15” Multi-Touch Chassis HMI
Intel® Celeron® Bay Trail-M N2930 1.83GHz
R15IB3S-PTC3

User Guide
V1.0

Please read these instructions carefully before using this product, and save this manual for future use.
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Preface

FCC Statement

This device complies with part 15 FCC rules.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

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.

European Union

Electromagnetic Compatibility Directive (2014/30/EU)

  - IEC61000-4-2: 2009
  - IEC61000-4-4: 2012
  - IEC61000-4-5: 2014
  - IEC61000-4-6: 2014
  - IEC61000-4-8: 2010
  - IEC61000-4-11: 2004
- EN61000-3-2:2014
- EN61000-3-3:2013

Low Voltage Directive (2014/35/EU)


This equipment is in conformity with the requirement of the following EU
legislations and harmonized standards. Product also complies with the Council directions.

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**Warranty**
Our warranty guarantees that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, we will, at his/her option, repair or replace the defective product at no charge to the customer, provide it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service. If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December).

For example, the serial number 1W16Axzzzzzz means October of year 2016.

**Customer Service**
We provide a service guide for any problem by the following steps: First, visit the website of our distributor to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance.
Advisory Conventions

Four types of advisories are used throughout the user manual to provide helpful information or to alert you to the potential for hardware damage or personal injury. These are Notes, Important, Cautions, and Warnings. The following is an example of each type of advisory.

**NOTE:**
A note is used to emphasize helpful information.

**IMPORTANT:**
An important note indicates information that is important for you to know.

**CAUTION/ ATTENTION**
A Caution alert indicates potential damage to hardware and explains how to avoid the potential problem.

Unealerted’ attention indique un dommage possible à l’équipement et explique comment éviter le problem potentiel.

**WARNING!/AVERTISSEMENT!**
An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.

Un Avertissement de Choc Électriqueindique le potentiel de choossur des emplacements électriques et comment éviterces problèmes.

**RoHS Declaration**

According to the European Union issued Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 2.0). Winmate Inc.'s guaranty is able to meet the current regulations and customer requirements in respect of the application of cadmium, lead, mercury, hexavalent chromium, PBBs, PBDEs in its product.
Safety Information

**WARNING! / AVERTISSEMENT!**
Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.


**CAUTION/ATTENTION**
Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Toujours vérifier votre mise à la terre afin d'éliminer toute charge statique avant de toucher la carte CPU. Les équipements électroniques moderns sont très sensibles aux décharges d'électricité statique. Toujours utiliser un bracelet de mise à la terre comme précaution. Placer toutes les composantes électroniques sur une surface conçue pour dissiper les charge, ou dans un sac anti-statique lorsqu'elles ne sont pas dans le chassis.
Chapter 1: Introduction

The R15IB3S-PTC3 is a 15-inch flat HMI with chassis front surface industrial design. HMI runs on powerful, yet low power consuming Intel® Celeron® N2930 processor. Display features 1024 x 768 screen resolution, maximum colors of 16.2 million pixels and projected capacitive touch. Multiple I/O interface includes USB 3.0 and USB 2.0, two LAN ports, one of each supports PoE, serial interface RS-232/422/485 and HDMI for video output.

Chassis housing is protected with IP65 standard against water and dust from the front. The R15IB3S-PTC3 is an ultimate solution for Point-of-Sale (POS) applications.

1.1 Features

- 15” 1024 x 768 with P-CAP touchscreen
- Low power consumption with Intel® Celeron® N2930 1.83 GHz
- Fanless cooling system and ultra-low power consumption
- Front IP65 for protection against water and dust
- A true flat, easy-to-clean front surface with edge-to-edge design
- Plastic housing
- Designed for Point-of-Sale (POS) applications
### 1.2 Package Contents

Carefully remove the box and unpack your device. Please check if all the items listed below are inside your package. If any of these items are missing or damaged contact us immediately.

