



J2 630
Integrated Touchscreen Computer

System Manual

December 2010

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Change history

Version 1.0 Release December 2, 2010

Version 1.1 change power usage number to match testing and add IEA “One Watt Initiative” statement.

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Overview

Featuring the Intel 1.8GHz Atom D525 Dual Core processor and Intel chipset the new J2 630 computer provides dual core performance and a low cost. Designed with reliability and durability in mind it incorporates a 160GB 2.5 inch SATA Hard drive and 1GB of DDR3 memory as standard with Fanless convection cooling. Using an ELO touch controller as well as an ELO resistive touch screen the 630 provides unmatched touch responsiveness and reliability. For extremely high transaction applications an IR and SAW touch screen version is also available, known in the industry because they have no known “wear out” mechanism.

Full featured I/O ports include four serial, one parallel, five USB, a one gigabit Ethernet, secondary video and a dual cash drawer port. The J2 630 does not compromise quality and provides one of the most cost effective integrated touch screen computer solutions available in the market today. It supports all Microsoft® Windows® operating systems, including Windows 7, Windows 7 Embedded, Windows XP Pro for Embedded Systems, XP Pro, Windows XP Embedded, POSReady 2009, WEPOS, Windows CE 6.0 plus MS-DOS® and Linux™.

The “all in the head” design means that the J2 630 can serve as a counter top, or as a wall or a pole mounted unit all in the same computer. With the standard counter top base, VESA mounting points and optional wall mount brackets, the versatile 630 can fit numerous touch screen applications. The small footprint with the 15-inch LCD display is particularly compact and makes it ideal for the space conscious retailer. The front swipe MSR can be mounted side by side and fits easily in narrow niches.

Using the new Intel 1.8GHz Atom D525 processor with integrated graphics and memory controller, 2 processor cores, 4 execution threads, 1MB of cache and use of up to 4GB of DDR3 memory and Intel ICH8M I/O chipset the J2 630 computer is the ultimate system to handle Windows 7 POS applications at a low cost.

J2 630 Intrgrated Touch Screen Computer



Specifications

Main board	
Processor	Intel D525 1.8GHz Dual Core Atom processor
Chipset	Atom D525 (Pineview) Graphics/Memory, ICH8M I/O chipset
System Memory	Two SO-DIMM DDR3-800 Sockets, 1GB Standard, 4 GB optional
LCD Touch Panel	
LCD Size	15" TFT LCD
Brightness	250 nits, Adjustable
Resolution	1024 x 768
Touch Screen	ELO Resistive 5-wire or optional ELO Infrared (IR) or SAW
Tilt Angle	0 ° ~ 100 °
Mounting	Counter top base and VESA standard
Storage	
SSD or HDD	160GB SATA HDD Standard, SSD optional, 8GB/16GB/32GB +
Expansion	
Mini-PCI-E Slot	One, normally used for an internal 802.11n wireless card
External I/O Ports	
USB	5 USB 2.0 ports. 4 USB located in the cable well, one side unit
SERIAL	4 Serial Ports, RJ 45, 3 RJ45 to DB9 and 1 RJ45 to DB25 adapters included, Power on serial ports 3,4 BIOS enabled (+12V or +5V)
LAN	One Gigabit, RJ45 in cable well (Realtek RTL8111)
2 nd VGA	Optional +12V Power, BIOS enabled, up to 2048 x 1536
Cash Drawer	RJ 11 (24V or 12V) with status, can support two cash drawers
DC Jack	Power in, 19VDC 4.74 amps
Audio Jack	Microphone in, headset out
Front I/O Indicator	
Power LED	Green - for system power on
Power	
Power Adaptor	19VDC, 95W, 100-240 VAC, 1.8A MAX
Optional Peripheral	
MSR	3 Track (on PS2 port, <i>wedge type</i>)
iButton	Dallas Key iButton/MSR (on PS2 port, <i>wedge type</i>) or iButton only
Biometrics	MSR/Finger Print Reader (Digital Persona) or Finger Print Reader only
WIFI	Optional internal 802.11n (a/b/g compatible) wireless LAN

Second Display	10.4" or 12" Second LCD display, with or without touch, powered from the J2 630
Customer Display	Customer Side VFD display with 2 x20 characters, powered from 630
UPS	2 hour DC UPS, mounts in base of unit
Mounting	
Standard	Counter Top Base, Adjustable Viewing Angle 0-100°
Optional	Wall Mount /VESA Mount Bracket
Optional	Optional adjustable angle VESA/Wall Mount Bracket
Environment	
EMC & Safety	FCC, Class A, CE, LVD
Operating Temperature	0 ~ 40°C
Storage Temperature	-20 ~ 55°C
Operating Humidity	20% ~ 80% RH non-condensing
Storage Humidity	20% ~ 85% RH non-condensing
Dimensions (W x D x H)	370 x 250 x 340mm
Weight	7.45kg
OS Support	Windows 7, Windows 7 Embedded, XP Pro for Embedded, POSReady 2009, XP Embedded Standard, WEPOS, CE 6.0, Linux, DOS

** This specification is subject to change without prior notice.*

System

The J2 630 uses the same dynamic design as the J2 580, J2 615 and J2 650 computers. This allows for different systems to be integrated at the same customer site, maintaining a well balanced look and feel for your important installations. All Peripherals are the same as used on the J2 580 and J2 615.

Front View

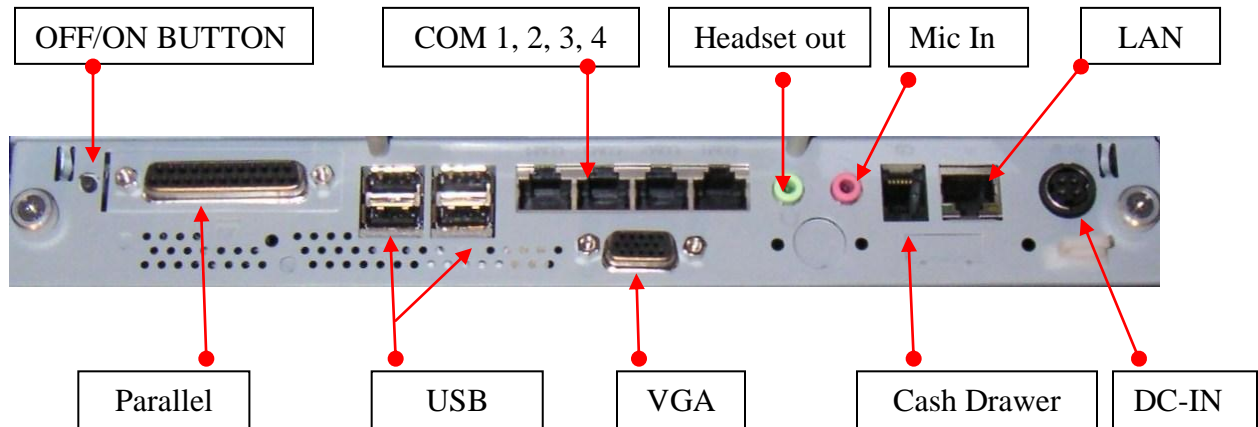


Rear View



I/O Ports

The J2 630 has an integrated design with all the electronics “in the head”. I/O ports are accessible in the cable well at the bottom of the unit (*please see below*):



Atom Processor

The J2 630 uses the Intel Atom D525 dual core processor which only requires 13 watts of power and incorporates the north bridge of the chipset as well. With a speed of 1.8GHz, a 1MB second level cache as well as a memory speed of 800MHz, the J2 630 provides the performance necessary for thin as well as most thick POS software applications with enough horse power to run Windows 7. With the graphic and memory controller intergraded on the same die as the processor the Intel Atom D525 processor provides excellent video performance and is more than capable of running a secondary monitor with full screen video at high resolution in addition to running a POS application.

System Memory

The J2 630 comes standard with 1GB of DDR3-800 of memory. The system has two memory sockets and uses SO-DIMM DDR3-800 type memory. The unit supports a maximum of 4GB of memory. Additional memory can be added in just one or two minutes using the slide in / out feature of the system board to access the memory sockets.

On /Off Button

The On/Off button is located in the cable well, *as shown above*. This button is located especially to prevent accidental powering down by the user. The function of the button can be controlled by the OS. Should the J2 630 hang for some reason, note that it can always be powered off by holding the On / Off button in for four seconds.

The J2 630 also supports the following: Restore to Former states, On or Off if AC power loss, Wake On LAN, and Wake On RTC alarm features control the system’s power up. Wake On LAN is enabled by default and the other options are set in the BIOS.

Hard Disk Drive / Solid State Drive

The J2 630 has one drive bay that supports a 2.5 inch SATA HDD or SDD. The standard drive supplied is a 160GB SATA 3.0Gb/s HDD. The SSD or HDD can be accessed simply by loosening the one screw on the drive bay panel on the right side of the unit. The drive can now easily be slid into or out of the drive bay.

SSD/HDD Access



In addition to the standard 160GB SATA 2.5 inch HDD, J2 offers SSD drives in 8GB, 16 GB and 32GB sizes for the J2 630. Higher capacities are also available if required.

As a special ordered item the J2 630 can be shipped with and internally mounted SSD with a size of 8/16/32/64GB. The standard slide in / out HDD/SSD is still support to form a two drive system.

Touch Screen

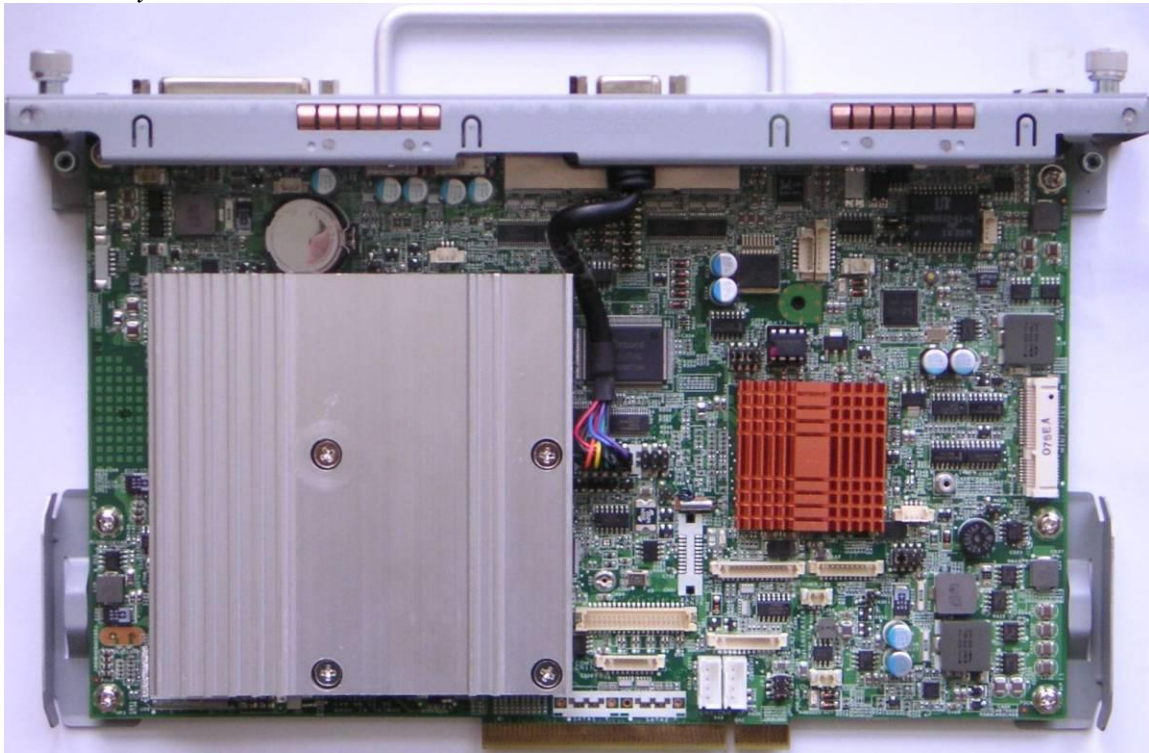
The J2 630 uses an ELO touch screen controller paired with the ELO five-wire touch screen rated at 35 million touches per point. As with all J2 designed products using resistive touch screens, the 630 unit includes a water tight gasket for spill resistance.

