GUARDIAN
ON BOARD

R&D AND TECHNICAL SUPPORT CENTER
P. O. Box 722,
Ashkelon 78107, Israel
Tel: +972 7 6717299
Fax: +972 7 6717298
Email: support@guardian-ups.com

CORPORATE HEADQUARTERS
6 Maskit Street, P. O. Box 12186,
Herzlia 46733, Israel
Tel: +972 9 951-2020
Fax: +972 9 951-3794
Email: info@guardian-ups.com

P4 Inboard® Quick Start User's Guide

(Preliminary Version 9 – March 8, 1998)

Contents

The FCC Wants You to Know

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant protection against harmful interference in a designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by on or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

a) Reorient or relocate the receiving antenna.
b) Increase the separation between the equipment and receiver.
c) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
d) Consult the dealer or an experienced radio/TV technician.

FCC Warning

Modifications not expressly approved by the manufacturer could void the user authority to operate the equipment under FCC rules.

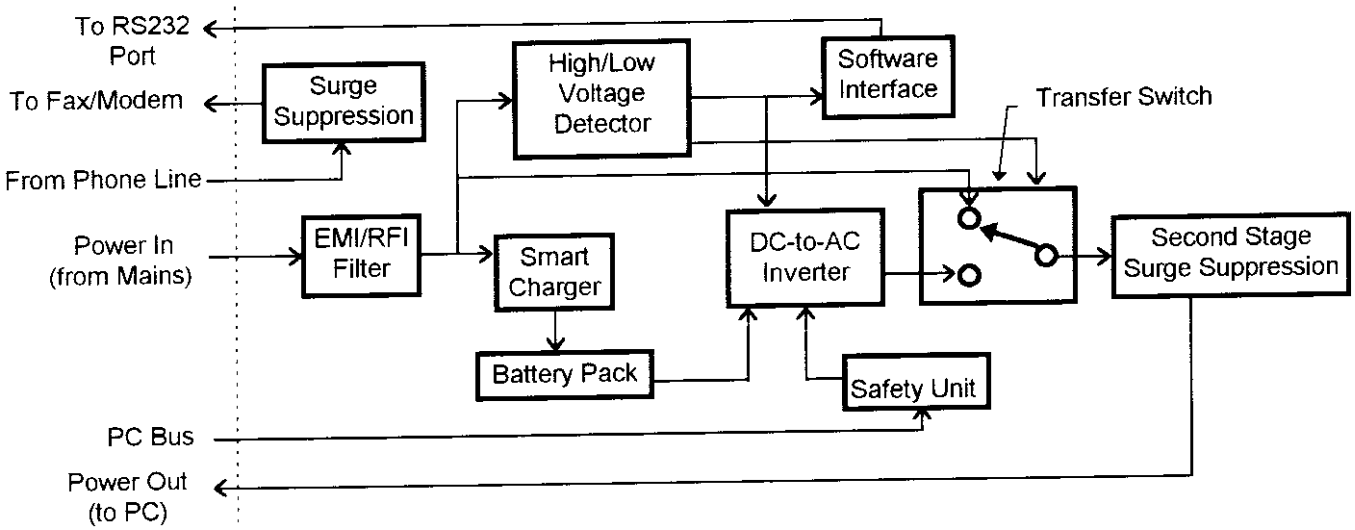
GUARDIAN
ON BOARD

1. What Is P4 Inboard?

P4 Inboard is the world's first and only full-feature, internal UPS (Uninterruptible Power Supply) ISA/EISA card. Easily installed inside any PC, P4 Inboard provides full protection against all types of power disturbances and interruptions, including power failures ("blackouts"), sags ("brownouts"), spikes, swells, surges and EMI/RFI (Electro- Magnetic Interference and Radio Frequency Interference) line noise. P4 Inboard protects the PC plus its monitor and connected phone/data lines.

2. How P4 Inboard Works

Under normal operating conditions, power from the mains outlet ("Power In" in the diagram) is transferred to the PC through P4 Inboard's "Power Out" socket. P4 Inboard — using its internal "EMI/RFI Filter", "High/Low Voltage Detector" and "Second Stage Surge Suppression" components — monitors and cleans the power supply, thus protecting the PC from spikes, surges and other power distortions, as well as EMI/RFI line noise. No power is drawn from P4 Inboard's internal battery ("Battery Pack"), which utilises the mains power to charge automatically.



When a power failure occurs, the PC starts receiving power from P4 Inboard's battery instead of from the mains. P4 Inboard's "Transfer Switch" changes position and the "DC-to-AC Inverter" starts supplying AC power to the PC. This process happens within approximately 2-4 milliseconds. When P4 Inboard is in this mode, the card sounds a beep every 5 seconds. The PC, monitor and data lines will continue to work normally via P4 Inboard, until either regular mains input power returns or until P4 Inboard's internal battery is exhausted.

