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Access burst
Burst sent on the Random Access Channel (RACH) from the Mobile Station (MS) to the Base Transceiver Station (BTS) to request a signalling channel, the Stand alone Dedicated Control Channel (SDCCH).

AGCH Access Grant channel
Logical control channel used on the downlink to verify the allocation of a signalling channel, the Stand alone Dedicated Control Channel (SDCCH), to the MS.

Antenna diversity
A technique used to combat Rayleigh fading. Two receiving antennas are placed some distance apart (in GSM 5-6 m) and the best signal is chosen.

ARQ Automatic Repeat Request
If an error is detected in the received bits a request is automatically made for the bits to be transmitted again.

AUC Authentication Centre
A functional entity of the Switching System (SS) which provides authentication- and encryption parameters to ensure security and confidentiality to GSM subscribers.

Authentication
A process which prevents the fraudulent use of Mobile Stations (MSs).

BCC Base Station Colour Code
A code which is part of the Base Station Identity Code (BSIC) and helps to distinguish between Base Transceiver Stations (BTSs) using the same frequency for the BCCH carrier in an PLMN.

BCCH Broadcast Control channel
Logical control channels used on the downlink to broadcast general information about the cell such as Location Area Identity (LAI) and maximum output power allowed.

BCH Broadcast channels
Common name for the Frequency Correction Channel (FCCH), the Synchronization Channel (SCH) and the Broadcast Control Channel (BCCH).

BER Bit Error Rate
A measurement of the quality of the transmitted signal. Defined as the percentage of faulty bits out of the total numbers of bits transmitted.

Block coding
The process of protecting blocks of data for transmission by adding extra error detection and protection bits.

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BSC Base Station Controller
The functional entity responsible for the radio related functions of the system. One or more Base Station Controllers (BSCs) work under a Mobile services Switching Centre (MSC), each controlling a number of Base Transceiver Stations (BTSs).

BSIC Base Station Identity Code
A code which enables the MS to distinguish between cells with the same BCCH-carrier frequency.

BSS Base Station System
The part of the system that carries out the radio functions. It consists of two nodes, the Base Station Controller (BSC) and the Base Transceiver Station (BTS).

BTS Base Transceiver Station
The functional entity of the Base Station System (BSS) which handles the radio interface to the Mobile Stations (MSs) in one cell.

Burst
Information sent during one time slot on a Time Division Multiple Access (TDMA) channel.

C/A, Carrier-to adjacent ratio
The ratio of the signal strength of the carrier being used to the adjacent frequency carrier.

Call forwarding
Rerouting of incoming calls to another number.

Call hold
To put an ongoing call on hold to set up a new, or accept a waiting call.

Call waiting
A busy subscriber will be notified of an incoming call.

CC Country Code
Part of the Mobile Station ISDN Number (MSISDN) or the Mobile Station Roaming Number (MSRN) which indicates to which country a call shall be routed.

CCCH Common Control channels
Common name for the Paging Channel (PCH), the Random Access Channel (RACH) and the Access Grant Channel (AGCH).

Cell
Area where radio coverage is provided by one Base Transceiver Station (BTS).

Cell broadcast
Short text message sent to all Mobile Stations within a certain geographical area.

CGI Cell Global Identity
Identity number used to uniquely identify a specific cell.

Channel coding
A method to protect the transmitted information by adding extra check bits. In GSM, block- and convolutional coding are used.

Channel separation
The separation between adjacent carrier frequencies. In GSM 200 kHz.

C/I, Carrier-to-interference ratio
The ratio of the signal strength of the carrier being used to other signals using the same carrier frequency.

CI Cell Identity
Cell Identity number that is unique within a Location Area. Part of the CGI.

Ciphering
Process by which speech and data are encrypted to prevent eavesdropping on the air interface.

Coding
A way of representing the quantized value in a binary form.

Control channels
Logical channels which are not carrying traffic and used by the system and the MS for different purposes.

