

ACTIVE FCB COAXPRESS INTERFACE MODULE



- Low-cost 1080i/720p interface to Sony FCB-H11
- CoaXPress digital interface
- Power, control and data over a single cable

FEATURES

- Single coax solution for interfacing to Sony FCB-H11 or FCB-H10 block cameras.
- Includes interface board, cables, and bracket.
- Uses the digital output on the Sony FCB-H11 to give optimum image quality.
- Supports all HD modes of the FCB-H11 – 1080i and 720p at 50Hz or 60Hz – in real time.
- Single 2.5Gbps CoaXPress link.
- Compatible with FireBird CoaXPress frame grabbers with support for various operating systems.
- Compliant with CoaXPress-TD protocol.
- RoHS compliant.



CoaXPress

OVERVIEW

The **Active-FCB-CXP** is a complete interface solution to acquire digital images directly in real-time from the Sony FCB-H11 and FCB-H10 series of block cameras.

This interface module provides a cost effective solution to take full advantage of the high definition digital video provided by the Sony FCB-H11 and FCB-H10 block cameras. Unlike alternative solutions which re-digitize the analog output from the camera, this solution directly connects to the camera's digital output to provide superior image quality. All camera HD modes are supported e.g. 1080i/50Hz, 1080i/59.94Hz, 720p/50Hz and 720p/59.94Hz.

The kit consists of the small interface module, a mounting bracket and cable.

Active Silicon can also supply a range of video capture cards for interfacing to this module. As well as zero CPU acquisition, these cards provide serial communications and access to the camera's reset line for control of standby mode. These cards are available in a range of formats – not only standard PC formats (PCI & PCI-Express) but also in compact form factors such as PCI/104-Express for embedded applications.



Figure 1: Interface module fitted via Mounting Bracket to rear of camera.



Figure 2: Active-FCB-CXP Kit Contents.



CONNECTOR SPECIFICATION – ACTIVE-FCB-CXP

CXP Connector (J1)

Active-FCB-CXP is fitted with a 75Ω BNC connector, allowing use of a coaxial cable to the **Active-FCB-CXP** interface board. This connector is used for data, communications and power.

A green LED (LED1) near J1 illuminates when power is present.

Connector type: 75Ω BNC to CoaXPress specification.

Mating cable: Standard CoaXPress cable.

KEL10 Connector (J3)

Active-FCB-CXP is fitted with a 10 way miniature connector to link to the matching connector on the Sony FCB-H11.

Connector type: KEL SSL series.

Mating cable: KEL SSL20-10SSB-016-BH. (Suitable cable supplied as part of the kit).

FFC24 Connector (J100)

Active-FCB-CXP is fitted with an industry standard 0.5mm pitch FFC connector to link to the matching CN901 connector on the Sony FCB-H11.

Connector type: e.g. Hirose FH12A-24S-0.5SH.

Mating cable: e.g. Molex 98266-0251. (Suitable cable supplied as part of the kit).

PIN	SIGNAL	NOTES
1	GND	
2	TXD	Serial control. Driven by FireBird CoaXPress card via Active-FCB-CXP .
3	RXD	Serial control. Driven by FireBird CoaXPress card via Active-FCB-CXP .
4	RESET IN	Camera reset control. Driven by FireBird CoaXPress card via Active-FCB-CXP .
5	GND	
6		Not used.
7	GND	
8		Not used.
9	GND	
10		Not used.
11	GND	
12		Not used.
13	GND	
14		Not used.
15	GND	
16		Not used.
17	GND	
18	DC IN	Power to camera. Generated by Active-FCB-CXP module.
19	DC IN	Power to camera. Generated by Active-FCB-CXP module
20	DC IN	Power to camera. Generated by Active-FCB-CXP module
21	DC IN	Power to camera. Generated by Active-FCB-CXP module
22	GND	
23	DC IN	Power to camera. Generated by Active-FCB-CXP module
24	GND	

This connector links to the main connector on the Sony FCB-H11.

