



Computer user manual

■ Industrial Computers

■ Data Communications

■ Measurement and Control

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Safety Instructions

Before you unpack your PC system, ensure you carefully read through this manual and follow any related safety or operational instructions.

Only suitably qualified and experienced personnel should work inside the computer.

Before commencing work within the PC ensure that the mains is disconnected from the PC and any attached peripherals.

Operation of your PC

Before operating your computer please: -

Read the equipment ratings plate and ensure that the mains circuit is suitably rated to power the equipment to avoid risk of overloading. Do not use mains adaptors, or extenders.

Ensure that any cables connecting to the equipment are made safe and do not present a tripping hazard.

To avoid risk of electric shock ensure that equipment is plugged into a suitably grounded mains outlet. Only use the power cord supplied with your PC. Do not continue to use the cable if it is cut or damaged

Ensure the chassis is kept away from heat sources, such as radiators and heating vents.

Chassis ventilation slots must be kept clear and not blocked. Failure to do so is likely to cause the unit to overheat and become unstable.

Avoid connecting the PC to an electrical supply which may have unacceptable interruptions, surges, spikes or noise. We recommend the use of an uninterruptible power supply (UPS), surge protector or mains conditioner to address the issue.

Electrostatic Discharge Damage

When working on the inside of a PC system, you must be aware that many of the components are electrostatic sensitive discharge (ESD). These components can easily be damaged if suitable precautions are not taken. ESD damage is not always immediately apparent and may result in a failure many weeks later. When working on equipment we recommend the use of an ESD mat and wrist strap.



Caution

Components inside of the case can be damaged by electrostatic discharge (ESD). You must take suitable precautions to prevent likely ESD damage.



Rack Mounted Equipment

Please read this section carefully before assembling your industrial computer as part of an enclosure or multi-rack assembly. It is highly recommended that any work of this nature only be undertaken by competent, trained personnel. These guidelines must be read in conjunction with the user guide of the enclosure and any other equipment to be fitted.

- The maximum ambient operating temperature should not typically exceed 40°C. The operating ambient temperature of the rack environment may be greater than room temperature. The direct ambient environment must not exceed the maximum rating.
- Allow free airflow around the chassis for safe operation. Place any fans or blowers close to the heat generating devices. If using a fan, ensure that outside air is not brought inside the enclosure unless a fabric or other reliable filter is used. This filtration prevents conductive particles or other harmful contaminants from entering the enclosure.
- Ensure the rating of the mains power outlet is not overloaded. The total power taken by all the electrical devices must not exceed the maximum outlet rating. The total maximum rating can be ascertained by the cumulative maximum ratings of all the electrical devices running from the outlet. If the rating of any device is in doubt, please contact the respective manufacturer.

- Care must be taken to ensure that all devices requiring a protective earth have a reliable earth connection, especially when the power is distributed by means of a power-strip. It is recommended that after assembly and prior to the application of power, an earth-bonding test should be carried out. Earth requirements may vary depending upon your location, refer to any relevant local electric codes that provide data such as the size and types of conductors, colour codes and connections necessary for safe grounding of electrical components.

- Account for the unit's depth when choosing the depth of the enclosure.

- Consider accessibility, locations of accessories such as AC power outlets for installation and maintenance convenience.

Consideration must be given to overall mechanical stability. Please ensure adherence to the user instructions of your chosen enclosure or rack. The use of an anti-tilt mechanism is recommended when mounting systems with sliding rails.

Typical weights of our Ventrix and Impact systems are: -

Ventrix / Impact 1xxx (1U)	> 8kg
Ventrix / Impact 2xxx (2U)	> 20kg
Ventrix / Impact 3xxx (3U)	> 20kg
Ventrix / Impact 4xxx (4U)	> 20kg
Ventrix 5xx (5U)	> 17kg
Ventrix / Impact 6xxx (6U)	> 30kg
Ventrix-W (4U)	> 20kg
Impact-S 2000 (2U)	> 20kg
Impact-S 3000 (3U)	> 20kg
Impact-S 4000 (4U)	> 40kg
Impact-S 6000 (6U)	> 70kg
Impact-N (4U / Tower)	> 30kg.

The weight of a system will increase when it is expanded. The weight of additional drives and plug-in cards must be considered.

Warning



When heavy equipment is extended on its slide rails there is a danger that the rack could topple over. We recommend that the rack is secured to the floor or a suitable stabilising plinth is used.



Introduction

Thank you for purchasing your Industrial Computer from Amplicon Liveline Limited.

Your system has been assembled from quality components selected by our engineering team. For increased reliability, all our systems undergo a diagnostic test. If you have specified an operating system, this will be installed together with any additional plug-in cards, or software.

When you unpack your system you will find:-

- Amplicon CD containing this manual and drivers
- A manual for the industrial single board computer, or motherboard
- Any specified plug-in card driver disks and manuals
- Any specified device software such as Nero, or Easy CD Creator
- Additional screws and fixings pack
- Any specified keyboard and mouse "Y" splitter
- Power cord
- Any specified keyboard, mouse or trackball
- Keys.

Contents may vary, depending on specified configuration.

The intention of this user guide is to get you acquainted with your new system and provide general end-user information for the whole system. If you require more specific technical information, please refer to the component manuals that are included with your system.

Unpacking the system

Your system has been supplied in a custom designed heavy-duty cardboard box. It is recommended that you retain all packaging material for future shipping purposes.

We take great care when shipping our systems, but recommend that you take a moment to inspect your new system. If you have concerns that the unit has sustained transit damage. Contact our Support Department immediately.

If your system features a single board computer (SBC), it will come with internal transit packing foam. Systems fitted with internal packing foam have an additional caution label across the power inlet. The packing foam safeguards against internal damage during transit.

Before you start using your new system, any internal packing foam **must** be removed. Anti-static precautions **must** be observed whilst removing the transit packing foam.

Removing transit packing foam

Locate and remove the screws securing the chassis top cover. Slide the top cover back and then lift it clear of the chassis. Carefully remove the pink packing foam, taking care not to disturb the internals of your system, ensuring cables are not snagged whilst removing the foam.

Retain the packing foam with the other packing materials. The chassis top cover can now be replaced and secured with the original screws.



Caution



Powering the system without removing the internal transit packing foam will result in damage.

Installation

Making connections to your computer

Our range of industrial computers utilise either single board computers or conventional ATX form factor motherboards. The exact positioning of each connector may vary slightly for your specific machine. For detailed information, please refer to the processor board manual supplied with your system.

Ensure that the mains power outlet is switched off and connect the mains power cord. Connect the external devices whilst referring to the connections shown in the photographs below. Some single board computer based systems use a "Y" splitter cable to breakout the keyboard and mouse PS/2 connections from the single connector on the system. Connect this cable to the rear PS/2 connector. The mouse and keyboard connections are clearly marked on the cable.

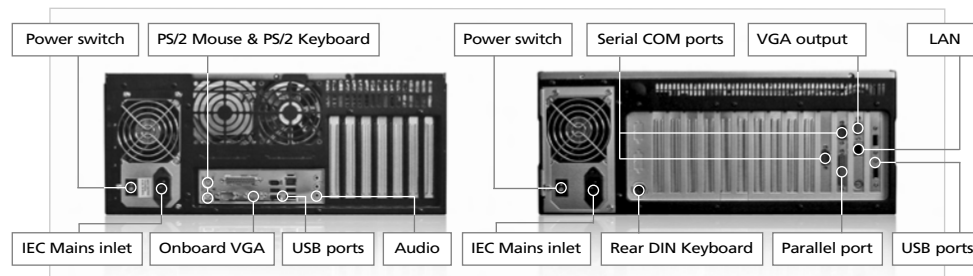
USB devices are designed to be hot-plugged, and may be connected when the system is running. Once all the devices are connected, the mains power outlet can be switched on and the unit turned on.

