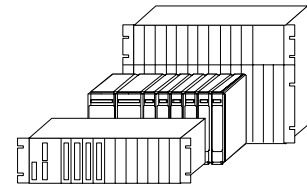


Ax 1703



Firmware Description

DIAS00

Dial-up traffic SLAVE

HW-Type: 2541 / FW-Type: 2510

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This document is applicable to the following product(s):

Ax 1703

Rev. 02 and higher

Version	Revision	Date	Change
A, 1	05	04.12.01	first issue in English
A, 1	06	14.07.03	Parameter documentation reworked

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1. System Overview

1.1. Short Description

The DIAS00 firmware is used for the serial coupling of two Ax 1703 components in accordance with IEC 870-5-101 via dial-up connections.

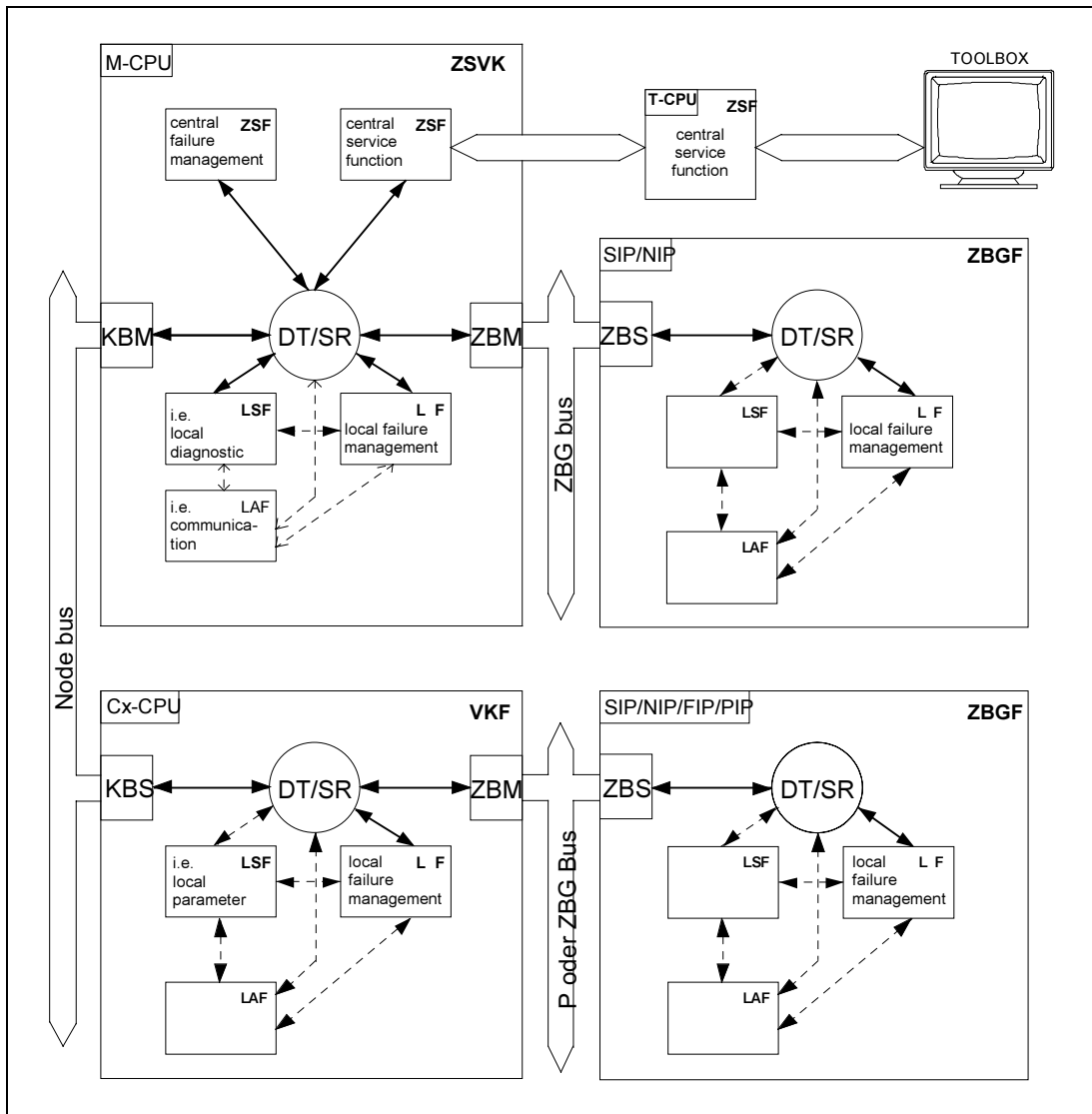
The message formats used correspond to the IEC 870-5-101 standard and the Ax 1703 Data Formats description.

