable/ Disable boot option for legacy network devices
- Chipset For hosting bridge parameters
- Boot Enable/ Disable quiet Boot Option
- Security The setup administrator password can be set here
- Save & Exit –Save your changes and exit the program

4.3 Setup Submenu: Main

Press the "Delete" key to enter the setup page.





4.4 Setup Submenu: Advanced

Aptio Setup Utility – Copyright (C) 2017 American Nain <mark>Advanced</mark> Chipset Security Boot Save & Exit	Megatrends, Inc.
 CPU Configuration PCH-FW Configuration SATA Configuration Trusted Computing Hardware Monitor SID Configuration Digital IO Port Configuration AAEON Features Fower Management 	CPU Configuration Parameters
	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. Copyright (C) 2017 American M	egatrends, Inc.

4.4.1 Advanced: CPU Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
Aptio Setup Utility - Advanced CPU Configuration Type ID Speed L1 Data Cache L1 Instruction Cache L2 Cache L3 Cache L4 Cache VMX SMX/TXT Active Processon Cores Hyper-Threading	Copyright (C) 2017 American Intel(R) Core(TM) 13-7100U CPU @ 2.40GHz 0x806E9 2400 MHz 32 KB × 2 32 KB × 2 32 KB × 2 32 KB × 2 3 KB N/A Supported Not Supported [A11] [Enabled]	Megatrends, Inc. Number of cores to enable in each processor package. ++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. Co	ppyright (C) 2017 American M	egatrends, Inc.

Active Processor Cores	All	
	1	
Number of cores to enable in each processor package.		
Hyper-Threading	Disabled	
	Enabled	
Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for		
other OS (OS not optimized for Hyper-Threading Technology).		



4.4.2 Advanced: PCH-FW Configuration

Aptio Setup Utility Advanced	– Copyright (C) 2017 Americar	Megatrends, Inc.
ME Firmware Version ME Firmware Mode ME Firmware SkU ME File System Integrity Value ME Firmware Status 1 ME Firmware Status 2 NFC Support Me FW Image Re-Flash	11.8.50.3425 Normal Mode Corporate SKU 2 0x90000255 0x80108306 Disabled [Disabled]	Enable/Disable Me FW Image Re-Flash function.
Version 2.18.1263.	Copyright (C) 2017American M	egatrends, Inc.

Options summary:

ME FW Image Re-Flash	Disabled
	Enabled
Enable/Disable Me FW Image Re-Flash function.	

4.4.3 Advanced: SATA Drives

Aptio Setup Utility Advanced	y – Copyright (C) 2017 A	imerican Megatrends, Inc.
SATA And RST Configuration		Enable/Disable SATA Device.
SATA Controller(s) SATA Mode Selection	[Enabled] [AHCI]	
Serial ATA Port 0 Hot Plug Serial ATA Port 1 Hot Plug	Empty [Disabled] Empty [Disabled]	
		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.18.1263.	. Copyright (C) 2017 Ame	erican Megatrends, Inc.

SATA Controller(s)	Disabled
	Enabled
Enable/Disable SATA Device.	
Hot Plug	Disabled
	Enabled
Designates this port as Hot Pluggable.	



4.4.4 Advanced: Trusted Computing

Aptio Setup Utility Advanced	y – Copyright (C) 2017 Am	erican Megatrends, Inc.
Configuration Security Device Support TPM State Pending operation Device Select	[Enable] [Enabled] [None] [Auto]	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.
Current Status Information TPM Enabled Status: TPM Active Status: TPM Owner Status:	Enable Activated Owned	
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults
		F4: Save & Exit ESC: Exit

Security Device Support	Disabled	
	Enabled	
Enables or Disables BIOS support for security device	e. O.S. will not show Security Device. TCG EFI	
protocol and INT1A interface will not be available.		
TPM State	Disabled	
	Enabled	
Enable/Disable Security Device. NOTE: Your Computer will reboot during restart in order to char State of the Device.		
Pending operation	None	
	TPM Clear	
Schedule an Operation for the Security Device. NOTE: Your Computer will reboot during restart in		
order to change State of Security Device.		
Device Select	TPM 1.2	
	TPM 2.0	
	Auto	
TPM1.2 will restrict support to TPM 1.2 devices, TPM 2.0 will restrict support to TPM 2.0 devices, Auto will support both with the default set to TPM 2.0 devices if not found, TPM 1.2 devices will be enumerated.		



4.4.5 Advanced: Hardware Monitor

Aptio Setu Advanced	up Utility – Copyright (C) 2017 America	an Megatrends, Inc.
CPU Temperature(DTS) System Temperature VCORE +1.2V +5V +12V +5VSB +3.3V VBAT	: +100 % : +52 % : +0.712 V : +1.232 V : +5.045 V : +12.232 V : +5.112 V : +3.376 V : +3.104 V	++: Select Screen 14: Select Item Enter: Select +/: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2	2.18.1263. Copyright (C) 2017 American	Megatrends, Inc.