Convolution coding
A form of channel coding where the transmitted bits depend on the previous as well as the present message bits.

CSPDN Circuit Switched Public Data Networks
Networks where the transmitter and receiver are in direct contact during the transfer of information.

CUG Closed user group
Supplementary subscriber service which enables subscribers to form groups to and from which access is restricted.

Data call
A call during which data instead of speech is transferred.

DCCH Dedicated Control Channels
Common name for the Stand alone Dedicated Control Channel (SDCCH), the Slow Associated Control Channel (SACCH) and the Fast Associated Control Channel (FACCH).

DCE Data Communication Equipment
Modem or fax equipment

DCS Digital Communication System
Air interface specification for 1800 MHz using the same specification as GSM except for the frequency band and the duplex distance.

DTE Data Terminal Equipment
A computer connected to the MS

DTMF Dual Tone Multi Frequency
Tone signalling scheme often used for control purposes via the telephony network, e.g. remote control of an answering machine.

Dummy burst
A burst which is sent on the air interface and which carries no information.

Dynamic power control
A method of regulating used power of the BTS and MS in the network to keep interference as low as possible while maintaining high connection quality.

ECU Energy Control Unit
Part of the Radio Base Station (RBS) 2000 which controls the power equipment and the environmental conditions.

EIR Equipment Identity Register
Data base containing information about International Mobile station Equipment Identities (IMEIs) used to prevent unauthorized use of mobile equipments.

Equalizer
Process where distortion to a signal transmitted on the air interface is corrected.

Equipment identification
Process used to prevent the use of stolen or unauthorized mobile equipments.

Extended GSM
Air interface specification which is identical with GSM except for the frequency band which is extended to 880-915 MHz on the uplink and 925-960 MHz on the downlink.

FAC Final Assembly Code
Part of the International Mobile station Equipment Identity (IMEI) which identifies the manufacturer.

FACCH Fast Associated Control channel
Logical control channels used for handover. “Steals” bursts from the Traffic Channel (TCH).

Fading
Variation of signal strength.

FCCH Frequency Correction channel
Logical control channel which carries frequency correction information for the Mobile Station (MS).

FDMA Frequency Division Multiple Access
Frequency sharing scheme where one user gets exclusive use of a carrier frequency.

Frequency band
Range of frequencies used for a specific application.

Frequency hopping
The carrier frequency for a conversation is changed at frequent intervals. Helps to overcome Rayleigh fading.

Frequency re-use
The same carrier frequency is used in cells sufficiently far apart to give an acceptable level of interference.

Gateway
Network entity which allows two networks to interconnect, e.g. the Public Switched Telephone Network (PSTN) to a GSM Public Land Mobile Network (PLMN).

GMSC Gateway MSC
A Mobile services Switching Centre (MSC) which also performs the functions of a Gateway.

GMSK Gaussian Minimum Shift Keying
Modulation method used in GSM for transmission on the air interface.

GP Guard Period
Period when no signal is sent. Prevents interference between bursts.

GSM Global System for Mobile communication
A specification for a digital cellular telephony system to operate on the 900 MHz band.

Haft-rate channels
Traffic Channel (TCH) for transmission of speech from a half rate speech coder.

Handover
Process by which a call is passed from one cell to another.

HLR Home Location Register
Functional entity which stores data on subscribers belonging to a Public Land Mobile Network (PLMN).

Hybrid coders
Speech coder which combines the techniques of Vocoder and waveform coders.

Hyper frames
Frame number structure which consists of 2 715 648 frames.

ID-1 SIM
SIM-card with format and layout in accordance with the ISO standards for IC cards.

Idle mode
The Mobile Station (MS) is switched on but no call is in progress.

IMEI International Mobile station Equipment Identity
GSM identity number which identifies a specific mobile equipment.

IMSI detach
Message which informs the system that the Mobile Station (MS) is being switched off.

