

User Manual

ARK-DS306

Compact Digital Signage Computer



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Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For outof-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

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- 3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
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- 5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Declaration of Conformity

FCC Class A

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Technical Support and Assistance

- 1. Visit the Advantech website at www.advantech.com/support where you can find the latest information about the product.
- 2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

Warnings, Cautions and Notes

Warning! Warnings indicate conditions, which if not observed, can cause personal injury!





Caution! Cautions are included to help you avoid damaging hardware or losing data. e.g.

There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.



Notes provide optional additional information.

Safety Instructions

- 1. Read these safety instructions carefully.
- 2. Keep this User Manual for later reference.
- 3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
- 4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
- 5. Keep this equipment away from humidity.
- 6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
- 7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
- 8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- 9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- 10. All cautions and warnings on the equipment should be noted.
- 11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
- 12. Never pour any liquid into an opening. This may cause fire or electrical shock.
- 13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
- 14. If one of the following situations arises, get the equipment checked by service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated the equipment.
 - The equipment has been exposed to moisture.
 - The equipment does not work well, or you cannot get it to work according to the user's manual.
 - The equipment has been dropped and damaged.
 - The equipment has obvious signs of breakage.
- 15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.
- 16. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

RESTRICTED ACCESS AREA: The equipment should only be installed in a Restricted Access Area.

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Packing List

Before installation, please ensure the following items have been shipped:

- 1 x ARK-DS306 Unit
- 1 x Driver/Utility CD/manual
- 1 x China RoHS
- 1 x Simplified Chinese User Manual for CCC
- 1 x Mounting plate set
- 1 x Power adapter AC 90-264 V, 36 W

Power Cord

Part Number	Description
1700001524	Power cable 3-pin 180 cm, US/UL
170203183C	Power cable 3-pin 183 cm, EU
170203180A	Power cable 3-pin 180 cm, UK
1700008921	Power cable 3-pin 180 cm, PSE compatible for Japan
1700019146	Power cable 3-pin 183 cm, CCC

Optional Accessories

Model Number	Description		
AMO-WIFI01E	WIFI 802.11 b/g/n miniPCIe module (w/ cable and antenna)		
AMO-HSDPA01E	HSDPA mini PCIe module (w/ antenna)		
AMK-V001E	VESA Mount Kit		
AMK-V002E	VESA Mount Kit for ARM		

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General Introduction

This chapter gives background information on ARK-DS306 series.

1.1 Introduction

Advantech ARK-DS306 is a cost effective, energy-saving and fanless digital signage media player that uses AMD G-series dual core APU with FCH M1 chipset solution. ARK-DS306 can support up to 1080p full HD video playback performance via many popular players and content formats. ARKDS306 also can support dual content output via the HDMI and VGA ports. I/O interface include: two USB 2.0, two COM ports and audio function for diversified applications. Furthermore, unlike consumer-grade, off-the-shelf, thin client products, Advantech ARK-DS306 comes with specific BIOS settings for digital signage applications, such as system Wake-on-LAN, Power On after Power Failure setting, power on timer setting. The embedded watchdog timer allows for near 100% uptime.

1.2 Product Features

1.2.1 General

- AMD T40N dual core 1.0 GHz APU + M1 FCH
- Supports dual display VGA + HDMI
- Supports 2 x GbE , 2 x USB 2.0, 2 x COM and audio functions
- Internal 2.5-inch SATA HDD drive bay and Cfast slot
- Built-in MiniPCIe slot for easy expansion e.g. WiFi, TV-tuner, etc
- Easy integration and easy maintenance

1.2.2 Display

Dual-display support; up to 1080p full HD video playback performance (but subject to the video media format and playback software)

1.2.3 Power Consumption

- **Typical:** 9 W (w/o expansion)
- Max.: 13 W (w/o expansion)

1.3 Hardware Specifications

- CPU: AMD T40N dual core 1.0 GHz
- System Chipset: AMD M1 FCH
- BIOS: AMI EFI 16 Mbit Flash BIOS
- System Memory: 1 x 204-pin SODIMM socket DDR3 up to 4 GB
- **Graphic chipset:** Integrated AMD T40N APU
- **SSD:** Supports 1 x Cfast Card slot
- HDD: Supports 1 x 2.5" SATA HDD drive bay
- Watchdog Timer: Single chip watchdog 255-level interval timer, setup by software
- I/O Interface: 2 x RS-232
- **USB:** 2 x USB 2.0 compliant ports
- Audio: Supports line-out, microphone-in and Line-in
- Ethernet Chipset: 2 x Realtek RTL8111E-VB-GR (Gigabit LAN)
 - Speed: 10/100/1000 Mbps
 - Interface: 2 x RJ-45 jacks with LED
 - Standard: IEEE 802.3z/ab (1000 Base-T) or IEEE 802.3u 100 Base-T compliant