The ELO Infrared (IR) and SAW touch screen is also available for the J2 630 as an option. The IR and SAW touch screen have no known failure mode-- it does not “wear out.” With a protective cover over the LCD panel the IR and SAW touch screen does not reduce LCD panel brightness. When operating in a very high usage environment the IR or SAW is the recommended touch screen technology. Depending on operating environments and usage, both Resistive, IR and SAW touch screens have their strengths and weaknesses. Resistive touch screens are by far the most responsive while IR and SAW touch screens are the most durable. J2 offers all three touch screen technologies on the 630 (and 615) computer.

System Board

POS computers typically have a desired life span of 10 years or longer therefore product quality is of the utmost importance. J2 630 electronics are built with high end components to ensure reliability and long lasting product performance. The slide in / out design of the J2 630 system board makes for easy memory upgrades or servicing if every needed. The system board can be swapped out in less than one minute.

J2 630 System Board



Quick Change System Board



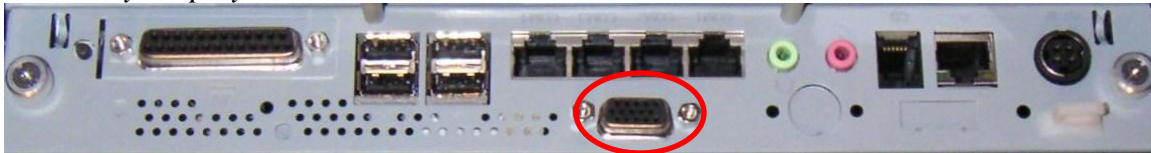
LCD Display

The LCD display for the J2 630 computer is a 1024 x 768 resolution display with 16.2 Million colors. The brightness is rated at 250cd/m². The Intel controller allows for the display to be rotated to 0, 90, 180 or 270 degrees without any loss of performance.

Secondary Display Port

A secondary video display is supported on the J2 630 and can be set as the primary or secondary display. Secondary video displays can be configured as a Twin, Intel Dual Display Clone or Extended Desktop. Most all monitor resolutions, from 640 x 480 to 2048 x 1536, are supported via the Secondary Display Port. The secondary display can also be rotated at 90, 180 or 270 degrees. A number of additional features are supported depending on the capabilities of the monitor.

Secondary Display Port



The Secondary Display Port has an industry standard HD DB15 connector. When using a J2 supplied 10.4" or a 12" secondary LCD monitor, the monitor can be powered from the J2 630. A BIOS setting, as shown below, enables +12V supplied through the VGA.

Warning: The +12V VGA power should only be enable for J2 supplied monitors and could damage non-powered enabled monitors. Please check with J2 if in doubt.



USB ports

The J2 630 has five external and two internal USB 2.0 ports. The four external ports are located in the cable well and one on the side of the unit. In addition there are two internal USB ports used as follows: one is used for the optional Finger Print Reader and is located on the MSR connecting point; the second internal USB port is used for the IR touch screen controller in the IR and SAW version of the 630 unit.

USB Ports



Ethernet Connection

The J2 630 uses the Realtek 8111 Gigabit Ethernet controller. The Ethernet connector is located in the cable well (*shown below*). The Ethernet controller supports Wake On LAN, the BIOS supports a PXE and RPL Boot ROMs as well.

Ethernet Port



Serial ports

The 630 unit has four external RS232 serial ports, two of which can be powered; COM3 and COM4. The serial ports use a ten pin RJ45 connector. The unit comes standard with two serial cables, three RJ45 to DB9 adapter cables and a 5 foot RJ45 to DB25 serial printer cable that works with EPSON and EPSON compatible printers. Additional cable adaptors can be order from J2.

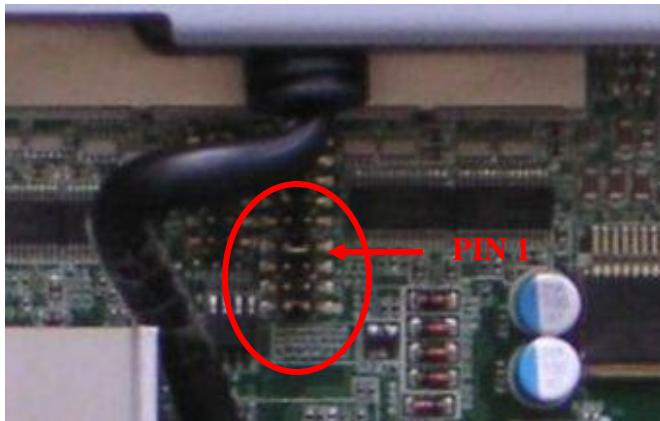
Both serial (COM) ports 3 and 4 can be BIOS enabled to provide power to external devices. The J2 630 is shipped standard with serial 3 & 4 strapped to supply +12V to pin 9 of the DB9 connector if enabled in the BIOS.

Serial ports 3 and 4 can have jumpers set to select for either +12 volts or +5 volts. J2 does not recommend using +5 volts devices if it can be avoided, as it is quite easy to damage a +5 volt device by plugging it into a port supplying +12 volts. Most all serial scanners are available in the + 12 volt version. If a +5 volt device is used, it is recommended that it is clearly marked as such. The maximum current is 500ma and is over-current protected.

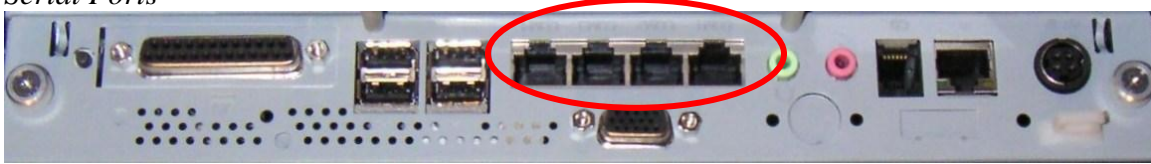
Port	Voltage	JP18								
COM3	+5V	<table border="1"> <tr><td>1</td><td>3</td><td>4</td><td>7</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td></tr> </table>	1	3	4	7	2	4	6	8
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2	4	6	8							
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COM4	+5V	<table border="1"> <tr><td>1</td><td>3</td><td>4</td><td>7</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td></tr> </table>	1	3	4	7	2	4	6	8
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1	3	4	7							
2	4	6	8							

* Factory Default +12 V

JP18 Location



Serial Ports



BIOS Setting Serial Port(s) Power Enable

BIOS SETUP UTILITY

Advanced

Power Configuration COM/UGA Ports		Enables +12V or +5V power to pin 9 depending on board jumper setting. Default is +12V
UGA Power Setting	[No Power]	
COM3 Power Setting	[None]	
COM4 Power Setting	[None]	

Options

- None
- Power

← Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit

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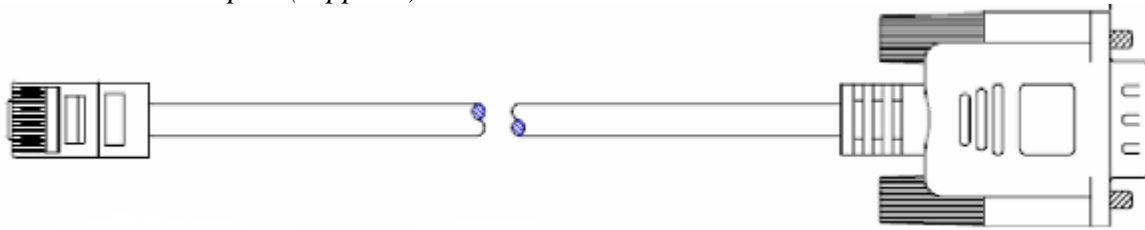
RJ45 to DB9 J2 Adaptor Cable

RJ45-10 Pin	DB9	Signal
Pin 1	---	---
Pin 2	Pin 1	DCD
Pin 3	Pin 6	DSR
Pin 4	Pin 2	RD
Pin 5	Pin 7	RTS
Pin 6	Pin 3	SD
Pin 7	Pin 8	CTS
Pin 8	Pin 4	DTR
Pin 9	Pin 5	GND
Pin 10	Pin 9	RI

Pin-Out 8 pin adaptor when using CAT5/6 cable

RJ45- 8 Pin	DB9	Signal
---	---	---
Pin 1	Pin 1	DCD
Pin 2	Pin 6	DSR
Pin 3	Pin 2	RD
Pin 4	Pin 7	RTS
Pin 5	Pin 3	SD
Pin 6	Pin 8	CTS
Pin 7	Pin 4	DTR
Pin 8	Pin 5	GND
---	---	---

The J2 Cable Adaptor (supplied)



RJ45 to DB25 J2 Serial Printer Cable

RJ45-10 Pin	Signal	DB25	Signal
Pin 1	---	---	---
Pin 2	DCD	---	---
Pin 3	DSR	Pin 20	DTR
Pin 4	RD	Pin 2	SD
Pin 5	RTS	Pin 5	CTS
Pin 6	SD	Pin 3	RD
Pin 7	CTS	Pin 4	RTS
Pin 8	DTR	Pin 6	DSR
Pin 9	GND	Pin 7	GND
Pin 10	---	---	---

Pin-out when using 8 wire CAT5/6 cable

RJ45- 8 Pin	Signal	DB25	Signal
---	---	---	---
Pin 1	DCD	---	---
Pin 2	DSR	Pin 20	DTR
Pin 3	RD	Pin 2	SD
Pin 4	RTS	Pin 5	CTS
Pin 5	SD	Pin 3	RD
Pin 6	CTS	Pin 4	RTS
Pin 7	DTR	Pin 6	DSR
Pin 8	GND	Pin 7	GND
---	---	---	---

Epson or Epson compatible serial printer cable

Audio

The J2 630 uses the Realtek HD audio CODEC and has two internal speakers. In addition there is a microphone in and headset out auto jack on the cable well as shown below. The Pink Jack is for the microphone and the Green is for the headset.

Audio Microphone in and Headset out



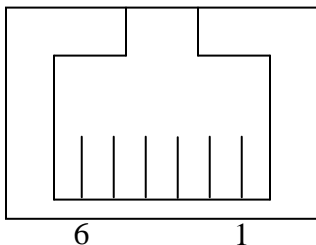
Cash Drawer Port

The 630 has one cash drawer port that can support one cash drawer directly, or two cash drawers when using a “Y” splitter cable. The “Y” splitter cable is the same type as would be used with an EPSON printer. The port is located in the cable well and uses the industry standard RJ-11 connector and pin out (*illustrated below*).

