

J91 Series Vehicle PC

Product Overview

In-CarPC's J91 series vehicle PC features a range of powerful Intel Core processors and supports up to 8 GB DDR3 RAM, providing outstanding levels of performance in a compact form factor. The J91 series provides two independent video output channels with VGA, DVI and HDMI outputs, allowing it to be used with a wide range of displays. The PC is compatible with both 12V and 24V* vehicles, turns on and off automatically with the vehicle ignition, and does not reboot when the vehicle's engine is cranked during starting. The J91 series has been awarded "e-mark" certification, making it fully approved for in-vehicle use, and carries a 2-year warranty as standard.

Product Highlights

- Intel Core i3 / i5 / i7 mobile dual core processors up to 2.66 GHz supporting Intel Turbo Boost
- Up to 8 GB DDR3 RAM
- Hard drives from 160 GB to 750 GB (twin internal hard drives on selected chassis)
- Integrated graphics with VGA, DVI and HDMI video outputs
- Up to 10 x USB2.0 ports
- 1 x RS-232 port
- 1 x Gigabit Ethernet port
- Optional internal 3G, GPS, Wi-Fi, Bluetooth, CAN & video capture modules
- Optional anti-vibration mounting platform
- Optional internal optical drive on selected chassis
- PCI Express slot on selected chassis, with further Mini PCI Express slot
- Auto on/off with vehicle ignition, configurable shut down delays, low battery detection
- 7-36V peak input voltage range
- Regulated 12V output for accessories
- e11 certified - fully approved for automotive use
- 2-year extendable RTB warranty
- Available in a range of chassis options



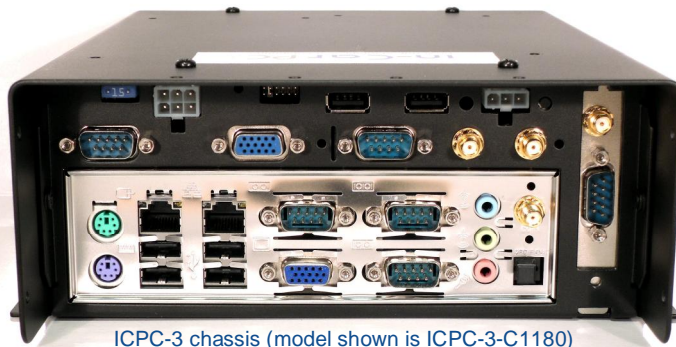
ICPC-1 chassis (model shown is ICPC-1-N5160)



ICPC-4 chassis (model shown is ICPC-4-C2266)



Integrated 3G options



ICPC-3 chassis (model shown is ICPC-3-C1180)



Internal optical drive or removable hard drive options

[More images on Page 4]

