

User Manual

DS-370

Cost-Effective Fanless Digital Signage Player



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Part No. 2006037010 Printed in China Edition 1 May 2015

Product Warranty (2 years)

Advantech warrants 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 that have been repaired or altered by persons other than repair personnel authorized by Advantech, or products that 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.

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- 1. Collect all information about the problem encountered (for example, CPU speed, Advantech products used, other hardware and software used, etc.). Note anything abnormal and list any onscreen messages displayed when the problem occurs.
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- 4. Carefully pack the defective product, a completed Repair and Replacement Order Card, and proof of the purchase date (such as a photocopy of your sales receipt) in a shippable container. Products returned without a proof of purchase date are not eligible for warranty service.
- 5. Write the RMA number clearly on the outside of the package; then ship the product prepaid to your dealer.

Technical Support and Assistance

- 1. Visit the Advantech website at http://support.advantech.com for the latest product information.
- 2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you require additional assistance. Please have the following information ready before calling:
 - 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 that if not observed can cause personal injury!





Caution! Cautions are included to help users avoid hardware damage and data loses.

For example,

"New batteries are at risk of exploding if 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 additional information.



Declaration of Conformity

FCC Class B

Note: This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Regulations. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the equipment does cause harmful interference to radio or television reception, as determined by turning the equipment off and on again, users are encouraged to try to correct the interference by performing one or more of the following actions:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

Packing List

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

- 1 x DS-370 unit
- 1 x accessory box comprising
 - 1 x power adaptor
 - 1 x bracket set for fixing the power adapter plug
 - 2 x mounting brackets
 - 1 x China RoHS
 - 1 x Simplified Chinese user manual for CCC
 - 1 x content management software
 - 4 x foot rubbers and screws

Optional Accessories

Part Number	Description
1700001524	3-pin power cord (US)
170203183C	3-pin power cord (EU)
170203180A	3-pin power cord (UK)
1702031836	3-pin power cord (AU)
1700008921	3-pin power cord with PSE approval (Japan)
1700019146	3-pin power cord with CCC approval (China)

Safety Instructions

- 1. Read these safety instructions carefully.
- 2. Retain this user manual for future reference.
- 3. Disconnect this equipment from all AC outlets before cleaning. Do not use liquid or spray detergents for cleaning. Instead, use only a damp cloth.
- 4. For pluggable equipment, the power outlet socket should be located nearby and easily accessible.
- 5. Protect this equipment from humidity.
- 6. Place this equipment on a reliable surface during installation. Dropping or letting the equipment fall can cause damage.
- 7. The openings on the enclosure are for air convection to protect the equipment from overheating. Do not cover the openings.
- 8. Ensure that power voltage is correct before connecting the equipment to a 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 not used for a long time, disconnect the equipment from the power source to avoid damage by transient overvoltage.
- 12. Never pour liquid into the openings. This can cause fire or electrical shock.
- 13. Never open the equipment. For safety reasons, the equipment should only be opened by qualified service personnel.
- 14. If one of the following occurs, have the equipment checked by authorized service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated the equipment.
 - The equipment has been exposed to moisture.
 - The equipment is malfunctioning, or does not operate according to the user manual.
 - The equipment has been dropped or damaged.
 - The equipment shows obvious signs of breakage.
- 15. Do not store this equipment in an environment where the temperature fluctuates below -20 °C (-4 °F) or above 60 °C (140 °F) as this can cause damage. The equipment should be stored in a controlled environment.
- 16. CAUTION: Batteries are at risk of exploding if incorrectly installed. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

ATTENTION: Risque d'explosion si la batterie est remplacee de maniere incorrecte. Remplacer uniquement avec un modèle recommandé par le fabricant, et éliminer les piles usagées selon les instructions du fabricant.

DISCLAIMER: These instructions are provided according to IEC 60950-1 (Ed. 2). Advantech disclaims all responsibility for the accuracy of statements contained herein.

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General Introduction

This chapter gives background information regarding the DS-370 series.

1.1 Introduction

DS-370 is an ideal digital signage player becuase it provides a system platform that is not only compact, but also cost effective. For digital signage applications, this device delivers a high graphics performance and energy saving benefits.

DS-370 is powered by an Intel[®] Celeron[®] J1900 quad-core processor, supports 3 display output interfaces (HDMI, DP++, and VGA), and can provide up to 2 display outputs simultaneously. The platform is also equipped with 64GB of micro SSD onboard storage for fast system boot and file read/write velocity. When used for kiosk applications, direct user manipulation exposes the system and software to potential alteration and damage. However, the built-in value-added software (write protection) eliminates this risk by ensuring that the system is returned to its original state with each reboot to provide users with a consistent use experience.

DS-370 features 2 gigabit LAN ports, 4 USB ports (3 \times USB 2.0 and 1 \times USB 3.0), as well as 2 \times COM (RS-232) and audio ports (1 \times mic-in and 1 \times SPDIF/line-out) to facilitate system integration and application. To enhance connectivity, the device also supports 2 mini PCIe interfaces to enable the inclusion of add-on functions, wireless modules, and/or 3G modules.