Standard factory shipment list:

<table>
<thead>
<tr>
<th>HMI</th>
<th>Quick Start Guide (Hardcopy)</th>
<th>Driver CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies by product specifications</td>
<td>91521110101U</td>
<td>IB32S: 91711111103M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AC Adapter (12V/ 50W)</th>
<th>Power Cord</th>
</tr>
</thead>
<tbody>
<tr>
<td>922D050W12VA</td>
<td>Varies by country</td>
</tr>
</tbody>
</table>
### 1.3 Description of Parts

#### R15IB3S-PTC3

*Unit: mm*

*Dimensions: 352.50 x 276.70 x 45*

#### Connectors

<table>
<thead>
<tr>
<th>№</th>
<th>Description</th>
<th>№</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RJ-45 (LAN)</td>
<td>5</td>
<td>RJ-45 (LAN/PoE)</td>
</tr>
<tr>
<td>2</td>
<td>USB 3.0, USB 2.0</td>
<td>6</td>
<td>1 Watt Speaker</td>
</tr>
<tr>
<td>3</td>
<td>RS-232/422/485 (DB9)</td>
<td>7</td>
<td>Power &amp; Reset button</td>
</tr>
<tr>
<td>4</td>
<td>12V DC Power Jack</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chapter 2: Installation

2.1 Wiring Requirements

The following common safety precautions should be observed before installing any electronic device:

- Strive to use separate, non-intersecting paths to route power and networking wires. If power wiring and device wiring paths must cross make sure the wires are perpendicular at the intersection point.
- Keep the wires separated according to interface. The rule of thumb is that wiring that shares similar electrical characteristics may be bundled together.
- Do not bundle input wiring with output wiring. Keep them separate.
- When necessary, it is strongly advised that you label wiring to all devices in the system.

CAUTION

- Do not run signal or communication wiring and power wiring in the same conduit. To avoid interference, wires with different signal characteristics (i.e., different interfaces) should be routed separately.
- Be sure to disconnect the power cord before installing and/or wiring your device.
- Verify the maximum possible current for each wire gauge, especially for the power cords. Observe all electrical codes dictating the maximum current allowable for each wire gauge.
- If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.
- Be careful when handling the unit. When the unit is plugged in, the internal components generate a lot of heat which may leave the outer casing too hot to touch.
2.2 VESA Mounting

This device supports VESA Mounting and provides various types of mounting options to fit any industrial use.

<table>
<thead>
<tr>
<th>Size</th>
<th>VESA Plate</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>15”</td>
<td>75x75 mm, 100x100 mm</td>
<td>M4 x 5</td>
</tr>
</tbody>
</table>

**Mounting Instruction**

Use Philips M4x5 screws to fix the desk stand to VESA holes on the back cover of the device.

*The picture is for demonstration purposes only. VESA Mounting accessories are not supplied by Winmate.*
2.3 Turning On

Follow the following steps to turn on your device:

1. Connect AC adapter to DC jack connector of the HMI.
2. Connect the power cord to AC adapter.
3. Plug the power cord to the AC outlet.
4. Press **Power** button on the rear OSD panel.

**CAUTION**

Use only the AC adapter included in your package. Using other AC adapters may damage the device.

**ALTERNATING CURRENT**

This product must be grounded. Use only a grounded AC outlet. Install the additional PE ground wire if the local installation regulations require it.
2.4 Connecting Peripherals

This section lists HMI connectors and pin assignment.

2.4.1 Power Connector

DC power source input is a DC-in power jack connector that accepts 12V DC power input.

<table>
<thead>
<tr>
<th>Pin №</th>
<th>Name</th>
<th>Pin №</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DC_IN</td>
<td>2</td>
<td>GND</td>
</tr>
</tbody>
</table>

Voltage

- Minimum Voltage 11.4V
- Maximum Voltage 12.6V
- Maximum Current 4.2A

2.4.2 Ethernet Connector

The HMI has two RJ45 connectors that support 10/100/1000 Mbps Ethernet interface for connecting to the internet. Notice that only one RJ45 connector supports PoE function.

<table>
<thead>
<tr>
<th>Pin №</th>
<th>Signal Name</th>
<th>Pin №</th>
<th>Signal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TX1+</td>
<td>2</td>
<td>TX1-</td>
</tr>
<tr>
<td>3</td>
<td>TX2+</td>
<td>4</td>
<td>TX2-</td>
</tr>
<tr>
<td>5</td>
<td>TX3+</td>
<td>6</td>
<td>TX3-</td>
</tr>
<tr>
<td>7</td>
<td>TX4+</td>
<td>8</td>
<td>TX4-</td>
</tr>
</tbody>
</table>

IMPORTANT:
Power Device (PD): IEEE 802.3at (25 Watt)
2.4.3 Serial Port Connector

Use COM1 serial port connector to connect your HMI to external devices such as mouse, modem or printer. You can configure serial port settings via jumpers located on the motherboard.

