

ZyXEL-Quick-Referenz

ST-Anpassung von B

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COLLABORATORS

	<i>TITLE :</i> ZyXEL-Quick-Referenz		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY	ST-Anpassung von B	January 15, 2025	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

ZyXEL-Quick-Referenz

1.1 ZyXEL-Quick-Referenz-Guide

U-SERIES HIGH SPEED MODEM/FAX/VOICE QUICK-REFERENCE GUIDE

- 1 BASIC 'AT' COMMAND SET
- 2 EXTENDED 'AT&' COMMAND SET
- 3 EXTENDED* 'AT*' COMMAND SET
- 4 FAX, CLASS 2 'AT+F' COMMAND SET
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- 10 EIA-232D INTERFACE
- 11 ZFAX COMMAND LINE OPTIONS
- 12 RCVFAX COMMAND LINE OPTIONS

Author

Manufacturer

1.2 manufacturer

ZyXEL Communications Corp.

2F., 58 Park Avenue II

Science-Based Industrial Park

Hsinchu, Taiwan 30077 R.O.C.

Tel: 886-3578-3942

Fax: 886-3578-2439

BBS Tech. Support: 886-3578-7045

886-3577-6274

1.3 BASIC 'AT' COMMAND SET

Command Function and description Reference

A/ Re-execute last command

A> Repeat last command continuously

<any key> Terminate current connection attempt

+++ Escape sequence code, entered in data state, wait for modem to return to command state

ATA Force answer mode [S39b2](#)

ATBn Bn Handshake option [S28b7](#)

B0 * Select CCITT V.22 for 1200 bps communication

B1 Select Bell 212A standard for 1200 bps

ATD Dial number and options that follows [S38b0](#), [S35b4](#)

P Pulse dial [S23b1](#)

T Tone dial [S23b1](#)

, Pause for a time specified in S6

; Return to command state after dialing

! Hook flash, call transfer

W Wait for second dial tone

@ Wait for a 5-second silence before proceeding, otherwise return 'NO ANSWER'

R Reverse frequencies (Originate a call in answer mode) [S17b5](#)

ATDL Dial last number

ATDSn n=0-9 Dial number stored in NVRAM at position n

ATEn Command mode local echo of keyboard commands. [S23b0](#)

E0 Echo off

E1 * Echo on

ATHn On/off hook control

H0 * Hang up (on hook)

H1 Go off hook

ATIn Display inquiry

I0 Display product code

I1 Display product info. & results of ROM checksum

I2 Link status report

ATLn n=0-7 *4 Speaker volume control [S24b5](#)

ATMn Speaker control

M0 Speaker always Off [S21b1](#)

M1 * Speaker On until carrier is established

M2 Speaker always On

M3 Speaker On after last digit dialed, Off at carrier

detect

ATNn n=0-7 *5 Ring volume control, n=0 Disable the ring function. **S24b1**

ATO Return to on-line state

ATP Pulse dial

ATQn Result code displayed **S23b6**

Q0 * Modem returns result code

Q1 Modem does not return result code

Q2 Quiet in answer mode only (will not show in AT&Vn) **S40b1, S42b2**

ATSr.b=n Set bit .b of register r to n (0/off or 1/on).

ATSr.b? Inquiry bit .b of register r

ATSr=n Set S-register r to value n, n must be a decimal number between 0-255

ATSr? Display value stored in S-register r

ATT Tone dial

ATVn Verbal/Numeric result codes **S23b6**

V0 Display result codes in numeric form **S35b7**

V1 * Display result codes in verbose form

ATXn n=0-7 *5 Result code options, use the options table **S23b3**

ATZn n=0-4 Modem reset

Zn Reset modem and load user profile n **S15b5**

Z4 Reset modem and load factory settings

AT\$ Help, Basic command summary

AT&\$ Help, Extended, Ampersand, command summary

AT*\$ Help, Extended, Star, command summary

1.4 EXTENDED 'AT&' COMMAND SET

Command Function and description Reference

&Bn Data rate, terminal-to-modem (DTE/DCE) **S28b**

&B0 DTE rate follows connection rate **S44b6**

&B1 * DTE/DCE rate fixed at DTE setting **S18, S44b6**

&Cn Carrier Detect (CD) operations **S21b4**

&C0 Assume that the carrier is always on

&C1 * CD tracks presence of carrier **S38b3**

&Dn Data Terminal Ready (DTR) operations

&D0 Assume DTR is always on **S21b6**

&D1 DTR off-on transition causes dial of the default number*Dn

&D2 * DTR off causes the modem to hang up

&D3 DTR off causes the modem to hang up and reset the modem
from profile #0

&F Load Factory setting into RAM as active configuration

&Gn Guard tone

&G0 * No Guard tone, U.S., Canada **S28b4**

&G1 Reserved

&G2 1800 HZ guard tone

&Hn Data flow control, DTE/DCE

&H0 Flow control disabled **S27b3**

&H3 * Hardware (CTS/RTS) flow control

&H4 Software (XON/XOFF) flow control

&Jn Phone line type **S28b0**

&J0 * Single phone line-RJ11 phone jack

&J1 Multiple phone/modem lines RJ12 / RJ13 phone jack

&Kn Error control and data compression

&K0 No error control **S27b0**

&K1 MNP4+MNP3 **S41b0**

&K2 MNP4+MNP5 **S38b5, S41b0**

&K3 V.42+MNP4

&K4 * V.42+V.42 bis (compatible with &K2)