J91 Series Technical Specifications

CPU	<p>Intel Core mobile with Hyper-Threading technology:</p> <p>Core i3-330M 2.13 GHz 3 MB cache (Model J91.213)</p> <p>Core i5-520M 2.40 GHz 3 MB cache Up to 2.93 GHz with Intel Turbo Boost (Model J91.240)</p> <p>Core i7-620M 2.66 GHz 4 MB cache Up to 3.33 GHz with Intel Turbo Boost (Model J91.266)</p>	GPS	<p>Optional internal GPS module</p> <ul style="list-style-type: none"> • Ublox5 chipset • 1 x SMA connector for GPS antenna (supports active & passive antennas, available separately) • Occupies 1 x Mini PCIe slot <p>[See below for 3G module which includes GPS]</p>
RAM	<p>Up to 8 GB DDR3 1066 MHz</p>	3G / HSPA	<p>All chassis Optional internal 3G / GPS / Wi-Fi module</p> <ul style="list-style-type: none"> • Internal SIM slot. SIM slot is not externally accessible - we advise customers to provide SIM cards for inclusion during PC build. • Occupies 1 x Mini PCIe slot • 3G, GPS & Wi-Fi specifications detailed below <p>ICPC-3/4 chassis Optional internal 3G / GPS module with external SIM</p> <ul style="list-style-type: none"> • Externally accessible SIM slot • Does not occupy any expansion slots • In ICPC-3 chassis the module may obstruct low profile PCI Express cards where components on the PCI card protrude by more than approx 7 mm • 3G & GPS specifications detailed below <p>3G & GPS Specifications:</p> <ul style="list-style-type: none"> • Supports HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM network technologies • Supports world-wide frequency bands 800-850/900/1900/2100 MHz (B1, B2, B5, B6, B8) • Voice capable • Maximum downlink 14.4 Mbps (HSDPA) • Maximum uplink 5.76 Mbps (HSUPA) • 1 x SMA connector for 3G antenna (available separately) • GPS receiver supporting Standalone GPS, Assisted GPS and more • 1 x SMA connector for GPS antenna (supports passive antennas only, available separately) <p>Wi-Fi Specifications:</p> <ul style="list-style-type: none"> • 802.11b/g/draft-n • 2.4 GHz operation • Up to 150 Mbps • 2 x SMA connectors for Wi-Fi diversity antennas (available separately)
Hard Drives	<p>160 GB Hard Drive Specifications:</p> <p>250 GB • 2.5" form factor</p> <p>320 GB • 350G operating shock tolerance</p> <p>500 GB • 5400 RPM as standard</p> <p>640 GB • 7200 RPM optional</p> <p>750 GB • 7200 RPM hybrid SSD optional</p> <p> • 8-16 MB cache</p> <p>SSD drives (MLC & SLC) are available upon request.</p> <p>ICPC-3 chassis Optional second internal hard drive</p> <p>ICPC-4 chassis Optional second internal hard drive or removable hard drive module (occupies optical drive slot)</p>	Wi-Fi	<p>Optional internal Wi-Fi module</p> <ul style="list-style-type: none"> • 802.11 a/b/g/n • 2.4 & 5.0 GHz operation • Up to 300 Mbps • 2 x SMA connectors for Wi-Fi diversity antennas (available separately) • Occupies 1 x Mini PCIe slot <p>[See above for 3G module that includes Wi-Fi, and below for Bluetooth module that includes Wi-Fi]</p>
LAN	<p>1 x Gigabit Ethernet port</p>	Bluetooth	<p>Optional internal Bluetooth & Wi-Fi module</p> <ul style="list-style-type: none"> • 802.11 b/g/n • 2.4 GHz operation • Up to 150 Mbps (Wi-Fi) • Bluetooth v3.0 +HS • 2 x SMA connectors for concurrent Bluetooth & Wi-Fi diversity antennas (available separately) • Occupies 1 x Mini PCIe slot
Audio	<p>6-channel HD audio with 3 x audio ports (line-out, line-in, mic-in) plus S/PDIF output connectors (Toslink & coaxial)</p>	CAN-bus	<p>ICPC-4 chassis Optional single or dual-channel CAN interface</p> <ul style="list-style-type: none"> • Occupies 1 x PCI Express slot <p><small>[CAN-bus configurations pending e11 certification]</small></p>
Graphics	<p>Intel GMA 4500MHD graphics with VGA, DVI-D and HDMI outputs. VGA output independent of DVI-D/HDMI, DVI-D & HDMI outputs cannot be used simultaneously.</p>	<p align="right">[Specifications continued on next page]</p>	
USB	<p>Up to 10 x USB2.0 ports (8 as standard)</p>		
Serial	<p>All chassis 1 x serial port</p> <p>ICPC-3/4 chassis Up to 4 (ICPC-3) or 5 (ICPC-4) serial ports optional (occupies 1 x Mini PCIe slot)</p> <p>All serial ports are RS-232 as standard. Optional up to 1 x RS-422/485 port if specified at order time.</p>		
GPIO interface	<p>Optional 8-bit digital I/O interface</p>		
PS/2 interface	<p>1 x PS/2 port</p>		
Expansion	<p>All chassis</p> <ul style="list-style-type: none"> • 1 x Mini PCI Express <p>ICPC-3 chassis (in addition to "all chassis")</p> <ul style="list-style-type: none"> • 1 x low profile PCI Express x16 v2.0 slot <p>ICPC-4 chassis (in addition to "all chassis")</p> <ul style="list-style-type: none"> • 1 x full-size PCI Express x16 v2.0 slot plus spare slot for back plate (e.g. daughter card) <p>[See below for expansion cards available during build]</p>		

J91 Series Technical Specifications (cont)