The data communication control used for this firmware is a unbalanced secondary multi-point traffic slave.

1.2. Interfaces

The data exchange to the KOM is done via messages in the AX 1703 format.

1.3. Embedding in the Environment



2. Protocol-specific Functions

See the description "Dial-up traffic in Ax 1703" (Item number: DA0-012-1.xx).

A. Appendix: Diagnosis

Overview:

```

legend category: I ... internal
                  E ... external
                  C ... communication
                  T ... test
                  W ... warning
                  B ... board/module failure
                  S ... startup

```

category	record (rel.)	record (abs.)	meaning
I	0	0	Internal error in the operating system
	1	1	Internal error in the base system
	2	2	Parameter error - SIP
	3	3	Format conversion error - SIP
	4	4	Error detected in parameter on the SIP (connection set-up)
	10	10	Error for parameter on the SIP detected (USER parameter)
C	0	40	Communications error on connection setup
	2	42	Communications error
	10	50	Connection setup error
T	0	60	Test mode of the operating and base systems
W	0	65	Warning on communication

```
category:    I
record:     0
meaning:    Internal error in the operating system

Bit 00 ... RAM error
Bit 01 ... STACK error
             The defined stack range has been exceeded;
             Replace system element or notify SAT.
Bit 02 ... Firmware shut down
             Diagnosis:
             - Read out system diagnostics ring (command ID R) in
               ST emulation (maybe save to file)
Bit 03 ... Not enough free space
             There is not enough free RAM memory available
             for the dynamic memory management;
             Diagnosis:
             - Change parameterization of the size definitions
               (e.g. realtime rings, pool size)
             - Notify SAT.

Bit 04 ...
Bit 05 ...
Bit 06 ...
Bit 07 ...
Bit 08 ... CPU 80386 error
Bit 09 ...
Bit 10 ...
Bit 11 ...
Bit 12 ...
Bit 13 ...
Bit 14 ...
Bit 15 ...
```

```
category:    I
record:      1
meaning:     Internal error in the base system

  Bit 00 ... Check sum error in the parameter area
              The check sum for the parameter is not correct.
              --> Reload parameter.

  Bit 01 ...
  Bit 02 ...
  Bit 03 ...
  Bit 04 ...
  Bit 05 ...
  Bit 06 ...
  Bit 07 ...
  Bit 08 ...
  Bit 09 ...
  Bit 10 ...
  Bit 11 ...
  Bit 12 ...
  Bit 13 ...
  Bit 14 ...
  Bit 15 ...
```

