Bluebell OPTICOM LIMITED

OPERATIONS & TECHNICAL MANUAL

For

BC620

8 ch Analogue Audio ⟺ Optical

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Safety Warning – Important Precautions

To reduce the risk of fire or electric shock, do not expose this equipment to rain, moisture, or wet conditions.

General Safety Guidelines

- Always **disconnect the entire system from the AC mains** before cleaning or servicing.
- The following product frames – **BC100, BC100i, BC101, BC102, BC120, BC160i** – must be connected using a **three-conductor AC mains power cord with an earth ground**. All three conductors must be used at all times to prevent electric shock.
- Do **not** bypass or disable any fuse.
- Only replace fuses with those of the **specified type and rating**.
- Do **not** use flammable or combustible chemicals for cleaning.
- Do **not** pour or spill liquids directly onto the unit.
- Do **not** allow any liquid to enter the unit or wet the internal components.
- Do **not** operate the unit with any cover or panel removed.
- Do **not** obstruct the ventilation slots—**adequate airflow must be maintained**.
- Do **not** operate the unit in environments with **extreme temperatures**.
- Do **not** use or store the unit in **explosive atmospheres**.
- Do **not** attempt to repair the unit yourself. If servicing is required, please contact your local **Bluebell Opticom** distributor.
- **Product Warranty**
- **Bluebell Opticom Ltd** provides warranty coverage as detailed in our general terms and conditions.
  Please note that warranty support is only valid **if product serial numbers remain intact and legible**. Tampering with or removing serial numbers may void your warranty.

CE	EN60950	Safety
	EN55103-1: 1996	Emission
	EN55103-2: 1996	Immunity

Bluebell Opticom Ltd FC Tested To Comply With FCC Standards FOR HOME OR OFFICE USE	This device complies with part 15 of the FCC Rules Operation is subject to the following two condition: (1) This device may cause harmful interference, and (2) This device must accept any interference received, including, Interference that may cause undesired operation

Contents

Description

Each Bluebell BC620 module contains two boards; a BC620 baseboard and a conversion board, either a BC450T (optical transmit) or a BC450R (Optical receive).
Data conversion from analogue audio to digital format is provided by the BC450T daughter board (eight channel A to D)
Conversion from digital to analogue format is provided by the BC450R daughter board (eight channel D to A) sub cards.
Conversion of the digital data to and from fibre is performed by the BC620 baseboard.
The BC620 module operates from an input voltage of +6V.
Optical input and output are on a SFP module with LC format sockets, multimode and single mode modules can be used.
The optical output power is dependent on the chosen SFP module.
Optical input sensitivity is also dependent on the chosen SFP module.
The audio inputs or outputs are via a 26-way HD D-type connector on the sub board.

Specifications

BC620T

Depth	74mm incl. connectors
Width	20mm (4HP)
Height	129mm (3RU)
Weight	120g
Power Supply	6V DC
Power consumption	3.5W
Current consumption	570mA