Cash Drawer



Cash Drawer Pin Assignment



Pin	Signal
1	GND
2	CD 1 SOLENOID
3	STATUS
4	12V / 24V
5	CD 2 SOLENOID
6	GND

The application may address the Cash Drawer port in a number of ways. They are:

- 1) Using the J2 supplied OPOS drivers for Windows 7, XP Pro, POSReady and XP Embedded.
- 2) Using the J2 supplied Virtual COM port for CE.NET, Windows 7, XP Pro, POSReady and XPE
- 3) Direct access to the I/O ports:

The Virtual COM port driver that is standard on Windows XP Pro, WEPOS and XP embedded maps the cash drawers to COM 6 and COM7. These COM port numbers can be changed by modifying using the J2 virtual port configuration utility. A reboot will be needed for these changes to take effect.

To open Cash Drawer One: Send a bell character to the COM6 serial port. (The bell character is the ASCII 07 hex character “Control G.”)

To open Cash Drawer Two: Send a bell character to the COM7 serial port.

The open/close status of the drawer may be obtained by reading the status bits of its COM port. The drawer open/close status will be reflected on the CTS and RI bits, either bit may be used. This virtual COM port driver is designed to work the same as serial cash drawers and will work with drivers for serial cash drawers.

The Virtual COM port driver that is standard on Windows CE.NET and the cash drawer appears as COM6.

To open Cash Drawer One: Send a bell character to the COM6 serial port. (The bell character is the ASCII 07 hex character “Control G.”)

To open Cash Drawer Two: Send an ESC character, then a bell character to the COM6 serial port.

The open/close status of the drawer may be obtained by reading the status bits of COM6, and the drawer open/close status will be reflected on the CTS and RI bits, either bit may be used.

The OPOS drivers, Virtual Port drivers and a Cash drawer test program may be downloaded from the J2 web site: <http://www.j2retailsystems.com/support/630/>

The cash drawer can be directly accessed through an I/O port, 48C hex. By outputting the correct value to the port cash drawer one or two can be fired and the cash drawer status can be read on the same port. The cash drawer solenoid should only be turned on for a maximum of 100ms. Also note that cash drawer one and two solenoids should never be turned on at the same time.

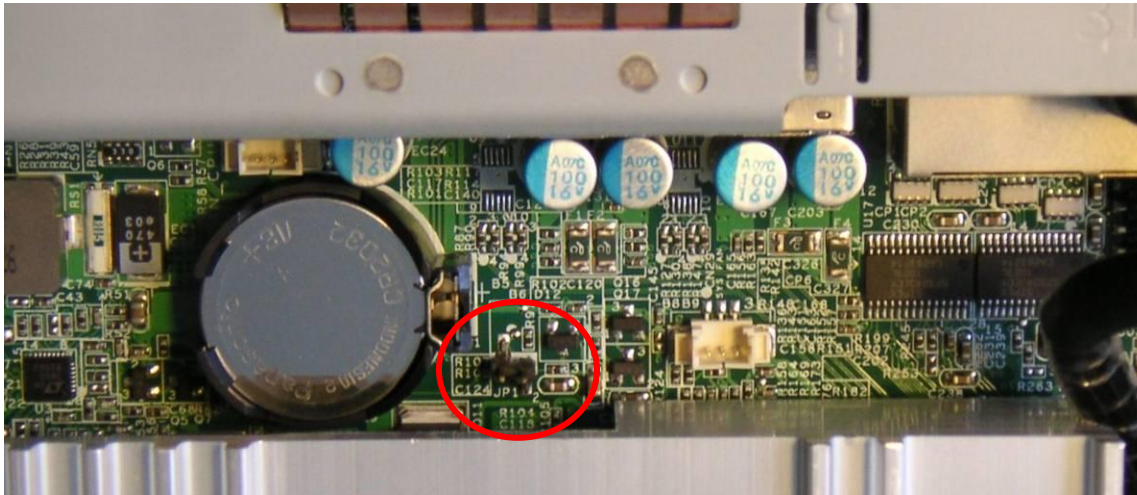
Cash drawer I/O port

Port 0x48C	Value sent/returned	Action
Value 0x08	Write 0x08	Turn on Solenoid Cash Drawer 1
Value 0x04	Write 0x04	Turn on Solenoid Cash Drawer 1
Value 0x00	Write 0x00	Turn off Solenoid Cash Drawer 1&2
Mask 0x40	Read bit 6 zero	Cash Drawer 1 or 2 is open
Mask 0x40	Read bit 6 one	Cash Drawer(s) are closed or not attached

CMOS Reset

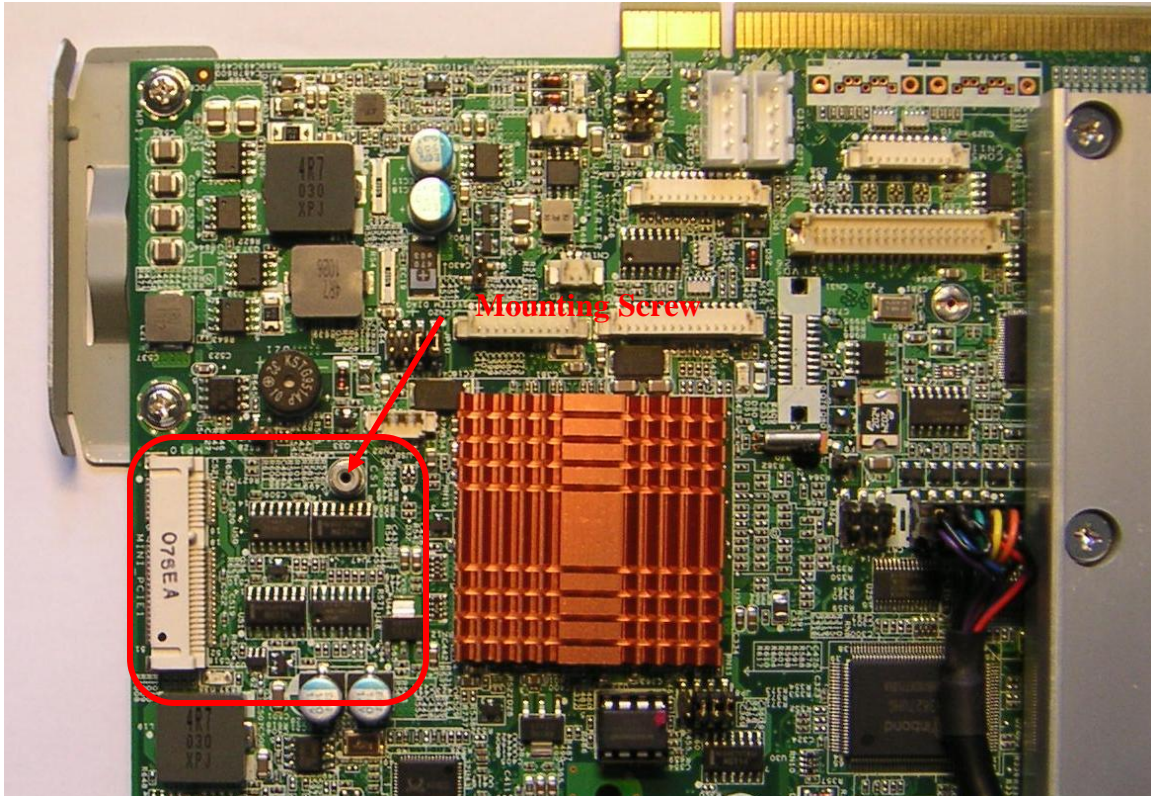
If it becomes necessary the CMOS memory can be reset to factory defaults by adding the CMOS reset jumper JP1 for a few seconds and then removing it. This would normally only be needed to clear an unknown password from CMOS otherwise the normal BIOS load defaults function could be used.

JP1 Location



Mini PCI-E

The onboard Mini PCI Express connector is normally used for the optional internal 802.11n wireless LAN card.



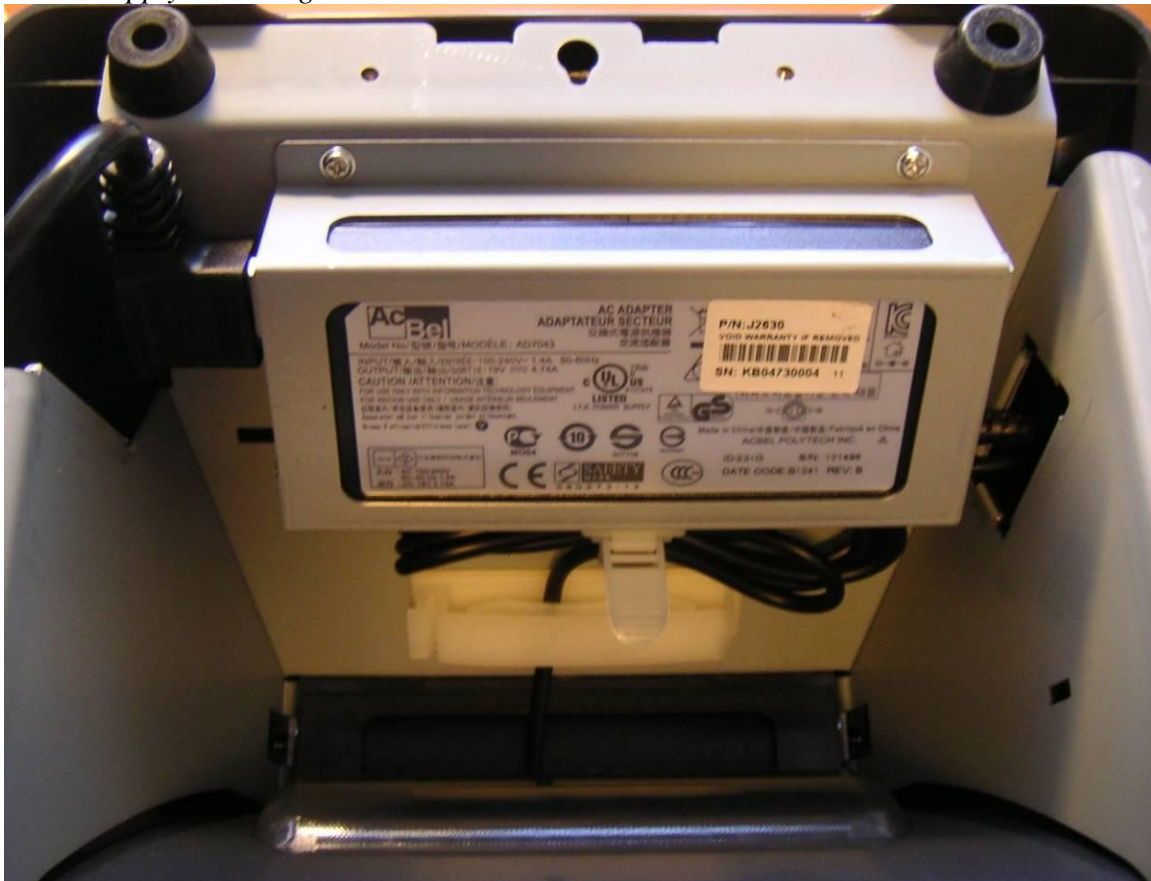
Power Supply

The J2 630 uses a 95 watt notebook type power supply that is normally mounted in the base of the unit. The power supply is rated with an output of 19 VDC 4.74 Amps and has an input rating of 100-240VAC at 50~60Hz 1.4 Amps maximum. The power supply typically has an efficiency rating of 85% under light loads, with a 90% or better rating under heavy loading. The power supply connector is a four pin locking type that plugs into the system power input connector which is located in the cable well. The power supply has most all worldwide safety ratings. Please refer to the power supply itself for the list covered. The J2 630 is classified according to safety regulations as a low voltage device with the safety rating of the power supply being the one required.