<table>
<thead>
<tr>
<th>Pin №</th>
<th>Signal Name</th>
<th>Pin №</th>
<th>Signal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DCD</td>
<td>2</td>
<td>TxD-</td>
</tr>
<tr>
<td>2</td>
<td>RXD</td>
<td>3</td>
<td>TxD+</td>
</tr>
<tr>
<td>3</td>
<td>TXD</td>
<td>4</td>
<td>RxD+</td>
</tr>
<tr>
<td>4</td>
<td>DTR</td>
<td>5</td>
<td>GND</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>6</td>
<td>DSR</td>
</tr>
<tr>
<td>6</td>
<td>RTS</td>
<td>7</td>
<td>NC</td>
</tr>
<tr>
<td>7</td>
<td>CTS</td>
<td>8</td>
<td>NC</td>
</tr>
<tr>
<td>8</td>
<td>RI</td>
<td>9</td>
<td>NC</td>
</tr>
</tbody>
</table>

2.4.4 USB Connector

The HMI has USB 2.0 and USB 3.0 combined connector. Use USB connector to connect your device to other USB compatible devices such as mouse, keyboard and printer.

<table>
<thead>
<tr>
<th>Pin №</th>
<th>Signal Name</th>
<th>Pin №</th>
<th>Signal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+5V</td>
<td>2</td>
<td>USB_D-</td>
</tr>
<tr>
<td>3</td>
<td>USB_D+</td>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td>5</td>
<td>STDA_SSRX-</td>
<td>6</td>
<td>STDA_SSRX+</td>
</tr>
<tr>
<td>7</td>
<td>GND_DRAIN</td>
<td>8</td>
<td>STDA_SSTX-</td>
</tr>
<tr>
<td>9</td>
<td>STDA_SSTX+</td>
<td>10</td>
<td>+5V</td>
</tr>
<tr>
<td>11</td>
<td>USB_D-</td>
<td>12</td>
<td>USB_D+</td>
</tr>
<tr>
<td>13</td>
<td>GND</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.5 Speaker

Speaker is located on the rear side of the HMI.

### Electrical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated impedance</td>
<td>6±15% ohms@2KHz, 1 Vrms input</td>
</tr>
<tr>
<td>Power Rating</td>
<td>0.67 W</td>
</tr>
<tr>
<td>Short Term Max Power</td>
<td>1.3W</td>
</tr>
</tbody>
</table>

### Acoustical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound Pressure Level</td>
<td>75±3dB/40cm@1kHz</td>
</tr>
</tbody>
</table>
Chapter 3: Operating the Device

3.1 Introduction

Your HMI supports several versions of Windows OS:

- Windows 10 IoT
- Windows Embedded 8.1 Industry Pro
- Windows Embedded 7 Standard

**IMPORTANT:**
The device is shipped with the OS System according to your order. Contact us if you have any questions regarding OS settings.
3.2 How to Enable Watchdog

To enable Watchdog, you need to download Winmate Watchdog utility. Find more information on Watchdog in “Watchdog Guide” that you can download from Winmate Download Center.

To enable watchdog in Watchdog AP follow the instructions below:

1. On the right bottom side of the desktop screen, click \( \text{triangle button} \) to show hidden icons.
2. Click \( \text{W} \) icon to open Watchdog utility.
3. In Watchdog utility window set countdown time and periodically feed time, or disable watchdog.

### Example:

Every 10 min watchdog will monitor the system, in case any error occurs the system will restart automatically when the countdown time reaches 0.

Every 9 min watchdog timer will be reset to 10 min.

<table>
<thead>
<tr>
<th>Settings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watchdog Countdown Time</td>
<td>The system automatically restarts when this countdown time reaches zero.</td>
</tr>
<tr>
<td></td>
<td><em>Default: 10 min</em></td>
</tr>
<tr>
<td>Periodically Feed Time</td>
<td>To set a cycle time to automatically reset watchdog timer. <em>Default: 9 min</em></td>
</tr>
<tr>
<td>Enable / Disable</td>
<td>Enable or disable watchdog. <em>Default: Enable</em></td>
</tr>
</tbody>
</table>
3.3 Using Recovery Wizard to Restore Computer

Note:
Before starting the recovery process, make sure to backup all user data. The data will be lost after the recovery process.

To enable quick one-key recovery procedure:

1. Connect the computer to the power source. Make sure the computer stays plugged in to power source during the recovery process.
2. Turn on the computer, and when the boot screen shows up, press Tab+F6 to initiate the Recovery Wizard.
3. The following screen shows the Recovery Wizard. Click Recovery button to continue.