We supply both AT and ATX powered systems. AT systems have latching power switches and need to be manually switched off. The ON position is denoted by a "I", and OFF by a "O". ATX systems have a momentary push button and can be automatically shut down by most modern operating systems. To turn the unit off manually, depress and hold the power switch for four seconds. If your computer has a rear PSU power switch, this must also be switched to ON before the system can be powered.



WARNING HOT SURFACE DO NOT TOUCH - Components located on the motherboard may exceed 70 °C.

Rear Connections



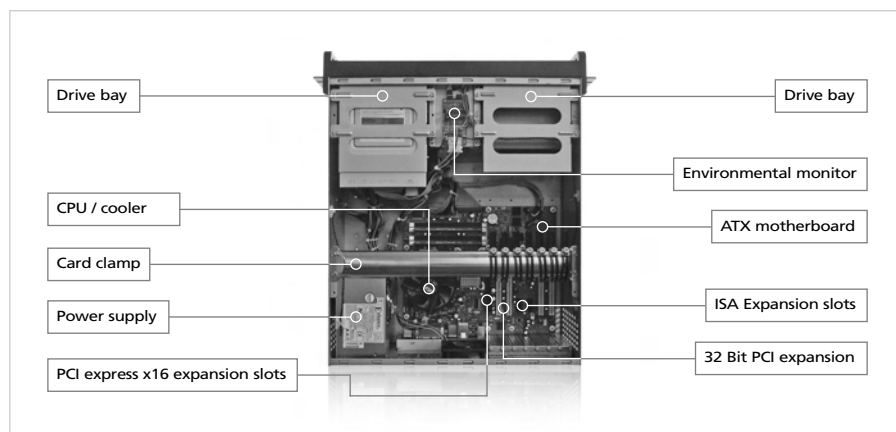
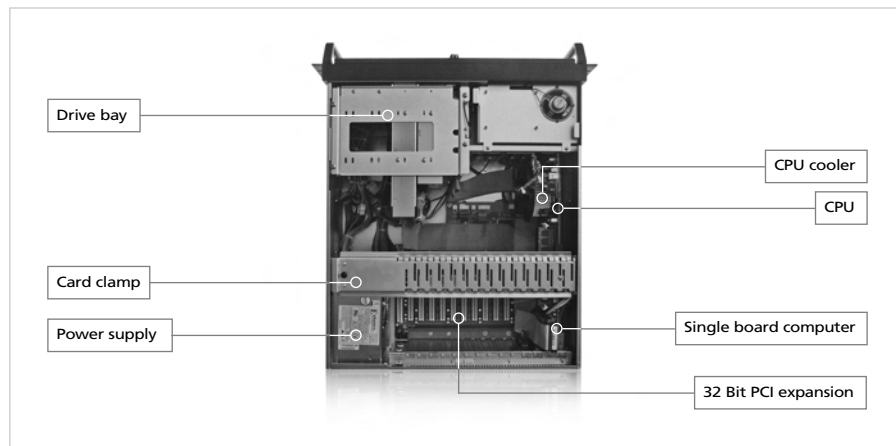
Fitting ISA, PCI and PCI-Express Cards

The following instructions describe the physical installation of ISA, PCI or PCI-Express (PCIe) plug-in cards. Please refer to the internal view photographs overleaf.

- Disconnect the mains power from your system. It is recommended that you leave the power cord attached, but isolate the live mains feed from the power outlet. This method will retain a protective earth to the chassis. Use an anti-static wrist strap to avoid electrostatic discharge (ESD) damage to the system and plug-in card.
- When selecting a plug-in card, ensure that there is sufficient mechanical clearance.
- The system resource requirements for plug-in cards vary. It is recommended that you check the resources required by your card(s) are available. Please refer to the processor board manual supplied with your system.
- Remove the chassis cover retaining screws to gain access to the inside of the system.
- If your system is fitted with a card-retaining clamp, remove the screws securing it and lift it from the chassis.
- Locate the position where you wish to insert your new card and remove the screw and blanking plate.
- Insert your new card, ensuring you apply firm even pressure to the top edge of the card. Once you have ensured that the connector is fully in the respective PCI/ISA/PCIe socket, insert the bracket securing screw.
- If applicable, refit the card-retaining clamp and adjust the arm of the clamp to apply firm pressure to the top of the newly inserted card.
- Refit the chassis cover and secure in place with the retaining screws.
- For software installation, please refer to the instructions supplied with your plug-in card.
- You must check that there is sufficient power available to meet the requirements of your new card.
- Additional cards could decrease airflow within the chassis and result in raised internal case temperature.

Fitting ISA, PCI and PCI express

Internal view photographs



Impact-E 42 / 52 / 57 - Accessories

AC/DC Adapter

Model Number: FSP120-AAB

AC input: 100 ~ 240VAC

DC output: 19V 6.32A (max)

Packaged gross weight: Approximately 6.8kg



Cables

Serial breakout cable

PS/2 splitter - must be used when attaching a keyboard and mouse



Upgrading and Expanding the Impact-E Series

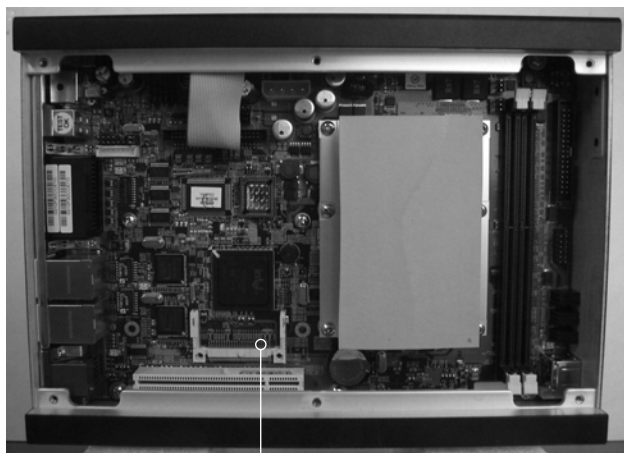
The Impact-E series are sold pre-configured as fully working systems.

To access the inside of the unit remove either the six top cover or base plate screws. Your system will come supplied with a processor and memory. We do not recommend that you replace these components without contacting us for advice.

Removing the top will give access to: -

Memory: 2 x 1GB 240-pin DIMM DDR2 667 SDRAM (Max)

Internal CompactFlash socket

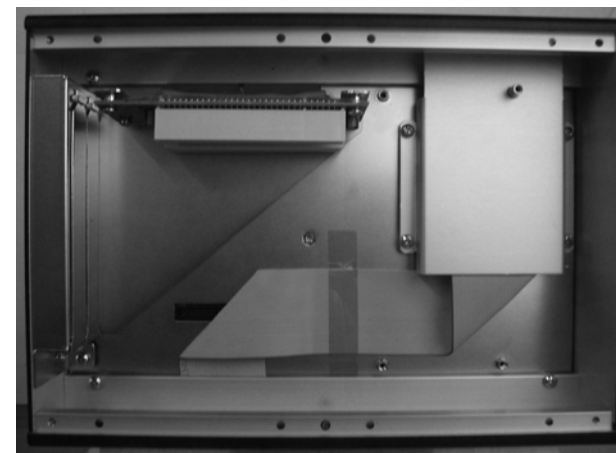


Internal CompactFlash socket

Removing the top will give access to: -

Hard drive mounting:- A 2.5" parallel IDE hard drive may be added to the system. Ensure that the heat transfer plate makes good contact with the side of the chassis when fitting.