4.4.6 Advanced: SIO Configuration





4.4.6.1 SIO Configuration: Serial Port Configuration

Aptio Setup Utility – Copyright (C) 2017 American Advanced	Megatrends, Inc.
AMI SIO Driver Version : A5.07.03 Super IO Chip Logical Device(s) Configuration > [*Active*] Serial Port 1 > [*Active*] Serial Port 2 > [*Active*] Serial Port 3 > [*Active*] Serial Port 4 > [*Active*] Serial Port 5 > [*Active*] Serial Port 6 WARNING: Logical Devices state on the left side of the control, reflects the current Logical Device state. Changes	View and Set Basic properties of the SIO Logical device. Like IO Base, IRQ Range, DMA Channel and Device Mode.
made during setup Session will be shown after you restart the system.	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
version 2.18.1263. Copyright (C) 2017 American M	egatrends, inc.

4.4.6.2 SIO Configuration: Serial Port 1 Configuration





Options summary:

Use This Device	Disabled
	Enabled
Enable or Disable this Logical Device.	
Possible:	Use Automatic Settings
	IO=2F8h; IRQ=3;
	IO=3F8h; IRQ=4;
Allows user to change Device's Resource settings. New This Setup Page after System restarts.	settings will be reflected on
Mode	RS232
	RS422
	RS485
UART RS232, 422, 485 selection.	

4.4.6.3 SIO Configuration: Serial Port 2 Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
Serial Port 2 Configuration		Enable or Disable this Logical
Use This Device		Device.
Logical Device Settings: Current : IO=2F8h; IRQ=3;		
Possible:	[Use Automatic Settings]	
Mode :	[RS232]	
Mode : [RS232] WARNING: Disabling SIO Logical Devices may have unwanted side effects. PROCEED WITH CAUTION.		++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. Co	pyright (C) 2017 American M	egatrends, Inc.

Use This Device	Disabled
	Enabled
Enable or Disable this Logical Device.	
Possible:	Use Automatic Settings
	IO=2F8h; IRQ=3;
	IO=3F8h; IRQ=4;
Allows user to change Device's Resource set System restarts.	ttings. New settings will be reflected on this Setup Page after
Mode	RS232
	RS422
	RS485
UART RS232, 422, 485 selection.	



4.4.6.4 SIO Configuration: Serial Port 3 Configuration



Options summary:

Use This Device	Disabled	
	Enabled	
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ=4;	
Allows user to change Device's Resource settings. New settings will be reflected on this Setup Page after		
System restarts.		

4.4.6.5 SIO Configuration: Serial Port 4 Configuration





Options summary:

Use This Device	Disabled	
	Enabled	
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ=4;	
Allows user to change Device's Resource settings. New s System restarts.	ettings will be reflected on this Setup Page after	

4.4.6.6 SIO Configuration: Serial Port 5 Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
Serial Port 5 Configuration		Enable or Disable this Logical
Use This Device		Device.
Logical Device Settings: Current : IO=2DOh; IRQ=11;		
Possible:	[Use Automatic Settings]	
Possible: [Use Automatic Settings] WARNING: Disabling SID Logical Devices may have unwanted side effects.		
Version 2.18.1263. Co	pyright (C) 2017 American M	egatrends. Inc.

Use This Device	Disabled	
	Enabled	
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ=4;	
Allows user to change Device's Resource settings. New settings will be reflected on this Setup Page after		
System restarts.		



4.4.6.7 SIO Configuration: Serial Port 6 Configuration



Options summary:

Use This Device	Disabled	
	Enabled	
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ=4;	
Allows user to change Device's Resource settings. New settings will be reflected on this Setup Page after		
System restarts.		

4.4.7 Advanced: Digital IO Port Configuration

Advanced	tility – Copyright (C) 2017 A	American Megatrends, Inc.
Advanced Pigital IO Port Configuration DIO Port1 DIO Port2 DIO Port3 DIO Port4 DIO Port5 Output Level DIO Port6 Output Level DIO Port7 Output Level DIO Port8	IIIty - Coby gut (c) 2017 - Input] [Input] [Input] [Input] [Output] [High] [Output] [High] [Output]	Set DIO as Input or Output
Output Level	[High]	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit



Options summary:

DIO Port5~8	Output
Set DIO as Output.	K
Output Level	Low
	High
Set output level when DIO pin is output.	I

4.4.8 Advanced: Power Management

Apti Advanced	o Setup Utility –	Copyright (C)	2017 American	Megatrends, Inc.
Power Management				Select system power mode.
Power Mode Restore AC Power L	OSS	(ATX Type) [Last State]		
				<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Ven			2017 American M	egatrends, Inc.

Power Mode	АТХ Туре	
	АТ Туре	
Select Power Supply Mode.		
Restore AC Power Loss	Power Off	
	Power On	
	Last State	
Select AC power state when power is re-	applied after a power failure.	



4.5 Setup Submenu: Chipset



4.5.1 Chipset: System Agent (SA) Configuration





4.5.1.1 System Agent (SA) Configuration: Graphics Configuration

Aptio Setu; Chipset) Utility – Copyright (C) 2017 American	Megatrends, Inc.
Graphics Configuration		VT-d capability
VT-d		
Primary Display Primary IGFX Boot Display	[Auto] (VBIOS Default]	
		++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2	18.1263. Copyright (C) 2017 American M	egatrends, Inc.

