TU System Manual V2

- TU 200Mhz Fanless System with 128mb ram
- Includes 200Mhz X86 CPU, VGA, Lan, USB, Audio, Internal IDE, CF Flash Slot, Case, Board, PS2, AC adapter, mounting screws for Vesa mount.

- Package includes System, AC Adapter, Manual on CD

Suitable for Win CE, Embedded Linux, Light Linux, etc.

Usage: Thin Client, Set Top Box, Low end controller

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TRADEMARKS ACKNOWLEDGMENT

Safety Information

WARNING

- Do not expose the system to rain or moisture, in order to prevent shock and fire hazard, or use in outdoor areas.
- Never install the system in wet locations.
- Do not open the case to avoid electrical shock or damage to the internal system. Refer to your supplier for questions or qualified servicing.
- Never touch un-insulated terminals or wire unless your power adaptor and display monitor are disconnected. Follow proper AC grounding for power.
- Please use care not to damage cables by improper handling or use. The warranty does not include physical damage to the system or cable, or damage caused by mishandling, drop, or by improper installation of flash, or for problems caused by opening the system or modifying it.
- When using system, avoid using or installing the modem to the serial port during storm or lightning, or avoid using any electrical deice during storm.
- USB connectors are not supplied with Limited Power Sources.

DO NOT ATTEMPT TO OPEN OR TO DISASSEMBLE THE CHASSIS (ENCASING) OF THIS PRODUCT. PLEASE CONTACT YOUR SUPPLIER FOR SERVICING FROM QUALIFIED TECHNICIAN.

Regulatory

FCC Class A Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference in which case the user will be required to correct the interference at his own expense. Testing was done with shielded cables. Therefore, in order to comply with the FCC regulations, you must use shielded cables with your installation.

WARNING

This product complies with EN55022 class A. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures such as move the system location or other.

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

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference - causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

Manufacturer's Declaration of Conformity

This equipment has been tested and found to comply with the requirements of European Community Council Directives 89/336/EEC and 73/23/EEC relating to electromagnetic compatibility and product safety respectively.

Attention

This product has been designed and certified to comply with certain regulatory requirements pertaining to Information Technology Equipment. This product has not been designed for use as a medical device or safety critical device. Without limitation of the foregoing, this product is not intended and has not been certified for use in a hospital or clinical environment to diagnose, treat, or monitor patients under medical supervision, and is not intended and has not been certified to make physical or electrical contact with patients, nor to transfer energy to or from patients and/or to detect such energy transfer to or from patients, or for other safety critical or mission critical or life critical areas. The factory and its suppliers assume no liability or risk for such unauthorized usage areas.

Table of Contents

0

UNPACKING YOUR SYSTEM

Congratulation! Thank you for purchasing our product.

PACKING LIST FOR SYSTEM:

Item	Description	Q'ty
①	Tiny System	1
②	Max. 15-watts External Power Adaptor, Vin: 100~240VAC • 60/50Hz, 1.0A / Vout: +5.0~5.25VDC @ 3A max.	1
③	CD with User's Manual	1

* Note: The accessories are subject to change without notice.

CHECK BEFORE USE

① System

② AC Power Adaptor

③ User's manual

On CD or online

Figure 1

1

PREFACE

TINY PC OVERVIEW:

The Tiny PC is a very convenient and low cost solution for many small system applications, including thin client, set top box, browser, light Linux, embedded Linux etc. The system is designed for minimal DC power input from included AC adapter, fanless operation without noise or excessive heat, and tiny size for flexible use in many areas.

It can attach to a VESA mounting fixture, allowing it to be securely mounted onto desks, walls, or buildings, and thereby is quite flexible. It can also attach directly to selected LCD displays for a flexible system for the use at trade shows, presentations, promotions, etc. Furthermore, with fanless design, the system is ideal to be used in the environment where temperature demand is critical.

The VESA® FDMI™ Standard defines mounting interfaces, hole patterns and associated cable/power supply locations for LCD monitors, plasma displays and other flat panel devices. This system is designed to fit this standard to make monitor attachment quick and easy.

