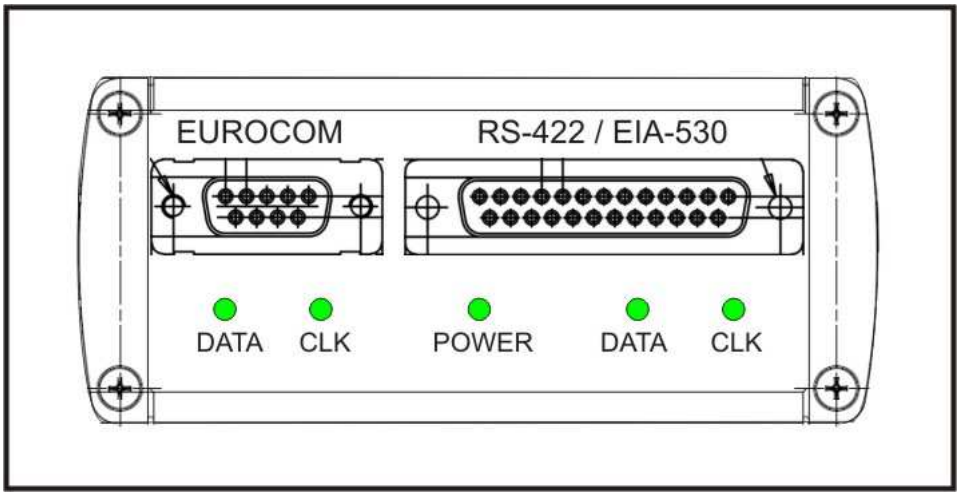
1. General Information

Eurocom/EIA-530 converter box allow to connect any equipment with Eurocom interface to any equipment with RS-422/EIA-530 or EIA-530A interface.

RS-422/EUROCOM converter board specification.

1. Binary throughput: 256..2048 kbps
2. RS-422 interface:
   - RS-422/V.11/X.27 electrical parameters
   - D-SUB 25 female-type connector
   - DCE (modem) interface according EIA-530 or EIA-530A standard
3. Eurocom interface
   - B type, as per EUROCOM D/1 1986 IB6 (pages IB6-1 .. IB6-5)
   - interface: D-SUB 9 female-type
4. Power supply (options):
   1. DC +9V..+30, non-isolated, '-' connected to boards earth and GND line of RS-422 interface, PSU socket 5.5/2.5mm
   2. AC 85…240VAC, 47…63Hz, IEC60320-C14 socket
5. Box size: 106mm • 175mm • 46mm

2. **Front panel layout**



Front panel contains:

- EUROCOM (DSUB-9) interface
- RS-422/EIA-530 (DSUB-25) interface
- 'Power' status indicator (LED)

3. Received 'DATA' and 'CLK' signals indicators (LEDs) for EUROCOM and RS-422/EIA-530 interfaces

4. Connectors layout

1. Interface EIA-530 connector DSUB-25, female

No	Pin	Code	Cat.	Direction	Name (V.24 ITU circuit)	Type in DCE	U
1	-- 1	Shield	---	---	Connected in DTE, not connected in DCE		
2	A 2 B 14	BA **TxD**	I	to DCE	TXD, Transmit Data (103)	Receiver	*
3	A 3 B 16	BB **RxD**	I	from DCE	RXD, Receive Data (104)	Transmitter	*
4	A 4 B 19	CA/CJ **RTS**	I	to DCE	Request To Send (105)/ Ready For Receiving	Receiver	*
5	A 5 B 13	CB **CTS**	I	from DCE	Clear to Send (106)	Transmitter[1]	*
6	A 6 B 22[4]	CC **DSR**	I	from DCE	DCE ready DSR(107) Data Set Ready	Transmitter[2]	*
7	7	AB **GND**			GND (102)	---	*
8	A 8 B 10	CF **RLSD**	I	from DCE	Received Line Signal Detector (109)	Transmitter[3]	*
9	A 17 B 9	DD **RxClk**	I	from DCE	Receive Signal Timing (115)	Transmitter	*
10	A 24 B 11	DA **iTxClk**	I	to DCE	Transmit Signal Timing (113)	Receiver	*
11	A 15 B 12	DB **oTxClk**	I	from DCE	Transmit Signal Timing (114)	Transmitter	*
12	A 18	LL	II	from DCE	Local Loopback (141)	Receiver V.10	
13	A 20 B 23[5]	CD **DTR**	I	from DCE	DTE Ready (108) Data Terminal Ready	Receiver	*
14	A 21	RL	II	from DCE	Remote Lopback (142)	Receiver V.10	
16	A 25	TM	II	from DCE	Test Mode	Receiver V.10	