- Expansion:
 - miniPCIe: 1 socket
- Resolution:
 - VGA: up to 1920 x 1080 at 60 Hz;
 - HDMI: up to 1920 x 1080 at 60 Hz (1080P)
- Dual Independent: VGA + HDMI

1.4 Mechanical Specifications

1.4.1 **Dimensions**

204.0 x 118.2 x 47.4 mm (8.03" x 4.65" x 1.87")





1.4.2 Weight

1.1 kg (2.42 lb.)

1.5 Power Requirements

1.5.1 System Power

Minimum power input: DC 12 V, 3 A

1.5.2 RTC Battery 3 V/210 mAH

1.6 Environment Specification

1.6.1 Operating Temperature

0° C ~ 40° C (32 ~ 104° F) w/ HDD; 0° C ~ 50° C (32 ~ 122° F) w/ Cfast card

1.6.2 Relative Humidity

95% @ 40° C (non-condensing)

1.6.3 Storage Temperature -20 ~ 70° C (-4 ~ 167° F)

1.6.4 Vibration Loading During Operation 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.

1.6.5 Shock During Operation

20 G, IEC 60068-2-27, half sine, 11 ms duration

1.6.6 Safety UL, CCC, BSMI

1.6.7 **EMC**

CE, FCC, CCC



Hardware Installation

This chapter introduces external I/O and the installation of ARK-DS306 Hardware.

2.1 ARK-DS306 I/O Connectors



Figure 2.1 ARK-DS306 Front View



Figure 2.2 ARK-DS306 Rear View

2.2 ARK-DS306 Front Side External I/O Connectors

2.2.1 Power ON/OFF Button

ARK-DS306 has a power ON/OFF button on front side. Push this button to turn the system ON and OFF.



Figure 2.3 Power ON/OFF Button

2.2.2 USB Connectors

The ARK-DS306 provides four USB interface connectors, which gives complete Plug & Play and hot swapping capability for up to 127 external devices. The USB interface is compliant with USB UHCI, Rev. 2.0. The USB interface supports Plug and Play, which enables you to connect or disconnect a device without turning off the computer.



Figure 2.4 USB Port Connector

Table 2.1: USB Port Pin Assignments			
Pin	Signal Name		
1	VCC		
2	USB Data-		
3	USB Data+		
4	GND		

2.2.3 HDMI Connector

The HDMI (High-Definition Multimedia Interface) provides an all-digital audio/video interface to transmit the uncompressed audio/video signals and is HDCP compliant. Connect the HDMI audio/video device to this port. HDMI technology can support a maximum resolution of 1920x1080P but the actual resolution supported depend on the monitor being used.



Figure 2.5 HDMI Connector

Table 2.2: HDMI Co	nnector Pin Assignments
Pin	Signal Name
1	TMDS Data2+
2	GND
3	TMDS Data2-
4	TMDS Data1+
5	GND
6	TMDS Data1-
7	TMDS Data0+
8	GND
9	TMDS Data0-
10	TMDS Clock+
11	GND
12	TMDS Clock-
13	NC
14	NC
15	SCL
16	SDA
17	GND
18	+5 V Power
19	Detect

2.2.4 VGA Connector

The ARK-DS306 provides a high resolution VGA interface connected by a D-SUB 15-pin connector to support VGA CRT compatible monitors.



Figure 2.6 VGA Connector

Table 2.3: VGA Con	nector Pin Assignments
Pin	Signal Name
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	+V5
10	GND
11	NC
12	DDC DAT
13	H-SYNC
14	V-SYNC
15	DDC CLK

2.2.5 LAN Connectors

The ARK-DS306 provides two RJ45 LAN interface connector, they are fully compliant with IEEE 802.3u 10/100/1000 Base-T CSMA/CD standards. The Ethernet port provides a standard RJ45 jack connector with LED indicators on the front side to show its Active/Link status and speed status.



Figure 2.7 Ethernet Connector

Table 2.4: LAN Cor	nnector Pin Assignments
Pin	Signal Name
1	MDI0+
2	MDI0-
3	MDI1+
4	MDI1-
5	GND
6	GND
7	MDI2+
8	MDI2-
9	MDI3+
10	MDI3-
11	VCC
12	ACT
13	Link100#
14	Link1000#

2.2.6 DC Input connector

The ARK-DS306 comes with a DC-jack header that takes 12 V_{DC} external power input.



