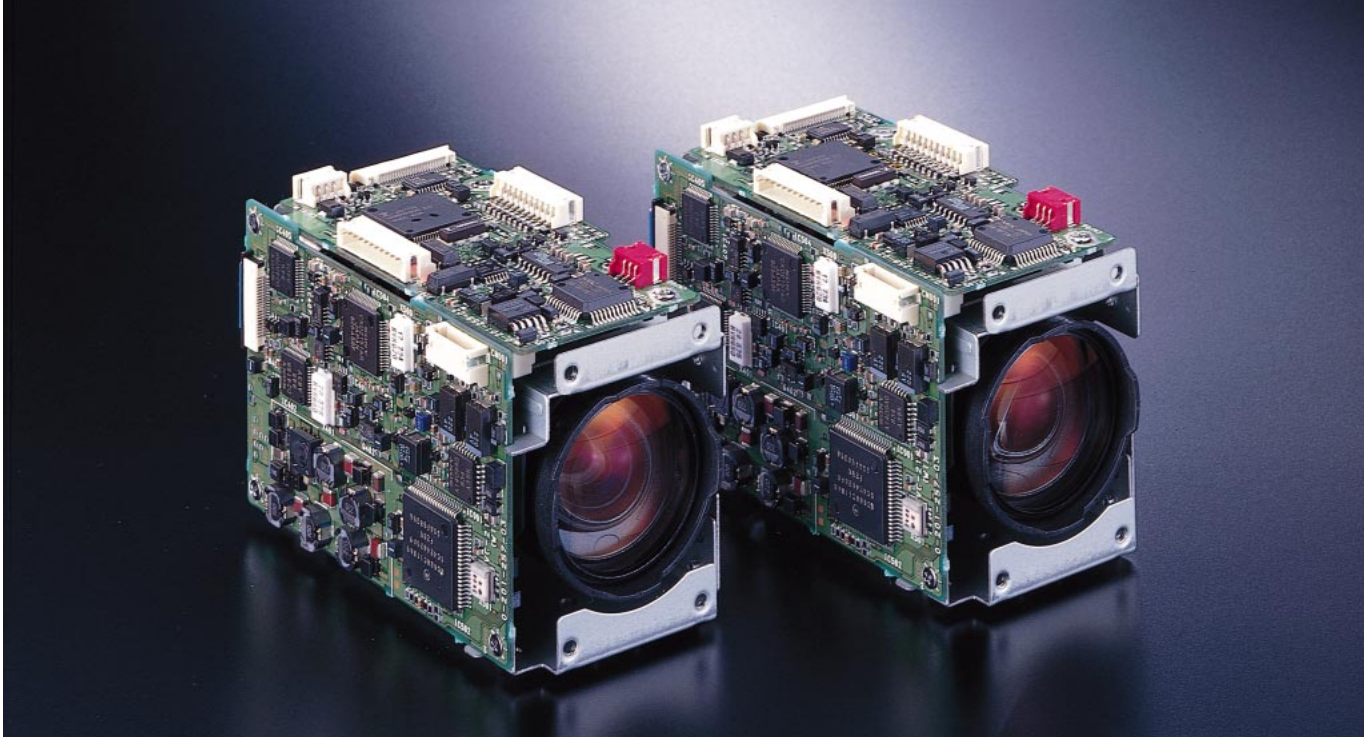


SONY

COLOR CAMERA BLOCK

EVI-400/401 EVI-400DR/401DR

Component/OEM



Outline

The EVI-400 and EVI-401 are color camera blocks that combine a 1/3-inch, 380k/440k pixel Super HAD CCD™ with a 12x optical zoom.

Equipped with new functions not found in previous models, these cameras are also designed with a more compact form factor. Incorporating the latest CCD technology, the units achieve even greater sensitivity (minimum object illumination of 1 lx). An EEPROM chip contains the pre-programmed factory default camera settings, so the camera setting can be stored without battery backup. Finally, in addition to the standard RS-232C, a TTL voltage level serial interface is provided for control. The EVI-400DR and EVI-401DR provide additional features including a digital zoom with a standard 2x zoom (max. 8x) and a V-Lock function which allows the camera to be controlled externally, thus extending the potential range of applications.