2

SYSTEM OVERVIEW

Front Panel

Power LED
The power LED lights up, when system is turn on.

HDD LED
The HDD LED flashes when the system is working. Please do not turn off the system when HDD start running

Power Switch
Depress switch to turn on & turn off the systems.

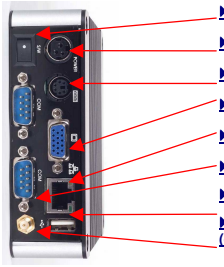
CF Slot
For connection to Device with CF Card and Micro Driver.

Audio Line Out

Audio Mic InPower Switch

USB port
For connection to devices with USB interface(HDD, CD/DVD-ROM, Memory Stick, etc.)

Back Panel



- **Power switch**
- **DC Power Jack (3-pin)**
- **PS/2 Keyboard or Mouse (6-pin)**
- **VGA**
- **RJ-45 LAN Jack**
- **Serial Port (optional model)**
- **USB Port**
- **Wireless Antenna connector (optional)**

3

About Embedded CPU Board

SYSTEM SPECIFICATION

CPU
X86 Compatible CPU

Main Memory
128MB SD RAM

BIOS
AMI BIOS

VGA
AGP Rev 2 Compliant
Resolution up to 1280x1024 High Colors

Audio
AC-97 CODEC, Fully Compliant
with AC-97 v 2.1

LAN
Realtek 8100-B, 10/100 Mbps Ethernet
Interface

Keyboard and Mouse
PS/2 Keyboard and Mouse

On-Board IDE
Enhanced IDE interface, 44-pin box
header x 1

Peripheral
1. USB V1.1 ports x 3
2. Optional model: Serial port x2
3. Audio (Mic-in, Line-in)
4. Type I/II CF Slot (Support Micro Drive)

Dimension & Weight
11.5 x 11.5 x 3.5 cm / 506g

Operating System
Suitable for:
Windows CE.NET
Windows XP Embedded
Embedded Linux or Light Linux

4

PERIPHERALS

CONNECTING THE POWER ADAPTOR

Power Adaptor

To use your system immediately, take and use the supplied AC adapter as a power source. See the left diagram for visual connection.

Connect the DC power jack of the power adaptor to the DC Input jack of system.

Turning ON Your System

Press the power button as indicated on the figure on your left-side, the system will start automatically.

CONNECTING THE MONITOR

VGA Connection

Depending on your choice of viewing, select a conventional CRT or the LCD VGA monitor.

Make your connection by following the reference diagram from the VGA cable of your cable to the 15-pin D-Sub VGA port of the system.

CONNECTING THE USB

The system provides USB port (Two in front & one at the back).

Front cabinet

USB Ports

The second USB port is available for connection to USB devices.

Speaker/Earphone

The system supports Input/Output device for speaker and Microphone

CONNECTING SPEAKER/EARPHONE AND LAN

Connecting to LAN

There is an available RJ-45 LAN jack for connection to the hub of your intranet; and via your server for internet service (see diagram for RJ-45 LAN jack).

CONNECTING THE KEYBOARD AND MOUSE

PS/2 Keyboard or Mouse (6-pin)

The PS/2 Port is available for connect Keyboard or Mouse.

CONNECTING SERIAL PORT

OPTIONAL MODEL: Serial Ports

The serial port is usually connected to a serial device like modem

5

BIOS

RECONFIGURING System

1. Take note that AMI BIOS is used in the system. To reconfigure the system, depress or hit the <Del> key to enter your BIOS setup main menu.
2. Select from the menu, the desired setup for change.
3. Press <Esc> to go back to main menu.
4. Move your cursor to “Save Settings and Exit”, press “Y” to save the changes that you just made. the system will restart accordingly to your new setup.