Figure 2.8 Power Input Connector

2.3 ARK-DS306 Rear Side External I/O Connectors

2.3.1 COM Connectors

The ARK-DS306 provides two D-SUB 9-pin connector serial communication interface port. The port support RS-232 mode communication.



Figure 2.9 COM connector

Table 2.5: COM Port Pin Assignments			
Pin	Signal Name		
1	DCD		
2	RxD		
3	TxD		
4	DTR		
5	GND		
6	DSR		
7	RTS		
8	CTS		
9	RI		

2.3.2 Audio Connector

The ARK-DS306 offers stereo audio ports by three phone jack connectors of Speaker out, Line In, Mic-In, the audio chip control vendor by Realtek, it's compliant with Azalia standard, the Speaker Out support 3D surround stereo sound.



Figure 2.10 MIC, Line-in and Line-out Connector

2.4 HW Installation

2.4.1 Memory & HDD Installation

- 1. Remove the Top heatsink cover by loosening the fixing screws then insert memory into the SO-DIMM socket.
- 2. Remove the bottom cover by loosening the fixing screws, fix the HDD with screws and connect SATA cables to the HDD.



Figure 2.11 Memory & HDD Installation

2.4.2 CFast Card Installation

- 1. Loosening the fixing screws and taking out of the CFast bracket.
- 2. Install CFast card on the CFast bracket.
- 3. Insert the bracket with CFast card to the system and fix the screws.



Figure 2.12 CFast card Installation

2.4.3 Mini PCIe WLAN Installation

- 1. Remove the bottom cover by loosening the fixing screws then insert Mini PCIe WLAN module into the socket.
- 2. Install the WLAN cable and antenna.



Figure 2.13 Mini PCIe WLAN Installation



BIOS Settings

3.1 Introduction

AMIBIOS has been integrated into many motherboards for over a decade. With the AMIBIOS Setup program, you can modify BIOS settings and control the various system features. This chapter describes the basic navigation of the ARK-DS306 BIOS setup screens.

Aptio Setup Uti Main Advanced Chipset Boo	lity – Copyright (C) 2011 Ameri t Security Save & Exit	can Megatrends, Inc.
BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time	American Megatrends 4.6.4.1 0.15 x64 UEFI 2.1 ARK-D306 A306X015 12/14/2011 13:42:27	Set the Date. Use Tab to switch between Data elements.
Memory Information		10 m
Total Memory	2032 MB (DDR3)	
System Date System Time	[Fri 09/30/2011] [10:37:23]	
Access Level	Administrator	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.11.1	210. Copyright (C) 2011 America	an Megatrends, Inc.

AMI's BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This information is stored in battery-backed CMOS so it retains the Setup information when the power is turned off.

3.2 Entering Setup

Turn on the computer and check for the "patch" code. If there is a number assigned to the patch code, it means that the BIOS supports your CPU. If there is no number assigned to the patch code, please contact an Advantech application engineer to obtain an up-to-date patch code file. This will ensure that your CPU°Æs system status is valid. After ensuring that you have a number assigned to the patch code, press and you will immediately be allowed to enter Setup.

3.2.1 Main Setup

When you first enter the BIOS Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.

		Set the bate. Use lab tu
BIOS Vendor	American Megatrends	switch between Data elements.
Core Version	4.6.4.1 0.15 x64	
Compliancy	UEFI 2.1	
Project Version	ARK-D306 A306X015	
Build Date and Time	12/14/2011 13:42:27	
Memory Information		
Total Memory	2032 MB (DDR3)	
	[Fri 09/30/2011]	
System Time	[10:37:23]	
Access Level	Administrator	++: Select Screen
		↑↓: Select Item
		Enter: Select
		+/-: Change Opt.
		F1: General Help
		F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit
		ESC: Exit

The Main BIOS setup screen has two main frames. The left frame displays all the options that can be configured. Grayed-out options cannot be configured; options in blue can. The right frame displays the key legend.

Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it.

System date / System time

Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time must be entered in HH:MM:SS format.

3.2.2 Advanced BIOS Features Setup

Select the Advanced tab from the ARK-DS306 setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as CPU Configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section. The Advanced BIOS Setup screens is shown below. The sub menus are described on the following pages.

