BASIC CAMERA SETUP
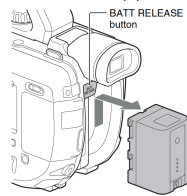
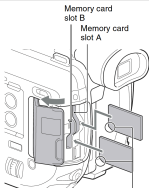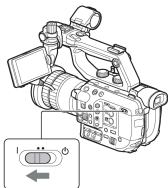**Put in a battery**   **Take off the battery**

BATT RELEASE button
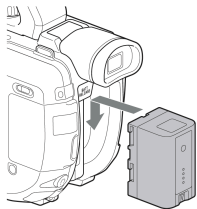
turn off camera before removing battery

Turn on camera   **Insert 1or 2 SD cards**

Memory card slot B
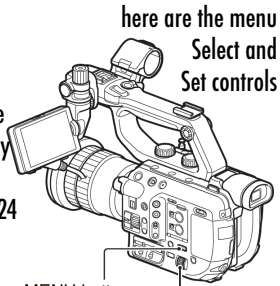Memory card slot A

Note the direction of the notched corner.

Set date + time

MENU button, and select 🗐 (SYSTEM) → [CLOCK SET].

The camera has a built-in rechargeable battery to keep settings. It needs to be recharged every 2 months by plugging the camera into a household power outlet for 24 hours while turned off.

here are the menu Select and Set controls

MENU button

SEL/SET dial

Format the SD cards

press MENU, then: Select 🗐 (SYSTEM) → [MEDIA FORMAT] with the SEL/SET dial.

If you use 2 SD cards, you can record in RELAY on Card A then Card B (with no missed shots) or you can record on SIMULTANEOUS cards at the same time.

press MENU, then: Select ⇄ (REC/OUT SET) → [REC SET] → [SIMUL/RELAY REC]

note: the Empty function will only work if the camera is plugged into the wall with the AC adapter. This operation will render the SD card 100% erased and unrecoverable.

Recommended class 10 SD cards:

Memory card type:	🆂🅳 SD card,	🆂🅳 SDHC card,	🆂🅳 SDXC card
SD Speed Class*:	CLASS Ⓒ CLASS ⑩		

RECORDING SETUP

Selecting the North American video system (60i)

press MENU, then: 🗐 (SYSTEM) → [60i/50i SEL]

Setting File Format and Recording Format

press MENU, then: ⇄ (REC/OUT SET) →
[REC SET] → [FILE FORMAT] →
[REC FORMAT] →

XAVC QFHD
- Image size: 2160 (3840×2160)
- Frame rate: 30/25/24
- Scanning system: p (progressive)
- Bit rate: 100 Mbps/60 Mbps

XAVC HD
- