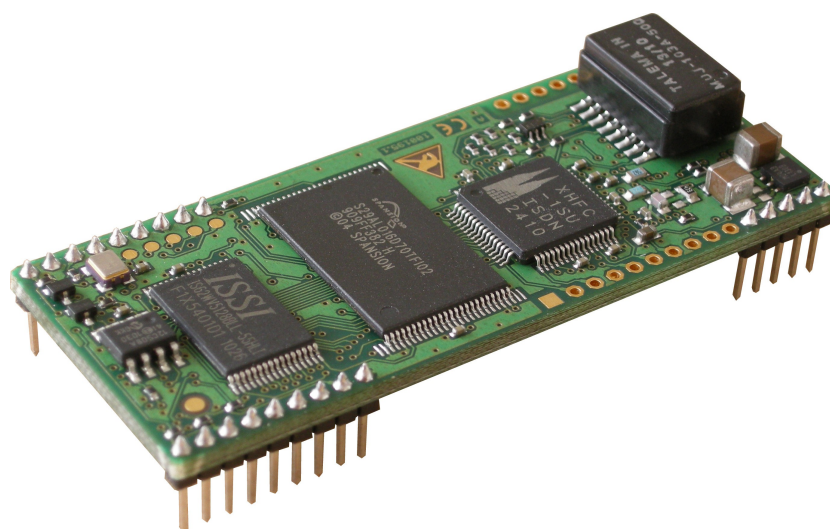


eviateg TA C4

User Manual Technical Documentation



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1 Description

1.1 General features

The eviateg TA C4 is an active ISDN terminal adapter module with the dimensions 26.5 x 64.5 mm (1.04 x 2.54").

The eviateg TA C4 is controlled with AT commands, which are described separately in the „**Manual AT commands**“. So the eviateg TA C4 can be handled like a standard modem.

The eviateg TA C4 has the following features (device dependent):

D channel protocols	DSS1 (EURO-ISDN), X.31 (Packet switched data transmission over D channel), US National ISDN 1, AT&T 5ESS and Northern Telecom DMS100
B channel protocols	V.110, V.120, X.75SLP, PPP, HDLC-transparent, HDLC-UI, T.70NL, ISO8208 (X.25 DTE-DTE)
MSN	The eviateg TA C4 supports 3 independent Multiple Subscriber Numbers (MSN). Separate transfer protocols and ISDN services can be assigned to each MSN.
Connection monitoring	The eviateg TA C4 can disconnect automatically the connection after a period of line inactivity as defined by the user.
Leased lines	The eviateg TA C4 supports connections over ISDN leased lines.
DTR dialling	The connected computer can establish a connection by switching the DTR line active from OFF to ON (active). The eviateg TA C4 automatically dials the number stored at number position 0 (see command AT&D). If the DTR line changes from ON to OFF (inactive), the connection will be disconnected automatically.
PowerOn- Autoconnect	Automatic connection establishment is possible after power-up. The eviateg TA C4 dials the number stored at position 0 (command AT&P). The connection will be disconnected if the DTR line changes from ON to OFF (inactive).
Preselection, Call by Call	The eviateg TA C4 supports an adjustable dial prefix with a maximum length of 7 digits. Each dialled number is preceded with this prefix, so this feature can be used either at PABXes or to select a network provider (Call by Call).

Voice transmission	The eviateg TA C4 Voice has an on board codec, so a telephone headset or handset can be connected without any external components.
Alarm messages	The command AT*A supports transmission of alarm messages to mobile phones or pagers. The provider and gateway will be selected automatically by the first digits of the called number or manually over a programmed gateway table.
Fixed Net SMS	The Fixed Net SMS service can be used for transmission <u>and reception</u> of SMS according to ETSI ES 201 912, protocol 1.
DTMF transmission	The eviateg TA C4 Voice can transmit DTMF tones, eg. to send messages over pager services.
Flash ROM	Use of Flash ROM allows an easy update of firmware during operation. By that the eviateg TA C4 can be extended with new features.
Blockade break	The eviateg TA C4 is able to establish alarm calls even if both B channels of the S ₀ bus are busy. If this feature is active, at least one connection on the S ₀ bus will be disconnected.
Line test	The command AT*ELine? lets the user check the ISDN line to the public exchange. If the line is out of order, the user may choose secondary alarm ways for transmission of alarm messages.
Date and time	The eviateg TA C4 has no realtime clock and derives the date and time from the ISDN network if a connection establishment on the S ₀ bus is detected. Date and time can be shown with the AT%T? command.
LED driver	The eviateg TA C4 can drive four LowCurrent LEDs (with external resistors) for the most important RS232 signals (RxD, TxD, DTR and DCD).