The Impact-E 42 / 52 / 57 can accept PCI expansion cards of limited length.



Regulatory Compliance

CE Marking

We have run our own fully equipped EMC Pre-compliance facility for over ten years. This facility is used to ensure the ongoing conformance of our products to the EMC Directive (2004/108/EC).

As standard, our systems meet or exceed the requirements of IT Equipment as defined in the Harmonised Product Standards for Information Technology Equipment. As the majority of our customers work within industry, most of our products meet Class A Emissions.

We can also tailor testing packages to ensure equipment meets the requirements of many other standards such as Railways or London Underground.

If you require a CE Declaration, a member of our support team will be happy to provide you with a copy.

If you require additional testing or have any questions concerning product conformance, please contact our Engineering Manager.

Specifications

Electrical Ratings

PLUGGABLE EQUIPMENT

The socket-outlet shall be installed near the equipment and shall be easily accessible. Always check the ratings plate of your system for the correct specifications.

Our systems incorporate Zippy industrial power supplies (PSUs). The following models are standard for many of our systems.

Standard 300W Flex-ATX (Flex 0130B)

Active PFC

Voltage: 100 ~240 VAC Full Range

Frequency: 50 ~ 60 Hz

Input Current: 6.0A for 100 VAC
3.0A for 240 VAC

Standard 460W (HP2-6460P)

Active PFC

Voltage: 90 ~264 VAC Full Range

Frequency: 47 ~ 63 Hz

Input Current: 7.0A for 115 VAC
3.5A for 230 VAC

Inrush Current: 65A Max for 115 VAC
125A Max for 230 VAC

Standard 600W (PSM-6600P)

Active PFC

Voltage: 90 ~264 VAC Full Range

Frequency: 47 ~ 63 Hz

Input Current: 10.0A for 115 VAC
5.0A for 230 VAC

Inrush Current: 65A Max for 115 VAC
125A Max for 230 VAC

Standard 680W (IPS-P680TNM/S)

Active PFC

Voltage: 90 ~264 VAC Full Range

Frequency: 47 ~ 63 Hz

Input Current: 10.0A for 115 VAC
5.0A for 230 VAC
80 Plus Certified

Standard 880W (IPS-P880TNM/S)

Active PFC

Voltage: 90 ~264 VAC Full Range

Frequency: 47 ~ 63 Hz

Input Current: 14.0A for 115 VAC
7.0A for 230 VAC
80 Plus Certified

Standard 460W+460W Dual Redundant (IPR-P460FVS)

Active PFC

Voltage: 90 ~264 VAC Full Range

Frequency: 47 ~ 63 Hz

Input Current: 8.0A for 115 VAC
4.0A for 230 VAC

Standard 1350W N+1 Redundant (M1W4-6D50P)

Active PFC

Voltage: 90 ~264 VAC Full Range

Frequency: 47 ~ 63 Hz

Input Current: 20.0A for 115 VAC
10.0A for 230 VAC

Inrush Current: 60A Max for 115 VAC
100A Max for 230 VAC

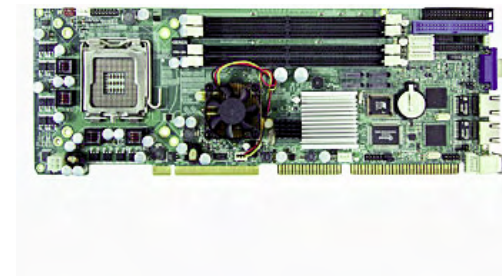
Mechanical Specifications

Ventrix Range

The Ventrix series utilise single board computer (SBC) and complementary backplane technology. All our Ventrix products have a typical life cycle of five years.

This series provides a wide performance range to meet different application needs. In addition, each model is offered with a choice of PCI/ISA/PCI express expansion options. Systems can be specially customised.

All of our Ventrix products use Intel processors supported by the Intel Embedded Roadmap.



Ventrix 1xxx Series Chassis



Design: EIA RS-310C 19" Rackmount Standard

Construction: Heavy duty cold rolled electroplated steel

Colour: Black (custom colours available for large orders)

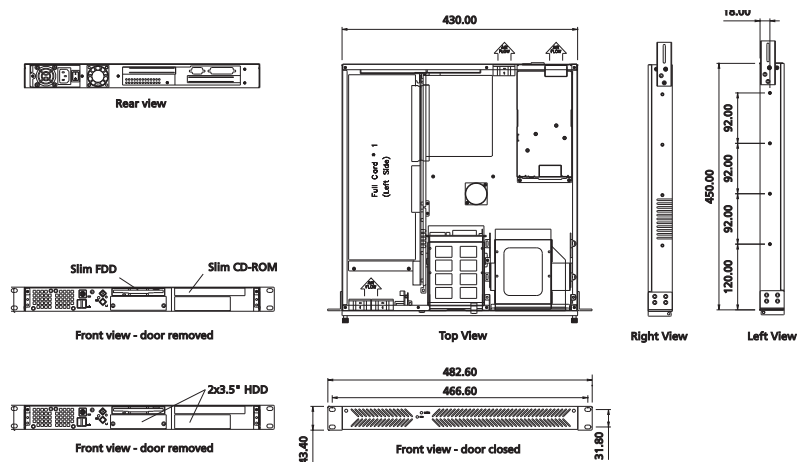
Dimensions: 483 (W) x 44 (H) x 450 (D) mm (19" x 1.7" x 17.7")

Packaging size: 615 (W) x 179 (H) x 600 (D) mm (24.2" x 7.0" x 23.6")

Total drive capacity: 1 x slim CDROM, 2 x 3.5" HDD, 1 x slim 3.5" floppy disk drive

Cooling: 3 x 40mm fan, 7 CFM each

Gross weight: approximately 8kg



Ventrix 2xxx Series Chassis



Design: EIA RS-310C 19" Rackmount Standard

Construction: Heavy duty cold rolled electroplated steel

Colour: Black (custom colours available for large orders)

Dimensions: 483 (W) x 88 (H) x 450 (D) mm (19" x 3.5" x 17.7")

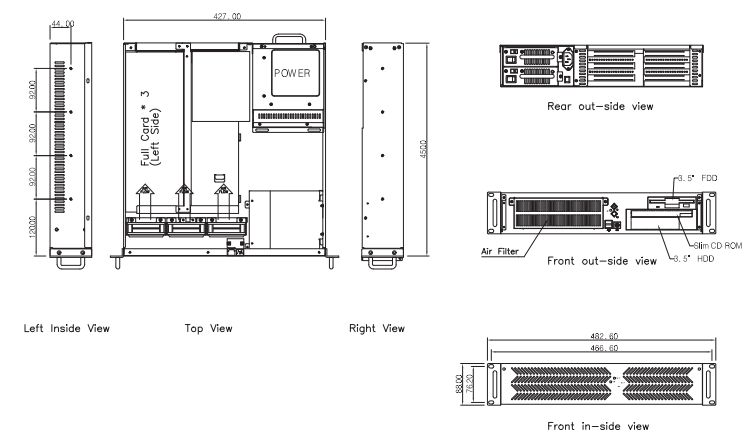
Packaging size: 630 (W) x 248 (H) x 574 (D) mm (24.8" x 9.8" x 22.6")

Total drive capacity: 1 x 5.25" + 1 x 3.5" FDD, or 1 x Slim CDROM, 1 x 3.5" HDD, 1 x 3.5" FDD

Cooling: 3 x 80mm fan, 42.5 CFM each

Air filter: removable (washable)