Shortly before P4 Inboard's battery power starts running out the intermittent beep will change to a continuous tone, indicating that the user has about one minute before power to the PC will be interrupted ("shutdown"). This continuous beep communicates to the user that it is time to backup open files and shut down open applications.

When the input power returns to normal, P4 Inboard automatically transfers the PC's power source back to the mains input. Simultaneously, P4 Inboard's battery starts recharging. P4 Inboard's proprietary "Smart Charger" dramatically speeds up battery recharge time (about 2 hours to 60-70% capacity and 12 hours to 100% capacity).

Southern Industrial Estate, P. O. Box 722, Ashkelon 78107, Israel
Tel: +972 7 6717299 Fax: +972 7 6717298 Email: support@guardian-ups.com

A unique P4 Inboard safety feature prevents accidental operation of the card when it is not inserted inside a PC. This feature prevents the "DC-to-AC Converter" from activating unless the "Safety Unit" detects that P4 Inboard was correctly inserted into the PC and that it is connected securely to the PC's internal slot.

3. Inspecting P4 Inboard

Make sure to carefully inspect P4 Inboard when you remove the card from its packaging, and immediately notify your dealer if there is any damage to the card. If there is no damage, the card can be installed inside the PC. P4 Inboard's packaging is recyclable; please save it, re-use it or dispose of it appropriately. Let's keep our planet clean!

4. Charging P4 Inboard's Battery

P4 Inboard charges its battery automatically whenever it is connected to the mains outlet. To guarantee proper usage, P4 Inboard must be charged for at least 24 hours before installation in your PC. To charge P4 Inboard, connect the long power cord (included) to P4 Inboard's "Power In" socket and connect the far side of the long power cord to the wall socket. Verify that the green LED ("Mains power OK") turns on. Leave P4 Inboard to charge for 24 hours.

5. Installing P4 Inboard

To install P4 Inboard inside a PC, follow these easy steps:

1. Before beginning installation, wait until P4 Inboard reaches room temperature.
2. Turn off the PC.
3. Disconnect the PC power cord from the wall.
4. Disconnect the PC power cord from the PC.
5. Open up the PC casing.
6. Insert your P4 Inboard card into an empty ISA/EISA slot inside your PC. Make sure that you have inserted the card correctly and firmly into the slot.
7. Using a screw, fasten P4 Inboard's metal bracket to the PC casing. *(Important! Incorrectly fastening P4 Inboard to the PCý will void the warranty.)*
8. If the monitor receives power via a connection to an AC output socket on the PC, connect the short power cord (included) between P4 Inboard's "Power Out" socketý and the PC's AC input socket. If the monitor is not powered via the PC, connect the extension power cord (optional) to P4 Inboard's "Power Out" socket, and connect the monitor and the PC to the extension power cord's input sockets.
9. Connect the long power cord (included) to P4 Inboard's "Power In" socket.
10. Connect the far side of the long power cord to the wall.
11. Turn on the PC.
12. The P4 Inboard card - and the PC - should now be receiving electricity from the mains supply. To verify that the card and the power cords have been connected correctly, check that P4 Inboard's orange LED lights up. If the LED does not light up, repeat steps 6-10, making sure to place P4 Inboard firmly in the PC slot.

Southern Industrial Estate, P. O. Box 722, Ashkelon 78107, Israel
Tel: +972 7 6717299 Fax: +972 7 6717298 Email: support@guardian-ups.com

13. If the orange LED is on, you can now close the PC casing.

If you wish to verify that P4 Inboard is charged and ready to back-up your PC, you can simulate a power failure by unplugging your PC from the wall for a few seconds. If your PC stays on, installation has been successful and you can plug the PC in again. If unplugging the PC causes it to switch off, repeat sections 3, 4 and 5 above. If the problem persists please contact our technical support team.

6. Using P4 Inboard's Software Interface (Optional) (Not available with P4 Inboard beta)

Automatic Shutdown and Power Monitoring software (designed as Plug'n'Play for 32-bit Windows operating systems) is available for use with P4 Inboardý. This software is optional (available from any authorised P4 Inboard dealer), and P4 Inboard will work properly without it. To use the software, connect the special interface cable (included with the software) between P4 Inboard'sý "Software Interface" socket and the PC's 9-pin RS232 port. (See diagram on page 1.)

7. Using P4 Inboard's Phone Line Protection (Optional) (Not available with P4 Inboard beta)

P4 Inboard can also protect the PC's phone, fax, modem and data lines from power problems, such as those caused by lightning striking phone cables. To use P4 Inboard's phone/data line protection, connect a standard telephone cable between the telephone outlet and the "From Phone Line" socket on the P4 Inboard card. Connect the PC's phone/data line to the "To Fax/Modem" socket on the P4 Inboard card. (See diagram on page 1.)

Southern Industrial Estate, P. O. Box 722, Ashkelon 78107, Israel
Tel: +972 7 6717299 Fax: +972 7 6717298 Email: support@guardian-ups.com