Audio

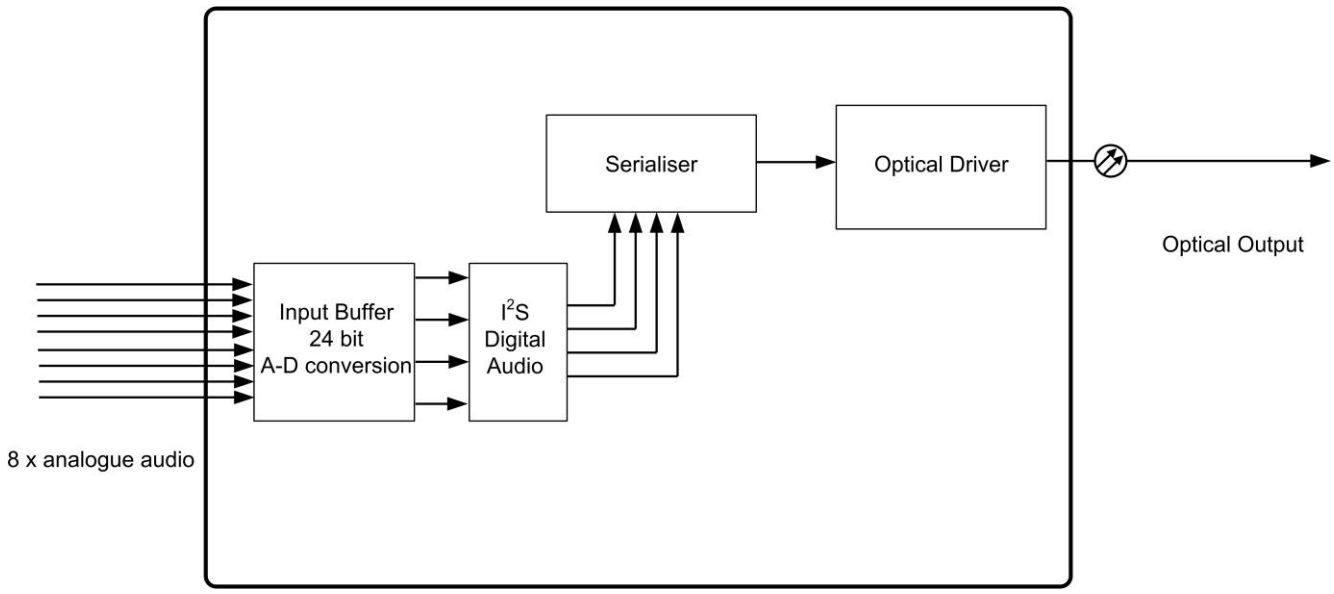
Analogue audio output	4 stereo pairs
Audio connector	26-way female High density “D” type

BC620R

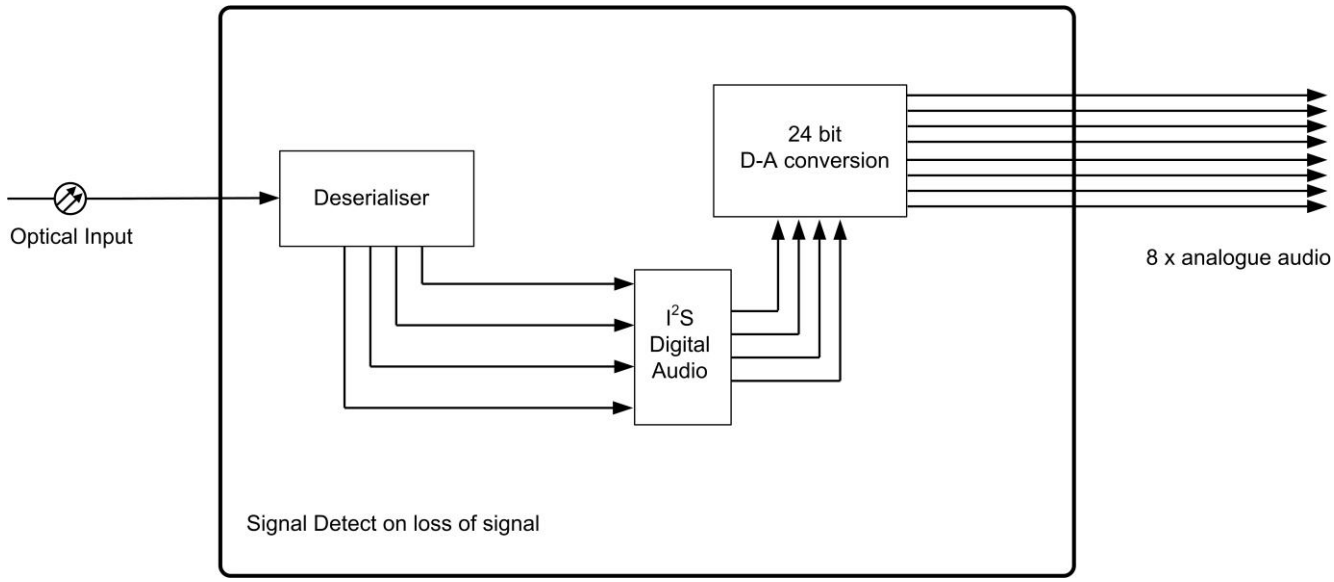
Depth	74mm incl. connectors
Width	20mm (4HP)
Height	129mm (3RU)
Weight	120g
Power Supply	6V DC
Power consumption	2.5W
Current consumption	400mA
Optical input	

