Itona J Series

Hardware User Guide

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Federal Communication Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. 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 this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment Off and On, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/television technician for help.

Each Thin Client is equipped with a FCC compliance label that shows only the FCC identification number. The full information of the associated label is as follows:

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

ENERGY STAR Compliant Product

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping us all save money and protect the environment through energy efficient products practices.

Products with the ENERGY STAR logo comply with the ENERGY STAR standard, and the power management feature is enabled by default. The monitor and computer are automatically set to sleep after 15 and 30 minutes of user inactivity. To wake your computer, click the mouse or press any key on the keyboard.

Please visit http://www.energy.gov/powermanagement for detail information on power management and its benefits to the environment. In addition, please visit http://www.energystar.gov for detail information on the ENERGY STAR joint program.

Regulatory Certifications

Table of Contents

1 Introduction

Thin Clients are terminal devices that connect to multi-user application servers operating under Citrix XenDesktop, XenApp, VMware View connection server and Windows 2003 / 2008 terminal servers.

This guide covers installation procedure and hardware details of Itona J Series thin clients.

1. Power Button.

2. Two USB 2.0 Ports

3. Audio Line Out

4. MIC

5. Pedestal

Figure 1: Itona J Series Front View

Itona J Series deliver smart and robust solutions for Thin Client computing. They are aesthetically and ergonomically designed compact desktop, providing simultaneous full screen connectivity to Windows and UNIX application servers – a powerful business alternative to users using Win32 applications while continuing access to legacy UNIX applications.

They communicate with application servers via the ICA protocol developed by Citrix Systems Inc., Remote Desktop Protocol from Microsoft and a host of other popular connectivity protocols. Please refer to the Software User's Guide for information about connection protocols supported by your model.

Features

The new J Series with ARM Cortex A9 System-on-a-Chip (SoC) delivers excellent performance over remote protocols such as RDP. The new Itona J Series represents a significant advance in provision of low cost server based computing. Highly specified with exceptional build quality, the J Series incorporates the most advanced features with very low power consumption.

Optional Features

The optional features available for Itona J Series are listed below:

- Internal Wireless LAN (upgradable on request)

- VESA Mounting Brackets

Note: Please contact the reseller or dealer from whom you purchased the product for information about optional features.

About the User Guide

This User Guide provides step-by-step instructions to install Itona J Series. The specifications and troubleshooting steps are also included in this User Guide.

Abbreviations and Acronyms

Abbreviation	Expansion
AC	Alternating Current
DC	Direct Current
DP	Display Port
LAN	Local Area Network
LED	Light Emitting Diode
TCP/IP	Transmission Control Protocol/Internet Protocol
USB	Universal Serial Bus
VESA	Video Electronics Standards Association
VGA	Video Graphics Array

Chapters in the Manual

Chapter No	Chapter Name	Description
1	Introduction	Contains an overview of the product, information about this guide and abbreviations used in this guide.
2	Installation	Contains the procedure to set up the hardware.
3	Specifications	Contains hardware, mechanical, electrical, interface and operating environment specifications
4	Troubleshooting	Contains solutions to problems that you may encounter while using the product.
—	Appendix	Contains detailed specifications for connectors and cables used with the product.

⚠ Warning

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

- There is no user serviceable part inside. Do not open enclosure, hazardous voltages present in the equipment's components. Do not disassemble the equipment as this can nullify your warranty.

- This equipment must be earthed to prevent accidental electric shocks, connect a three-pin connector to ensure adequate earthing.

- As a precaution, the AC socket outlet should be near the equipment and should be easily accessible.

- Sound Power Level is less than 23dB (A), when measured according to ISO 7779.

- Excessive sound from earphones and headphones can cause hearing damage or loss. Adjusting the equalizer to maximum settings increases the earphones and headphones output voltage and therefore the sound level.

⚠ Caution

- Ensure that all expansion slots (on the back or side of the client) are covered with metal retaining brackets, and tightly attached to the computer cabinet.

- Only equipment certified to comply with Class B (computer input/output devices, terminals, printers etc.) should be connected to this equipment, and must have shielded interface cables.

- This equipment should not be used in electro-medical applications.

- Do not operate this equipment in corrosive atmosphere, explosive atmosphere or outside specified temperature limits.

- Replace the battery only with the same or equivalent type recommended by the manufacturer.

2 Installation

You have to install your thin client before you can use it. Installation involves setting up the hardware and connecting the peripherals required for your use.