&Ln Normal/Leased line operation

&L0 * Normal phone line **S14b2**

&L1 2 wire leased line

&L2 4 wire leased line

&Mn Sync/Asynchronous

&M0 * Asynchronous mode with data buffering **S14b6**

&M1 Asynchronous command, synchronous data

&M2 Direct asynchronous mode without data buffering

&M3 Synchronous mode

&Nn Data Rate, Data Link (DCE/DCE) **S19**

&N0 * Multi-Auto, auto negotiate highest possible link rate;

ZyX 19200 (Plus models only), ZyX 16800, V.32bis,

V.32, V.22bis, V.22 and Bell 212A, G3 Fax **S38b4, S43b0, S43b1**

&N1 V.33 14000/12000

&N2 V.33 12000

&N3 V.32 9600T/9600/ 7200T/4800

&N4 V.32 9600/7200T/4800

&N5 V.32 4800

&N6 V.29 9600 (U1496 & U1496RN only)

&N7 V.29 7200 (U1496 & U1496RN only)
&N8 V.29 4800 (U1496 & U1496RN only)
&N9 V.27ter 4800 (U1496 & U1496RN only)
&N10 V.27ter 2400 (U1496 & U1496RN only)
&N11 V.26 2400 (U1496 & U1496RN only) **S35b2**
&N12 V.23 1200/75
&N13 V.23 600/75
&N14 V.22bis 2400/1200
&N15 V.22 1200
&N16 V.21 300
&N17 V.32bis 14400/12000/9600/7200/ 4800
&N18 V.32bis 12000/9600/7200/4800
&N19 V.32bis 7200/4800
&N24 BELL 212A 1200
&N25 BELL 103 300
&N32 ZyXEL FAX 14400/12000/9600/7200/ 4800/ 2400
(use S42 bit 4 to disable V.17, 14400) **S42b4**
&N34 ZyXEL 19200
&N35 ZyXEL 16800
&N36 ZyXEL 14400
&N44 CELL 9600
&N37 ZyXEL 12000
&N45 CELL 7200T
&N38 ZyXEL 9600
&N46 CELL 4800T
&N39 ZyXEL 7200
&N47 CELL 4800C
&N42 CELL 14400
&N48 CELL 3600C
&N43 CELL 120002
&N49 CELL 2400C

* note 1.all ZyXEL modes except ZyXEL 19200 are only available with Plus models

* note 2.all CELL modes are only available with ZyXEL's Cellular option

&Pn Pulse dial make/break ratio **S23b2**

&P0 * Pulse dial make/break ratio= 39% / 61%

&P1 Pulse dial make/break ratio= 33% / 67%

&Rn RTS (Received Data hardware flow control) function

selection, used in synchronous mode only **S21b5**

&R0 CTS tracks RTS, response delay is set in S26

&R1 * Ignore RTS, assumes RTS always on

&Sn Data Set Ready (DSR) S21b3

&S0 * DSR override, always on S44b4

&S1 According to CCITT, modem controls DSR S41b5

&Tn Modem testing

&T0 Terminate test in progress

&T1 Initiate Analog Loopback test (ALB)

&T3 Initiate Local Digital Loopback test (hardware test, LDL)

&T4 * Grant Remote Digital Loopback request from remote modem S14b1

&T5 Deny Remote Digital Loopback request from remote modem

&T6 Initiate Remote Digital Loopback test (RDL)

&T7 Initiate Remote Digital Loopback with self test
(RDL+ST)

&T8 Initiate Analog Loopback with self test (ALB+ST)

&Vn View profile settings

&V0 View current active settings

&Vn View user profile # (n-1) settings

&V5 View factory default settings

&Wn n=0-3 Write current settings to NVRAM at user profile # n
S35b6

&Xn Synchronous timing source

&X0 * Modem provides synchronous transmit clock signal
(internal clock, applies to pin 15 of RS232D) S14b4

&X1 Terminal provides synchronous transmit clock signal
(external clock, applies to pin 24 of RS232D)

&X2 Received carrier provides synchronous transmit clock
signal (Remote or Slave clock, applies to pin 15 of RS232D)

&Yn Break handling, Destructive Breaks clear the buffer;
Expedited Breaks are sent immediately to the remote system

&Y0 Destructive, expedited S28b2

&Y1 * Nondestructive, expedited

&Y2 Nondestructive, unexpedited

&Zn=s n=0-9 Write phone number s to NVRAM at position n, use
AT*Dn or ATS29=n to set default dial pointer S29