1.2 List of features

	eviateg TA C4	eviateg TA C4 Voice	eviateg TA C4 PCM
Network interface (S-Reference point)			
ISDN interface D channel B channels	S ₀ / I.430 1 x 16 kbit/s 1 x 64 kbit/s	S ₀ / I.430 1 x 16 kbit/s 1 x 64 kbit/s	S ₀ / I.430 1 x 16 kbit/s 1 x 64 kbit/s
User interfaces (R-Reference point)			
Serial asynchronous interfaces Speed in bit/s	1 x V.24 300..115200	1 x V.24 300..115200	1 x V.24 300..115200
Serial synchronous interfaces ¹⁾	–	–	–
OnBoard-Codec audio interface	–	√	–
External auio interface over PCM bus	–	–	√
Digital inputs / outputs ¹⁾	–	–	–
Dialling protocols			
AT command set	√	√	√
DTR dialling	√	√	√
PowerOn dialling	√	√	√
D channel protocols			
DSS1 point to point access DSS1 point to multipoint access (S ₀ bus)	√ √	√ √	√ √
US National ISDN 1, AT&T 5ESS, Northern Telecom DMS100	√	√	√
1TR6 ¹⁾	–	–	–
X.31 (D channel)	√	√	√
Leased lines	√	√	√
Blockade break	–	–	–
B channel protocols, layer 2			
X.75 SLP	√	√	√
Transparent	√	√	√
HLDC-UI	√	√	√
PPP	√	√	√
V.110	√	√	√
V.120	√	√	√
Data scrambling ¹⁾	–	–	–
B channel protocols, layer 3			
Transparent	√	√	√
T.70 NL	√	√	√
ISO8208 (X.25 DTE-DTE)	√	√	√
Channel bundling			
X.75 bundling ¹⁾	–	–	–

	eviateg TA C4	eviateg TA C4 Voice	eviateg TA C4 PCM
X.75 MLP ¹⁾	–	–	–
ML-PPP ¹⁾	–	–	–
PPP bundling ¹⁾	–	–	–
Sending of SMS- and pager messages			
Triggered by digital inputs ¹⁾⁴⁾	–	–	–
Triggered by AT command AT*A ⁴⁾	√	√	√
Reception of SMS			
Fixed Net SMS ²⁾	√	√	√
Firmware update			
Via serial interface	√	√	√
Over ISDN	√	√	√
Additional features			
Password protected, automatic call back	√	√	√
Remote configuration	√	√	√
Support of ISDN features like AOC, CDPN, CDPSA, CGPN, CGPSA, CLIP, Causes, Time	√	√	√
Support of 56kbit/s mode	√	√	√
Reception of DTMF tones ¹⁾	–	–	–
Transmission of DTMF tones ¹⁾	–	√ ¹⁾	√ ¹⁾
Plug & Play for Windows™	√	√	√
Pan-European approval (NET3)	√	√	√

1) available on request

2) applies to TA C4 and TA C4 LV

3) applies to TA C4 Voice and TA C4 LV Voice

4) national gateway table on request

2 Command list

2.1 Overview AT commands

The table shows all AT commands of the eviateg TA C4 family.

Commands printed bold show the factory settings of the AT command interpreter.

The command **AT&F** restores all parameters of the **AT command interpreter**.

The command **AT*E InitF** restores **all parameters** (including text and number storages, passwords etc).

AT command	Meaning	TA C4 ¹⁾	TA C4 Voice ₂₎	TA C4 PCM ₃₎
A	Accept incoming call	√	√	√
\$A	Show advice of charge	√	√	√
*A	Send an SMS message	√	√	√
\$B	Number of B channels terminated during blockade break	√	√	√
%B1200	V.110 network bitrate 1200 bit/s	√	√	√
%B2400	V.110 network bitrate 2400 bit/s	√	√	√
%B4800	V.110 network bitrate 4800 bit/s	√	√	√
• %B9600	V.110 network bitrate 9600 bit/s	√	√	√
%B19200	V.110 network bitrate 19200 bit/s	√	√	√
%B38400	V.110 network bitrate 38400 bit/s	√	√	√
*B	Trigger blockade break	√	√	√
C	Accept waiting call	–	–	–
\$C	Show a waiting call	–	–	–
&C0	DCD line always on	√	√	√
• &C1	DCD line on during connections	√	√	√
*C	Prefix for extended commands (see chapter 2.2, page 12)	√	√	√
D<nnn>	Dial command	√	√	√
D*B1	Dial explicitly on channel B1	√	√	√
D*B2	Dial explicitly on channel B2	√	√	√
DB<nnn>	Dial command with blockade break	√	√	√
DI<nnn>	Dial without dial prefix (PABX internal)	√	√	√
DL	Re-dial last number	√	√	√
DQ<nnn>	Dial without CLIP (anonymous dial)	√	√	√
DR<nnn>	Dial a remote maintenance connection	√	√	√
DS=<i>	Dial number <i> from number storage	√	√	√
DW<nnn>	Dial in Overlap Sending mode (single digit dialling)	√	√	√
DX<nnn>	Dial with sabotage break	–	–	–
D?	Short online help for the ATD command	√	√	√
• \$D0	No DTR dialling	√	√	√
\$D1	Automatic DTR dialling	√	√	√
• %D0	Dial abort with ESC possible	√	√	√
%D1	Dial abort not possible	√	√	√

