ARP980/ ARP980-B User Reference Manual

SPECIFICATIONS

Model No	ARP980	ARP980-B
CPU	Intel Core i5-4400E, 2.70GHz Processors Option: Intel Core i7-4700EQ, 2.40 GHz	
Chipset	Intel QM87 PCH mobile Platform	
Slot	2x PCI, 1PCI-E (x16) full-size expansion slots Option: 3x PCI-E (x16, x1, x1) full-size expansion slots Option: 3x PCI-E (x8, x8, x1) full-size expansion slots	
Display	17.3" LCD display, 1920x 1080	
VGA	LVDS (Thru eDP, via NXP PTN3460) Intel® 4th Generation Core mobile processor integrated HD Gfx, supports 3 independent displays, Direct X 11.1, OpenGL 3.2, Open CL 1.2	
Memory	2x 8GB DDR3	
HDD	1x 240GB SSD Support 2x 2.5" removable SATA	
CDROM	1x Slim DVD-RW	
Interfaces	2x DB9 for COM1, COM2, DVI-D + DVI-I, DP connector, 4x USB 3.0 connector, 2x USB 2.0 connector, 2x Gbit LAN RJ-45, RCA Jack 3x1 for HD audio	
LAN	Intel® Clarkville I217LM GbE PHY Intel® Pearsonville I211AT as 2nd GbE	
Audio	Intel® Mobile QM87 PCH built-in High Definition Audio controller with Realtek ALC892 w/ 7.1 channels	
Speaker	Built-in amplified 2x 3W speakers	
KB/MS	Industrial keyboard with touchpad Keyboard layout: CH, FR, GR, KR, RU, SP, UK, US	
Power Supply	400W, 100~240 VAC, Auto switch	2x 95W Li-ION battery Packs (Hot-Swappable), 100W AC Adapter, up to 4 hours battery life
Construction	Rugged Aluminum Construction with shock absorbing rubber corners	
Dimension	418x 352x 166 mm (Wx Hx D)	
Weight	7.6 kgs	
Carrying Case	Padded carrying case with wheels	

ENVIRONMENTAL FACTORS

	Operating	Non-Operating
Temperature	0°C~50°C	-20°C~60°C
Relative Humidity	10%~90%	10%~95%
Shock	10g, 11ms, half-Sine	30g, 11ms, half-Sine
Vibration	10-500Hz (0.4 Grms)	10-500Hz (1.12 Grms)
Approval	CE, FCC, RoHS	

OPTIONS

Power Supply		
		ARP980: 400W, 100~240 VAC, Auto switch
		ARP980-B: 2x 95W Li-ION battery Packs (Hot-Swappable)
Processor		
	●	Intel Core i5-4400E, 2.70 GHz Processors
		Intel Core i7-4700EQ, 2.40 GHz Processors
Expansion slot		
	●	2x PCI, 1PCI-E (x16) full-size slots
		3x PCI-E (x16, x1, x1) full-size slots
		3x PCI-E (x8, x8, x1) full-size slots
Touch Screen		
	●	None
		Touch Screen

Standard Accessory Kits

Model		Accessory Kit SKD	Qty
ARP 980	**1**	ARP980 Portable Computer system	1
	2	Carrying Case with wheels	1
	3	Driver CD	1
	4	User's Manual	1
	5	Power Cord	1
	6	Anti-Static Bag	1
	7	Screw Pack (stabilizer)	1
	8	Stabilizer Supports Pack	1
	9		

ARP 980

Carrying Case with Wheels

1.0 Introduction

ARP 980 features:

- All-in-one design rugged portable computer
- Rugged Aluminum Construction with shock absorbing rubber corners
- Compact Size Lightweight Design
- Built-in 17.3" LCD display, 1920x 1080 (Option: 17.3", 1600x 900 resolution)
- Intel QM87 (Gen4), Intel core i7/ i5/ i3 Processors
- 400W PSU or 2x 95W Li-ion battery packs, up to 4 hours battery life
- Mini-ITX MB, Intel Core i5-4400E or i7-4700EQ Processors
- 2 PCI, 1x PCI-E (x16) full-length expansion slots
  Option1: 3x PCI-E (x16, x1, x1) full-length expansion slots
  Option2: 3x PCI-E (x8, x8, x1) full-length expansion slots
- Built-in 240GB SSD, Support 2x 2.5" removable SATA
- Dual Gigabit Ethernet Support
- Industrial Keyboard multi-language with touchpad
- Keyboard is integrated with the portable to allow closing against the portable for both convenience and protection in transportation
- Large handle provide convenience transportation of the portable with comfort and ease
- Carrying case to manage portable PC with ease

