



XAIR

Wireless Network Access

XAir for Wireless Communication with DSSS Technology

XAir enables wireless extension of conventional Ethernet or Fast Ethernet networks. Different devices, which are equipped with a XAir PC-Card, have wireless access to local networks. XAir conforms to the standard 802.11d HR. This enables interoperability with other wireless products as well as the integration of XAir into already existing wireless LANs. With its open architecture and its modularity XAir is ready for future standards.

- **XAir Basic**, the basic model in BinTec's XAir product family, is equipped with a radio module for data transmission rates up to 11 Mbps.
- **XAir Professional** offers space for an additional radio module PC card. This second module currently permits twice the data throughput rate – up to 22 Mbps. The device is also designed to be flexible for future standards. Furthermore, XAir Professional is equipped with two external antennas for a broader range of coverage.
- **XAir PC-Card** – the radio LAN adapter – comprises a standard PC card with built-in antenna. The PC card is available in 2 versions according to security requirements (Wired Equivalent Privacy with 40-bit or 128-bit key). Adapters are available for the PCI and ISA bus as options.

XAir is equipped with the widespread Direct Sequence Spread Spectrum (DSSS) technology. This guarantees a high data throughput and a superior range of coverage. Data transmission rates up to 11 Mbps are comparable with conventional LAN connections.

The installation of several XAir basic stations allows the coverage of nearly any distance. Due to "seamless handover" of a wireless connection from one XAir access point to the next, users may freely move through the office or building with their laptops or mobile workstations while maintaining access to the local network.

XAir is equipped with XAir manager software for a comfortable installation, configuration and network maintenance.

> Highlights

- **Radio Technology**
Flexibility through leading-edge Direct Sequence Spread Spectrum modulation technology (2.4 GHz DSSS IEEE 802.11d HR) with automatic adaption of modulation rate (CCK-11Mbps, DQPSK-2Mbps, DBPSK-1Mbps)

- **Security**
Interception protection through registration of authorized clients and encryption (WEP 40/128 bit)
- **Antenna**
Integrated diversity antenna (XAir Basic) or two screwable standard rubber antennas (XAir Professional)
- **Data Rate / Receiver Sensitivity**
Automatic Rate Selection (ARS)
11 Mbps (High, -82 dB), 5.5 Mbps (Medium, -87 dB), 2 Mbps (Standard, -91 dB), 1 Mbps (Standard low speed, -94 dB)
- **Frequency**
13 channels (ETSI)
- **Approvals**
According R&TTE directive and CE (Europe), other on request
- **Interoperability / Radio Protocols / Roaming**
According IEEE 802.11b HR with 11 Mbps and 5.5 Mbps, IEEE 802.11 with 2 Mbps and 1 Mbps
- **Network Connectivity**
Autosensing 10/100 BaseT (RJ45), IEEE 802.3
- **LED Display**
Radio activity, status of system, cable activity
- **Frequency Range**
2.4 up to 2.4835 GHz (free of license charge)
- **Emitted Wattage**
No health hazards due to low radiated power (<100 mW E.I.R.P., ETSI), e.g. also suitable for use in medical operation room
- **Temperature / Humidity**
Storage: -10 °C to +70 °C, Operation: 0 °C to 55 °C / 95% non-condensing
- **Dimension / Weight**
14.5 cm x 20.8 cm x 3.7 cm (WxHxD) / 550 g
- **Power Supply**
Universal power supply 100-230 V, DC 5 V, 3 A

Radio LAN Adapter XAir PC-Card

The radio LAN adapter XAir PC-Card realizes wireless connections to local networks. The leading-edge DSSS technology of the XAir PC-Cards guarantees flexibility and high performance, expected from state of the art radio network cards.

Data rates up to 11 Mbps meet the performance of current network installations. The standard PC card with integrated antenna reaches a superior range and replaces a common network card (NIC). Adapters are available for the PCI and ISA bus as options.

XAir PC-Card conforms to the IEEE 802.11b HR standard, compatible to WiFi™ and downwards compatible to IEEE 802.11. This makes XAir the system architecture of the future.

"Seamless handover" ensures the transparent handing over of connections. Mobile clients with XAir PC-Cards can move freely in broad ranges while maintaining wireless access to the LAN network.

All devices with PC card, PCI or ISA slots can be connected, e.g. laptops, notebooks, handheld PCs, scanner, printer, desktop or tower PCs. The power supply of the radio module is provided by the respective device.

The XAir PC-Card is – depending on security requirements – available in two versions:

- 40 bit WEP encryption (Wired Equivalent Privacy)
- 128 bit WEP encryption

- **XAir upgrade Kits for XAir Professional**

To use the second slot of XAir professional, there are two different XAir upgrade Kits available, which allow to double the data throughput to up to 22 Mbps. The upgrade Kits are physically equal to a XAir Card with special firmware, which uses the card's integrated diversity antenna.

- **XAir upgrade Kit Access Point**

Using the XAir upgrade Kit Access Point allows for a data throughput of 22 Mbps in the Access Point mode. This means that the attached clients can thus use double the bandwidth of currently available solutions based on the 802.11b wireless LAN standard.

- **XAir upgrade Kit Bridge**

The upgrade Kit Bridge allows a combination of Access Point mode and the wireless LAN extension in the Bridge Mode. Thus XAir professional can, in addition to its access point functionality with a bandwidth of 11 Mbps, close gaps in a wired in house LAN infrastructure, e.g. for the temporary connection to project group.

> Highlights

- **PC Card**

Typ II PC card, Card and Socket Service 2.1 compatible, incl. plug & play support, PC card 1.0 compatible

- **PCI, ISA**

PCI and ISA adapter card (optional)

- **Antenna**

Integrated diversity antenna

- **Data Rate / Receiver Sensitivity**

Automatic Rate Selection (ARS)

11 Mbps (High, -82 dB), 5.5 Mbps (Medium, -87 dB), 2 Mbps (Standard, -91 dB), 1 Mbps (Standard low speed, -94 dB)

- **Range**

Between 25-50 m inside buildings and 550 m outside, increment of range through ARS

- **Current Consumption PC**

9 mA (sleep), 185 mA (idle Rx), 285 mA (Tx)

- **Approvals**

ETS 300 328 and CE (Europe), FCC (47 CFR) Part 15C (USA), MPT (Japan), other on request

- **Compatibility / Radio Protocols**

According IEEE 802.11b HR with 11 Mbps and 5.5 Mbps, IEEE 802.11 with 2 Mbps and 1 Mbps

- **Radio Topology**

Peer-to-peer (ad-hoc), Access Point (Infrastructure)

- **Operating System / Driver**

Windows 95/98/2000/NT4.0 (NDIS), OS/2, CE

- **Media Access Protocol**

CSMA/CA (Collision Avoidance) with ACK

- **Frequency Range**

2.4 up to 2.4835 GHz (free of license charge)

- **Emitted Wattage**

No health hazards due to low radiated power (<100 mW E.I.R.P., ETSI), e.g. also suitable for use in OP theaters

- **Voltage**

5 Volt

- **Temperature / Humidity**

0 °C to 55 °C / 95% non-condensing

- **Dimension PC-Card**

117.8 mm x 53.95 mm x 8.7 mm (WxHxD)

08/01 Specifications subject to change

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