Features

- 1/3-inch, 380k/440k pixel Super HAD CCD™
- High Sensitivity (1 lx at 50 IRE)
- Compact Size (47 mm x 55.4 mm x 82.5 mm)
- 12x Optical Zoom
- 2x(max. 8x) Digital Zoom (EVI-400DR/401DR)
- External Synchronization, V-Lock (EVI-400DR /401DR)
- 5 Position Presets + Factory Default Preset (EEPROM)
- VISCA™/RS-232C Control
- Direct Interface (TTL Signal Levels)

* "Super HAD CCD™" is a trademark of Sony Corporation.

* "VISCA™" is a trademark of Sony Corporation.

* "VISCA™" is an acronym of Video System Control Architecture.

It is a network protocol designed to interface a wide variety of equipment to computer.

Camera Control

Camera functions can be controlled remotely

	VISCA™ / RS-232C or direct interface		Control circuit board
	EVI-400/401	EVI-400DR/401DR	
Power ON / OFF	<input type="radio"/>	<input type="radio"/>	
Zoom Standard Tele / Wide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zoom Fast Tele / Wide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zoom Position (Preset / Detect)	<input type="radio"/>	<input type="radio"/>	
Digital Zoom ON / OFF	<input type="radio"/>	<input type="radio"/>	
Focus Auto / Manual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Focus Far / Near	<input type="radio"/>	<input type="radio"/>	
Focus Position (Preset / Detect)	<input type="radio"/>	<input type="radio"/>	
AF mode Selection	<input type="radio"/>	<input type="radio"/>	
Interval AF Time	<input type="radio"/>	<input type="radio"/>	
AF Sensitivity Low / Normal	<input type="radio"/>	<input type="radio"/>	
White Balance mode Selection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One Push White Balance (Preset)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
White Balance mode (Detect)	<input type="radio"/>	<input type="radio"/>	
ATW Condition Normal / Indoor / Outdoor	<input type="radio"/>	<input type="radio"/>	
AE Sensitivity High / Normal	<input type="radio"/>	<input type="radio"/>	
Spot AE	<input type="radio"/>	<input type="radio"/>	
Bright Control Up / Down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exposure Compensation Up / Down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shutter Priority Up / Down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shutter Priority (Preset)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shutter Priority (Detect)	<input type="radio"/>	<input type="radio"/>	
Iris Priority Up / Down	<input type="radio"/>	<input type="radio"/>	
Iris Priority (Preset)	<input type="radio"/>	<input type="radio"/>	
Iris Priority (Detect)	<input type="radio"/>	<input type="radio"/>	
Manual Shutter Up / Down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manual Shutter (Preset)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manual Shutter (Detect)	<input type="radio"/>	<input type="radio"/>	
Manual Iris Up / Down	<input type="radio"/>	<input type="radio"/>	
Manual Iris (Preset)	<input type="radio"/>	<input type="radio"/>	
Manual Iris (Detect)	<input type="radio"/>	<input type="radio"/>	
Manual Gain Up / Down	<input type="radio"/>	<input type="radio"/>	
Manual Gain (Preset)	<input type="radio"/>	<input type="radio"/>	
Manual Gain (Detect)	<input type="radio"/>	<input type="radio"/>	
Position Preset (Preset / Reset)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Position Preset (Detect)	<input type="radio"/>	<input type="radio"/>	
Date and time (Set / Display)	<input type="radio"/>	<input type="radio"/>	Display only
Character (Set / Display)	<input type="radio"/>	<input type="radio"/>	
Camera ID (Set / Display)	<input type="radio"/>	<input type="radio"/>	
User Support (Preset / Reset)	<input type="radio"/>	<input type="radio"/>	
V-Phase Adjustment		<input type="radio"/>	<input type="radio"/>

● Direct Interface

Transmission signal levels for VISCA™ can be set to 0~0.3V (low) and 4.5~5.0V (high).