Audio

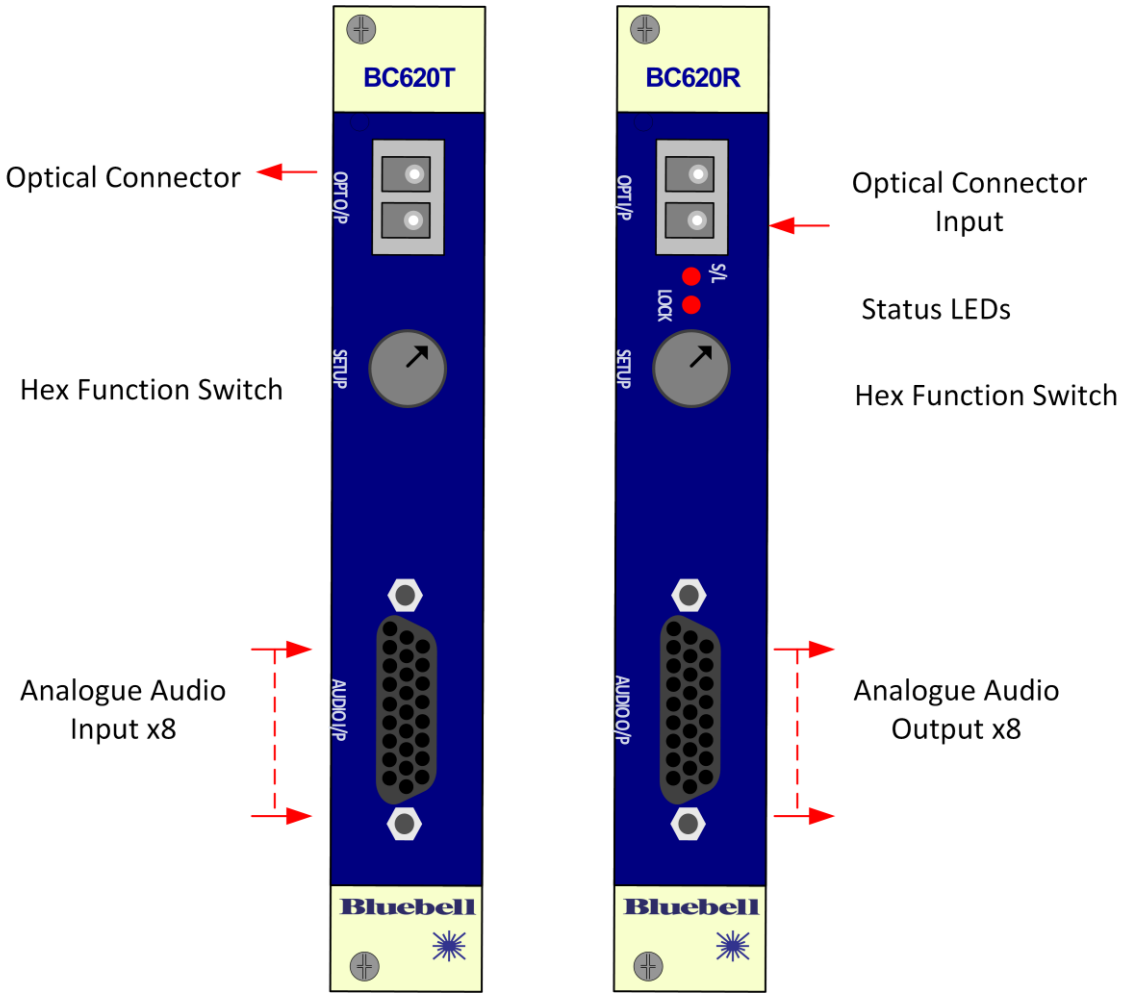
Analogue audio output	4 Stereo pairs
Audio connector	26-way female High density “D” type