4. A warning message about data loss will show up. Make sure the data is backed up before recovery, and click Yes to continue.

Wait the recovery process to complete. During the recovery process, a command prompt will show up to indicate the percent of recovery process complete. The system will restart automatically after recovery completed.
Chapter 4: BIOS Setup

BIOS Setup Utility is a program for configuration basic Input / Output system settings of the computer for optimum use. This chapter provides information on how to use BIOS setup, its functions and menu.

4.1 How and When to Use BIOS Setup

To enter the BIOS setup, you need to connect an external USB keyboard, external monitor and press Del key when the prompt appears on the screen during start up. The prompt screen shows only few seconds so need press Del key quickly.

**IMPORTANT:**
Updated BIOS version may be published after the manual released. Check the latest version of BIOS on the website.

You may need to run BIOS setup utility for reasons listed below:
1. Error message on screen indicates to check BIOS setup
2. Restoring the factory default settings.
3. Modifying the specific hardware specifications
4. Necessity to optimize specifications

**BIOS Navigation Keys**

The following keys are enabled during POST:

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Del</td>
<td>Enters the BIOS setup menu.</td>
</tr>
<tr>
<td>F7</td>
<td>Display the boot menu. Lists all bootable devices that are connected to the system. With cursor ↑ and cursor ↓ and by pressing &lt;ENTER&gt;, select the device used for the boot.</td>
</tr>
<tr>
<td>Pause</td>
<td>Pressing the [Pause] key stops the POST. Press any other key to resume the POST.</td>
</tr>
</tbody>
</table>
The following Keys can be used after entering the BIOS Setup.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>General Help</td>
</tr>
<tr>
<td>F2</td>
<td>Previous Values</td>
</tr>
<tr>
<td>F3</td>
<td>Optimized Defaults</td>
</tr>
<tr>
<td>F4</td>
<td>Save &amp; Exit</td>
</tr>
<tr>
<td>Esc</td>
<td>Exit</td>
</tr>
<tr>
<td>+/-</td>
<td>Change Opt.</td>
</tr>
<tr>
<td>Enter</td>
<td>Select or execute command</td>
</tr>
<tr>
<td>Cursor ↑</td>
<td>Moves to the previous item</td>
</tr>
<tr>
<td>Cursor ↓</td>
<td>Goes to the next item</td>
</tr>
<tr>
<td>Cursor ←</td>
<td>Moves to the previous item</td>
</tr>
<tr>
<td>Cursor →</td>
<td>Goes to the next item</td>
</tr>
</tbody>
</table>

**NOTE:**
You can press the F1, F2, F3, F4, +/-, and Esc keys by connecting a USB keyboard to your computer.

For items marked ▶ press <Enter> for more options.
4.2 BIOS Functions

4.2.1 Main Menu

The Main menu displays the basic information about your system including BIOS version, processor RC version, system language, time, and date.

When you enter BIOS setup, the first menu that appears on the screen is the main menu. It contains the system information including BIOS version, processor RC version, system language, time, and date.

**BIOS Information**
Shows system information including UEFI BIOS version, model name, marketing name, built date, etc.

**Total Memory**
Shows system memory size, VGA shard memory will be excluded.

**System Date**
Set the system date. Note that the ‘Day’ automatically changes when you set the date.

**System Time**
Set the system internal clock.

**Access Level**
Shows the access level of current user.
4.2.2 Advanced Settings

Select the Advanced Tab from the setup menu to enter the advanced BIOS setup screen. You can select any of the items on the left frame of the screen to go to the sub menu for the item, such as CPU Configuration. You can use the <Arrow> keys enter all advanced BIOS setup options. The advanced BIOS setup menu is shown below. The submenus described on the following pages.

**CAUTION**
- Handle advanced BIOS settings page with caution. Any changes can affect the operation of your computer.
- Beware of that setting inappropriate values in items of this menu may cause system to malfunction.
- The options and default settings might be different by RAM or CPU models.
4.2.2.1 Super I/O Configuration

Serial Port 1 Configuration

Serial Port
This item enables or disables Serial Port (COM).
Options: Enabled (Default) / Disabled

Change Settings
This item allows you to select an optimal setting for Super I/O device.
Options: Auto (Default) / IO=3F8h; IRQ=4 / IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12 / IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12 / IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12 / IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12

Watch Dog Degree
This item allows you to determine the functional degree of Watch Dog.
Options: Second (Default) / Minute

Watch Dog Timer
Options: 0 for disabled (Default) / Min=1, Max=65535
4.2.2.2 Hardware Monitor
### 4.2.2.3 CPU Configuration

**Active Processor Cores**
This item sets number of cores to enable in each processor package.

*Options: All (Default) / 1*

**Limit CPUID Maximum**
When the computer is booted up, the operating system executes the CPUID instruction to identify the processor and its capabilities. Before it can do so, it must first query the processor to find out the highest input value CPUID recognizes. This determines the kind of basic information CPUID can provide the operating system.