6

TECHNICAL SPECIFICATION

Features	Description
CPU	X86 Compatible CPU
BIOS	AMI BIOS
System Memory	Onboard 128MB SD RAM
Expansion	OPTIONAL MODEL: 1x Mini-PCI connector
I/O	
MIO	1 x EIDE (44-pin) 1x PS/2 for K/B or Mouse 1 x RJ-45 Ethernet Connector 1 x Type I/II Compact Flash slot OPTIONAL MODEL: 2 x RS-232**
USB	3 x USB 1.1 Ports (two in front)
Display	
Display Memory	8MB shared system memory
Resolution	Up to 1280 x 1024
Audio	
AC97 2.1 (Codec)	AC-97 V 2.1 Codec
Audio Interface	Line out, Mic in
Ethernet	
Chipset	Realtek 8100-B
Remote Boot ROM	Built-in boot ROM function
Mechanical &Environment	
Power Requirement+	5V to 5.25V @ 3A
Operating Temperature0	0 ~ 60°C
Operating Humidity	0% - 90% relative humidity, non condensing
Size (W x H x D)	11.5 x 11.5 x 3.5 cm
Weight	506g
Certification	CE, FCC

7

TAKING CARE YOUR SYSTEM

This section gives you guidelines on using system – Safety, Storing and Handling.

STORING

- Do not place your system in a location that is subject to:
  - Heating sources, such as stove, oven, heater, radiator or air duct
  - Direct contact from sunlight
  - Rain or moisture area
  - Excessive dust accumulation area
  - High humidity place
  - Constant or occasional mechanical movement, vibration or shock
  - Strong magnets or magnetic fields or magnetically unshielded speakers
  - Ambient temperature of more than 95°F (35°C) or less than 32°F (0°C)
- Do not place other electronic device or electrical equipment near your system. The electromagnetic field of the system may cause interference or malfunction.
- Provide adequate air ventilation (circulation) to prevent internal buildup of heat. Do not place your system near the wall, behind the curtains or draperies, in between two books that block its ventilation slots. Leave a space of at least 8 inches (20cm) behind the sides and back panel.
- Change of environmental temperature: Problems may occur when there is a sudden change of environmental temperature, or if the system is brought directly from a cold location to a warm one, moisture may condense inside. If so, turn off the system, and contact your supplier.
- Checking the surrounding appliance(s) before using the system. Since the system uses high-frequency radio signal and may interface with radio or TV reception causing interference or poor signal display. When this happens, relocate the system by a suitable distance away from the set.
- Do not drop the system from the working table nor place heavy objects on top of the system, or use improper handling or installation, as these or indications of physical damage will void the warranty.

USING CABLES FOR CONNECTION

- To avoid problem, use only standard cables and standard accessory items supplied by supplier or known to be compatible with system. The supplier is not responsible for connection problems or system problems arising from use of non standard accessories or cables supplied elsewhere.
- Do not use cut or damaged cables for connection.

CLEANING YOUR SYSTEM

- Clean the system with a soft, dry cloth or a soft cloth lightly moistened with a mild detergent solution.
- Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine, as these may damage the finish of your system.
- When a solid object falls or a liquid spills onto the system, turn off the system immediately and unplug the LAN and power cables. Contact a qualified person or your supplier to check the system before you use it again.
- Always disconnect the power cord from the power source before cleaning system.

8

TROUBLESHOOTING

This section describes the techniques of resolving some basic problems that you might encounter when using your system. For more troubleshooting guidelines, please contact your supplier for technical support questions.

TROUBLESHOOTING YOUR SYSTEM

A. System does not start

- Make sure the System is properly secured and plugged into a power source before it is turned on. Make sure the power indicator shows the power is on. See section 2 for more information about “System Overview”.
- When the system is plugged into a power strip or the UPS (Uninterruptible Power Supply), make sure the power strip or UPS is turned on and working normally.
- Check if your VGA or LCD monitor is properly plugged into a power source and turned on. Make sure the brightness and contrast controls are adjusted correctly. See the manual that came with your display (monitor) for details.
- Check if your power control button does not function, by removing the AC adaptor. Wait for one minute, and then reattach all power connection before pressing the power button.
- Condensation may cause the system to malfunction for a while. If this happens, do not use the system for at least one hour.
- When you have checked all the above guidelines and the system does not work. Remove the power adaptor from the system, unplug the power cord, and plug it in again. Then turn on the power.

