PCM8015

15" Industrial Panel PC
Atom Dual-Core D510 CPU
Fully IP67 Rated Enclosure
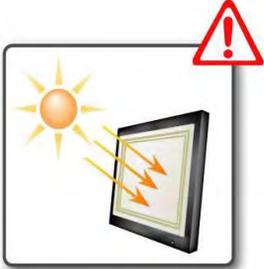
User Manual

ACNODES

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IMPORTANT SAFETY INSTRUCTIONS

- Please read these instructions carefully before using the product and save for later reference. Follow all warnings and instructions marked on the product.
- Unplug this product from the wall outlet before cleaning. Clean the product with a damp soft cloth. Do not use liquid or aerosol cleaners as it may cause permanent damage to the screen.
- Do not immense this product under water (IP67 for standard spec.) For custom spec. not to fit this condition, please check with sales representation.
- Do not place this product which weighs almost 10KG with fully equipped on the unstable cart, stand, or table.
- The product may fall, causing scratching to the product surface or connectors.
- The unit should never be placed near fire or vicinity with highly explosive matters.
- This product should be operated from the type of power indicated on the marking label.
- If you are not sure of the type of power available, consult your dealer or local power company.
- This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin.
- This plug will only fit into a grounding-type power outlet.
- If you are unable to insert the plug into the connector, contact your electrician to replace your obsolete outlet or examine the pin header, do not jostle with hard push in case damage.
- Do not defeat the purpose of the grounding-type plug.
- Do not top up anything on the product identity, or touch closely.
- Do not locate this product where persons will walk on the cord.
- If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord ampere rating.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk.
- Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks and will void the warranty.
- Refer all servicing to qualified service personnel.

CAUTION

Read manual prior to installing the product. The operation of products depends on your
reading and following the information in this manual. Re-check your work prior to operating the product.

EVENT	EFFECT	PREVENTION
	Sunlight shines directly will cause the panel damage.	You should avoid placing the product under direct sunlight.
	If the product is close to explosive environment or such as on fire, the overheat will cause the product malfunction.	You should avoid placing the product near explosive or firing environment.

Getting Started

Congratulations on purchasing our Rugged Military Devices. The design allows you to use it in harsh outdoor environments. You can use it in high temperature desert, subzero freezing snow, driving rain or dusty surroundings – places you could not take with normal industrial grade Computer.

This chapter tells you step by step how to get the Military Computer up and running. You will find instructions for the following procedures:

• Specification

• Unpacking

• Device Overview (An Explanation of External Components and their Functions)

Specification

Panel Specification :

• **Size/ Type**	:	**15"**
• **Resolution**	:	**1024 x 768**
• **Brightness**	:	**350 (typ.) (1,000 nit for optional)**
• **Contract Ratio**	:	**700 : 1 (typ.)**
• **Max. Colors**	:	**16.2M (8 bits/color)**
• **Viewing Angle**	:	**-80~ 80 (H); -80~ 60 (V)**
• **Touch Screen**	:	**5-wire resistive touch screen or Capacitive touch screen**

**Optical bonding / High brightness are for optional

Input/Output :

Mil-connector MS27474T12B-22S	:	**2 x RS232**
	:	**1 x USB 2.0**
Mil-connector MS27474T14B-35S	:	**1 x VGA output**
	:	**1 x GbE LAN port**
Mil-connector MS3114E8-4P	:	**1 x DC Input 18~32V**

**Connector type, I/O function, is subject to change by customer requests

System Features :

• **Processor**	:	**Intel® Atom Dual-Core D510 1.66GHz (Intel® Core i7 for optional)**
• **System Chipsets**	:	**Intel® ICH8M**
• **System Memory**	:	**DDR2-667 2G SO-DIMM (wide temp. range)**
• **Storage**	:	**64GB SSD**

**RAM, HDD capacity would change by orders
**WiFi, GPS, WWAN are ordered by requests

Environment Tolerance :