IMSI International Mobile Subscriber Identity
GSM identity number which uniquely identifies a mobile subscription.

Interference
Disturbances on the reception caused by different sources.

Interleaving
Consecutive bits of information are spread out over different blocks of information before transmission to overcome problems caused by burst errors.

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ISDN Integrated Services Digital Network
A digital network that provides end-to-end connectivity for a wide range of different services within the PSTN.

ISI Inter Symbol Interference
Problem caused to digital signals when a direct signal is distorted by reflected signals.

Kc Ciphering Key
Number produced by the Authentication Centre (AUC) to be used for encryption of the information which is transmitted on the air interface.

Ki Subscriber Authentication Key
Number allocated to a subscriber at subscription time. Used to provide parameters for authentication and encryption.

LA Location Area
A group of cells in which a subscriber is paged.

LAC Location Area Code
Part of the Location Area Identity (LAI) which identifies a specific Location Area (LA) within a Public Land Mobile Network (PLMN).

LAI Location Area Identity
GSM identity number which uniquely identifies a specific Location Area (LA).

Logical channels Control and traffic channels which are mapped onto physical channels.

Log normal fading Attenuation of radio signals caused by obstacles in the radio path.

MAP Mobile Application Part
Part of the C7 signalling system which provides signaling procedures for information transfer between GSM network entities.

MCC Mobile Country Code
Part of the International Mobile Subscriber Identity (IMSI), Location Area Identity (LAI) and Cell Global Identity (CGI) which identifies the country of the Public Land Mobile Network (PLMN).

MIN Mobile Intelligent Node
Node handling the mobile IN services

MNC Mobile Network Code
Part of the International Mobile Subscriber Identity (IMSI), Location Area Identity (LAI) and Cell Global Identity (CGI) which identifies the Public Land Mobile Network (PLMN).

Modulation Process of sending a signal by changing the characteristics of a carrier frequency.

MS Mobile Station The subscriber equipment which communicates with the network over the air interface.

MSC Mobile services Switching Centre
Network entity which switches calls to and from mobile subscribers.

MSC/VLR Service Area
Part of the mobile network served by one Mobile services Switching Centre/Visitor Location Register (MSC/VLR).

MSIN Mobile Station Identification Number
Part of the International Mobile Subscriber Identity (IMSI) which identifies a specific subscriber.

MSISDN Mobile Station ISDN Number
Number which uniquely identifies a mobile subscriber in the numbering plan of the Public Switched Telephone Network (PSTN).

MSRN Mobile Station Roaming Number
GSM identity number which is used to route a call to the Mobile services Switching Centre (MSC) where the called subscriber is currently registered.

MTS Mobile Telephony Subsystem
A subsystem which implements mobile telephony functions specific to the Mobile services Switching Centre/Visitor Location Register (MSC/VLR).

NCC Network Colour Code
Part of the Base Station Identity Code (BSIC) which helps to distinguish between Base Transceiver Stations (BTSs) belonging to different PLMNs.

NDC National Destination Code
Part of the Mobile Station ISDN Number (MSISDN) and Mobile Station Roaming Number (MSRN) which identifies the area of a country to which a call is to be routed (area code).

NE Network Element
A common term for the different nodes in a GSM network

Network components
Parts of the charging tariff structure. The access component is independent of the time the network is used whereas the utilization component covers the usage dependant costs.

Nominal cell plan Theoretical first cell plan.

Normal burst Burst used to carry information for Traffic Channels (TCHs) and most of the control channels.

O&M Operation and Maintenance
The rules and guidelines for how to operate and maintain the system to achieve best possible quality and functionality.

OMC Operation and Maintenance Centre
Network entity responsible for centralized Operation and Maintenance of the network. Connected to all the equipment in the Switching System (SS) and to the Base Station Controller (BSC).