The ARP980 is a light weights portable systems, ARP980-B with integrated battery packs, are robust field portable with 2x PCI, 1PCI-E (x16) or option: 3x PCI-E (x16, x1, x1) or option: 3x PCI-E (x8, x8, x1) slots platform built using heavy duty metal to provide tough, go-anywhere unit ideally suitable for harsh/severe environments and mission critical applications.

ARP980 is designed for harsh environment operations; Every ARP980 is constructed with easy access to its expansion ports for immediate system upgrade or maintenance. Functional practicality combined with the simple and polished design, the ARP980 with its extra-rugged construction to sustain bumps and impacted blows, is the most cost-effective, durable and efficient portable solution for your mission critical applications.
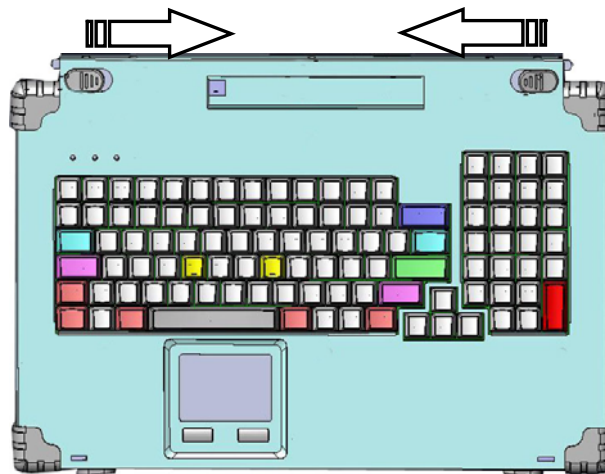
Applications: Military, Industrial automation, Digital TV test & analysis, Mobile Computing,
　　　　　　　Outdoor Computers, video conferencing, E-learning, Speech Technologies,
　　　　　　　Portable Workstation, Telemedicine, Multimedia, Mission Critical Computing

1. Releasing Keyboard by pushing the 2 taps located on top side of the chassis to release the locking mechanism, and then pull out the keyboard.
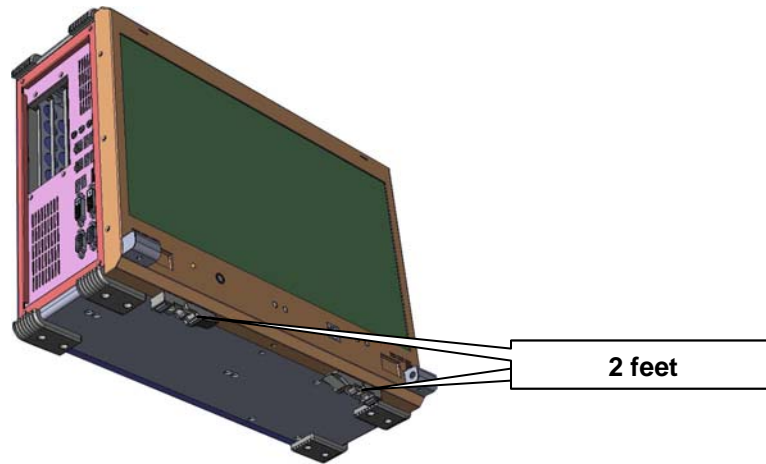

