SONY

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

Component/OEM

Outline

The EVI-400 and EVI-401 are color block cameras that combine a 1/3 type CCD with Super HAD™ technology (380k/440k pixels) with a 12x optical zoom.

Equipped with functions not found in previous models, these cameras also feature a compact design for easy installation. Incorporating Super HAD CCD technology, these cameras achieve high 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.

In addition to the standard RS-232C, these cameras feature a TTL level interface to enable a non-computer device to control camera settings. The EVI-400DR and EVI-401DR provide additional features such as 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 for these cameras.

Features

● 1/3 type CCD with Super HAD™ technology (380k/440k pixels)
● High Sensitivity (1 lx at 50 IRE, High Gain Mode)
● 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
● TTL Level Interface

＊ 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 inteface		Control circuit board
	EVI-400/401	EVI-400DR/401DR	
Power ON / OFF	○	○	
Zoom Standard Tele / Wide	○	○	○
Zoom Fast Tele / Wide	○	○	○
Zoom Position (Preset / Detect)	○	○	
Digital Zoom ON / OFF	○	○	
Focus Auto / Manual	○	○	○
Focus Far / Near	○	○	
Focus Position (Preset / Detect)	○	○	
AF mode Selection	○	○	
Interval AF Time	○	○	
AF Sensitivity Low / Normal	○	○	
White Balance mode Selection	○	○	○
One Push White Balance (Preset)	○	○	○
White Balance mode (Detect)	○	○	
ATW Condition Normal / Indoor / Outdoor	○	○	
AE Sensitivity High / Normal	○	○	
Spot AE	○	○	
Bright Control Up / Down	○	○	○
Exposure Compensation Up / Down	○	○	○
Shutter Priority Up / Down	○	○	○
Shutter Priority (Preset)	○	○	○
Shutter Priority (Detect)	○	○	
Iris Priority Up / Down	○	○	
Iris Priority (Preset)	○	○	
Iris Priority (Detect)	○	○	
Manual Shutter Up / Down	○	○	○
Manual Shutter (Preset)	○	○	○
Manual Shutter (Detect)	○	○	
Manual Iris Up / Down	○	○	
Manual Iris (Preset)	○	○	
Manual Iris (Detect)	○	○	
Manual Gain Up / Down	○	○	
Manual Gain (Preset)	○	○	
Manual Gain (Detect)	○	○	
Position Preset (Preset / Reset)	○	○	○
Position Preset (Detect)	○	○	
Date and time (Set / Display)	○	○	Display only
Character (Set / Display)	○	○	
Camera ID (Set / Display)	○	○	
User Support (Preset / Reset)	○	○	
V-Phase Adjustment		○	○

● Direct Interface
Transmission signal levels for VISCA interface 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 the VISCA inter-face, 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 semi-permanently 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 user defined 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

CN001 · CN206 · CN101 · CN104 · CN700 · CN204 · CN301
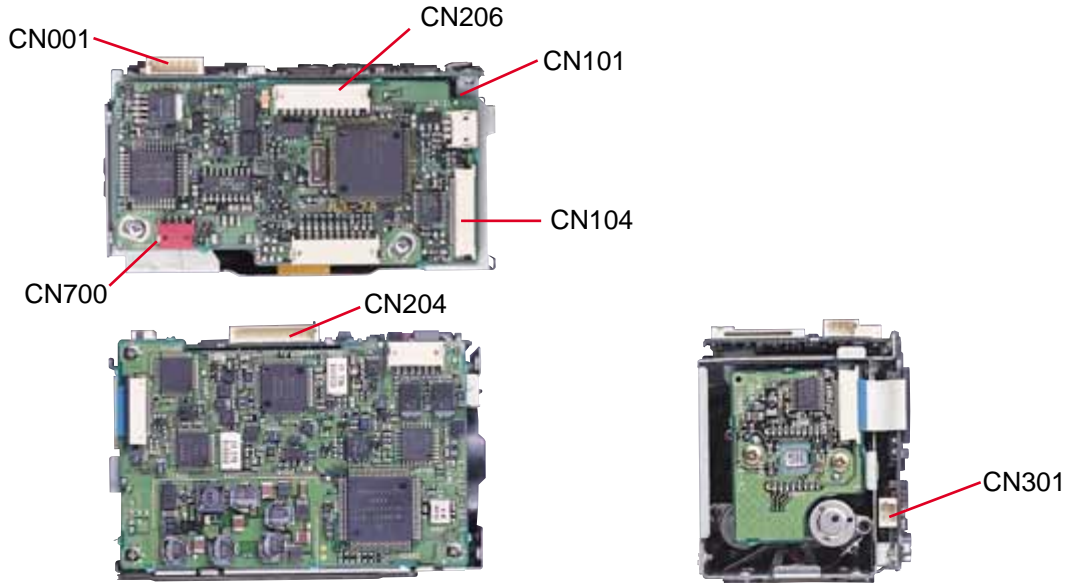
■Pin Assignments