*Options: Disabled (Default) / Enabled*

**Execute-Disable Bit**
XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.).

*Options: Enabled (Default) / Disabled*

**Hardware Prefetcher**
The processor has a hardware prefetcher that automatically analyzes its requirements and prefetches data and instructions from the memory into the Level 2 cache that are likely to be required in the near future. This reduces the latency associated with memory reads.

*Options: Enabled (Default) / Disabled*
Adjacent Cache Line Prefetch
The processor has a hardware adjacent cache line prefetch mechanism that automatically fetches an extra 64-byte cache line whenever the processor requests for a 64-byte cache line. This reduces cache latency by making the next cache line immediately available if the processor requires it as well.

Options: Enabled (Default) / Disabled

Intel Virtualization Technology
Virtualization Technology can virtually separate your system resource into several parts, thus enhance the performance when running virtual machines or multi interface systems.

Options: Enabled (Default) / Disabled

Power Technology
This item enables or disables the power management features.

Options: Custom (Default) / Disable / Energy Efficient

EIST
This item enables or disables Intel SpeedSteps.

Options: Enabled (Default) / Disabled

Turbo Mode
This item enables or disables Turbo Mode

Options: Enabled (Default) / Disabled

P-STATE Coordination
This item changes P-STATE Coordination.

Options: HW_ALL (Default) / SW_ALL / SW_ANY

CPU C6 Report
This item enables or disables CPU C6 (ACPI C3) report to OS.

Options: Enabled (Default) / Disabled

CPU C7 Report
This item enables or disables CPU C7 (ACPI C3) report to OS.

Options: Enabled (Default) / Disabled

Package C state limit
This item enables or disables package C state limit

Options: No Limit (Default) / CO / C1 / C3 / C6 / C7
4.2.2.4 PPM Configuration

**EIST**
This item enables or disables Intel SpeedSteps.
*Options: Enabled (Default) / Disabled*

**CPU C state Report**
This item enables or disables CPU C state report to OS.
*Options: Enabled (Default) / Disabled*

**Enhanced C state**
This item enables or disables Enhanced CPU C state
*Options: Enabled (Default) / Disabled*

**Max CPU C-state**
This option controls Max C state that the processor will support.
*Options: C7 (Default) / C6 / C1*
4.2.2.5 SATA Configuration

**Serial-ATA (SATA)**
This item enables/disables Serial ATA Device.
*Options: Enabled (Default) / Disabled*

**SATA ODD Port**
This item selects SATA ODD Port
*Options: No ODD (Default) / Port0 ODD / Port1 ODD*

**SATA Mode**
This item determines how SATA controller(s) operate.
*Options: IDE (Default) / AHCI*

**Serial-ATA Port 1**
This item enables/disables Serial ATA Port 1
*Options: Enabled (Default) / Disabled*
### 4.2.2.6 Network Stack Configuration

**Network Stack**
This item enables or disables UEFI network stack

*Options: Disabled (Default) / Enabled*

*Note: The following items appear only when you set the Network Stack function to [Enabled]*

**IPv4 PXE Support**
This item enables or disables IPv4 PXE Boot Support. If disabled IPv4 booth option will not be created.

*Options: Enabled (Default) / Disabled*

**IPv6 PXE Support**
This item enables or disables IPv6 PXE Boot Support. If disabled IPv6 booth option will not be created.

*Options: Enabled (Default) / Disabled*

**PXE boot wait time**
Wait time to press ESC key to abort the PXE boot.
4.2.2.7 CSM Configuration

CSM Support
This item enables or disables CSM Support

*Options: Disabled (Default) / Enabled*

*Note: The following items appear only when you set the CSM Support to [Enabled]*

**GateA20 Active**
Upon Request – GA20 can be disabled using BIOS services. Always – do not allow disabling GA20; this option is useful when any RT code is executed above 1MB

*Options: Upon Request (Default) / Always*

**Option ROM Messages**
This item sets the display mode for option ROM.

*Options: Force BIOS (Default) / Keep Current*

**INT19 Trap Response**
BIOS reaction on INT19 trapping by Option ROM: IMMEDIATE – execute the trap right away; POSTPONED–execute the trap during legacy boot.

