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AT Commands

From Forum Nokia Wiki

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Good to know before reading the rest of this article

Different phones support different sets of AT commands. So not all AT commands listed below might not be supported by a specific phone. Currently there is no authoritative list available of supported AT commands by all phones.

Overview

AT commands are also known as Hayes AT commands. There are different views to understand the meanings of "AT". Some people call it as "Attention Telephone" or some people call it as "Attention Terminal" commands.

AT commands allow us to give instructions to a phone, either a mobile phone or a normal landline telephone. The commands are sent to the phone's modem, which can be GSM modem or PC's modem. In this discussion, we will focus on AT commands on Nokia's GSM and WCDMA products only. Different manufacturers may have different set of AT commands. Fortunately, many AT commands are the same. Mobile manufacturers may also give attention to operators to allow or not to allow some commands on the phone.

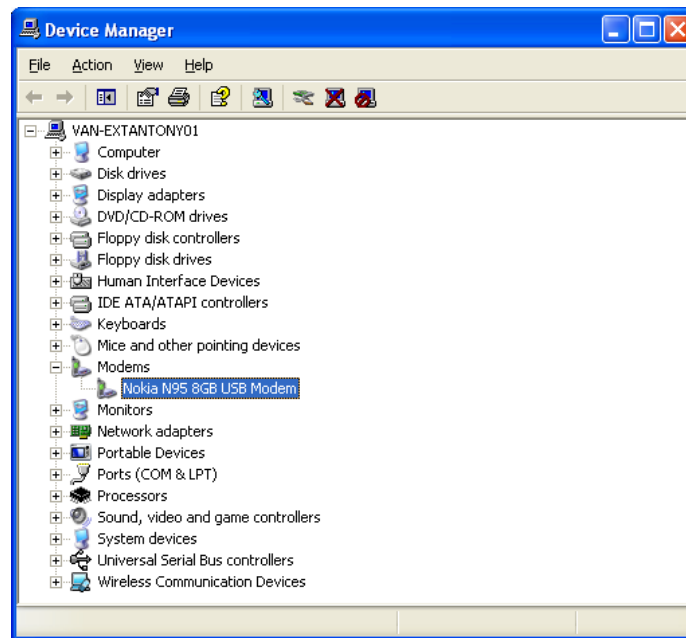
Let us see in brief the usage of AT commands. We can perform operations that we normally do from the keypad, for instance calling a number, sending an sms, reading an SMS, deleting an SMS, setting the SMSC number, looking for GPRS access point, reading phonebook data, deleting phonebook data, reading the battery status, reading the signal strength etc. When we want to make a PC based application to interface a mobile phone using USB, IR or bluetooth, such commands are needed to communicate with mobile phones. Basically such commands are application layer of MBUS or FBUS commands. Nokia provides an AT command set guide by which we can refer the basic command syntax and the response of the command in various situations (see [Related Links](#) section at the end of this article).

Using AT Commands with HyperTerminal

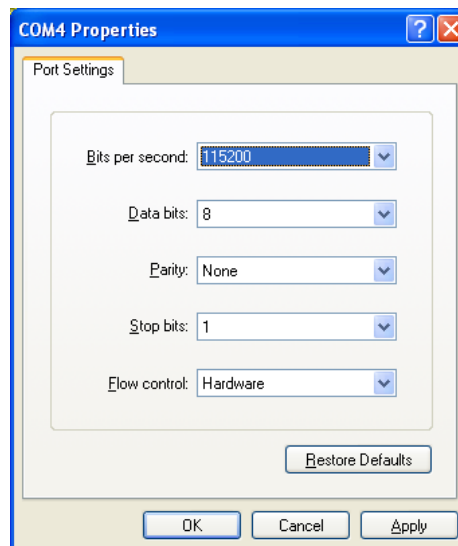
Let us see now how to use AT commands. The AT commands work on device that has built-in GSM modem. If it exists, there is no need of virtual modem software to install on your PC. If you are using very older Nokia phones you have to find out the DATA suite not the PC Suite for such phones (Nokia 5110) to use AT commands. We will focus on the mobile phones which has built-in GSM modem.

