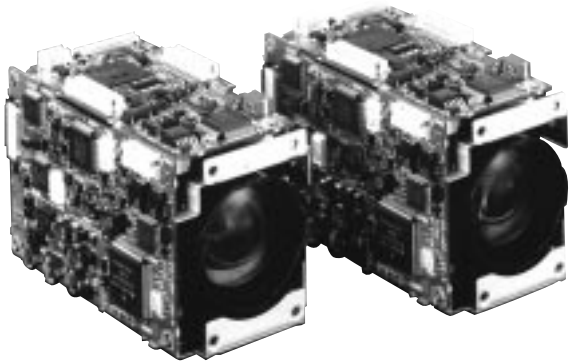
SONY

COLOR CAMERA BLOCK

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



Instruction Manual

(Ver. 1.0) —English—

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OUTLINE

The EVI-400 and EVI-401 are color camera blocks that combine a 1/3-inch, 380k/440k pixel Super HAD CCDTM with a 12× 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 2× zoom (max. 8×) and a V-Lock function which allows the camera to be controlled externally, thus extending the potential range of applications.

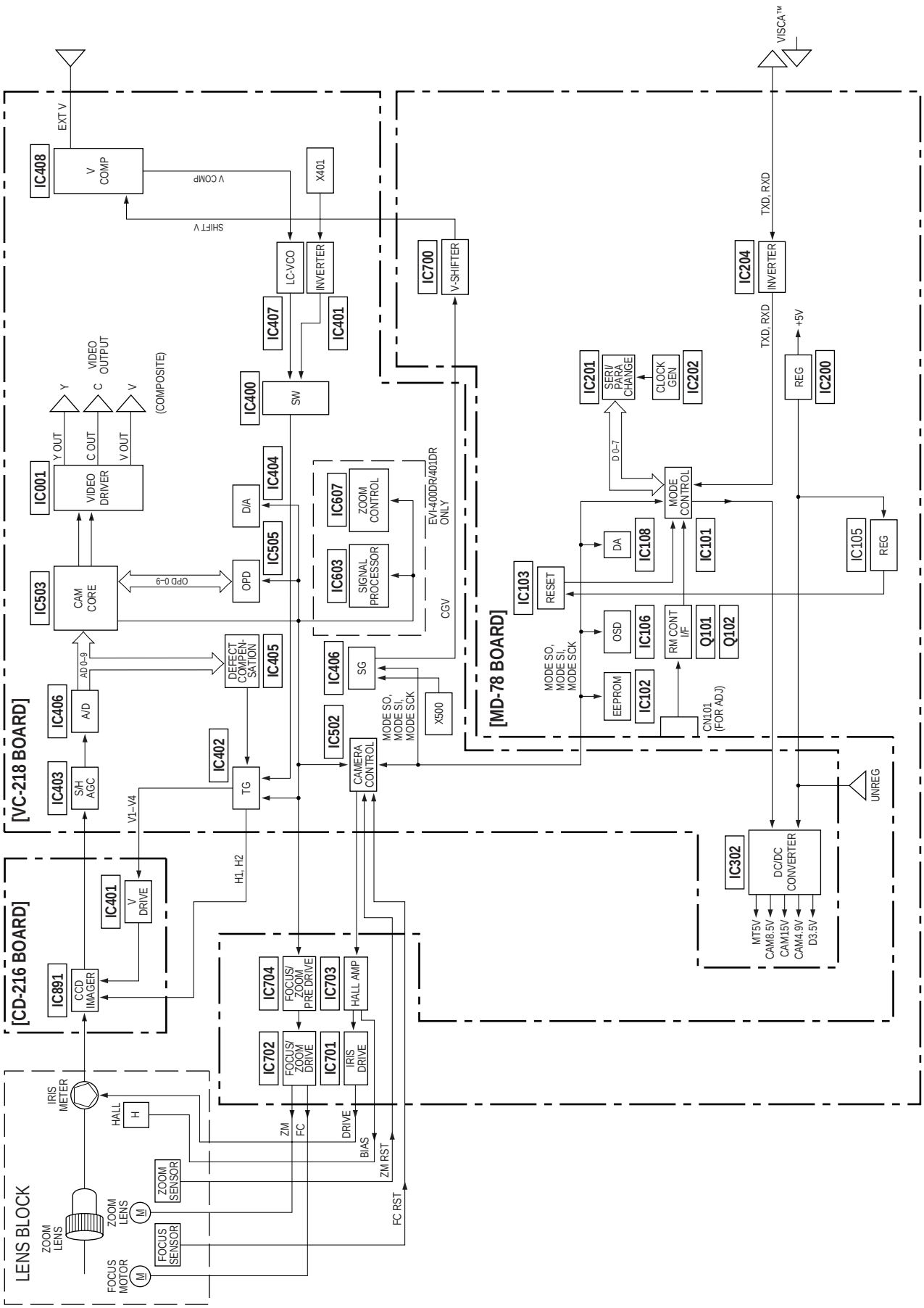
* “Super HAD CCDTM” is a trademark of Sony Corporation.