&Z? Display the phone numbers stored in NVRAM

1.5 EXTENDED 'AT*' COMMAND SET

Command Function and description Reference

*Bn Dial-backup **S35bn**

*B0 * Disable dial-backup

*Bn Enable dial-backup and set dial-backup pointer at telephone directory location (n-1) **S44b2**

*Cn Character length

*C0 * 10-bit character length **S15b3**

*C1 11-bit character length

*C2 9-bit character length

*C3 8-bit character length

*Dn n=0-9 *0 Set default dial pointer at telephone directory location n, use AT&Zn=s to store phone numbers **S29bn, &Zn**

*En Error control negotiation **S21b0**

*E0 * If error control negotiation fails, keep the non-error control connection

*E1 If error control negotiation fails, terminate the call

*Fn Remote configuration **S36b0**

*F0 * Deny remote configuration

*F1 Accept remote configuration (Remote Digital Loopback must be granted also, AT&T4) &T4

*Gn Security function

*G0 * Disable security function **S36b5**

*G1 Enable type 1 security, with password check (ZyXEL to ZyXEL only)

*G2 Enable type 1 security, with password check and call-back (ZyXEL to ZyXEL only)

*G3 Enable type 2 security, with password check

*G4 Enable type 2 security, with password check and call-back

*G5 Enable type 2 security, with password check and call-back, remote site enter the call-back number

*HS Modify supervisory password

*Hn n=0-9 Modify user password table at location n

*In Command set **S17b6**

*I0 * AT command set

*I1 V.25bis command set

*I2 Dumb mode

*Ln Panel lock function S28b1
 *L0 * Panel key normal
 *L1 Panel key locked
 *Mn Leased line auto handshake
 *M0 * Leased line auto handshake on Originate mode S14b0
 *M1 Leased line auto handshake on Answer mode
 *Pn n= 0-15 *9 Leased line transmission power level, set to
 (-n)dBm, n=0 to 15 S17b1S35b3
 *Qn Action taken when line quality changes
 *Q0 No response to poor signal quality S27b6
 *Q1 Retrain action taken if signal quality is poor S41b2
 *Q2 * Adaptive rate (auto fall-back / forward)
 *Q3 Disconnect for poor signal quality
 *Rab Read remote configuration b to local profile a S36b1
 a=0-3 Local user profile number a S37b4
 b=0-3 Remote user profile number b S37b0
 b=4 Remote current configuration
 b=5 Remote factory default
 *Sn *S0 * Secondary channel disabled S17b0
 *S1 Secondary channel enabled
 *T Recall the last CND (Caller ID) information S40b2
 *V View password table
 *Wab Write local user profile a to remote user profile b
 and reset remote modem from profile b S36b1
 a=0-3 Local user profile number a S37b4
 a=4 Local active configuration
 a=5 Local factory default configuration
 b=0-3 Remote user profile number b S37b0

1.6 FAX, CLASS 2 'AT+F' COMMAND SET

Command Function and description

+<command>= <value> Execute a command or set a parameter
 +<command>=? Read permissible setting
 +<command>? Read current setting
 +FAA=n Auto answer mode parameter
 n=0 DCE to answer as set by +FCLASS
 n=1 DCE can answer and auto. determine calling type
 +FBOR=n Phase C data bit order

n=0 Select direct bit order
n=1 Select reversed bit order in receiving mode
+FCIG="string" Local polling ID string
+FCLASS=n Service class selection
n=0 Set to modem mode
n=2 Set to Class 2 mode
n=6 Set to ZFAX mode
n=8 Set to Voice mode
+FCON DCE response, Fax connection made
+FCR=n Capability to receive parameter
n=0 DCE will not receive message data or poll a remote
+FDCC=vr,br,wd, ln,df,ec,bf,st DCE capabilities parameters,
refer to EIA pro.2388 for
detail descriptions
+FDCS=vr,br,wd, ln,df,ec,bf,st Current session parameter,
refer to EIA pro.2388 for
detail descriptions
+FDIS=vr,br,wd, ln,df,ec,bf,st Current session negotiation
parameters, refer to EIA
pro.2388 for detail descriptions
+FDR Receive phase C data command, initiates document
reception
+FDT [=df,vr,wd,ln] Transmit phase C data command, releases the DCE
to proceed with negotiation
+FET=n End the page or document command
n=0 More page, same document
n=1 EE End of Document, another document next
n=2 No more pages or documents
n=4 Procedure interrupt, another page follow
n=5 Procedure interrupt, another document follow
n=6 Procedure interrupt, all done
+FLID="string" Local ID string parameter
+FLPL=n n=0 DTE has no document to poll
n=1 DTE has a document ready for polling
+FMDL? Request DCE model
+FMFR? Request DCE manufacturer
+FPTS=n n=1 Page good
n=2 page bad; retrain requested
n=3 Page good; retrain requested

n=4 page bad; interrupt requested
n=5 page good; interrupt requested
+FREV? Request DCE revision
+FSPL=n n=0 DTE does not want to poll
n=1 DTE can receive a polled document