category: I
record: 2
meaning: Parameter error - SIP

Bit 00 ... Parameter error detected by SIP
Bit 01 ... Parameter error of the LOCAL parameter block No. 06
 Diagnosis:
 - TI 38-40 and 136-143 requires parameter setting with time
 - TI 160 requires parameter setting without time
 - transmission of the objects on GI with/without time; value > 3
 - Octett count cause of transmission (COT) <> 2
 - Octett count common address of ASDU (CAASDU) <> 2
 - Octett count information object address (IOA) <> 3
 - Octett count time stamp <> 7
Bit 02 ... Parameter error ZSE general
Bit 03 ... Parameter setting with invalid stationnumber.
 Diagnosis: Selected stationnumber is greater than 100 and
 also not a broadcast-station number.
Bit 04 ... Parameter setting with invalid station number.
 Diagnosis: Same station number is used more then once.
Bit 05 ... Parameter setting for IEC870 link layer invalid
Bit 06 ... Parameter setting for IEC870 application layer invalid
Bit 07 ... Parameter setting for redundancy invalid
Bit 08 ...
Bit 09 ...
Bit 10 ...
Bit 11 ...
Bit 12 ...
Bit 13 ...
Bit 14 ...
Bit 15 ...

```
category:    I
record:      3
meaning:     Format conversion error - SIP

  Bit 00 ... Format conversion error in the transmit direction
  Bit 01 ...
  Bit 02 ... Format conversion error in the receive direction
  Bit 03 ...
  Bit 04 ...
  Bit 05 ...
  Bit 06 ...
  Bit 07 ...
  Bit 08 ...
  Bit 09 ...
  Bit 10 ...
  Bit 11 ...
  Bit 12 ...
  Bit 13 ...
  Bit 14 ...
  Bit 15 ... Error detected when converting a PST control message
                Diagnosis:
                - Read out system diagnostics ring (command ID R)
                  in ST emulation (maybe save to file)
```

```
category:    I
record:      4
meaning:     Error detected in parameter on the SIP (connection set-up)
```

```
Bit 00 ... General error - Connection setup parameter
Bit 01 ... Faulty telephone parameterization
Bit 02 ... Faulty modem parameterization (USER modem)
Bit 03 ... Invalid parameter setting for the selected modem
Bit 04 ... Invalid parameter setting for stand-by transmisssion line
Bit 05 ...
Bit 06 ...
Bit 07 ...
Bit 08 ...
Bit 09 ...
Bit 10 ...
Bit 11 ...
Bit 12 ...
Bit 13 ...
Bit 14 ...
Bit 15 ...
```

```
category:    I
record:      10
meaning:     Error for parameter on the SIP detected (USER parameter)
```

```
Bit 00 ... General parameter error
Bit 01 ...
Bit 02 ...
Bit 03 ...
Bit 04 ...
Bit 05 ...
Bit 06 ...
Bit 07 ...
Bit 08 ...
Bit 09 ...
Bit 10 ...
Bit 11 ...
Bit 12 ...
Bit 13 ...
Bit 14 ...
Bit 15 ...
```

```
category:    C
record:      0
meaning:     Communications error on connection setup

Bit 00 ... Passive connection initiation (line flaw)
Bit 01 ...
Bit 02 ... Connection was setup. However, no central station call
           was received within a parameterizable time

Bit 03 ... Connection was set up. The LOGIN command was
           received correctly. However, after that no call was
           received from the central station within the
           parameterized time.

Bit 04 ...
Bit 05 ...
Bit 06 ...
Bit 07 ...
Bit 08 ...
Bit 09 ...
Bit 10 ...
Bit 11 ...
Bit 12 ...
Bit 13 ...
Bit 14 ...
Bit 15 ...
```



```
category:    C
record:      2
meaning:     Communications error
```

```
  Bit 00 ... Communications failure to the master
  Bit 01 ...
  Bit 02 ...
  Bit 03 ...
  Bit 04 ...
  Bit 05 ...
  Bit 06 ...
  Bit 07 ...
  Bit 08 ...
  Bit 09 ...
  Bit 10 ...
  Bit 11 ...
  Bit 12 ...
  Bit 13 ...
  Bit 14 ...
  Bit 15 ...
```

category: C
record: 10
meaning: Connection setup error

Bit 00 ... Connection setup to the master not possible

Bit 01 ...

Bit 02 ...

Bit 03 ...

Bit 04 ...