Press to release

2. You have the option of leaving the keyboard attached to the chassis or they can be release independently from the chassis by pushing the two levers inward to release the lock.
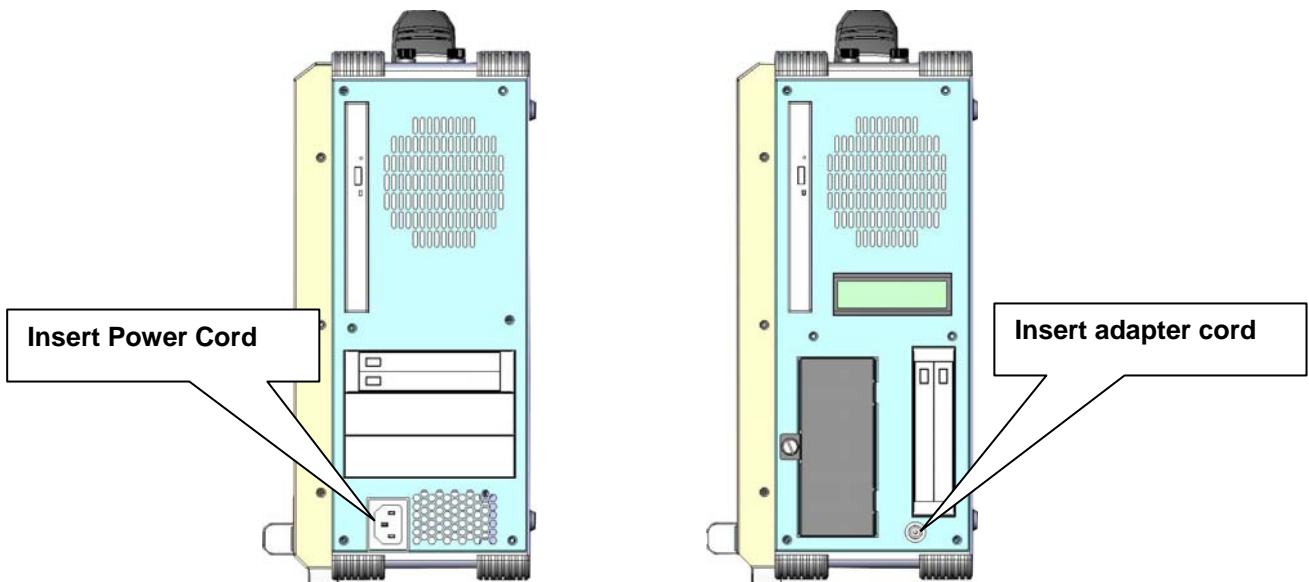

3. Connect the RJ-45 keyboard/touchpad cable to the front bottom right corner of the computer. Make sure the pin direction is correct when inserting.

5

4. You can flip the 2 feet located underneath the computer outward to help create an angle for the computer for viewing comfort.
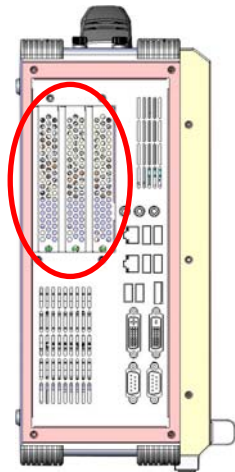
2 feet

5. Connect the power cable outlet into the AC power supply unit or insert the adapter cord into power DC jack for recharging
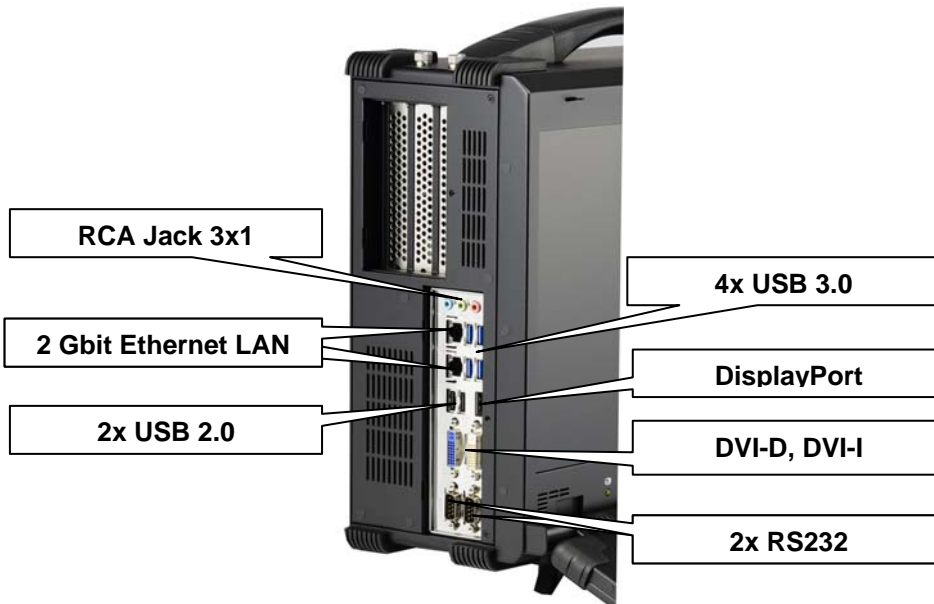
Insert Power Cord