1.7 FAX, ZyXEL 'AT#' COMMAND SET

Command Function and description

#Bn "CONNECT FAX" result code enable or disable
#B0 * Disable, used in ZFAX mode, normal operation
#B1 Enabled, for BBS fax receiving application, this command also changes CONNECT 12000/ARQ to CONNECT 9600/ARQ. This will also send out external mail string "ZyXEL" when fax is connected, DCE will not send fax connection parameters until <DC2> is received from DTE
#B2 Enable Polling feature of Fax. Modem will send polling signal to remote fax machine.
#B3 Display ring cadence
#Cn Set minimum scan line time capability at the receiver
#C0 20 ms at 3.85 line/mm, $T(7.7)=T(3.85)$
#C1 5 ms at 3.85 line/mm, $T(7.7)=T(3.85)$
#C2 10 ms at 3.85 line/mm, $T(7.7)=T(3.85)$
#C3 20 ms at 3.85 line/mm, $T(7.7)=1/2T(3.85)$
#C4 40 ms at 3.85 line/mm, $T(7.7)=T(3.85)$
#C5 40 ms at 3.85 line/mm, $T(7.7)=1/2T(3.85)$
#C6 10 ms at 3.85 line/mm, $T(7.7)=1/2T(3.85)$
#C7 0 ms at 3.85 line/mm, $T(7.7)=T(3.85)$
#F Set the U-1496 into ZyXEL fax mode, same as "AT&N32"
#Ln Set maximum recording length
#L0 Set maximum recording length, A4 (297mm)
#L1 Set maximum recording length, B4 (364mm)
#L2 Set maximum recording length, unlimited.
#P<string> Set the local ID string, 25 characters max.
#Rn Set recording width
#R0 Set 1728 picture elements along a scan line length of 215mm
#R1 Set 2048 picture elements along a scan line length of

255mm

#R2 Set 2432 picture elements along a scan line length of

303mm

#Tn Coding Scheme

#T0 Set to one dimensional coding scheme

#T1 Set to two dimensional coding scheme

#Vn Vertical resolution

#V0 Set to normal vertical resolution

#V1 Set to high vertical resolution

Result Code (with #B0) CONNECT FAX/SnnnnVnTnRnLnCnP<string>

(with #B1) /SnnnnVnTnRnLnCnP<string>

DISCONNECTxP<string>

Snnnn First four digits of Fax connection speed

Vn Vertical resolution; n =0-1

Tn Coding scheme; n =0-1

Rn Recording width; n =0-2

Ln Recording length; n =0-2

Cn Scan time; n =0-7

x Disconnect with confirmation (x =0) or without (x =1)

P<string > Remote Fax number

1.8 VOICE, 'AT+V' COMMAND SET

Command Function and description

+<command>= <value> Execute a command or set a parameter

+<command>=? Read permissible setting

+<command>? Read current setting

+FCLASS=8 Set modem to Voice mode

+VBT=n n=0-255 *10 Set the DTMF tone generation duration at

0.1 sec. increments, used in conjunction with +VTS

VCON DCE reports Voice connection made

+VIP Initialize all the Voice parameters to factory default

+VLS=n Voice I/O device selection

n=0 Disconnect all I/O devices

n=2 Dial-up line jack

n=8 External mic. (connect to Dial-up line jack)

n=16 Connect to Internal Speaker

+VNH=n Automatic hang-ups disable or enable

n=0 DCE shall not disable automatic hang-ups

n=1 DCE shall disable automatic hang-ups with ATH0

n=2 DCE shall disable automatic hang-ups without ATH0

+VRA=n n=0-255 *70 Set length of time, in 0.1 sec. unit, to wait between ringbacks before DCE assume remote station has gone off hook

+VRN=n n=0-255 *57 Set length of time, in 0.1 sec. unit, to wait for ringback before assume remote station has gone off hook

+VRX Start the voice reception process

+VSD=<sds>, <sdi> Set the silence detection sensitivity and the required period of silence

<sds> *15 0-31, larger values imply that the DCE treats noisier conditions as silence, 0 to disable silence detection

<sdi> *70 0-255, in units of 0.1 second, required period of silence

+VSM=n Voice compression method selection

n=1 9.6 Kbps CELP (Code Excited Linear Prediction), only available in Plus(+) models

*n=2 19.2 Kbps 2-bit ADPCM

n=3 28.8 Kbps 3-bit ADPCM

+VTS=<string> Cause DCE to produce DTMF and other tones

+VTX Start the voice transmission process

* Manufacture default (except when used to represent "AT*" commands)