*Options: Immediate (Default) / Postponed*

**Boot option filter**
This option controls what devices system can boot to.
Options: Legacy only (Default) / UEFI and Legacy / UEFI only

**Network**
This option controls the execution of UEFI and Legacy PXE OpROM
Options: Legacy only (Default) / Do not launch / UEFI only / Legacy first / UEFI first

**Storage**
This option controls the execution of UEFI and Legacy Storage OpROM
Options: Legacy only (Default) / Do not launch / UEFI only / Legacy first / UEFI first

**Video**
This option controls the execution of UEFI and Legacy Video OpROM
Options: Legacy only (Default) / Do not launch / UEFI only / Legacy first / UEFI first

**Other PCI devices**
For PCI devices other than Network, Mass storage or video defines which OpROM to launch.
Options: Legacy only (Default) / UEFI first

### 4.2.2.8 USB Configuration

![USB Configuration](image-url)
Legacy USB Support
This item determines if the BIOS should provide legacy support for USB devices like the keyboard, mouse, and USB drive. This is a useful feature when using such USB devices with operating systems that do not natively support USB (e.g. Microsoft DOS or Windows NT).
Options: Enabled (Default) / Disabled / Auto

XHCI Hand-Off
This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
Options: Enabled (Default) / Disabled

EHCI Hand-Off
This is a workaround for OSes without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.
Options: Disabled (Default) / Enabled

USB Mass Storage Driver Support
The item allows you to enable or disable USB Mass Storage Driver Support.
Options: Enabled (Default) / Disabled

USB transfer time-out
The time-out value for Control, Bulk, and Interrupt transfers.
Options: 20 sec (Default) / 1 sec / 5 sec / 10 sec

Device reset time-out
The item sets USB mass storage device Start Unit command time-out.
Options: 20 sec (Default) / 10 sec / 30 sec / 40 sec

Device power-up delay
“Auto” uses default value: for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.
Options: Auto (Default) / Manual

Device power-up delay in seconds
Delay range is 1 ~ 40 seconds, in one second increments.
Options: 5 (Default)
4.2.3 Chipset Menu

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components.
4.2.3.1 North Bridge

Intel IGD Configuration

Integrated Graphics Device
Enable: Enable Integrated Graphics Device (IGD) when selected as the Primary Video Apaptor.
Disable: Always disable IGD.
Options: Enabled (Default) / Disabled

IGD Turbo Enable
Options: Enabled (Default) / Disabled

Primary Display
This item selects which of IGD/PCI Graphics device should be Primary Display.
Options: IGD (Default) / Auto / PCI / SG

GFX Boost
This item enables or disables GFX Boost.
Options: Disabled (Default) / Enabled

PAVC
This item enables or disables Protected Audio Video Control
Options: LITE Mode (Default) / Disabled / SERPENT Mode

DVMT Pre-Allocated
This item selects DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device
Options: 64M (Default) / 96M / 128M / 160M / 192M / 224M / 256M / 288M / 320M / 352M / 384M / 416M / 448M / 480M / 512M

DVMT Total Gfx Mem
This item selects DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.
Options: 256MB (Default) / 128MB / MAX

Aperture Size
This item selects the Aperature Size.
Options: 256MB (Default) / 128MB / 512MB

GTT Size
This item selects the GTT Size.
Options: 2MB (Default) / 1MB

VCC_Vnn Config for Power state2
This item enables or disables Vcc Vnn Config for power state 2.
Options: Disabled (Default) / Enabled

**RC6 (Render Standby)**
This item enables or disables render standby support.
Options: Enabled (Default) / Disabled

**LCD Control**

**Boot Display Device**
This item allows you to select the display device.
Options: Auto (Default)

**Max TOLUD**
This item sets maximum value of TOLUD.
Options: Dynamic (Default) / 1GB / 1.25GB / 1.5GB / 1.75GB / 2GB / 2.25GB / 2.5GB / 2.75GB / 3GB

### 4.2.3.2 South Bridge

#### Azalia HD Audio

**Azalia Controller**
This item controls detection of the Azalia device. Disabled = Azalia will be unconditionally disabled. Enabled = Azalia will be unconditionally Enabled. Auto = Azalia will be enabled if present, disabled otherwise.
Options: Enabled (Default) / Disabled
Azalia HDMI Codec
This item enables or disables internal HDMI codec for Azalia.
*Options: Enabled (Default) / Disabled*

