coM.sat PCI-GSM-Board

USER MANUAL

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1. Introduction

1.1 Equipment description

The coM.sat PCI GSM-Board is meant to serve as an interfacing tool for the GSM-network, that gets your software-based telephone system ready for GSM. The coM.sat PCI GSM-Board is aligned with Linux OS and offers a kernel-independent driver as well as a channel driver for Asterisk, already included in the scope of supply. You will be able to benefit from all the advantages provided for by an IP-connection, maintaining utmost flexibility and profiting from low communication cost.

Up to 4 GSM-Quadband-Channels, equipped with individual SIM-cards, will allow you to consolidate your telecommunication activity between GSM, conventional telephony and IP-telephony. According to the Motherboard available, up to 4 coM.sat PCI GSM-Boards can be integrated into a computer, which enables an individual amplification of your existing telephone system to up to 16 GSM-Channels. The Board has been designed for a fast building up of the call connections and provides Digital Audio Quality (EFR/AMR). This enables the User to benefit, on the highest possible technological standard, from all advantages provided by the convergence of mobile and internet-based telephony.

1.2 Feature survey

- Up to 4 GSM Quadband-channels per PCI-slot
- Comfortable integration into the corporate network combined with a Soft PBX
- Including a Virtual PBX / Mobility functionalities
- Hotswap enabled (change of SIM-card while in operation)
- Digital Audio Quality (EFR/AMR)
- Quick call connection
- Hardware DTMF Recognition
- For SIM-cards of 1.8 and 3.3 Voltage (1 SIM-Card per channel)
- Up to four simultaneous PCI-slots = in total
  16 GSM-channels (depending on the motherboard in use)

1.3 Technical requirements

- CPU - Pentium III or superior
- RAM - 256 MB or superior
- Operational system: Linux
- Linux Driver for Kernel 2.4.x and 2.6.x
- Asterisk 1.4
- Slot: 32 Bit PCI Version 2.3 Slot

1.4 Security advice for user

The users are explicitly requested to read and assimilate the item security advice for users.

The following advices refer to the equipment coM.sat PCI GSM. As this equipment uses components of the company Cinterion (Cellular Engines MC55i) also their security advice as well as instruction manuals have to be considered. Visit www.cinterion.com

1.4.1 Security in air traffic

The operation of Cellular-Engines in airplanes might affect their navigation systems and interfere into the mobile telephone network. For this reason their use has been legally restricted in air traffic. Therefore the coM.sat PCI GSM shall not be operated on board of airplanes. Infractions against this directive might result in a temporary or complete suspension of the Cellular-Engine services and/or legal consequences.

1.4.2 Environment with explosive substances

The equipment coM.sat PCI GSM is not allowed to be operated in environments with explosive substances. For this reason it is recommended that the user does not operate the equipment in such areas, e.g. gas stations, fuel storage facilities, chemical industry or while blasting operations are taking place. In case the usage in one of these risk situations is necessary, it has to be guaranteed previously to the beginning of operation, that no danger is given.

1.4.3 Security in road traffic

In case the equipment is operated within vehicles that are participating in public road traffic, the individual restrictions for telephone usage within a vehicle of the corresponding country where the vehicle is located in have to be observed.

1.4.4 Non-ionizing radiation

As for all kinds of radio transmitting equipment, the users are to be informed that for a satisfactory operation of the equipment as well as for the security of the operator it is highly recommended to operate the equipment only in the regular operating position.

1.4.5 Electronics of medicinal equipments

The operation of radio transmitters, such as Cellular-Engines, may interfere into the regular function of not correctly isolated medical instruments and equipment. Please request specific information with the doctors or manufacturers of a medical equipment in case needed.

1.4.6 Measures in case of loss / theft

In case the coM.sat PCI GSM, the Cellular Engines or the used SIM-cards are no longer available due to loss or theft, please inform your provider immediately in order to avoid eventual abuse or fraud.