Power Input connector



Power Supply Mounting in Base



Typical Power Consumption 630

The typical power consumption of the 630 is much lower than a desktop computer and more comparable to a notebook computer. Using the Intel's Atom processors and Intel chipset allows for much lower power consumption than previous generations of POS computers. This, when coupled with J2 software power reduction utilities, can greatly reduce the system's total carbon footprint.

Test conditions

Voltage:	220VAC 50Hz, measured voltage 240VAC
OS:	Windows 7
Heavy Load Program:	PassMark Burn-In Test
Temperature:	27c
Updated:	December 1, 2010

All systems were tested in their standard hard drive configuration. Results are +/- 15%.

J2 630 1.6 GHz Atom with 1GB Memory, 8GB SSD

1: Normal application including most POS software	35 watts
2: Boot up	38 watts
3: Very heavy load application	40 watts
4: Normal POS application, back light off	20 watts
5: Standby, unit off, waiting for wake on LAN, RTC or power button	0.5 watts

The J2 630 wall adapter conforms to the IEA "One Watt Initiative" and consumes less than 0.5 watt when the unit is in standby.

Packing List

The following contents should be found in the carton:

- 1: System
- 2: AC Power cord
- 3: Three Serial RJ45 to DB9 Adaptor
- 4: One Serial Printer Cable

Standard Items



1: System with (2:) AC power cord



4: Printer Cable



3: COM Cable (1)

System Installation

Counter Top Base

The J2 630 is shipped with a counter top base which allows for the head to be adjusted from 0-90°.

To remove the integrated head from the base, loosen the thumbscrew located on the back of the unit under the hinge of the counter top base, *as shown below*. Then lift the head as illustrated:



a. Loosen the thumbscrew (1)



b. Lift the panel up and separate it from the stand bracket

To mount the J2 630 to the base, do the reverse (*as shown below*):



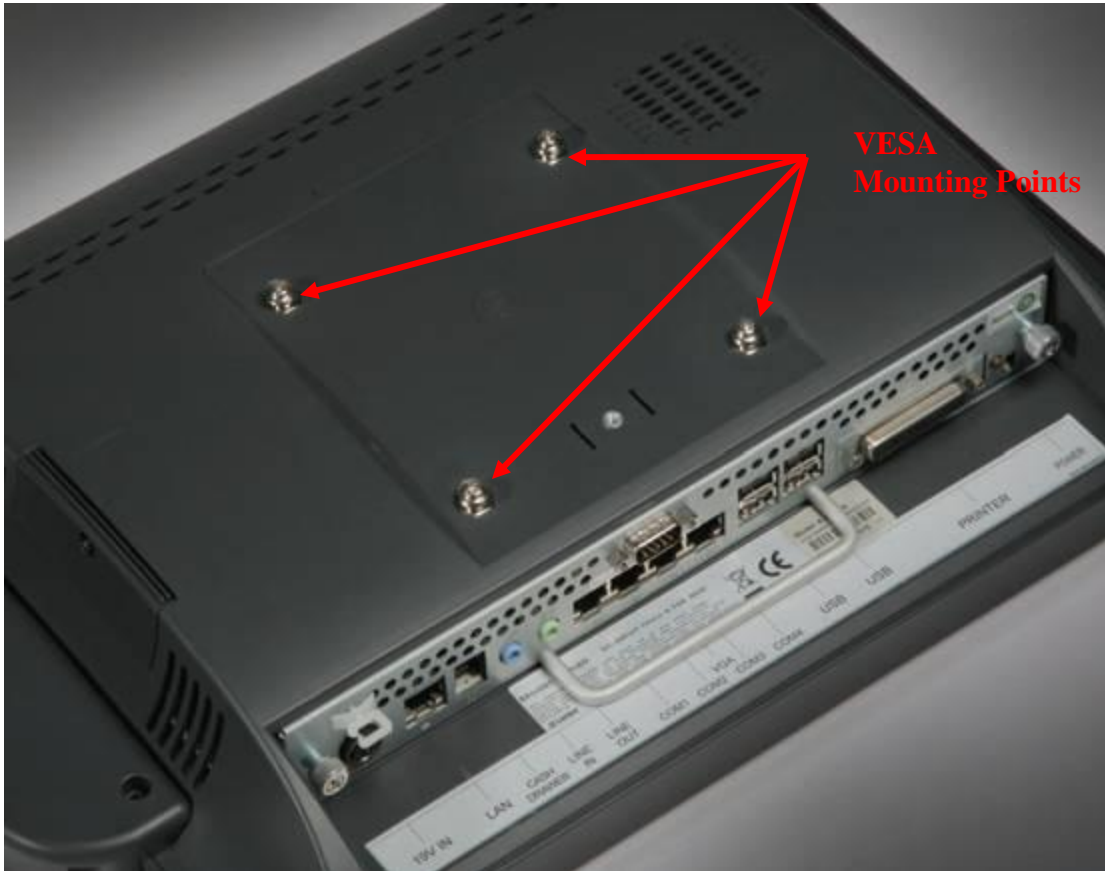
- a. attach the panel to the desk mount hinge bracket and slide it into the position, as shown by the red arrows



- b. Tighten the thumbscrew to finish the installation

VESA Mounting

The four base mounting bracket screws can be removed and these mounting points may be used with most 75mm VESA mounting brackets.



Wall Mount Bracket Installation

The wall mount bracket has threaded mounting holes (*screws provided*) for the 75mm VESA standard; and unthreaded holes for the 100mm standard.

Using the 100mm hole pattern the bracket can be used by itself as a wall mount bracket. After installing the thumbscrew clip mount bracket to the wall, hang the J2 630 on the bracket.

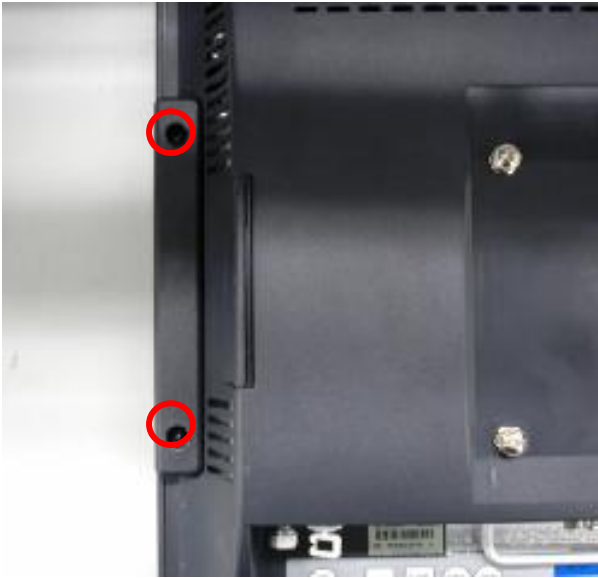


Install screw to secure thumbscrew clip



The bracket slides on to the J2 630 mount posts, *as shown*. Normally the bracket would already be mounted to the wall or a VESA mount and the 630 would be hung on the bracket. Once in place the thumb screw would be tightened.

MSR Installation



a. Remove the 2 screws



b. Connect the cable.



c. Slide the MSR into the position and tighten the screws to finish the installation.
Be careful not to pitch the cable when installing.

SSD/HDD Access

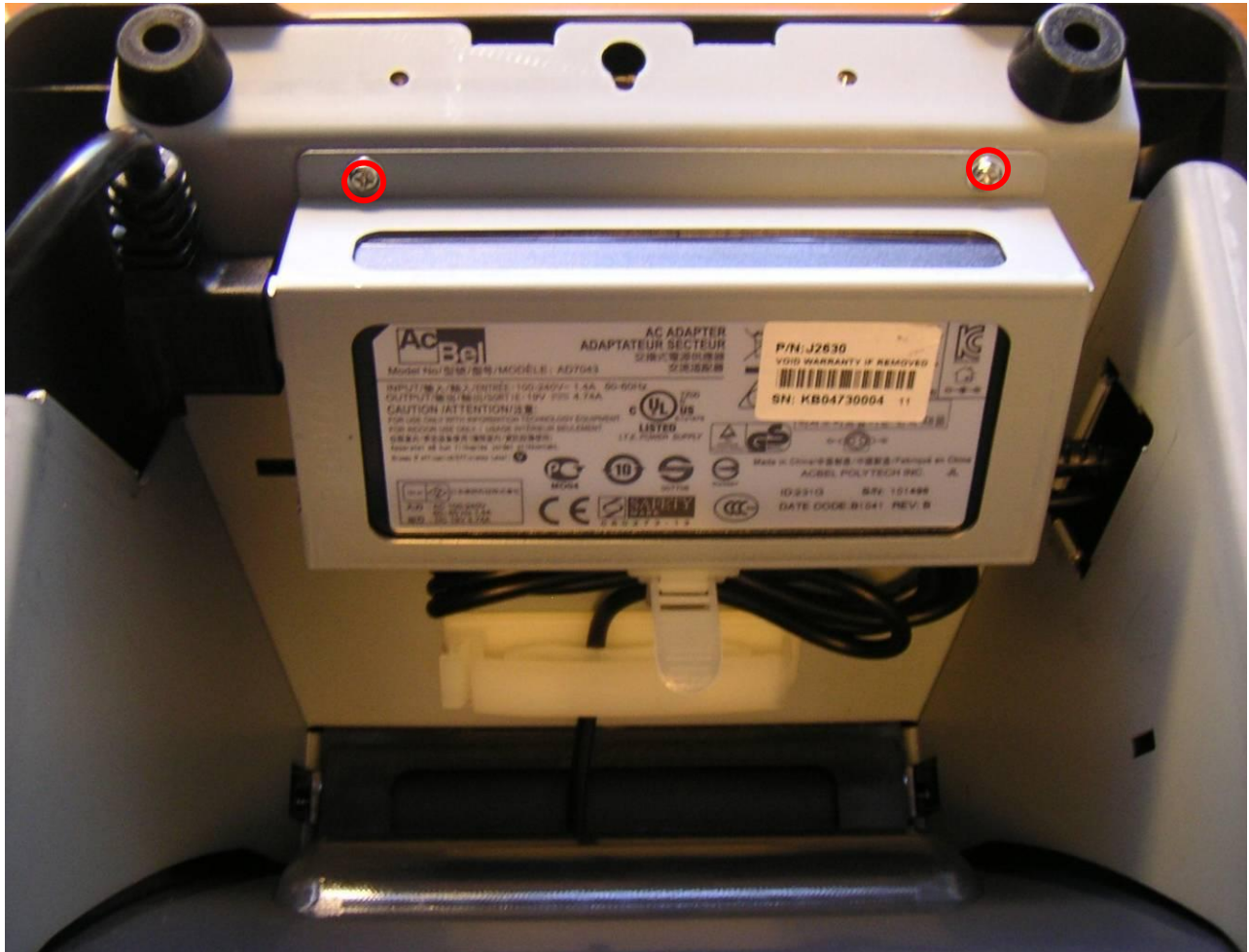


Loosen the screw



Slide the SSD/HDD Module (*as shown*)

Removing the Power Supply Adaptor



Remove the two screws to release the adaptor and the bracket.