HDMI Port B/C
This item enables or disables HDMI Port B/C.
*Options: Enabled (Default) / Disabled*

Audio AMP output
This item selects Audio AMP output dB value.
*Options: 11dB (Default) / 14dB / 19dB / 25dB*

USB Configuration

**XHCI Mode**
The item selects Mode of operation of xHCI controller.
*Options: Smart Auto (Default) / Auto / Enabled / Disabled*

**USB 2.0(EHCI) Support**
This item controls the USB EHCI (USB 2.0) functions. One EHCI controller must always be enabled.
*Options: Disabled (Default) / Enabled*

**USB Per Port Control**
Control each of the USB ports (0-3). Enable: Enable USB per port;
Disable: Use USB port X settings.
*Options: Enabled (Default) / Disabled*

**USB Port 0/1/2/3**
This item enables or disables USB Port 0.
*Options: Enabled (Default) / Disabled*

PCI Express Configuration

**Onboard LAN**
This item enables or disables Onboard PCIE LAN.
*Options: Enabled (Default) / Disabled*

**Onboard LAN Option ROM**
This item enables or disables the Boot Option for Legacy Network Devices.
*Options: Disabled (Default) / Enabled*

High Precision Timer
This item enables or disables the High Precision Event Timer.
*Options: Enabled (Default) / Disabled*
4.2.4 Security Menu

This section allows to configure and improve system, and set up some system features according to your preferences.

**Administrator Password**
This item sets Administrator Password.

**User Password**
This item sets User Password.

**Secure Boot**
Secure Boot can be enabled if 1. System running in user mode with enrolled Platform Key(PK)2.CSM function is disabled.

*Options: Disable (Default) / Enabled*
Key Management
Enroll All Factory Default Keys
It allows you to immediately load/clear the default Security Boot keys, Platform key (PK), Key-exchange Key (KEK), Signature database (db), and Revoked Signatures (dbx). The Platform Key (PK) state will change from Unloaded mode to Loaded mode. The settings are applied after reboot or at the next reboot.

Platform Key (PK)
Delete PK – Allows you to delete the PK file from your system.
Set new PK – Allows you set new PK file.

Key Exchange Key Database (KEK)
Delete KEK – Allows you to delete the KEK file from your system.
Set new KEK – Allows you set new KEK file.
Append Var to KEK – Allows you append Var to KEK.

Authorized Signature Database (DB)
Delete DB – Allows you to delete the DB file from your system.
Set new DB – Allows you set new DB file.
Append Var to DB – Allows you append Var to DB.

Authorized Timestamps Database (DBT)
Delete DBT – Allows you to delete the DBT file from your system.
Set new DBT – Allows you set new DBT file.
Append Var to DBT – Allows you append Var to DBT.

Forbidden Signature Database (DBX)
Delete DBX – Allows you to delete the DBX file from your system.
Set new DBX – Allows you set new DBX file.
Append Var to DBX – Allows you append Var to DBX.
4.2.5 Boot Menu

Setup Prompt Timeout
This item sets number of seconds to wait for setup activation key.
Options: 2 (Default)

Bootup NumLock State
This item selects the keyboard NumLock state.
Options: On (Default) / Off

Full Screen Logo Display
This item allows you to enable/disable Full Screen Logo Show function.
Options: Disabled (Default) / Enabled

Boot Success Beep
When this item is set to Enabled, BIOS will let user know boot success with beep.
Options: Enabled (Default) / Disabled

Boot Option
The items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system.
4.2.6 Exit Menu

This menu allows you to load the optimal default settings, and save or discard the changes to the BIOS items.

**Discard Changes and Exit**
Abandon all changes made during the current session and exit setup.

**Save Changes and Reset**
Reset the system after saving the changes.

**Restore Defaults**
This selection allows you to reload the BIOS when problem occurs during system booting sequence. These configurations are factory settings optimized for this system.
# Appendix A: Product Specifications