1.2 Product Features

1.2.1 General

- Intel® Celeron® J1900 quad-core, 2.0 GHz processor (CPU TDP up to 10 W)
- Features 1 x HDMI, 1 x DP++, and 1 x VGA port (supports dual display)
- Equipped with 64 GB of micro SSD on-board storage (optional)
- Supports 2 x GbE, 1 x USB 3.0, 3 x USB 2.0, and 2 x COM (RS-232) ports
- Features a 2.5" (7 mm height) SATA HDD/SSD drive bay for storage devices
- Built-in 2 x mini PCIe slots for easy expansion (e.g., WiFi, 3G...etc)
- Easy integration and maintenance

1.2.2 Display

- Resolution:
 - HDMI / DP++: up to 1920 x 1080 @60Hz
 - VGA: up to 2048 x 1280 @60Hz

1.2.3 Power Consumption

- Idle: 4.4 W (w/o expansion)
- Max.: 10.9 W (w/o expansion)

1.3 Hardware Specifications

- **CPU:** Intel® Celeron® J1900 quad-core, 2.0 GHz processor
- System Chipset: SoC solution with built-in Intel® Celeron® J1900 processor
- BIOS: AMI uEFI 64 Mbit Flash BIOS
- System Memory: 2 x DDR3L SO-DIMM sockets support up to 8 GB of DDR3L 1333 MHz memory (Max. 4 GB per SO-DIMM socket)
- Processor Graphics: Intel® HD Graphics
- HDD: Supports 1 x 2.5" (7 mm height) SATA HDD
- SSD: 64 GB MLC micro SSD on-board storage (optional) or shared 2.5" (7 mm height) SATA HDD drive bay
- Watchdog Timer: Supported by Advantech SUSIAccess API
- I/O Interface: 2 x RS-232
- USB: 1 x USB 3.0 and 3 x USB 2.0 ports
- Audio: Supports 1 x mic-in and 1 x SPDIF/line-out port
- Ethernet Chipset: 2 x Intel 211 (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

1.

- Mini PCIe: 2 internal sockets (full size)
- Note!

- The mini PCIe socket on the bottom supports an mSATA interface (This function is disabled if users choose the on-board micro SSD option.)
- 2. The SIM socket only functions with the mini PCIe module on the same side, and does not work with the mini PCIe socket on the bottom.

Resolution

- HDMI: Up to 1920 x 1080 @60 Hz
- DP++: Up to 1920 x 1080 @60 Hz
- VGA : Up to 2048 x 1280 @60 Hz

1.4 Mechanical Specifications

Dimensions: 204.0 x 118.2 x 44.2 mm (8.03 x 4.65 x 1.74") (W x D x H)



Figure 1.1 DS-370 mechanical dimensions

Weight: 1.1 kg (2.43 lb)

1.5 Power Requirements

- System Power:
 - Minimum power input: DC 19 V, 3.42 A
- RTC Battery: 3 V/195 mAH BR2032

1.6 Environmental Specifications

- Operating Temperature: 0 ~ 40 °C (32 ~ 104 °F)
- **Relative Humidity:** 95% @ 40 °C (non-condensing)
- Storage Temperature: -20 ~ 60 °C (-4 ~ 140 °F)
- Vibration Load During Operation: 0.5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz , 3 axes, 1 hr/axis.
- Shock During Operation: 10 G, IEC 60068-2-27, half sine, 11 ms duration
- Safety: UL, CB, BSMI, CCC
- EMC: CE/FCC Class B, BSMI, CCC



Hardware Installation

This chapter describes the DS-370 external I/O and explains the hard-ware installation process.

2.1 DS-370 Front and Rear Views



Figure 2.1 Front view



Figure 2.2 Rear view

2.2 DS-370 Front External I/O Connectors

2.2.1 Power ON/OFF Button

DS-370 features a power ON/OFF button located on the front. Press this button to turn the system ON or OFF. This feature also supports a 4-second-delay soft power off.



Figure 2.3 Power button

2.2.2 USB Connectors

At the front of DS-370 are two USB 2.0 interface connectors that provide complete plug-and-play and hot-swapping capabilities for up to 127 external devices. The two USB 2.0 interfaces are compliant with USB UHCI, Revision. 2.0.



Figure 2.4 USB connector

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

2.2.3 Ethernet Connector (LAN)

DS-370 features two RJ45 LAN interface connectors (one LAN at the front and one at the rear). These connectors are fully compliant with IEEE 802.3u 10/100/1000 Base-T CSMA/CD standards. The Ethernet port supports a standard RJ-45 jack connector, and LED indicators at the front of DS-370 display its active link and speed status.



Figure 2.5 LAN connector

Table 2.2: LAN Connector 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#		

2.2.4 COM Connector

DS-370 is equipped with two D-sub 9-pin connectors for serial communication interface ports. These ports support RS-232 mode communication.



Figure 2.6 COM connector

Table 2.3: 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		

2.2.5 Audio Connector

A microphone can be connected to the audio jack (pink) to provide either line-in or mic-in input functions.