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	$\overline{TXD}$ IN_RS
2	DTR IN_RS
3	DSR IN_RS
4	$\overline{RXD}$ IN_RS
5	$\overline{TXD}$ IN_DIRECT
6	DTR IN_DIRECT
7	DSR IN_DIRECT
8	$\overline{RXD}$ 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 is shipped with 6 cables in the unit packaging box.
◎To control the camera via RS-232C, see the 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)
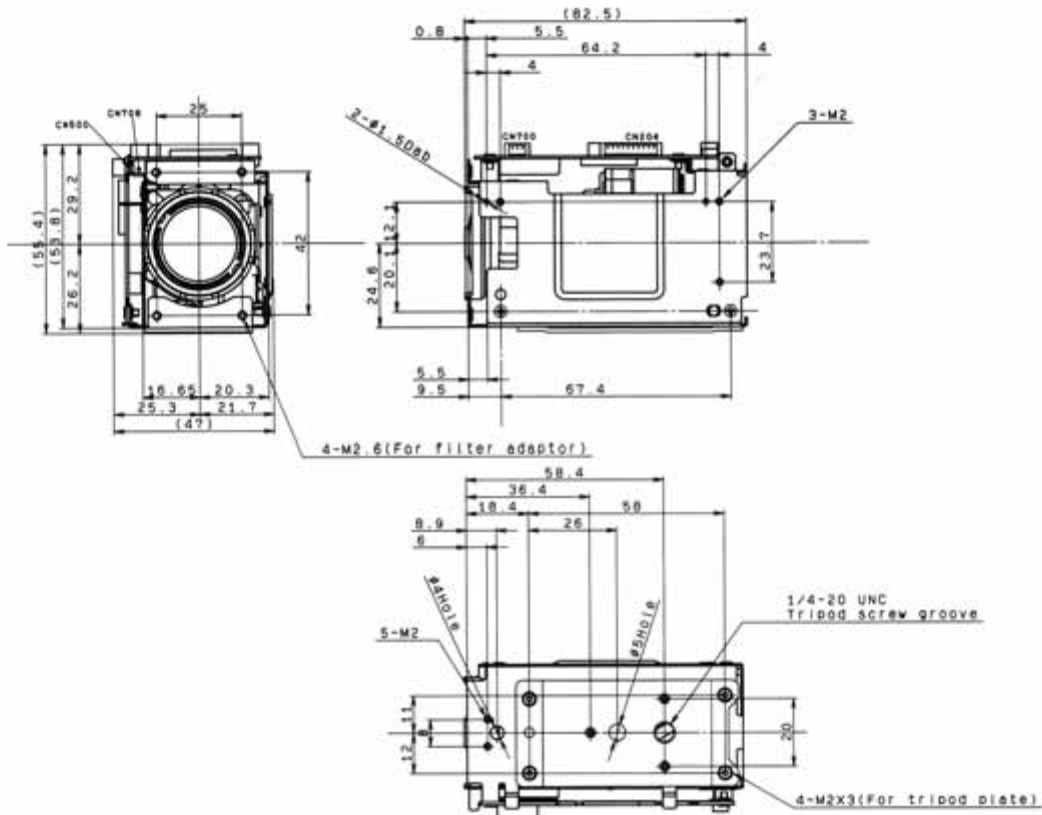• LO-400F

● Φ37mm Adaptor Lens
(Optional)

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

Specifications

	EVI-400 (NTSC)	EVI-401 (PAL)	EVI-400DR (NTSC)	EVI-401DR (PAL)
Image Sensor	1/3 type 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) Vertical Resolution (center)	more than 460TV lines more than 350TV lines	more than 450TV lines more than 400TV lines	more than 460TV lines more than 350TV lines	more than 450TV 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 (75 Ω 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 Impendance: 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℃／-20 to 60℃			
Operating temp./humidity	30 to 85%／20 to 90%			
Power Requirements	6 to12 Vdc. 2.4W (inactive motor) /3.2W (active motor)		6 to12 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)