

Samsung At Command List

samsung at command list is an essential resource for developers, engineers, and technicians who work with Samsung devices, especially in the realm of mobile communication, testing, and troubleshooting. AT commands (Attention commands) are standardized instructions used to control modems, mobile phones, and other communication hardware. For Samsung devices, a comprehensive AT command list enables users to perform a variety of functions—from basic operations like checking signal strength to advanced tasks such as network registration and firmware management. This article provides an in-depth overview of the Samsung AT command list, highlighting the most important commands, their purposes, and practical applications.

Understanding Samsung AT Command List

AT commands are a set of instructions that facilitate communication between a computer or terminal and a mobile device's modem or firmware. Samsung AT command list encompasses commands tailored specifically to Samsung's hardware and firmware configurations, often extending or customizing standard AT commands. Knowing how to utilize these commands can assist in:

1. Device diagnostics and troubleshooting
2. Automated testing and device provisioning
3. Firmware updates and configuration management
4. Network registration and SIM management

Before diving into specific commands, it's important to understand the typical structure of AT commands. They generally start with the prefix "AT" (attention), followed by the command itself and optional parameters, ending with a carriage return.

Common Samsung AT Commands and Their Functions

Below is a categorized list of some of the most frequently used Samsung AT commands, along with explanations of their functionalities.

Basic AT Commands

These commands are fundamental for establishing communication and retrieving device status.

1. **AT** – Test command to verify communication with the device. The device should respond with *OK*.
2. **ATI** – Retrieve device information such as model number, firmware version, and manufacturer.
3. **AT+GMI** – Get the manufacturer identification.
4. **AT+GMM** – Retrieve the model number.
5. **AT+GMR** – Check the firmware version of the device.

Network and Signal Commands

Commands in this category help manage network registration, signal quality, and network selection.

1. **AT+CSQ** – Check signal quality; returns RSSI and BER.
2. **AT+CREG?** – Query network registration status.
3. **AT+COPS?** – Get current operator information.
4. **AT+COPS=** – Set or manually select a network operator.
5. **AT+CGREG?** – Check GPRS network registration status.

SMS and Messaging Commands

Managing SMS messages efficiently is crucial for many applications.

1. **AT+CMGF=1** – Set SMS message format to text mode.
2. **AT+CMGS** – Send an SMS message.
3. **AT+CMGR=** – Read message at specified index.
4. **AT+CMGD=** – Delete messages at specified index or range.
5. **AT+CPMS=** – Select storage for SMS messages.

Device Control and Configuration

These commands allow configuration and control of various device parameters.

1. **AT+CFUN=** – Set device functionality level (e.g., 1 for full functionality, 4 for airplane mode).
2. **AT+CSCLK=** – Enable or disable sleep mode to save power.
3. **AT+CLIP=1** – Enable caller line identification presentation.
4. **AT+CMEE=1** – Enable verbose error reporting.
5. **AT+CGDCONT=** – Set PDP context (used for data connection configuration).

Firmware and Firmware Management Commands

These commands are used for firmware diagnostics and updates.

1. **AT+FIRMWARE?** – Query current firmware version and details.
2. **AT+FIRMWAREUPDATE=** – Initiate firmware update process (may require manufacturer-specific commands).
3. **AT+FIRMWAREINFO** – Get detailed information about the device firmware.

Advanced and Network Testing Commands

For advanced diagnostics and network testing, Samsung devices support specific AT commands.

1. **AT+CPIN?** – Check SIM card PIN status.
2. **AT+CPIN=** – Enter SIM PIN code.
3. **AT+EGMR=** – Read or write to the device's NV (Non-Volatile) memory, such as IMEI or other identifiers.
4. **AT+QCRMCALL** – Network call management commands (specific to certain models).

How to Use Samsung AT Commands Effectively

Utilizing Samsung AT commands requires a serial connection or a dedicated terminal interface, such as a USB-to-Serial adapter, or through specialized software like Samsung's OEM tools or third-party terminal emulators.

Steps to Access and Use AT Commands

1. Connect your device to a computer via USB or serial port.
2. Open a terminal emulator software (e.g., PuTTY, Tera Term, or Samsung-specific tools).
3. Set the communication parameters: typically 115200 baud rate, 8 data bits, no parity, 1 stop bit.
4. Send the "AT" command to verify communication. Expect an "OK" response.
5. Input other AT commands according to your needs, observing responses for success or error messages.