Figure 2.7 Audio connector

2.2.6 S/PDIF Connector

The S/PDIF port enables transfers of digital sound to an amplifier or television, and supports jack sensing and line-out functions. Configuration can be conducted via the driver UI.



Figure 2.8 S/PDIF connector

2.3 DS-370 Rear External I/O Connectors

2.3.1 Power Input Connector

DS-370 features a DC jack header that requires an input of 19 V DC power.



Figure 2.9 DC input connector

2.3.2 VGA Connector

DS-370 supports one high-resolution VGA interface connected by a D-sub 15-pin connector.

5	$\left(\begin{array}{c} 0 \\ 0 \\ 0 \\ \end{array} \right)$	1
10	\ 00000/	6
15	$\left(00000 \right)$	11

Figure 2.10 VGA connector

Table 2.4: V	GA Connector Pin Assignments	
Pin	Signal Name	
1	RED	
2	GREEN	
3	BLUE	
4	NC	
5	GND	
6	GND	
7	GND	
8	GND	
9	NC	
10	GND	
11	NC	
12	DDC DAT	
13	H-SYNC	
14	V-SYNC	
15	DDC CLK	

2.3.3 HDMI Connector

DS-370 is equipped with HDMI connectors that provide an HDCP-compliant, all-digital audio/video interface for transmitting uncompressed audio/video signals. HDMI technology supports a maximum resolution of 1920 x 1080p (full HD); however, the actual resolution depends on the monitor used.



Figure 2.11 HDMI connector

Table 2.5: HDMI Co	onnector 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

Chapter 2 Hardware Installation

2.3.4 DP++ Connector

DS-370 features a DP++ connector for transmitting audio and video. This connector not only supports DP output, but also single-link HDMI and DVI signals via a simple passive adapter.



Figure 2.12 DP++ connector

Table 2.6: DP++ Connector Pin Assignments			
Pin	Signal Name		
1	ML_Lane 0 (p)		
2	GND		
3	ML_Lane 0 (n)		
4	ML_Lane 1 (p)		
5	GND		
6	ML_Lane 1 (n)		
7	ML_Lane 2 (p)		
8	GND		
9	ML_Lane 2 (n)		
10	ML_Lane 3 (p)		
11	GND		
12	ML_Lane 3 (n)		
13	CONFIG1		
14	CONFIG2		
15	AUX CH (p)		
16	GND		
17	AUX CH (n)		
18	Hot Plug		
19	Return		
20	DP_PWR		

2.3.5 USB Connectors

At the rear of DS-370 are two USB interface connectors (one USB 2.0 and one USB 3.0) that offer complete plug-and-play and hot-swapping capabilities for up to 127 external devices.

The USB 2.0 interface is compliant with USB UHCI, Revision. 2.0. (Refer to Table 2.1 for pin definitions.)

The USB 3.0 interface is compliant with USB UHCI, Revision 3.0. (Refer to Table 2.7 for pin definitions.)



Figure 2.13 USB 3.0 connector

Table 2.7: USB 3.0 Connector Pin Assignments		
Pin	Signal Name	
1	VBUS	
2	USB Data-	
3	USB Data+	
4	GND	
5	StdA_SSRX-	
6	StdA_SSRX+	
7	GND_DRAIN	
8	StdA_SSTX-	
9	StdA_SSTX+	

2.4 Hardware Installation

2.4.1 Memory Installation

- 1. Loosen the four screws that secure the top cover of the device.
- 2. Remove the heat-sink cover.
- 3. Insert the memory module into a memory socket.
- 4. Reattach the heat-sink cover and tighten the screws

Note! Use the DIMM 1 slot when installing only one RAM.





Figure 2.14 Memory module installation



Figure 2.15 Memory slot definition

Chapter 2 Hardware Installation

2.4.2 HDD Installation

- 1. Loosen the two screws on the side.
- 2. Loosen the four screws on the two sides of the bracket.
- 3. Insert the HDD into the bracket.
- 4. Reattach the bracket and tighten the four screws.





2.4.3 Mini PCIe and SIM Card Installation

[Top]

- 1. Loosen the four screws that secure the top cover of the device..
- 2. Remove the heat-sink cover.
- 3. Insert the mini PCIe module and SIM card into the apporpriate sockets.
- 4. Reattach the heat-sink cover and tighten the screws.



The SIM socket only functions with the mini PCIe module on the same side, and does not work with the socket on the bottom.



Figure 2.17 Mini PCIe and SIM card installation



Figure 2.18 Mini PCIe/SIM card installation

[Bottom]

- 1. Loosen the screw that secures the mini PCIe cover.
- 2. Remove the mini PCIe cover.
- 3. Insert the mini PCIe card into the socket.
- 4. Reattach the mini PCIe cover and tighten the screws.



Figure 2.19 Mini PCIe installation

2.4.4 Wireless LAN Card Antenna Installation

[Front]

- 1. Loosen the four screws on the top and remove the heat-sink cover.
- 2. Loosen the two screws on the side and remove the HD module.
- 3. Loosen the screw on the bottom and remove the PCIe cover.
- 4. Loosen the six screws in the front cover.
- 5. Loosen the four screws near the two COM ports then remove the front cover.
- 6. Attach the antenna to the front I/O panel.
- 7. Perform the above steps in reverse order to reassemble the device.



