



**TECHNICAL
&
OPERATIONS MANUAL**

**BC360T
BC360R**

3G/SD/HD ↔ Fibre

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Contents

Contents		3
Description	BC360	4
Product photos	BC360	5
RECEIVER: OPTICAL to 3G/SD/HD	BC360R	6
Specifications	BC360R	6
Block Diagram	BC360R	6
Circuit description	BC360R	7
Adjustments/Settings/indicators	BC360R	8
Component Layout	BC360BR	9
Component Layout	BC360R2	10
Parts list	BC360BR	11
Parts list	BC360R2	12
TRANSMITTER: 3G/SD/HD to OPTICAL	BC360T	13
Specifications	BC360T	13
Block Diagram	BC360T	13
Circuit description	BC360BT	14
Adjustments/Settings/indicators	BC360T	15
Component Layout	BC360BT	16
Component Layout	BC360T2	17
Parts list	BC360BT	18
Parts list	BC360T2	19

Description	BC360
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The **BC360** board encompass both fibre to 3G/SD/HD conversion (**BC360R**) and 3G/SD/HD to fibre conversion (**BC360T**).

BC360R Single channel fibre optic to 3G/SD/HD conversion

BC360T Single channel 3G/SD/HD to fibre optic conversion

Fibre Optic Receiver BC360R

Comprised of two board types:

BC360BR BC360R Baseboard

The **BC360BR** is a baseboard that can be fitted with 1 or 2 **BC360R2** 3G/SD/HD digital video fibre optic receiver daughter boards to provide 1 or 2 channels of fibre to 3G/SD/HD conversion.

It is fitted with 1 dual port LC fibre optic receiver connector and connectors to mount 1 or 2 BC360R2 receiver daughter boards.

BC360R2 Fibre Optic receiver daughter boards

The BC360R2 provides a 3G/SD/HD output compliant with ANSI/SMPTE 259/292 at data rates from 143 to 2970 Mb/s. 1 or 2 BC360R2 receiver boards can be fitted onto the B360BR baseboard. Each BC360R2 board is fitted with 2 x 3G/SD/HD output BNCs and an indicator LED.

Fibre Optic Transmitter BC360T

Comprised of two board types;

BC360BT BC360T Baseboard

The **BC360BT** is a baseboard that can be fitted with 1 or 2 BC360T2 3G/SD/HD digital video fibre optic transmitter daughter boards to provide 1 or 2 channels of 3G/SD/HD to fibre conversion.