Best Practices for Using AT Commands with Samsung Devices

1. Always back up device data before performing firmware updates or configuration changes.
2. Use manufacturer-approved commands to prevent device damage or voiding warranties.
3. Consult Samsung's official documentation or SDKs for model-specific commands and features.
4. Test commands in a controlled environment before deploying in production scenarios.
5. Ensure proper termination and formatting of commands to avoid misinterpretation.

Conclusion

The **samsung at command list** is a powerful toolkit for those involved in device management, troubleshooting, and development. Understanding the core commands—ranging from basic device inquiries to advanced network and firmware controls—enables efficient and precise handling of Samsung mobile devices. Whether you are performing diagnostics, automating testing procedures, or configuring devices for deployment, mastering Samsung AT commands is invaluable. To maximize the benefits, always refer to the latest Samsung documentation and ensure you are compliant with device-specific constraints. With a solid grasp of the Samsung AT command list, you can streamline device management processes, improve troubleshooting efficiency, and enhance your overall technical capabilities related to Samsung mobile hardware.

Samsung AT Command List: A Comprehensive Guide for Developers and Tech Enthusiasts

In the realm of telecommunications and mobile device management, Samsung AT command list plays a pivotal role in enabling developers, technicians, and hobbyists to interface with Samsung mobile devices effectively. Whether you're working on automation, troubleshooting, or custom application development, understanding the array of AT commands supported by Samsung devices can significantly streamline your workflow. This guide offers an in-depth exploration of Samsung's AT commands, providing insights into their functionalities, usage scenarios, and best practices.

What Are AT Commands?

AT commands, originally developed by the Hayes company in the 1980s, are a set of instructions used to control modems and communication devices. Over time, these commands have been extended to include mobile phones, tablets, and other wireless modules. When working with Samsung smartphones and modules, AT commands serve as a standardized interface to query device information, modify settings, or execute specific functions without relying solely on the device's user interface.

Why Use Samsung AT Commands?

1. **Automation:** Automate routine tasks such as sending SMS, configuring network settings, or querying device status.
2. **Troubleshooting:** Diagnose connectivity issues or hardware problems by retrieving detailed device information.
3. **Development & Testing:** During firmware development or hardware testing, AT commands enable direct control over device features.
4. **Custom Firmware & Modding:** For advanced users, AT commands are invaluable in customizing device behavior beyond stock functionality.

Basic Structure of Samsung AT Commands

Samsung's implementation of AT commands typically follows the standard format but may include device-specific extensions. Common characteristics include:

1. Commands start with the prefix ``AT``.
2. Followed by the command keyword, e.g., ``AT+CSQ``.
3. May include parameters, e.g., ``AT+CMGS="1234567890"``.
4. Responses are generally ``OK``, ``ERROR``, or data strings.

Commonly Used Samsung AT Commands

Below is a categorized list of frequently used Samsung AT commands, including descriptions and typical use cases.

1. Network and Signal Commands

| Command | Description | Usage Scenario |

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- | `AT+CSQ` | Signal quality report | Check network signal strength |
- | `AT+COPS?` | Operator selection status | Determine current network operator |
- | `AT+CREG?` | Registration status | Verify if device is registered on the network |
- | `AT+CGDCONT?` | PDP context settings | View current data connection profiles |

1. SMS Management Commands

| Command | Description | Usage Scenario |

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- | `AT+CMGF=1` | Set SMS text mode | Prepare device for text message sending |
- | `AT+CMGS` | Send an SMS | Send text messages programmatically |
- | `AT+CMGR` | Read a message | Retrieve received messages |
- | `AT+CMGD` | Delete message | Manage inbox storage |

1. Device Information & Diagnostics

| Command | Description | Usage Scenario |

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- | `AT+GSN` | Get device IMEI | Retrieve device unique identifier |
- | `AT+CCID` | Get SIM card serial number | Verify SIM card details |
- | `AT+CPIN?` | PIN status | Check if SIM PIN is enabled or required |
- | `AT+CFUN?` | Device functionality level | Check or set device power state |

1. Network Settings and Configuration

| Command | Description | Usage Scenario |

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- | `AT+CGATT?` | GPRS attach status | Verify data connection status |
- | `AT+CGDCONT` | Define PDP context | Configure data profiles |
- | `AT+CGACT` | Activate/deactivate PDP context | Manage data sessions |

1. Device Control & Mode Commands

| Command | Description | Usage Scenario |

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- | `AT+CFUN=1` | Set full functionality | Turn on radio or network functions |
- | `AT+CFUN=0` | Turn off radio | Power down radio modules for testing |
- | `AT+QPOWD` | Power down device | Turn off device remotely |

Samsung-Specific Extensions and Features

Samsung devices often incorporate proprietary extensions to the standard AT command set, enabling enhanced control and features.

