Debug Option

The debug option is a technical support tool, and is not intended for use by end users.

In addition to the normal Z-text message folders, an extra folder called debug is available. Selecting debug will open a window showing the activity between the Z-text software and the SMS modem. The debug option is disabled and not visible with the standard Z-text software.

The attached file debug.reg enables the debug option. Nodebug.reg removes the debug option.

The information displayed in the debug window can also be viewed with a terminal emulator.

The example below details registering with the BT service, and the confirmation response.

AT+CMGF=1
OK
AT+CMGS=00000
> register_+CMGS: 0
CLI I
DL Call Setup, Len 26
CallType: Voice
DateTime: 11081248
Iden: 08005875290
+CMT: "ME",0
AT+CMGR=0
+CMGR: "REC UNREAD",00000,,"04/11/08,12:48:57+00"
This is the SMS text service from BT. Reset OK. You can now send & receive text. Details online at www.bt.com/bttext or contact your telephone service provider
OK
AT+CMGD=0

In addition to the normal debug information, extended reporting can be enabled. It should be noted that these commands can generate data faster than it can be sent to the host, so it is possible that very large packets could completely fill the serial port buffer. This would result in missing characters in the displayed information.

The extended reporting is enabled by adding the AT command for the information required to the modem initialization string in the Z-text software, or by issuing the command with a terminal emulator.

All three of the extended reporting modes can be enabled with the ATS34=7 command, and disabled with ATS34=0.

The debug AT commands will remain in the modem until the software is reset, e.g. The ATZ command backup battery has fully discharged.

AT+NDB1 Enable / disable transmit data hex display

This feature is enabled by the following command:

AT+NDB1=1
OK

This feature is disabled by the following command:

AT+NDB1=0
OK

The status of this feature is displayed by the following command:

AT+NDB1?
+NDB1: 1
OK

When enabled, this feature will display the contents of all packets that are sent to the server in hexadecimal form:

TX: 91 11 80 0B 81 21 43 65 87 09 F3 00 F1 04 D4 F2 9C 0E 53

AT+NDB2 Enable / disable receive data hex display

This feature is enabled by the following command:

AT+NDB2=1
OK

This feature is disabled by the following command:

AT+NDB2=0
OK

The status of this feature is displayed by the following command:

AT+NDB2?
+NDB2: 1
OK

When enabled, this feature will display the contents of all packets that are received from the server in hexadecimal form:

RX: 95 09 01 00 40 01 41 91 15 51 80 68

AT+NDB3 Enable / disable error message display

This feature is enabled by the following command:

AT+NDB3=1
OK

This feature is disabled by the following command:

AT+NDB3=0
OK

The status of this feature is displayed by the following command:

AT+NDB3?
+NDB3: 1
OK

When enabled, this feature will display various messages if there are any errors or unexpected responses from the server. The following messages may occur:

Framing error after 1B bytes
During packet reception, the serial port detected a framing error (the stop bit was missing).

Overflow
A data byte was received from the server before the previous one was read from the serial port by the firmware.

Carrier dropped - incomplete packet
The modem carrier was lost before the number of bytes specified in the packet header (plus the checksum) where received.

Packet too big: B9 bytes, max 176 bytes
The length specified in the packet header exceeds the maximum permitted in the landline SMS specification.

Bad checksum
A complete packet was received, but the checksum in the packet did not match that calculated by the firmware.

DLL: Packet receive fail
The data link layer didn't receive a valid packet. The lower level routines will normally have generated one of the above messages already, giving more detailed information.

DLL: Timeout
A timeout occurred when waiting for a packet.

DLL: No link
A 'link established' packet was not received within the allotted time (20 seconds).

DLL: Message rejected: 27 4C A4 56
The server did not acknowledge the sent message. The server's reply packet is displayed in hexadecimal.

Submit report
The server has sent an SMS submit report while the Z-text is receiving a message. This should not happen.

Status report
The server has sent an SMS status report while the Z-text is receiving a message. This should not happen.

Error: 27 4C A4 56
: The server has sent an error packet while the Z-text is receiving a message. The packet is displayed in hexadecimal.

Est
: The server has sent a link established packet while the Z-text is receiving a message. This should not happen, as the link is already established.

Ack
: The server has sent an Ack packet while the Z-text is receiving a message. This should not happen, as the link is working in the other direction.

Nack
: The server has sent an Nack packet while the Z-text is receiving a message. This should not happen, as the link is working in the other direction.

Unrecognised packet: 27 4C A4 56
: The checksum was valid, but the packet type was not recognised. The packet is displayed in hexadecimal.

Additional messages may be present in later software versions.

Further information regarding the AT commands can be found in the Z-text SMS AT command set document. This is available from www.z-text.com.