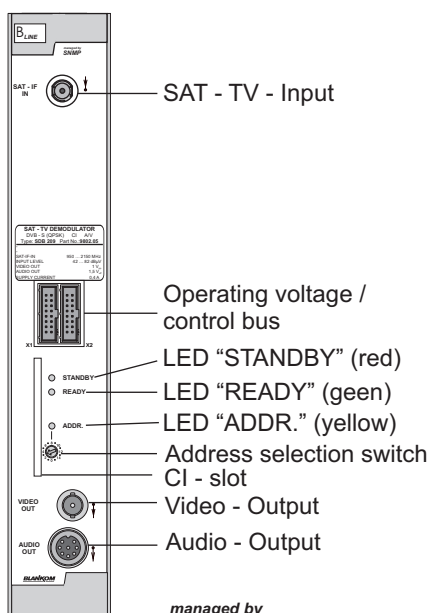


SDB 209

SAT - TV - DEMODULATOR
DVB - S (QPSK) CI A/V



Pic. 01

DEVICE VARIANT

SDB 209 9802.05 SAT - IF (QPSK) to Audio / Video with Common Interface

Minimum software required for HCB 100 (Headend Controller):

9650.03: Version 2.34

9650.04/.05: Version 3.18

GENERAL

The SAT-TV - Demodulator SDB 209 is a module of the head end system B-LINE which is conceived as a complete system for middle sized networks. The SDB 209 demodulates digital SAT - TV - signals (QPSK) into analog Audio/Video - signals. A Common Interface - slot enables using of CA-Modules for decoding of encoded signals/programs.

All modules are programmed via the central control unit (HCB 100) and are working independently afterwards.

The status of the individual modules is displayed via a colored LED.

• Red	- permanent	Modul in Standby mode
	- flashing	Hardware error
• Green	- permanent	Module ok
	- flashing	Signal error
• Yellow	- permanent	Remote access
	- flashing	Data transfer

FUNCTION DESCRIPTION

The SAT - IF - input signal passes through a SAT - input amplifier and then will be led over to the SAT - NIM.

The selection of a transponder and its QPSK - transmodulation is done within the NIM.

The datastream will be led over by the circuit matrix either to the Common Interface or directly to the DVB - module consisting of demultiplexer and MPEG - decoder. An analogue video- and a related stereo - audio - signal will be generated within the DVB - module. The video signal will be filtered and the audio - signal will be converted digitally/analogue, afterwards.

The analogue signals will be routed to the outputs of the module via isolation amplifiers (allocation of the audio - socket, Pic. 03).

The module contains a standardized CI - slot for CA - modules (Conditional - Access - Modules). A respective CA - module with chip card (e. G Betacrypt, Conax, Cryptoworks, Irdeto, Nagravision, Viaccess,...) has to be used for the decoding*. By activation of the software option CKB 104 its possible to decrypt BISS-encrypted services. Supported are the BISS mode 1 and the BISS mode E with input of the necessary Injected ID, but not the BISS mode E with the additional input of the optional Buried ID.

* The design of the Common interface of this module is done according to DVB compliant standards. According to the dependencies in interaction of DVB signals, CA-modules and smartcards we can not assure a general functional reliability for all application possibilities. Please contact our Service-Department for further assistance!

ADJUSTMENT POSSIBILITIES

Adjustment with the Headend Controller

Adjustment of the addresses at the Bus Extender BEB 100 and at the modules

Activation of the programming mode of each module by selecting the line (BEB 100) and the module position (01... 15) at the Headend Controller (HCB 100)

yellow LED will be lit up til the beginning of the parameter adjustment

Adjustment of the SDB 209 parameter (see Pic.04)

green LED is lit up

After the programming the SDB 209 will be automatically switched into the operating status

yellow LED lights up briefly / green LED is lit up

Adjustment with the PC / Laptop

Condition for the remote programming is an "online - connection" after IP - standard and an ethernet connection at the PC / Laptop

Adjustment of the line / position addresses at the bus extender BEB 100 as well as at the modules

At the Headend Controller HCB 100 IP - address input (e.g. 192.168.001.001)

For "direct connection" between a PC and HCB 100 use a crossed patch cable (RJ 45)

For connection over a deviation use an uncrossed patch cable

HTML - browser start-up and put in IP - address as target address

If connected correctly the HTML - control surface at the PC will open up and a blue LED (LINK) at the HCB 100 will be lit up

All adjustment of the modules are specified at the control surface

The manual instructions of the Headend Controller HCB 100 and the Bus Extender BEB 100 have to be considered!

TECHNICAL DATAS

SAT-IF Input

Frequency range	950 ... 2150 MHz
Frequency step	1 MHz
AFC level	± 3 MHz
AGC level range	42 ... 82 dBµV
Connector	F socket
Impedance	75

QPSK demodulator

Symbol rate	1 ... 45 MSps
Code rate	1/2, 2/3, 3/4, 5/6, 7/8
Roll off	35 %
Signal processing	ETS 300 421 (DVB-S)

Decoding interface

Common Interface	PCMCIA - Slot according to EN 50221
Operating voltage	+5 V

Video output

Output voltage	1 V _{pp}
Impedance	75
Connector	BNC socket
TV - systems / standards	PAL / SECAM / NTSC

Audio output

Level (at digital 0 dBFS)	6 dBu at 10 k 4 dBm at 600
Output	symmetrical grounding free
Connector	socket according to DIN 45326/ IEC 130-9-20

Operating parameters

Voltage / current	12 V (0.2 V) / 400 mA
Ripple of supply voltage	10 mV _{pp}

Environmental conditions

Temperature range	-10 ... +55 °C
Relative humidity	80 % (not condensing)
Mounting method	vertical
Mounting location	splash-proof and drip-proof