Gross weight: approximately 20kg



Ventrix 4xxx Series Chassis



Design: EIA RS-310C 19" Rackmount Standard

Construction: Heavy duty cold rolled electroplated steel

Colour: Black (custom colours available for large orders)

Dimensions: 480 (W) x 177 (H) x 510 (D) mm (19" x 7" x 20.1")

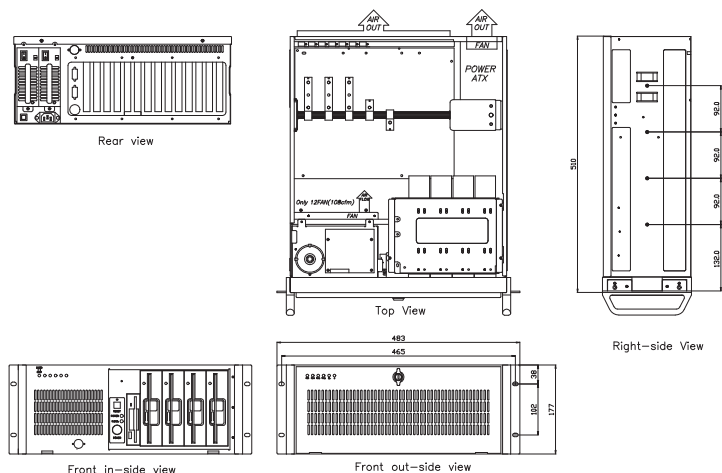
Packaging size: 600 (W) x 345 (H) x 690 (D) mm (23.6" x 13.6" x 27.2")

Total drive capacity: 4 x 5.25" + 1 x 3.5" FDD

Cooling: 1 x 120mm fan, 108 CFM

Air filter: removable (washable)

Gross weight: approximately 20kg



Ventrix 6xxx Series Chassis



Design: EIA RS-310C 19" Rackmount Standard

Construction: Heavy duty cold rolled electroplated steel

Colour: Black (custom colours available for large orders)

Dimensions: 483 (W) x 267 (H) x 463 (D) mm (19" x 10.5" x 18.2")

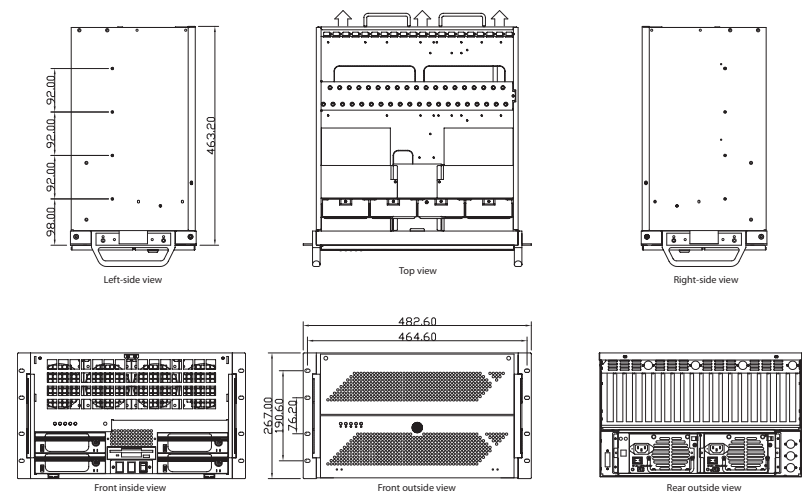
Packaging size: 610 (W) x 418 (H) x 647 (D) mm (24.0" x 16.5" x 25.5")

Total drive capacity: 4 x 5.25" + 1 x 3.5" HDD + 1 x 3.5" floppy disk drive

Cooling: 4 x 90mm fan, 90 CFM each

Air filter: removable (washable)

Gross weight: approximately 30kg



Ventrix-W 4xxx Series Chassis



Design: EIA RS-310C 19" Rackmount Standard

Construction: Heavy duty cold rolled electroplated steel

Colour: Black (custom colours available for large orders)

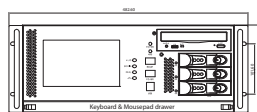
Dimensions: 483 (W) x 177 (H) x 510 (D) mm (19" x 7" x 20.1")

Packaging size: 591 (W) x 340 (H) x 688 (D) mm (23.3" x 13.4" x 27.1")

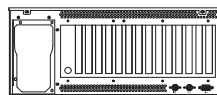
Total drive capacity: 1 x 5.25" + 3 x 3.5" HDD Caddy (SATA, SAS & SCSI320 available)

Cooling: 3 x 92mm fan, 51 CFM each

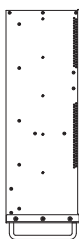
Gross weight: approximately 20kg



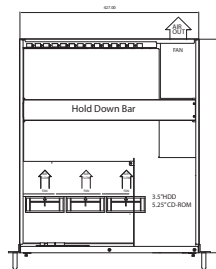
Front out-side view



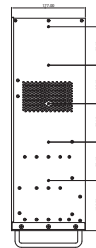
Rear out-side view



Left-side View



Top View



Right-side View

Ventrix 5xx Series Chassis



Design: Desktop or wall mount

Construction: Heavy duty cold rolled electroplated steel

Colour: Black (custom colours available for large orders)

Dimensions: 350 (W) x 411 (H) x 177 (D) mm (13.8" x 16.2" x 7.0")

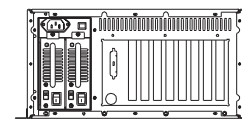
Packaging size: 490 (W) x 324 (H) x 558 (D) mm (19.3" x 12.8" x 22.0")

Total drive capacity: 2 x 5.25", 1 x 3.5" HDD, 1 x 3.5" floppy disk drive

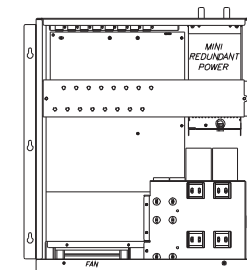
Cooling: 1 x 120mm fan, 90 CFM

Air filter: removable (washable)

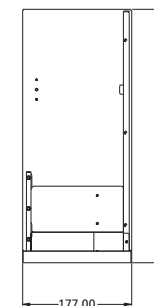
Gross weight: approximately 17kg



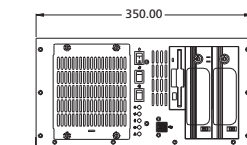
Rear View



Top View



Side View



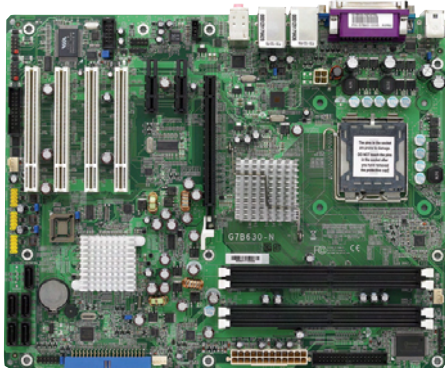
Front View

Impact / Impact-R Range

The Impact-R series incorporates DFI industrial motherboards to achieve hardware life cycles of up to five years. These models provide a wide performance range to meet different application needs.

The Impact range is designed and built by Amplicon under ISO9001:2008 quality management procedures. They offer premium value and provide a bridge between business and top-end industrial systems. Every Impact is constructed in heavy-duty steel chassis, built to industrial standards.

All of our Impact-R and Impact products use Intel processors supported by the Intel Embedded Roadmap.