Bit 05 ...

Bit 06 ...

Bit 07 ...

Bit 08 ...

Bit 09 ...

Bit 10 ...

Bit 11 ...

Bit 12 ...

Bit 13 ...

Bit 14 ... MODEM blockage

A faulty PASSWORD has been received.

Reason: -) LOGIN password between central station and
RTU is different.

-) The RTU is not parameterized in the
central station.

-) A third-party user has tried to log in
to this station.

No active connection setup to the central station is
carried out until the master has carried out a connection
setup to the RTU and the correct LOGIN password
has been received in the RTU.

Bit 15 ...

```
category:    T
record:      0
meaning:     Test mode of the operating and base systems
```

```
Bit 00 ... Memory test disabled
Bit 01 ... Online debugger running (may be breakpoints set)
Bit 02 ...
Bit 03 ...
Bit 04 ...
Bit 05 ...
Bit 06 ...
Bit 07 ...
Bit 08 ...
Bit 09 ...
Bit 10 ...
Bit 11 ...
Bit 12 ...
Bit 13 ...
Bit 14 ...
Bit 15 ...
```

```
category:    W
record:      0
meaning:     Warning on communication

  Bit 00 ... Inadequate channel quality
  Bit 01 ...
  Bit 02 ...
  Bit 03 ...
  Bit 04 ...
  Bit 05 ...
  Bit 06 ...
  Bit 07 ...
  Bit 08 ...
  Bit 09 ...
  Bit 10 ...
  Bit 11 ...
  Bit 12 ...
  Bit 13 ...
  Bit 14 ...
  Bit 15 ...
```

B. Appendix: Parameter Documentation

The firmware parameters are described in so-called **PD forms** (parameter documentation forms).

- The parameters described in the PD form are available for parameterization with the PSR Configuring and Service Computer of a SAT TOOLBOX
 - The PD Form describes
 - all parameters that are available for a given firmware and as of which firmware revision they are effective
 - parameter functions and their value ranges
- This appendix documents the parameters for the firmware set forth in the present document in the shape of a blank form filled with default values
- The current state of parameters of a firmware of a certain system element can be documented with the PSR Configuring and Service Computer of a SAT TOOLBOX

Parameterizing with PD forms is supported by both SAT TOOLBOX (PSR) and SAT TOOLBOX II (PSR II).

REVISION PARAMETER DOCUMENTATION

created		last changed		released	
on	by	on	by	on	by
16-11-99	ENT-SW/HOK	20-02-01	ENT-SW/POM	20-02-01	ENT-SW/POM

MODEM (*)

Possible:0 = Kabelmetall LGM 64k (ISDN-TA) "direct-mode" (1) (for DIAS00/Rev.001 and later)

3 = WESTERMO TD-32 Modem (analog-modem) (for DIAS00/Rev.002 and later)

4 = EUROCOM-24 Modem (analog-modem) (for DIAS00/Rev.002 and later)

5 = Kabelmetall LGM 64k (ISDN-TA) "normal-mode" (2) (for DIAS00/Rev.004 and later)

6 = GSM-M20 databox (for DIAS00/Rev.005 and later)

7 = SIMOCO SRM1000 Mobil Tetra-Modem (for DIAS00/Rev.006 and later)

255 = USER definable modem

Modem used: USER-definable modem

CT command: SPL 130 (/D)

Note:

- (1) Kabelmetall LGM 64k (ISDN-TA) "direct-mode" (fast mode)
Equal baudrate setting in the MASTER and all SLAVES will be required.
Note:
If the dial up traffic protocol will be used on the "AMC-1703 local interface" (CPC42; max. 4800Bd) in an existing dial up traffic configuration with "Direct-Mode", then the baudrate settings must be changed in the MASTER and all SLAVES to 4800Bd.
- (2) Kabelmetall LGM 64k (ISDN-TA) "normal-mode" (slow mode)
Different baudrates can be used in the MASTER and in the SLAVES.
Note:
New dial up traffic configurations with ISDN should use the "normal-mode".