Snnbx Cross reference to S-register nn bit number x

In Reference Column, "AT" is omitted when AT command is referred to

1.9 RESULT CODES OPTIONS TABLE

Result codes Commands

ATV0 ATV1 AT X0 X1 X2 X3 X4 X5 X6 X7

0 OK V V V V V V V V

1 CONNECT V V V V V @ \$ #

2 RING** V V V V V V V V

3 NO CARRIER V V V V V V V V

4 ERROR V V V V V V V V

5 CONNECT 1200 % % % % @ \$ #

6 NO DIAL TONE V V V V V

7 BUSY V V V V V

8 NO ANSWER V V V V V

9 RINGING* V V V V V

10 CONNECT 2400 % % % % @ \$ #

11 CONNECT 4800 % % % % @ \$ #

12 CONNECT 9600 % % % % @ \$ #

14 CONNECT 19200 % % % % @ \$ #

15 CONNECT 7200 % % % % @ \$ #

16 CONNECT 12000 % % % % @ \$ #

17 CONNECT 14400 % % % % @ \$ #

18 CONNECT 16800 % % % % @ \$ #

19 CONNECT 38400 % % % % @

20 CONNECT 57600 % % % % @

21 CONNECT 76800 % % % % @

Use ATS35 bit 7 (ATS35.7=1) to enable the following numerical result codes. When "NONE" error control connection is made, use the above table

Numerical Connect speed Numerical Connect speed

Code with Error Correction Code with Error Correction

30 CONNECT 35 CONNECT 9600

31 CONNECT 1200 36 CONNECT 12000

32 CONNECT 2400 37 CONNECT 14400

33 CONNECT 4800 38 CONNECT 16800

34 CONNECT 7200 39 CONNECT 19200

Note:

'V' Supported

'%' Reporting DTE rate

'@' CONNECT DTE speed/Protocol Link speed/Error control level.

Example: CONNECT 38400/V.32bis 14400/V.42bis

'\$' CONNECT Link speed/Error control (ARQ),

Example: CONNECT 14400/ARQ

'#' CONNECT Link speed/ Error control (ARQ)/Error control level

Example: CONNECT 14400/ARQ/V.42b

*** When more than one type of Distinctive Ring is turned on

(S40b3-6) "RINGn" will be reported, n = Ring Type#

** Use S42b6 to disable "RINGING" result code

1.10 BASIC S-REGISTERS, 'ATSn=x'

Command Function and description +Default/Reference

S0= Set the number of rings on which the modem will answer. 0 value disable auto-answer +000

S1= Counts and stores number of rings from an incoming call +000

S2= Define escape code character, default "+" (43 dec.) +043

S3= Define ASCII Carriage Return +013

S4= Define ASCII Line Feed +010

S5= Define ASCII Backspace +008

S6= Set duration, in number of seconds, modem waits before dialing, not applicable if X2-X6 is set +003

S7= Set duration, in number of seconds, modem waits for a carrier +060

S8= Set duration, in seconds, for pause (,) option in Dial command and pause between command re-executions for Repeat (>)command +002

S9= Set duration, in tenths of a second, of remote carrier signal before recognition (Ignored if in non-FSK or half-duplex operation) +006

S10= Set duration, in tenths of a second, modem waits after loss of carrier before hanging up +007

S11= Set duration and spacing, in milliseconds, of dialed Touch-Tones +070

S12= Reserved

1.11 EXTENDED S-REGISTERS, 'ATSn=x'

Command Function and description +Default /Reference

S13= bit dec hex Bit-mapped register +000

1 2 2 Capture modem manufacturer information during V.42 handshake, can be displayed at ATI2 "Last Speed/Protocol" line if available (Flash or ZyXEL stands for ZyXEL connection)

S14= bit dec hex Bit-mapped register: +002

0 0 0 Auto-handshake on Originate mode in leased line operation *M0

1 1 Auto-handshake on Answer mode in leased line
operation *M1
1 0 0 Grant Remote Digital Loopback test &T4
2 2 Deny Remote Digital Loopback test &T5
3,2 0 0 Dial-up line &L0
4 4 2-wire leased line &L1
8 8 4-wire leased line &L2
5,4 0 0 Internal clock &X0
16 10 External clock &X1
32 20 Remote clock &X2
7,6 0 0 Asynchronous data format &M0
64 40 Asynchronous command, synchronous data &M1
128 80 Direct asynchronous no data buffering &M2
192 C0 Synchronous &M3
S15= bit dec hex Bit-mapped register +130
0,1 0 0 Even parity
1 1 Odd parity
2 2 No parity
2 0 0 1 stop bit
4 4 2 stop bits
4,3 0 0 10 bit character length *C0
8 8 11 bit *C1
16 10 9 bit *C2
24 18 8 bit *C3
7-5 0 0 Profile 0 as active settings after power on Z0
32 20 Profile 1 as active settings after power on Z1
64 40 Profile 2 as active settings after power on Z2
96 60 Profile 3 as active settings after power on Z3
128 80 Factory default as active settings after power
on Z4
S16= bit dec hex Test status register +000
0 0 No test in progress
1 1 Analog Loopback test in progress
3 3 Local Digital Loopback test in progress
6 6 Remote Digital Loopback test in progress
7 7 Remote Digital Loopback with self test in progress
8 8 Analog Loopback with self test in progress
S17= bit dec hex Bit-mapped register +018
0 0 0 Disable Secondary Channel *Sn

