



■ nanoGSMTM
product range

nanoBTSTM

The ip.access nanoBTS is a GSM picobasestation intended for deployment in both public and enterprise GSM networks.

The nanoBTS delivers a fully-specified single GSM TRX in the smallest and most cost-effective package available today. Its low power and unobtrusive design ensure it can be installed wherever and whenever capacity and coverage are required.

ip.access has developed the nanoBTS in accordance with ETSI standards which guarantees compatibility with both today's and tomorrow's PLMN infrastructure networks.

revolutionary deployment

The traditional approach to ensuring GSM coverage within buildings involves complex cell and frequency planning and often requires the installation of Distributed Antennas (DAS) using expensive co-axial cable or optical fibre. The alternative, pioneered by ip.access, is to deploy miniature distributed basestations (DBS). Connected by existing ethernet wiring, the nanoBTS achieves a price point that makes DBS a real alternative to DAS with all the associated savings in cabling, installation and ongoing maintenance.

Moreover the system offers quasi-autonomous cell and frequency planning through extensions to O&M functionality using ip.access' revolutionary Network Listen feature.

simple installation

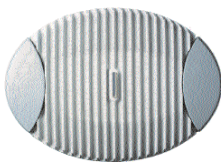
The nanoBTS has been designed for optimum flexibility and can be mounted on the wall or ceiling. This 'plug-and-play' unit only needs a connection into the ethernet network allowing the whole installation process to be performed in under 15 minutes.

Due to the size and flexibility of deployment, the nanoBTS can achieve coverage where needed, leading to fewer installations and lower transmit power in comparison with other conventional and more costly alternatives.

For applications requiring greater capacity, multiple TRX nanoBTSs can be configured with ease. Several varieties of nanoBTS are provided permitting operation in the most commonly-used GSM frequency bands.

system architecture

To complete the nanoBTS installation, further supporting products are available to facilitate network management and deployment. The nanoBTS is a single component of an ip.access architecture that offers a GSM over IP end-to-end solution for corporate and enterprise users. The system architecture is complemented by the inclusion of a basestation controller (nanoBSC) and OMC-R network management software.



key features

- Rapid installation
- Multi-TRX capability
- Coverage up to 200m cell radius
- Support for common GSM frequency bands
- Low power consumption
- GPRS ready
- Single 10/100 ethernet connection incorporating power, traffic and signalling
- Smallest footprint in the industry
- Network planning minimised through Network Listen

applications

- Stand-alone PLMN in-fill for airports, hotels, railway stations
- Extending public campus capacity and coverage
- Wireless Office solutions enabling fixed-mobile convergence

■ nanoBTS™

technical specification

radio interface

Transmit Frequencies

GSM 900: 935 to 960 MHz
GSM 1800: 1805 to 1880 MHz
GSM 1900: 1930 to 1990 MHz
Channel spacing: 200 kHz
Max. output power: +20 dBm (900MHz)
+23 dBm (other)
Static power control: 12 steps

Receive Frequencies

GSM 900: 890 to 915 MHz
GSM 1800: 1710 to 1785 MHz
GSM 1900: 1850 to 1910 MHz
Channel spacing: 200 kHz
Performance: GSM 05:05
Gain control steps: 26

Internal Aerials

0dBi omni-directional (nominal)
External aerial connection (optional)

Channel Support

Single TRX
8 timeslots(TSO..7), single static
RF channel for C0

TS0

FCCH + SCH + BCCH + CCCH +
SDCCH/4 + SACCH/C4

TS1..7

TCH/F + FACCH/F + SACCH/TF

Internal Clock Frequency

Accuracy ±20ppb
Ageing ±30ppb /yr

Speech Format Support

Full Rate
Enhanced Full Rate

Encryption Support

A5/1
A5/2

software services

Signalling and Traffic

A-bis: Abis/IP
Signalling, O&M: TCP/IP
Traffic: RTP/UDP/IP

Software Management

Partner specific O&M for BSS
Extended DHCP for auto-configuration
and security
TFTP for software upgrades

Circuit Switched Data

Single slot BS20 at up to 14.4kb/s
BS21-26, plus BS61, BS81

Teleservices

Telephony
Emergency Calls
Short Message Service MT/PP
Short Message Service MO/PP
Short Message Service CB

physical

Electrical Interface

Single RJ45 auto-select 10/100 Ethernet
supporting Power-over-Ethernet.
Timing Interface Bus (TIB) providing
nanoBTS™ interconnect for multi-TRX
functionality.

Dimensions and Weight

Height: 210mm
Width: 280mm
Depth: 77mm
Weight: 2.7kg

Power

Power consumption: 13W
Input supply: 38 - 50 Volt DC

Operational

Temperature: -5°C to +45°C ambient
Humidity: 5 - 90% non-condensing

Storage

Temperature: -20°C to +80°C ambient
Humidity: 5 - 90% non-condensing

Standards

ETS 300-019-1-1 Storage Class 1.1
ETS 300-019-1-2 Transport Class 2.3
ETS 300-019-1-3 Operation Class 3.1

Mounting

The nanoBTS is provided with a
mounting bracket. Power can be
provided locally through a PSU kit, or
remotely using Power-over-Ethernet.

Copyright © ip.access 2002. nanoGSM and nanoBTS are trademarks of ip.access Ltd. All other trademarks are acknowledged. This document contains advance information, subject to change without notice. No responsibility is assumed by ip.access for the use of this information, nor for infringements of patents or other rights of third parties. This document is the property of ip.access and implies no license under patents, copyrights or trade secrets. No part of this publication may be copied, reproduced, stored in a retrieval system, or transmitted, in any form of any means, electronic, photographic, or otherwise, or used as the basis for manufacture or sale of any items without the prior written consent of ip.access.



ip.access limited

CPC1
Capital Park
Fulbourn
Cambridge CB1 5XE
United Kingdom

Tel +44 (0) 1223 219000
Fax +44 (0) 1223 219099