GENERAL SPECIFICATIONS

	EVI-400 (NTSC)	EVI-401 (PAL)	EVI-400DR (NTSC)	EVI-401DR (PAL)
Image Sensor	1/3" Super HAD CCD™			
Pixels/Effective Pixels	410K/380K pixels	470K/440K pixels	410K/380K pixels	470K/440K pixels
Effective Picture Elements	768 (H) × 494 (V)	752 (H) × 582 (V)	768 (H) × 494 (V)	752 (H) × 582 (V)
H. Resolution (center) V. 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	12× zoom, f = 5.4 to 64.8 mm, F = 1.8 to 2.7, wide macro, auto focus (Inner focus system)			
Digital Zoom	—		2× (total 24× with optical zoom) 8× max. (total 96× with optical zoom)	
Angle of View (H) (V)	approx. 48.8° (wide end) to approx. 4.3° (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 Vp-p sync negative C : 0.286 Vp-p VBS: 1.0 Vp-p composite	Y : 1.0 Vp-p sync negative C : 0.3 Vp-p VBS: 1.0 Vp-p composite	Y : 1.0 Vp-p sync negative C : 0.286 Vp-p VBS: 1.0 Vp-p composite	Y : 1.0 Vp-p sync negative C : 0.3 Vp-p VBS: 1.0 Vp-p composite
Sync. System	Internal		Internal/External	
External Sync. (V-Lock)	—		High : 3.0 to 5.5 V Impedance: 94 kΩ (typical value) Low : less than 0.3 V Frequency deviation: ±1%	
Minimum Illumination	1 lx (typical value), F1.8 (at 50 IRE)			
S/N Ratio	more than 48 dB			
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 1/10000s)	28 steps (1/50 to 1/10000s)	27 steps (1/60 to 1/10000s)	28 steps (1/50 to 1/10000s)
Operating Temp./ Storage Temp.	0 to 50°C/–20 to +60°C			
Operating Humi./ Storage Humi.	30 to 85%/20 to 90%			
Power Requirements	6 to 12 Vdc, 2.4 W (inactive motor)/ 3.2 W (active motor)		6 to 12 Vdc, 2.6 W (inactive motor)/ 3.4 W (active motor)	
Dimensions (W/H/D)	47 × 55.4 × 82.5 mm			
Weight	175 g		176 g	
Spurious Radiation	FCC Class B			
Supplied Accessories	2P, 3P (White), 3P (Red, excl. EVI-401), 6P, 10P, and 11P harnesses			