Insert adapter cord

6. Press the power switch located on the front panel of the computer to power up the unit. There are indicator HDD LED light, brightness adjustment and sound adjustment located on the front panel

HDD LED light

Brightness adjustment

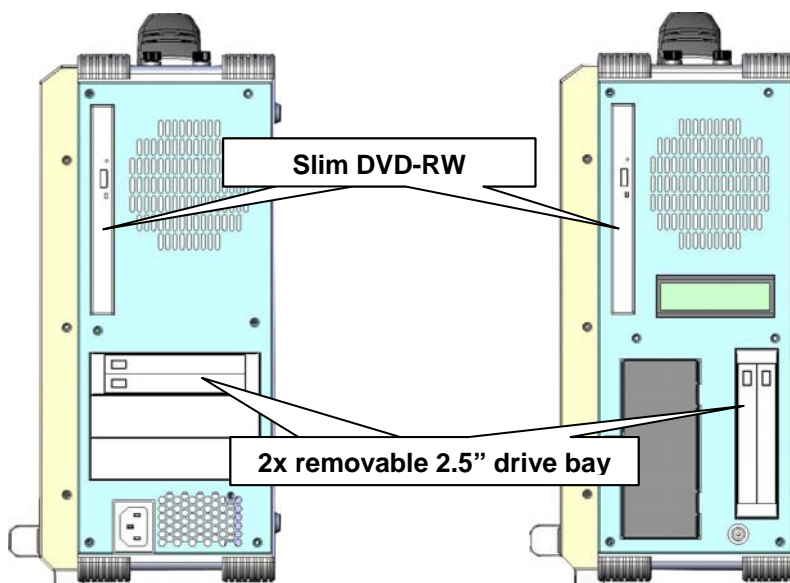**Press Once to Power On**

Sound adjustment

7. Access the available expansion slots on the left side of the computer.

ARP980 provides the system I/O port, include: 2x DB9 for COM1, COM2, DVI-D + DVI-I connector, 4x USB 3.0 connector, 2x USB 2.0 connector, DP connector, 2x Gbit LAN RJ-45, RCA Jack 3x1 for HD audio
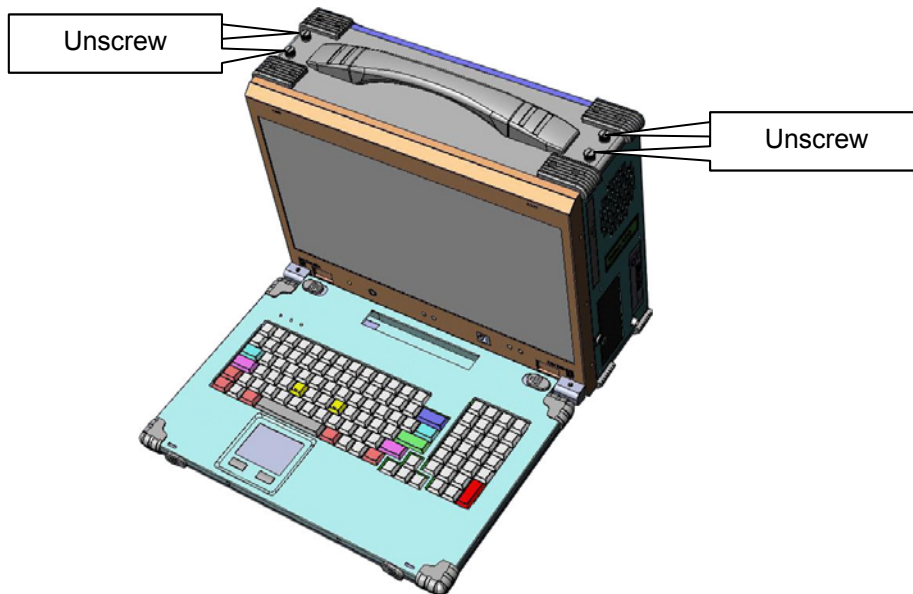

