

Software Protocol

- All internal functions of the B200 (EASY and TIMER) are accessible by selective commands including response data string.
- Maximum number of devices to be connected via SERIAL-LINK are five.
- Each device to be controlled individually including response.

Hardware Interface RS-232

- Full-duplex, 3-wire connection (GND, Tx, Rx)
- 9600 Baud, 1 start bit, 1 stop bit, 8 data bits, no parity
- Software handshaking (Xon, Xoff)

	GND	B200->PC	PC->B200
- Connector MULTIROOM (DIN 45326)	PIN 5	PIN 2 Tx	PIN 6 Rx
RS-232 on PC (25pol.D-type conn.)	PIN 7	PIN 3 Rx	PIN 2 Tx

* ATTENTION: the RS-232 does electrically not comply with the EIA- *
* standard concerning logical levels. It is assumed to be driven by *
* TTL-compatible drivers only (no negative voltage swing available). *

Firmware-Versions

The corresponding software-release is implemented in a 64k x 8 EPROM, exchangeable on a IC-socket.

Dialogue B200 - PC

- Commands and responses are in ASCII-strings. The string-length as well as its record partition depend upon its identifier, but never exceed 79 characters. Each string is terminated by <CR> (ASCII 13)
- Responses are alphanumeric and given upon request only.
- Upper case and lower case characters are equivalent.
The B200 itself is always transmitting in upper case characters.

Format for Commands

- The string begins with the device number (0...6), followed by a command string and terminated by a <CR>. Being a prerequisite, it will no longer be mentioned in the following tables.
- Non plausible inputs are prompted from the B200 by ASCII 007 (BEL)
- The device no."0" gives access to a general command to the B200 for setup and event programming.

Format for Responses.

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- The device status is reported upon specific request, terminated by <CR LF>. The structure of the response string is documented for each device at the beginning of the corresponding chapter.

A.Channel assignment (string-seg.1)

0	B200 (internal)
1	AMP. B250 directly wired with B200
2	TUNER B260
3	TAPE1 B215
4	TAPE2 B215
5	CD B226
6	PHONO B291

B.Device Identifier (string-seg. 2-3)

00	device not present/ not to be identified
01	B250
02	B260
04	B215
06	B226
08	B291
C1...C9	B200 (software release)

Various Commands (from string-seg.2)

X Request response B200
R0 IR-Remote On
R1 IR-Remote Off
Bahhhh direct command in SERIAL LINK-Format, where:
a = device #'0...6
hhhh command, 4 digits, each in hex 0...F

Commands for TIME-Mode

Thhmm Time of clock module (hours - mins)
- All 4 digits have to be entered after "T"

Dyyymmdd Date of clock module (year - month - day)
- All 6 digits have to be entered after "D"

Commands for SELECT-Mode

Sabcdefg Mode selection:
a Dialogue language
c Time Display
b Easy Control
c Timer
d Power On: (Speaker selection)
e B209-Connection
f Multiroom
g B209-Easy

a) Language

1 English
2 Deutsch
3 Francais

b) Time Display enable/disable

0 Time-Display: NO
1 Time-Display: YES

c) Easy-Control

0 ---
1 IR
2 IR + Local

d) Timer enable/disable

0 TIMER: NO
1 TIMER: YES

d) Speakers at Power-on

0 Speakers off
1 Speakers A
2 Speakers B
3 Speakers C
4 Speakers A+B
5 Speakers A+C
6 Speakers B+C
7 Speakers A+B+C
8 previous status (SIC)

e) B209-Connection

0 NO
1 YES

f) Multiroom

0 NO
1 YES

g) B209-Easy

0 NO
1 YES

Status response from B200

Overview

 1 2
1234567890123456789012345
0CxCaaaaaabbbbbbcdefghij< length: 24 char.

Device Identifier [2-3]

Cx (1...9) B200 increasing with latest software version

a) Date [5-10]

ddmmyy Day, Month, Year

b) Time [11-16]

hhmmss Hours, Mins, Secs

c-j) Select [17-24]

c) Language 1: ENGLISH
 2: DEUTSCH
 3: FRANÇAIS

d) Time-Display 0: OFF
 1: ON

e) Easy-Control 0: ---
 1: IR
 2: IR+LOC

f) Timer 0: OFF
 1: ON

g) Speakers 0: ---
 1: A--
 2: -B-
 3: --C
 4: AB-
 5: A-C
 6: -BC
 7: ABC
 8: ... (previous status)

h) B209-Conn. 0: NO
 1: YES

i) MULTIROOM 0: NO
 1: YES

j) B209-Easy 0: NORMAL
 1: EASY

Commands for EVENT-Mode

```

EaaR          Recall of Event aa: 01...09
EaaE          Erase Event aa      : 01...09
EaaS          Test Event aa       : 01...09
    
```