Video Capture	ICPC-4 chassis Optional high performance 16-port video capture card <ul style="list-style-type: none"> Occupies 1 x PCI Express slot 	Power Supply Internal intelligent automotive power supply <ul style="list-style-type: none"> PC automatically turns on and off with vehicle ignition Supports the use of Standby as well as Shut Down and Hibernate (jumper configurable) Compatible with 12V and 24V* vehicles Normal input voltage: 7.5V to 30V Peak input voltage: 7V to 36V Idle power consumption <3mA High efficiency for extended battery life PC will not reboot during engine cranking Protection against transients and load dumps Reverse polarity protection Automatic shutdown with low battery (jumper configurable) Automotive mini blade input fuse (externally accessible) Regulated 12V accessory output for powering peripherals (up to 1A) Remote output for turning on and off external devices, with 1 second "anti-thump" delay. The behaviour of this output can be configured at order time. Configurable shut-down delay. The time between the ignition being turned off and the PC powering down can be changed using externally accessible jumpers. Configurable start-up and shut-down voltages to reflect the fact that battery levels and conditions vary between vehicles Wake on LAN compatible. The PC can be woken up for up to 20 minutes at a time without the ignition being turned on. Hard Power Off. In the event of a software crash during shut down the power will be cut to prevent draining of the vehicle battery Post-boot lock-down. If the ignition is turned off having only just been turned on, a delay will be applied before issuing the shut down command, in order to allow the PC to fully boot before attempting to shut down. Ignition input behaviour is configurable. By default the PC will turn on when the ignition input is active, and remain on until the ignition input is no longer active, at which point the PC will shut down. Alternatively a push-button power switch can be installed on the chassis for non-ignition-switched behaviour. LED indicates PC status and assists with troubleshooting. Externally accessible jumper block for configuring power supply options. Reset switch in chassis (recessed) 6-pin power input and 3-pin power output locking connectors (break-out cables supplied) Modified PSU firmware can be loaded for customers with special requirements - please contact us for more information.
Watchdog	Optional watchdog timer generates automatic system reset in the event of a software crash	
O/S	Microsoft Windows 7 Professional SP1 32-bit / 64-bit Microsoft Windows XP Professional SP3 32-bit* Other O/S may be available on request *available until 2016	
Mounting	Mounting flanges included on all chassis	
Anti-vibration	All chassis Optional anti-vibration mounting platform <ul style="list-style-type: none"> suitable for horizontal mounting applications only ICPC-1/3 chassis Optional anti-vibration mounting platform <ul style="list-style-type: none"> suitable for horizontal & vertical mounting applications 	
Dust filter	Optional dust filter covering system fan	
CD/DVD	ICPC-4 chassis Optional internal slot-loading DVD-RW drive	
Removable HDD	ICPC-4 chassis Optional removable hard drive module <ul style="list-style-type: none"> Occupies optical drive slot 	
Dimensions	ICPC-1 chassis: 223W* x 251L x 76H mm ICPC-3 chassis: 222W* x 251L x 84H mm ICPC-4 chassis: 232W x 359L* x 78H mm *These figures include mounting flanges at base (total length occupied by mounting flanges: 26mm) <ul style="list-style-type: none"> Horizontal anti-vibration mounting platform adds approx 20 mm to height. Horizontal & vertical anti-vibration mounting platform (ICPC-1/3 chassis only) adds approx 3 mm to height 	
Recovery	Factory Recovery Solution preinstalled (standard if PC is ordered with O/S license, optional otherwise).	
Warranty	2 years RTB (extendable if required)	
Certifications	e11 ("e-mark") CE	
Environmental	RoHS compliant	

* Customers should advise if 24V operation is required when ordering
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Chassis Features

	ICPC-1	ICPC-3	ICPC-4
PCI Express slot	No	1 x low profile	2 x full-size
Externally accessible SIM slot for internal 3G	No (SIM card internal)	Yes	Yes
2nd internal hard drive option	No	Yes	Yes
Internal optical drive option	No	No	Yes
Removable hard drive option	No	No	Yes

Model Numbers

In-CarPC model numbers follow this format:

ICPC-[Chassis Type]-J91.[CPU Speed Figure]-[Amount of RAM]-[Size of Hard Drive]

E.g. "ICPC-4-J91.266-8-750" is the J91 series PC in the ICPC-4 chassis, with a 2.66 GHz CPU, 8 GB RAM and a 750 GB

Images

ICPC-1 Chassis



Pictured model is ICPC-1-N5160 with optional rear USB ports

ICPC-3 Chassis



Pictured model is ICPC-3-C1180 with optional internal 3G module with externally accessible SIM card slot on rear

Optional rear USB ports

ICPC-4 Chassis



Pictured model is ICPC-4-C2266 with optional internal slot-loading DVD-RW drive. Optional removable hard drive or externally accessible SIM slot for internal 3G module available (shown right) in place of optical drive.

Anti-vibration Mounting Platforms



Anti-vibration platform supporting horizontal and vertical mounting (for ICPC-1 and ICPC-3 chassis).

Anti-vibration platform supporting horizontal mounting (for all chassis)