B. BIOS Error Message –

BIOS error message appear when system starts

If the BIOS error message appears, press any key to resume or, hit <DEL> to enter BIOS setup main menu, follow these steps:

1. Press <DEL>, and the BIOS Setup main menu appears, check if flash is detected at “Pri Master”. If it is not detected, use “Sel” keys <↑↓> to choose “AUTO” and then go back to the main menu by pressing <ESC>. Move your cursor down with “Sel” keys <↓>, and choose “Save Settings and Exit”, a message dialog appears as seen below, hit <Enter>.

   “Save current settings and exit (Y/N)? Y”

2. Go to “Auto Configuration with Optimal Settings” using the “Sel” keys <↑↓>, then press <Enter>. A message dialog appears as seen below, hit “Y” key and press <Enter> to save and recover the factory setting.

   “Load high default settings (Y/N)? N”

C. "Operating System Not Found" –

A message indicating that "Operating system not found" appear when my system starts (Windows won't start)

- Enter your BIOS setup main menu by pressing <DEL> key, be sure that your C: drive is enable.

- If Windows still does not start, follow these steps to initialize the BIOS:
  1. Turn off the system.
  2. Remove any peripheral devices connected to the system.
  3. Restart the system..
  4. Press <**DEL**> to enter **BIOS Setup main menu** window.
  5. Follow the steps as written in item **B. BIOS error message**.

- If you have just connect your system to a CD/DVD or USB Drive, remove these peripherals.. And restart system to confirm that the OS operating system starts properly. If your system continues to display the message "Operating system not found," and does not start, please contact your supplier for answers.

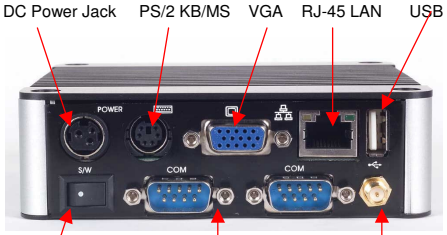
ONBOARD CONNECTORS SUMMARY

SUMMARY TABLE FOR CPU BOARD

Nbr	Description	Type of Connections	Pin nbrs.
J1	VGA Connector	D-Sub Connector	8-pin
J2	Power Button	Power Button	
J3	USB (Back)	USB Connector	8-pin
J4	PS/2 keyboard or Mouse	Mini DIN Connector	6-pin
J5	RST (Reset)	Hear 2x1 2.0mm	2-pin
J6, J7	USB (Front)	USB Connector	8-pin
J8	LAN	RJ-45	8-pin
J9	Line Out	Audio Jack	
J10	Mic In	Audio Jack	
J11	IDE connector	Box Header 22x2 2.0mm	44-pin
J12	CF Device Jumper	Close : Master	2-pin
J14	DC 5V Input	Mini-Din Connector	3-pin
J16,1J7:	COM Port	Box Header 5x2 2.0mm	10-pin
J18:	Mini PCI	Mini PCI socket	124-pin

FRONT CONNECTORS OUTLINE FOR SYSTEM

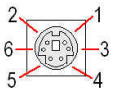
REAR CONNECTORS OUTLINE FOR SYSTEM



Note: The 2 serial Ports are included in optional other system model.
Wireless, and Mini PCI slot are also optional items for the system.