● Control Circuit Board

Depending on the type of "add-on" control circuit board, the functions listed above are controllable. An MD-78 CN104 (27P) connector is used for connection with a 27-pin flat cable. For details of the circuit design and specifications, refer to the instruction manual.

■ Autofocus

◇ Interval AF

The autofocusing mechanism is activated repeatedly at regular intervals, but the interval (latency) can be set.

◇ Zoom Trigger AF

The autofocusing mechanism is activated when zooming begins; after a given period of time autofocusing stops. The duration of autofocusing can be set.

◇ One Push AF

After sending a trigger command through VISCA™, the autofocus function works only for the time period set.

◇ AF Sensitivity

The autofocus function can be set to a lower sensitivity. To adjust for changes in the illumination conditions, repetitious autofocusing can be controlled.

■ AE Gain

A maximum gain value can be selected. High Gain Mode offers a maximum 10 dB increase in sensitivity. A minimum object illuminance of 1 lx is achievable in High Gain mode.

■ Position Preset

Five preset camera settings can be stored semipermanently in EEPROM (electrically erasable and programmable ROM).

■ Factory Preset

The factory default settings can be changed by custom settings without using the position preset function. Custom settings available include: (1) digital zoom magnification; (2) zoom speed; (3) zoom limiter settings (telescopic/wide); and (4) close focusing limiter settings. Details are available upon request.

■ User Support (EEPROM set)

The EEPROM (electrically erasable and programmable ROM) has address space in which users can store userdefined settings. Date of manufacture, ID. And other data are also recorded and can be retrieved.

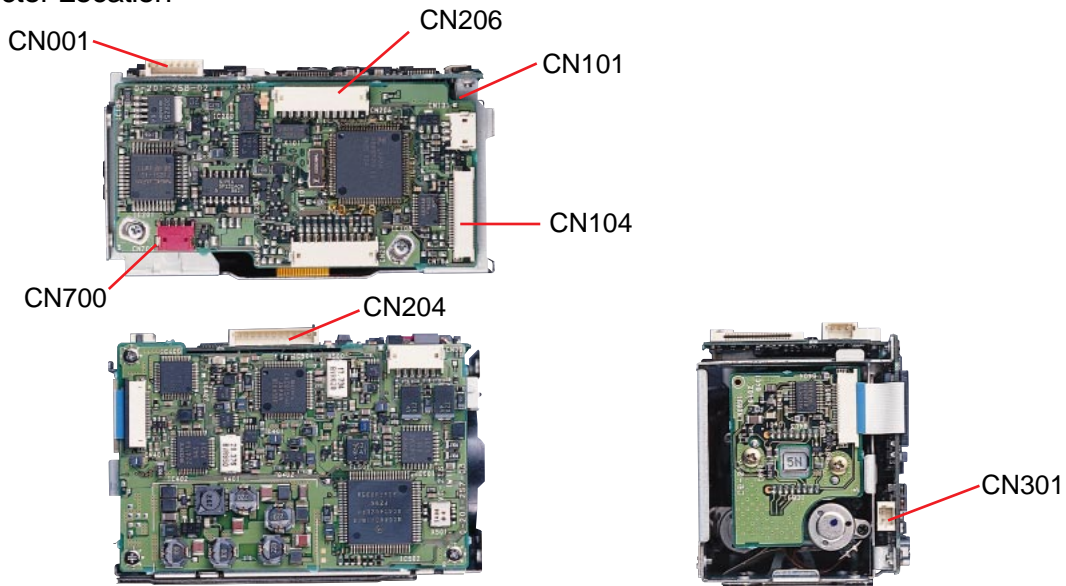
■ External Synchronization (V-Lock Synchronization)

V-Phase can be Synchronized externally by inputting a V-Lock signal via a CN700 connector to the MD-78 circuit board.(EVI-400DR/401DR)

Note:

V-Lock synchronization is a simplified synchronization method, so unlike VBS Gen-lock, color signals cannot be synchronized.