Aptio Setup Utility Main Advanced Chipset Boot S	<mark>) – Copyright (C) 2011 American</mark> Recurity Save & Exit) Megatrends, Inc.
Legacy OpROM Support Launch PXE OpROM Launch Storage OpROM PCI Subsystem Settings ACPI Settings CPU Configuration IDE Configuration USB Configuration Embeded Controller Configuration Super IO Configuration	[Disabled] [Enabled]	Enable or Disable Boot Option for Legacy Network Devices.
		++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.11.1210.	Copyright (C) 2011 American M	legatrends, Inc.

Launch PXE OpROM

Enable or disable boot option for legacy network devices.

Launch Storage OpROM

Enable or disable boot option for legacy mass storage with option ROM.

3.2.2.1 PCI Subsystem Settings Configuration

Aptio Setup Utility Advanced	y – Copyright (C) 2011 Americ	can Megatrends, Inc.
PCI Bus Driver Version	V 2.04.00	In case of multiple Option
PCI Option ROM Handling PCI ROM Priority	[EFI Compatible ROM]	Compatible), specifies what PCI Option ROM to launch.
PCI Common Settings Settings PCI Latency Timer VGA Palette Snoop PERR# Generation SERR# Generation	[32 PCI Bus Clocks] [Disabled] [Disabled] [Disabled]	
▶ PCI Express Settings		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.11.1210.	Copyright (C) 2011 Americar	n Megatrends, Inc.

PCI ROM Priority

This item allows you to select the EFI ROM and Legacy ROM priority.

PCI Latency Timer

This item allows you to select the 32/64/96/128/160/192/224/248 PCI bus clocks.

- VGA Palette Snoop Enabled or disable VGA palette registers snooping.
- PERR# Generation Enabled or disable PCI device to generation PERR#.
- SERR# Generation Enabled or disable PCI device to generation SERR#.
- PCI Express Settings Change PCI express device detail settings.

3.2.2.2 ACPI Settings Configuration



ACPI Sleep State

Select the ACPI state used for system suspend.

 S3 Video Repost Enable or disable video repost.

3.2.2.3 CPU Configuration

Aptio Setup Utili Advanced	ty – Copyright (C) 2011 A	merican Megatrends, Inc.
CPU Configuration		Disabled for Windows XP
Limit CPUID Maximum PSS Support PSTATE Adjustment PPC Adjustment NX Mode SVM Mode C6 Mode C6 Mode Cpb Mode Node 0 Information	[Disabled] [Enabled] [PState 0] [Fstate 0] [Enabled] [Enabled] [Auto] [Auto]	
		<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 2.11.121	0. Copyright (C) 2011 Ame	rican Megatrends, Inc.

Limit CPUID Maximum

This item allows you to disabled for Windows XP.

PPS Support This item allows you to enable or disable the ACPI _PPC, _PSS, and _PCT objects.

- PSTATE Adjustment This item allows you to provide P-state level.
- PPC Adjustment This item allows you to provide PPC object.

NX Mode

This item allows you to enable or disable the No-execute page protection function.

SVM Mode

This item allows you to enable or disable the CPU virtualization.

C6 Mode

This item allows you to auto or disable C6 function.

 Cpb Mode This item allows you to auto or disable CPB.

Node 0 Information

View detail of memory information related to node 0.

3.2.2.4 IDE Configuration

Advanc	Aptio Setup Utili ed	ty – Copyright (C) 2011	l American Megatrends, Inc.
IDE Configura	tion		
SATA PortO SATA Port1 SATA Port2 SATA Port3		Not Present Not Present Not Present Not Present	
			++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. El: Ceneral Helm
			F1: deferatives F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.11.121	0. Copyright (C) 2011 A	American Megatrends, Inc.

IDE Configuration

Display SATA Port0 / SATA Port1 / SATA Port2 / SATA Port3 information.

3.2.2.5 USB Configuration



Legacy USB Support

Enables support for legacy USB. Auto option disables legacy support if no USB devices are connected.

EHCI Hand-Off This is a workaround for OSes without EHCI hand-off support. The EHCI ownership change should claim by EHCI driver.

USB transfer time-out Time-out value for control, Bulk, and interrupt transfers.

Device reset time-out

USB mass storage device start unit command time-out.

Device power-up delay

Maximum time the device will take before it properly report itself to the host controller.