STATION NUMBER

Own Station no.

Possible: 0-99

Own Station no.: 1

CT command: SPL 019 (/D)

DIAL UP TRAFFIC MODE

Mode-0: Only main number

In this mode, the remote station is only dialled with the main number, there is no switchover to the fall back number (substitute number).

Mode-1: 1st main number, 1st fallback number

In this mode, the remote station is always dialled with the main number. If the remote station is not reached after the parameterizable number of dialling attempts, a switchover is made to the fall back number.

Mode-2: Rotating numbers.

In this mode, the remote station is always dialled with the main number. If the remote station is, on the next dialling attempt, a switchover is made to the fall back number.

Mode-3: Day/Night number

In this mode, the main number is dialled as from a parameterized time (day number) and, as from a parameterizable time (night number), the fall back is dialled.

Mode-4: 1st main number, 1st fall back via PRE control message.
Same function as in Mode-1 but the preferred state (with which telephone number the 1st dialling attempt is carried out) can be stipulated via the PRE control message.

Mode-5: Standby transmission line with two master (every master has his own modems) (Standby transmission line-concept see the description "Wählverkehr in Ax-1703") (for DIAS00/Rev.003 and later)

Dial up traffic mode: Mode 0 CT command: SPL 133 (/D)

TELEPHONE NUMBER PARAMETERIZATION

Possible: <ASCII>; "0" or <BLANK> = End of telephone no. parameterization

Own phone number:

CT command: SPT 233 /16

Main phone number:

CT command: SPT 247 /16

LOGIN PASSWORD

After a connection has been set up, the LOGIN command with the parameterized LOGIN PASSWORD is always sent first. If this message is not answered or negatively acknowledged, the connection is immediately cut off.

Possible: <ASCII> = LOGIN password
0,<BLANK> = End of the LOGIN password parameterization

Password : S A T T E S T

CT command: SPT 025 /4

PARAMETER FOR CONNECTION TIME

Parameter overview for connection time:

Timeout for call by the master 15,0 sec CT command: SPS 022 (/D)

Timeout for call by the master:

If, with a setup connection, no call is received by the master within the parameterized time, then a connection release is made by the RTU.
Possible: 1-255 (n*100ms)

MONITORING CYCLE

With the "monitoring cycle" a connection setup is made to the central station. By means of the monitoring cycle, the RTU can detect whether the central station has failed.

Enabling:

Possible : 0 = Carry out cyclic monitoring
1 = Carry out time-controlled monitoring
FF = Do not carry out any monitoring

None Carry out monitoring CT command: SPL 48 (/H)

=====

F u r t h e r P a r a m e t e r s

=====

MONITORING TIMES

Times: 0-32767[ms]; 0-4095[bits]
 Time basis: 0 = bit; 1 = ms
 CAUTION: Times parameterized in "bits" are dependent on
 the set baud rate!

Idle monitoring time: (Monitoring the idle state of the line)

After transmission faults or message interruptions, the line is monitored
 for the idle state. After expiry of this monitoring time "Resynchronization
 of the receiver" is carried out.

Idle monitoring time: 33 [Bit] CT command: SPS 00E/7FFF(/D)
 Time basis: Bit CT command: SPS 00E/8000(/D)

Character monitoring time: (Message interruption monitoring)

Maximum pause between sequential bytes of a message.
 After a message interruption is detected the idle monitoring time is started.

Character monitoring time: 100 [ms] CT command: SPS 00F/7FFF(/D)
 Time basis: ms CT command: SPS 00F/8000(/D)

PARAMETERS FOR CONNECTION SETUP (*)

Parameter overview for connection setup:

Dialling attempts:

Number:	5	CT command: SPL 132	(/D)
Pause switchover for "n" dialling repetitions:	2	CT command: SPH 133	(/D)
Pause-1 between dialling repetitions:	60,0 sec	CT command: SPS 134	(/D)
Pause-2 between dialling repetitions:	300,0 sec	CT command: SPS 135	(/D)

Call acceptance delay: 0 sec CT command: SPL 131 (/D)

Number of dialling attempts:

If a connection setup is not successful (e.g. engaged,...), further
 dialling attempts are carried out.