<table>
<thead>
<tr>
<th>Model Name</th>
<th>R15IB3S-PTC3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td></td>
</tr>
<tr>
<td>Size/Type</td>
<td>15&quot; TFT</td>
</tr>
<tr>
<td>Resolution</td>
<td>1024 x 768</td>
</tr>
<tr>
<td>Brightness</td>
<td>300 cd/m²</td>
</tr>
<tr>
<td>Contrast Ratio</td>
<td>700:1 (typ.)</td>
</tr>
<tr>
<td>Viewing Angle</td>
<td><del>80</del>80 (H); <del>80</del>80 (V)</td>
</tr>
<tr>
<td>Max Colors</td>
<td>16.2M</td>
</tr>
<tr>
<td>Front Side Glass</td>
<td>Yes (Optional)</td>
</tr>
<tr>
<td>Touch</td>
<td>Projected Capacitive Touch (Default)</td>
</tr>
<tr>
<td><strong>System Specifications</strong></td>
<td></td>
</tr>
<tr>
<td>Processor</td>
<td>Intel® Celeron® Bay Trail-M N2930 1.83GHz</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® ATOM™ SoC Integrated</td>
</tr>
<tr>
<td>Memory</td>
<td>2GB DDR3L-1600 SODIMM (max 8GB)</td>
</tr>
<tr>
<td>Storage</td>
<td>64GB M.2 SSD</td>
</tr>
<tr>
<td>Security Support</td>
<td>Trusted Platform Module (TPM 1.2)</td>
</tr>
<tr>
<td>LAN</td>
<td>Dual Intel® I210-AT GbE LAN</td>
</tr>
<tr>
<td>OS</td>
<td>Windows 10 IoT Enterprise</td>
</tr>
<tr>
<td></td>
<td>Windows Embedded 8.1 Industry Pro</td>
</tr>
<tr>
<td></td>
<td>Windows Embedded 7 Standard</td>
</tr>
<tr>
<td><strong>Input/ Output</strong></td>
<td></td>
</tr>
<tr>
<td>Serial Port</td>
<td>1 x RS-232/422/485 (DB9)</td>
</tr>
<tr>
<td>USB</td>
<td>1 x USB 3.0, 1 x USB 2.0</td>
</tr>
<tr>
<td>Ethernet</td>
<td>1 x RJ 45-10/100/1000 Mbps (LAN)</td>
</tr>
<tr>
<td></td>
<td>1 x RJ 45(PoE)</td>
</tr>
<tr>
<td>Speaker</td>
<td>2 x 1W Speakers</td>
</tr>
<tr>
<td>Power Connector</td>
<td>1 x DC-in Power Jack</td>
</tr>
<tr>
<td><strong>Power Specifications</strong></td>
<td></td>
</tr>
<tr>
<td>Power Input</td>
<td>12V DC</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>21W typical, normal operation</td>
</tr>
<tr>
<td>Optional Power over Ethernet</td>
<td>Power Device (PD): follows IEEE 802.3at (25 W)</td>
</tr>
<tr>
<td>*PoE support condition: recommended to use without other power-consuming devices</td>
<td></td>
</tr>
<tr>
<td><strong>Mechanical Specification</strong></td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>VESA Mount (100x100 mm, 75x75 mm)</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>352.5 x 276.7 x 45 (mm)</td>
</tr>
<tr>
<td>Housing</td>
<td>Color RAL 7016 Plastic casing</td>
</tr>
<tr>
<td>Buttons</td>
<td>Power, Reset</td>
</tr>
<tr>
<td>Environment Considerations</td>
<td>Operating Temperature</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td>Storage Temperature</td>
</tr>
<tr>
<td></td>
<td>Humidity</td>
</tr>
<tr>
<td></td>
<td>Certification</td>
</tr>
</tbody>
</table>
Appendix B: Cleaning the LCD Monitor

Before cleaning:
- Make sure the device is turned off.
- Disconnect the power cable from any AC outlet.

When cleaning:
- Never spray or pour any liquid directly on the screen or case.
- Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles.
- The display area is highly prone to scratching. Do not use ketene type material (ex. Acetone), Ethyl alcohol, toluene, ethyl acid or Methyl chloride to clear the panel. It may permanently damage the panel and void the warranty.
- If it is still not clean enough, apply a small amount of non-ammonia, non-alcohol based glass cleaner onto a clean, soft, lint-free cloth, and wipe the screen.
- Do not use water or oil directly on the display screen. If droplets are allowed to drop on the screen, permanent staining or discoloration may occur.

Appendix C: Technical Support

Winmate provides the following Drivers, SDK and Update Guide:

<table>
<thead>
<tr>
<th>Item</th>
<th>Driver</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Utility</td>
<td>Watchdog Utility</td>
</tr>
</tbody>
</table>

To find the Drivers and SDK, please refer to the Driver CD that comes in the package or contact us. Also, you can download drivers from Winmate Download Center.