1 1 Enable Secondary Channel S42b0

1-4 0-30 0-1E Leased line transmission power level, to attenuate 0 to -15dB or -12 to -27dB when S35B3 is set *Pn S35b3

5 0 0 Normal dial

32 20 Reverse dial, answer mode on line DR

6-7 0 0 AT command set *In

64 40 V.25 bis command set

128 80 Dumb mode

S18= bit dec hex Force modem to fix baud rate when idle +000

0 0 0 Disable fixed baud function &Bn

1-15 1-F Enable baud rate fixing at idle, baud rate value settings same as S20 value (dec) 1-15

S44b6

S19= Modem type, same setting value as &Nn

+000 &Nn

S20= dec hex DTE speed (bps). Auto detected from AT command +002

0 0 76800

1 1 57600 dec hex DTE

2 2 38400 9 9 4800

3 3 19200 10 A 3600

4 4 16800 11 B 2400

5 5 14400 12 C 1800

6 6 12000 13 D 1200

7 7 9600 14 E 600

8 8 7200 15 F 300

S21= bit dec hex Bit mapped register +178

0 0 0 Maintain non-error control connection when error control handshake fails *E0

1 1 Drop connection when error control handshake fails *E1

1-2 0 0 Speaker always Off M0

2 2 Speaker On until carrier is detected M1

4 4 Speaker always On M2

6 6 Speaker On after last digit is dialed out until carrier detected M3

3 0 0 DSR always On &S0

8 8 According to CCITT (see also S44b4, S41b5) &S1

4 0 0 CD always On &C0

16 10 CD tracks presence of data carrier (see also
S38b3) &C1

5 0 0 CTS follows RTS, in synchronous mode &R0

32 20 Ignore RTS (CTS always On), in synchronous mode &R1

6-7 0 0 Ignore DTR signal, assume DTR always On &D0

64 40 108.1, DTR Off-On transition causes dial of the
default number &D1

128 80 108.2 Data Terminal Ready, DTR Off causes the
modem to hang up and return to command state &D2

192 C0 108.2, DTR off causes the modem to hang up and
reset the modem to profile #0 after DTR dropped
&D3

S23= bit dec hex Bit mapped register +105

0 0 0 Command echo disabled E0

1 1 Command echo enabled E1

1 0 0 Tone dial T

2 2 Pause dial P

2 0 0 Pulse dial make/break ratio=39% / 61% &P0

4 4 Pulse dial make/break ratio=33% / 67% &P1

3-5 0 0 ATX0 (See result code table)

8 8 ATX1 dec hex AT

16 10 ATX2 40 28 X5

24 18 ATX3 48 30 X6

32 20 ATX4 56 38 X7

6 0 0 Display result code in numeric format (see S35b7) V0

64 40 Display result code in verbose format V1

7 0 0 Modem returns result code Q0

128 80 Modem does not return result code (see also
S40b1) Q1

S24= bit dec hex Bit mapped register +138

1-3 0-14 0-E Ring volume control, increments of 2 in
decimal N0-7

5-7 32- 240 20- F0 Speaker volume control, 32-240,
increments of 32 in decimal value L0-7

S26= 0- 255 Set delay, in 10-millisecond units, between the
RTS and modem's CTS response in synchronous
mode +000 &Rn

S27= bit dec hex Bit mapped register +156

0-2 0 0 No error control &K0
 1 1 MNP4 + MNP3 (see also S41b0) &K1
 2 2 MNP4 + MNP5 (see also S38b5, S41b0) &K2
 3 3 V.42+MNP4 &K3
 4 4 V.42 + V.42bis (compatible with &K2) &K4
 3-5 0 0 Flow control disabled &H0
 24 18 Hardware (RTS/CTS) flow control &H3
 32 20 Software (XON/XOFF) flow control &H4
 40 28 Reserved &H5
 6,7 0 0 No response to poor signal quality *Q0
 64 40 Retrain action taken if signal quality is poor *Q1
 128 80 Adaptive rate (auto fall-back / forward) when
 signal quality changes *Q2 S41b2
 192 C0 Disconnect when signal quality is poor *Q3
 S28= bit dec hex Bit mapped register +068
 0 0 0 Single phone line, RJ-11 phone jack &J0
 1 1 Multiple phones/modem lines, RJ-11/RJ13 phone
 jack &J1
 1 0 0 Panel key normal *L0
 2 2 Panel key locked *L1
 2-3 0 0 Destructive, expedited break &Y0
 4 4 Non-destructive, expedited break &Y1
 8 8 Non-destructive, unexpedited break &Y2
 4-5 0 0 No guard tone &G0
 16 10 Reserved &G1
 32 20 1800 Hz guard tone &G2
 6 0 0 DTE/DCE rate follows line rate (see also S18,
 S41b6) &B0
 64 40 DTE/DCE rate fixed at DTE setting &B1
 7 0 0 Select V.22 for 1200 bps communication B0
 128 80 Select Bell 212A for 1200 bps communication B1
 S29= 0-9 0-9 Set default dial phone number pointer,
 use AT&Zn=s to store phone numbers +000 *D
 S30= dec hex Bit mapped register +000
 0 0 Disable dial-backup *Bn
 1-10 1-10 Enable dial-backup, sets dial-backup phone #
 pointer at location (n -1) in the EEPROM.
 S44b2
 S31= 0-255 Holds the ASCII decimal value of the XON +017