* - used in Eurocom/RS-422 converter

Category (Cat.): I – V.11 / RS-422
II – V.10 / RS-423

Transmitter[1]: CTS is connected directly to RTS or is in constant ON state, depending to X3,X4 jumpers state.

Transmitter[2]: DSR is connected directly to DTR or is in constant ON state, depending to X5,X6 jumpers state.

Transmitter[3]: RLSD reflect RTS state or is in constant ON state, depending to X2 jumper state

Pin 22[4] (CC/DSR – B) is used in EIA-530A as CE/RI (ring indicator).

Pin 23[5] (CD/DTR – B) is used in EIA-530A as GND.

2. Eurocom interface B, DSUB-9 female

No	Pin	Signal Name Eurocom B	Direction	RL-xxx TDM connector	AN/GRC-xxx Eurocom In/Out
1	1	Transmit Clock A	Output from converter	L	F
2	6	Transmit Clock B		M	E
3	2	Transmit Data A		H	H
4	7	Transmit Data B		G	G
5	3	Receive Clock A	Input to converter	K	S
6	8	Receive Clock B		J	R
7	4	Receive Data A		F	T
8	9	Receive Data B		E	J
9	5	GND	Chassis	V	V

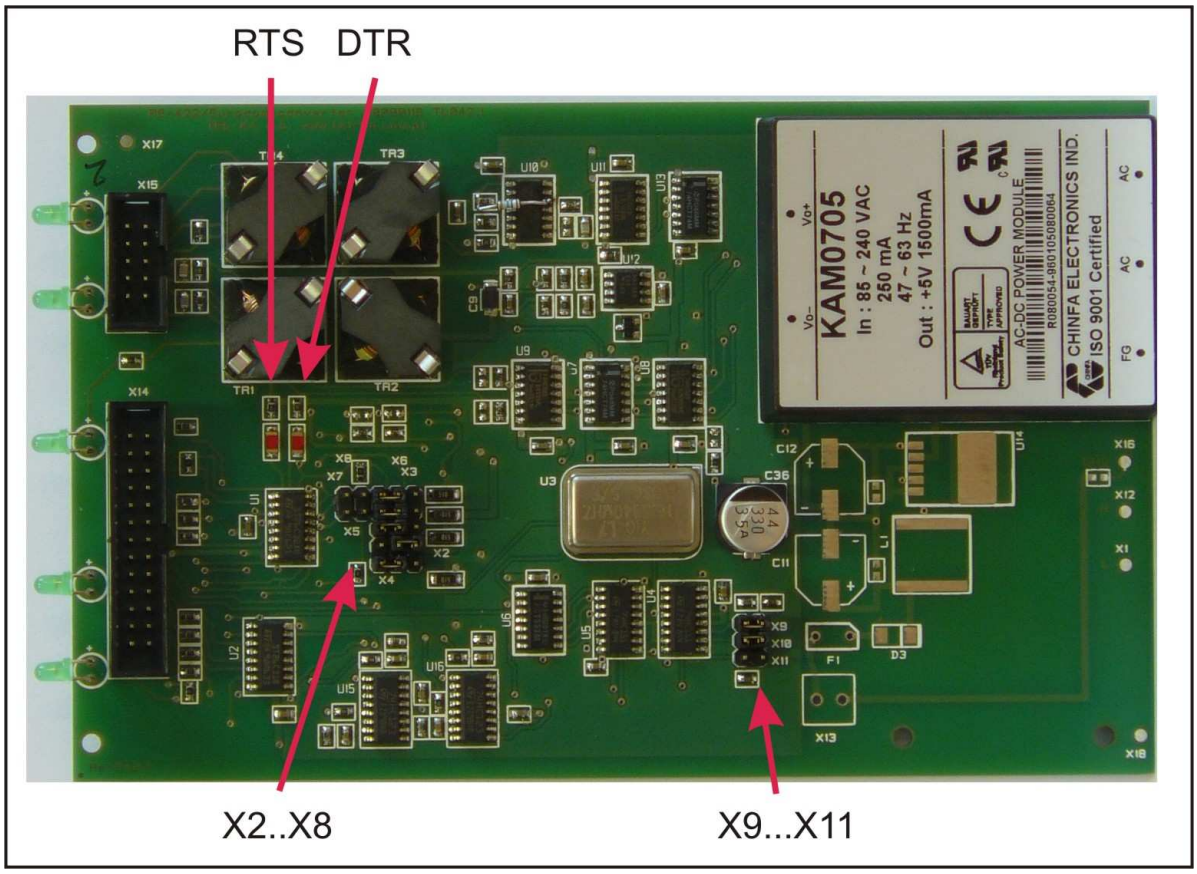
1. RL-xxx : Ericsson/Konsberg
2. AN/GRC-xxx : Marconi/Ultra