OSS Operation and Support System
A system which offers centralized Operation and Maintenance and supports the work of Operation and Maintenance Centre staff.

Paging Process of informing a Mobile Station (MS) that a call is coming in to it.

Path loss The decrease in signal strength that occurs depending on distance between the transmitter and receiver.

PCH Paging channel
Logical control channels used to page Mobile Stations (MSs).

PCM, Pulse Code Modulation
A method of modulation by which the analogue signal is converted into digital form by the three processes; Sampling, Quantization and Coding.

Physical channel Consecutive same-numbered time slots of a Time Division Multiple Access (TDMA)-frame on one carrier.

PIN Personal Identification Number
4 to 8 digit number used to prevent unauthorized use of a Mobile Station (MS).

PLMN Public Land Mobile Network
Network formed by the cellular mobile system of one operator.

Plug-in SIM Small SIM-card intended for semi-permanent installation in the mobile equipment.

PSPDN Packet Switched Public Data Networks
The information is divided into packets that is sent over routes that for the moment have available capacity. No direct connection exists between sender and receiver.

PSTN Public Switched Telephone Network
The ordinary fixed telephone network.

Quantization Process of converting sampled data to a predefined set of levels.

RACH Random Access channel
Logical control channel used by the MS for accessing the system, e.g. when answering a paging message or when the mobile subscriber tries to make a call.

RAND Random number
Random number used for authentication and production of security parameters.

Rate adaptation
Adaptation of bit rate between different interfaces concerning data.

Rayleigh fading
Fading due to the fact that the received signal consists of several signals reflected from nearby objects and no direct signal is received.

RBS Radio Base Station
All radio equipment needed on a site to handle mobile radio traffic.

RF Radio Frequency
Frequency used for radio transmission. (Abbreviation:RF)

RNR Radio Network Recording
A function in OSS to perform short time measurements on IMSIs and specific cells by using the Mobile Traffic Recording and Cell Traffic Recording functions in the BSC

Roaming
The ability to move around in a cellular system by changing cells and still remain connected to the system.

ROS Radio Operation and maintenance Subsystem
APT-subsystem in the BSC that takes care of the operation and maintenance of the BSC and its physical entities. ROS also handles the interfaces and signaling towards the MSC.

RP Regional Processor
Processor working at the distributed level controlling a number of hardware units.

RRX Radio Receiver
The receiving part of the Transceiver (TRX)

RTT Radio Transceiver Terminal
Interface board in the TRI that converts data from the exchange to up to four transceivers in the RBS.

RTX Radio Transmitter
The transmitting part of the Transceiver (TRX)

RXD Receiver Divider
Hardware entity that distributes the received antenna signal to several transceivers.

RXDA Receiver Divider Amplifier
Amplifies and distributes the signal from the receiving antennas to the Radio Receivers (RX).

SACCH Slow Associated Control channel
Logical control channel used to carry information such as Mobile Station (MS) measurement reports, power regulation and timing advance.

Sampling The method of measuring an analogue signal at certain times. This is the first process in digitizing the signal.

SCH Synchronization channel
Logical control channel carrying information for frame synchronization (TDMA frame number) and Base Transceiver Station (BTS) identification (BSIC).

SDCCH Stand alone Dedicated Control channel
Logical control channel used for system signalling during for example call set-up.

SIM Subscriber Identity Module
Smart card containing information about the subscription

SMS Short Message Service
GSM service allowing short text messages to be sent to or from a mobile subscriber.

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Speech coding
Method used to reduce the bit rate over the air interface. Instead of sending digitized speech. Information about how the speech is produced is transmitted.

SPP Signal Processing Part
Signal processing part in the Transceiver (TRX). Handles all digital signal processing for one Time Slot (TS). Each transceiver has 8 Signal Processing Parts.

SPU Signal Processing Unit
Signal processing part of the transceiver (TRX). Handles all digital signal processing for one transceiver.