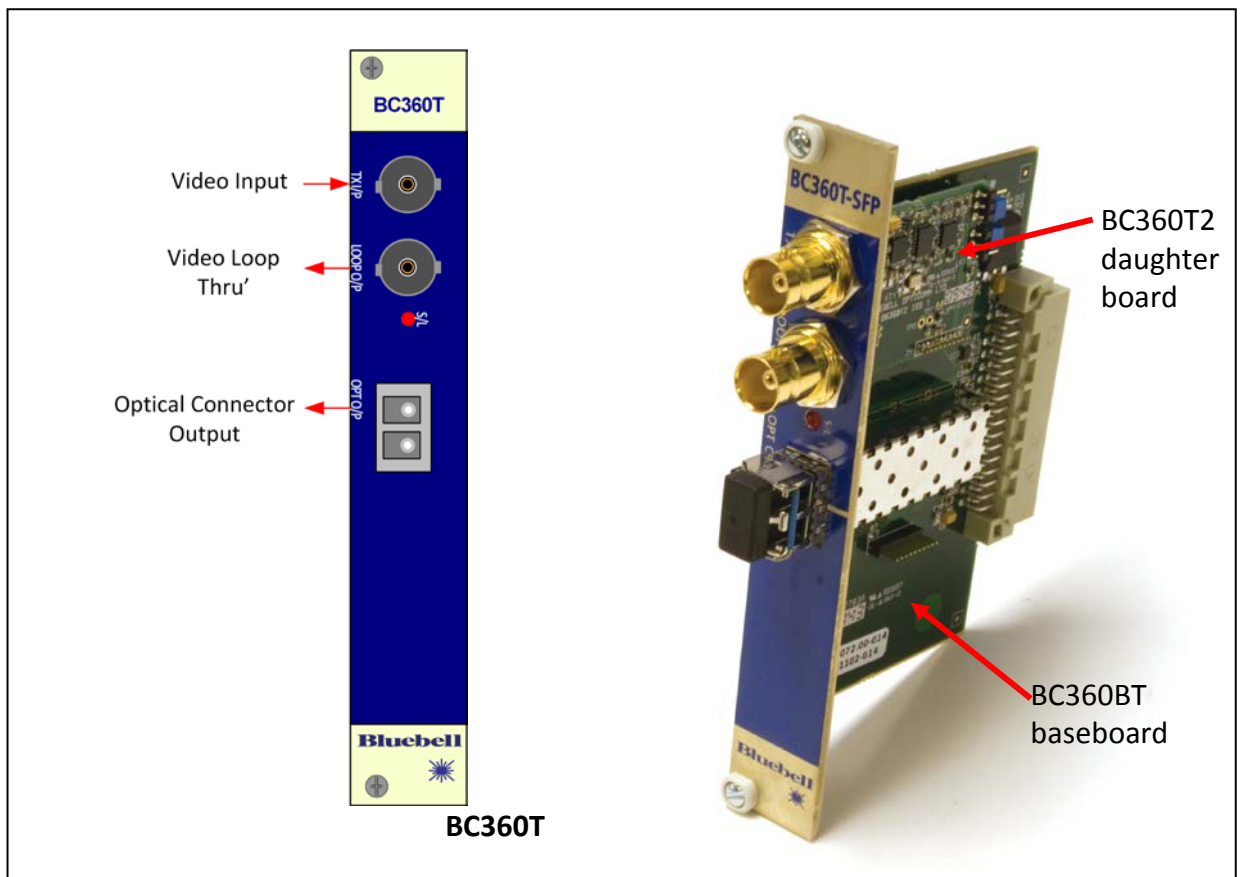
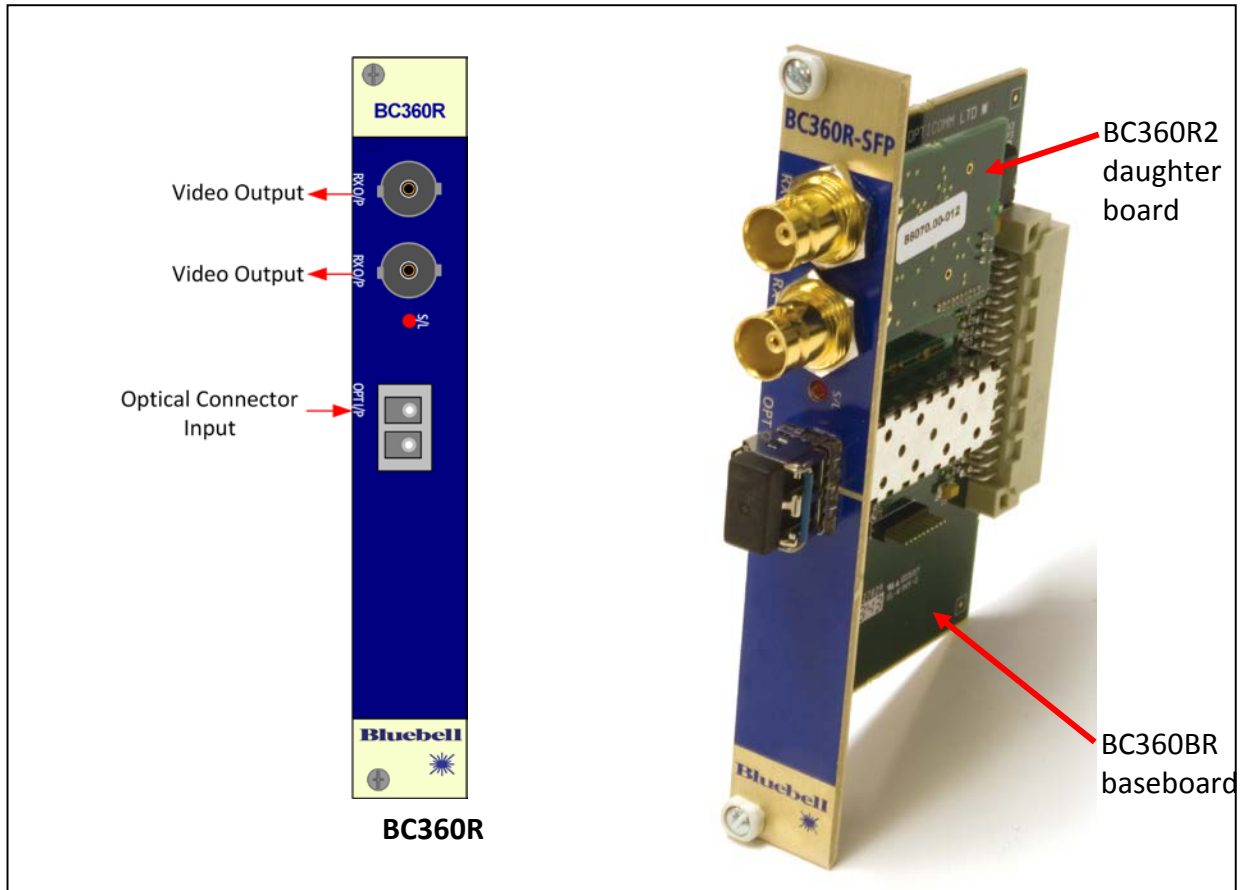
It is fitted with 1 dual port LC fibre optic transmitter connector and connectors to mount 1 or 2 BC360T2 transmitter boards.