Replacing the Mother Board



Loosen the two thumbscrews (you may require a screw driver)



Pull the handle in the direction as shown order to release the mainboard tray from the system



BIOS Settings

Starting the BIOS Setup

1. Turn on or reboot this product.
2. Press the DEL key immediately after the product is turned on or press the DEL key when the following message is displayed during POST (the Power on Self-Test).

Press DEL to enter SETUP.

3. The main menu of the BIOS setup is displayed.
4. If the supervisor password is set you must enter it here.

BIOS Menus

Main, System Overview

In this screen the CMOS time and date can be set. The time and date can also be set through the OS. This screen also displays the BIOS Version, BIOS Build Date, Processor type, speed and DRAM memory size. The memory size will reflect the amount of system memory available minus the amount used by the graphics controller.

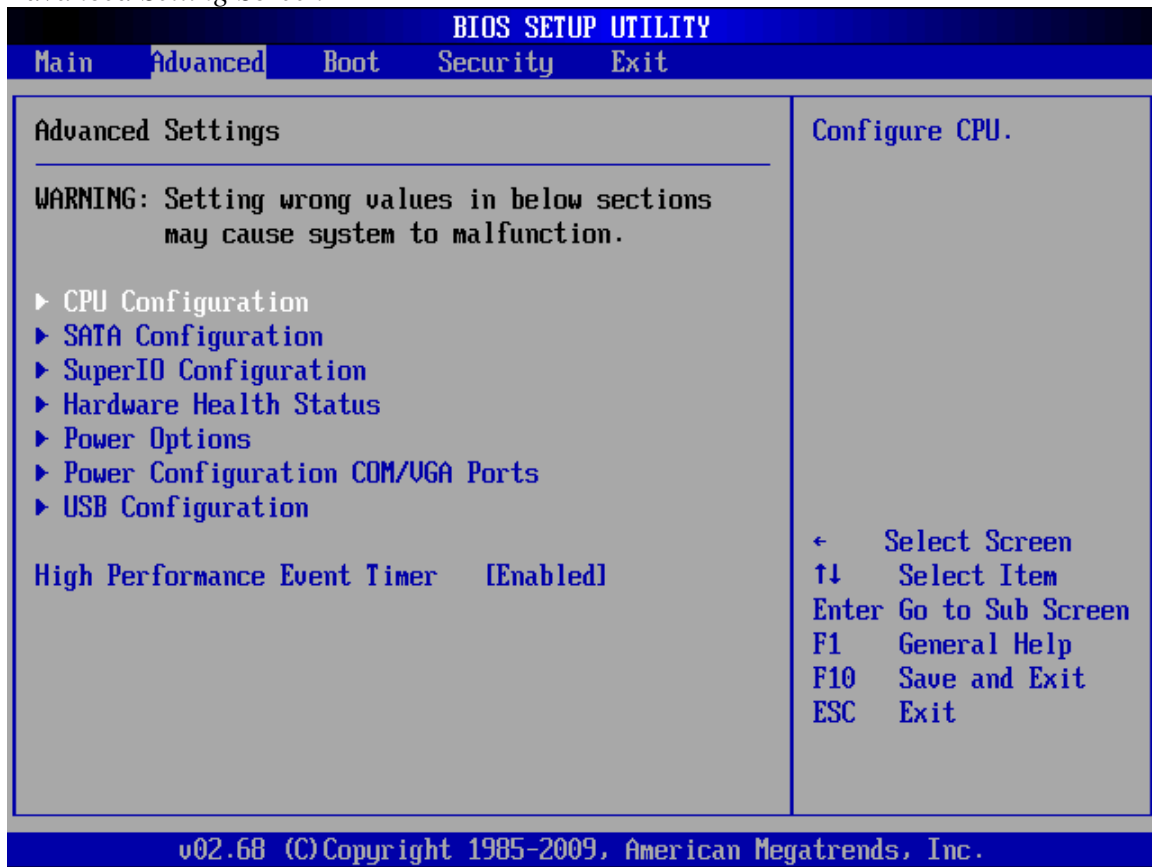
Main screen

The screenshot shows the BIOS Setup Utility interface. At the top, a blue header bar contains the text "BIOS SETUP UTILITY" and a menu with options: "Main", "Advanced", "Boot", "Security", and "Exit". The "Main" option is highlighted. Below the header, the screen is divided into two main sections. The left section, titled "System Overview", displays the following information: "AMIBIOS", "Version :C484-072", "Build Date:11/30/10", "Processor", "Intel(R) Atom(TM) CPU D525 @ 1.80GHz", "Speed :1800MHz", "Count :1", "System Memory", "Size :1014MB", "System Time [15:25:22]", and "System Date [Tue 11/30/2010]". The right section contains navigation instructions: "Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.", "Use [+] or [-] to configure system Time.", and a list of keyboard shortcuts: "← Select Screen", "↑↓ Select Item", "+- Change Field", "Tab Select Field", "F1 General Help", "F10 Save and Exit", and "ESC Exit". At the bottom of the screen, a blue footer bar contains the text "v02.68 (C) Copyright 1985-2009, American Megatrends, Inc."

Advanced Settings

This menu contains settings to control a number of system functions. The CPU Configuration, SATA Configuration, SuperIO (ports), Hardware Health Status, Power Options, Power Configuration for the COM and VGA ports, and USB configurations are all set and viewed from this screen.

Advanced Setting Screen

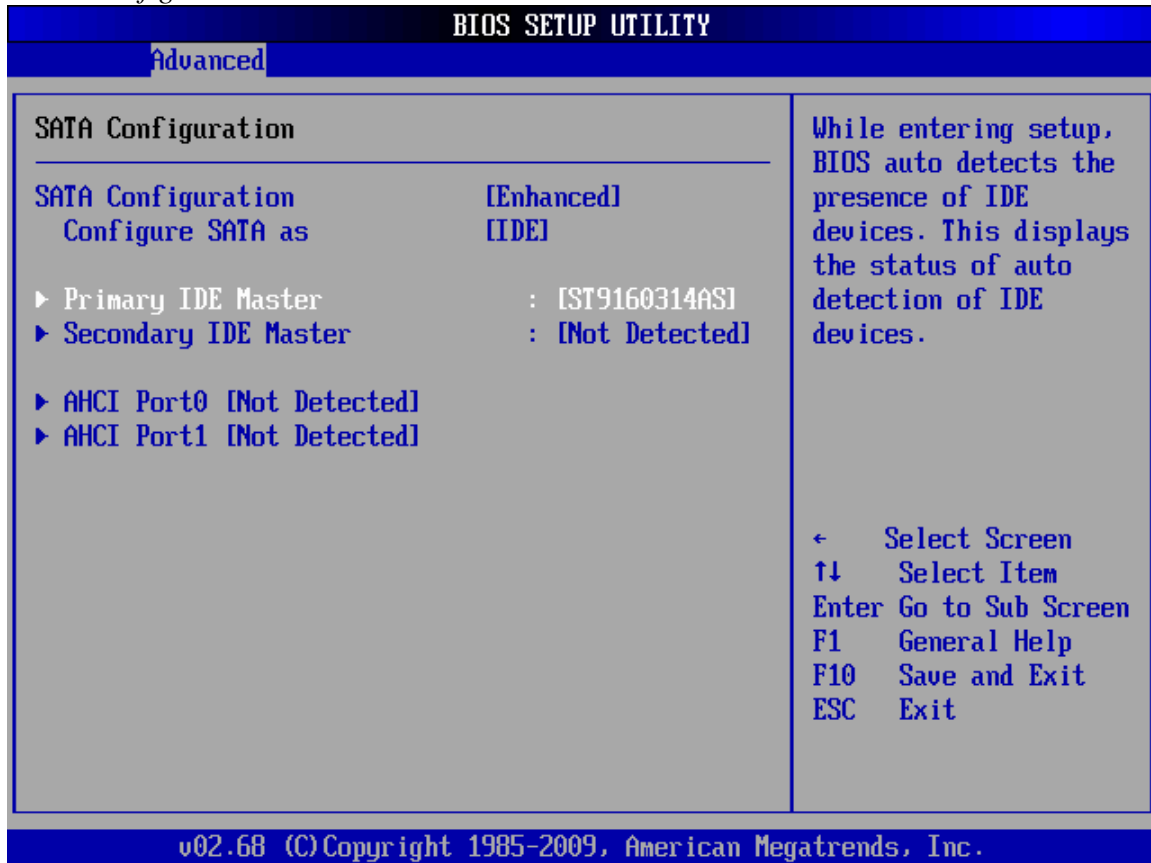


SATA Configuration

In this screen the SATA hard drives can be set to work in one of two modes, IDE or AHCI.

Newer operating systems like Windows 7 support AHCI standard and that mode can be selected when install the OS and does offer a slight performance increase in disk access speed. Most operating systems still use the IDE mode and that is the J2 630 BIOS default.

SATA Configuration Screen



By selecting the desired drive on the screen that drives information can be display by typing the Enter disk as soon below.

The J2 630 does have a option for install a second Flash SSD drive internal to the unit. If install the drive information will be displayed as the second drive.

Drive Information Screen

BIOS SETUP UTILITY	
Advanced	
Primary IDE Master	
<hr/> Device :Hard Disk Vendor :ST9160314AS Size :160.0GB LBA Mode :Supported Block Mode:16Sectors PIO Mode :4 Async DMA :MultiWord DMA-2 Ultra DMA :Ultra DMA-6 S.M.A.R.T. :Supported <hr/>	
Type	[Auto]
LBA/Large Mode	[Auto]
Block (Multi-Sector Transfer)	[Auto]
PIO Mode	[Auto]
DMA Mode	[Auto]
S.M.A.R.T.	[Auto]
32Bit Data Transfer	[Enabled]
Select the type of device connected to the system.	
←	Select Screen
↑↓	Select Item
+−	Change Option
F1	General Help
F10	Save and Exit
ESC	Exit
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Super I/O Configuration

This submenu allows for the setting of the parallel and serial ports I/O address, IRQ lines. The I/O ports and IRQ settings are normally only changed to support legacy software.

Configure Super I/O Chipsets screen

Configure Super I/O Chipset		Allows BIOS to Select Serial Port Base Addresses.
Serial Port1 Address	[3F8]	
Serial Port1 IRQ	[IRQ4]	
Serial Port2 Address	[2F8]	
Serial Port2 IRQ	[IRQ3]	
Serial Port3 Address	[3E8]	
Serial Port3 IRQ	[IRQ5]	
Serial Port4 Address	[2E8]	
Serial Port4 IRQ	[IRQ10]	
Serial Port5 Address	[4E8]	
Serial Port5 IRQ	[IRQ11]	
Parallel Port Address	[378]	← Select Screen
Parallel Port Mode	[Normal]	↑↓ Select Item
Parallel Port IRQ	[IRQ7]	+ - Change Option
		F1 General Help
		F10 Save and Exit
		ESC Exit

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Hardware Health Status

The status for the System Board voltages and temperatures are displayed seen on this screen.

