

## BALBOX SDI / Cat 5 / SDI Interfaces



### FEATURES

- Dual channel SDI interfaces to Cat 5/6
- SDI outputs reclocked
- Automatic equalization on inputs
- ASI compatible
- 115m transmission distance per hop
- “Phantom powered” Repeaters
- 115m transmission distance
- Pass pathological test patterns

The **BALBOX SVC5012/C5SV012** and **C5MP013/C5CP013** are designed to be used in pairs to allow serial digital video to be sent over Cat5 and Cat6 UTP cable. This allows the structured cabling within a building to be used to provide full broadcast quality serial digital links where no provision for coaxial cables exists. Two serial digital video signals may be sent over one Cat5 or Cat6 cable.

The inputs of the serial video to Cat 5/6 converters provide automatic cable equalisation capable of handling up to 275m of suitable coaxial cable. All SDI outputs are re-clocked. The balanced inputs/outputs for the two channels are taken out through screened RJ45 sockets.

The interfaces ensure impedance matching and balancing to enable Cat 5 UTP cable to be used over lengths of up to 115 metres with no errors with pathological test signals, while maintaining low radiation. Repeaters allow further hops to be made.

It should be noted that the interfaces are not intended to be incorporated into a LAN, simply to enable the use of UTP cabling in place of coax.

These interfaces may be used in certain Outside Broadcast applications where low cost UTP cable may be more appropriate. The **C5RP012** and **C5RP013** derive power from the Cat5/6 cable and increase path lengths without the need for intermediate power points.

# SPECIFICATIONS

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## Cat5/6 Series General Characteristics

### **SDI over Co-ax Cable**

Signal format: 144, 177, 270 Mb/s serial NRZI to SMPTE RP259M. ASI compatible.  
Equalisation: Automatic, up to 275m of Belden 8281 coax cable, or similar  
Impedance: 75-ohm  
Connector: BNC

### **SDI over Cat5/6 Cable**

Signal format: Balanced 144, 177, 270 Mb/s serial  
Equalisation: Automatic, typically to 115m of Cat 5E UTP cable  
Impedance: 100-ohm  
Connector: RJ45 socket

### **SVC5012 – Dual Channel Serial Digital Video to Cat5/6 Interface**

The SVC5012 converts two standard SDI (or ASI) signals to a differential signal suitable for transmission over Unscreened Twisted Pair (UTP) with nominal 100-ohm impedance, such as Cat5/6 cable.

### **C5SV012 – Dual Channel Cat5/6 to Serial Digital Video Interface**

The C5SV012 receives two signals through Cat5/6 UTP from SVC5012 BALBOX and converts them back to standard SDI signals for 75-ohm co-ax cable.

### **C5RP012 – Dual Channel SDI over Cat5/6 Repeater**

The C5RP012 is designed to increase the distance achievable with SDI over Cat5/6 between a C5SV012 and SVC5012 by a further 115m. The C5RP012 is powered through the Cat5/6 cable itself. No local power is required.

### **C5MP013 – Dual Channel Bi-directional SDI to Cat5/6 and Cat5/6 to SDI Interface**

The C5MP013 provides one channel of standard SDI to Cat5/6 and one channel of Cat5/6 to standard SDI conversion. This unit is mains powered and provides power to the complementary C5CP013, and C5RP013 repeaters.

### **C5CP013 – Dual Channel Bi-directional SDI to Cat5/6 and Cat5/6 to SDI Interface**

The C5CP013 provides complementary conversion to the C5MP013 to form two independent SDI to Cat5/6 links in opposite directions. This unit is powered through the Cat5/6 cable.

### **C5RP013 – Dual Channel Bi-directional SDI over Cat5/6 Repeater**

The C5RP013 is designed to increase the distance achievable with SDI over Cat5/6 between a C5MP013 and C5CP013 by a further 115m. The C5RP013 is powered through the Cat5/6 cable itself. No local power is required.

*Note: uni-directional (xxxx012) and bi-directional (xxxx013) types cannot be mixed.*

## **INSTALLATION DATA**

Package: Each interface is housed in a standard *BALBOX*.  
Repeaters are housed in a diecast case.  
UTP pin-out: Pins 1,2 of the RJ45 connector are assigned to channel A and pins 3,6 to channel B.  
Cross-over cables are not required.  
Size: 184 x 103 x 42.4mm.  
Weight: 950g.  
Mains supply: 90 – 250Vac (C5RP012, C5RP013 and C5CP013 are powered through Cat5/6 cable).  
Consumption: <15VA

*Refer to BALBOX data sheet for information on 1U mounting tray - **BOXRACK***

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## **ORDER CODE**

## **DESCRIPTION**

<b>SVC5012</b>	BALBOX Dual Channel Serial Video to Cat 5/6 Interface
<b>C5SV012</b>	BALBOX Dual Channel Cat 5/6 to Serial Video Interface
<b>C5RP012</b>	BALBOX Dual Channel SDI over Cat5/6 Repeater
<b>C5MP013</b>	BALBOX Bi-directional SDI to Cat5/6 and Cat5/6 to SDI Interface – <b>Mains Powered</b>
<b>C5CP013</b>	BALBOX Bi-directional Cat5/6 to SDI and SDI to Cat5/6 Interface – <b>Cable Powered</b>
<b>C5RP013</b>	BALBOX Bi-directional SDI over Cat5/6 Repeater
<b>BOXRACK</b>	Tray to hold up to 4 <i>BALBOX</i> es in 1U 19" rack

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