Figure 2.20 Antenna module installation - front

[Rear]

- 1. Loosen the four screws on the motherboard.
- 2. Detach the motherboard from the chassis.
- 3. Attach the antenna module to the back of the chassis.
- 4. Perform the above steps in reverse order to reassemble the device.



Figure 2.21 Antenna module installation - rear

2.4.5 Mount Bracket Installation

- 1. Loosen the two screws on the bottom of the chassis.
- 2. Align the screw holes in mount brackets with those in the chassis.
- 3. Attach the brackets to the chassis by tightening the four screws.
- 4. After affixing the mount brackets, the device can be mounted on a table or wall.



Figure 2.22 Mount bracket installation

2.4.6 Rubber Foot Installation

- 1. Loosen the two screws on the bottom of the chassis.
- 2. Retrieve the four rubber feet from the accessory box.
- 3. Attach the rubber feet to the four corners using the four screws provided in the acessory box.



Figure 2.23 Rubber foot installation



BIOS Settings

This chapter explains the BIOS configuration process.

3.1 **BIOS Introduction**

Using the AMI BIOS Setup program, users can modify the BIOS settings and control various system features. This chapter describes the basic navigation of the BIOS setup screens for the DS-370 series.

The AMI BIOS's ROM features a built-in setup program that allows users to modify the basic system configuration. This information is stored in the flash portion of the CMOS to ensure the setup information is retained even when the system is powered off.

3.2 Enter Setup

3.2.1 Main Setup

When first entering the BIOS Setup Utility, users will land on the Main setup screen. Users can always return to the Main setup screen by selecting the Main tab.

The Main BIOS setup screen features two main frames. The left frame displays all configurable options. The blue options can be configured, whereas the gray options cannot. The right frame displays the key legend, above which is an area reserved for text messages. When an option is selected in the left frame, the text becomes white and is often accompanied by a text message.

Aptio Setup Utili Main Advanced Chipset Secur	ty – Copyright (C) 2014 Americ Mity Boot Save & Exit	can Megatrends, Inc.
BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time Power Type	American Megatrends 5.0.1.0 0.19 x64 UEFI 2.4; PI 1.3 D370000DF60X012 12/23/2014 10:13:03 ATX	Set the Date. Use Tab to switch between Date elements.
Memory Information Memory Frequency Total Memory	1333 MHz 2048 MB (DDR3L)	
System Date System Time	[Mon 09/30/2013] [20:04:15]	++: Select Screen ↑↓: Select Item
Access Level	Administrator	Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.17.124	6. Copyright (C) 2014 Americar	n Megatrends, Inc.

Figure 3.1 Main setup screen

System Time/System Date

Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values via 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 Setup

Select the Advanced tab from the DS-370 setup screen to enter the Advanced BIOS setup screen. Users can select any item in the left frame of the screen, such as CPU configuration, to access the sub menu for that item. Use the <Arrow> keys to scroll through the Advanced BIOS Setup options. All Advanced BIOS Setup options are described in this section. The Advanced BIOS setup screens are shown below, and each sub menu is described in the following pages.

<pre>> Intel(R) Smart Connect Technology > ITE8528E Super IO Configuration > ITE8528E HW Monitor > S5 RTC Wake Settings > Serial Port Console Redirection > CPU Configuration > PPM Configuration > IDE Configuration > IDE Configuration > USB Configuration > USB Configuration > Security Configurati</pre>	Aptio Setup Utility – Copyr Main Advanced Chipset Security Boot	right (C) 2014 American Megatrends, Inc. Save & Exit
++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit	 Intel(R) Smart Connect Technology ITE8528E Super IO Configuration ITE8528E HW Monitor S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration PPM Configuration IDE Configuration Miscellaneous Configuration CSM Configuration USB Configuration 	System ACPI Parameters.
	Security configuration	<pre>fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit</pre>

Figure 3.2 Advanced BIOS setup screen

ACPI Settings

This item allows users to control hardware monitoring and power management.



Figure 3.3 ACPI setup screen

Intel® Smart Connect Technology Intel® Smart Connect Technology settings

- ISCT Notification Control Enable/disable ISCT support
- ISCT WLAN Power Control Enable/disable ISCT WLAN power support
- ISCT WWAN Power Control Enable/disable ISCT WWAN power support
- ISCT Sleep Duration Value Format
 The ISCT sleep duration value can only be displayed in seconds, the actual time is not a supported display format
- ISCT RF Kill Switch Type Select the software/hardware ISCR RF kill switch type
- ISCT RTC Timer Support
 Enable/disable the ISCT RTC timer

		Track to (Dirack to TOOT, Ownerst
ISCT Support	[Disabled]	Enable/Disable ISCT Support
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Figure 3.4 ISCT setup screen

■ ITE8528E Super I/O Configuration

System super I/O chip parameters

Aptio Setup Utility - Advanced	- Copyright (C) 2014 American	Megatrends, Inc.
ITE8528E Super IO Configuration Super IO Chip ▶ Serial Port 1 Configuration ▶ Serial Port 2 Configuration	ITE8528E		Set Parameters of Serial Port 1 (COMA)
			<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 2.17.1246. (Copyright (C)	2014 American Mo	egatrends, Inc.