Hardware Health Status Screen

BIOS SETUP UTILITY	
Advanced	
Hardware Health Status	
Vcore	:1.168 V
+12V	:11.904 V
+ 5V	:5.026 V
+ 3.3V	:3.344 V
CPU Temperature	:62°C/143°F
System Temperature	:44°C/111°F
	← Select Screen
	↑↓ Select Item
	F1 General Help
	F10 Save and Exit
	ESC Exit
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Power Option

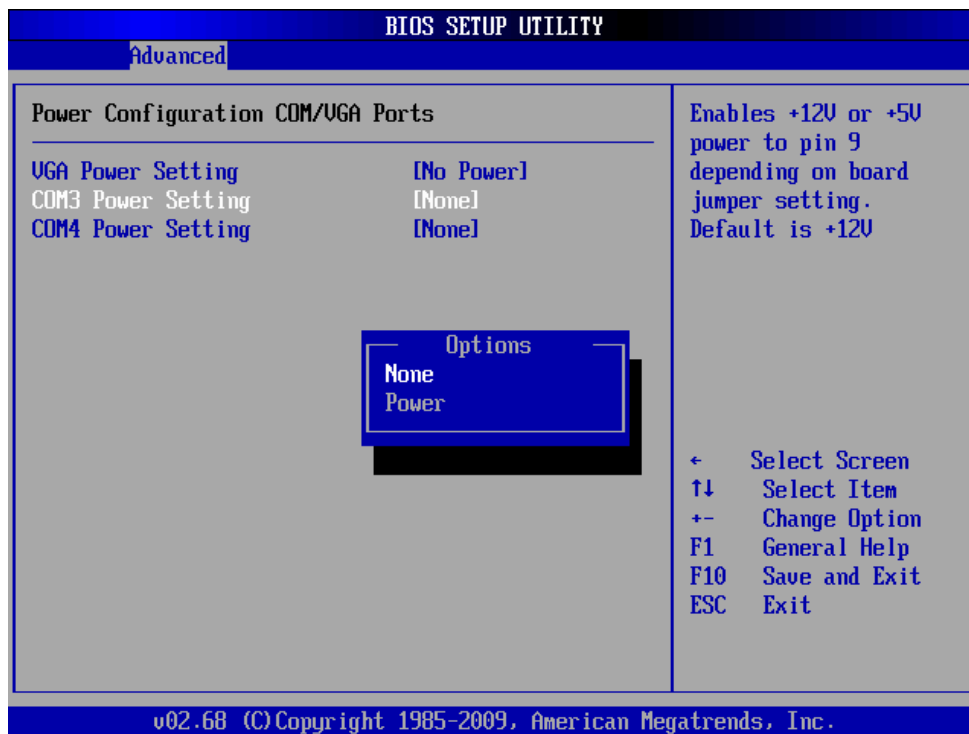
The 630 has three options should AC power become lost and then restored. There is Power Off (stay turned off); Power On (turn on when AC restored); or Last State. The Last State setting will cause the unit to turn on if it was on when AC power was lost or it will stay off if the unit was off when AC power was lost.



The RTC has an alarm function that can be used to turn the 630 on at a preset time of day. This function is enabled and wake up time can also be set here.

Power Configuration COM/VGA Ports

On this screen the optional power supply can be enabled for both the secondary video port and COM3 and COM4 as shown below.



USB Configuration

Here the function of the USB ports can be change or disabled. This is to support legacy operating systems, software and hardware and it also lists the USB devices connected to the system. This screen displays the total number of USB keyboards, USB mice or USB drives installed that will function in DOS.

USB Configuration screen

BIOS SETUP UTILITY	
Advanced	
USB Configuration	Enables support for legacy USB. AUTO option disables legacy support if no USB devices are connected.
Module Version - 2.24.5-14.4	
USB Devices Enabled : 1 Keyboard, 1 Hub, 1 Drive	
Legacy USB Support [Enabled]	
USB 2.0 Controller Mode [HiSpeed]	
BIOS EHCI Hand-Off [Enabled]	
▶ USB Mass Storage Device Configuration	
	← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
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By default any USB Mass Storage Device that is less than 530MB in size will boot up in DOS as drive A, and any device larger will boot up as drive C. By using the USB Mass Storage Device Configuration option set to Hard Disk the device will always boot as drive C no matter what size it is.

USB Mass Storage Device Configuration

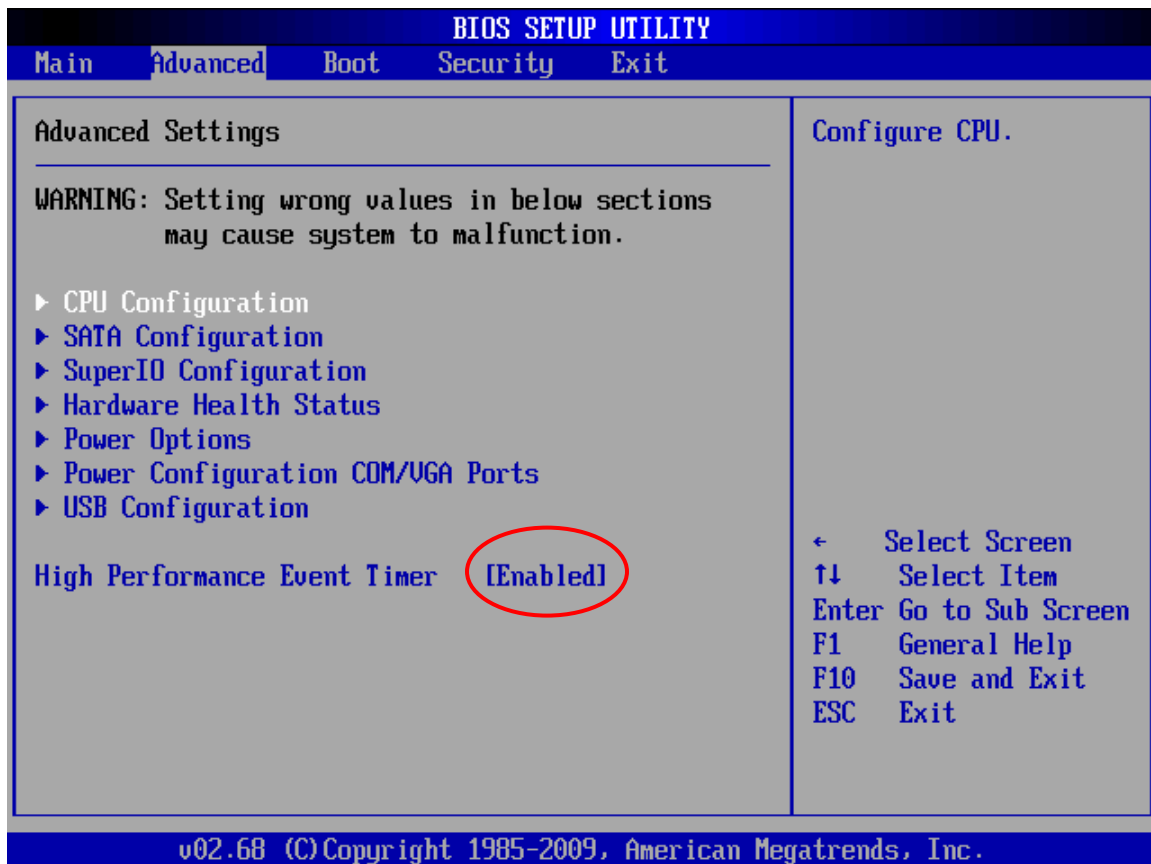
BIOS SETUP UTILITY	
Advanced	
USB Mass Storage Device Configuration	
USB Mass Storage Reset Delay [20 Sec]	
Device #1	Kingston DataTraveler
Emulation Type	[Auto]
<p>If Auto, USB devices less than 530MB will be emulated as Floppy and remaining as hard drive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD (Ex. ZIP drive).</p>	
<p>← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit</p>	
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LCD Brightness Control

(To be added supported on System Board Version 2.1, available January 2011)

High Performance Event Time

This setting needs to be disabled to install the WEPOS OS. Once installed it may be re-enabled. It may also need to be disabled for some older version of Linux.



Display OEM Logo

The BIOS can display two types of OEM logos on boot up. The default is a small J2 logo in the upper right hand corner. With this setting BIOS POST test messages can be seen during boot up. The second type which is enabled by this entry is a full screen J2 logo. When this logo is selected the BIOS POST messages cannot be seen. The BIOS setup can still be entered by typing the DEL key a few seconds after the logo appears.

Customer logos can replace the J2 logos when required. The large logo file format is 640x480 with 256 colors bitmap file. The small logo file format is 128x96 in 16 color bitmap file. Please contact J2 regarding this, if required.

Wake On LAN

Wake On LAN has no BIOS setting and is always enabled.

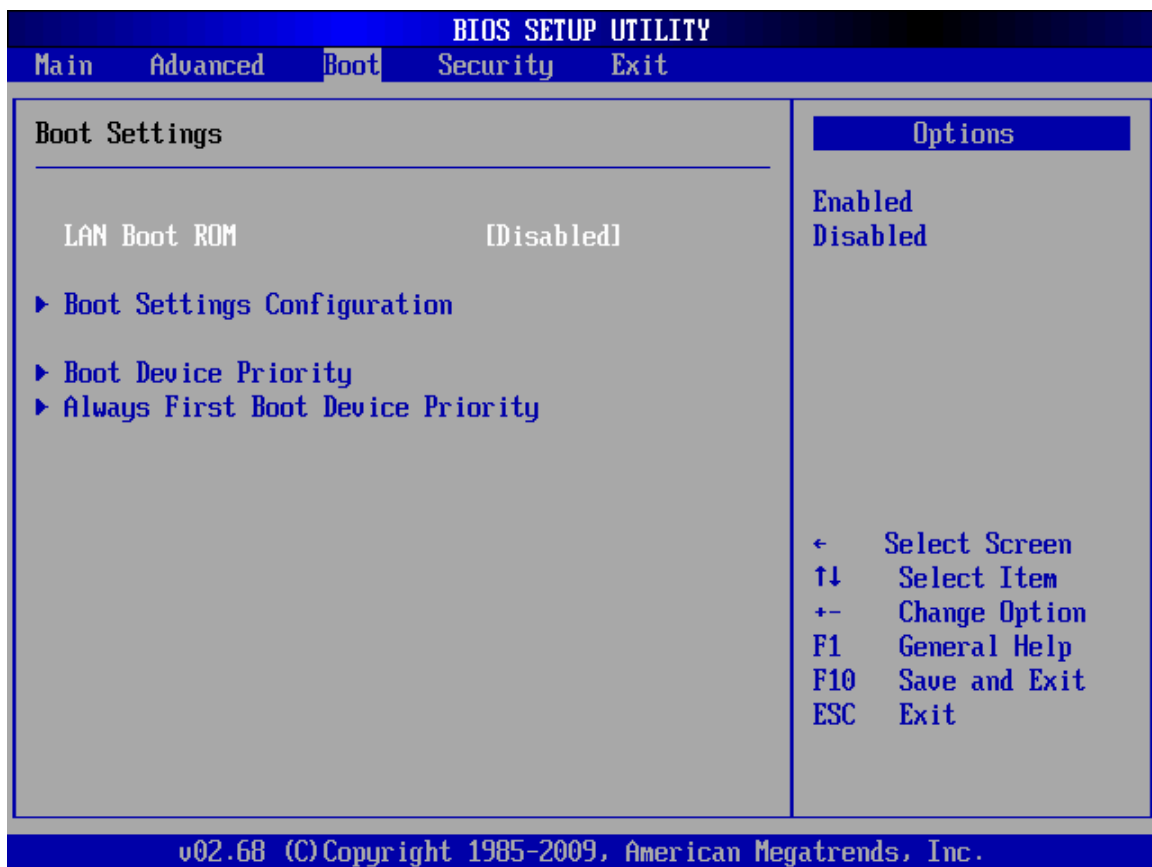
Boot Settings

The setting, “LAN Boot ROM” [Enable/Disable] enables the built-in PXE LAN remote boot rom. This allows the system to run as a diskless workstation, or to be able to download a drive image to a blank drive. When enabled, a message screen will appear and Shift-F12 can be typed to access the PXE ROM options.