S32= 0-255 Holds the ASCII decimal value of the XOFF +019

S34= 0-255 Dial-Backup restoral look-back timer, in minutes +030

S35= bit dec hex Bit mapped register +000

0 1 1 Reserved

1 2 2 Disable aborting from terminal during modem handshaking

2 4 4 V.26 alternative A &N11

3 8 8 Extend the attenuation of leased or 4W cellular line transmission power by -12dBm, add -12dBm to *Pn (S17b1) or S49 low 4 bits S17b1 *Pn

4 16 10 When Data/Voice switch is pushed, modem will dial the default number, only for U-1496E & U-1496R *Dn S29

6 64 30 Enable password protection to profile saving, when "AT&Wn" is issued, and the n profile in the memory has this bit on, supervisory password will be requested &Wn

7 128 60 Enable extended numerical result codes from 30-39 when an error correction connection is made, use with ATV0, see result code table V0 S23b6

S36= bit dec hex Bit mapped register +000

0 0 0 Deny remote request for configuration *F0

1 1 Grant remote request for configuration *F1

1 0 0 Write from local profile to remote profile *Wab

2 2 Read from remote profile to local profile *Rab

5-7 Security function control register

0 0 Disable security function *G0

32 20 Enable type 1 security, with password check (ZyXEL to ZyXEL only) *G1

64 40 Enable type 1 security, with password check and call-back (ZyXEL to ZyXEL only) *G2

96 60 Enable type 2 security, with password check *G3

128 80 Enable type 2 security, with password check and call-back *G4

160 A0 Enable type 2 security, with password check and call-back, remote site enter the call-back number *G5

S37= bit dec hex Bit mapped register +000

0-3 0-5 0-5, remote profile number *Wab

4-7 0-80 0-50 0-5, local profile number *Rab

S38= bit dec hex Bit mapped register +000

0 1 1 Repeatedly dialing default number *Dn S29

3 8 8 DCD on/off sequence follows UNIX standard, DCD

high before connect message is sent, DCD off

after last DCE response is sent &C1 S21b4

4 16 10 Auto-mode fax receiving disabled &N0

5 32 20 Disable MNP5 &Kn

S39= bit dec hex Bit mapped register +000

2 4 4 Answer in originating mode ATA

3 8 8 Class 2 Fax Bitfax compatibility:

+FCON at 2400 next phase at 19200

4 16 10 Class 2 Fax mode DTE shifting:

+FCON at current DTE, shift to 19,200

when entering into the next phase

S40= bit dec hex Bit mapped register +000

1 2 2 No result code displayed in answer mode Q2

2 4 4 Enable Caller Number Delivery (see also S42 bit 2)

S42b2 *T

3 8 8 Distinctive Ring Type #1: 1.2/2 s on, 4 s off

4 16 10 Distinctive Ring Type #2: 0.8 s on, 0.4 s off,

0.8 s on, 4 s off

5 32 20 Distinctive Ring Type #3: 0.4 s on, 0.2 s off,

0.4 s on, 0.2 s off, 0.8 s on, 4 s off

6 64 40 Distinctive Ring Type #4: 0.3 s on, 0.2 s off,

1 s on, 0.2 s off, 0.3 s on, 4 s off

S41= bit dec hex Bit mapped register +000

0 1 1 Special MNP compatibility (see also S27b0,

S38b5) &Kn

1 0 0 Flag idle in V.25bis HDLC *I1

2 2 Mark idle in V.25bis HDLC S17b6

2 4 4 Disable retrain abort, up to 5 min. for special

satellite line condition S27b6 *Qn

3 8 8 Enable CCITT signals 140 and 141 on EIA-232D

interface

4 16 10 In X2-X7 setting, modem waits for S6 seconds

before dialing and ignores dial tone detection

5 32 20 DSR follows DCD and pulses (see also S44b4) &Sn

6 64 40 Force S0>=2 S0

7 128 80 Ignore calling tone, not to be used as fax
detection

S42= bit dec hex Bit mapped register +000

0 0 0 Normal secondary channel, 75-2400 bps (U-1496,
U-1496RN) S17b0

1 1 Special secondary channel, fixed 2400 bps
(U-1496, U-1496RN)

1 2 2 Reserved

2 4 4 CND message will be forced on even if ATQ2 is
set (see also S40 bit 2) Q2 S40b2