A parameterizable pause is made between the dialling attempts.

Possible: 0 = Infinite number of dialling attempts!

1-255 = Number of dialling attempts

1st dialling attempt for a faulty station:

If the central station has failed it is possible to parameterize whether,
 on only the next connection setup initiation, only one dialling attempt
 to the central station should be carried out.

Possible: 0=yes; 1=no

Pause switchover for "n" dialling attempts:

As from a certain number of dialling attempts, a different pause time is
 used before the next dialling attempt. (Pause-1, Pause-2)

Possible: 0 No pause time switchover
 1-255

Pause-1, Pause-2 between dialling attempts:

Pause-1: Before dialling repetitions if the number of dialling attempts has
 not yet reached the parameterizable limit for pause switchover.

Pause-2: Before dialling repetitions if the number of dialling attempts has
 already exceeded the parameterizable limit for pause switchover.

Possible: 1-65535 * 100ms

Call acceptance delay:(only for V.25bis, AT-Hayes)

 When call acceptance delay is active, the modem does not take over the incoming call immediately but only after the call acceptance delay time.
 During this time, the incoming calls can be accepted manually.
 Possible: 8-15 = 8-15 seconds
 (0= 1 ring -"Immediate call acceptance"; 8= 2 rings; 15= 3 rings)

FAILURE CONCEPT

If, on an active connection setup attempt, no connection can be made then the connection setup is repeated after a pause (parameterizable).
 After expiry of the parameterized number of dialling attempts, the message is negatively acknowledged to the BSE and the warning "Connection setup not possible" is despatched.
 In addition, a failure counter is incremented.
 If the failure counter reaches a parameterized maximum, the station is marked as faulty.
 The failure counter is also incremented for a "passive connection initiation".
 In this case, a "Line flaw" warning is generated.
 After a successful connection, the failure counter is reset.
 Possible: 1-255

Failure on 1 unsuccessful dialling(s) CT command: SPL 024(/D)

AT COMMANDS (*)

With the parameterizable AT commands it may be possible to use a modem which is not yet in the Preferred Modem Types list, or additional settings in the modem can be carried out.

AT commands for modem initialization: (After every connection release)

 Possible: <ASCII> = AT command
 0,<BLANK> = End of an AT command

AT command	CT command
	SPT 150/10
	SPT 15A/10
	SPT 164/10
	SPT 16E/10
	SPT 178/10
	SPT 182/10
	SPT 18C/10
	SPT 196/10
	SPT 1A0/10
	SPT 1AA/10

AT commands before connection setup:

 Possible: <ASCII> = AT command
 0,<BLANK> = End of an AT command

AT command	CT command
	SPT 1C0/10
	SPT 1CA/10
	SPT 1D4/10
	SPT 1DE/10
	SPT 1E8/10
	SPT 1F2/10
	SPT 1FC/10
	SPT 206/10
	SPT 210/10
	SPT 21A/10

MODEM PARAMETERS (USER-definable modem)

With these parameters it may be possible to define a modem which is not yet included in the Preferred Modem Types list. For modems which have already been entered into the Preferred Modem Types list, some parameters can be set in addition.