Both Norton Ghost and Acronis disk image software can use the PXE boot ROM to download software images to the 630 hard drive. Both have been tested with the 630.

For a diskless 630 system there is good support in the Linux community for remote boot. Unfortunately the same cannot be said for the Windows environment.

Exception: XP Embedded *does* support remote boot, but with a number of limitations.



The “Boot Setting Configuration” is used to enable the full screen logo during boot and also to turn the keyboard Num-Lock default to either on or off.

If more than one bootable device is in the system the boot order can be set in this menu. If a bootable USB storage device is plugged in at boot up the 630 will boot from that device by default. If this is not desired the boot order can be changed here. A list of detected drives will be displayed with the current boot order.

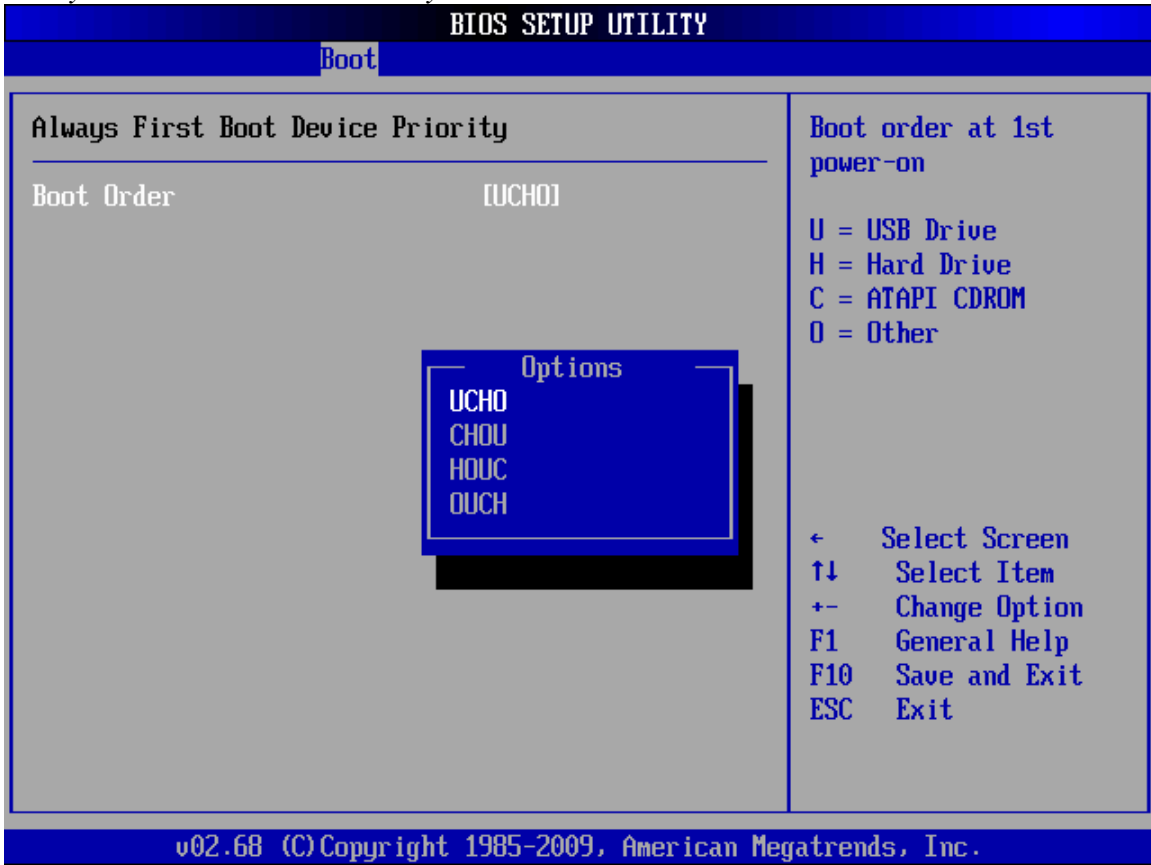
Boot Device Priority

BIOS SETUP UTILITY	
Boot	
<p>Boot Device Priority</p> <hr/> <p>1st Boot Device [USB:Kingston DataT]</p> <p>2nd Boot Device [SATA:PM-ST9160314A]</p>	<p>Specifies the boot sequence from the available devices.</p> <p>A device enclosed in parenthesis has been disabled in the corresponding type menu.</p> <p>← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit</p>
v02.68 (C) Copyright 1985-2009, American Megatrends, Inc.	

The “Always First Boot Device Priority” allows for a class of device always to be the first to boot. The default for this setting is “UCHO” which say the boot order will be bootable USB drive if present, then CD if present, then internal HDD then other. The letter “U” stands for USB, “C” for ATAPI CDROM, “H” for hard drive and “O” for other.

If you want the system always to boot from the internal hard drive even if a boot USB device is plug in you can set this item to ”HOUC”.

Always First Boot Device Priority Screen

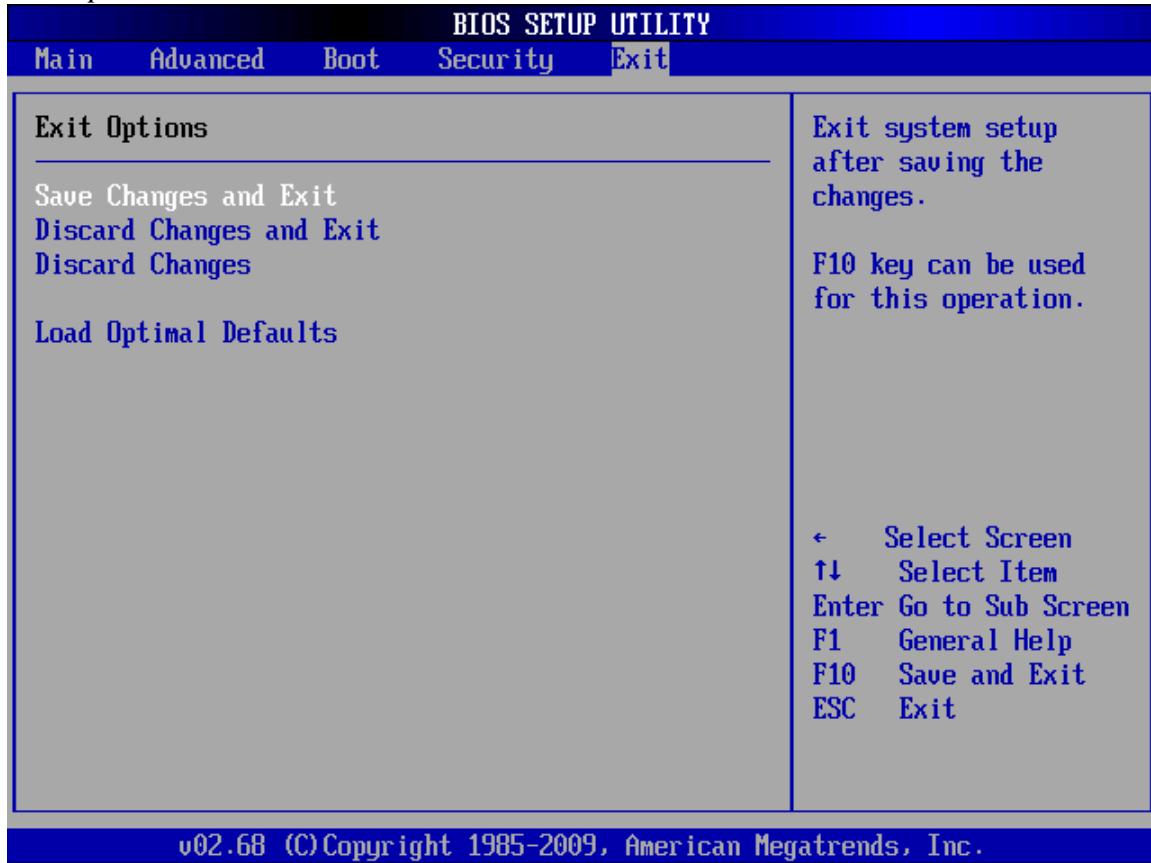


Exit Options

After making any changes to the BIOS settings, the changes can be saved from this screen. Any changes can be discarded as well or the factory BIOS defaults can be loaded.

It should be noted that to save changes to the BIOS setup the F10 key can be typed from any screen to save the BIOS changes. It is not necessary to exit setup from this screen. To discard any BIOS setup changes you can type the ESC key from any screen to exit.

Exit Options Screen



Driver Installation

Driver Download

If you did not purchase your operating system from J2 you may download the drivers for the 630 system from the J2 web site at” <http://www.j2retailsystems.com/support/630/>. For Windows XP there are five drivers that need to be installed. They are:

- 1: Chipset drivers for Atom D525
- 2: Intel Video Drivers
- 3: ELO Touch Screen Driver Link
- 4: Realtek RTL8111 LAN Driver
- 5: Realtek HD Audio Driver

Additional Drivers/Utilities

Additional drivers and utilities such as OPOS drivers, MSR program utility, 802.11n WIFI card drivers, cash drawer test utility, POS health monitor software and others can be down loaded from the J2 web site (see *link below*). Please see the documentation and help files supplied with these drivers and utilities for more information.

<http://www.j2retailsystems.com/support/630/>

Optional Items

The J2 630 computer supports all the same option modules (*as shown below*) on the J2 580 product, and also includes the UPS (not shown below):



VESA/Wall Mount Bracket



MSR Module (front swipe)



Finger Print / MSR-Finger Print Combo



iButton / iButton-MSR combo



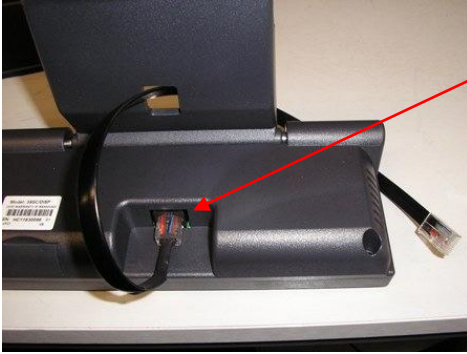
2X20 Character Customer Display



Secondary Display 12'' (also 10.4'' available)

Customer Display Option

Connecting the Cable for a J2 630/615/580 customer display



Cable must be fitted correctly. The end with the shrink sleeve goes into the display, the other end to COM3 or COM4. Normally COM4 power is already enabled on that port.