1.4.7 Transportation

The packaging provided by deliverer when receiving the equipment does not guarantee full protection against crushing and beating during transportation. Therefore an additional packaging should be provided for further transportation. In case the equipment was stored within a cold environment, it should slowly be warmed up until it reaches ambient temperature, in order to avoid humidity issues.

1.4.8 Installation location for equipment

The installation location for the equipment should avoid direct sunlight as well as heat. Respecting of this directive will help increase the reliability of operation as well as their durability, as the components have to endure less temperature influences. The cabling for the equipment should be done in a way to avoid any physical damage to the people who will be handling the systems. Network-cabling should be separated from the cabling for signaling. The installation of the equipment should only be done by adequately trained manpower.

1.4.9 Damage or repair

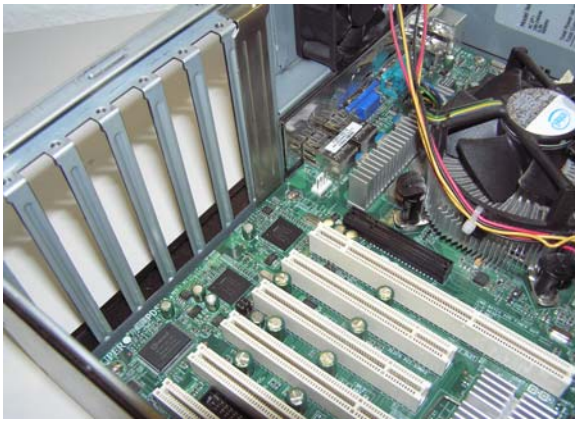
When noticing damages on the equipment or if it has been exposed to humidity, further operation of it should be avoided due to security reasons. Repairs should only be done by the manufacturer or through an authorized representation. In any case the equipment shall be disconnected from power supply before any repair work is initiated.

2. Installation of the PCI Board

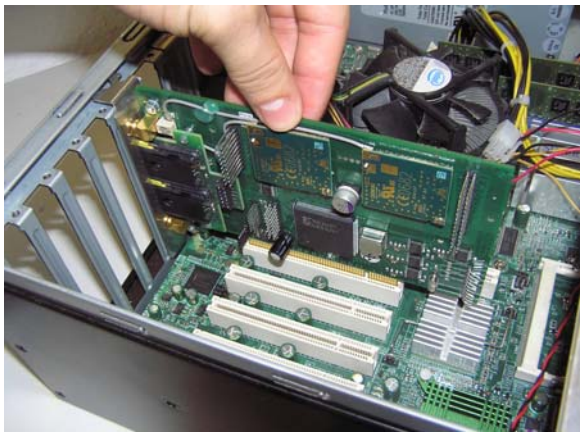
Before beginning with the installation, turn off the computer, unplug its network cable and open its case.

In order to install the coM.sat PCI GSM Board an available PCI slot is needed.

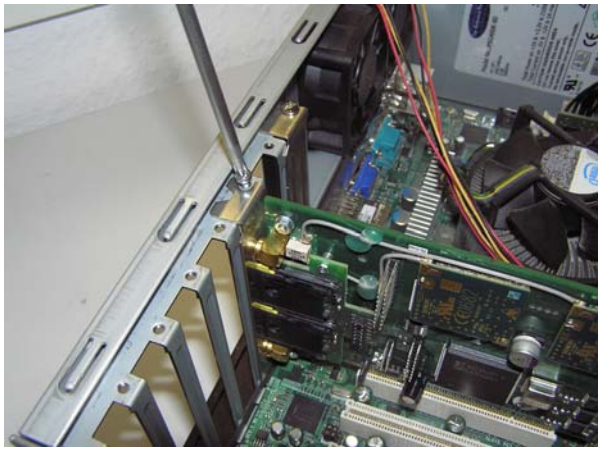
1. Choose an available PCI Slot and remove (if necessary) its Slot bracket.