3. Power

1. DC option
   Converter box is powered by +9..+30VDC. The equipment is resistant to incorrect power connection, if the voltage is below 35V.
2. AC option
   Converter box is powered by 85…240VAC, 47…63Hz, connector IEC60320-C14

5. Configuration

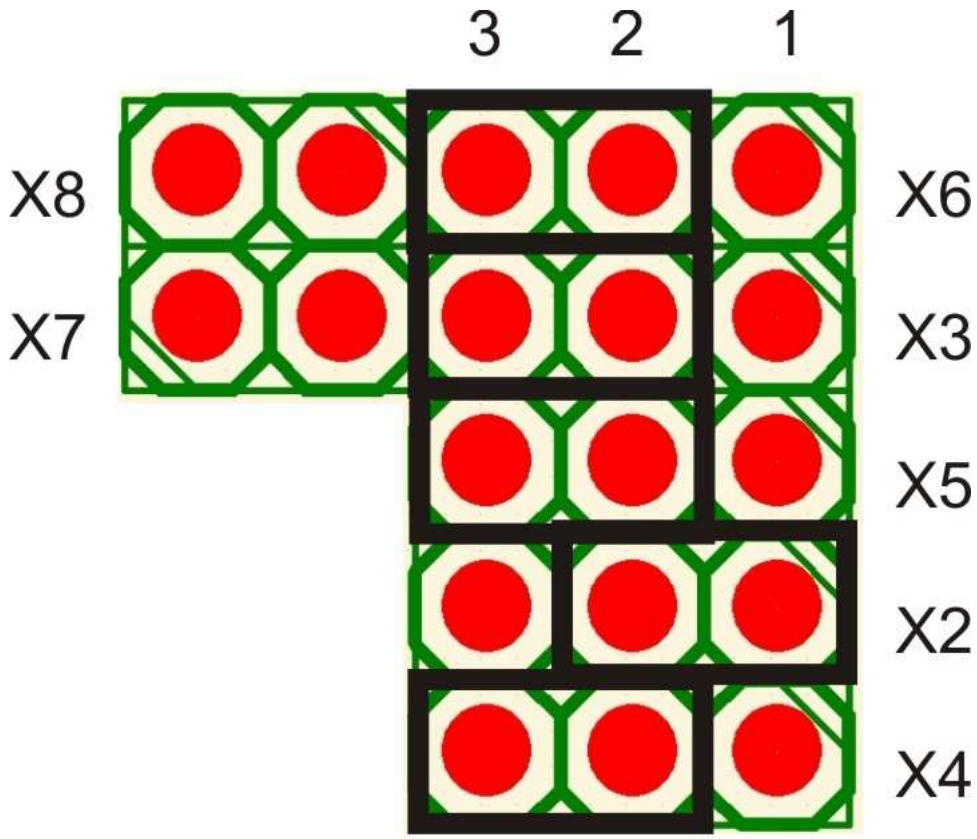
1. Board layout



2. Clock configuration

jumper			Transmit Signal Timing (114) EIA-530 DB	Eurocom transmit clock
X11	X10	X9		
short	short	short	Internal source 256 kHz	Internal source 256 kHz
short	short	open	Internal source 512 kHz	Internal source 512 kHz
short	open	short	Internal source 1024 kHz	Internal source 1024 kHz
short	open	open	Internal source 2048 kHz	Internal source 2048 kHz
open	short	short	Off	Derived from EIA-530, DA, *Transmit Signal Timing (113)*
open	short	open	Derived from Eurocom, *Receive Clock*	Derived from Eurocom, *Receive Clock*
open	open	any	Off	Off