Dip Switch and Software Setting

Command Type Selection

SW1	SW2	SW3	Command Type	Demo Mode Support	Default
ON	ON	ON	POS7300	No	*
OFF	ON	ON	EPSON ESC/POS	Yes	
ON	OFF	ON	ADM 787/ ADM 788	No	
OFF	OFF	ON	DSP800	Yes	
ON	ON	OFF	AEDEX/ EMAX	No	
OFF	ON	OFF	UTC/P	No	
ON	OFF	OFF	UTC/S	No	
OFF	OFF	OFF	CD5220	Yes	

Baud Rate Selection

SW8	SW9	Baud Rate (bps)	Default
ON	ON	4800	
OFF	ON	9600	*
ON	OFF	19200	
OFF	OFF	38400	

Parity Check Selection

SW10	Parity Check	Default
ON	None-parity	*
OFF	Even-parity	

Command Control

SW12	Function
ON	Depend on SW1~SW11 setting
OFF	Bypass SW1~SW11 setting, fixed at: ⚡ Command type: POS7300, ⚡ Baud rate: 9600 ⚡ Parity check: None-parity ⚡ Demo mode: Disable ⚡ International character set: USA, standard Europe

International Character Set

ID	SW 4	SW 5	SW 6	SW 7	SW 11	Character Set (20h – 7Fh)	Code Table (80H-FFH)	Default	Note
0	ON	ON	ON	ON	OFF	U.S.A.	CP-437 (USA, Standard Europe)	*	
1	OFF	ON	ON	ON	OFF	FRANCE	CP-858 (Multilingual + Euro Symbol)		
2	ON	OFF	ON	ON	OFF	GERMANY			
3	OFF	OFF	ON	ON	OFF	U.K.			
4	ON	ON	OFF	ON	OFF	DENMARK I			
5	OFF	ON	OFF	ON	OFF	SWEDEN			
6	ON	OFF	OFF	ON	OFF	ITALY			
7	OFF	OFF	OFF	ON	OFF	SPAIN			
8	ON	ON	ON	OFF	OFF	JAPAN	Katakana		
9	OFF	ON	ON	OFF	OFF	NORWAY	CP-858 (Multilingual+ Euro Symbol)		
10	ON	OFF	ON	OFF	OFF	DENMARK II			
11	OFF	OFF	ON	OFF	OFF	SLAVIC			
12	ON	ON	OFF	OFF	OFF	RUSSIA			
13	OFF	ON	OFF	OFF	OFF	U.S.A	CP-860 (Portuguese)		
14	ON	OFF	OFF	OFF	OFF	U.K.	Greek		
15	OFF	OFF	OFF	OFF	OFF	U.S.A	CP-852 (Hungary)		
16	ON	ON	ON	ON	ON	U.S.A	CP-862 (Hebrew)		
17	OFF	ON	ON	ON	ON	U.S.A	CP-863 (Canadian-French)		
18	ON	OFF	ON	ON	ON	U.S.A	CP-865 (Nordic)		
19	OFF	OFF	ON	ON	ON	U.S.A	CP-866 (Cyrillic)		
20	ON	ON	OFF	ON	ON	U.S.A	Windows-1251 (Cyrillic)		
21	OFF	ON	OFF	ON	ON	U.S.A	Windows-1252		
22	ON	OFF	OFF	ON	ON	U.S.A	Windows-1255 (Hebrew)		
23	OFF	OFF	OFF	ON	ON	U.S.A	Windows-1257 (Baltic)		

A newer version of the customer display is now available that does not use switches but a software setup utility to configure the display. The configuration utility is available on the J2 support page of the web site.

J2 630/615/580 UPS

Specifications

Batteries Run Time	2 hours for the standard J2 630, run time will vary depending on the application loading
Power In	19 Volts DC
Power Out	13-16.8 Volts DC, 8 amps maximum
Data Interface	RS232 cable, RJ45 connector
Batteries Type	2 – 4 18630 cell Li-Ion pack with protection circuit
Battery Life	500 full discharge cycles
Charge Time	5 hours from full discharge
Charger Type	Smart Microcontroller based
Software	XP Standard Generic UPS driver
Size	6" x 3.1" x 1.7" (152mm x 79mm x 43mm)

Hardware

To install and use the J2 UPS module:

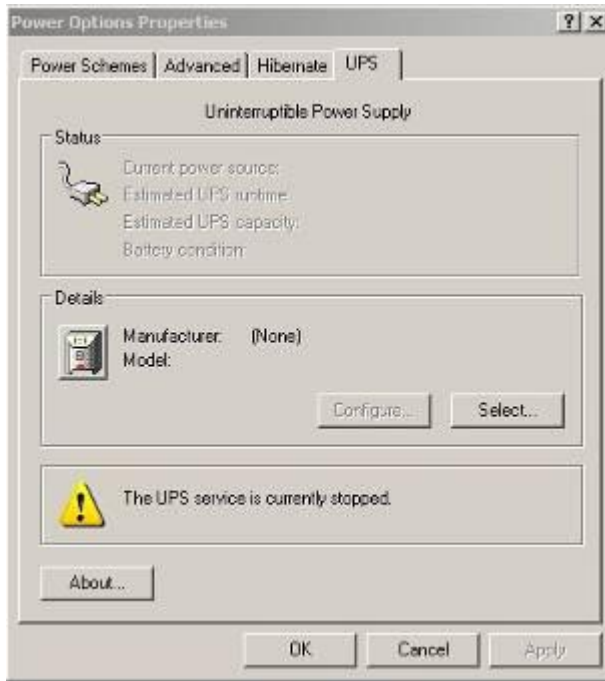
- 1: Remove the power supply adaptor from the base of the unit.
- 2: Install the UPS module where the power supply was mounted.
- 3: Connect the power output jack of the UPS to the power in jack of the unit.
- 4: Connect the Serial cable of the UPS to the serial port you wish to use. *
- 5: Connect the power supply adaptor to the UPS power in jack.
- 6: Connect the power supply adaptor to the mains power. **
- 7: Configure the Windows UPS drive as shown.

* The serial port connection is not needed for Windows CE.

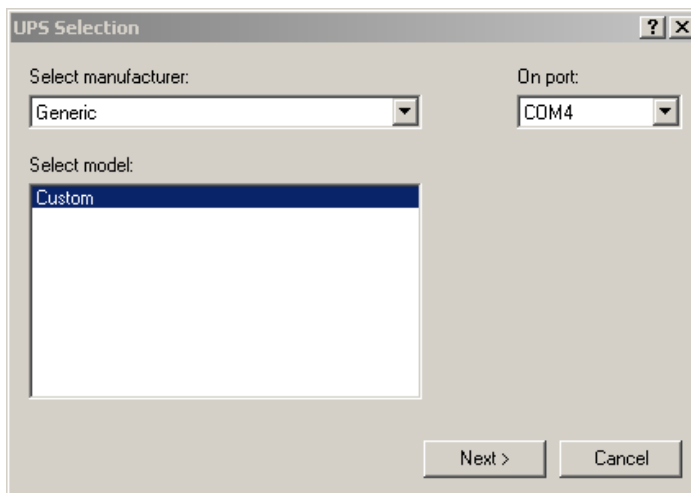
** When first installed the mains power should be applied for 5 hours to fully charge the batteries. The unit may be running during this time but will take longer to charge.

Software Setup in XP

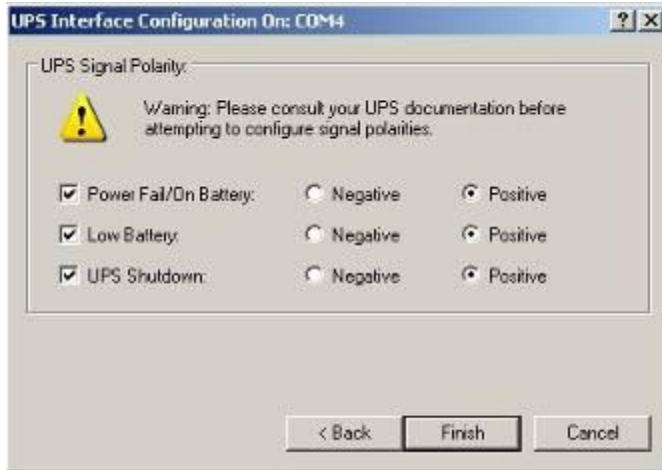
- 1: From the *START* button run *CONTROL PANEL*.
- 2: Double click *POWER OPTIONS*.
- 3: Select the *UPS* tab and click on *Select* under *Details*.



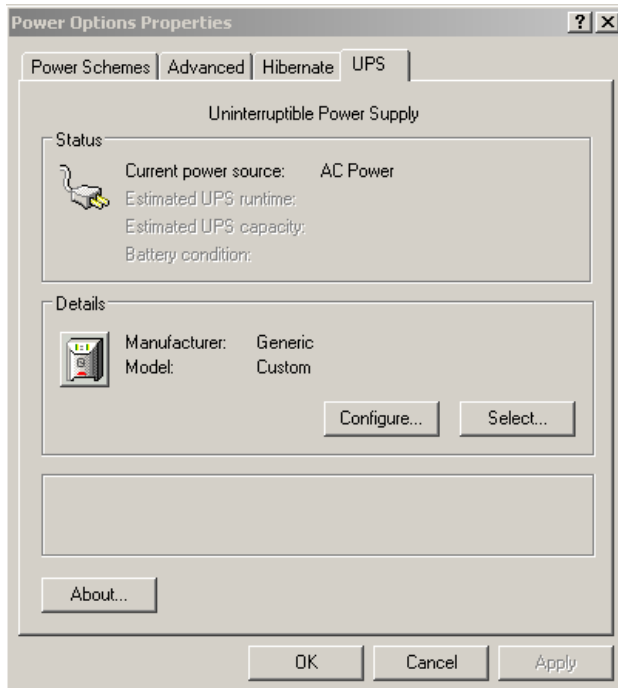
- 4: Under *Select manufacturer* select *Generic*. Select the COM port you wish to use in the *On port* drop down menu. Be sure this port is not used for anything else (printer) or the driver will not install. *Select model* should be *Custom*. Click *Next*>.



5: The default values for the *Interface Configuration* are what the J2 UPS uses, therefore just click *Finish*.



6: When returned to the *Power Options Properties* window, click *Apply* to save the configuration. It will take a number of seconds to configure. Once done the *Details* should show *Manufacturer: Generic* and *Model: Custom* and the UPS and driver should be working. This can be quickly tested by removing the AC power to the unit. If everything is working, the *Current power source:* should change to *On Battery*.



You may now exit the control panel, the UPS configuration is complete.

Status LED

There is one green status LED on the UPS. This can be viewed when looking into the top of the base, *as shown in the picture below*:

630/580 UPS STATUS LED

Add picture here

The status LED can be used to determine what mode the UPS is running in. Please refer to the following table:

LED	Condition
On steady	Batteries fully charged, running on AC power
Blinking, mostly on	Batteries charging, running on AC power
Blinking, mostly off	Running on batteries
Blinking fast	Batteries almost discharged, system signaled to shut down
Off	Batteries discharged, UPS and system powered down