Program an Event 01...09

```

-----
          1          2          3
12345678901234567890123456789012
0EaaPbcdefgghhhhhkkkk1111<      (b=2: fixed date)

0EaaPbcdefggjjjjjjkkkk1111<     (b=3: day of week)
    
```

aa Event-#

01...09

b Date-Mode

2 fixed date
3 day of week

hhhhh Date-Format

yymmdd year-month-day

jjjjjj Day-of-week Format

0 or 1 j.....=Sunday;j=Saturday
0 = not selected
1 = selected

f Source

1 Tuner
2 Tape 1
3 Tape 2
4 Aux
5 CD-Player
6 Phono
7 TV
8 VCR 1
9 VCR 2
0 DISC

gg Source extension

01...60 for Station # (00=Enter)
01...99 for CD-Track # (00=Play/Next)
00 generally for Phono, Tape1, Tape2

cde	Target		
	OUTPUT 1	OUTPUT 2	OUTPUT 3
c= 0:	----	d= 0: ----	e= 0: ----
1:	A--	1: TAPE1	1: ROOM 1
2:	-B-	2: TAPE2	2: ROOM 2
3:	--C	3: TAPE1+2	
4:	AB-		
5:	A-C		
6:	-BC		
7:	ABC		
8:	...		

```

kkkk          Start-time
-----
hhmm          entered in 24h-mode

llll          Stop-time
-----
hhmm          entered in 24h-mode

```

Event response from B200

Overview

```

          1          2          3          4
1234567890123456789012345678901234567890
0CxEaabcdefgghhhhhhhkkkklllll<      length: 26 char.

```

(a...l have the same meaning as "Define Events")
According to selected mode (fixed date or weekday) all irrelevant
string parts will be set to "0".

RS232 - B250

 Commands to B250 (from string-seg. 2)

D	Standby	
A	TAPE 1	
B	TAPE 2	
C	AUX	
D	CD	
E	PHONO	
F	TV	
G	VCR 1	
H	VCR 2	
J	DISC	
K	TUNER	
P	POWER	
Q	REC-IN	
R	RECOU	
I	* MC	* = Toggle commands on/off
U	* SEPARATED Mode	
Y	"-20 dB"	
T	* TONE	
W	* LOUDNESS	
M	Max. Volume	
S	Sensitivity	
Z	Store	
/	Volume up (1 dB)	
\	Volume down (1 dB)	
+	Volume up (2 dB)	
-	Volume down (2 dB)	
>	Balance right	
<	Balance left	
)	Bass +	
(Bass -	
]	Treble +	
[Treble -	
Lx	Speakers Setting (x= 0...7)	
	x = 0 ---	
	x = 1 A--	
	x = 2 -B-	
	x = 3 --C	
	x = 4 AB-	
	x = 5 A-C	
	x = 6 -BC	
	x = 7 ABC	
V00	Volume 0 dB (min)	
V1	Volume 1	
V99	Volume +99 dB (max)	
X	Response request	

Status response from B250

Overview

 1 2
1234567890123456789012345
101abcdeeeefggghhhiijjkl< length: 23 char.

a) Power [4]

0 Off
1 On

b) Rec-Out Selector [5]

0 Rec # In
1 Rec = In

c) Input Source [6]

0 TV
1 PHONO
2 CD
3 AUX
4 TAPE2
5 TAPE1
6 TUNER
7 DISC
8 VCR2
9 VCR1

d) Rec-Out Source [7]

0 TV
1 PHONO
2 CD
3 AUX
4 TAPE2
5 TAPE1
6 TUNER
7 DISC
8 VCR2
9 VCR1

e) Speakers [8-10]

--- Speakers off
A-- Speakers A
-B- Speakers B
--C Speakers C
AB- Speakers A+B
A-C Speakers A+C
-BC Speakers B+C
ABC Speakers A+B+C

f) Separated status [11]

0 normal
1 separated

g) Volume [12-14]

000 Volume 0 dB (min)
1
100 Volume +100 dB (max)

h) Balance [15-17]

01...10 L 0...10 steps left
00 E Mid-position
01...10 R 0...10 steps right

i) Bass [18-19]

+/- 0...4 0...4 steps "+" or "-"

j) Treble [20-21]

+/- 0...4 0...4 steps "+" or "-"

k) Tone Control [22]

0 off
1 on

l) Loudness [23]

0 off
1 on

RS232 - B260

Commands to B260 (from string-seg. 2)

0 Standby
I Enter / Tuner (+Power On) = last station
F Station Scan up
B Station Scan down
Px P-Type x (x= 0...9)
U P-Type Scan up
D P-Type Scan down

E<DR> Tuner Station 00
E01 Tuner Station 01
| |
E60 Tuner Station 60

Status response from B260

Overview

1 2 3
123456789012345678901234567890
202abcdefghijklmnopqj.kllmmmmmmmm< length: 29 char.

a) Power [4]

0 off
1 on

b) Tuner Mode [5]