AT command	Meaning	TA C4 ¹⁾	TA C4 Voice ₂₎	TA C4 PCM ₃₎
&D0	DTR line is not monitored	√	√	√
&D1	DTR off changes to the command phase	√	√	√
• &D2	DTR off terminates the connection	√	√	√
&D3	DTR off terminates the connection and does a hardware reset	√	√	√
E0	No character echo	√	√	√
• E1	Echo during command phase	√	√	√
*E?	Online help for the AT*E command	√	√	√
*E oder *E Show	Listing of ISDN specific parameters	√	√	√
*E MSN<i>	Use MSN<i> as active MSN	√	√	√
*E MSN<i>?	Shows MSN <i>	√	√	√
*E MSN<i>=<nnn>	Sets MSN <i>	√	√	√
*E ActMSN?	Show the active MSN (0..2)	√	√	√
*E ClearMSN	Clears all MSNs	√	√	√
*E DcpSetupTimeout	Sets the time, after which a connection setup is aborted (10..180 sec)	√	√	√
*E Service?	Online help for ISDN services	√	√	√
*E Service<i>?	Show the service for MSN <i>	√	√	√
*E Service<i>=<x>	Set the ISDN service for MSN <i>	√	√	√
*E TEI=<n>	Sets the fix TEI for Point-to-Point access	√	√	√
*E XTEI=<n>	Sets the X.31 TEI	√	√	√
*E Prefix=<n>	Sets the dial prefix (dialling on PABXs or selecting network providers)	√	√	√
*E XPrefix=<n>	Sets the dial prefix for automatic X.31 / X.25 net selection	√	√	√
*E DChannelProt=<p>	Sets the D channel protocol	√	√	√
*E Flen=<i>	Sets the B channel protocol frame length	√	√	√
*E CountryCode=<n>	Sets the country code for AT*A	√	√	√
*E AreaCode=<n>	Sets the area code for AT*A	√	√	√
*E OwnNumber=<n>	Sets the own number for AT*A	√	√	√
*E InitF	Resets all parameters to factory settings	√	√	√
*E Line?	Checks the line to the publix exchange	√	√	√
*E SABMDelay	Delays the 1st SABM on X.75 protocol	√	√	√
*E CCMode	Encoding of Clear Channel data (N7)	√	√	√
*E CCSilence	Silence byte for Clear-Channel (N7)	√	√	√
&F	Resets all parameters of the AT interpreter to factory settings	√	√	√
\F	Shows the number storage	√	√	√
%G0	Network V.110 bitrate follows DTE bitrate	√	√	√
• %G1	Network V.110 bitrate defined by %B	√	√	√
H	Hang up the connection	√	√	√
I0	Shows the device / type number	√	√	√
I1	Shows the flash memory checksum	√	√	√
I3	Shows firmware version and date	√	√	√
I5	Shows the serial number	√	√	√
I6	Show the device name	√	√	√
I8	Shows a property string	√	√	√
I9	Shows the Plug-and-Play ID string	√	√	√
I*	Calculates the firmware checksum	√	√	√