ITE8528E HW Monitor

Hardware status (PC health) monitoring

Aptio Setup Utility – Advanced	Copyright (C) 2014 Americar	n Megatrends, Inc.
PC Health Status		
EC Firmware Version	I2886X0000	
CPU temperature System temperature1 +VBAT +5VSB +12V +5V +3.3V	: +39°C : +36°C : +35°C : +2.744 V : +4.990 V : +11.855 V : +5.008 V : +3.336 V	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.17.1246. C	opyright (C) 2014American ⊧	legatrends, Inc.

Figure 3.6 Hardware monitoring screen

S5 RTC Wake Settings

Enable the system to wake from S5 using a real-time clock (RTC) alarm



Figure 3.7 S5 RTC wake setup screen

Serial Port Console Redirection

Aptio Setup Utility – (Advanced	Copyright (C) 2014 American	Megatrends, Inc.
COM1 Console Redirection ▶ Console Redirection Settings Legacy Console Redirection ▶ Legacy Console Redirection Settings Serial Port for Out-of-Band Managemer		Console Redirection Enable or Disable.
Windows Emergency Management Services Console Redirection ▶ Console Redirection Settings	s (EMS) [Disabled]	<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults</pre>
Vacian 2 17 1215 - Ca	yyright (C) 2014 American M	F4: Save & Exit ESC: Exit

Figure 3.8 Serial port console redirection setup screen

CPU Configuration

CPU configuration parameters

Aptio Setup Utility - Advanced	- Copyright (C) 2014 Ameri	ican Megatrends, Inc.
CPU Configuration		Socket specific CPU Information
▶ Socket O CPU Information		
CPU Speed 64-bit	2001 MHz Supported	
Limit CPUID Maximum Execute Disable Bit Intel Virtualization Technology Power Technology	(Disabled) [Enabled] [Enabled] [Energy Efficient]	
		++: Select Screen f1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.17.1246. (Copyright (C) 2014 America	an Megatrends, Inc.



PPM Configuration

Enable/disable CPU C-state report to OS



Figure 3.10 CPU C-state report setup screen

IDE Configuration

IDE device configuration

Aptio Setup Utility - Advanced	Copyright (C) 2014 American	Megatrends, Inc.
IDE Configuration		Enable ∕ Disable Serial ATA
Serial-ATA (SATA)	[Enabled]	
SATA Speed Support SATA ODD Port SATA Mode	[Gen2] [No ODD] [AHCI Mode]	
Serial-ATA Port 1 SATA Port1 HotPlug	[Enabled] [Disabled]	
Serial-ATA Port 2 SATA Port2 HotPlug	[Enabled] [Disabled]	
SATA Port1 Not Present		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt.
SATA Port2 Not Present		F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2 17 1246 - Pe	pyright (C) 2014 American M	eratrands Inc

Figure 3.11 IDE configuration setup screen
Chapter 3 BIOS Settings

Miscellaneous Configuration

Enable/disable miscellaneous features

- High Precision Timer
 Enable/disable the high precision event timer
- PCI Express Dynamic Clock Gating
 Enable/disable PCIe dynamic clock gating
- OS Selection

The OS should be selected according to the available systems



Figure 3.12 Miscellaneous configuration setup screen

CSM Configuration

Enable/disable option ROM execution

Aptio Setup Utility – Advanced	Copyright (C) 2014 American	Megatrends, Inc.
Compatibility Support Module Config	Enable/Disable CSM Support.	
CSM Support	[Enabled]	
CSM16 Module Version	07.76	
GateA20 Active Option ROM Messages	[Upon Request] [Force BIOS]	
Boot option filter	[Legacy only]	
Option ROM execution		
Storage Video Other PCI devices	[Legacy] [Legacy] [Legacy]	<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 2.17.1246. Co	opyright (C) 2014 American M	egatrends, Inc.

Figure 3.13 Hardware monitor setup screen

USB Configuration

USB configuration parameters

- Legacy USB Support

Enable/disable legacy USB support. The Auto option disables legacy support if no USB devices are connected. The Disable option renders USB devices available for EFI applications only.

– XHCI Hand-Off

This provides a workaround for OS without XHCI hand-off support. The XHCI ownership change should be claimed by the XHCI driver.

- EHCI Hand-Off

This is a workaround for OS without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.

- USB Mass Storage Driver Support

Enable/disable USB mass storage driver support

- USB Transfer Timeout

Allows users to set the timeout value for control, bulk, and interrupt transfers; options include 1, 5, 10, and 20 seconds.

- Device Reset Timeout

Allows users to set the USB mass storage device start unit command timeout time; options include 10, 20, 30, and 40 seconds.

- Device Power-Up Delay

Enable/disable Auto or Manual USB mass storage device start unit command timeout.