Impact / Impact-R 2xxx Series Chassis



Design: EIA RS-310C 19" Rackmount Standard

Construction: Heavy duty cold rolled electroplated steel

Colour: Black (custom colours available for large orders)

Dimensions: 483 (W) x 88 (H) x 450 (D) mm (19.0" x 3.5" x 17.7")

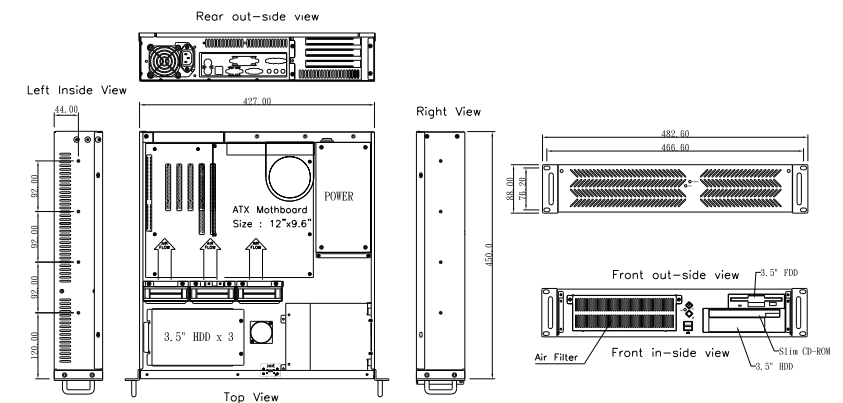
Packaging size: 615 (W) x 224 (H) x 600 (D) mm (24.2" x 8.8" x 23.6")

Total drive capacity: 1 x Slim 5.25" external, 1 x 3.5" external, 4 x 3.5" internal
or 1 x 5.25" external, 1 x 3.5" external, 3 x 3.5" internal

Cooling : 3 x 80mm ball bearing fans (42.5 CFM each)

Air filter: removable (washable)

Gross weight: approximately 17kg



Impact / Impact-R 3xxx / Impact-S 3000 Series Chassis



Design: EIA RS-310C 19" Rackmount Standard

Construction: 1.2mm SECC Zinc-Coated Steel

Colour: Black (custom colours available for large orders)

Dimensions: 483 (W) x 133 (H) x 526 (D) mm (19" x 5.25" x 20.7")

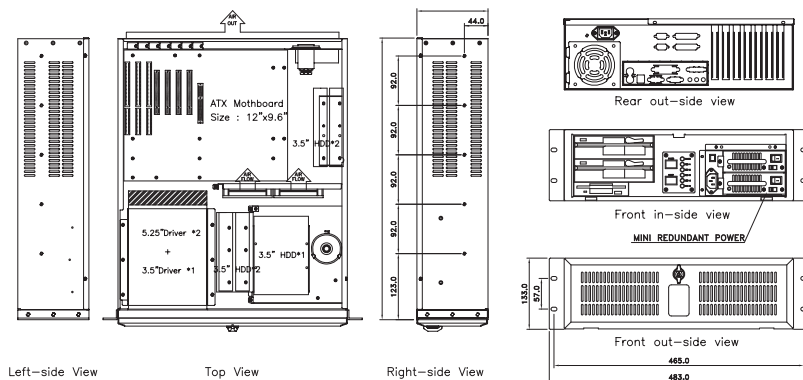
Packaging size: 588 (W) x 285 (H) x 703 (D) mm (23.1" x 11.2" x 27.7")

Total drive capacity: 2 x 5.25", 1 x 3.5" external, 4 x 3.5" internal

Cooling : 1 x 80mm, 2 x 92mm ball bearing fan (42.5 / 51.0 CFM)

Air filter: removable (washable)

Gross weight: approximately 18kg



Left-side View

Top View

Right-side View

Front out-side view

Front in-side view

Rear out-side view

Impact / Impact-R 4xxx Series Chassis



Design: EIA RS-310C 19" Rackmount Standard

Construction: 1.2mm SECC Zinc-Coated Steel

Colour: Black (custom colours available for large orders)

Dimensions: 485 (W) x 176.8 (H) x 480 (D) mm (19.1" x 7.0" x 18.9")

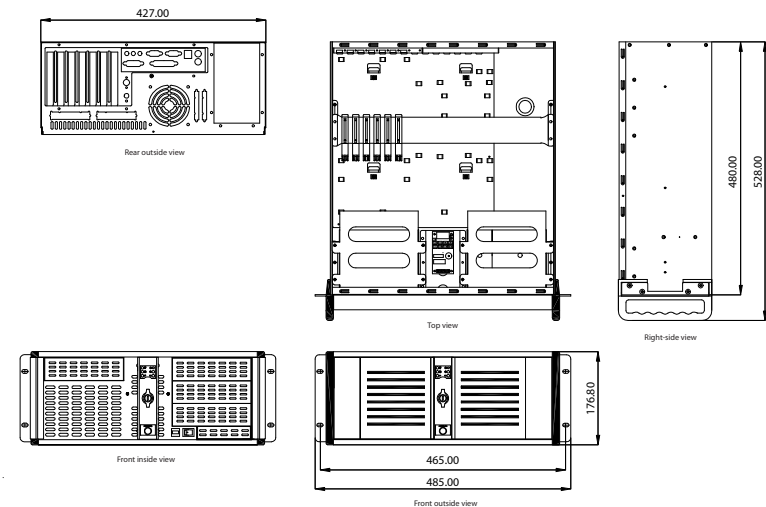
Packaging size: 541 (W) x 280 (H) x 660 (D) mm (21.3" x 11.0" x 26.0")

Total drive capacity: 4 x 5.25" external, 1 x 3.5" external, 2 x 3.5" internal

Cooling: 1 x 120mm ball bearing fan

Air filter: removable (washable)

Gross weight: approximately 20kg



Front inside view

Front outside view

Top view

Right-side view

Impact-R 15x Series Chassis



Design: Compact desktop / wallmount (brackets supplied)

Construction: Heavy duty cold rolled electroplated steel

Colour: Black / Silver (custom colours available for large orders)

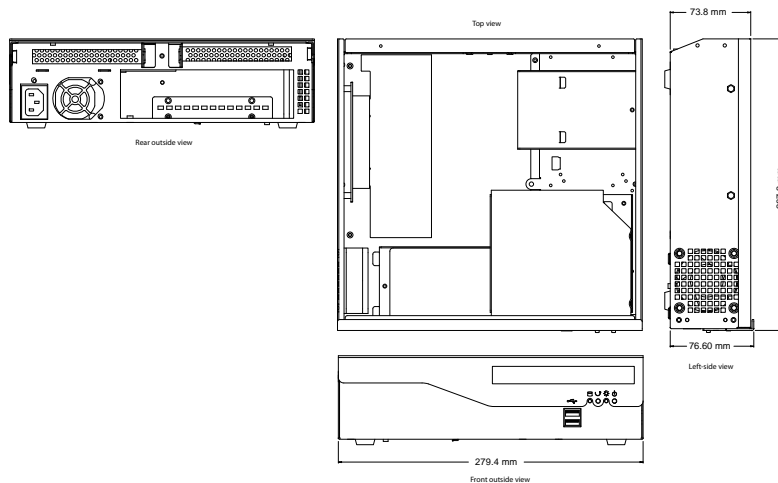
Dimensions: 280 (W) x 77 (H) x 268 (D) mm (11.0" x 3.0" x 10.6")

Packaging size: 373 (W) x 363 (H) x 175 (D) mm (14.7" x 14.3" x 6.9")

Total drive capacity: 1 x Slim 5.25" external, 2 x 2.5" internal

Cooling : 1 x 60mm ball bearing fan (23.5 CFM)

Gross weight: approximately 4kg



Impact-R 2xx Series Chassis



Design: Compact desktop / wallmount (brackets supplied)