AT command	Meaning	TA C4 ¹⁾	TA C4 Voice ₂₎	TA C4 PCM ₃₎
%L0	DTE bitrate follows V.110 bitrate	√	√	√
%L1	DTE bitrate follows V.110 bitrate	√	√	√
• %L2	DTE bitrate ignores V.110 bitrate	√	√	√
%L3	DTE bitrate follows V.110 bitrate	√	√	√
• &L0	Normal mode (switched line)	√	√	√
&L1	Leased line mode using channel B1	√	√	√
&L2	Leased line mode using channel B2	√	√	√
&L3	Leased line mode using channel B1 and B2	–	–	–
IN?	Shows the implemented B channel protocols	√	√	√
IN0	Automatic B channel protocol recognition	√	√	√
IN1	V.110 protocol	√	√	√
• IN2	X.75 protocol	√	√	√
IN3	PPP with HDLC transparent	√	√	√
IN4	V.120 protocol	√	√	√
IN5	HDLC UI mode	√	√	√
IN6	HDLC transparent mode	√	√	√
IN7	Clear Channel mode	√	√	√
IN8	Data scrambling ⁴⁾	–	–	–
IN9	X.75 plus T.70 on layer 3	√	√	√
IN10	Codec mode with UTU signalling ⁴⁾	–	√	√
IN11	Codec mode	–	√	√
IN16	Transmission of DTMF tones	–	√	√
IN17	Codec mode with DTMF tones ⁴⁾	–	–	–
IN20	HyperChannel ⁴⁾	–	–	–
IN21	X.75 bundling ⁴⁾	–	–	–
IN22	X.75 MLP ⁴⁾	–	–	–
IN23	ML-PPP ⁴⁾	–	–	–
IN24	PPP bundling ⁴⁾	–	–	–
IN25	packet mode (B channel, X.25)	√	√	√
IN31	packet mode (D channel, X.31)	√	√	√
O	Return to online phase	√	√	√
• \$P0	No supervision of PPP frames	√	√	√
\$P1	Address and control field of PPP frames are checked	√	√	√
• %P0	No asynchron / synchron conversion	√	√	√
%P1	Asynchron / synchron conversion for PPP	√	√	√
• &P0	no PowerOn AutoConnect	√	√	√
&P1	PowerOn AutoConnect active	√	√	√
\P=<abc>	Sets the access password	√	√	√
\P?	Shows the access password	√	√	√
• Q0	Responses are shown	√	√	√
Q1	Responses are suppressed	√	√	√
Q2	no PowerOn message, responses are shown	√	√	√
• \$Q0	ERROR message, if a command does not start with 'A'	√	√	√

AT command	Meaning	TA C4 ¹⁾	TA C4 Voice ₂₎	TA C4 PCM ₃₎
\$Q1	no ERROR message	√	√	√
• &Q0	Autobauding active	√	√	√
&Q1	Autobauding off	√	√	√
\Q0	no handshake	√	√	√
\Q1	software handshake with XON/XOFF	√	√	√
• \Q3	hardware handshake with RTS/CTS	√	√	√
\R=<abc>	Sets the Remote password	√	√	√
\R?	Shows the Remote password	√	√	√
S<i>=<x>	Sets S registers <i> to <x>	√	√	√
S<i>?	Shows the S register <i>	√	√	√
• %S0	no password controlled callback	√	√	√
%S1	password controlled callback	√	√	√
%S2	password request on incoming calls	√	√	√
%S3	password request in the background	√	√	√
• &S0	DSR line is always on	√	√	√
&S1	DSR on after TEI assignment	√	√	√
&S2	DSR on when TEI is assigned an layer 1 is activated	√	√	√
%T?	shows date and time	√	√	√
%T1?	shows the system time	√	√	√
\T<n>	sets the inactivity timer (n • 10 seconds)	√	√	√
\T?	shows the inactivity timer	√	√	√
*U	access to user memory	–	–	–
V0	numeric responses	√	√	√
• V1	responses with text	√	√	√
&V	shows the Configuration profiles	√	√	√
&V?	online help to S registers	√	√	√
*V	sends VdS2465 telegrams	–	–	–
&W0	stores parameters of profile 0	√	√	√
&W1	stores parameters of profile 1	√	√	√
• X0	simple RING and CONNECT message	√	√	√
X1	CONNECT message with ISDN bitrate	√	√	√
X2	as ATX1, RING message with number	√	√	√
X3	RING and CONNECT message with numbers	√	√	√
X4	Extendes RING and CONNECT messages with ISDN bitrate, protocol and numbers	√	√	√
• \$X0	NO CARRIER message without ISDN cause	√	√	√
\$X1	NO CARRIER with numeric ISDN cause	√	√	√
\$X2	NO CARRIER with verbose ISDN cause	√	√	√
*X	Trigger sabotage break	–	–	–
• &Y0	selects configuration profile 0	√	√	√
&Y1	selects configuration profile 1	√	√	√
Z0	loads configuration profile 0	√	√	√
Z1	loads configuration profile 1	√	√	√

AT command	Meaning	TA C4 ¹⁾	TA C4 Voice ²⁾	TA C4 PCM ³⁾
Z*	resets the device and loads configuration profile 0	√	√	√
&Z<i>=<nnn>	sets number <nnn> on storage <i>	√	√	√
&Z<i>=	clears number on storage <i>	√	√	√
&Z<i>?	shows number on storage <i>	√	√	√