SRES Signed Response
One of the triplets used for authentication. Generated by the algorithm A3 which uses the Authentication Key (Ki) and the Random Number (RAND) as input.

SS Switching System
The part of the network that handles switching of calls and security matters such as authentication and ciphering.

TAC Type Approval Code
Part of the International Mobile Equipment Identity (IMEI) which identifies the type of equipment.

TAS Transceiver Administration Subsystem
APT-subsystem in the BSC that administers the equipment in the BTS and verifies that data in the BSC and actual equipment in the BTS matches.

TB Tail Bits
Bits marking the beginning and/or the end of a sequence of binary data.

TCH Traffic Channels
Logical channel carrying speech or data.

TDMA Time Division Multiple Access
Technique where several calls share the same carrier. Each call is assigned a different time slot.

TDMA frame Transmission structure of the GSM air interface containing eight Time Slots (TS), one for each physical channel.

TG Transceiver Group
All radio equipment connected to one internal bus

Time alignment A process by which a Mobile Station (MS) alters the time at which it sends a burst depending upon the distance between the Mobile Station (MS) and the Base Transceiver Station (BTS).

Time dispersion
Transmission problem which occurs when the same digital signal reaches the receiver at different times (due to reflection) causing it to be out of synchronization.

Timing advance The system tells the Mobile Station (MS) to send its bursts ahead of time to avoid Time Alignment problems.

TM Timing Module Part of the Base Station which provides a reference frequency synchronized from the PCM clock.

TMOS Telecommunications Management and Operations Support
Ericsson system for centralized Operation and Maintenance of telecommunications networks.

TMSI Temporary Mobile Subscriber Identity
GSM identity number which is used instead of the International Mobile Subscriber Identity (IMSI) for signalling between the Mobile Station (MS) and the Mobile services Switching Centre (MSC)/Visitor Location Register (VLR). Provides extra security by hiding the real identity of the Mobile Station (MS) on the air interface.

TRAU Transcoder and Rate Adaptation Unit
Hardware entity in the BSC which transcodes speech to/ from 64kbit/s as used in PSTN to 13kbit/s as used in GSM and rate adapts data. The function also multiplexes four calls onto one PCM-time slot towards the BTS.

TRH Transceiver Handler
Hardware entity which handles the signalling to/from the transceivers in the BTS.

TRI Transmission Radio Interface
A magazine containing equipment for switching the PCM time slots from the BSC to different transceivers in the RBS.

TRS Transceiver System
All radio equipment on one site.

TRU Transceiver Unit
Unit including all functionality needed to handle the 8 time slots of one TDMA frame.

TRX Transceiver
Equipment combining transmitter and receiver.

TRXC Transceiver Controller
Control part of the Transceiver (TRX).

TRXT Transceiver Tester
Equipment used along with the local maintenance terminal to test the functions of the Transceiver (TRX) under control of the Base Station Controller (BSC).

TS Time slot Short period of time during which a particular channel may use a carrier.

TT Toll ticketing A method whereby information about A- and B-subscriber, start and stop time, and destination of a call is stored to enable the possibility to send a detailed bill to the subscriber.

Tx Transmitter Transmitter. (Abbreviation:Tx)

TXCMB Transmitter Combiner
Equipment that allows several transmitters to use the same antenna.

Uniform quantization
Using levels with equal step size when quantizing a sampled signal.

Viterbi equalizer The adaptive equalizer used in GSM.

VLR Visitor Location Register
Register containing a list of all Mobile Stations (MSs) currently served by a specific Mobile services Switching Centre (MSC).

Vocoder
Speech coder which uses a simplified model of the speech generation process. Enables very low bit rates at the expense of speech quality.

Voice mail
Subscriber service which works like an answering machine within the system.

Waveform coder
Speech coder which achieves high quality at relatively high bit rates.

Wi-Fi
Wireless Fidelity

Wi-Max
Worldwide Interoperability for Microwave Access