Physical informations

Dimensions (w x h x l)	
without 19" adapter	50 x 276 x 148 mm
with 19" adapter	50 x 301 x 148 mm
Weight	1,300 g

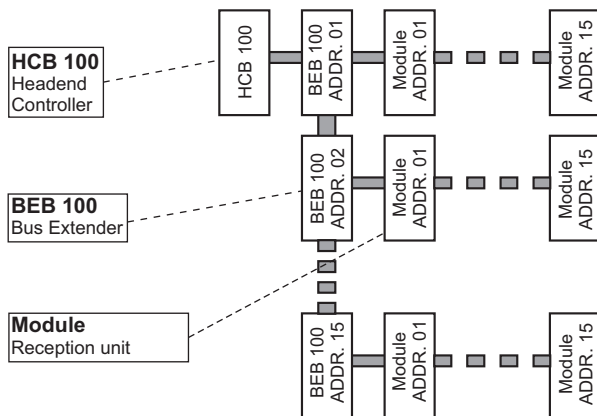
Delivery content

1 x BUS connector
1 x Audio cable ASK 525
1 x Video connector cable VVK 526
1 x Programming

Software options

Test lines	CKB 101 9650.51
Subtitling	CKB 102 9650.52
BISS decryption	CKB 104 9650.54

HEAD END BUS STRUCTURE

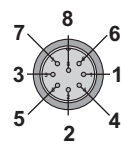


The number of the possible module connections (00 ... 15) to a BEB 100 depends on the total power consumption of this line!

Pic. 02

AUDIO - SOCKET

Allocation



- 1 Stereo Left+ / Dual A+ / Mono+
- 2 Screening / Earth
- 3 Stereo Right+ / Dual B+
- 4 Stereo Left- / Dual A- / Mono-
- 5 Stereo Right- / Dual B-
- 6 Control line Contact 1
- 7 Control line Contact 2
- 8 Control line Return path (Earth)

MONO	Pins 6 / 8: Connection open
	Pins 7 / 8: Connection closed
STEREO	Pins 6 / 8: Connection closed
	Pins 7 / 8: Connection open
DUAL	Pins 6 / 8: Connection closed
	Pins 7 / 8: Connection closed
	or
	Pins 6 / 8: Connection open
	Pins 7 / 8: Connection open

Pic. 03

SECURITY AND OPERATING INSTRUCTIONS

- STOP** When assembling, starting-up and adjusting the modules, it is necessary to consider the system specific references in the manual instruction!
- ⚠** The modules may only be installed and started up by authorized technical personnel!
- ⚠** When assembling the modules into the receiving points, the adherence of the EMC regulations is to be secured!
- ⚠** The assembly and wiring have to be done without voltage!
- ⚠** All active modules may only be operated with the Headend Controller HCB 100 or Bus Extender BEB 100!
- ⚠** The supply voltage and operating voltage for all modules operated with direct current has to be in accordance to the technical specifications of the respective module (see respective device manual)!
- ⚠** With all work the defaults of the DIN EN 50083 have to be considered!
Especially the safety relevant execution of the DIN EN 50083/1 is necessary!

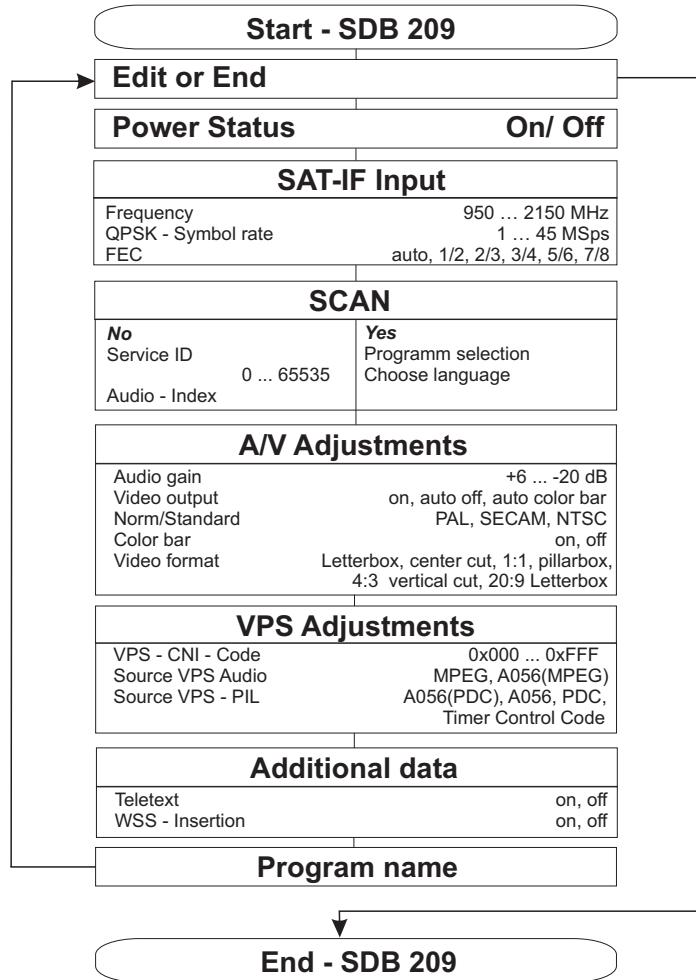
Options and other TV standards available upon request!

Changes due to technical progress possible.

Part N°: 9802.05

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Pic. 04

The manual instructions of the Headend Controller HCB 100 and the Bus Extender BEB 100 have to be considered!