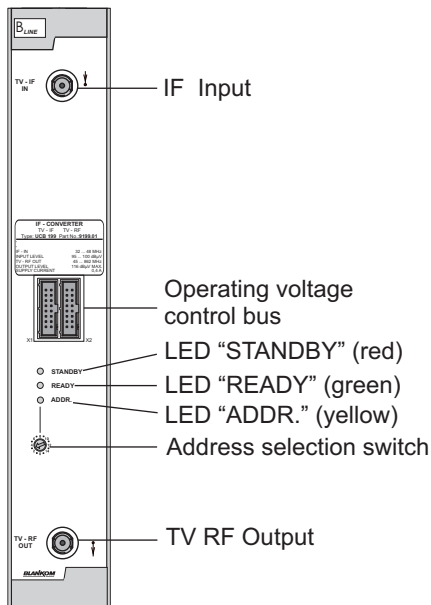


# UCB 199

## IF - UPCONVERTER

TV - IF TV - RF



Pic. 01

### DEVICE VARIANTS

UCB 199 9199.01 IF VHF I/ UHF V [45 ... 862 MHz]

**Minimum software requirements for HCB 100 (Headend Controller)**  
9650.04/ 05: V 3.11

### GENERAL

The agile IF - Upconverter UCB199 is a module of the B-LINE headend system, which is conceived as a complete system for middle sized distribution networks. The module converts any digital and analog IF signal into the RF range (45...862 MHz).

All modules are programmed at the central control unit and are working independently afterwards.

The status of the individual modules will be displayed by colored LEDs:

- Red - STANDBY Standby mode (Flashing Output level or Bus Error)
- Green - READY Operating mode (Flashing No Input level)
- Yellow - ADDR. Remote access mode

## FUNCTION DESCRIPTION

The IF Upconverter is equipped with an upconverter at the input which converts the input signal into a second high RF.

The main selection is done in this frequency level with SAW filters.

The following downconverter creates then the desired output frequency.

The output channel can be adjusted within the range of 45...862 MHz. The UCB 199 is adjacent channel sufficient at the output.

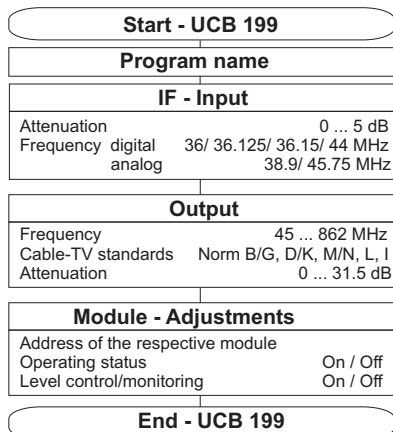
The necessary IF filtering at the input (band limitation) will be done within the respective input source module (e. G. QAM Modulator).

The implementation of high performance mixers and fractional-N frequency synthesizers assures a high transmission quality for all digital and analog IF - signals. The automatic measurement of the reference level is done after each adjustment/programming of the level- and frequency values if an input signal exists (at earliest after 100 seconds after system start).

In case of an alternating output impedance the module notifies a level error (Red LED is flashing / Trap - message will be send).

SNMP - Trap message: Bus Error  
Level Error  
PLL Error

## PROGRAMMING



Pic. 02

### 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 UCB 199 parameter(see Pic.02)

green LED is lit up

After the programming the UCB 199 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

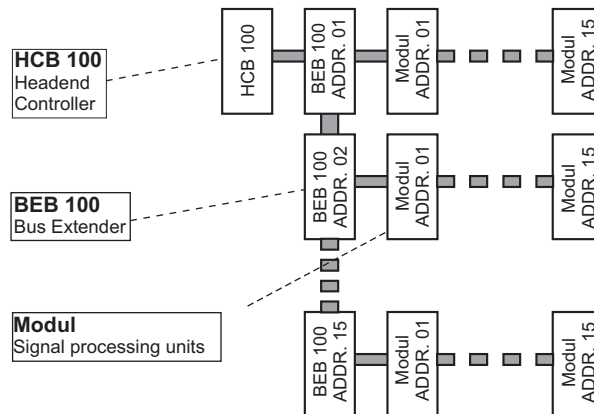
All adjustment of the modules are specified at the control surface

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

## TECHNICAL DATA

<b>IF - Input</b>			Phase noise	1 kHz; typ. 92 dBc/Hz 10 kHz; typ. 101 dBc/Hz 100 kHz; typ. -108 dBc/Hz
IF - Input level	95 dB $\mu$ V		Frequency stability	30 kHz
Level range	0 ... 5 dB (1.0 dB - Steps)		Output level stability	max. 1 dB <sub>pp</sub>
Input frequency range			Amplitude frequency response	max. 1 dB <sub>pp</sub>
Center frequency digital	36.000, 36.125, 36.150, 44.000 MHz		within channel (8 MHz)	
	analog	38.900, 44.750 MHz		
Bandwidth	8 MHz		<b>Operating parameter</b>	
Connector	F socket		Voltage / current	12 V ( 0.2 V ) / 400 mA
Impedance	75		<b>Environmental conditions</b>	
Return loss	18 dB 32 ... 48 MHz		Temperature range	-10 ... +55 °C
			Temperature range for data keeping	5 ... +45 °C
<b>RF - Output</b>			Relative humidity	80 % (not condensating)
Output frequency range	45 ... 862 MHz		Mounting method	vertical
Tuning grid	10 kHz/ 25 kHz		Mounting location	squirting and dripping water protected
Max. Output level	116 dB $\mu$ V			
Level range	0 ... 31.5 dB (0.5 dB - Steps)		<b>Physical information</b>	
Channel allocation	Adjacent channel ability		Dimension (w x h x l)	
Connector	F socket		without 19" - adapter	50 x 276 x 148 mm
Impedance	75		with 19" - adapter	50 x 301 x 148 mm
Return loss	18 dB 45 MHz -1.5 dB / Octave		Weight	1.100 g
<b>Signal quality</b>			<b>Delivery content</b>	
Single channel intermodulation	66 dB		1 x BUS connector	
Noise level 3rd order	60 dB			
Spurious 45...862 MHz	60 dB			
C/N within channel (BW = 4.8 MHz)	typ. 75 dB			
C/N > 25 MHz within channel (BW = 4.8 MHz)	typ. 80 dB			

## HEADEND 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. 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 EMV 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 main voltage for all power supply units is 230 V, 47 ... 63 Hz.
- ⚠** 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. No: 9199.01

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