Follow the instructions below on your PC to use AT commands:

- Connect your mobile phone in PC Suite mode using any available connection (BT, USB or IR).
- Make sure that you have installed proper GSM modem driver on your PC. You can check it from Control Panel | System | Hardware | Device Manager. Check Modems section. If you see something like "Nokia XY USB Modem" or "Nokia XY Bluetooth Modem", it means the device has built-in GSM modem. If you don't have it, go to Nokia web site and download the driver from the product page of your device.

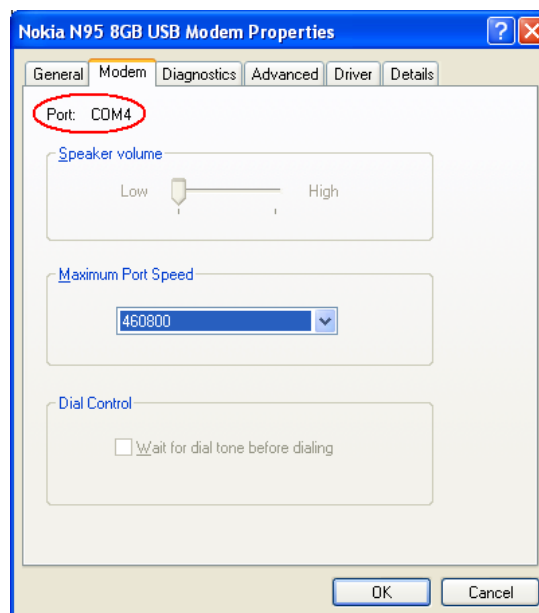


- Open the HyperTerminal, a communication utility on your Windows OS. You can find the HyperTerminal in Start | Programs | Accessories | Communication.
- Create a new connection set on HyperTerminal. You may need to set some of the parameters, such as baud rate (such as 9600), handshaking mode (Xon-Xoff), parity bit (default) etc.

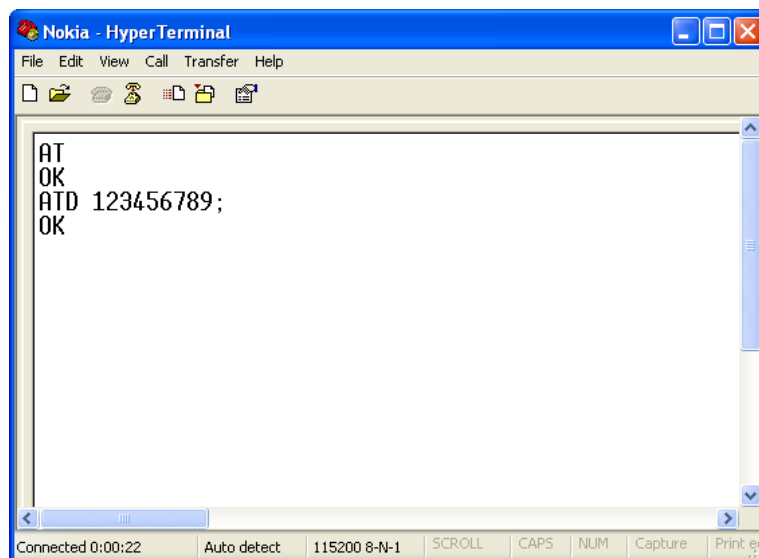


- Note that you also need to select the communication port on which your mobile has been connected. The

port number can be found by right clicking the modem item in Control Panel.



- Once you are done with this you can give the basic AT command, type simple AT in the window so you will get "OK" response.



There are basically two modes to work for mobile phones. one is PDU and another is text mode. PDU is protocol data unit. Mobile normally understands internally in PDU format. We can use both. AT+CMGF is the command to set the mode. If we type AT+CMGF=0 the PDU mode is set. If we type AT+CMGF=1 the text mode is set. If we want to check which mode has been set we can type simple AT+CMGF? so it will show the result.

Now for example we want to dial out a number called "111" the command is ATD 111 or ATD "111".