BC360T2 Fibre optic transmitter daughter boards

The BC360T2 takes in digital video signal compliant with ANSI/SMPTE 259/292 at data rates from 143 to 2970 Mb/s. 1 or 2 BC360T2 transmitter daughter board can be fitted onto the B360BT baseboard. Each BC360T2 module is fitted with 1 3G/SD/HD input BNC, 1 loop through BNC and an indicator LED.

Product photos

BC360



RECEIVER: OPTICAL to 3G/SD/HD	BC360R
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Specifications	BC360R
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General

Depth	60mm
Width	30mm (6TE)
Height	100mm (3U)
Weight	150g
Operating Temp	-30°C to +70°C
MTTF	69x10E5 hours
Power Supply	6v @ 500mA (BC362R),

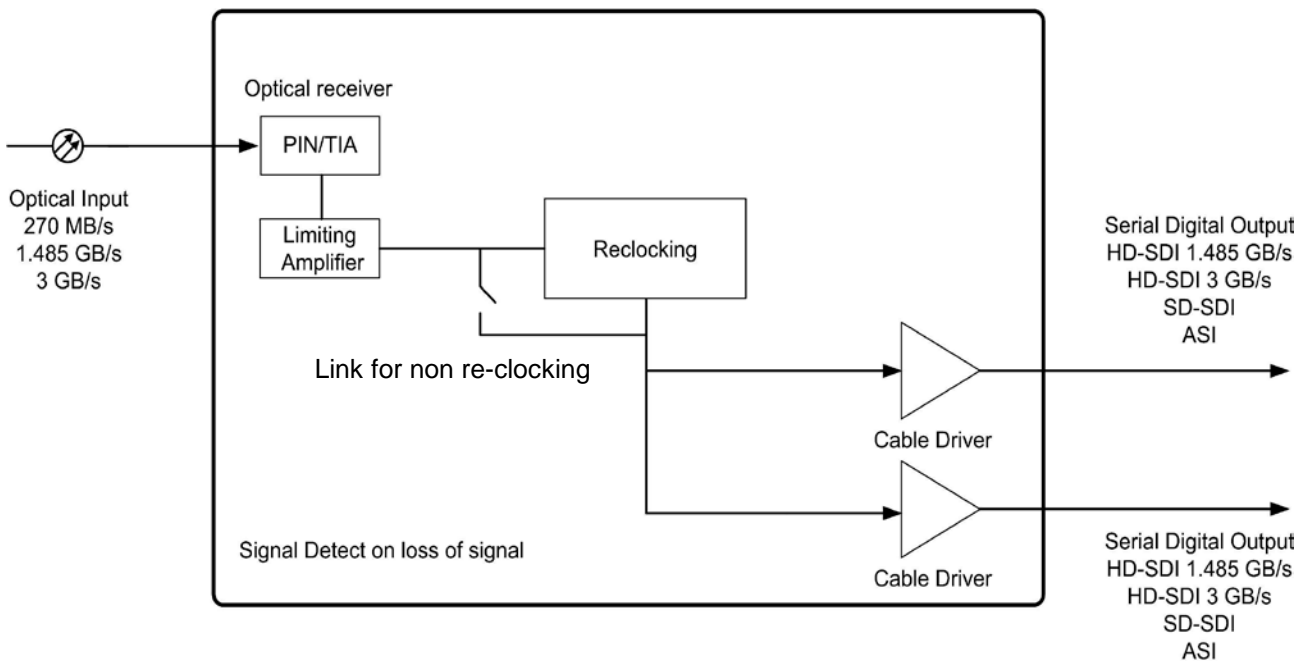
Optical i/p

Singlemode	LC 1310nm	LC connector
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Video o/p

Connector	BNC
Impedance	75R
Format	SMPTE 259/292 at data rates from 143 to 2970 Mb/s

Block Diagram	BC360R
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The BC360R-SFP is a 3G/SD/HD digital video fibre optic receiver. It is intended for operation with ANSI/SMPTE 259/292 digital video at data rates from 143 to 2970 Mb/s.

The digital video receiver input is via LC connector from fibre.
The digital video receiver outputs are via 2 BNC connectors.

Power input: 4.6V to 6.0V DC via a DIN 41612 1/2 AB RA format 32 way connector. In normal operation this is supplied by the Bluebell BC100 or BC160 card rack.

Circuit Description:-Base board BC360BR;

The +6 Volts DC input is filtered by C1 and fed to regulator IC1 (+3.3V) Pin 3. The regulated +3.3V output is on IC1 pin 2: C3 decouples this to ground. Filtered +3.3V outputs are fed to the fibre daughter boards (BC360R2) via J1 and J2. Power supply test points are TP2 (Gnd) and TP3 (+3.3V). IC3 and IC4 buffer the status outputs from the BC360R2 to drive the system status lines and LED's.

Digital video receiver daughter board BC360R2;

The digital video input from base board fibre optic output is fed to IC1 which reclocks the serial data stream and provides an indication of correct data rate lock. LK1 can be used to configure IC1 to reclock (low, link pins 2 to 3 = default) or to bypass reclocking (high, link pins 1 to 2). Cable driver IC4 provides 75 Ohm outputs on BNC1 and BNC2 (labelled RX o/p on back panel).