1. Samsung Proprietary Commands

1. `AT+EINFO` — Retrieve detailed device info.
2. `AT+ESIM` — Manage eSIM profiles.
3. `AT+EGMR` — Read/write device-specific configuration or logs.
4. `AT+EAT` — Echo test command for troubleshooting.

1. Enhanced Diagnostics

Samsung devices support advanced diagnostic commands, which can be invaluable during hardware testing:

1. `AT+EGMR=1,7` — Read device serial number.
2. `AT+ELOG` — Access system logs.
3. `AT+ECSR` — Check signal-to-noise ratio.

Practical Usage Tips

1. Always Check Compatibility: Not all Samsung devices support every AT command. Confirm the supported commands via device documentation or testing.
2. Use a Reliable Terminal: Tools like PuTTY, Tera Term, or dedicated serial communication interfaces are essential for sending AT commands.
3. Start with Basic Commands: Begin with simple commands like `AT`, `AT+GSN`, or `AT+CSQ` to verify communication.
4. Handle Responses Carefully: Parse responses to extract meaningful data, especially when automating scripts.
5. Use Correct Communication Settings: Match baud rate, data bits, parity, and stop bits to ensure stable communication.
6. Be Cautious with Power Commands: Commands like `AT+QPOWD` can turn off your device. Use with caution, especially in remote or production environments.

Advanced Topics: Custom AT Command Implementation

Some developers may want to implement or extend AT command support for specialized applications.

1. Creating Custom Commands

1. Modify device firmware to recognize proprietary commands.
2. Use Samsung SDKs and development tools to embed custom AT command handlers.

1. Automating AT Command Sequences

1. Write scripts in Python, Bash, or other languages to automate routine tasks.
2. Incorporate error handling and response parsing for robustness.

1. Security Considerations

1. Avoid exposing sensitive commands over unsecured channels.
2. Ensure proper authentication when executing commands that alter device settings.

Final Thoughts

Harnessing the power of the Samsung AT command list unlocks a new level of control and insight into Samsung mobile devices. Whether for automation, troubleshooting, or customization, understanding these commands equips developers and technicians with a versatile toolkit. Remember to consult official documentation for your specific device model, as support for certain commands may vary. With careful implementation and testing, AT commands can significantly enhance your interaction with Samsung devices, streamlining workflows and enabling innovative solutions.

Disclaimer: Always exercise caution when issuing AT commands, especially those that modify device states or configurations. Improper use can lead to device instability or data loss.

Questions & Answers About samsung at command list

No	Question	Answer
1	What is the Samsung AT command list used for?	The Samsung AT command list is used to communicate with Samsung devices such as smartphones and modules to perform tasks like sending SMS, checking network status, and configuring device settings via AT commands.
2	Where can I find the complete Samsung AT command list?	The complete Samsung AT command list is typically available in official Samsung developer documentation, device manuals, or specialized forums like XDA Developers that share command references.
3	Are Samsung AT commands the same across all models?	No, Samsung AT commands can vary between models and firmware versions. It's important to refer to model-specific documentation to ensure compatibility.
4	How do I use AT commands with Samsung devices?	You can use AT commands with Samsung devices by connecting them via USB or serial interface and sending commands through terminal emulators like PuTTY or via software that supports AT command communication.
5	Can Samsung AT commands be used to unlock devices?	Some Samsung AT commands can assist in unlocking features or performing remote management, but unlocking the device entirely often requires official methods or specialized tools, and unauthorized use may void warranties.
6	What are common AT commands used for SMS management on Samsung devices?	Common AT commands include AT+CMGF for setting message format, AT+CMGS for sending SMS, and AT+CMGR for reading messages.
7	Is it safe to experiment with Samsung AT commands?	While many AT commands are safe when used correctly, improper use can cause device malfunctions or data loss. Always proceed with caution and consult official documentation before experimenting.
8	Are Samsung AT commands applicable for remote device management?	Yes, certain AT commands facilitate remote management tasks such as checking network status, sending messages, or configuring device parameters, useful in IoT and remote device scenarios.

Samsung AT command list, Samsung modem commands, AT commands for Samsung devices, Samsung communication commands, Samsung network commands, Samsung AT command reference, Samsung device control commands, Samsung modem AT codes, Samsung network configuration commands, Samsung serial command list