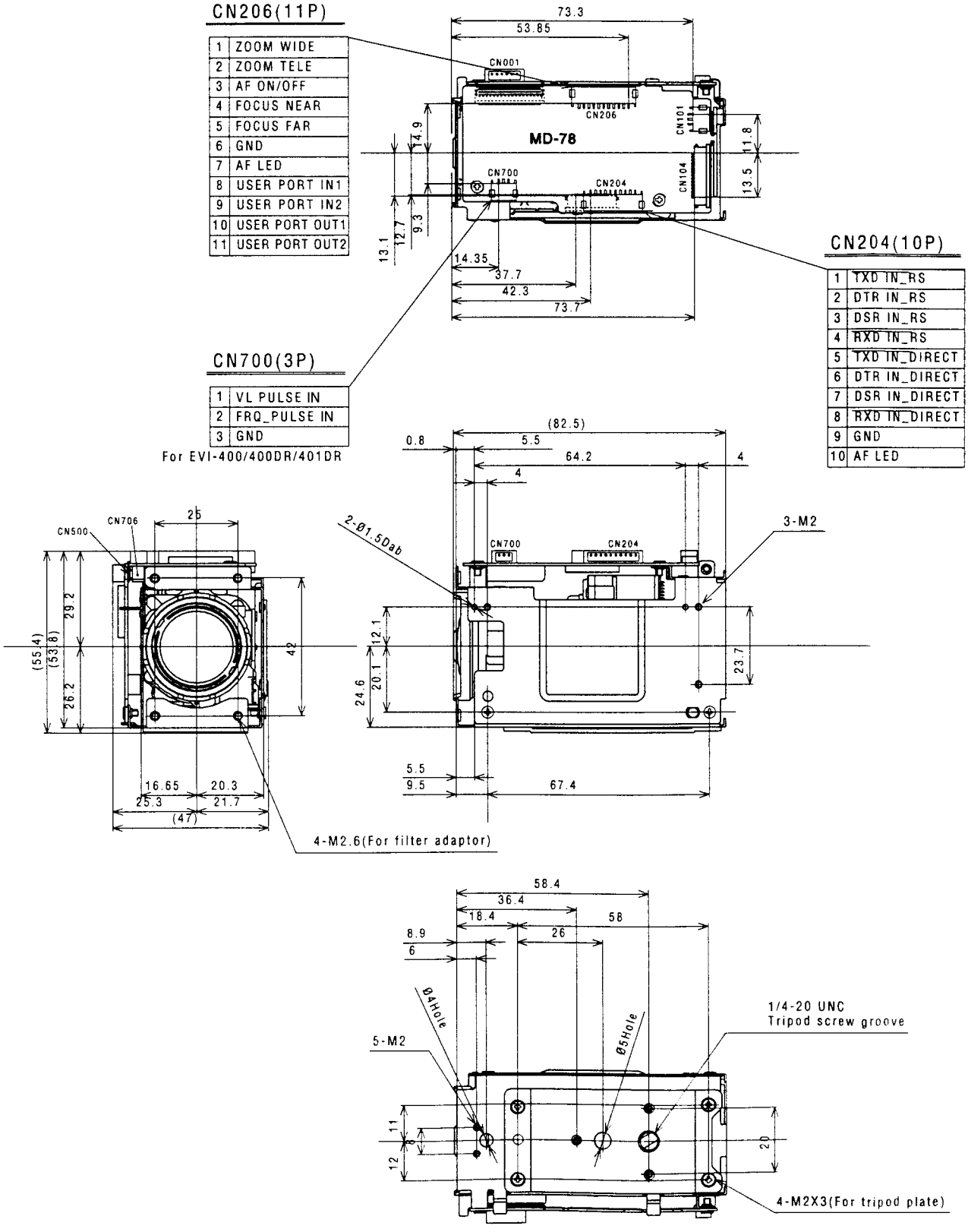
BLOCK DIAGRAM

EVI-400/401/400DR/401DR Block Diagram



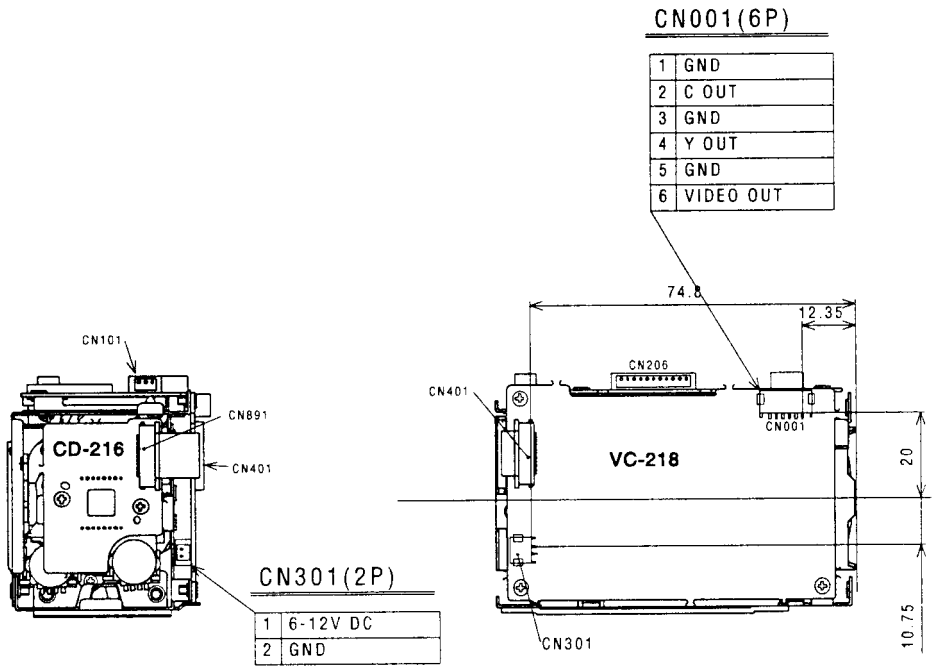
DIMENSIONS

EVI-400/401/400DR/401DR (1/2)



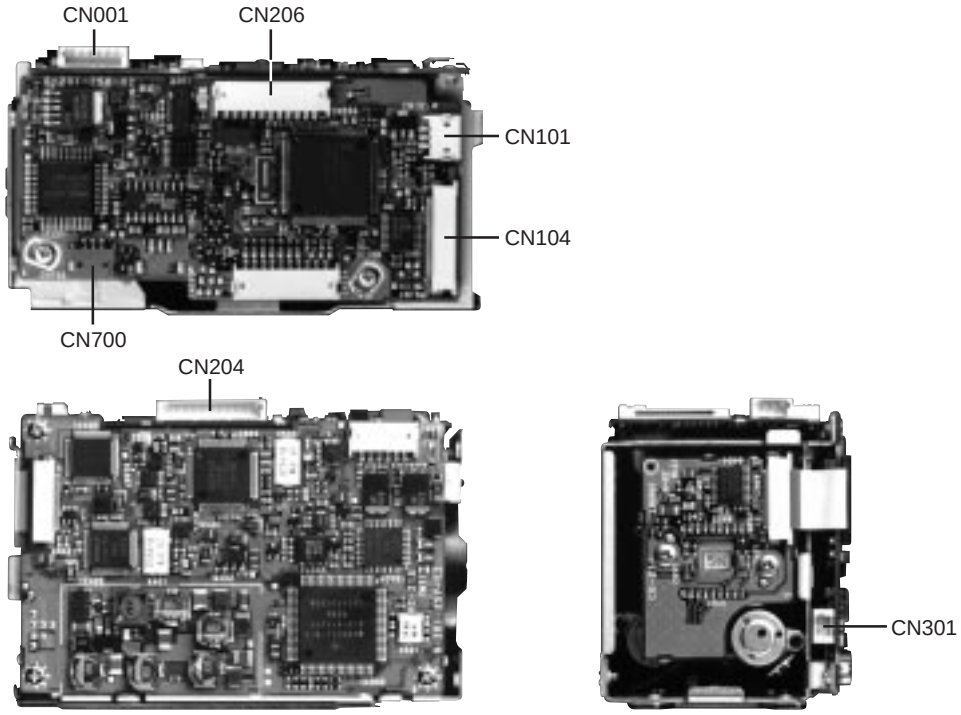
DIMENSIONS

EVI-400/401/400DR/401DR (2/2)



PIN ASSIGNMENT

Connector Location



● CN301 (Power)

1	DC IN (6 to 12 V)
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	$\overline{\text{TXD IN}}$_RS
2	DTR IN_RS
3	DSR IN_RS
4	$\overline{\text{RXD IN}}$_RS
5	$\overline{\text{TXD IN}}$_DIRECT
6	DTR IN_DIRECT
7	DSR IN_DIRECT
8	$\overline{\text{RXD IN}}$_DIRECT
9	GND
10	AF LED

● 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

● CN104 (External Control)
Refer to Page 8.

Accessory Cables

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

* “VISCA™” is a trademark of Sony Corporation.