CONFORMANCE

CoaXPress: **ACTIVE-FCB-CXP** is compliant with CoaXPress-TD protocol and conforms to v1.11 of the CoaXPress specification.

Approvals: The **ACTIVE-FCB-CXP** is intended for inclusion in systems meeting the following regulations and standards when housed in a suitable enclosure:

- EU € mark for compliance with EMC EN 55022:2010 (class A) and EN 55024:2010 in accordance with EU directive 2004/108/EC.
- USA EMC FCC Class A.

RoHS Compliant.

The printed circuit boards are manufactured by UL recognised manufacturers and has a flammability rating of 94-V0.

PHYSICAL AND ENVIRONMENTAL DETAILS – ACTIVE-FCB-CXP

Dimensions: 45mm by 45mm by 28mm high (over components).
(see drawings below) When the bracket is used, the depth of the camera is increased by 35mm.

Approximate weight: 28g (excluding metal bracket).

Power consumption (typical): TBC.

Storage Temperature: -15°C to +70°C.

Operating Temperature: 0°C to +55°C.

Relative Humidity: 10% to 90% non-condensing (operating and storage).

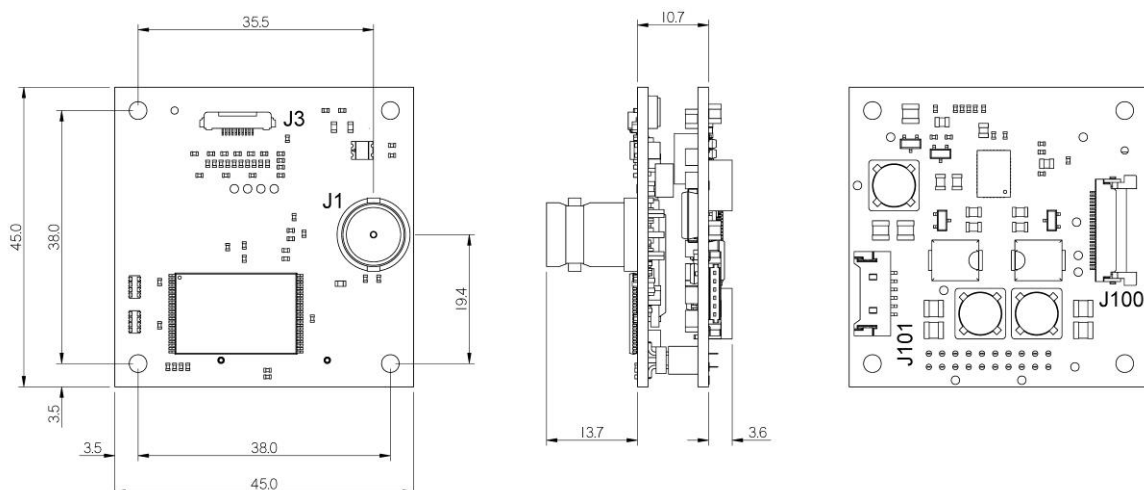


Figure 3: PCB Mechanical Details (Top, Side and Bottom)