Construction: Heavy duty cold rolled electroplated steel

Colour: Black / Silver (custom colours available for large orders)

Dimensions: 350 (W) x 90 (H) x 268 (D) mm (13.8" x 3.5" x 10.6")

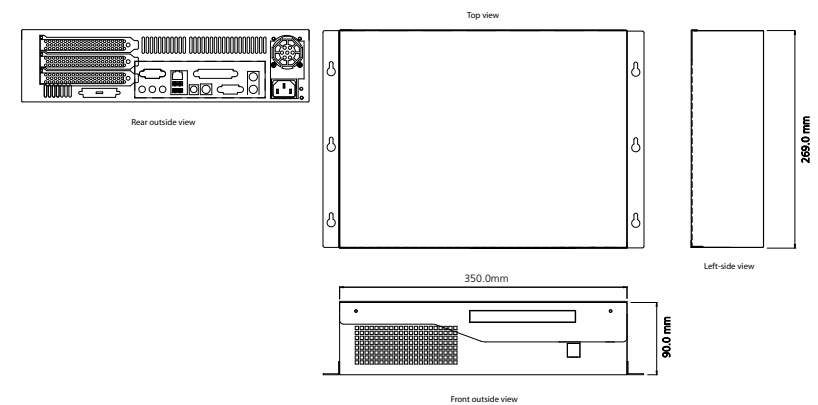
Packaging size: 470 (W) x 390 (H) x 235 (D) mm (18.5" x 15.4" x 9.3")

Total drive capacity: 1 x Slim 5.25" external, 2 x 2.5" internal

or 1 x 3.5" internal, 1 x 2.5" internal

Cooling : 2 x 60mm ball bearing fans (23.5 CFM each)

Gross weight: approximately 6kg



Impact-E Range

Rugged Industrial Computers

The Amplicon Impact-E range of embedded computers provide a compact and robust platform. The elimination of cooling fans allows these systems to achieve a typical MTBF of >50,000 hours @ 25 °C.

The fanless systems are typically rated for an operational ambient temperature of 5 to 45°C with a 2.5" HDD or 0 to 50°C with a CompactFlash card or solid state drive fitted. However, the ambient temperature specification is based on a typical airflow and should only be used for guidance. A more precise way to ensure the system is working within specification is to measure the case temperature (specifically the centre of the top case) with a surface probe. The environmental specification is highly dependant upon a number of factors such air movement around the case, processor loading and what expansion is fitted. Case temperatures are rated at 5 to 50°C with a 2.5" HDD or 0 to 55°C with a CompactFlash card or solid state drive. The exact specification of each model can be found on the appropriate datasheet.

These systems have a DC input with selected models being supplied with an external AC adaptor. The DC input range of these systems typically ranges between 12 to 30 volts, but they are not suitable for direct connection to a vehicle battery supply. A 12V car battery can drop to as little as 6 volts when the starter motor is in operation. In addition the large inductance of the alternator can cause surges which will damage these systems. If you are intending to use one of these units in a vehicle, you need to fit a suitable regulated DC-DC supply.

Impact-E 20



Design: Rugged compact embedded design

Cooling: Fanless design

Construction: Heavy duty aluminium

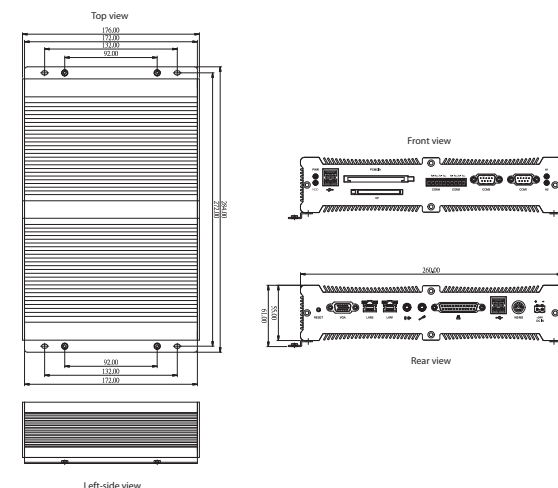
Colour: Black (custom colours available for large orders)

Dimensions: 260 (W) x 55 (H) x176 (D) mm

Packaging dimensions: 290 (W) x 180 (H) x 380 (D) mm

Gross weight: Approximately 2.5kg

Packaged gross weight: Approximately 3.4kg



Impact-E 42



Design: Rugged compact embedded design

Cooling: Fanless design

Construction: Heavy duty aluminium

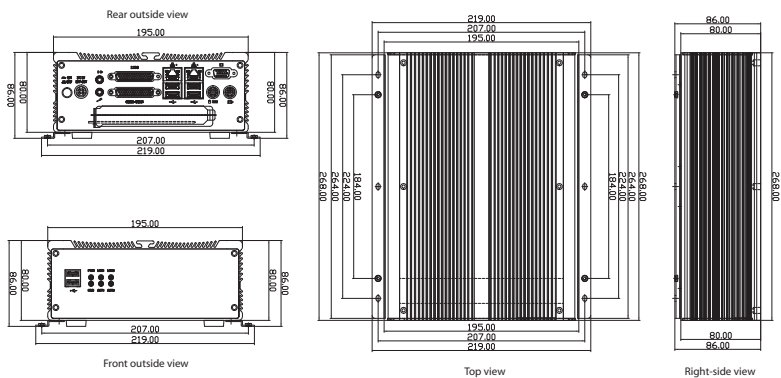
Colour: Black (custom colours available for large orders)

Dimensions: 195 (W) x 80 (H) x 268 (D) mm

Packaging dimensions: 310 (W) x 240 (H) x 360 (D) mm

Gross weight: Approximately 4.4kg

Packaged gross weight: Approximately 6.5kg



Impact-E 52 / 57



Design: Rugged compact embedded design

Cooling: Fanless design (52 only)

Construction: Heavy duty aluminium

Colour: Black (custom colours available for large orders)

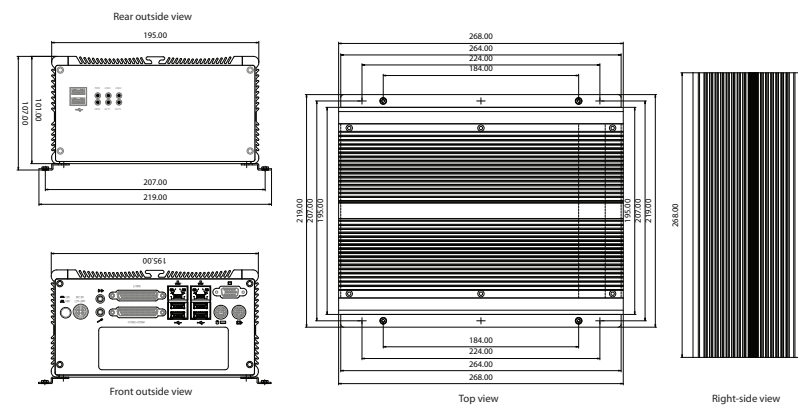
Dimensions: 195 (W) x 107 (H) x 268 (D) mm

Packaging dimensions: 310 (W) x 240 (H) x 360 (D) mm

Gross weight: Approximately 4.7kg

Packaged gross weight: Approximately 6.8kg

The Impact-E 57 incorporates a 40mm industrial fan to cool any fitted PCI cards.



Impact-S IP CCTV Storage Servers

The Impact-S storage servers have been specifically designed to meet the requirements of IP surveillance applications such as DVR, NVR and IP CCTV systems. These systems are tailored to specific customer requirements to achieve the desired resolutions and frame rates. Adding additional cameras to the network or increasing the performance settings in your software will affect recording rates.