LIST OF INPUT/OUTPUT PINS

VC-218 Board

◇ CN001: 6P — For video output

1. GND
2. C OUT
3. GND
4. Y OUT
5. GND
6. VIDEO OUT

Board side : JST S6B-ZR-SM3A-TF
Housing : JST ZHR-6

◇ CN301: 2P — For power input

1. DC IN (6 to 12 V)
2. GND

Board side : JST S2B-ZR-SM3A-TF
Housing : JST ZHR-2

MD-78 Board

◇ CN101: 3P (White) — For remote control

1. RM CONT DC
2. RM CONT SIG
3. GND

Board side : JST S3B-ZR-SM3A-TF
Housing : JST 03ZR-8M

LIST OF INPUT/OUTPUT PINS

◇ CN104: 27P — For connecting external switching board

JST 27FLZ-RSM1-TB

1. ZOOM (FAST)/FOCUS/AF ON/OFF/ EXP. COMP. UP
2. OUTDOOR LED
3. INDOOR LED
4. ONE PUSH WB LED
5. ATW LED
6. POSITION 5 LED
7. POSITION 4 LED
8. POSITION 3 LED
9. AF ON LED
10. POWER LED
11. NC
12. POSITION 2 LED
13. POSITION 1 LED
14. BRIGHT LED
15. BACKLIGHT LED
16. AE LED
17. SHUTTER PRIORITY AE LED
18. NC
19. D 3.5 V
20. ZOOM (SLOW)/WB INDOOR/ WB OUTDOOR/ EXP.COMP. DOWN
21. EXP.COMP. ON/OFF/BRIGHT/ S/B UP/S/B DOWN/ SHUTTER/NORMAL AE
22. DATE/POSI RES/POSI PRES/ WB AUTO/WB ONE PUSH/O.P. WB. TRIG
23. TIME/POSI 1 to 5
24. MENU ON/OFF/CURSOR RIGHT/ CURSOR LEFT/CURSOR DOWN/ CURSOR UP
25. NC
26. NC
27. GND

◇ CN700: 3P (Red) — For external sync/auto flickerless

1. VL PULSE IN
2. FREQ PULSE IN
3. GND

Board side : JST S3B-ZR-SM3A-TF
Housing : JST 03ZR-8M

◇ CN204: 10P — For connecting RS-232C/direct control

1. $\overline{\text{TXD IN}}$ RS
2. DTR IN RS
3. DSR IN RS
4. $\overline{\text{RXD IN}}$ RS
5. $\overline{\text{TXD IN}}$ Direct
6. DTR IN Direct
7. DSR IN Direct
8. $\overline{\text{RXD IN}}$ Direct
9. GND
10. AF LED OUT

Board side : JST S10B-ZR-SM3A-TF
Housing : JST 10ZR-8M

LIST OF INPUT/OUTPUT PINS

◇ CN206: 11P — For connecting function control

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

Board side : JST S11B-ZR-SM3A-TF
Housing : JST 11ZR-8M

OUTLINE OF FUNCTIONS

The EVI-400/401/400DR/401DR has the following functions.

Zoom

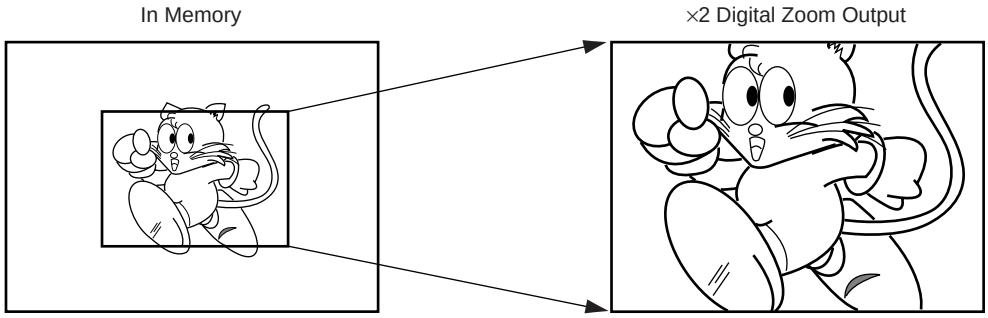
A stepping motor is used for zoom control.
The zoom range of the EVI-400/401 is 12 times. Zooming between tele (64.8 mm) and wide (5.4 mm) is possible.

By incorporating an electronic zoom function (2 times), zooming up to 24 times can be achieved by the EVI-400DR/401DR. From the wide end to 12 times, zooming is performed optically. From 12 to 24 times, zooming is performed in such a manner that the electronic zoom operates up to 2 times with the 12 times optical zoom state maintained.
The default (factory preset) zoom position from power on is at the wide end.

◇ Digital Zoom

The EVI-400DR/401DR uses a 2 × digital zoom thus enabling the image to be enlarged in both the horizontal and vertical planes. Because the digital zoom enlarges in both directions by a factor of two, the effective pixel area is reduced to 1/4 of the original size thus compromising on resolution but offering tremendously exciting results.

* 8 times digital zoom is available by Factory Preset function.



OUTLINE OF FUNCTIONS

Focus

An inner focus system is employed for the EVI-400/401/400DR/401DR.
The focusing distance increases toward the tele end. At the wide end, a minimum focus distance of 1 cm can be achieved while at the tele end, this increases to 80 cm.
Auto focus is set in the initial state.

◇ Auto-Focus

The auto-focus control is based on high frequency components with high video signal level, that is components with high luminance and strong contrast in the measurement area.

◇ Interval AF

The autofocusing mechanism is activated repeatedly at regular intervals and 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 One Push Trigger command through VISCA™ at Manual-Focus mode, 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, repetitive autofocusing can be controlled.

NOTE **: Auto-Focus mode is not recommended for continuous 24-hour operation.**
For continuous 24-hour operation “One Push AF” is recommended. Please use Manual-Focus mode with One Push Trigger command.