To install the Itona J Series hardware, perform the following steps:

1. Unpack the unit.

2. Prepare to connect.

3. Connect the accessories and power.

4. Connect to the server.

Each step is explained in detail in this chapter.

Unpacking the Unit

Unpack the unit from its carton box, handle safely to ensue you do not damage any components during unpacking.

The carton in which the product was shipped to you contains the following:

- Itona J Series Thin Client

- AC-DC Power Adapter 12V / 5A

- Pedestal Set

- Power Cord (Country specific)

- DVI-I to VGA Dongle

- Mouse (Optional)

- VESA Mounting Bracket (Optional)

- Hardware Installation Guide

Ensure that all the contents mentioned above are in the carton. If any of the carton items are missing, contact the dealer or reseller from whom you have purchased the product.

Note: Please retain the original carton and packing material for further use. They would be required to avoid damage during transit.

Preparing to Connect

1. Ensure that the following are available at the site where you want to install the product.

- 100~240 V AC, 1.2 A, 50/60 Hz, 3-pin power inlet for power adapter.

- Well ventilated, clean, dry and dust free atmosphere.

- Specified environmental conditions. For more information, see section 'Operating Environment' on page 8.

- Table or desk of suitable size.

2. Fix the pedestal to the J series thin client.

3. Place the product on the table in a location that provides quick and easy access to the power inlet plug to shutdown the power in emergencies.

4. Ensure a minimum space of 2 inches (5 cm) on all sides of the unit for efficient convection cooling.

Connecting the Accessories and Power Supply

The various connectors available on the rear panel of the client are shown in Figure 2.

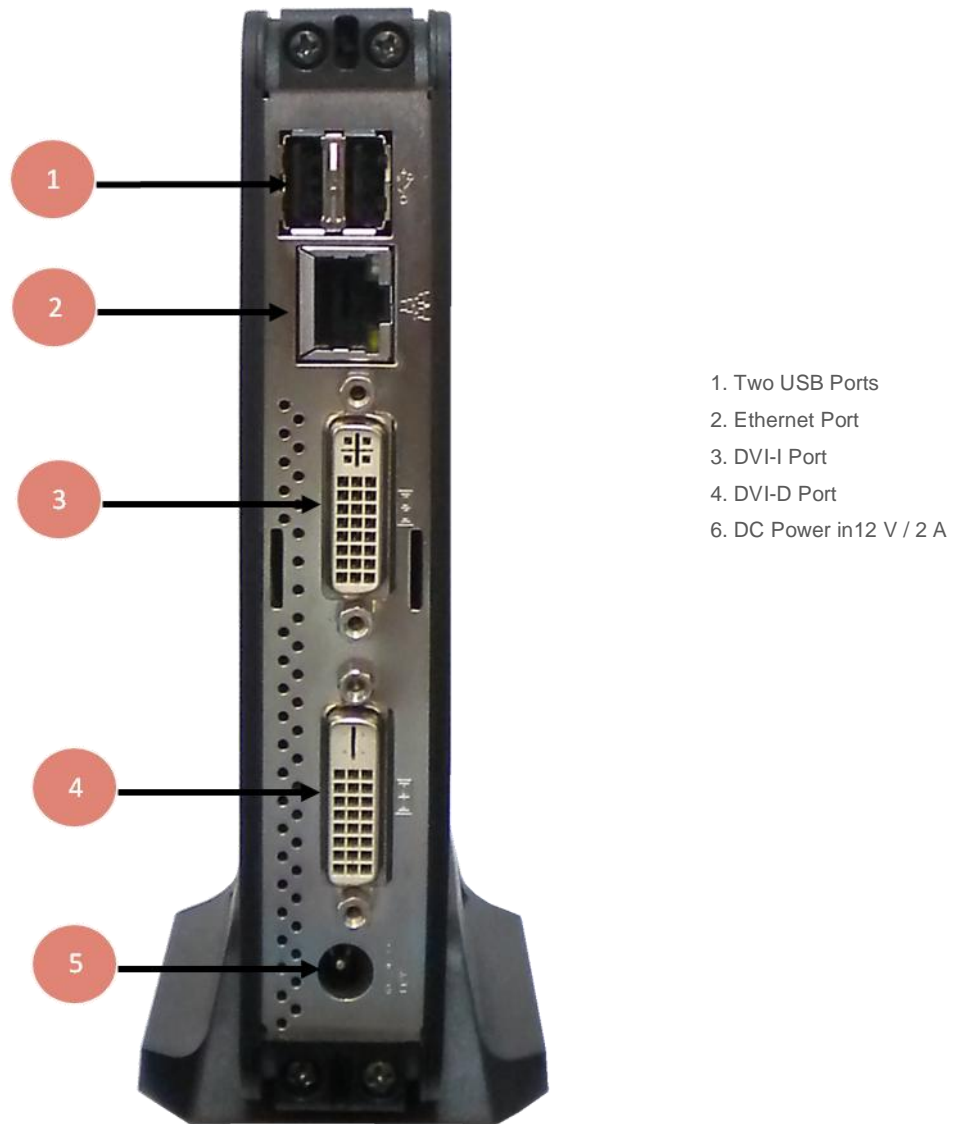1. Two USB Ports
2. Ethernet Port
3. DVI-I Port
4. DVI-D Port
6. DC Power in12 V / 2 A

Figure 2: Itona J Series Rear View
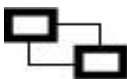
Connectors	Connector Symbol
VGA Port (via dongle)	
DVI-I Port	
USB Port	
Audio output (LINE OUT) Port	
Microphone input Port	
RJ45 Ethernet Port	

Table 1: Connector Symbols

Note: Before connecting any cables, ensure that the power cable is unplugged from the unit.

To connect various accessories and power supply:

1. Connect DVI-I cable from your display unit to the DVI-I port.

2. Connect the DVI-D cable from your display unit to the DVI-D port.

3. Connect USB devices to the USB ports.

4. Connect external powered speakers to the audio output (LINE OUT) port.

5. Connect microphone to the microphone input port.

6. Connect LAN cable to the RJ45 Ethernet port.

7. Connect DC 12V 2A power adapter to DC jack.

Caution: Ensure that the DVI-I and DVI-D ports is adequately fastened with the screws of the cables or dongle.

Connecting to the Server

The Thin Client can be physically connected to the server/network by using LAN connection through TCP/IP.

To connect client to LAN through TCP/IP:

1. Connect one end of a 10/100 cable to the LAN port of the client.

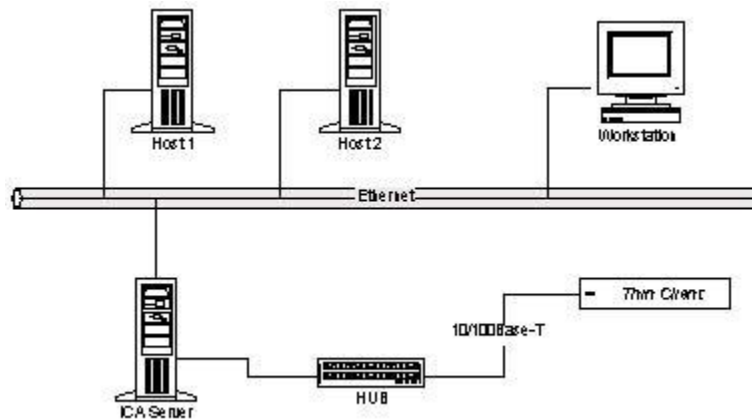2. Connect the other end to a LAN hub as shown in Figure 3.

Figure 3: LAN Connection through TCP/IP

3. Press the power button to turn on the Itona J Series Thin Client. The front panel LED lights up and the client boots up with a beep sound. The Connection Manager screen appears. Refer to the *Software User's Guide* for configuring the client

3 Specifications

Hardware

Processor	TI DM8148 with 1.0 GHz ARM CPU
System Memory	Onboard 1 GB DDR3
Storage Memory	Onboard 4 GB eMMC
Display Support	Dual HD support
	High performance GPU integrated with 3D graphics engine
	Resolution up to1920x1200 @ 60 Hz
	Depth: 32 Bit maximum
Network	10/100/1000 Ethernet
	Optional internal Wireless LAN module
	Wake-on-LAN
Power Supply	DC 12 V External Power adapter
	Worldwide auto-sensing 100-240 V AC

Mechanical

Height	145 mm
Width	133 mm
Depth	29 mm
Weight	600 g (Approx)

Operating Environment

Operating temperature	0° C to $+35^o$ C (Horizontal & Vertical position)
Storage temperature	$- 20^o$ C to $+60^o$ C

Humidity   20 to 80% RH non-condensing

Specifications

External Power Adapter

Line Voltage	100 V to 240 V AC
Line Frequency	- 20° C to +65° C
Power Output	12V / 2 A max

Power Management (Energy Star Compliant)

Max power consumption	< 4 Watt
System idle mode	2.58 Watt
System off mode	0.21 Watt

Cables

10/100 LAN Cable

Cross Connection - (Without Hub)

```
   RJ45                        RJ45
   Pin                         Pin

TXD+  1 ─────────────────── 3  RXD+

TXD-  2 ─────────────────── 6  RXD-

RXD+  3 ─────────────────── 1  TXD+

RXD-  6 ─────────────────── 2  TXD-
```
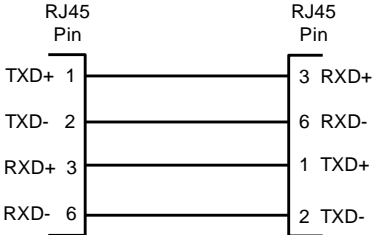
Straight Connection - (With Hub)

```
   RJ45                        RJ45
   Pin                         Pin

TXD+  1 ─────────────────── 1  TXD+

TXD-  2 ─────────────────── 2  TXD-

RXD+  3 ─────────────────── 3  RXD+

RXD-  6 ─────────────────── 6  RXD-
```
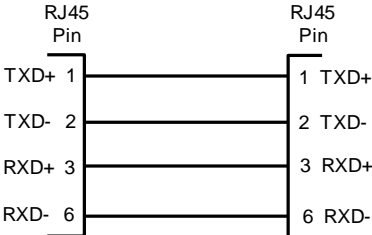
4 Troubleshooting

This chapter contains solutions for problems you may encounter while using the product.

| Problem	Solution
The power-LED on front panel does not glow when the client is switched on.	✓ Ensure that the power cord is plugged into an AC outlet. ✓ Check the fuse in the power-plug, if available.
There is no display on the monitor, though the power-indicating LED glows.	✓ Ensure that the video cable is properly connected.
The mouse (or keyboard) does not work when the client is switched on.	✓ Ensure that the mouse (or keyboard) is plugged into the correct USB port on the rear panel.

Appendix

Connectors

The following section provides pin details for various connectors on the rear panel of the client.
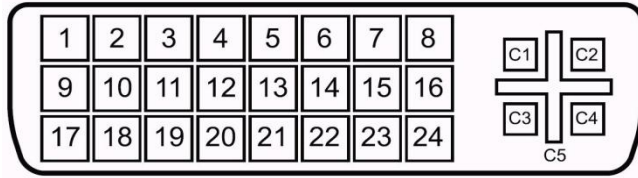
10/100 LAN Port

RJ-45 modular 8-pin jack. 10/100 Mbps.
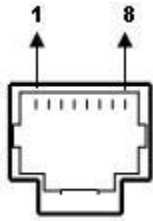
Pin	Signal
1	TxD+
2	TxD-
3	RxD+
6	RxD-

DVI-I Port

Pin C1 to C5 carry the analogue signal.24+ 5 pin DVI Connector.

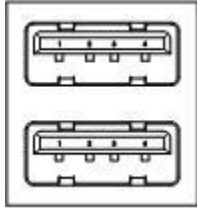| Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS Data 2-	11	TMDS Data 1/3 Shield	21	TMDS Data 5+
2	TMDS Data 2+	12	TMDS Data 3-	22	TMDS Clock Shield
3	TMDS Data 2/4 Shield	13	TMDS Data 3+	23	TMDS Clock +
4	TMDS Data 4-	14	+5 V Power	24	TMDS Clock -
5	TMDS Data 4+	15	Ground(for+5V)	C1	Analog Red
6	DDC Clock	16	Hot Plug Detect	C2	Analog Green
7	DDC Data	17	TMDS Data 0-	C3	Analog Blue
8	Analog Vertical Sync	18	TMDS Data 0+	C4	Analog Horizontal Sync
9	TMDS Data 1-	19	TMDS Data 0/5 Shield	C5	Analog Ground (analog R, G & B return)
10	TMDS Data 1+	20	TMDS Data 5-		

Audio Port

Line Out/Mic ports.

Standard audio jacks.

USB Port 2.0

4-pin series-A receptacle. 4~ 5 ports depending on the model.

Pin	Signal
1	VCC
2	D-
3	D+
4	GND