To send an SMS first we have to set the mode in text. We can send SMS in both the modes but the format of typing text to send SMS is different. For normal usage we use text mode. So type AT+CMGS="9198XX21XX99", "Message" ^ctrlZ. So SMS will be sent out from your PC through mobile phone. To read an SMS from the inbox we have to write AT+CMGR=1 to read the sms stored at 1st location. The location starts from 0 so be careful. To delete an SMS type AT+CMG

NOKIA GSM AT COMMAND SET

Call Control

Command	Description
ATA	Answer Command
ATD	Dial Command
ATH	Hang Up Call
ATL	Monitor Speaker Loudness
ATM	Monitor Speaker Mode
ATO	Go On-Line
ATP	Set Pulse Dial as Default
ATT	Set Tone Dial as Default
AT+CSTA	Select Type of Address
AT+CRC	Cellular Result Codes

Data Card Control Commands

Command	Description
ATI	Identification
ATS	Select an S-register
ATZ	Recall Stored Profile
AT&F	Restore Factory Settings
AT&V	View Active Configuration
AT&W	Store Parameters in Given Profile
AT&Y	Select Set as s Powerup Option
AT+CLCK	Facility Lock Command
AT+COLP	Connected Line Identification Presentation
AT+GCAP	Request Complete Capabilities List
AT+GMI	Request Manufacturer Identification
AT+GMM	Request Model Identification
AT+GMR	Request Revision Identification
AT+GSN	Request Product Serial Number Identification

Phone Control Commands

Command	Description
AT+CBC	Battery Charge
AT+CGMI	Request Manufacturer Identification
AT+CGMM	Request Model Identification
AT+CGMR	Request Revision Identification
AT+CGSN	Request Product Serial Number Identification
AT+CMEE	Report Mobile Equipment Error
AT+CPAS	Phone Activity Status
AT+CPBF	Find Phone Book Entries
AT+CPBR	Read Phone Book Entry
AT+CPBS	Select Phone Book Memory Storage
AT+CPBW	Write Phone Book Entry
AT+CSCS	Select TE Character Set
AT+CSQ	Signal Quality

Computer Data Card Interface Commands

Command	Description
ATE	Command Echo
ATQ	Result Code Suppression
ATV	Define Response Format
ATX	Response Range Selection
AT&C	Define DCD Usage
AT&D	Define DTR Usage
AT&K	Select Flow Control
AT&Q	Define Communications Mode Option
AT&S	Define DSR Option
AT+ICF	DTE-DCE Character Framing
AT+IFC	DTE-DCE Local Flow Control
AT+IPR	Fixed DTE Rate

Service

Command	Description
AT+CLIP	Calling Line Identification Presentation

AT+CR
AT+DR
AT+ILRR

Service Reporting Control
Data Compression Reporting
DTE-DCE Local Rate Reporting

Network Communication Parameter Commands

Command	Description
ATB	Communications Standard Option
AT+CBST	Select Bearer Service Type
AT+CEER	Extended Error Report
AT+CRLP	Radio Link Protocol
AT+DS	Data Compression

Miscellaneous Commands

Command	Description
A/	Re-Execute Command Line
AT?	Command Help
AT*C	Start SMS Interpreter
AT*T	Enter SMS Block Mode Protocol
AT*V	Activate V.25bis Mode
AT*NOKIATEST	Test Command
AT+CESP	Enter SMS Block Mode Protocol

SMS Commands SMS Text Mode

Command	Description
AT+CSMS	Select Message Service
AT+CPMS	Preferred Message Storage
AT+CMGF	Message Format
AT+CSCA	Service Centre Address
AT+CSMP	Set Text Mode Parameters
AT+CSDH	Show Text Mode Parameters
AT+CSCB	Select Cell Broadcast Message Types
AT+CSAS	Save Settings
AT+CRES	Restore Settings
AT+CNMI	New Message Indications to TE
AT+CMGL	List Messages
AT+CMGR	Read Message
AT+CMGS	Send Message
AT+CMSS	Send Message from Storage
AT+CMGW	Write Message to Memory
AT+CMGD	Delete Message

SMS PDU Mode

Command	Description
AT+CMGL	List Messages
AT+CMGR	Read Message
AT+CMGS	Send Message
AT+CMGW	Write Message to Memory

Related Links

- AT Command Set For Nokia GSM And WCDMA Products v1.2
 - AT Command Set For Nokia GSM Products
 - Sending_AT_Commands example source codes

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AT Commands	roeedaliyot	Mobile Java General	1	2004-02-01 23:00

AT commands	void_pointer	PC Suite API and PC Connectivity SDK	4	2008-03-21 06:24
AT Command?	lifangjie	Symbian Networking & Messaging	1	2007-11-14 09:36
AT Commands to Nokia 3310	Nokia_Archived	PC Suite API and PC Connectivity SDK	1	2002-05-22 20:53