OUTLINE OF FUNCTIONS

White Balance

◇ Auto White Balance (ATW)

For this unit's ATW, the TTL method is used to reproduce the natural colors of the subject as closely as possible by calculating the color data of the whole screen. To prevent the subject from being all white by operating white balance function blindly, the operation range of the auto white balance function is limited. This function also judges whether the shot is indoor or outdoor from the brightness and changes the withdraw range of the auto white balance accordingly.

The withdraw range of the auto white balance can be set to "Indoor Use mode" for fixed indoors and "Outdoor Use mode" for fixed outdoors.

◇ Preset White Balance

The Preset White Balance can be selected from fixed indoors (3200K) and fixed outdoors (5800K).

◇ One Push White Balance

The One Push White Balance is a function which, once the subject is set to certain lighting conditions, will expose the subject under these conditions. The color is reproduced naturally without being affected by the surrounding conditions of the subject. When set, the one-push white balance trigger is sent assuming that the white subject occupies more than 1/2 of the screen. The one-push white balance data will be lost when the power is turned off.

Automatic Exposure Mode

In the automatic exposure mode, the following features will be active:—

Auto iris
AGC (Auto Gain Control)
Shutter 1/60th sec (EVI-400/400DR) 1/50th sec (EVI-401/401DR)

AE Gain Mode

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

OUTLINE OF FUNCTIONS

Shutter Priority Automatic Exposure Mode

In this mode the shutter speed is selected from the table below. The gain and iris are automatically adjusted accordingly.

1	1/60 (PAL: 1/50)	11	1/300	21	1/1750
2	1/60	12	1/350	22	1/2000
3	1/75	13	1/425	23	1/2500
4	1/90	14	1/500	24	1/3000
5	1/100	15	1/600	25	1/3500
6	1/125 (PAL: 1/120)	16	1/725	26	1/4000
7	1/150	17	1/850	27	1/6000
8	1/180	18	1/1000	28	1/10000
9	1/215	19	1/1250		
10	1/250	20	1/1500		

Auto Flickerless Function

This unit is equipped with an auto flickerless function which automatically reduces flicker which occurs when exposed under fluorescent light with a power frequency of 50 Hz. To completely eliminate flicker, set the shutter to 1/100 seconds.
The EVI-400/400DR detects 50 Hz pulse from the outside and also can reduce flicker.
When the square wave of 50 Hz is put into CN700 on the MD-78 board and the camera is turned on, the shutter speed will be set automatically to 1/100 seconds.

Exposure Compensation

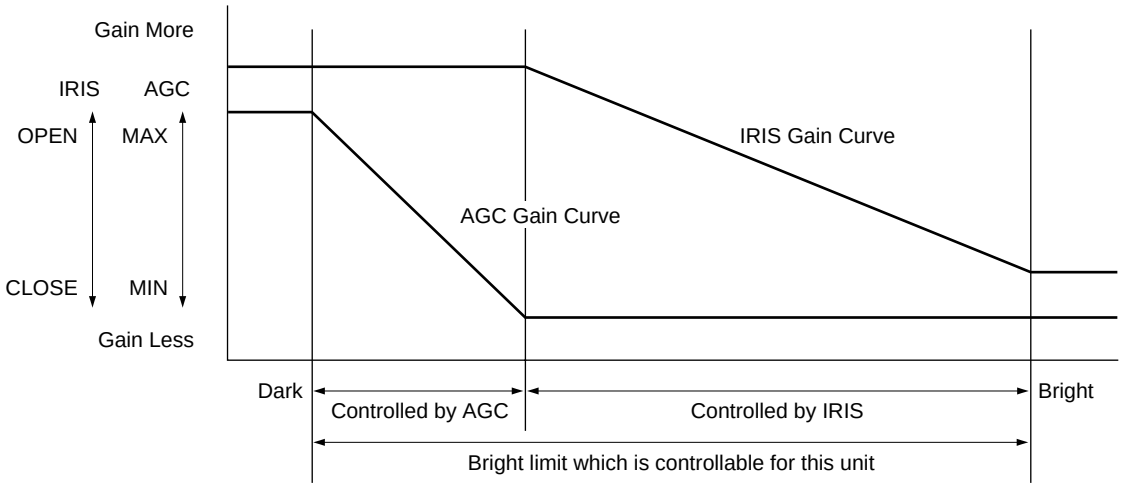
The exposure compensation function is a brighter/darker adjustment function of the brightness when in auto (auto iris, AGC). The brightness when exposure compensation is OFF (auto iris, AGC) is a base (step 0) and each 7 steps to brighter and darker than the base condition (step 0) are adjustable. Iris and gain are in auto mode.

OUTLINE OF FUNCTIONS

Bright Control

The bright control function adjusts brightness with both gain and iris. Exposure is controlled by gain when dark and by iris when bright.

As both gain and iris are fixed, they are used when exposing at a fixed camera sensitivity. When switching from the automatic exposure mode or shutter priority automatic exposure mode to the bright mode, the state before switching is held momentary.



