Trouble shooting guide

Computer does not turn on?
Check to make sure that battery and ON-OFF pins are connected to DC-DC Power Supply connector.

Computer does not turn off when the ignition is turned off!
Check the Green LED state
Interpreting the Green Status LED light flashing

0.1 sec ON and 5 Sec OFF Approx.: DC-DC power supply is in Idle or stand-by state.

On constantly — The PC is powered and the PC should be operating.

Error Flashes	**Reason**
1 Flash (every 10 Sec.)	Battery voltage is below normal operating range. Voltage set by JU1 – 4, 5
2 Flashes	The computer power up sequence failed. Reasons: • Check the wiring of the two wire power-switch cable from power supply connector J9 to power switch pins on the ATX motherboard. If connected properly check the polarity of the power switch pins, may be reversed. • Check ATX mother board bios settings. • Locked up motherboard or software crash. • Faulty DC-DC power supply.
3 Flashes	Power supply output voltages are out of normal voltage range. Reasons: • Power supply output is over loaded or shorted. • Faulty DC-DC power supply.
4 Flashes	Power down, stand-by or hibernate sequence failed. Reasons: • Check the wiring of the two wire power-switch cable from power supply connector J9 to power switch pins on the ATX motherboard. If connected properly check the polarity of the power switch pins, may be reversed. • Check ATX motherboard bios settings. • Check if ACPI function is enabled in the power management BIOS setup. Make sure ACPI drivers are installed in the operating system. • Check if application is compatible with ACPI mode of operation. • Locked up motherboard or software crash • Faulty DC-DC power supply

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Package Contents
1 - MPC-ITX-cp ITX Vehicle PC case with intelligent 120W DC-DC Power supply
1 - 3 pin Aux. Power output pigtail cable (J7)
1 - Screws & jumper kit bag
1 - 6 pin DC input main power and IGN pigtail cable (J1)
1 - Quick User guide (the one you are reading)

General Information
MPC-ITX-cp is designed for LOW power consumption mother boards. eg: Intel Pentium-M based MB (commell LV670M), VIA C3 (EPIA series) or VIA Eden based Boards., etc.

Features: ON/OFF input, Shut down delay, shut down voltage selection, Remote output, Status LED for trouble shooting, Aux. +12V regulated output to power or to turn on external devices. Two USB ports with power selection, Two Slot PCI riser card with auto master select. Supports dual master motherboards (eg: commell LV670M). Compatible with 12 or 24 Volt battery system.

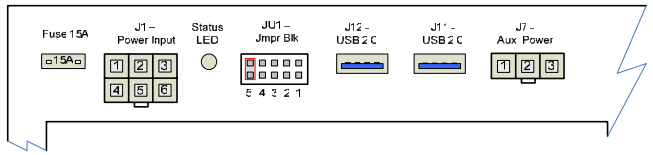
Operating Modes
Mode 1: System ON/OFF controlled by ON/OFF input pin (J1 – pin 3).
ATX mode, with ON/OFF input connected to Ignition switch ACC point or to an ON/OFF switch to battery.
Mode 2: System ON/OFF controlled by Front panel soft ON/OFF push button switch.
ATX mode, with ON/OFF input connected to battery along with +Batt leads (J1 – pins 4, 5) and J7, 2 pin power switch cable Not used.
Mode 3: System ON/OFF controlled by ON/OFF input pin (J1 – pin 3).
AT mode, (Short pins 1 and 2 of J6 with a shorting jumper). In this mode Systems handshaking are disabled.
Note: Modes are determined with-in 3 sec of initial power connection to the DC-DC.

General wiring guidelines
Use a dedicated #12 AWG or thicker wire to connect the unit to the battery.
Use #18 AWG wire for on/off input.
Note: Do not share power cable with other equipment.

Testing the PC with DC-DC Power supply installed for proper operation
Power-up the computer by Turning the Ignition switch on (starting the vehicle) or toggling the switch on. The Green Status LED should light up constantly and the computer should power up normally.
(Note: After connecting the power connecter to the power supply, wait for DC-DC to blink twice before turning on the IGN/ ON-OFF switch input. This procedure is required only the very first time the power is applied to the DC-DC.)
1. Open any application and test for normal operation then close the application.
2. Turn off the computer by turning the ignition switch off. Within 5-10 Sec. the PC should start to go into Standby or shut down mode and the Green status light should go back to the idle/standby blink rate.
3. Wait about 10 seconds and Turn on the Ignition switch again. The computer should power up normally.
4. Open an application for Standby mode testing. Use the application as you would normally.
5. Turn off the computer by turning the ignition switch off. The computer should go into Standby, Hibernate or Shut down mode, as configured in the operating system.
6. Repeat steps 4 to 6 for all applications that are used in your computer.