Connector Location



Pin Assignments

CN301 (Power)

1	DC IN (6~12V)
2	GND

CN001 (Video Out)

1	GND
2	C OUT
3	GND
4	Y OUT
5	GND
6	VBS OUT

CN700 (External Sync.)

1	VL PULSE IN
2	FREQ PULSE IN
3	GND

CN204 (VISCA™ / Direct)

1	TXD IN_RS
2	DTR IN_RS
3	DSR IN_RS
4	RXD IN_RS
5	TXD IN_DIRECT
6	DTR IN_DIRECT
7	DSR IN_DIRECT
8	RXD IN_DIRECT
9	GND
10	AF LED

CN104 (External Control)

Refer to the instruction manual.

CN206 (Zoom, Focus Control / User Port in/Out)

1	ZOOM WIDE
2	ZOOM TELE
3	AF ON / OFF
4	FOCUS NEAR
5	FOCUS FAR
6	GND
7	AF LED
8	USER PORT IN 1
9	USER PORT IN 2
10	USER PORT OUT 1
11	USER PORT OUT 2

Accessory cables

The EVI-400/401 is shipped with 5 cables, and the EVI-400DR / 401DR with 6 cables, in the unit packaging box.

©To control the camera via RS-232C, see RS-232C Command List and the demonstration software.

Accessory

- Connector Harness (Supplied Accessory)
2P, 3P (White), 6P, 10P, 11P,
3P (Red without EVI-401)



- Wide Conversion Lens (Optional)
• VCL-0637W
• 0.6x Wide Conversion



- Filter Attachment Adaptor (Optional Accessory)



- Φ 37mm Adaptor Lens (Optional)

Conversion lenses for Sony Camcorders having 37mm screw can be used for the EVI-400/401/400DR/401DR

RS-232C Command List and EVI-400 Series demonstration software (for Microsoft Windows® 95, Windows® 98 and Windows® NT 4.0) are available separately.

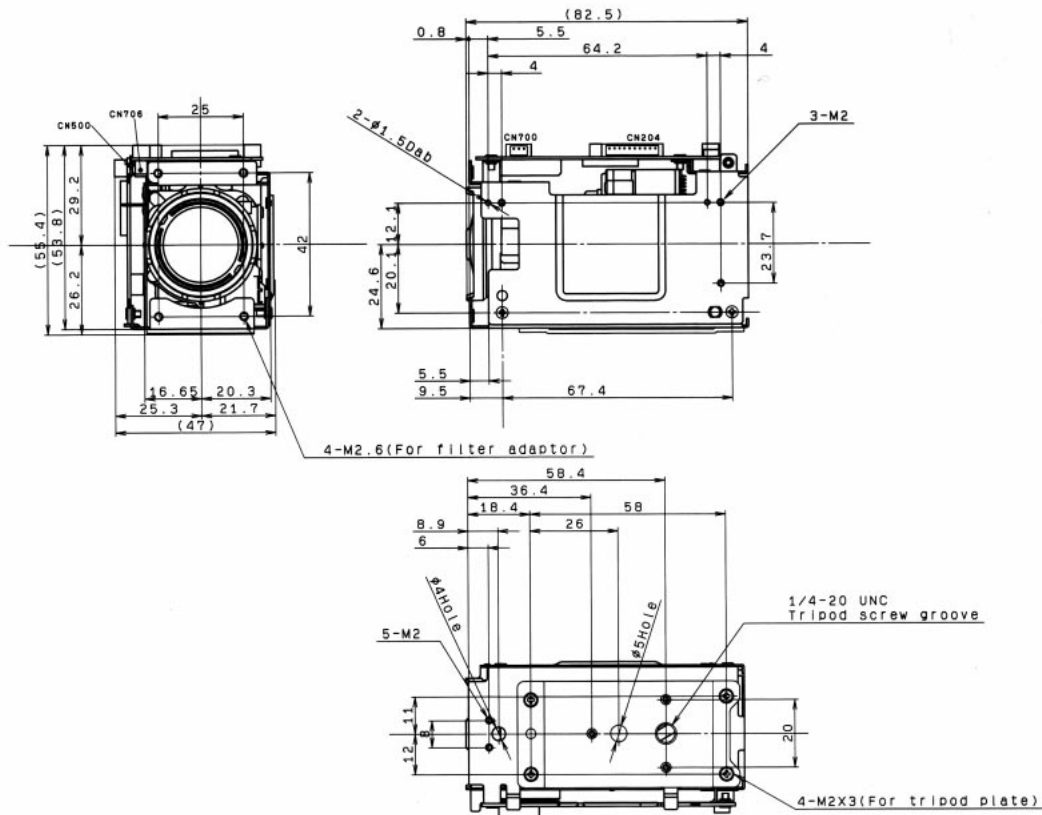
Demonstration software is supplied to evaluate the EVI-400/401 and EVI-400DR/401DR units, but it is not actually application software.