2. Insert the coM.sat PCI GSM Board with light pressure into the empty PCI slot.



3. Fix the Board with the screws.



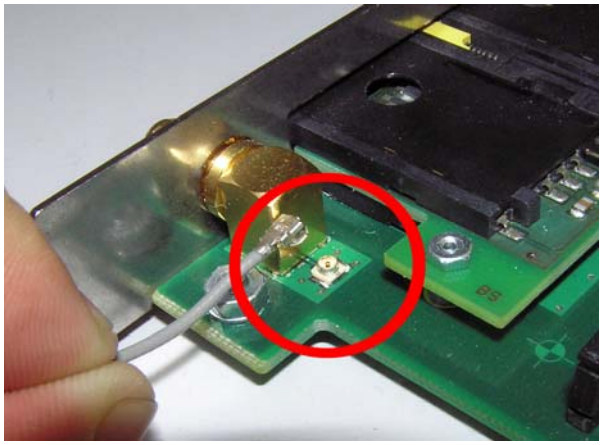
4. Close the case and plug in the network cable.

3. Upgrading of the PCI Board to 4 channels

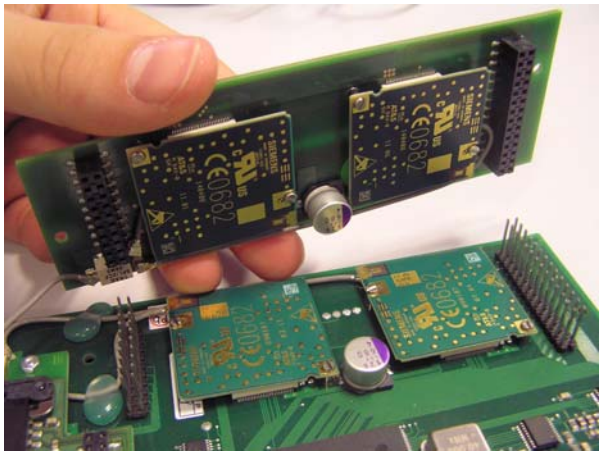
To upgrade the coM.sat PCI GSM Board first you will have to remove it from your computer. Before doing so, turn the computer off, unplug its network cable and open the case. Then move on as follows:

1. Unscrew the screws that fix the coM.sat PCI GSM Board and slowly remove it from the slot it is placed in.

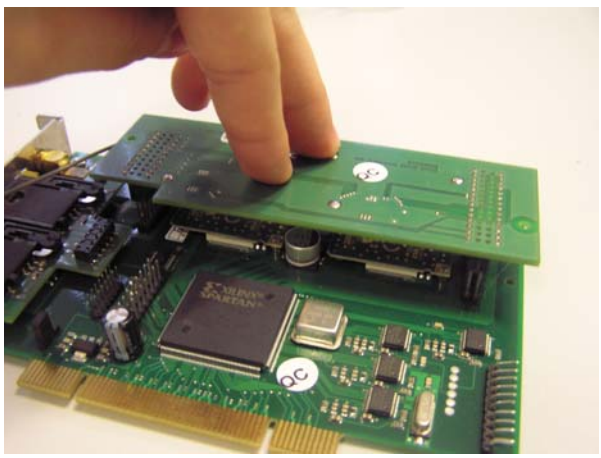
2. Connect the antenna cable with the available antenna connection by pressing the cable into it with light pressure.



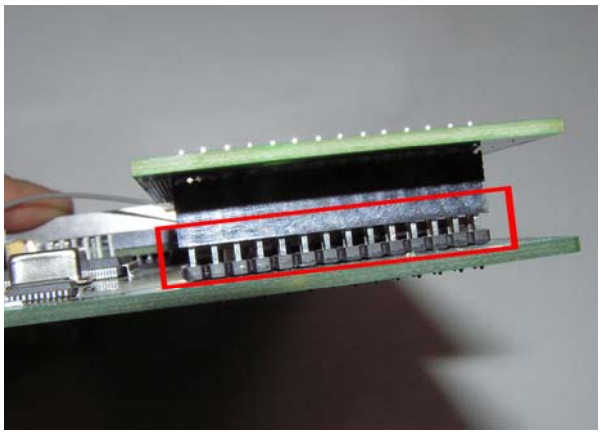
3. Fit in the upgrade board into the correct position onto the PCI GSM Board.