Entry level systems utilise the integrated Intel onboard RAID. These systems can only support up to a maximum of 2TB in any one partition. When using the integrated RAID controllers, a third party RAID controller card cannot be used in the system.

Higher specification systems utilise Adaptec 3000 and 5000 series RAID controller cards. These systems support both SAS and SATA hard drives. Only the same type / capacity of hard drive can be grouped to form RAID array.

Adaptec RAID 31605 Controller



- 16 internal ports
- Intel 80333 800MHz processor
- 8-Lane PCI-Express bus interface
- RAID levels 0, 1, 1E, 5, 5EE, 6, 10, 50, 60, JBOD
- 256MB cache
- Adaptec Storage Manager
- Copyback Hot Spare
- Battery backup (optional)

Adaptec RAID 3805 Controller



- 8 internal ports
- MD2 – Low profile form factor
- Intel 80333 800MHz processor
- 4-Lane PCI-Express bus interface
- RAID levels 0, 1, 1E, 5, 5EE, 6, 10, 50, 60, JBOD
- 128MB or 256MB cache
- Adaptec Storage Manager
- Copyback Hot Spare
- Battery backup (optional)

For further information related to the RAID controller or management software, please refer to the separate manual supplied.

Impact Server 2000 Series



Design: EIA RS-310C 19" Rackmount Standard

Construction: Heavy duty cold rolled electroplated steel

Colour: Black with orange front door (OEM branding service available)

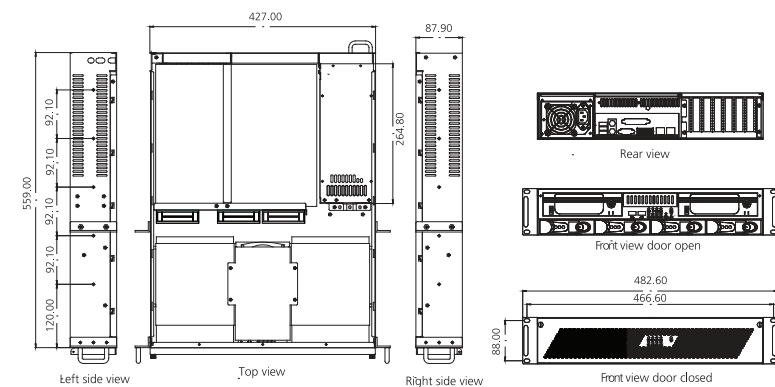
Dimensions: 483 (W) x 88 (H) x 560 (D) mm (19.0" x 3.5" x 22.1")

Packaging size: 570 (W) x 220 (H) x 735 (D) mm (22.4" x 8.7" x 28.9")

Total drive capacity: 2 x 5.25" external, 1 x 3.5" external, 4 x hot-swap 3.5" SATA

Cooling: 3 x 80mm dual ball bearing fans (42.5CFM each)

Gross weight: approximately 20kg



Impact Server 4000 Series



Design: EIA RS-310C 19" Rackmount Standard

Construction: Heavy duty cold rolled electroplated steel

Colour: Black with orange front door (OEM branding service available)

Dimensions: 483 (W) x 177 (H) x 650 (D) mm (19.0" x 7.0" x 25.6")

Packaging size: 854 (W) x 336 (H) x 576 (D) mm (33.6" x 13.2" x 22.7")

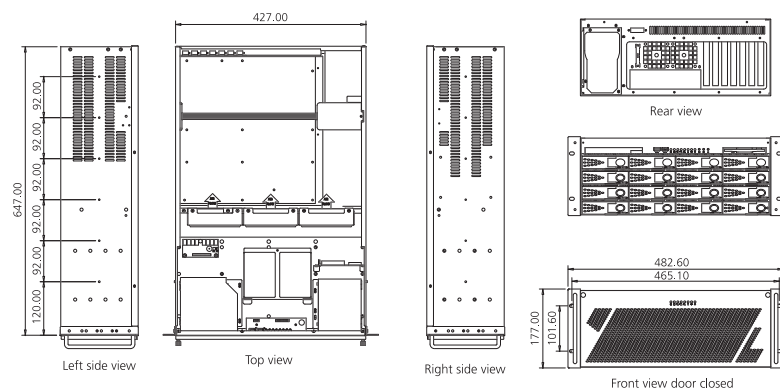
Total drive capacity: 1 x Slim CDROM, 2 x 3.5" internal, 16 x hot-swap 3.5" SATA

Cooling: 3 x 120mm (90 CFM each) + 2 x 60mm (23.5 CFM) dual ball bearing fans

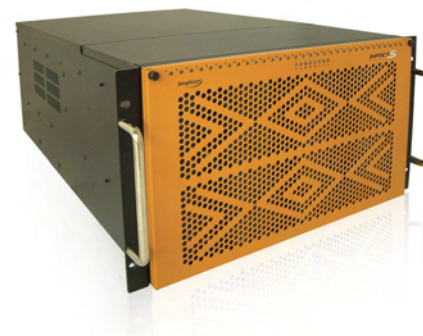
Gross weight: approximately 40kg



Warning Heavy Item



Impact Server 6000 Series



Design: EIA RS-310C 19" Rackmount Standard

Construction: Heavy duty cold rolled electroplated steel

Colour: Black with orange front door (OEM branding service available)

Dimensions: 483 (W) x 265 (H) x 666 (D) mm (19.0" x 10.4" x 26.2")

Packaging size: 855 (W) x 418 (H) x 610 (D) mm (33.7" x 16.5" x 24.0")

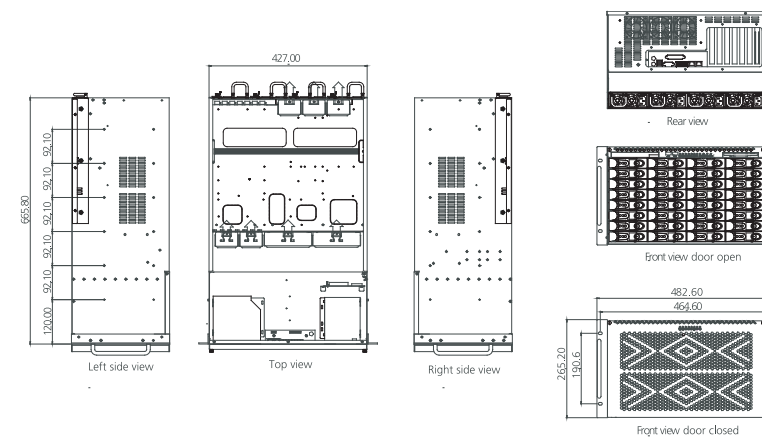
Total drive capacity: 1 x Slim CDROM, 2 x 3.5" internal, 32 x hot-swap 3.5" SATA

Cooling: 2 x 120mm (90 CFM each) + 5 x 60mm (23.5 CFM) dual ball bearing fans

Gross weight: approximately 70kg



Warning Heavy Item



Maintenance

Modern computer systems can generate a large amount of heat within the chassis. The internal temperature of the chassis is kept within operating limits by forced air cooling. Most systems have a number of fans, which must be maintained to allow free airflow. Some of our chassis have air intake fan filters, which prevent contaminants from entering the inside of your system.