1) valid for TA C4 and TC C4 LV

2) valid for TA C4 Voice and TA C4 LV Voice

3) valid for TA C4 PCM and TA C4 LV PCM

4) available on request

2.2 Overview AT*C commands

AT*C command	Meaning	TA C4 ¹⁾	TA C4 Voice ²⁾	TA C4 PCM ³⁾
*C ?	shows a list of AT*C commands	√	√	√
*C ASCII	switches the character set between ASCII and ISO Latin-1	√	√	√
*C BCExt	controls the extended signalling of the Bearer Capability in the D channel	√	√	√
*C DateAndTime	shows or sets date and time	√	√	√
*C DCP	shows or sets the D channel protocol	√	√	√
*C Deblock	triggers the blockade break	√	√	√
*C Feeding	checks the ISDN feeding voltage	–	–	–
*C Gateway	controls parameters for transmission of SMS and pager messages	√	√	√
*C LEDs	controls the four LED indication lines (see chapter 3.4, page 16)	√	√	√
*C LLC	controls the extended signalling of the Low Layer Capability in the D channel	√	√	√
*C MSN	controls MSNs	√	√	√
*C Number	controls destination numbers	√	√	√
*C PnP	controls the Plug & Play recognition	√	√	√
*C Remote	controls remote maintenance of the device	√	√	√
*C SMS	controls parameters for sending and receiving SMS messages	√	√	√
*C SPID	controls the SPID for the american D channel protocols NI1, 5ESS and DMS100	√	√	√
*C Text	controls the alert text storages	√	√	√
*C VdS	controls parameters for the VdS2465 protocol	–	–	–
*C VdSMsg	sends a VdS2465 message	–	–	–
*C X31	controls X.31 parameters	√	√	√

1) valid for TA C4 and TA C4 LV

2) valid for TA C4 Voice and TA C4 LV Voice

3) valid for TA C4 PCM and TA C4 LV

3 Technical data

Temperature:	0..55 °C
Humidity:	0..70%, none condensing
Connectors:	Square pins, □ 0.5mm
Grid:	2.0 mm
ISDN connection:	DSS1 (Euro ISDN) point-to-point /point-to-multipoint access National ISDN 1, AT&T 5ESS und Northern Telecom DSS1
Operation modes:	X.75 in accordance with ITU-T X.75 V.110 in accordance with ITU-T V.110 V.120 in accordance with ITU-T V.120 T.70NL, ISO8208/X.25 PPP in accordance with RFC 1662 HDLC UI mode and HDLC transparent mode Codec mode (eviateg TA C4 Voice) packet switched data transfer over the D channel (X.31) packet switched data transfer over the B channel (X.25)
Dialling protocol	AT command interpreter
Interfaces:	V.24 interface with 5V level / 3.3 V level (LV versions)
I/O ports:	up to 7, free programmable I/O pins (available on request)
Bitrate detection	300 bit/s up to 115200 bit/s

3.1 Electrical characteristics

	Symbol	Min	Max	Unit
Supply voltage (5V versions)	V _{CC}	4.75	5.25	V
Supply voltage (3.3V versions)	V _{CC}	3.13	3.46	V
Supply voltage ripple	V _w		50	mV
Power dissipation (5V versions)	I _{CC}		75	mA
Power dissipation (3.3V versions)	I _{CC}		46	mA
Reset input current (low active)	I _{RL}		-500	µA
Reset pulse (low active) rising edge resets the device	t _{RES}	1	500	ms
Port I/O pins				
Input low voltage	V _{IL}	0	0.5	V
Input high voltage	V _{IH}		V _{CC}	V
Input capacitance at all pins	C _{IN}		15	pF
Input leakage current	I _{IN}		20	µA
Output low voltage (I _{OL} = 3 mA)	V _{OL}		0.5	V
Output high voltage (I _{OH} = 200 µA)	V _{OH}	V _{CC} -1.0	V _{CC}	V
Output low current	I _{OL}		3	mA
Output high current	I _{OH}		1	mA