• **Operating Temperature**	:	**-20 deg. C to 60 deg. C**
• **Storage Temperature**	:	**-30 deg. C to 70 deg. C**
• **Humidity**	:	**10 to 95% (Non Condensing)**
• **Shock**	:	**MIL-STD-810G Method 516.6**
• **Vibration**	:	**MIL-STD-810G Method 514.6C-3**
• **Humidity**	:	**MIL-STD-810G Method 507.5-7**
• **High Temperature**	:	**MIL-STD-810G Method 501.5-II**
• **Low Temperature**	:	**MIL-STD-810G Method 502.5**
• **EMC**	:	**MIL-STD-461F, RE102,RS103,CE101,CE102**

Dimensions :

• **Dimensions**	:	**400(W) x 330(H) x 68.7(D) mm**
• **Weight**	:	**9KG**

Unpacking

After unpacking the shipping carton, you should find these standard items. Inspect all items. If any item is damaged or missing, notify your dealer immediately.

✓   Device Identity

✓   Power Adapter
(Optional or Ordered by request)

✓   Power Cord
(Optional or Ordered by request)
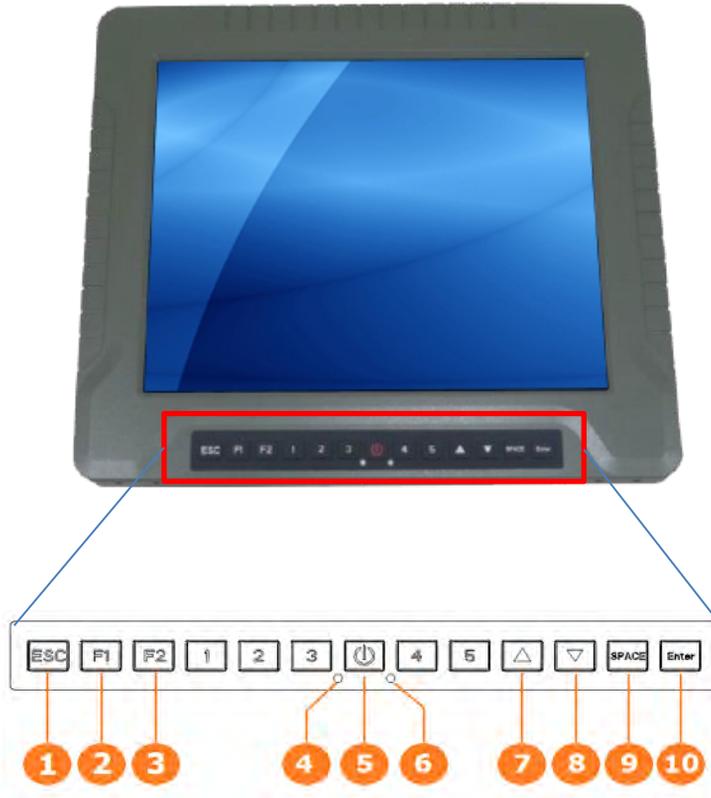

✓   Military Plug or which with cables
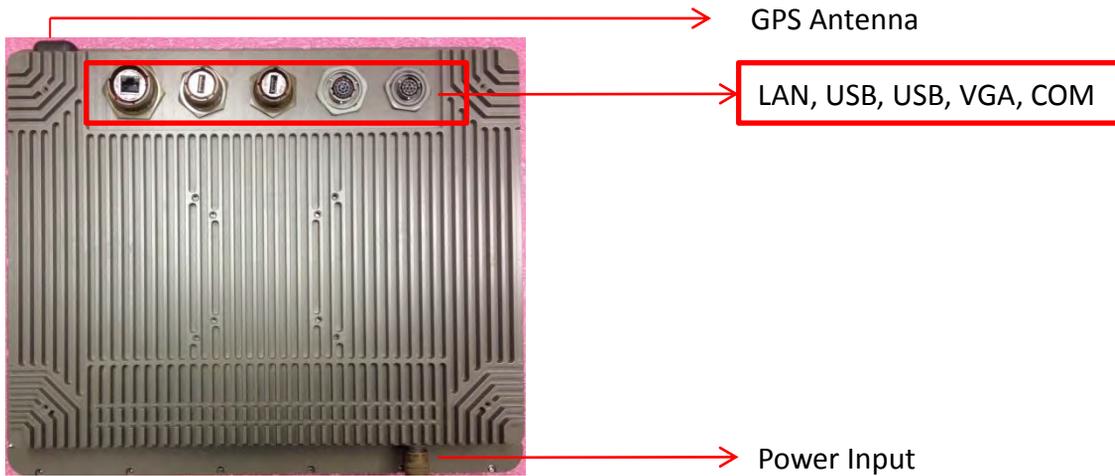(Optional or Ordered by request)

