



AT Commands

- [Introduction](#)
 - [General commands \(3GPP TS 27.007, section 5\)](#)
 - [Call control commands \(3GPP TS 27.007, section 6\)](#)
 - [Network service related commands \(3GPP TS 27.007, section 7\)](#)
 - [Mobile termination control and status commands \(3GPP TS 27.007, section 8\)](#)
 - [Mobile termination errors \(3GPP TS 27.007, section 9\)](#)
 - [Commands for packet domain, GPRS \(3GPP TS 27.007, section 10\)](#)
 - [SMS commands \(3GPP TS 27.005\)](#)
 - [Multiplexing commands \(3GPP TS 07.10\)](#)
 - [Other commands \(3GPP TS 27.007, Appendix C\)](#)

Introduction

The following lists the AT control commands that a device is expected to support. However, a device may support more commands than listed. For example, some modems support both AT+CGMI and AT+GMI to retrieve the manufacturer name, while only AT+CGMI is required.

In the future, additional commands from the GSM specifications 3GPP TS 27.005 and 3GPP TS 27.007 may be required, so it is recommended that all device manufacturers fully comply with these 3GPP specifications.

General commands (3GPP TS 27.007, section 5)

Command	Description
AT+CGMI	Request manufacturer information
AT+CGMM	Request model identification
AT+CGMR	Request revision identification
AT+CGSN	Request product serial number identification (of the device, not SIM card)
AT+CSCS	Select TE character set
AT+CIMI	Request international mobile subscriber identity
AT+CMUX	Multiplexing mode

Call control commands (3GPP TS 27.007, section 6)

Command	Description
ATDnnn;	Dial "nnn" in voice mode
ATDnnn	Dial "nnn" in data mode
ATH	Hangup the current call
ATA	Answer an incoming call

Command	Description
AT+CBST	Select bearer service type
AT+CRC	Cellular result codes
RING, +CRING	Unsolicited result codes for incoming ring notifications
NO CARRIER, NO ANSWER, NO DIALTONE, BUSY	Unsolicited result codes that indicate call termination

Note: When the `ATD` command is used with a trailing ';', it is highly recommended that it immediately return to command mode after command processing. Some modems have been known to wait until the receiving party answers the call, or busy is detected, before returning to command mode. Such modems are not compliant with the 3GPP specification but can still be supported by overriding `QModemCallProvider::atdBehavior()` in the modem vendor plug-in.

The 3GPP TS specification permits `ATD` to be used in a special mode for dialing directly from phone books. This mode is not required as Qt Extended implements its own algorithm for converting phone book entries to numbers.

It is important that `ATD` recognize numbers starting with + as international, and all other numbers as being local.

Network service related commands (3GPP TS 27.007, section 7)

Command	Description
AT+CNUM	Subscriber number
AT+CREG	Network registration
+CREG	Unsolicited result code for network registration events
AT+COPS	Operator (PLMN) selection
AT+CLCK	Facility lock
AT+CPWD	Change password
AT+CLIP	Calling line identification presentation
+CLIP	Unsolicited result code for caller identification presentation
AT+CLIR	Calling line identification restriction
AT+COLP	Connected line identification presentation
+COLP	Unsolicited result code for connected line identification presentation
AT+CCFC	Call forwarding number and conditions
AT+CCWA	Call waiting
+CCWA	Unsolicited result code for call waiting
AT+CHLD	Call related supplementary services
AT+CTFR	Call deflection
AT+CUSD	Unstructured supplementary service data
+CUSB	Unsolicited result code for unstructured supplementary service events
AT+CAOC	Advice of charge
+CCCM	Unsolicited result code for advice of charge indications
AT+CSSN	Supplementary service notifications
+CSSI	Unsolicited result code for mobile-originated call setup supplementary services

Command	Description
+CSSU	Unsolicited result code for mobile-terminated call setup supplementary services
AT+CLCC	List current calls
AT+CPOL	Preferred PLMN list
AT+CPLS	Selection of preferred PLMN list
AT+COPN	Read operator names

Mobile termination control and status commands (3GPP TS 27.007, section 8)

Command	Description
AT+CFUN	Set phone functionality
AT+CPIN	Enter PIN
AT+CBC	Battery charge
+CBC	Unsolicited result code for battery charge notifications
AT+CSQ	Signal quality
+CSQ	Unsolicited result code for signal quality notifications
AT+CIND	Indicator control
+CIEV	Unsolicited result code for indicator control events
AT+CMER	Mobile termination event reporting
AT+CPBS	Select phone book memory storage
AT+CPBR	Read phone book entries
AT+CPBW	Write phone book entry
AT+CSIM	Generic SIM access
AT+CRSM	Restricted SIM access
AT+CVIB	Vibrator mode
AT+CACM	Accumulated call meter
AT+CAMM	Accumulated call meter maximum
AT+CPUC	Price per unit and currency table
AT+CCWE	Call meter maximum event
+CCWV	Unsolicited result code for call meter maximum events
AT+CSVM	Set voice mail number
AT+CTZR	Time zone reporting
+CTZV	Unsolicited result code for time zone change events

The phone book commands are intended for accessing phone books stored on SIM cards, typically the `SM` phone book. Qt Extended provides its own mechanisms for managing phone books stored within the phone memory.

Mobile termination errors (3GPP TS 27.007, section 9)

Command	Description
AT+CMEE	Report mobile termination error

Commands for packet domain, GPRS (3GPP TS 27.007, section 10)

Command	Description
AT+CGDCONT	Define PDP context
AT+CGATT	PS attach or detach
AT+CGREG	GPRS network registration status
+CGREG	Unsolicited result code for GPRS network registration status
AT+CGSMS	Select service for MO SMS messages
ATD*99* . . .	Request packet domain service

SMS commands (3GPP TS 27.005)

Command	Description
AT+CPMS	Preferred message storage
AT+CMGF	Message format (we use format 0: PDU)
AT+CSCA	Service centre address
AT+CSCB	Select cell broadcast message types
AT+CNMI	New message indications to TE
AT+CMGL	List messages
AT+CMGR	Read message
AT+CMGS	Send message
AT+CMGD	Delete message
AT+CMMS	More messages to send
+CMTI	Notification of SMS message delivery
+CMT	Notification of a directly delivered SMS message
+CDSI	Notification of an SMS status report message
+CBM	Notification of a directly delivered cell broadcast message

It is assumed that incoming SMS messages are stored in a temporary storage area on the device and that Qt Extended will retrieve the messages using the AT+CMGL and AT+CMGR commands.

Multiplexing commands (3GPP TS 07.10)

Qt Extended expects to use 3GPP TS 07.10 multiplexing to establish multiple communications paths with the modem. The modem needs to support the AT+CMUX command plus the basic packet mode in 3GPP TS 07.10. If the modem supports some other form of multiplexing, then it is necessary to implement a [multiplexer plug-in](#).

Other commands (3GPP TS 27.007, Appendix C)

Command	Description
AT+FCLASS	Select mode
AT+VGR	Receive gain selection
AT+VGT	Transmit gain selection

Command	Description
AT+VTS	DTMF and tone generation

Copyright © 2009 Trolltech

[Trademarks](#)

Qt Extended 4.4.3