3.2 Package

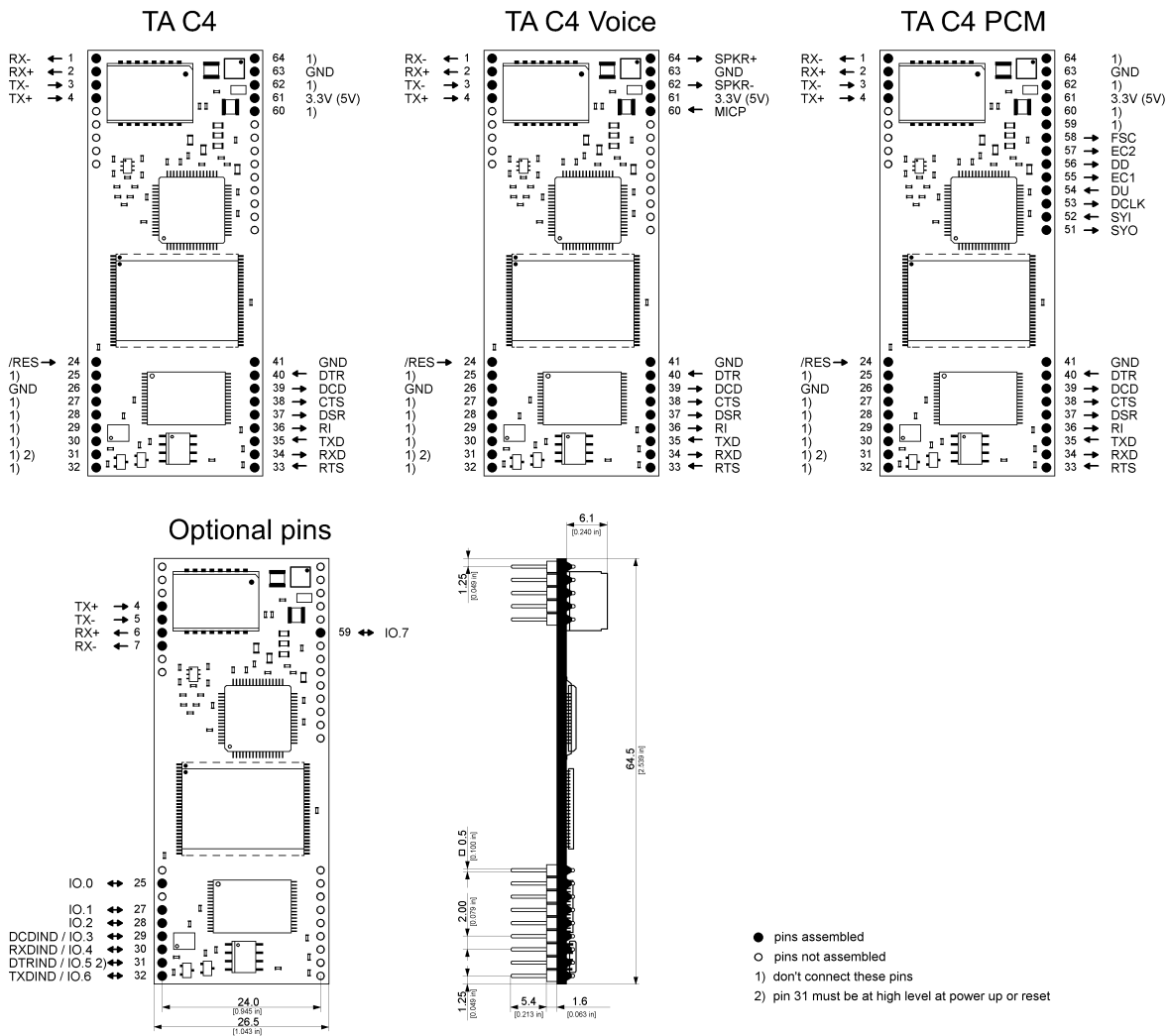


Figure 1: pinout of eviateg TA C4 modules

- 1) Pins supported only for voice versions
- 2) General purpose I/O's only supported by custom specific firmware
- 3) LowCurrent LED driver pin (needs external resistor, see page 16)

Pin	Mnemonic	In/Out	Description	Reset state
1, 4, 7, 8	RX-	S ₀ in	input of the ISDN interface, must be connected to pin 5 of the RJ45 jack ³⁾	
2, 3, 6, 7	RX+	S ₀ in	input of the ISDN interface, must be connected to pin 4 of the RJ45 jack ³⁾	
2, 3, 5, 9	TX-	S ₀ out	output of the ISDN interface, must be connected to pin 6 of the RJ45 jack ³⁾	
1, 4, 6	TX+	S ₀ out	output of the ISDN interface, must be connected to pin 3 of the RJ45 jack ³⁾	

24	/RESET	In	Reset input, low active, rising edge resets the device	In, 10kΩ PullUp
25	I/O.0	In/Out	Multifunction I/O pin ¹⁾	

Pin	Mnemonic	In/Out	Description	Reset state
26	GND	-	Ground	
27	I/O.1	In/Out	Multifunction I/O pin ¹⁾	
28	I/O.2	In/Out	Multifunction I/O pin ¹⁾	
29	DCDIND ⁵⁾ I/O.3	Out ⁵⁾ In/Out	LED driver: cathode connected via series resistor ⁴⁾ to GND Multifunction I/O pin ¹⁾	Out ⁵⁾ In
30	RXIND ⁵⁾ I/O.4	Out ⁵⁾ In/Out	LED driver: cathode connected via series resistor ⁴⁾ to GND Multifunction I/O pin ¹⁾	Out ⁵⁾ In
31	DTRIND ⁵⁾ I/O.5	Out ⁵⁾ In/Out	LED driver: cathode connected via series resistor ⁴⁾ to GND Multifunction I/O pin ¹⁾	Out ⁵⁾ In
32	TXIND ⁵⁾ I/O.6	Out ⁵⁾ In/Out	LED driver: cathode connected via series resistor ⁴⁾ to GND Multifunction I/O pin ¹⁾	Out ⁵⁾ In