4. Lightly press the upgrade board onto the coM.sat PCI GSM Board…



5. ... until about 1, 5 mm of the contacts can still be seen.

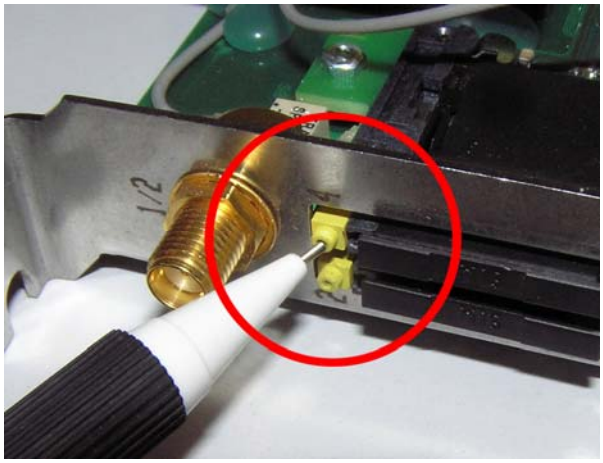


6. Insert the board back into the PCI slot and fix it with the screws. Close the case and re-plug the network cable.

4. Getting the PCI Board into operation

To start operation of the coM.sat PCI GSM Board first you will have to insert the SIM-cards and connect the antenna.

1. With a pen or a small screwdriver press on to the yellow button to eject the SIM-cardholder.

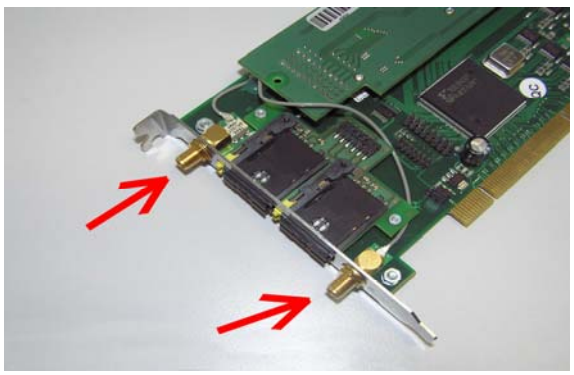


2. After ejection of the cardholder, insert the SIM-cards.

<u>Remark:</u> The SIM-cards do only fit into the cardholer in one singular position!

3. Replace the cardholder with the cards into its case. The SIM-cards have to be face down when doing this. Make sure the card holder is correctly positioned within its track.

4. Connect the antenna(s) to the antenna connection (s) by initially docking in the antenna and then screwing it into a fixed position. A screw driver will not be necessary for this procedure.



Remark:
In case you are in possession of a 2-channel-version of the coM.sat PCI GSM Board you will have to use one of the lower two SIM-card ports „1" and „2". Also only one antenna will be necessary and it has to be connected to the connection marked with„ ½"! In case you purchased the 4-channel version you can/will have to use all 4 SIM-card ports. This will require the connection of a second antenna.

5. Technical data of the PCI Board

Power input	max. 15 Watt
GSM 850/900/1800/1900 Standard	GSM Phase II, II+, Language
Transmission performance	max. 2 Watt per channel (GSM 850/900) 50 Ohm max. 1 Watt per channel (GSM 1.800/1.900) 50 Ohm
SIM-card	1.8 and 3.3 V SIM-cards
Interfaces	32 BIT PCI slot – V. 2.3 Slot
Antenna	50 Ohm impedance as SMA-plug
Measures (W x D x H)	173 x 120 x 20 mm
Weight	ca. 180 g
Temperature range	0°C - 40°C / dry interiors

The manufacturer reserves itself the right to perform any technical changes that serve security purposes or improvement of operation. For further technical questions please address our hotlines on: +61 (0) 3 9016 3480
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Additional informations in german and english language is available for download on rossking's website: **www.rossking.com.au**

[1] DTMS - only 14 eurocent per minute from the German regular network