Microsoft® and Windows® are trademarks of Microsoft Corporation.

Specifications

	EVI-400 (NTSC)	EVI-401 (PAL)	EVI-400DR (NTSC)	EVI-401DR (PAL)
Image Sensor	1/3" Super HAD CCD™			
Effective Picture Elements	768 (H) × 494 (V)	752 (H) × 582 (V)	768 (H) × 494 (V)	752 (H) × 582 (V)
Horizontal Resolution (center)	more than 460TV lines	more than 450TV lines	more than 460TV lines	more than 450TV lines
Vertical Resolution (center)	more than 350TV lines	more than 400TV lines	more than 350TV lines	more than 400TV lines
Lens	12x zoom, f = 5.4 to 64.8, F = 1.8 to 2.7, Wide Macro, Autofocus (Inner Focus System)			
Digital Zoom	_____		2x (total x 24 with optical zoom) 8x max. (total 96x with optical zoom)	
Angle of view (H) (V)	approx. 48.8° (wide end) to approx. 4.4° (tele end) approx. 37.6° (wide end) to approx. 3.3° (tele end)			
Lens Construction	9 elements in 6 groups (incl. 2 aspherical lenses)			
Min. Working Distance	10 mm (wide end), 800 mm (tele end)			
Video Out (75Ω Terminated)	Y: 1.0 V p-p sync negative C: 0.286 V p-p VBS: 1.0 V p-p composite	Y: 1.0 V p-p sync negative C: 0.3 V p-p VBS: 1.0 V p-p composite	Y: 1.0 V p-p sync negative C: 0.286 V p-p VBS: 1.0 V p-p composite	Y: 1.0 V p-p sync negative C: 0.3 V p-p VBS: 1.0 V p-p composite
Sync. System	Internal		Internal / External	
External Sync. (V-Lock)	_____		High: 3.0 to 5.5 V Impedance: 94KΩ (typical value) Low: less than 0.3 V Frequency deviation: ±1%	
Minimum Illumination	1 lx (typical value) F 1.8 (at 50 IRE)			
S/N Ratio	more than 48dB			
White Balance	ATW, One push WB, Indoor Preset, Outdoor Preset			
Focus	Auto Focus, Manual Focus, One push trigger AF, Zoom trigger AF, Interval AF			
Electronic Shutter	27 steps (1/60 to 1/10,000 s)	28 steps (1/50 to 1/10,000 s)	27 steps (1/60 to 1/10,000 s)	28 steps (1/50 to 1/10,000 s)
Operating temp./humidity	0 to 50°C / -20 to 60°C			
Operating temp./humidity	30 to 85% / 20 to 90%			
Power Requirements	6 to 12 Vdc. 2.4W (inactive motor) / 3.2W (active motor)		6 to 12 Vdc. 2.6W (inactive motor) / 3.5W (active motor)	
Dimensions (W/H/D)	47×55.4×82.5mm			
Weight	175g		176g	
Supplied Accessories	2P and 3P (White), 3P (Red, excl. EVI-401), 6P, 10P, and 11P Harnesses			

Dimensions



(Unit:mm)

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 UK
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