Device Overview

Front View

1. ESC   : Mapping to keyboard "ESC" key

2. Function 1   : Mapping to keyboard "F1" key

3. Function 2   : Mapping to keyboard "F2" key

4. Power LED   : Power On/Off Indicator (Dark: Off/ Green: On)

5. Power ON   : Power On/Off button

6. HDD LED   : HDD storage (Red: HDD storage reading)

7. Brightness Up   : Brightness to adjust higher (max.10-grade from the darkest)

8. Brightness Down : Brightness to adjust lower (max.10-grade from the lightest)

9. SPACE   : Mapping to keyboard "Space" key

10. Enter   : Mapping to keyboard "Enter" key

Device Overview

Rear View

2xRS232, 1xUSB

1xVGA, 1xGbE LAN

Power Input
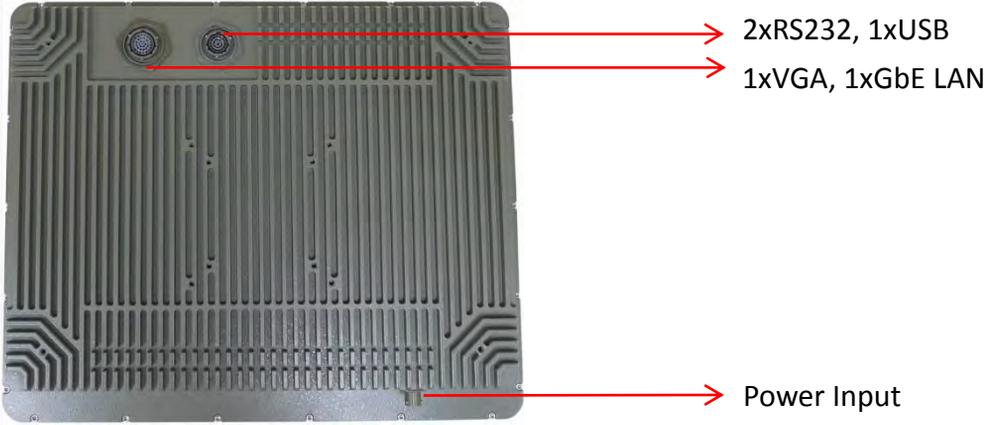
Type1:   Back Side (regular I/O type)

GPS Antenna

LAN, USB, USB, VGA, COM

Power Input

Type2:   Back (Custom D38999 Circular I/O type)

Operation

Congratulations on purchasing our Rugged Military Devices. The design allows you to use it in harsh outdoor environments. You can use it in high temperature desert, subzero freezing snow, driving rain or dusty surroundings – places you could not take with normal industrial grade Computer.

This chapter tells you step by step how to get the Military Computer up and running. You will find instructions for the following procedures:

• Start Up the computer
• Setting Up the Windows
• Driver Installation
• Touch Driver Installation
• Mounting Note

Start Up The Computer

1. Connect the Power Cord:

Be aware of the power input voltage range which is from 18 ~ 32V, please check the power source is with correct voltage supply. *If you purchase our AC power adapter, please connect the power plug to the socket with AC supply.

Plug the Power Cord to the Power port at bottom of the machine, align the foolproof pin then push in before to lock by rotating.

Illustration:

2. Turn On/ Turn Off

Press the power button to turn on the Computer. The power indicator will lit up in green. And there're 2 condition after turn-on:

a. If no OS pre-installed, please connect the USB port and connect your booting disk to install the OS. (Press DEL to enter the BIOS setting screen, then select your booting device.)
b. If OS installed, the screen will go through the BIOS setting then to the normal Windows desktop, and jump to next step.
c. Connect the remaining cables for internet access or other USB/COM functionality if necessary.
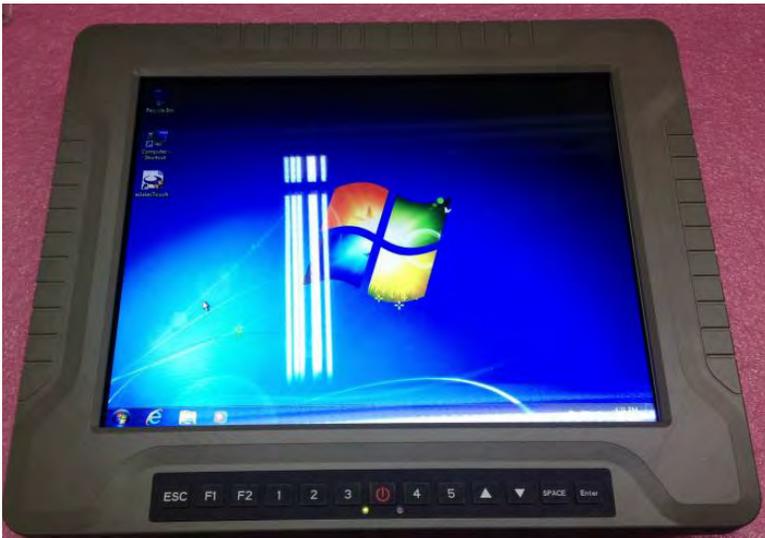
Setting Up Windows

1. Setting up Windows (Windows 7 Pro / Windows 7 Embedded)
Although the Windows has been installed. There's some settings must be done by regional and personal favorite.
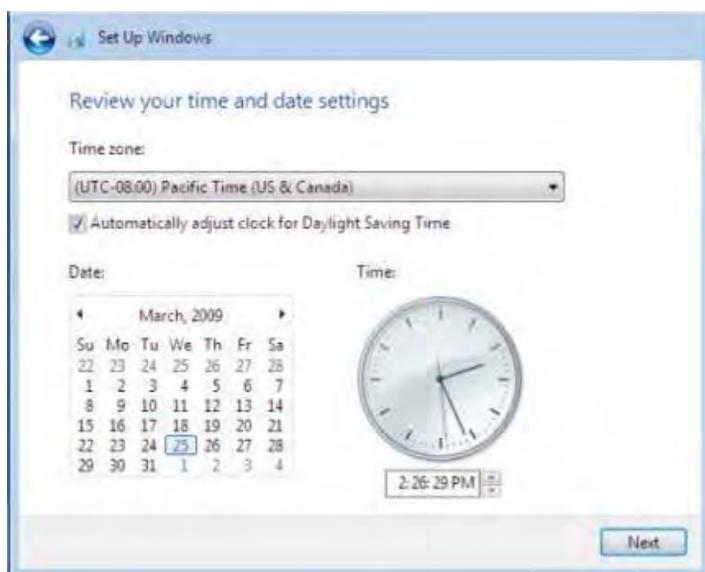a. License
Key-in the Windows Serial Number from the license sticker.

b. Set Up the time zone and region,
Verify your time zone, time, and date. Make any necessary changes. Then click Next to continue.

c. Choose computer's network

If you have a local network, please connect the cables on the corresponding MIL. connector. (or activate the Wireless feature if the wireless function is ordered)
*w/wireless function :
1. Choose a wireless network from the list.
2. If you do not see your network, click Connect to a hidden wireless network , enter the network name, and select the security type and encryption type. Or, click Skip to continue without a wireless connection and set it up later.

*Cable wired on MIL connector :
From the next screen, select one of the following locations for your computer:
    Home network: Select this location if all the computers on this network are at your home and you recognize them. This is a trusted home network.
    Work network: Select this location if all the computers on this network are at your workplace and you recognize them. This is a trusted work network.
    Public network: Select this location if you do not recognize all the computers on the network.

Driver Installation

If NO OS pre-installed in the computer, the user has to install the OS on oneself. The driver has to be installed.

1. Following the step by step to install Driver (Please refer to Mother Board User Manual which is in the Disk note the procedure to install the driver.
2. Include: Graphic, Chipset, VGA, Audio, SATA and Ethernet.