3.2.2.6 Embeded Controller Configuration

Aptio Setup Utility Advanced	y – Copyright (C) 2011 American	n Megatrends, Inc.
EC Firmware Version EC iManager WatchDog IRQ EC Power Saving Mode EC Hardware Monitor	0010 [IRQ5] [Normal]	Select Irq Number eBrain WatchDog
EC iManager Smart FAN CPU Temperature	[Enabled] : +77 C/ +172 F	
VBAT +VSSB +Vin Vcore Current FAN Speed Backlight Enable Polarity EC Watch Dog Function	: +3.000 V : +5.072 V : +11.976 V : +1.293 V : +1.712 A : 4203 RPM [DC mode] [Disable]	<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.11.1210.	Copyright (C) 2011 American M	Megatrends. Inc.

EC iManager WatchDog IRQ

This item allows you to select IRQ number for watchdog.

EC Power Saving Mode

This item allows you to select normal or deep sleep power saving.

EC iManager Smart FAN This item allows you to enable or disable EC smart FAN control.

Temperature & Voltage show

- CPU Temperature VBAT / +V5SB / +Vin / Vcore /
- Current Display current.
- Fan Speed show Display Fan Speed RPM.
- Backlight Enable Polarity This item allows you to select
 - This item allows you to select polarity for PWM or DC mode.

EC Watch Dog Function This item allows you to select watch dog timer.

3.2.2.7 Super I/O Configuration



Serial Port1 / Port2 address

This item allows you to select serial port1 ~ port2 of base addresses.

- Serial Port1 / Port2 IRQ This item allows you to select serial port1 ~ port2 of IRQ.
- Auto Flow Control for Serial Port1 This item allows you to enable or disable auto flow control function.

3.2.3 Chipset Configuration

▶ North Bridge	
 Display Config Select South Bridge 	North Bridge Parameters
	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

- North Bridge Detail for North Bridge items.
- Display Config Select Detail for display items.
- South Bridge Detail for South Bridge items.

3.2.3.1 North Bridge Configuration

Aptio Setup Utility – Copyright (C) 2011 American <mark>Chipset</mark>	Megatrends, Inc.
North Bridge Configuration	GFX Configuration
Memory Information Memory Clock: 1066 MHZ Total Memory: 2032 MB (DDR3)	
▶ GFX Configuration	
 Memory Configuration Node 0 Information 	
	↑↓: Select Item
	Enter: Select
	F1: General Help
	F2: Previous Values
	F3: Uptimized Defaults F4: Save & Exit
	ESC: Exit
Version 2.11.1210. Copyright (C) 2011 American Me	egatrends, Inc.

- GFX Configuration Detail of LAN1/LAN2, and PSPP Policy items.
- Memory Configuration Detail of Bank Interleaving, IOMMU Mode, and Memory Clock items.
- Node 0 Information Detail of memory information.

Chapter 3 BIOS Settings

3.2.3.2 Display Configuration Select

Specify Display options Select Disabled] LVDS [Disabled] HDMI [Enabled] **: Select Screen 1L: Select Item Enter: Select */-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	Aptio Setup Utility - Chipset	- Copyright (C) 2011 America	n Megatrends, Inc.
++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	Specify Display options Select LVDS HDMI	[Disabled] [Enabled]	NB PCIE Connect Type (Display device)
			<pre>#: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>

HDMI

This item allows you to enable or disable HDMI function.

3.2.3.3 South Bridge



- SB SATA Configuration Options for SATA configuration.
- SB GPP Port Configuration Options for SB GPP port configuration.
- SB HD Azalia Configuration Options for SB HD Azalia.
- MINI Card/M-SATA This item allows you to select MINI card or M-SATA.

3.2.4 Boot Configuration



Setup Prompt Timeout

This item allows you to change number of seconds to wait for setup activation key.

- Bootup NumLock State Select the Power-on state for Numlock.
- Quiet Boot

If this option is set to Disabled, the BIOS displays normal POST messages. If Enabled, an OEM Logo is shown instead of POST messages.

Fast Boot

This item allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.

GateA20 Active

This item allows you to select Upon request or Always.

Option ROM Messages

Set display mode for option ROM.

Interrupt 19 Capture This item allows option ROMs to trap interrupt 19.

Boot Option

Sets the system boot order.

3.2.5 Security Configuration



Select Security Setup from the ARK-DS306 Setup main BIOS setup menu. All Security Setup options, such as password protection and virus protection are described in this section. To access the sub menu for the following items, select the item and press <Enter>:

Change Administrator / User Password

3.2.6 Save & Exit

Aptio Setup Utility – Copyright (C) 20 Main Advanced Chipset Boot Security <mark>Save & Ex</mark>	011 American Megatrends, Inc. It
Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset	Exit system setup after saving the changes.
Save Options Save Changes Discard Changes	
Restore Defaults Save as User Defaults Restore User Defaults	
Boot Override UEFI: Built-in EFI Shell	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.11.1210. Copyright (C) 2011	. American Megatrends, Inc.