RCA Jack 3x1

2 Gbit Ethernet LAN

2x USB 2.0

4x USB 3.0

DisplayPort

DVI-D, DVI-I

2x RS232

8. Slim DVD-RW and 2x removable 2.5" drive bay on the right side of the computer.

Slim DVD-RW
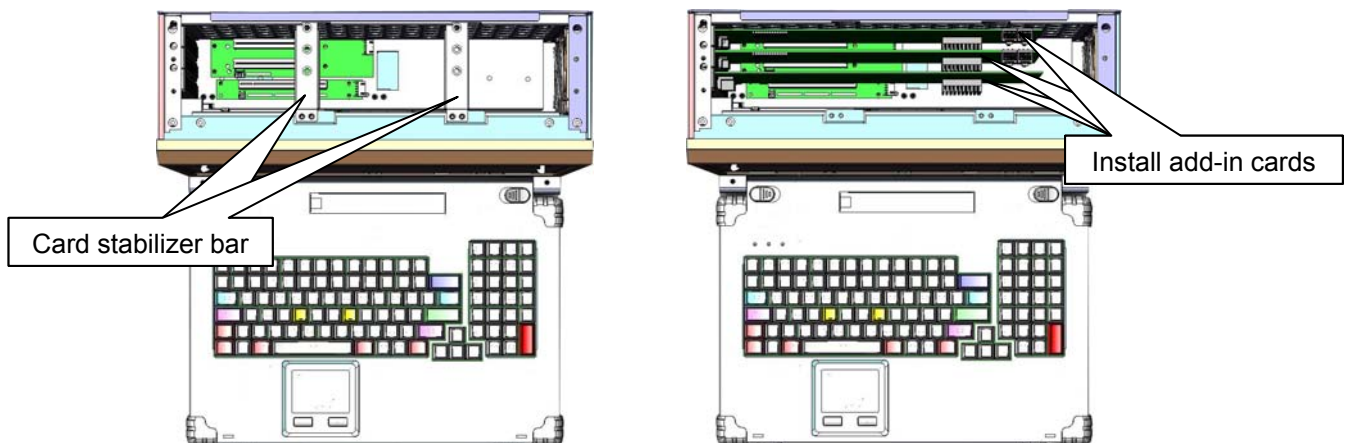
2x removable 2.5" drive bay

3.0 Internal Hardware Access

Be sure power cable is not connected to the system before proceeding
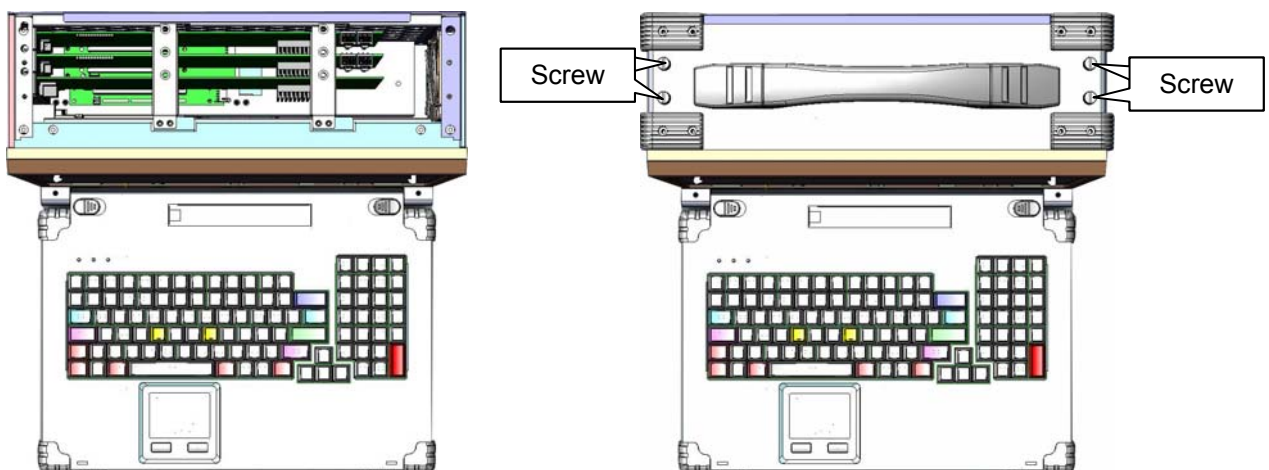
1. Unscrew the top 4 thumb screws to release the top computer cover.