STEP	GAIN	IRIS	STEP	GAIN	IRIS	STEP	GAIN	IRIS
1	18 dB	F1.8	9	0 dB	F2.4	17	0 dB	F9.6
2	15 dB	F1.8	10	0 dB	F2.8	18	0 dB	F11
3	12 dB	F1.8	11	0 dB	F3.4	19	0 dB	F14
4	9 dB	F1.8	12	0 dB	F4	20	0 dB	F16
5	6 dB	F1.8	13	0 dB	F4.8	21	0 dB	F19
6	3 dB	F1.8	14	0 dB	F5.6	22	0 dB	F22
7	0 dB	F1.8	15	0 dB	F6.8	23	0 dB	F28
8	0 dB	F2.0	16	0 dB	F8	24	0 dB	CLOSE

Shutter Priority Bright Control

When switching from the shutter priority automatic exposure mode to the bright mode, the bright mode control can be performed while maintaining the shutter speed set in the shutter priority automatic exposure mode. When switched to the shutter priority automatic exposure mode, automatic exposure is started at the maintained shutter speed (both iris and gain are automatic).

Iris Priority Mode

In this mode the Iris position is selected from the table below. The gain and shutter speed is automatically adjusted accordingly.

1	CLOSE	10	F6.8
2	F28	11	F5.6
3	F22	12	F4.8
4	F19	13	F4
5	F16	14	F3.4
6	F14	15	F2.8
7	F11	16	F2.4
8	F9.6	17	F2.0
9	F8	18	F1.8

Camera Manual Mode

In this mode the gain is manually selectable from the table below. Shutter speed (28 speeds), iris (18 steps), brightness (8 steps) are also manually selectable (see other tables for selection).
Gain steps as follows:

1	–3 dB
2	0 dB
3	+3 dB
4	+6 dB
5	+9 dB
6	+12 dB
7	+15 dB
8	+18 dB

Spot AE Mode

“Spot AE mode” is an automatic exposure mode to weight to the center of screen.

OUTLINE OF FUNCTIONS

Position Preset

All products within the EVI-400 series incorporate 5 presets each of which can be programmed with specific camera settings. Using this function, zoom position, focus (auto/manual position), white balance, shutter speed, and bright control (iris/gain) can be stored. All preset camera settings can be stored semipermanently in EEPROM (Electrically Erasable and Programmable ROM). In addition the electronic zoom position can be stored on the EVI-400DR/401DR.

◇ Using Position Preset with the external switching board

- Preset method
  When the camera has been set to the desired state, press the relevant position number while pressing the pressing the preset button to store the setting.

- Drive method
  When the desired position number button is pressed, the previously stored settings will be recalled. If the desired position number has not been programmed with the desired setting, the factory preset state will be recalled.

- Reset method
  To restore the desired position number back to the factory preset state, press the relevant position number while pressing the reset button.

- Checking method
  To check the status of the five position presets, press either the reset or preset key. If the associated LED illuminates, the position number has been preset, if not, factory settings are currently stored.

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.

NOTE **: Changes to the factory preset will invalidate camera warranty.**

OUTLINE OF FUNCTIONS

Date, Time

Use the buttons on the external switching board to set the clock.
It can be set and display Date and Time.

◇ Setting/displays using key switches on external switching board

- Setting method
  Press the DATE and TIME buttons at the same time and hold them down for about 2 seconds. Release your hand as the month and date appear and the year starts flashing.
  Repeat pressing the DATE button to select the year.
  Press the TIME button to set the year.
  Repeat the steps 2 and 3 to set the other time elements in the order of month, date, hour, and minute. The TIME button to set the minute.

- Having the clock displayed
  You can select the clock display from either time or date.
  To have the time displayed, press the TIME button.
  To have the date displayed, press the DATE button.
  To turn off the clock display, press the corresponding button again.

NOTE : When the power is turned off, the data of Date and Time will be lost. Therefore, when turning off the power, the clock must be reset.

User Port IN/OUT

It is possible to input/output any voltage within DC 0 to 4.9 V for 2 input/2 output user ports on the CN206 of MD-78 board.
The detection/setting of voltage can be performed individually by using VISCA™ communication.
This port can be used for detection/setting of the camera condition by DC level.
Do not input more than 4.9 V to input port.

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 can also be recorded and can be retrieved.

OUTLINE OF FUNCTIONS

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)

◇ Adjusting V-Lock sync using key switches on external switching board

1. Press S1030 to display the adjustment menu.
2. Move the cursor using S1006/1012/1018/1024.

- MODE
  INT-internal sync only
  The mode is switched between AUTO-internal and external sync automatically.
- The VD SHIFT-V sync phase can be switched in 180 degrees.
- The VD FINE-V sync phase can be adjusted in ±90 degrees by ±70 steps (NTSC) and in ±90 degrees by ±80 steps (PAL). (One step = H sync width)

With the combination of VD SHIFT and VD FINE, the V sync phase can be adjusted in 360 degrees.

- Signal : Square wave pulse, 3.0 to 5.5 V (High), 0 to 0.3 V (Low), 94 kΩ (Typical)
- Frequency: 60 Hz ± 1% (EVI-400DR), 50 Hz ± 1% (EVI-401DR)

NOTE **: As the V-Lock sync is a simple sync method and different from the VBS genlock, color signals cannot be synchronized.**

Camera ID Display

The EVI-400 series can display 4-digit camera IDs using VISCA™/RS-232C.

Set/Display Characters

The EVI-400 series allows 10 alphabets and numerals to be displayed on the monitor as desired by the customer. These characters can be set by using VISCA™ communication.

CAMERA CONTROL

Camera functions can be controlled remotely.

	VISCA™/RS-232C or Direct Interface		External Switching 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)	○	○	○
Character (Set/Display)	○	○	Display only
Camera ID (Set/Display)	○	○	
User Support (Preset/Detect)	○	○	
V-Phase Adjustment		○	○

CONTROL METHODS

Camera Control Methods

◇ Power supply

Supply 6.0 to 12.0 V to CN301 (VC-218 board) using the harness provided.
Red (No.1) is +.

◇ Video signal output

Composite video and Y/C video are output to CN001 (VC-218 board).