33	/RTSTTL	In	Handshake signal of the serial interface: Request to Send of the data terminal equipment	In, 47kΩ PullUp
34	RxDTTL	Out	Data of the serial interface, transmitted from the eviateg TA C4 to the data terminal equipment	Out
35	TxDTTL	In	Data of the serial interface, transmitted from the data terminal equipment to the eviateg TA C4	In, 47kΩ PullUp
36	/RITTL	Out	Handshake signal of the serial interface: Ring indicator of the eviateg TA C4	In
37	/DSRTTL	Out	Handshake signal of the serial interface: Data Set Ready of the eviateg TA C4	In, 47kΩ PullUp
38	/CTSTTL	Out	Handshake signal of the serial interface: Clear to Send of the eviateg TA C4. This pin may not drive load to GND !	In, 47kΩ PullUp
39	/DCDTTL	Out	Handshake signal of the serial interface: Data Carrier Detect of the eviateg TA C4	In
40	/DTRTTL	In	Handshake signal of the serial interface: Data Terminal Ready of the data terminal equipment	In, 47kΩ PullUp
41	GND	-	Ground	

60	MIC+	In	Microphone input from headset ²⁾	
61	VCC	-	Power supply: +5 V respectively +3.3 V on LV versions	
62	SPKR-	Out	Speaker - to headset ²⁾	
63	GND	-	Ground	
64	SPKR+	Out	Speaker + to headset ²⁾	

¹⁾ These pins can be controlled with custom specific firmware versions of eviateg TA C4

²⁾ Pin is only supported on eviateg TA C4 Voice

³⁾ Max. length of PCB wire ≤ 20 cm, min. width of PCB wire: ≥ 0,6 mm, min. distance to other PCB wires: ≥ 2.5 mm

⁴⁾ Series resistor: 1500 Ω for 5 V types, 680 Ω for LV types

⁵⁾ With **AT*C LEDs ON** (see chapter 3.4, page 16)

Feel free to contact eviateg during PCB design for hints and technical assistance.

3.3 Description of the serial V.24 interface

The V.24 interface of the eviateg TA C4 has the following control lines. Some of these control lines can be used (with custom specific firmware) as I/O lines. In this case the control lines have to be marked as unused in register S54. All control- and I/O lines have 5V / 3.3 V level. The active state of a V.24 control line at the eviateg TA C4 pins is LOW.

Pin	DB-9	DB-25	Name	Description	Direction	I/O option
34	2	3	RXD	Receive Data	← eviateg TA C4	no
35	3	2	TXD	Transmitt Data	→ eviateg TA C4	no
33	7	4	/RTS	Request To Send	→ eviateg TA C4	no
40	4	20	/DTR	Data Terminal Ready	→ eviateg TA C4	yes
38	8	5	/CTS	Clear To Send	← eviateg TA C4	yes
39	1	8	/DCD	Data Carrier Detect	← eviateg TA C4	yes
37	6	6	/DSR	Data Set Ready	← eviateg TA C4	yes
36	9	22	/RI	Ring Indicator	← eviateg TA C4	yes
41	5	7	GND	Ground		

3.4 LED driver

The eviateg TA C4 can drive four LowCurrent LEDs on pins 29 to 32, indicating the state of the most important RS232 signals. The current must be limited with series resistors, whose values depend on the operating voltage (1500 Ω for 5 V types, 680 Ω for LV types).

WARNING: Too high currents can cause permanent damages to the eviateg TA C4 !

Therefore the four pins are switched to inputs by factory setting. To use all four pins to drive LowCurrent LEDs, the command „**AT*C LEDs ON**“ must be issued. If the LEDs are disabled, this command stores the new setting and reboots the eviateg TA C4. If the LEDs are already enabled, the module only responds with „**OK**“.

To switch off the LED function, the command „**AT*C LEDs OFF**“ can be used. If the LEDs are enabled, this command stores the new setting and reboots the eviateg TA C4. If the LEDs are already disabled, the module only responds with „**OK**“.

3.5 Codec interface

The schematic of the on board codec interface of the eviateg TA C4 Voice on pins 60 and 62 to 64 is shown below. Normal headsets and handsets can be used for telephone applications without external components.