USB Configuration		Enables Legacy USB support.
USB Module Version	8.11.02	AUTO option disables legacy support if no USB devices are connected. DISABLE option will
USB Devices: 1 Drive, 1 Keyboard, 4 Hubs		keep USB devices available only for EFI applications.
Legacy USB Support	[Enabled]	
XHCI Hand-off	[Enabled]	
EHCI Hand-off	[Disabled]	
USB Mass Storage Driver Support	[Enabled]	
USB hardware delays and time-outs:		
USB transfer time-out	[20 sec]	↔+: Select Screen
Device reset time-out	[20 sec]	↑↓: Select Item
Device power-up delay	[Auto]	Enter: Select
		+/-: Change Opt.
Mass Storage Devices:		F1: General Help
MultipleCard Reader 1.00	[Auto]	F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit
		ESC: Exit
		COU. EXIL

Figure 3.14 USB configuration setup screen

Security Configuration

Intel® Anti-Theft Technology configuration

Aptio Setup Utilit Advanced	:y – Copyright (C) 2014 f	American Megatrends, Inc.
Intel(R) TXE Configuration TXE TXE HMRFPO TXE Firmware Update TXE EOP Message TXE Unconfiguration Perform	[Enabled] [Disabled] [Enabled] [Enabled]	Send EOP Message Befor Enter OS
Intel(R) Anti-Theft Technology (Intel(R) AT Intel(R) AT Platform PBA Intel(R) AT Suspend Mode	Configuration [Disabled] [Enabled] [Disabled]	
		<pre> ++: Select Screen 1J: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.17.1240	5. Copyright (C) 2014 Ame	erican Megatrends, Inc.

Figure 3.15 Intel TXE configuration setup screen

3.2.3 BIOS Chipset Setup

Select the Chipset tab in the DS-370 BIOS Setup Utility to enter the BIOS Chipset setup screen. Users can select any item displayed in the left frame of the screen.

North Bridge

North Bridge parameters

- Memory Information
 - Max TOLUD: Maximum value of TOLUD

South Bridge

South Bridge parameters

- Azalia HD Audio
 Azalia HD audio options
- USB Configuration
 USB configuration settings
- XHCI Mode
 Enable/disable the XHCI controller
- USB2 Link Power Management
 Enable/disable USB2 link power management
- PCI Express Configuration
 PCI express configuration settings
- LAN1 Control
 Enable/disable LAN1
- LAN2 Control
 Enable/disable LAN2
- PXE OpROM
 Controls the .exe file
- Launch PXE OpROM
 Enable/disable boot options for legacy network devices
- PCle Wake

Enable/disable system wake from S5 via PCIe

- Restore AC Power Loss
 Select AC power state when power is re-applied after a power failure
- Global SMI Lock
 Enable/disable SMI lock
- BIOS Read/Write Protection
 Enable/disable BIOS SPI region read/write protection

Aptio Setup U Main Advanced Chipset S	<mark>tility – Copyright (C) 2014 Ame</mark> ecurity Boot Save & Exit	erican Megatrends, Inc.
CPU Configuration Microcode Patch	829	North Bridge Parameters
GOP Information Intel(R) GOP Driver TXE Information	[7.2.1008]	
Sec RC Version TXE FW Version	00.05.00.00 01.00.02.1060	
▶ North Bridge ▶ South Bridge		
		<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 2.17	.1246. Copyright (C) 2014 Ameri	ican Megatrends, Inc.

Figure 3.16 North Bridge and South Bridge setup screen

3.2.4 BIOS Security Setup

Select the Security tab from the setup screen to enter the BIOS Security setup screen.

assword Description		Set Administrator Password
If ONLY the Administrator's p then this only limits access only asked for when entering If ONLY the User's password and m boot or enter Setup. In Setup have Administrator rights. The password length must be in the following range: Minimum length	to Setup and is Setup. is set, then this ust be entered to	
Maximum length Administrator Password User Password	20	<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>



- Administrator Password
 Set an administrator password
- User Password
 Set a user password

3.2.5 BIOS Boot Setup

Select the Boot tab from the DS-370 setup screen to enter the BIOS Boot setup screen. Users can select any item in the left frame of the screen.

Aptio Setup Utility – Main Advanced Chipset Security	Copyright (C) 2014 American Boot Save & Exit	Megatrends, Inc.
Boot Configuration Setup Prompt Timeout Bootup NumLock State	1 [On]	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite
Quiet Boot Fast Boot	[Disabled] [Disabled]	waiting.
Boot Option Priorities Boot Option #1 Boot Option #2	[UEFI: MultipleCard] [UEFI: Built-in EFI]	
		<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.17.1246. C	opyright (C) 2014 American M	legatrends, Inc.

Figure 3.18 Boot configuration setup screen

Setup Prompt Timeout

Allows users to set the number of seconds to wait for a setup activation key. A value of 65535 (0xFFFF) means wait indefinitely.

- Bootup NumLock State
 Allows users to select the keyboard NumLock state
- Quiet Boot

Enable/disable quiet booting

Fast Boot

Enable/disable rapid booting by initializing the minimum number of devices necessary for launching the active boot option.