Function Control Methods

◇ Using VISCA™/RS-232C interface

Functions can be controlled using the RS-232C port of computers, etc.
It is possible to control a camera and read the camera data.
For details, see “Command List”.

◇ Direct interface

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

◇ External switching board

Depending on the type of “add-on” external switching board, the functions listed on Page 19 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 Page 22.

CONTROL METHODS

◇ External switching board

The following functions can be controlled by connecting the external switching board.
CN104 of the MD-78 board (27P) is used.

● CN104: 27P

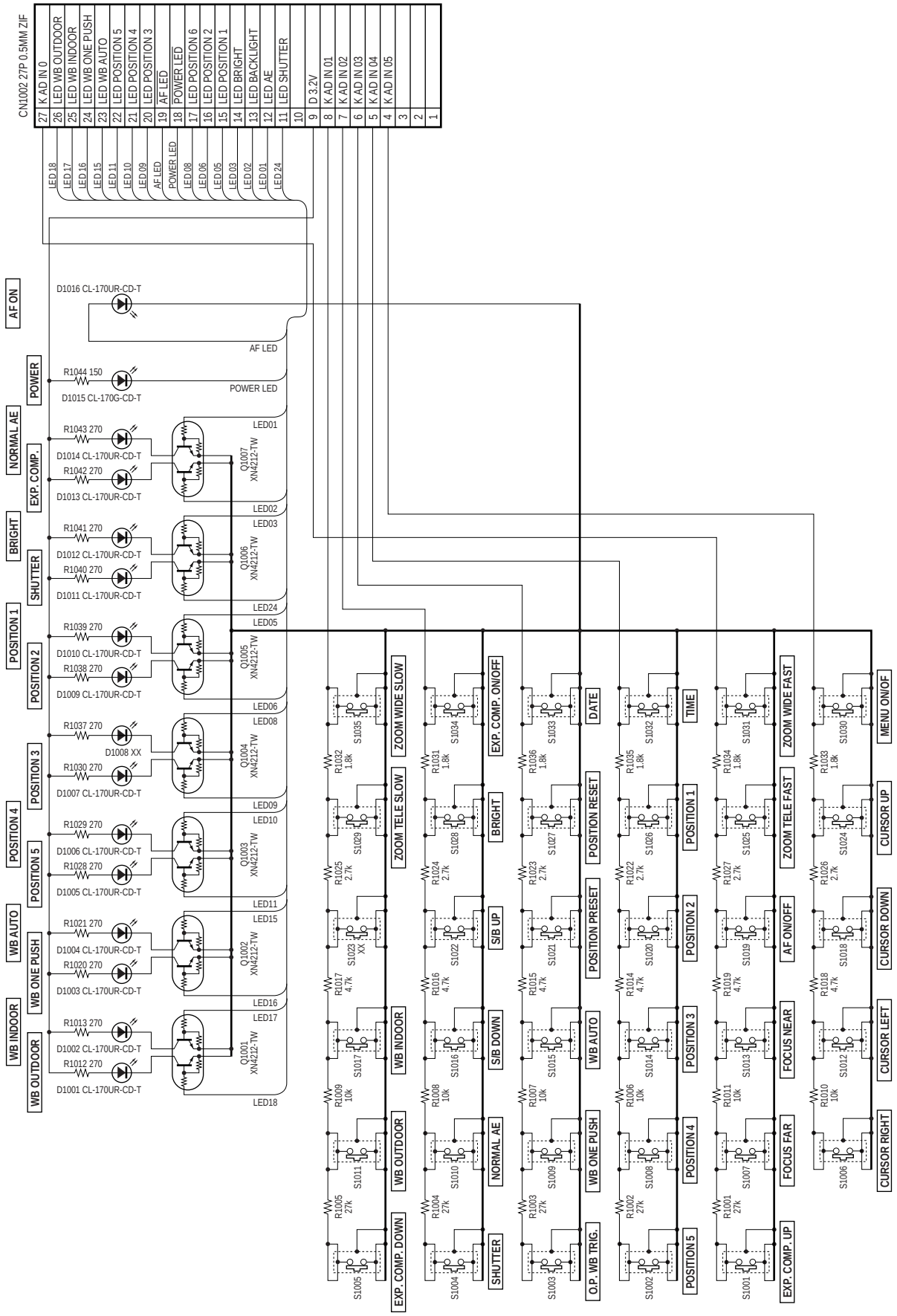
1. ZOOM (FAST)/FOCUS/ AF ON/OFF/EXP. COMP. UP
2. OUTDOOR LED
3. INDOOR LED
4. ONE PUSH WB LED
5. ATW LED
6. POSITION 5 LED
7. POSITION 4 LED
8. POSITION 3 LED
9. AF ON LED
10. POWER LED
11. NC
12. POSITION 2 LED
13. POSITION 1 LED
14. BRIGHT LED
15. BACKLIGHT LED
16. AE LED
17. SHUTTER PRIORITY AE LED
18. NC
19. D 3.5 V
20. ZOOM (SLOW)/WB INDOOR/ WB OUTDOOR/ EXP.COMP. DOWN
21. EXP.COMP. ON/OFF/BRIGHT/ S/B UP/S/B DOWN/ SHUTTER/NORMAL AE
22. DATE/POSI RES/POSI PRES/ WB AUTO/WB ONE PUSH/O.P. WB. TRIG
23. TIME/POSI 1 to 5
24. MENU ON/OFF/CURSOR RIGHT/ CURSOR LEFT/CURSOR DOWN/ CURSOR UP
25. NC
26. NC
27. GND