Touch Driver Installation

Touch driver was not put in the SBC manual. "eGalax Touch" is its driver, which was put in the disk contained the driver for the touch panel controllers for the specified communication connectors, RS232, PS/2 and USB, and the other two utilities.
The two utilities are as follows:
a. Touch Tray support
This is utility for emulating the right and left button of mouse through controlling touch panel. Users can toggle between right/left mouse buttons by this utility.
b. Configuration support
The calibration and draw test of touch panel are done by this utility. Besides, users can add or remove for new RS-232 or PS/2 touch panel devices.

1. Install eGalax Touch
Follow below steps to install Touch-Kit:
Step.1 Put the Driver CD to the CD-ROM.
Step.2 Open the "Touch _xxx" directory.
Step.3 Double click the **Setup.exe**, then windows starts to run the installation program. Notice that does not plug the USB controller on the system before the installation has been finished.
Step.4 Click Next to continue installation. And it will auto-detect touch devices in which USB port in the computer.
After installation, there's a eGalax Touch icon appears on the desktop.

2. Calibration

Please check your touch type. If this is Capacitive touch screen which would not need the additional calibration.
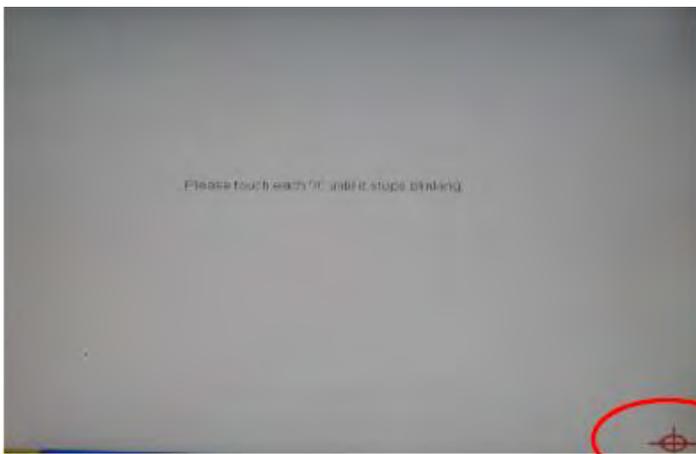
If the order is Resistive touch, please follow the step by step below to do the first calibration.

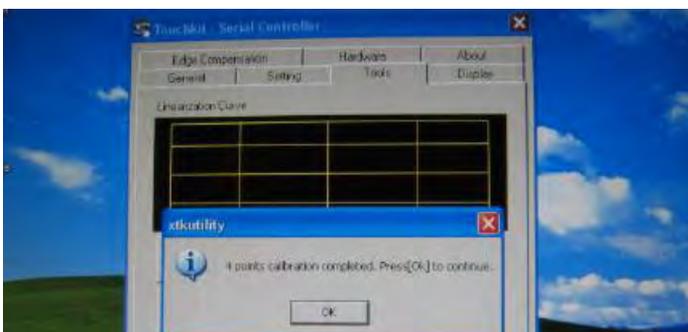Step.1 Open the eGalax Touch on the desktop, and select the "Tool" tab.

Step.2 At the down side, there's a icon with 4 Points Calibration, please click it.
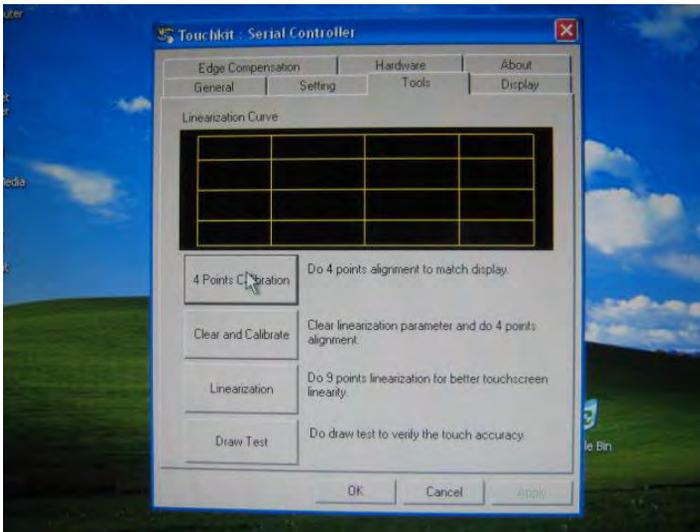
Step.3 Follow the instruction to touch the red dart in sequence.