Save Changes and Exit

This item allows you to exit system setup after saving the changes.

Discard Changes and Exit This item allows you to exit system setup without saving any changes.

- Save Changes and Reset This item allows you to reset the system after saving the changes.
- Discard Changes and Reset This item allows you to rest system setup without saving any changes.
- Save Changes This item allows you to save changes done so far to any of the options.
- Discard Changes This item allows you to disccard changes done so far to any of the options.
- Restore Defaults This item allows you to restore/load default values for all the options.
- Save as User Defaults This item allows you to save the changes done so far as user defaults.

Restore User Defaults

This item allows you to restore the user defaults to all the options.

Boot Override

Boot device select can override your boot priority.

ARK-DS306 User Manual



Software Installation

This chapter introduces driver installation.

4.1 Driver Installation

4.1.1 CPU Driver Installation

1. Change folder address. And double click to Setup.exe.



Chapter 4 Software Installation

2. Select language and Click "Next" bottom to the next step.

AMD - Catalyst™ Install Manager - Version: 03.00.0838		×
Welcome		
Welcome	Welcome Catalyst™ Install Manager is used to install and update the software for your graphics products Language Support Which language would you like Catalyst™ Install Manager to display? English	
	Nttp.//www.amd.com	

3. Click "Install" button to start Installation.



Chapter 4 Software Installation

4. Select Express or Custom Install and then click "Next".



5. Click "Accept" to end user License Agreement.

End User License Agreement		×
		_
End User License Agreement	^	
PLEASE READ THIS LICENSE CAREFULLY BEFORE USING THE SOFTWARE. BY USI SOFTWARE, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THIS LICENSE.	ING THE	
WARNING: The Materials may disable or alter: (1) software including features and the operating system, drivers and applications, and other system settings; and (2) services. WHEN THE MATERIALS ARE USED TO DISABLE OR ALTER THESE ITEMS OR PART, YOU MAY EXPERIENCE (A) INCREASED RISKS THAT CERTAIN SECURIT FUNCTIONS DO NOT FUNCTION THEREBY EXPOSING YOUR COMPUTER SYSTEM T POTENTIAL SECURITY THREATS INCLUDING, WITHOUT LIMITATION, HARM FROM WORMS AND OTHER HARMFUL SOFTWARE; (B) PERFORMANCE AND INTEROPER. ISSUES THAT MAY ADVERSELY AFFECT YOUR EXPERIENCE AND THE STABILITY O COMPUTING SYSTEM; AND (C) OTHER EXPERIENCES RESULTING IN ADVERSE EFF INCLUDING, BUT NOT LIMITED, TO DATA CORRUPTION OR LOSS.	functions in) system IN WHOLE Y O M VIRUSES, ABILITY F YOUR ECTS,	
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6. If the folder is not exist, Click "Yes" to create this folder.



7. Click "Finish" bottom. Then the driver installation is completed.



8. Select "Yes". The computer will restart automatically.



4.1.2 LAN Driver Installation

1. Change folder address to \Drivers\LAN. And double click to execute Setup.exe.



2. Click "Next" bottom to the next step.



3. Click "Install" button to start Installation.



4. The network driver installation is completed. Click "Finish" button to exit InstallShield.

REALTEK GbE & FE Ethernet	PCI-E NIC Driver - InstallShield Wizard InstallShield Wizard Complete The InstallShield Wizard has successfully installed REALTEK GbE & FE Ethernet PCI-E NIC Driver.
	Llick Finish to exit the Wizard.
Install Shield	Cancel

4.1.3 Audio Driver Installation

1. Change folder address to \AUDIO. And double click to execute Setup.exe.



2. Click "Next" bottom to skip welcome message.



3. Select "Yes, I want to restart this computer now." and click "Finish" bottom. The computer will restart automatically. Then the driver installation is completed.

Realtek High Definition Audio Driver Setup (3.30) R2.63	
	InstallShield Wizard Complete The InstallShield Wizard has successfully installed Realtek High Definition Audio Driver. Before you can use the program, you must restart your computer.
	 Yes, I want to restart my computer now. No, I will restart my computer later. Remove any disks from their drives, and then click Finish to complete setup.
InstallShield	< Back Finish Cancel

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