Unscrew

Unscrew

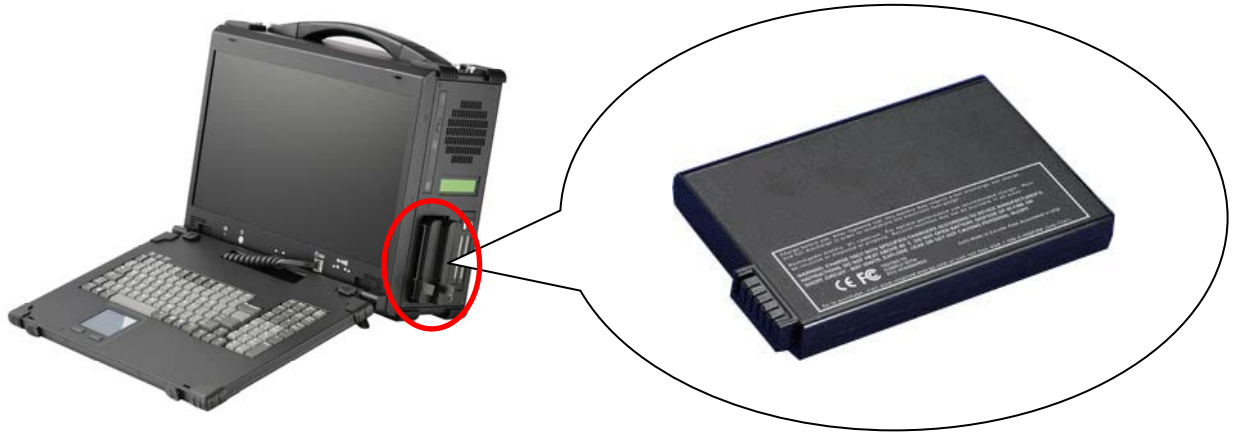**2. Remove the top cover, and 2x card stabilizer bars, install add-in card into the slot.**

Install add-in cards

Card stabilizer bar

3. Install 2x card stabilizer bars, and close the top cover.

Screw
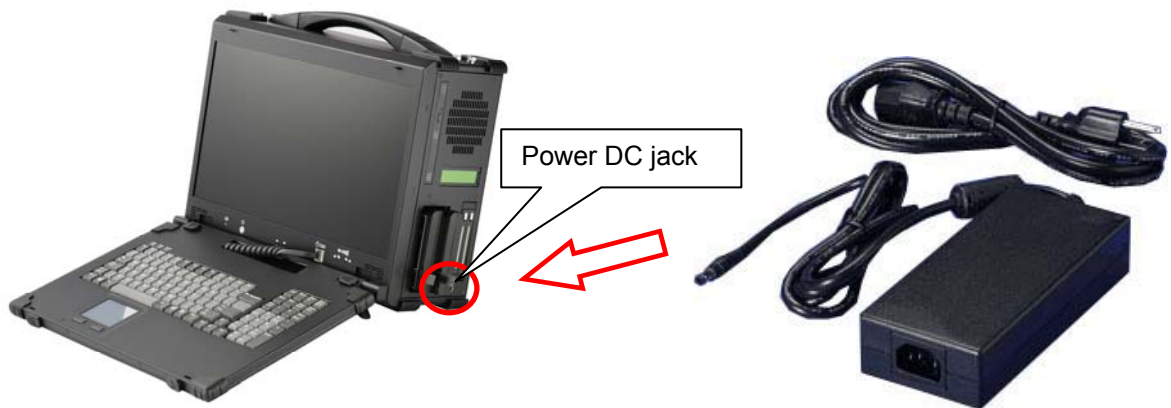
Screw

4.0 Battery Pack (ARP980-B)

1. **Battery Pack**
   The lithium ion battery pack is on the right side of the computer.