Modem parameter overview:

Physical interface for command mode:

Baud rate:	0	CT command: SPS 100
Byte frame:		
Number of data bits:	8 bit	CT command: SPL 101 /03
Number of stop bits:	1 bit	CT command: SPL 101 /0C
Parity:	no parity	CT command: SPL 101 /30
End character:	<CR><LF>	CT command: SPL 108 /03
Message end:	100 bits	CT command: SPH 101

Physical interface for data mode:

Baud rate:	0	CT command: SPS 102
Byte frame:		
Number of data bits:	8 bit	CT command: SPL 103 /03
Number of stop bits:	1 bit	CT command: SPL 103 /0C
Parity:	no parity	CT command: SPL 103 /30
ASCII mode:	no	CT command: SPH 103 /10
ASCII mode end character:	<CR><LF>	CT command: SPH 103 /60
CRC generator polynomial:	no	CT command: SPH 103 /80

Connection setup (procedure):	AT-Hayes	CT command: SPL 105 /0F
Evaluate modem binary info.(data mode):	no	CT command: SPH 107 /01
Automatic call acceptance by modem:	no	CT command: SPH 104 /01
Call acceptance on call acceptance delay:	ys	CT command: SPH 104 /02
Connection release via command:	no	CT command: SPH 104 /04

AT-Hayes connection setup :

Send escape sequence for AT-Hayes:	no	CT command: SPH 105 /01
Use DCD for AT-Hayes:	ys	CT command: SPH 105 /02

V25.bis connection setup:

Command for connection setup:	CRI,<C>	CT command: SPL 106 /01
-------------------------------	---------	-------------------------

Baud rates for command mode:

In command mode, some modems need a different baud rate.
Possible: 0 in command mode = use baudrate of the data-mode
0 in data mode = use baudrate of the selected modem
50, 75, 100, 110, 134.5, 150, 200, 300, 600, 1050
1200, 1800, 2000, 2400, 4800, 9600, 19200, 38400

Byte frames for command/data modes:

In command mode, some modems need a preset byte frame.
The byte frame can be set separately for command/data modes.
Number of data stop bits: 00=5 bits; 01=6 bits; 10=7 bits; 11=8 bits
Number of stop bits: 00=1 bits; 01=1.5 bits; 10=2 bits; 11=invalid
Parity: 00=no parity; 01=even parity; 10=odd parity; 11=invalid

End character in command mode:

In command mode, every message to/from the modem is transmitted
with the parameterized end character.
Possible: 0=<CR>+<LF>; 1=<CR>; 2=<LF>; 3=No end character

Message end for command mode:

If no end character has been parameterized, when there is a message gap
the command is interpreted as received by the parameterized
number of bits.
Possible: 0-255 bits

ASCII transmission in data mode:

When the function is enabled and when a connection is set up, the data
are transmitted in ASCII. This function is needed for modems which,
in data mode, do not support an 8 bit FRAME.
Information: In ASCII mode the message length is doubled!
Possible: 0 = no; 1=yes

End character in ASCII data mode: (for data messages)

Possible: 0=<CR>+<LF>; 1=<CR>; 2=<LF>; 3=no end character!

Additional user data security by CRC:

Possible: 0=no; 1=yes

Connection setup (procedure):

Possible: 0=AT-Hayes; 1=V.25bis/108.1; 2=V.25bis/108.2; 4=X.20; 5=X.28

Evaluate modem binary information on set up connection:

If DCD cannot be used for the detection of "Connection set up" then modem binary
information must also be interpreted while the connection is being set up
in order to keep the status of the connection.
(only possible in ASCII mode!)
Possible: 0=no; 1=yes

Automatic call acceptance by the modem:

Possible: 0=yes; 1=no (message in command mode required for call acceptance)

Call acceptance with call acceptance delay:

Possible: 0=no; 1=yes

Connection release via command (only for X.28)

Some devices, when switching into command mode with (CTRL+P) do not
automatically carry out a connection initiation.
Connection initiation must then be carried out with <CLR>.
Possible: 0=no; 1=yes

Connection release via escape sequence:

When the function is enabled, the escape sequence <+++> is transmitted to the modem. The function is for the connection release, if the RTS-signal not used.