Boot Option #1 Set the system boot order

3.2.6 BIOS Save & Exit Setup

Select the Save & Exit tab from the setup screen to enter the BIOS Save & Exit setup screen.

Aptio Setup Utility – Copyright (C) 2014 American Main Advanced Chipset Security Boot Save & Exit	Megatrends, Inc.
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 Overnide UEFI: Built-in EFI Shell UEFI: MultipleCard Reader 1.00	<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt.</pre>
Launch EFI Shell from filesystem device ▶ Reset System with ME disable ModeMEUD000	F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.17.1246. Copyright (C) 2014 American M	egatrends. Inc.



Save Changes and Exit
Exit system setup after saving changes
Discard Changes and Exit
Exit system setup without saving changes
Save Changes and Reset
Reset the system after saving changes
Discard Changes and Reset
Reset the system without saving changes
Save Changes
Save changes to all setup options
Discard Changes
Discard changes to all setup options
Restore Defaults
Restore/load the default values for all setup options
Save as User Defaults
Save changes as User Defaults
Restore User Defaults
Restore the User Defaults to all setup options
Boot Override
– UEFI
Built-in EFI Shell

- Launch EFI Shell From File System Device

Allows users to launch the EFI Shell application (Shell.efi) from an available file system device

Reset System with ME Disable Mode MEUD000

Set ME to temporarily disabled mode, ignore if the ME ignition is FWMED001



Troubleshooting

For users experiencing errors or difficulty operating DS-370, try the solutions outlined in this chapter.

4.1 No Sound From SPDIF Device

Should the SPDIF device not be emiting sound, follow the steps outlined below to adjust the system settings.

- 1. Connect the SPDIF device to DS-370 using a cable.
- 2. Check the volume mixer utility on the Windows taskbar (the default setting is the system speaker).

Volume Mixer - S	Applications	×
•>		1:10 PM /16/2015

3. Enter the Control Panel and access the Sound settings.

	00	🕞 🥘 🕨 Control Panel 🕨 All Contro	ol Panel I	tems 🕨		
	Adju	st your computer's settings				
Sound	h	Action Center	(Administrative Tools		AutoP
Playback Recording Sounds Communications	-	BitLocker Drive Encryption	2	Color Management	10	Crede
Select a playback device below to modify its settings: Speakers Realtek High Definition Audio Default Device	۲	Default Programs		Desktop Gadgets	4	Device
Realtek Digital Output	4	Display	٢	Ease of Access Center	E	Folder
Realtek High Definition Audio Ready		Getting Started	•	HomeGroup	R	Indexi
	R	Internet Options	4	Keyboard		Locati Senso
	4	Network and Sharing Center		Notification Area Icons	<u>.</u>	Parent
	2	Personalization	4	Phone and Modem	1	Power
Configure Set Default V Properties	5	Realtek HD Audio Manager	R	Recovery		Regio
OK Cancel Apply		Sound	Ģ	Speech Recognition	۲	Sync (
		Taskbar and Start Menu		Troubleshooting	<u>8</u> 2	User A
the second second	鼺	Windows Defender	1	Windows Firewall	U	Windo
1						
and the second second						

Chapter 4 Troubleshooting

4. Set Realtek Digital Output as the default.

🦻 Sound	×
Playback Re	cording Sounds Communications
Select a play	yback device below to modify its settings:
	Speakers Realtek High Definition Audio Default Device
	Realtek Digital Output Realtek High Definition Audio Ready
	1
	2
Configure	e Set Default Properties
	OK Cancel Apply

5. The sound is output from the SPDIF device and can be controlled using the Volume Mixer utility.



4.2 **TXE Driver Installation**

For Windows 7, the Windows update KB2685811 must be installed before TXE driver installation.

Notice: For more information about KB2685811, please download the relevant update information from Microsoft's official website, or access the following link: http://www.microsoft.com/en-us/download/details.aspx?id=38423

Note

We strongly recommend using the FITC tool provided in this kit.



- Please use the Intel TXE FW and system tools provided in the same kit. Combining tool from different kit versions can cause unexpected problems.
- Please use SPI Flash devices that adhere to the specifications outlined in the Bay Trail Platform SoC SPI Flash Compatibility Requirements (IBL#514482, Section 3).
- The Intel(R) TXEI driver for Android OS is provided as part of the Android-based UEFI BIOS OS image.
- FPT, TXEInfo, and TXEManuf tools do not support Windows 7. Users are advised to run TXE manufacturing tools in an EFI Shell or WinPE environment.
- For Windows* 7 OS only: The Intel TXEI driver uses KMDF (WDF) 1.11, which is built into Windows 8 and 8.1. However, because Windows 7 is not equipped with this driver, users must install the Kernel-Mode Driver Framework (KMDF), Version 1.1. Otherwise, a yellow bang will appear on the Intel TXEI device upon installation. Please follow the instructions provided in the following link: http:// www.microsoft.com/en-us/download/details.aspx?id=38423
- Details of the sample signer tool reference code kit are provided in Section 1.2.
- Disclaimer: The sample signer reference code does not provide adequate security. Additional functionality and software modifications are required to protect users' private keys. Intel(R) assumes no liability for lost or stolen private key data and/or system damage or any other problems resulting thereof.
- The VCN value is increased to 8°. Consequently, a full firmware upgrade from Intel(R) TXE FW 1.1.0.1089 is possible. However, a downgrade from Intel(R) TXE FW 1.1.0.1113 to an earlier kit is not possible.