Caution

Blocked fan filters may result in your system overheating and being damaged



Preventative Maintenance

- Clean the fan filters periodically to ensure that the air circulating in the unit is clean. Wash the filter with warm soapy water and leave it to dry flat. Do not scrub the filter and do not install it into the unit until it is completely dry.
- Base your maintenance schedule on the operating environment of the system. If the area is dusty, you should schedule maintenance more often than if it is a dry and clean area. Check the filter often to determine if it needs to be changed ahead of schedule.
- Remove dust and dirt from system components. If dust builds up on heat sinks and circuitry, an obstruction of heat dissipation could cause the unit to malfunction. If dust reaches the electronic boards, a short circuit could occur.
- Check the connections to input/output modules, especially in environments where vibration could loosen the connections, and ensure that all plugs, sockets, terminal strips and module connections are secure.
- Ensure that air intake and exhaust points are free from obstructions.
- Stock spare parts to minimise down time resulting from part failure. Whether it is a custom or off-the-shelf spares package, we can provide a solution.

End of Life Battery Removal Instructions

Warning

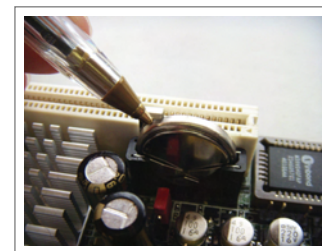


All power connections must be removed before dismantling your PC system.
Use anti-static precautions.

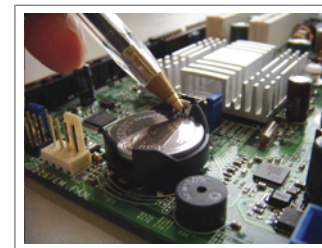


The range of industrial PC products supplied by Amplicon incorporate a lithium button cell battery. At the end of the product's life, this battery should be removed for recycling purposes.

The battery is located on the motherboard or single board computer which can be easily accessed by removing the case top cover or side panel. The battery can be removed without any special tools.



The vertically mounted carrier holds the button cell in place with a spring clip. To release the battery push the clip to one side. When the clip is clear of the battery, you will be able to pull the battery free of the carrier. You can apply pressure to the clip, with a device such as a pen, or use your finger.



The horizontal carrier has a spring located underneath the battery which will eject the button cell once the clip is pushed clear off the battery. Apply pressure to the clip with a device such as a pen, or by using the tip of your finger.

Product Repair / Returning a Unit to Amplicon

If you are encountering technical difficulties with your system, please contact our Technical Support Team. Free technical support is provided throughout the warranty period of the product. You can reach our Technical Support Team during the hours of 08:30 to 17:30 GMT via:

- Telephone: +44 (0) 906 293 0293
- Fax: +44 (0) 1273 570 215
- Web: www.amplicon.com
- Email: support@amplicon.com

Calls cost 25p per min from a BT landline. Calls from other services may vary.

An online support request form is available from our website.

When calling please ensure that you have your company details, purchase order details and serial numbers to hand.

No goods should be sent back to Amplicon Liveline Limited without obtaining a Returns Materials Authorisation (RMA) number prior to shipment.

Amplicon Windows XP FeS Recovery Disk

Customers who have purchased systems with Windows XP Professional for Embedded Systems (FeS) installed will not have been supplied a Microsoft Windows media disk.

In the unlikely event that you have encountered a problem with your hard drive which necessitates a system restore, you should contact our support team who will arrange for a System Restore Disk to be shipped to you.

Our industrial systems feature a range of high reliability 24/7 duty hard drives. We do not supply a System Restore Disk with every copy of Windows XP Professional for Embedded Systems (FeS).

Caution



The recovery disk will wipe all data and set the machine back to factory default



Amplicon Generic Recovery Disk Instructions

The Amplicon Recovery DVD includes licensed software. It has been supplied solely to facilitate the recovery of a single PC system and cannot be used with any other system or device. If you require additional recovery disks, you must contact the Amplicon Support Team.

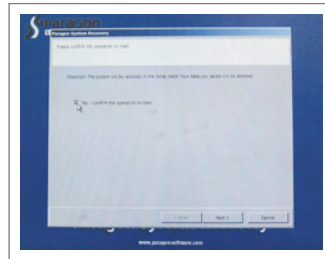
This Generic disk includes all the drivers for the motherboard or single board computer and has been created using the Microsoft Sysprep utility. It does not include drivers for additional plug-in cards, or customer specific software or settings. You will need to run through a limited setup procedure before you can start using the machine. During this process you will need to enter the OEM key displayed on the Windows Licence Sticker and also run through Windows Activation. After the setup is complete, you will be able to install any required additional drivers or software.

Generic Recovery Disk Process

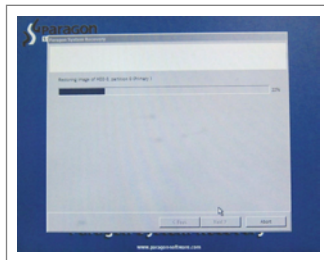
Enter the PC BIOS screen by pressing either the Delete or F2 key (this varies between hardware) as the machine boots. Set the first boot device to the DVD drive. Insert the Recovery DVD and let the machine start up.



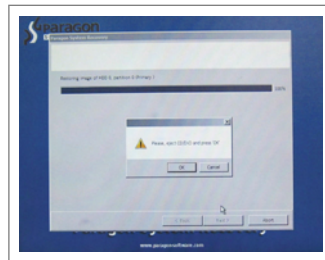
1. Paragon System Recovery will load and take a few minutes to detect the hardware.



2. To accept the disk wipe and recovery click in the box and then select **Next**.



3. Paragon System Recovery will now start to recover the system and show a progress bar.



4. When the recovery process has finished, you will be prompted to eject the disk and the system will then re-boot.

NOTE: The recovery disk is not compatible with a RAID volume.

Terms and Conditions

Our **Terms and Conditions** are available to view or download at the following link : - <http://www.amplicon.com/terms.pdf>

On-site Maintenance

This chapter is only applicable to systems supplied with one of our on-site maintenance contracts.

Before requesting an on-site visit, you must discuss your issue with a member of our Technical Support Team. If we are unable to resolve your problem over the phone, we will arrange an on-site visit in line with our Maintenance Service Terms and Conditions of Service.

When wishing to arrange a visit, please ensure you have the correct and full address details to hand.

Please ensure you read our Terms and Conditions which cover our On-site Maintenance.

End of Life Processing

The requirements of WEEE (Waste Electrical and Electronic Equipment) apply to this product. You, the customer, are the final user as defined by this Regulation. If you purchase replacement equipment from Amplicon, we shall bear the cost of removal and proper disposal of this product.

Amplicon's WEEE Producer Registration Number is available on our website: -
<http://www.amplicon.com/info/RoHS.cfm>

Required Tools For Dismantling

No. 1 Phillips screwdriver
Nut spinner 5mm
Light gauge wire cutters

Dismantling Procedure

Our systems can easily be dismantled using the tools listed. All mechanical fixings are made by M2, M3 and M4 screws or threaded posts. Wire cutters are required to cut the plastic cable ties and any other plastic cable management.

Locate the top cover and remove the securing screws. Once the cover is removed you will be able to see within the unit.

The system can easily be broken down into the following components: -

Metal chassis parts (electron galvanised steel)
Printed circuit board assemblies (fibreglass PCB material)
Chassis fans (Plastic resin and electronic components)

Some systems are fitted with batteries such as lithium used for system CMOS backup. Make sure these are removed in the first instance and disposed of in an appropriate manner. Batteries will be either retained by a quick release clip, or soldered in place. If they are soldered, they should be removed by cutting the component legs.
(See page 39 for details).

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IT and instrumentation for industry

The information contained has been reviewed and is believed to be accurate and reliable, however Amplicon Liveline Limited accepts no responsibility for any problems caused by errors or omissions. Specifications and instructions are subject to change without notice.