Note: All applications software must be checked for proper Standby mode operation.
If any application has problem going into Standby mode then the operating system must be configured for Shutdown

MPC-ITX Case Back panel Connectors



J1 - Input Power, On/Off and Remote connector

Connector type usec Molex 39-30-106C
Mating connector type Molex 39-0´-206C

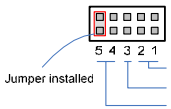
Pin#	Function	Description
´	GND	Power Ground (Input - BLK)
2	GND	Power Ground (Input - BLK)
3	ON/OFF	On/Off or ACC (Input - RED)

Pin#	Function	Description
4	+BATT	Battery (Input - YEL)
5	+BATT	Battery (Input - YEL)
6	RMT	Remote On/Off (Output - BLU)

RMT - This output can be used to turn ON/OFF the remote devices such as Audio amplifier External DVD Camera etc Remote turn ON delay is set to 20 SEC Contact sales for other custom turn ON delay

JU1 – Sht-Dwn Dly, Stnd-by Power mode and Sht-dwn / Strt-up voltage Jumpers

Psn #	Function	Description
1	SD-0	Shut Down Delay - 1
2	SD-1	Shut Down Delay - 2
3	STBY-ON	Stanc-by Power ON
4	SV-0	Start-Up & Shut-Down Voltage - 1
5	SV-1	Start-Up & Shut Down Voltage - 2



2mm Shorting jumper
Shut -Down Delay Time select
Stanc-by Power ON/OFF
Start-UP & Shut-Down Voltage Select

Psn # 5 4	Start-UP Voltage	Shut-Dowr Voltage
0 0	10.5V	8.5V
0 ´	1´.0V	9.5V
1 0	1´.5V	(10.5V)
1 1	12.0V	1´.0V

0 = Jumper not Installec
1 = Jumper Installec

Stanc-by Power ON/OFF Jumper

Psn # 3

When STBY-ON Jumper is installec Stanc-by voltage is maintained after Power dowr Required for Stand-by mode operation only

Shut Down Delay Time select Jumpers

Psr # 2 ´	Dely Time
0 0	(10 Sec) (Default Loading)
0 ´	10 Mir
1 0	30 Mir
1 1	60 Mir

J7 – Power-Switch connector

Pin#	Function	Description
1	PWR-SW+	Power-Switch + (Output - GRN)
2	PWR-SW-	Power-Switch - (Output - WHT)

Connector type used Molex 22-23-5024
Mating connector type Molex 22-0´-3027

Connect to Motherboard or SBC power switch pins OBSERVE pin polarity for proper operation

J6 – PS-ON* signal and Stand-by Power connector (located on DCX3-120)

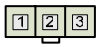
Pin#	Function	Description
1	GND	Ground - (BLK)
2	PS-ON*	Powersupply ON* (input - BLU)
3	5V STBY	+5V Stand-by power (output - PUR)

Connector type usec Molex 22-23-5034
Mating connector type Molex 22-0´-3037

Factory default is ATX mode operation For AT mode operation Short Pir 1 tc 2 with a shorting jumper
Note J6 Connector is loaded only on DC-DC's with Stand-By power circuit loading

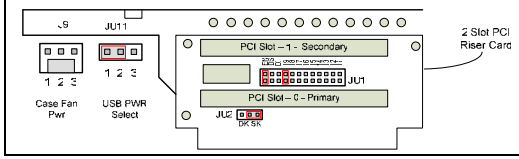
J7 – Aux. Power, +12V SW

Pin#	Function	Description
´	nc	No connection (RED)
2	GND	Power Ground (Input - BLK)
3	+12VSW	+12V Switched (Output - YEL)



+12V Switch output ´A max
It is switched ON when the mother board power is turned or
It can be used to power devices or to control remote inputs of other pheripirals

Internal connector and jumper headers



J9 – Case Fan Connector & J11 – USB port Power select

J9 – Case Fan Connector

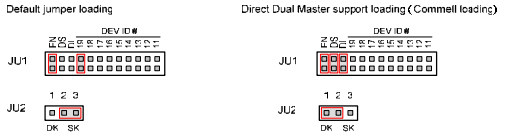
Pin#	Function	Description
1	GND	GND
2	+12V	+12V power
3	nc	

JU11 - USB port power select

(DC-DC power)

MB USB port power

JU1 & JU2 - PCI Riser Card mode select Headers



Recommended Installation Steps

Step 1. Configure DC-DC JU1 jumpers. STBY-ON and Start-up and shut down voltages. Install OPUS DC-DC in the system.
Step 2. Configure ATX/ ITX motherboard BIOS: Turn off AC power loss auto restart, ACPI: S3, Push btn: Instant off.
Step 3. Configure operating system: Power-down, hibernate or Stand-by mode.
Step 4. Test the PC for proper operation. If all passes then, configure the DC-DC shut down delay jumpers if required.
Suggestion: Configure and test system with a standard AC- DC ATX power supply first. Then switch over to OPUS DC-DC power supply.

DC-DC Application Example