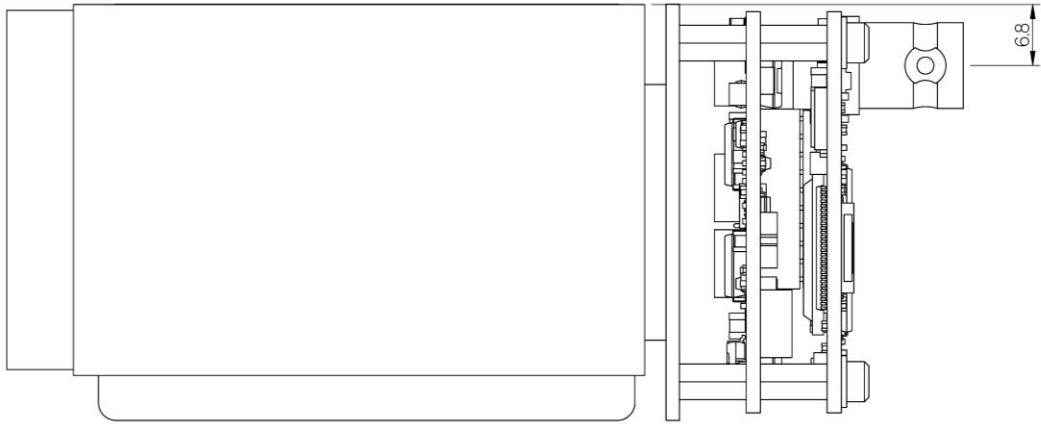


Figure 4: Module on Bracket and Attached to Camera (Top View).

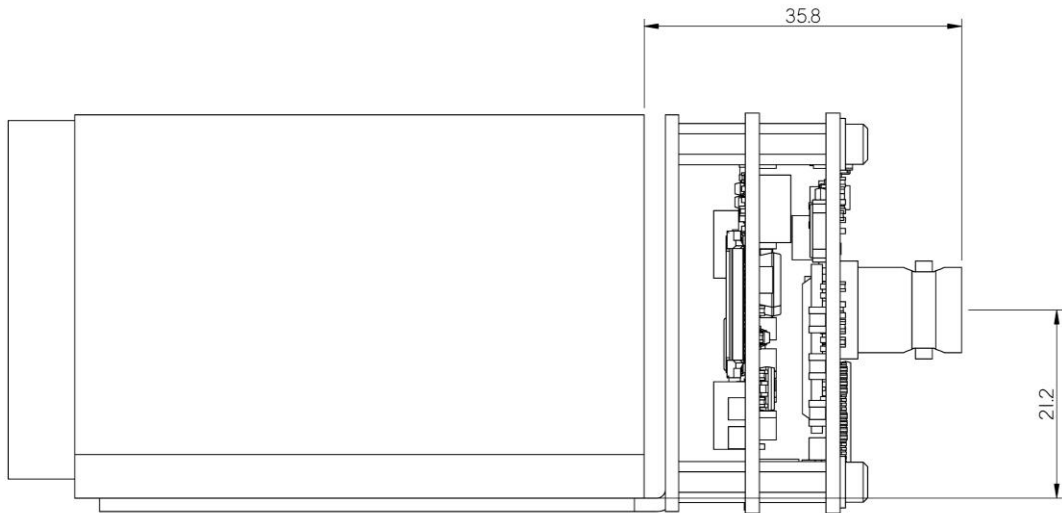


Figure 5: Module on Bracket and Attached to Camera (Side View).

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
AS-CXP3-IF-A	CoaXPress adapter board for Sony FCB digital interface.
AS-CXP3-IFKIT-A	Interface kit to Sony FCB-H11 (or FCB-H10). Includes AS-CXP3-IF-A interface module, all cables apart from the coaxial cable, bracket and screws.
AS-FBD-4XCXP6-2PE8 AS-FBD-2XCXP6-2PE8 AS-FBD-1XCXP6-2PE8	CoaXPress frame grabbers (Quad, Dual or Single CXP links) to connect to a Sony FCB-H11 camera with an Active-FCB-CXP . PCI Express bus with 8-lane (x8) bus interface.
AS-CBL-CXP-A-xM	BNC to BNC cable x metres in length for use with CoaXPress video. Made from Gepco VDM230. Standard stock lengths are 3m, 5m, 10m and 20m. Higher flex rating cables also available – contact your distributor for details.
AS-PHX-SDK-xxx	Software Development Kit for xxx operating system. For a full list of all supported operating systems please refer to the SDK datasheet, or contact your distributor.

THE CAMERA INTERFACE RANGE

The following products are available in the range:

- HD-SDI interface kits for Sony and Tamron cameras (digital interface for up to 100m cable length).
- CoaXPress interface for Sony FCB-H11 (single coax digital interface for up to 130m cable length).

Active Silicon also provides a range of capture cards designed for use with the above interface modules.



CONTACT DETAILS

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