Possible: 0=do not send; 1=send

Evaluate DCD for AT-Hayes: (to detect "Connection set up")

Possible: 0=no; 1=yes

DTR always HIGH: (for voltage-supply external modems)

Possible: 0=no; 1=yes

Command for connection setup: (only for V.25bis)

Possible (V.25bis): 0=CRI; 1=CRN

behavior if connection is not established
(for DIAS00/Rev.008 and later)

If not the connection is established, then dismissed all telegrams.
When "dismiss the data" are parameterized, then it comes to no active connection establishment from the remote data unit to the central station!

Possible : 0 = save the data
 1 = dismiss the data

behavior if connection is not established: SAVE CT-command: SPL 04D

Connection time counter as ABSOLUTE or RELATIVE count

Selection of whether the specific connection time counters should be transmitted as absolute or relative counts.

Possible : 0 = RELATIVE counts, 1 = ABSOLUTE counts,

Connection time counter as RELATIVE count CT command: SPL 029

SOFTWARE TEST POINTS AND SETTINGS

CAUTION: These parameters must only be altered after consultation with the software developer.

Debugger settings:

Data and acknowledgement between BSE:	no	CT command: SPL 01C/01
Handshake RTS,GPB (ASCII mode)	: no	CT command: SPL 01C/02
Mask for LOCK data collection	: no	CT command: SPL 01C/04
Levels lock station lock	: no	CT command: SPL 01C/08
Handshake RTS,GPB (HEX mode)	: no	CT command: SPL 01C/10
Init-End handling	: no	CT command: SPL 01C/80
STOP of the serial test recording after communication error	: no	CT command: SPH 01C/80
stand by transmission line handling:	no	CT command: SPL 01D/01
Modem control	: ys	CT command: SPL 139/01
Triggercondition		
Step-old	: 1F	CT command: SPL 13A/H
Input-Nr	: FF	CT command: SPH 13A/H
Number to trigger	: 1	CT command: SPL 13B/D
Numbers of entrys after trigger	: 5	CT command: SPH 13B/D
Modem information channel	: no	CT command: SPL 139/02

```
Incentive-treatment      : no                CT command: SPL 139/04

Timeout times for USER modem:
-----

Timeout 2      : 100                CT command: SPS 110/D
Timeout 3      : 5                  CT command: SPS 111/D
Timeout 4      : 600                CT command: SPS 112/D
Timeout 5      : 300                CT command: SPS 113/D
Timeout 6      : 50                 CT command: SPS 114/D
Timeout 7 Active : 10                CT command: SPS 115/D
Timeout 7 Passive : 10              CT command: SPS 116/D
Timeout 9      : 5                  CT command: SPS 117/D
Timeout A      : 300                CT command: SPS 118/D
Timeout B      : 300                CT command: SPS 119/D
Timeout D      : 5                  CT command: SPS 11A/D
Timeout E      : 50                 CT command: SPS 11B/D
Timeout F      : 2                  CT command: SPS 11C/D
Timeout 10     : 2                  CT command: SPS 11D/D
Timeout 12     : 30                 CT command: SPS 11E/D
Timeout 13     : 100                CT command: SPS 11F/D
Timeout 17     : 30                 CT command: SPS 120/D
Timeout 18     : 0                  CT command: SPS 121/D
Timeout 19     : 30                 CT command: SPS 122/D
Timeout 1C     : 200                CT command: SPS 123/D
Timeout 1D     : 10                 CT command: SPS 124/D
Timeout 1E     : 10                 CT command: SPS 125/D
Timeout 1F     : 10                 CT command: SPS 126/D
Timeout 22     : 0                  CT command: SPS 127/D
Timeout 24     : 50                 CT command: SPS 128/D
Timeout 26     : 200                CT command: SPS 129/D
Timeout 27     : 200                CT command: SPS 12A/D
Timeout 28     : 2                  CT command: SPS 12B/D
Timeout 2B     : 20                 CT command: SPS 12C/D
Timeout 2C     : 30                 CT command: SPS 12D/D
```