VT-d	Enabled	
	Disabled	
VT-d capability.		
Primary Display	Auto	
	IGFX	
	PEG	
Select which of IGFX/PEG/PCI Graphics device should be SG for Switchable Gfx.	Primary Display Or select	
Primary IGFX Boot Display	VBIOS Default	
	HDMI	
	DP	
Select the Video Device which will be activated during PC Secondary boot display selection will appear based on yo primary display.	DST. This has no effect if external graphics present. our selection. VGA modes will be supported only on	



4.6 Setup Submenu: Security



Change User/Administrator Password

You can set a User Password once an Administrator Password is set. The password will be required during boot up, or when the user enters the Setup utility. Please Note that a User Password does not provide access to many of the features in the Setup utility.

Select the password you wish to set, press Enter to open a dialog box to enter your password (you can enter no more than six letters or numbers). Press Enter to confirm your entry, after which you will be prompted to retype your password for a final confirmation. Press Enter again after you have retyped it correctly.

Removing the Password

Highlight this item and type in the current password. At the next dialog box press Enter to disable password protection.



4.7 Setup Submenu: Boot

- Aptio Setup Utility Main Advanced Chipset Security	- Copyright (C) 2017 American Boot Save & Exit	Megatrends, Inc.
Boot Configuration		Enables or disables Quiet Boot
Quiet Boot Launch PXE ROM	[Enabled] [Disabled]	opt101
Boot Option Priorities		
		++: Select Screen 14: Select Item
		Enter: Select +/-: Change Opt.
		F1: General Help F2: Previous Values F3: Optimized Defaults
		F4: Save & Exit ESC: Exit

Options summary:

Quite Boot	Disabled	
	Enabled	
Enables or disables Quiet Boot option.		
Launch PXE ROM	Disabled	
	Enabled	
Controls the execution of UEFI and Legacy PXE OpROM		

4.8 Setup submenu: Save & Exit



Chapter

5

5. Specification

Model No.		elVP5600
System	Processor	Intel® 7th Gen. Core™ i5/i7 Processor
	Main Memory	Up to 32GB, DDR4 260-pin SODIMM (optional)
Video	Format	H.264 / H.265
	Video Input	Up to 8 IP cameras
	Video Output	HDMI x 1, DP x 1
Audio	Audio Input	Mic-in x 1
	Audio Output	Line-out x 1
Recording	Format	H.264 / H.265
	Resolution	1920 x 1080 at 30fps (NTSC) / 25fps (PAL)
Storage	Internal HDD Bay	2.5" HDD x 2 (optional)
	Removable SSD	Hot swappable 2.5" SSD x 2 (project base) via extension module
	RAID	0/1
	CE / Cfast / mSATA	mSATA slot x 1
Network	Ethernet	RTL8111E 10/100/1000 based; GbE port x 2; PoE port x 4 (up to 8) (IEEE 802.3 at/af)
		* Every 4 PoE ports shares 60W of power budget
	Wi-Fi	Supported
	3G / 4G	Supported
	GPS / G-Sensor	On board (GPS/GLONASS), G-Sensor
Alarm	Alarm Input	Digital input x 4 (wet/dry contact with Isolation Protection 3,000 VDC)
	Alarm Output	Digital output x 4 (compatible 5 V/TTL, 31mA max. per channel)
Interface	Front I/O Panel	Power button x 1 3G/4G/WIFI LED x 3 USB3.0 x 4 GbE port (RJ-45) x 2 PoE LAN x 4 (IEEE 802.3 at/af), max. 8 ports DP x 1 Reset button x 1



Interface	Rear I/O Panel	DC-In power x 1 Remote power x 1 8-bit DIO x 1 4ch digital input (wet/dry contact with Isolation Protection 3,000 VDC) 4ch digital output (compatible 5 V/TTL, 31mA max. per channel) DC 12V/1A output x 1 RS-232/422/485 x 2 HDMI x 1 CanBus connector x 1 Audio line-out x 1 Mic-in x 1 SIM slot x 2
	Expansion Slot	Mini-Card slot x 3 (USB2.0 x 2 + PCIe & USB 2.0 x 1) Built-in CAN 2.0B x 1
General	Power Supply	DC 10-36V, with ignition pin
	Dimensions (W x D X H)	6.85" x 8.07" x 2.76" / 174mm x 205mm x 70mm (without bracket)
	Gross Weight	5.7lb (2.6kg)
	Operating	-4°F ~ 158°F (-20°C ~ 70°C); Project base: -40°C ~ 85°C
	Storage	-40°F ~ 185°F (-40°C ~ 85°C)
	Storage Humidity	10%~80% @40°C, non-condensing
	Vibration/Shock	MIL-STD-810G
	Certification	CE & FCC Class A, RoHS

Note: All specifications are subject to change without notice.

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