● Controllable functions

- Zoom standard TELE/WIDE
- Zoom fast TELE/WIDE
- Auto focus ON/OFF
- Focus Far/Near
- White balance selection
- Bright control Up/Down
- Shutter speed Up/Down
- Exposure compensation Up/Down
- Position preset Preset/Reset
- Date, time
- V-Phase

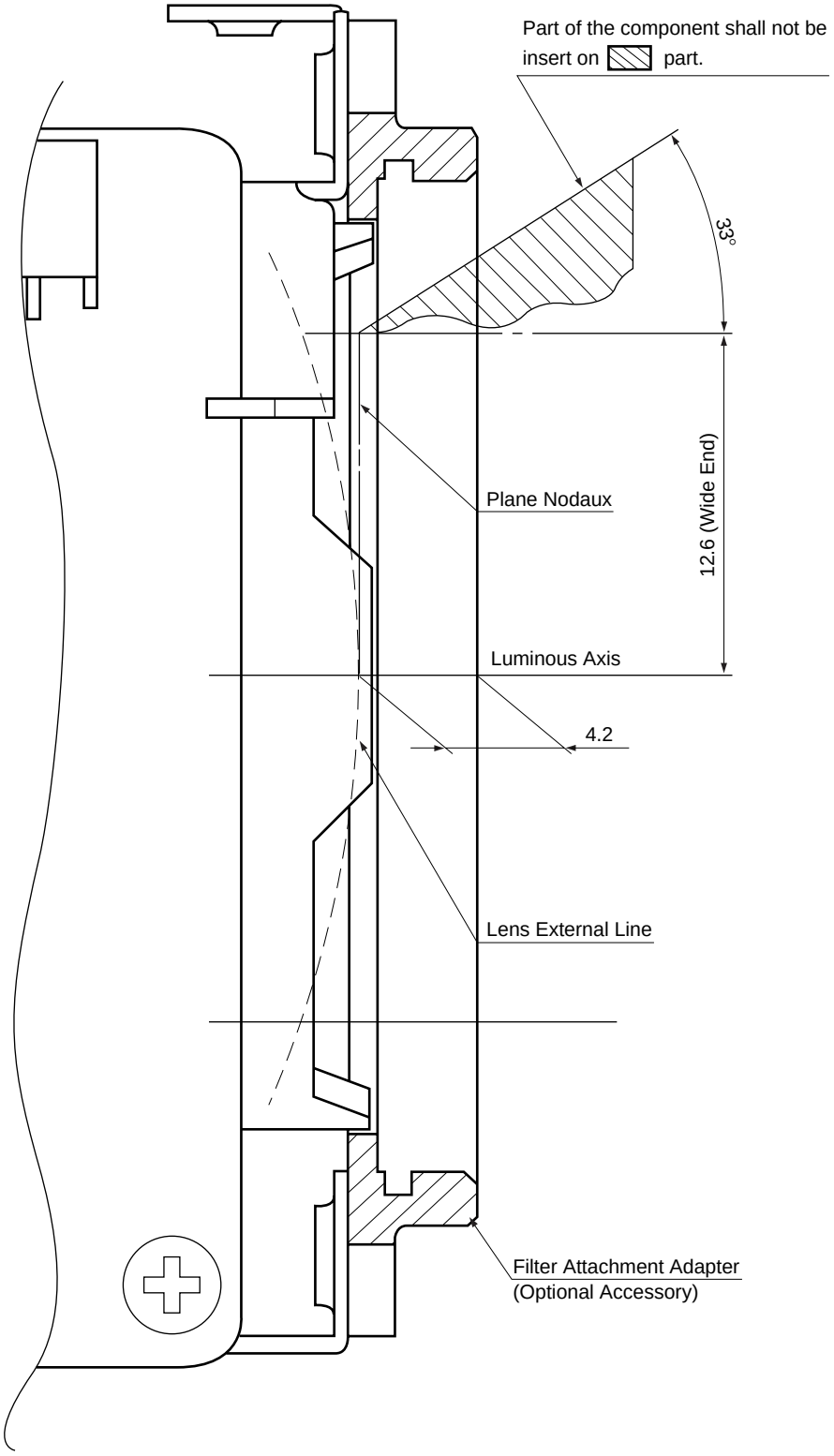
CONTROL METHODS

External Switching Board Reference Circuit



INSTALLATION

Use the screws for the tripod at the bottom or M2 screws of the chassis.
The plate for attaching the tripod on the bottom can be removed.
When designing the housing, etc., refer to the dimensional allowance as shown in the figure below.



HANDLING PRECAUTIONS

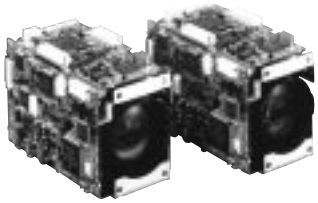
- Do not apply bending force to the printed circuit board.
- Do not supply excessive voltage. (Max 15.0 V)
  When more than 9 V is used, the camera will become hot. Do not suspect a fault.
- When touching the board, prevent electrostatic discharge failure, by using the ground-band. When packaging, use the anti-electrostatic packaging.
- When transporting the unit, place it in the carton box in which it was shipped from Sony.
- When adjustments are performed or factory preset are changed, the camera will be out of warranty.

OPTIONAL ACCESSORIES

◇ Attachment lens

- Wide Conversion Lens
  VCL-0637W (Optional)
  This is the 0.6× Wide Conversion Lens for the exclusive use of EVI series.
- Filter Attachment Adapter
  LO-400F (Optional)
  This is an adapter required for attaching the ϕ37 mm conversion lens and filter, etc.

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



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