Step.4 Click OK to finish.

Mounting Notice

The computer is suitable for most of the military application by any kind of mounting approaches. There are two main mounting, the panel mount on console and the VESA mount type. Both are easy for user to operate.
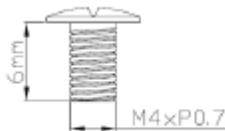
Panel Mount

For Panel Mount use, the mounting kit was provided by order if needed. If no needed, we could provide the cut-out of the unit, just put the computer from front side embedded to the cutout space.
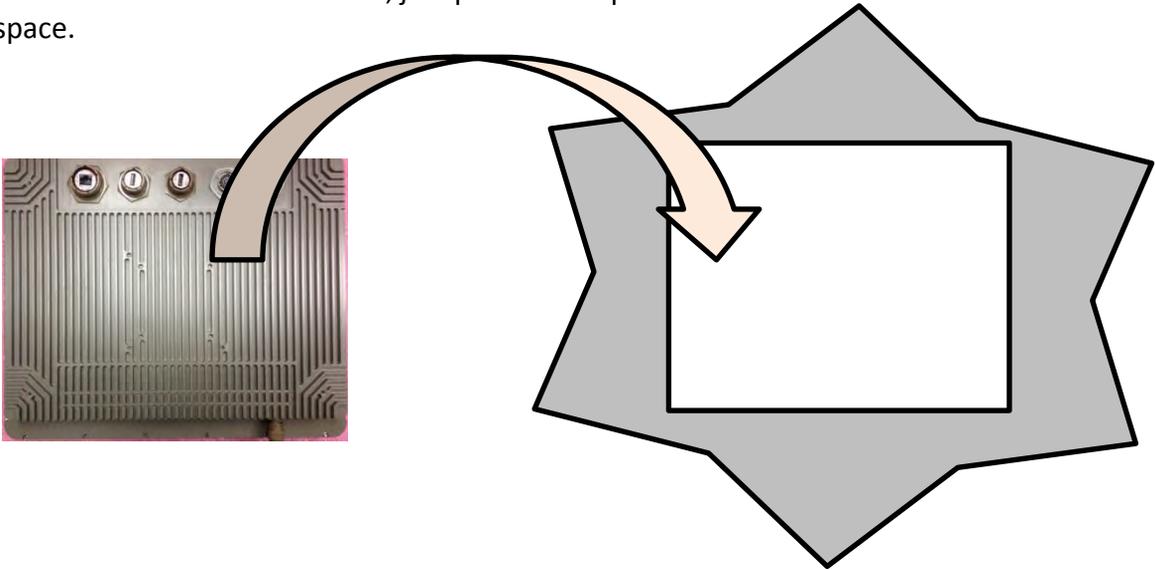
VESA Mount

We provide the standard VESA holes 75x75 and 100x100 for VESA Mount.

Trouble Shootings

| Problem	Solution
The screen suddenly turns blank and the power indicator goes off.	1. Please check the power cable is connected well. 2. Check whether the input power source (voltage is in its range, and supplies enough wattage to the computer.)
Front side keypad no reaction	1. Please operate it under OS, it's no function under BIOS 2. Please connect the physical keyboard to see whether keyboard is workable. If works, the keypad is broken. Please temporarily use On-screen keyboard to replace the function.
No USB signal or searching USB device pop-up frequently	1. Make sure the USB cable connected well 2. Provide more power to the USB device which might not get enough power from the computer
No Ethernet connection	1. Please check the Ethernet cable well-connected. 2. Refer to this document in "Setting Up Windows", to re-check your network status.
GPS can not detect the signal	1. Please use GPS outdoors 2. Please install the satellite detective program which includes in the driver CD tests whether the satellite could be pinged by this program.
LCD Screen broken	As the outside the touch, there's still a layer of glass in protection, so, if the condition is not serious, means the touch works well and not hardly affect the visibility, please keep using it until back from the field.
Touch is not calibrated	Refer to this manual "Touch Driver Installation" to re-calibrate the touch (only applicable for Resistive touch screen.) If the touch is capacitive type, please check whether the touch was broken by seriously hit, then use On-screen keyboard to replace its function temporarily.
Screen turns to blue background and white words	Please contact local distributors to deal with the problem, it might be the RAM or Storage failed.