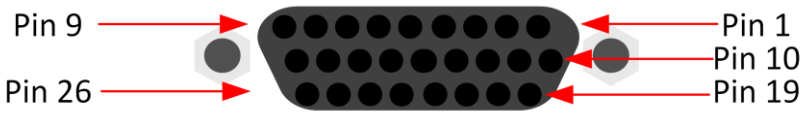


BC620T block diagram



BC620R block diagram


BC620T
BC620R
Optical Connector
Optical Connector Input
Status LEDs
Hex Function Switch
Hex Function Switch
Analogue Audio Input x8
Analogue Audio Output x8
OPT O/P
OPT I/P
S/L
LOCK
SETUP
AUDIO/P
AUDIO O/P
Bluebell
Bluebell



BC620T Analogue Audio input connections:

(NOTE; Channel B Left & Right are reversed compared to other channels.)*

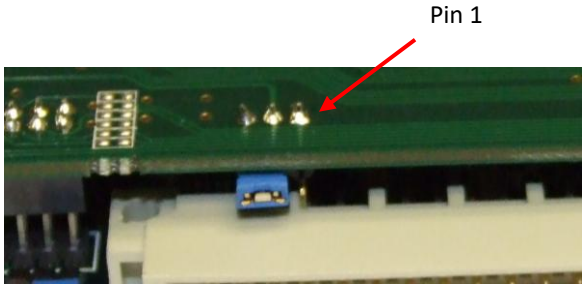
1	chan A Left +	10	chan A Left screen	19	chan A Left -
2	chan A Right +	11	chan A Right screen	20	chan A Right -
3*	chan B Right +	12	chan B Right screen	21	chan B Right -
4*	chan B Left +	13	chan B Left screen	22	chan B Left -
5	chan C Left +	14	chan C Left screen	23	chan C Left -
6	chan C Right +	15	chan C Right screen	24	chan C Right -
7	chan D Left +	16	chan D Left screen	25	chan D Left -
8	chan D Right +	17	chan D Right screen	26	chan D Right -
9	Ground	18	Ground		

BC620R - Analogue Audio output connections:

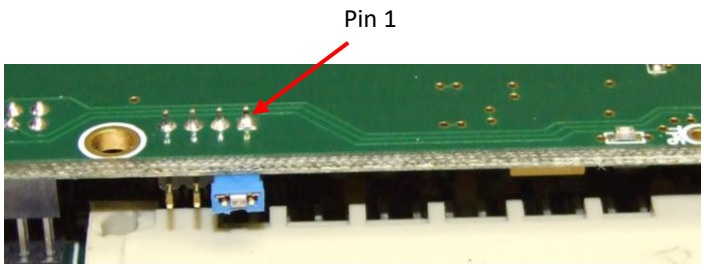
1	chan A Left +	10	chan A Left screen	19	chan A Left -
2	chan A Right +	11	chan A Right screen	20	chan A Right -
3	chan B Left +	12	chan B Left screen	21	chan B Left -
4	chan B Right +	13	chan B Right screen	22	chan B Right -
5	chan C Left +	14	chan C Left screen	23	chan C Left -
6	chan C Right +	15	chan C Right screen	24	chan C Right -
7	chan D Left +	16	chan D Left screen	25	chan D Left -
8	chan D Right +	17	chan D Right screen	26	chan D Right -
9	Ground	18	Ground		

	Link	to Link	
On BC450T (Sub board - Analogue audio input settings)			
LK1	Pin 1	Pin 2	0dB gain on all channels
LK1	Pin 2	Pin 3	+6dB gain on all channels
VR1	Gain adjustment for all channels -1 to +1 dB		
On 620 Baseboard			
LK4			Not used
LK5			Not used
HEX switch	No function on 620		
LED 1	Not implemented on BC620T		
LED 2	Not implemented on BC620T		

	Link	to Link	
On 450R (Sub board - Analogue audio output settings)			
LK1	Pin 1	Pin 2	-6dB gain on all channels
LK1	Pin 2	Pin 3	0dB gain on all channels
LK1	Pin 3	Pin 4	-4dB gain on all channels
VR1	Gain adjustment for all channels -1 to +1 dB		
On 620 Baseboard			
LK4			Not used.
LK5			Not used
HEX switch	No function on 620		
LED 1	(Upper LED) Optical strength good		
LED 2	Signal locked		



BC620T: 450T sub board Link location



BC620R: 450R sub board Link location