4.3 Using SUSIAccess Backup/Recovery

Method 1: Modify the network settings from a public network to a home or workbased network.

				×
🕥 🗸 🙀 « Network and Inte	rnet Network and Sharing Center	√ 4 ₂	Search Control Panel	P
Control Panel Home	View your basic network info	rmation and set up con	nections	Ø
Change adapter settings Change advanced sharing	I		— 🎱	See full map
settings	WIN-3QNSPDI6TG7 (This computer)	ADVANTECH.CORP	Internet	
	View your active networks		Conn	ect or disconnect
	ADVANTECH.CORP Public network	Access ty Connection		nection
	Change your networking settings			
	Set up a new connection or r Set up a wireless, broadband	network , dial-up, ad hoc, or VPN conn	ection; or set up a route	r or access point.
	Connect to a network			
	Connect or reconnect to a w	ireless, wired, dial-up, or VPN	network connection.	
	Choose homegroup and sha			
See also	Access files and printers loca	ted on other network comput	ers, or change sharing se	ettings.
HomeGroup	Troubleshoot problems			
Internet Options Windows Firewall	Diagnose and repair network	problems, or get troubleshoo	ting information.	

Method 2: Modify the Windows firewall settings by accessing the Windows firewall and selecting the Advanced tab. Locate and open the Networking-Echo Request (ICMPv4-in). Access the Advanced tab, configure all options (i.e., set the domain to private or public), and press click the <OK> button to apply all setting changes.





					_ D X			
Control Panel +	System and Security 🕨 Windows Firewall	•	49	Search Control Panel	Q			
Control Panel Home	Help protect your computer with \	Vindows Fire	ewal	I	Q			
Allow a program or feature through Windows Firewall	Windows Firewall can help prevent hackers or malicious software from gaining access to your computer through the Internet or a network.							
🚱 Change notification settings	How does a firewall help protect my computer?							
Turn Windows Firewall on or off	What are network locations?							
Restore defaults	Vot Conn							
Advanced settings Troubleshoot my network	Public networks Connected							
Houbleshoot my network	Networks in public places such as airports or coffee shops							
	Windows Firewall state:	On						
	Incoming connections:	Block all connections to programs that are not or list of allowed programs						
	Active public networks: EADVANTECH.CORP							
	Notification state:	Notify me when Windows Firewall blocks a new program						
See also								
Action Center								
Network and Sharing Center								

Eile Action ⊻iew Help										
Windows Firewall with Advanced Security on Loc	cal Computer Inbound Rules									
Inbound Rules Outbound Rules	Name	Group	Profile	Enabled	Action	Override	Program	Local Address	Remote Address	Protocol
Connection Security Rules	Network Discovery (WSD EventsSecure	Network Discovery	Private	Yes	Allow	No	System	Any	Local subnet	TCP
S Monitoring	Network Discovery (WSD EventsSecure	Network Discovery	Public	No	Allow	No	System	Any	Local subnet	TCP
- Montoining	Network Discovery (WSD EventsSecure	Network Discovery	Domain	No	Allow	No	System	Any	Any	TCP
	Whetwork Discovery (WSD-In)	Network Discovery	Private	Yes	Allow	No	%System	Any	Local subnet	UDP
	Wetwork Discovery (WSD-In)	Network Discovery	Domai	No	Allow	No	%System	Any	Local subnet	UDP
	Wetworking - Echo Request (ICMPv4-In)	File and Printer Sharing	Private	Yes	Allow	No	Any	Any	Any	ICMPv4
	🔇 Networking - Echo Request (ICMPv6-In)	File and Printer Sharing	Private	Yes	Allow	No	Any	Any	Any	ICMPv6
	Performance Logs and Alerts (DCOM-In)	Performance Logs an	Domain	No	Allow	No	%system	Any	Any	TCP
	Performance Logs and Alerts (DCOM-In)	Performance Logs an	Private	No	Allow	No	%system	Any	Local subnet	TCP
	Performance Logs and Alerts (TCP-In)	Performance Logs an	Private	No	Allow	No	%system	Any	Local subnet	TCP
	Performance Logs and Alerts (TCP-In)	Performance Logs an	Domain	No	Allow	No	%system	Any	Any	TCP

General		Programs and Se	rvices	Computers
Protocols and	d Ports	Scope	Advanced	Users
	<u>D</u> omain <u>P</u> rivate P <u>u</u> blic	o which this rule a	pplies.	
nterface type				
	applies.	ace types to whic	this Custo	omize
inbo	und packets a as a Netwo	that have passe	er to accept unsolie d through an edge lation (NAT) router	device
Bloc	ck edge trave	ersal		•
		ions from receivir ugh a NAT edge	ıg unsolicited traffi device.	c from
and many share	out these sett	tings		



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