Connector PIN Assignment

J1   J2   J3   J4   J5

J6
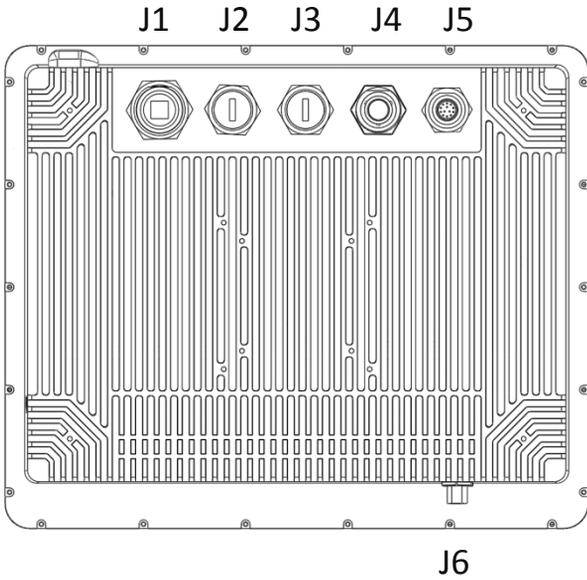
J1	LAN Connector
J2	USB Connector
J3	USB Connector
J4	VGA Connector
J5	COM Connector
J6	DC 18V~36V Input

J1. LAN Connector:
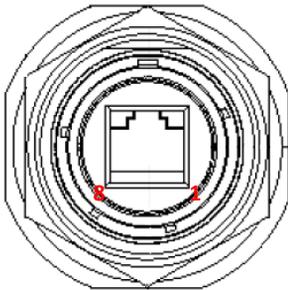
PIN	PIN Name
1	TX_D1+
2	TX_D1-
3	RX_D2+
4	BI_D3+
5	BI_D3-
6	RX_D2-
7	BI_D4+
8	BI_D4-

J2,J3. LAN Connector:
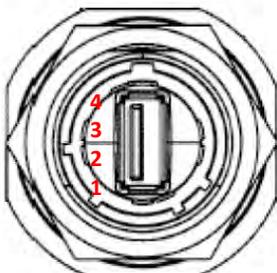
PIN	PIN Name
1	VCC
2	D-
3	D+
4	GND

J4 . VGA Connector:
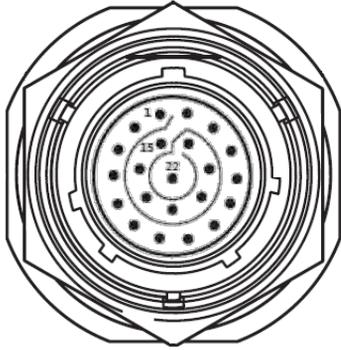
PIN	PIN Name	PIN	PIN Name
1	Red	12	VSYNC
2	+5V_CRT	13	NC
3	GREEN	14	DDC CLK
4	GND	15	NC
5	BLUE	16	NC
6	NC	17	NC
7	NC	18	NC
8	DDC Data	19	NC
9	GND	20	NC
10	HSYNC	21	NC
11	NC	22	NC

J5 . COM Connector:
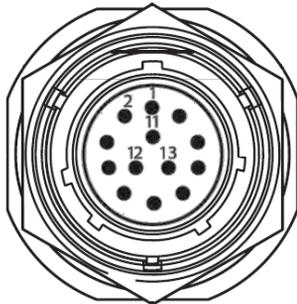
PIN	PIN Name	PIN	PIN Name
1	DCD	8	CTS
2	RXD	9	RI
3	TXD	10	NC
4	DTR	11	NC
5	GND	12	NC
6	DSR	13	NC
7	RTS		

J6 . DC 18~36V Input:
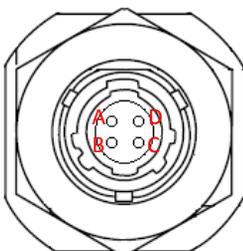
PIN	PIN Name
A	+18V~36V
B	+18V~36V
C	GND
D	GND