3. Jumpers X2-X8 layout and default configuration



4. RTS load configuration (X7)

X7 jumper	RTS load
short	resistive 100Ω
open	without load

5. CTS source configuration (X3/X4)

X3/X4 jumper	CTS source
1 ─ 2	Always ON
2 ─ 3	RTS

6. DTR load configuration (EIA-530)

X8 jumper	DTR load
short	resistive 100Ω
open	without load

7. DSR source configuration (EIA-530)

X5/X6 jumper	DSR source
1 ─ 2	Always ON
2 ─ 3	DTR

8. DTR/DSR configuration (EIA-530A)

X6 jumper	DSR source
1 ─ 2	Always ON
2 ─ 3	DTR

Fixed settings for the EIA-530A interface:

X5 – **always 1-2**
X8 – **always open**

9. RLSD source configuration

X2 jumper	RLSD source
1 ─ 2	Always ON
2 ─ 3	RTS

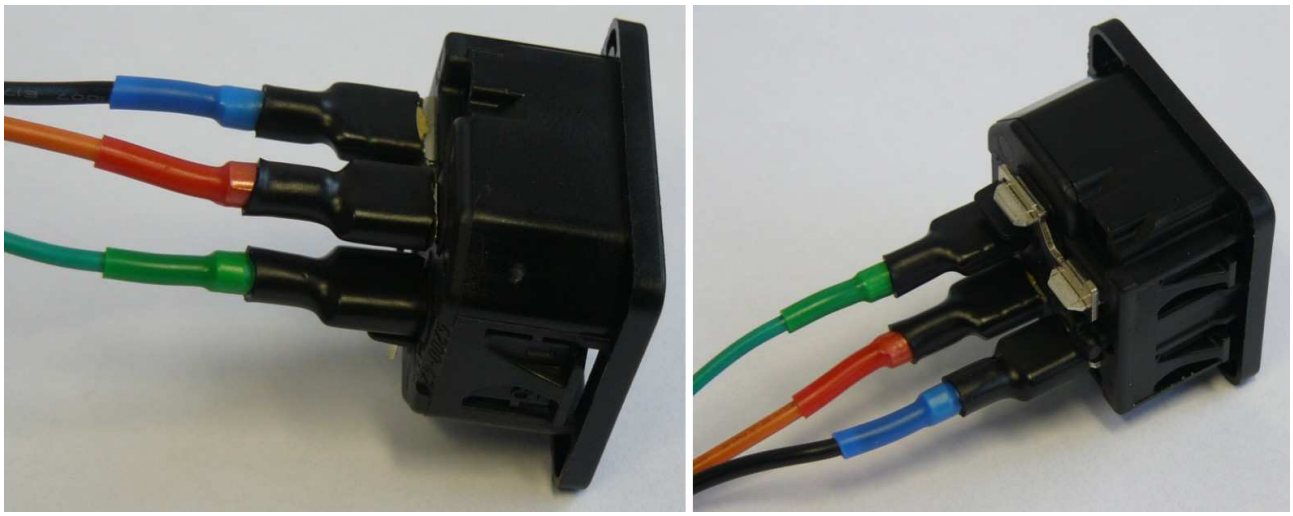
6. Signaling on board

1. **RTS LED** reflect the state of *Request To Send* (105 – V.24) interface circuit.
2. **DTR LED** reflect the state of *Data Terminal ready* (108 – V.24) interface circuit.

7. Converter board removal

1. Plug off power supply cable
2. Unscrew four screws holding rear panel
3. Disconnect cables from power supply connector (for 230VAC version)
4. Unscrew four screws holding front panel
5. Disconnect flat cables from board
6. Pull out converter board in rear panel direction

To assembly of the equipment is performed by following the steps above in reverse order (5 to 1). The picture below shows the correct connection of power supply cables to the socket (IEC60320-C14).



Colors: Green – Earth, Red/Orange – N (neutral), Blue/Black – L (line)