PIN ASSIGNMENTS

J4:PS/2 Keyboard or Mouse – 6-pin Mini-Din Connector



Pin #	Signal Name
1	KBCLK
2	PMCLK
3	GND
4	KBDAT
5	PMDAT
6	SB5V

Power SW – Push Button Switch

Pin #	Status
|	ON
O	OFF

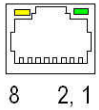
J14: DC-IN (5V) – 3-pin Mini-Din Lock Pin Socket

Pin #	Signal Name
1	VCC
2	GND
3	NC

J3: USB (90°)– 4-pin USB Type 1 Connector (Vertical Type)

Pin #	Signal Name
1	VCC
2	USB0-
3	USB0+
4	GND
5	GGND
6	GGND

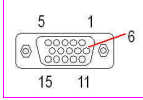
J8: RJ-45 Connector



Pin #	Signal Name	Pin #	Signal Name
1	FTXD+	2	FTXD-
3	FRXIN+	4	NC
5	NC	6	FRXIN-
7	NC	8	NC

PIN ASSIGNMENTS

J1: VGA – 15-pin D-Sub Connector



Pin #	Signal Name	Pin #	Signal Name	Pin #	Signal Name
1	MR	6	GND	11	NC
2	MG	7	GND	12	VCC
3	MB	8	GND	13	HYSYNC
4	NC	9	NC	14	VSYNC
5	GND	10	GND	15	VCC

J10: MIC_IN – 5-pin RCA Phone Jack

Pin #	Signal Name
1	GND
2	MIC1
3	Open Touch
4	Open Touch
5	VREFOUT

J5:USB (USB2): For connection to external USB device –4-pin USB Type 1 Connector (H)

Pin #	Signal Name
1	VCC
2	USB2-
3	USB2+
4	GND
5	NC
6	NC

Power BTN – Push button

Action	Status
Push	ON/OFF

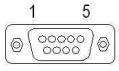
J9: Line-out – 5-pin Phone Jack

Pin #	Signal Name
1	GND
2	LOUTL
3	Open Touch
4	Open Touch
5	VREFOUT

LEDS: POWER ON/OFF & HDD R/W

LED Color	State
Green	Power On
Red	HDD On
Red Flashes	HDD R/W

J9: COM - 9-pin Dsub Connector



Pin #	Signal Name	Pin #	Signal Name
1	DCD1	2	RXD1
3	TXD1	4	DTR1
5	GND	6	DSR1
7	RTS1	8	CTS1
9	RI1	--	--

WARRANTY

TERMS AND CONDITIONS

1. Warranty

The warranty terms for the system are twelve (12) months from the beginning on the date of invoice. During the warranty period, the warranty covers authorized repair, or replacement at factory discretion, for manufacturing defects covered by the limited warranty. Please see your supplier's specific warranty policy for details.

2. Service and Support

Contact your supplier for specific support and procedures. Often we can offer valuable technical support and technical tips and ideas to help with project planning, software ideas, as well as of course system problem resolution during the warranty period.

3. Return Merchandise Authorization (RMA) policy

If the customer finds system seems to have a defect or problem covered by warranty, please contact your supplier for the proper procedure for handing analysis or repair. Normally the first step is to send the detailed problem description, and the factory or supplier will review that to see if it appears to be a hardware or software or other kind of problem. Often we can suggest some further tests or sometimes even a solution. And if it does appear after such to be a hardware defect, the factory or supplier normally will forward an RMA number authorization for returning the unit for testing or repair.

Normal RMA return procedures are:

1. Contact your supplier for their RMA form and procedures or policy.
2. Normally an RMA form and RMA number will be issued
3. The RMA Number must be used within 7 DAYS
4. The RMA Number must be shown clearly on your shipping label.
5. Factory must receive all Returns before a replacement or repair will be sent.
6. The repair cost is depends on the parts, the damage reasons, and whether under warranty period…etc. A reasonable price would be charged if not under warranty.
7. The freight of return is charged to Purchaser account and accompanied by an RMA number. Any Returns with freight collect will be refused and returned to you.
8. The factory must receive any warranty returned goods within the warranty period.

4. Shipping Policy

The customer must pre-pay shipping for any defective system or parts returned under the warranty. The factory shall not be liable for risk of loss or damage during shipment of your returned system or parts if you fail to insure the shipment for damage or loss. All products must be shipped back in original or equivalent packaging. Purchaser assumes the risk of loss. Factory shall not be responsible for failure of the delivery service to make on-time delivery or delays due to shipping insurance for lost or damaged goods.

MEMO