Uart-Protocol LIN-Tracer ←→ PC

CPU: ATmega162 - 16MHz

Uart0: RS232 (115K 8N1)
Uart1: LIN (TJA1020)

Msg Syntax:

length, cmd, [data], chksum

chksum := length + cmd + [data]

Msg-Protocol:

Msg (PC View)	**Len DB.0**	**Cmd DB.1**	**Byte 0 DB.2**	**Byte 1 DB.3**	**Byte 2 DB.4**	**Byte 3 DB.5**	**additional information**
→ rd Version	2	0x00	chksum				Read Firmware Version
← rd Version	5	0x80	left	mid	right	chksum	returns FW-version (eg: 100)
→ Set Speed	4	0x01	BaudH	BaudL	chksum		eg: 19200 → BaudH=4Bh BaudL=00h
← Set Speed	5	0x81	BaudH	BaudL	result	chksum	0: ok 1: too slow 2: too quick
→ StartTrace	2	0x02	chksum				Go into trace mode
← Start Trace	5	0x82	BaudH	BaudL	result	chksum	0: ok else not accepted
→ Stop Trace	2	0x03	chksum				Exit trace mode
← Stop Trace	5	0x83	BaudH	BaudL	result	chksum	0: ok else not accepted
← found Break	4	0x90	timH	timL	chksum		13 bit low time = break signal
← found Sync	5	0x91	timH	timL	sync	chksum	expect sync := 0x55
← found ID	5	0x92	timH	timL	ID	chksum	LIN ID
← found Data0	5	0x93	timH	timL	DB0	chksum	DB0
← found Data1	5	0x94	timH	timL	DB1	chksum	DB1 or Chksum (1 data byte)
← found Data2	5	0x95	timH	timL	DB2	chksum	DB2 or Chksum (2 data byte)
← found Data3	5	0x96	timH	timL	DB3	chksum	DB3 or Chksum (3 data byte)
← found Data4	5	0x97	timH	timL	DB4	chksum	DB4 or Chksum (4 data byte)
← found Data5	5	0x98	timH	timL	DB5	chksum	DB5 or Chksum (5 data byte)
← found Data6	5	0x99	timH	timL	DB6	chksum	DB6 or Chksum (6 data byte)
← found Data7	5	0x9A	timH	timL	DB7	chksum	DB7 or Chksum (7 data byte)
← found Data8	5	0x9B	timH	timL	DB8	chksum	Chksum (8 data byte)
← unexpected data	5	0x9C	timH	timL	Data	chksum	trace out of sync
← timestamp ovfl	2	0xA0	chksum				overflow of timestamp (all 65ms)
← event	2	0xE0	event	chksum			reserved for later
← error	2	0xF0	error	chksum			reserved for later