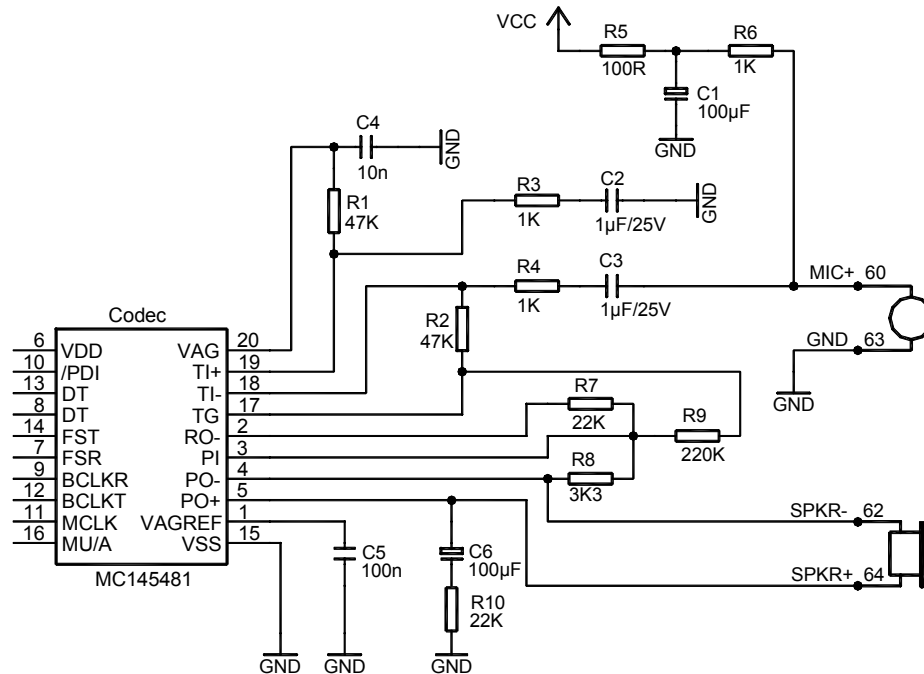
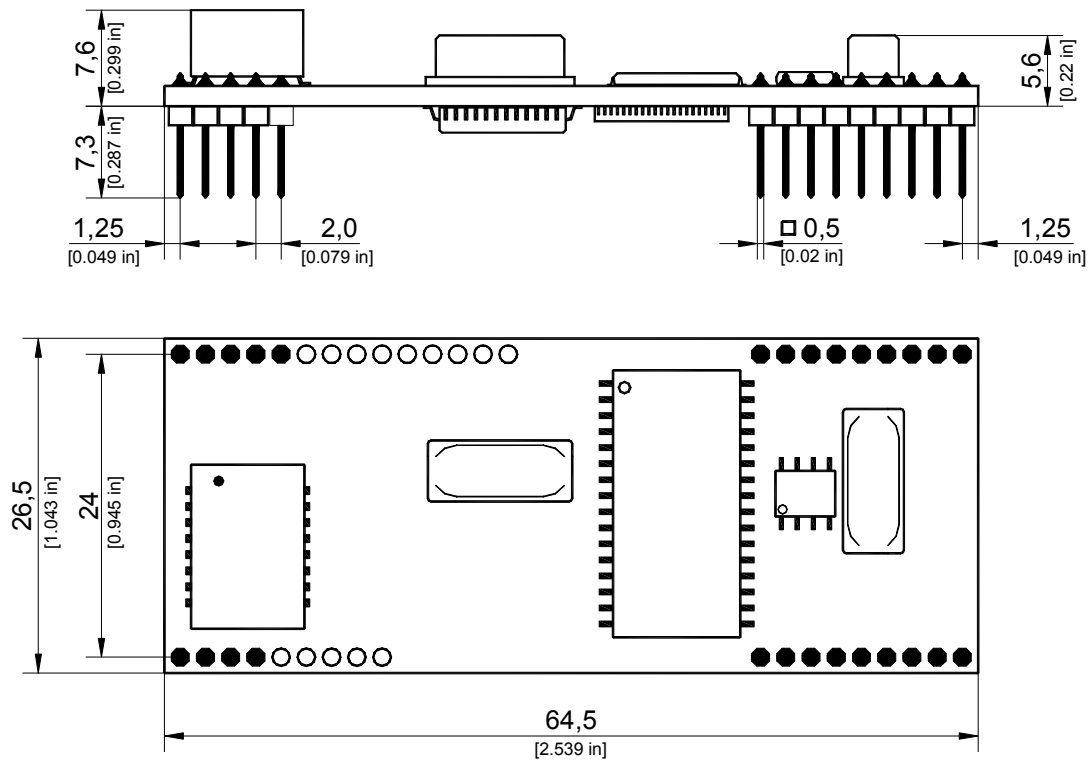


Figure 2: Onboard codec interface of the eviateg TA C4 Voice

3.6 Dimensioned drawing

Figure 3: Package eviateg TA C4, dimensions in mm



When integrating the eviateg TA C4 into custom specific applications, a minimum distance of 1 mm to other components at all sides is recommended.

4 History

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1.0	October 2012	First edition

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