Current required at 3 GB/s

1 x BC360R2:	180mA
Base board with 1 daughter board:	70mA

Adjustments;

There are no adjustments on these boards

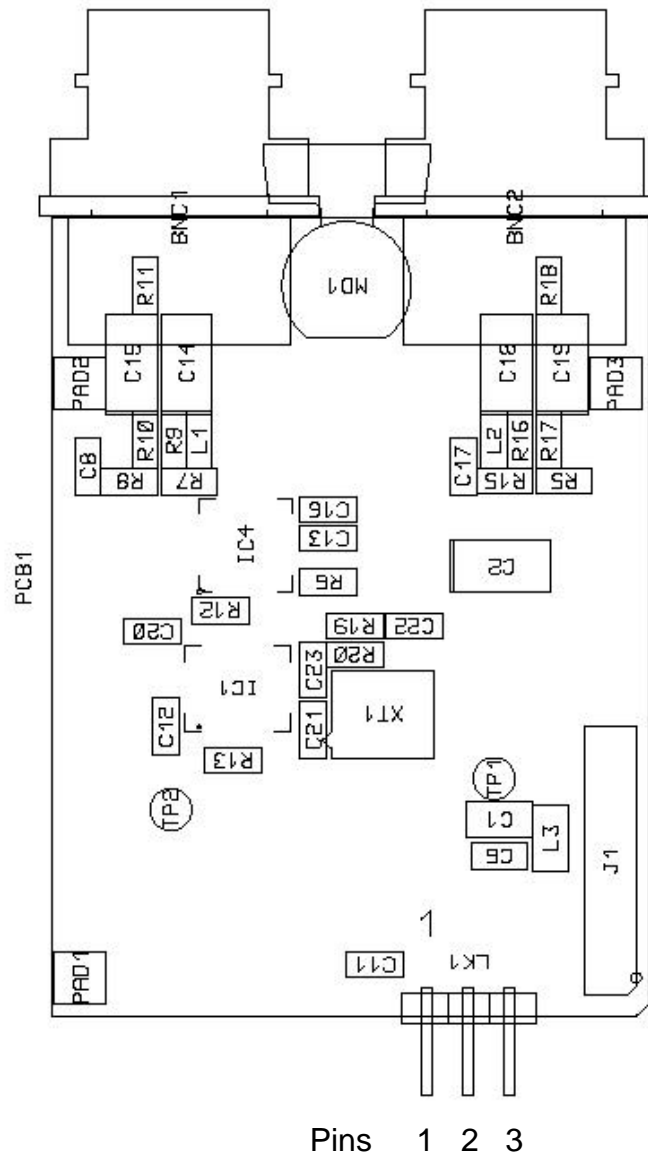
Link Settings:

On the digital video receiver boards BC360R2:

LK1: Link pins 1 to 2 to disable receiver re-clocking.
Link pins 2 to 3 to enable receiver re-clocking (Default).

Indicators:

The red LED located on the front panel lights to indicate loss of lock.



BB0360R2 ISS 1

LK1. Link pins 1 to 2 to disable receiver re-clocking.
 LK1. Link pins 2 to 3 to enable receiver re-clocking (Default).

TRANSMITTER: 3G/SD/HD to OPTICAL BC360T

Specifications

BC360T

General

Depth	60mm
Width	30mm (6TE)
Height	100mm (3U)
Weight	150g
Operating Temp	-30°C to +70°C
MTTF	69x10E5 hours
Power Supply	6v @ 660mA (BC362T)