S Station Mode
T Tuning Mode

c) Stereo/Mono [6]

S Stereo
M Mono

d) Antenna [7]

A Antenna A
B Antenna B

e) RDS-Status [8]

0 no RDS
1 RDS

f) Muting [9]

0 off
1 on

g) Frequency Step [10]

1 10 kHz
5 50 kHz

h) RF-Selector [11]

S Single
D Double

i) IF-Selector [12]

N Narrow
W Wide

j) Station / Frequency [13-18]

jjj.jj Frequency, numeric, 5 digits incl. leading 0's
(Range: 067.50...108.00)

k) P-Type [19]

0...9

l) Station / No. [20-21]

01 Tuner Station 1
1 |
60 Tuner Station 60

m) Call Letters [22-29]

mmmmmmmm Name, alphanumeric, 8 digits (blanks allowed)

RS232 - B215

Commands to B215 (from string-seg. 2)

Q	Standby
S	Stop
P	Play
F	Fast Forward
B	Rewind
R	Record-Play
V	Record-Pause (from Stop)
W	Pause (from Record)
Q	Store counter in LOC-1
K	Store counter in LOC-2
L	Loop LOC-1 <=> LOC-2
H	Locate to LOC-1 (to previous value)
Z	Locate to LOC-2 (" " ")
Gmmss	Locate to new address mm:ss (=stored in LOC-1)
Ammss	Set LOC-1 to mm:ss
	G, A w/o parameters, only <CR> --> 00:00
X	Response request

Status response from B215

Overview

 1 2
123456789012345678901234 length: 11 char.
304abcdeeeee<
404 (TAPE2)

a) Power [4]

0 Off
1 On

b) Primary transport functions [5]

0 Standby
1 Stop
2 Pause
3 Play
4 Fast Forward
5 Rewind
6 Record-Play

c) Loop Mode [6]

0 Off
1 On

d) Secondary transport functions [7]

0 No cassette
1 Normal
2 Tape begin
3 Tape end
4 Tape out (cassette in, no counter calculated)

e) Tape Counter [8-11]

mmss mins - secs : 0..9

Commands to B226 (from string-seg. 2)

O	Standby
S	Stop (+Power On)
P	Play / Next (+Power On)
J	Index Scan
W	Pause
D	Display Disc Time
T	Display Track Time
U	Autostop On
V	Autostop Off
E	Load
H	Locate
M	Pause w/o muting
Gmmss	goto Disc Time mm:ss + Play/ Pause (depending from previous status)
Cnn	goto Index nn + Play/ Pause (depending from previous status)
Ynn	goto Track nn + Play
Znn	goto Track nn + Pause nn 2 digits with leading zero
X	Response request (no cat-no. will be sent!)

Status response from B226

Overview

1 2
123456789012345678901234 length: 18 char.
506abcddddeeeeffgg<

a) Power [4]

0 Off
1 On

b) Status [5]

0 Standby
1 Stop
2 Pause
3 Play

c) Loop Mode [6]

0 Off
1 On

d) Time played [7-10]

mmss mm: 00..75
ss: 00..59

e) Time remaining [11-14]

mmss mm: 00..75
ss: 00..59

f) Track Number [15-16]

ff track number decimal 00...99

g) Index [17-18]

gg index number decimal 00...99

R9232 - B291

Commands to B291 (from string-seg. 2)

D	Standby
P	Pickup low
W	Pickup lift
F	Pickup left (continuously)
B	Pickup right (continuously)
H	Pickup Stop
L	Pickup left (single step)
R	Pickup right (single step)
Sx (1...4)	Speed and Diameter
	1 33 rpm / 30 cm
	2 45 rpm / 17 cm
	3 33 rpm / 17 cm
	4 45 rpm / 30 cm
J	Varispeed OFF
D	Varispeed ON (previous value)
Vydd	with Varispeed ON: vary with dd x .1 percent y: +/-
X	Response request

Status response from B291

Overview

 1 2
123456789012345678901234 length: 12 char.
608abcddeeeef<

a) Power [4]

0 Off
1 On

b) Status [5]

0 Standby
2 Stop
2 Pause (Pickup lifted)
2 Returning (Pickup returning)
2 Positioning (Pickup to lead-in groove)
3 Play (Pickup lowered)

c) Arm Position [6]

1 Arm IN
0 Arm OUT

d) Speed [7-8]

33 33 rpm
45 45 rpm

e) Varispeed [9-11]

+dd dd = Deviation in .1 percent (Range: 00...99)
-dd

f) Mode [12]

N Normal: for 33rpm =30cm disc
 for 45rpm =17cm disc

S Special: for 33rpm =17cm disc
 for 45rpm =30cm disc

g) Varispeed Status [13]

0 Off
1 On

REVOX B200

A/V-CONTROLLER

* CHANGE JUMPER SETTING TO RS-232 POSITION