2. **AC Operation / Battery Charging**
   Insert the adapter cord into the Power DC jack for recharging
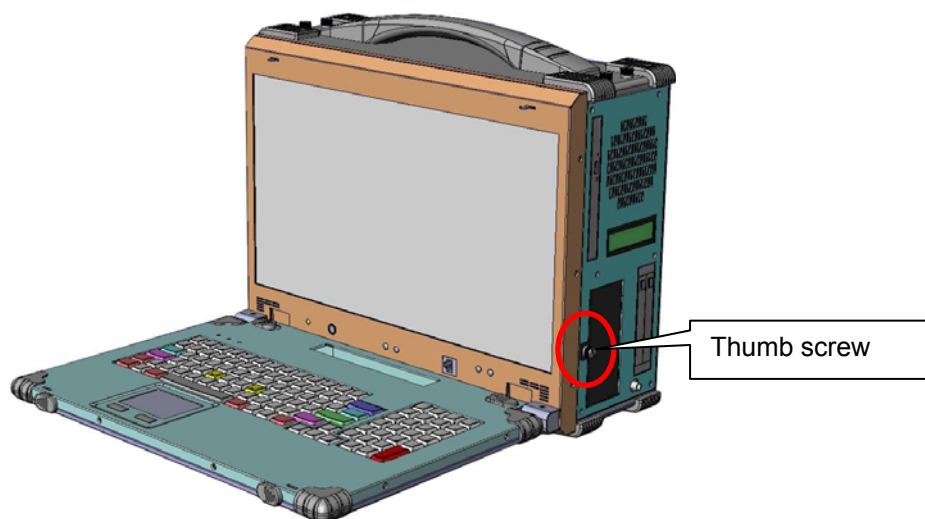
   Power DC jack

3. **LCD panel for battery capacity**
   The LCD display shows battery array fuel gauge, power, current, charge/ discharge state, time to fully charged, time to empty.

4. Replacing the battery

4.1 Release the thumb screw of the battery cover

Thumb screw

4.2 Pull out the battery connector from the slot and replacing new batteries into slots

5.0 Software Installation

You can use the built-in DVD-RW to load operating system and additional applications software into the system. Available medium from USB or download can also be possible.

DOS Boot up: DOS boot up requires you to have a version of the DOS installed on hard disk drive or floppy. Depending on the execution sequence you have set in the batch file, you will usually get a DOS prompt after loading.

Window Boot up: Windows boot up requires you to have Windows installed in the hard disk drive. During Windows boot up, you will see a sequence of access to your hard disk drive which will eventually take you into a graphical user interface environment.

Other O/S description: Many other operating systems are available in the market, such as Linux, Windows, Solaris and DOS. These operating systems will behave differently and you should react accordingly.

6.0 Troubleshooting

1. Installation problem:
1.   Normally problem with a fail start up is due to installation problem.
2.   Double check all the peripheral cards or items you have added to the ARP.
3.   Are all the items seated properly?
4.   Are all the cables connected back to its original or correct position?
5.   Are the items you have added compatible?
6.   Before you check for these, turn the computer off and unplug the power cord.
7.   Check for 1 thru 5 and then re-power up the computer.
8.   Remove all items that were added and re-try system power up.
9.   If the system starts now, try inserting 1 new item in at a time and try powering up.
10. Repeat this step until you get the desired result.

2. BIOS Beep Code:
The BIOS beep code indicates error in system initialization. The BIOS of the system board will associate with video and memory error. Please check your video card is properly seated and your memory is installed properly.

3. System Fails to power up:
1.   Check you power connection first.
2.   Check the main power switch is in the ON positions (I) *If cold switch is available.
3.   Press the power button located on the machine.

4. No display (LCD):
1.   Check all the proper power up procedure has been taken.
2.   Hook up an external LCD to the VGA port, to check if video is present.
3.   If video is present on external LCD, check the internal LCD cable connection.
4.   Or check your VGA setting to make sure LCD video is enabled.
5.   If there is no video on external, check your system to make sure everything is seated properly.
6.   If everything is seated properly and still no video, call us for further assistance.

5. External LCD no display:
1.   Check to see if you have internal LCD video.
2.   Check if your LCD is functioning properly.
3.   Check your VGA setting to make sure external video is enabled.

6. Keyboard fails:
1.   Make sure the keyboard plug is inserted completely into the portable.
2.   Make sure you do not have another keyboard connected to the side I/O PS/2 port.

7. TOUCHPAD fails:
1.   Make sure the keyboard plug is inserted completely into the portable.
2.   If you have an external PS/2 mouse hook up on the side I/O PS/2 port, the touch pad will not function simultaneously.
3.   If your operating system requires and does not load the mouse driver automatically, make sure you have the proper mouse driver loaded.

8. DVD-RW fails:
1.   Make sure the CD/DVD is readable.
2.   If DVD-RW fails to be recognized during POST, check internal cable fit.