3 8 8 Disable escape sequence code in answer mode

4 16 10 Disable V.17, 14,400 Fax in calling mode, no
effect to answering mode &N32

5 32 20 Disable Data/Voice button

6 64 40 Disable "RINGING" result code Xn

S43= bit dec hex Bit mapped register +000

0 1 1 Disable ZyXEL 16800 in Multi-Auto mode &N0

1 2 2 Disable ZyXEL 19200 in Multi-Auto mode

S44= bit dec hex Bit mapped register +000

2 4 4 Semi-auto dial backup, modem will wait for
user's confirmation from Front Panel before
dialing attempt *Bn S30

3 8 8 ATDSn initiates auto-dial of the stored numbers
consecutively until a connection is made
&Zn S38b0

4 16 10 DSR follows DTR (see also S41b5) &Sn

5 32 20 Enable V.13, half duplex simulation

6 64 40 When select with &B0: DTE fixed at 19200 when
the link speed is above 9600, DTE fixed at 9600
if link speed is 7200, otherwise, DTE follows
link speed &B0 S18

When Select with &B1: DTE fixed at current when
an ARQ connection is made, when non-ARQ connection
is made, DTE follows the logic as when &B0 is
set &B1

S49= bit dec hex Bit mapped register +000

0-3 0-15 0-F Transmission power level setting, used only

with Cellular option, low 4 bits to attenuate

0 to 15dB S35b3

7 0 0 For Cellular only, modem is installed in office

7 128 80 For Cellular only, modem is installed in mobil

In Reference Column, "AT" is omitted when AT command is referred to

+nnn Manufacture default, when listed in Reference Column

bit S-register bit number, b, used in ATSr.b=n, ATSr.b=?

dec Decimal value, x, used in ATSn=x

hex Hex value, h, used in U-1496 and U-1496R for setting

"STATUS REGISTER" manually from front panel

1.12 EIA-232D INTERFACE

DB25 Signal Flow CCITT EIA

Pin# Signal Description DTE DCE Signal Signal

1 Protective Ground ®-- 101 AA

2 Transmit Data (TXD) -- 103 BA

3 Receive Data (RXD) ®-- 104 BB

4 Request To Send (RTS) -- 105 CA

5 Clear To Send (CTS) ®-- 106 CB

6 Data Set Ready (DSR) ®-- 107 CC

7 Signal Ground ®-- 102 AB

8 Carrier Detect (CD) (DCD) ®-- 109 CF

15 Synchronous Transmitter Timing ®-- 114 DB

17 Synchronous Receiver Timing ®-- 115 DD

18 Local Analog Loopback test -- 141

20 Data Terminal Ready (DTR) -- 108/2 108/1 CD

21 Remote Digital Loopback test -- 140

22 Ring Indicator (RI) ®-- 125 CE

24 Synchronous Transmitter Timing -- 113 DA

25 Test Indicator ®-- 142

1.13 ZFAX COMMAND LINE OPTIONS

ZFAX [cmdtype cmdoptions] [options]

cmdtype: cmdoptions Format:

0-TSR ZFAX zfax 0

1-Send Fax zfax 1 filename dest.faxnum

2-Print Fax zfax 2 filename

3-Convert File zfax 3 filename dest.file

4-View Fax zfax 4 filename

5-Poll Fax zfax 5 dest.faxnum

6-Send Message zfax6 filename dest.phone num.

options:

/? Display this help screen

/u Remove TSR

/c:# COM port number, 0-6

/r:# Page Resolution, 0-1

/f:# Dest.file format, 0-3

/t:# Printer type, 0-7

/p:# Printer port, 0-2

/g:# Graphic device, 0-4

/n:# Language Code, 0-4

1.14 RCVFAX COMMAND LINE OPTIONS

RCVFAX cmdtype [options]

cmdtype: Format:

0-Background rcvfax rcvfax 0

1-Answer and rcvfax rcvfax 1

2-Receive fax data only rcvfax 2

options:

/? Display this help screen

/s Stop the TSR temporarily

/g Resume the TSR after an /s operation

/u Remove the TSR if possible

/p:# COM port number, #=0-3

/r:# Answer after # of ring(s), #=0, not to auto-answer

Hot key: Left-Shift + Tab to manual answer

1.15 autor

Don't you know this situation ? Having trouble with your modem getting a proper connection ? How were these bloody commands ? Which bloody register ?

Where the hell ist the manual ? Which page ?

Well, I had it too often and now I can find what I need online.

I found the text in DINO-Mailbox and made it accessible via AmigaGuide.

So thanks must go to **ZyXEL Communications Corp.** for their great

modem series and to Commodore-Amiga, Inc. for making AmigaGuide publicly available.

I can be reached at

Christoph Glicher

Dohlenweg 4 Universitt Siegen, FTS

D-57078 Siegen D-57068 Siegen

CG@winfcg.swb.de CG@hrz.uni-siegen.d400.de

ST-Anpassung von Thomas Weinert @ B - 05/04/1994