Optical o/p

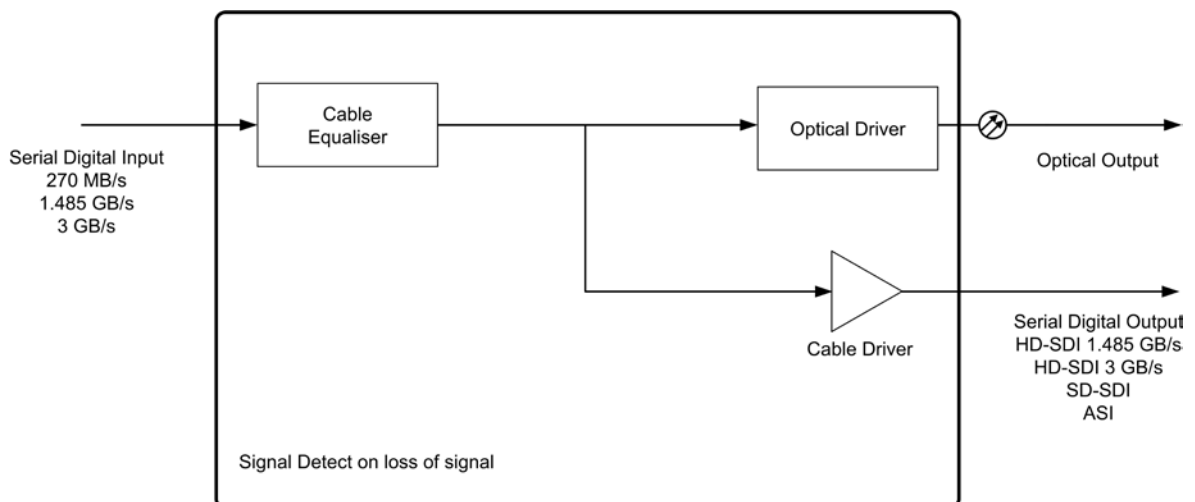
Singlemode	1310nm - LC connector
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Video i/p

Connector	BNC with loop through BNC o/p
Impedance	75R
Equalisation	Automatic up to 300m (SD) – 100m (3G)
Format	SMPTE 259/292 at data rates from 143 to 2970 Mb/s

Block Diagram

BC360T



The BC360T-SFP is a 3G/SD/HD digital video fibre optic transmitter. It is intended for operation with ANSI/SMPTE 259/292 digital video at data rates from 143 to 2970 Mb/s.

The digital video transmitter input is via BNC connector.

The digital video transmitter output is via LC connector to fibre.

The digital video transmitter repeat output is via BNC connector.

Power input: 4.6V to 6.0V DC via a DIN 41612 1/2 AB RA format 32 way connector.

Circuit Description:-

Base board BC360BT

The +6 Volts DC input is filtered by C1 and fed to regulator IC1 (+3.3V) Pin 3. The regulated +3.3V output is on IC1 pin 2: C3 decouples this to ground. Filtered +3.3V outputs are fed to the fibre daughter boards (BC360T2) via J1 and J2. Power supply test points are, TP2 (Gnd) and TP3 (+3.3V). IC3 and IC4 buffer the status outputs from the BC360T2 board to drive the system status lines and LED's.

Digital video transmitter daughter boards BC360T2

The digital video input from BNC connector BNC1 is fed to equaliser IC2 which provides compensation for frequency dependent cable losses. The data output from IC3 is next fed to IC4 which reclocks the serial data stream and provides indication of correct data rate lock via LK2. LK2 can be configured to allow either lock or signal strength indication to the system status and local LED indicator LD1 (for lock detect link pins 1 to 2, default). LK1 can be used to configure IC1 to reclock (low, link pins 2 to 3, default) or to bypass reclocking (high, link pins 1 to 2). The re-clocked signal is next fed a differential driver to IC1. This provides the 75 Ohm repeat output plus a differential output to the baseboard laser driver module.

Current required at 3Gb/s

1 x BC360T2:	260mA
Base board with 1 daughter board:	70mA

Adjustments;

There are no adjustments on these boards

Link Settings:

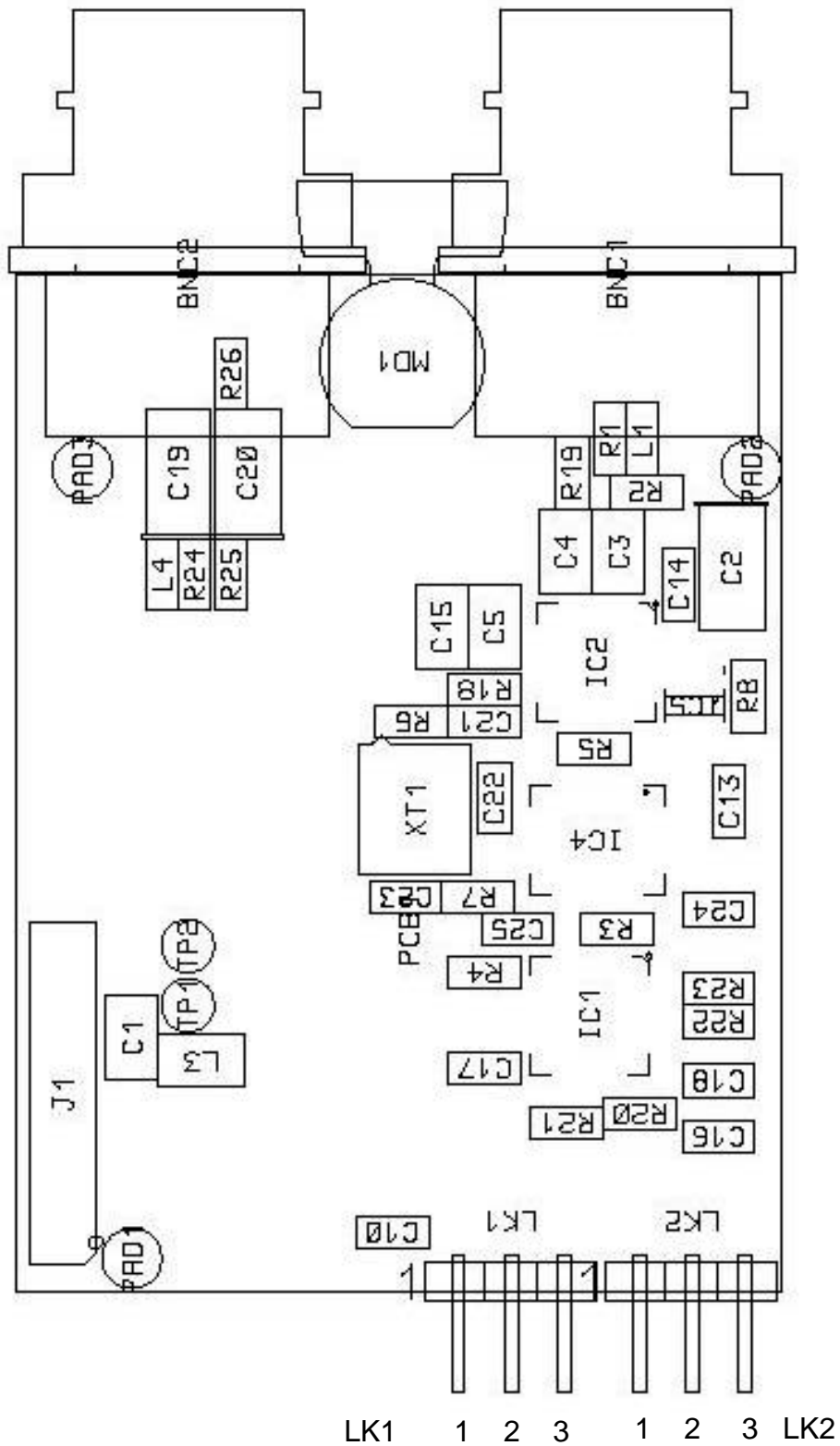
On the digital video transmitter boards BC360T2

LK1: Link pins 1 to 2 to disable receiver re-clocking.
Link pins 2 to 3 to enable receiver re-clocking (Default).

LK2: Link pins 1 to 2 for data lock error indication (Default).
Link pins 2 to 3 for received signal strength error indication

Indicators:

The LED located on the front panel indicates either: data lock error (LED on)
Or low signal strength (LED on), dependant on position of links LK2.



LK1
 Link 1 to 2 to disable receiver re-clocking.
 Link 2 to 3 to enable receiver re-clocking (Default).

LK2
 Link 1 to 2 for data lock error indication (Default).
 Link 2 to 3 for signal strength error indication.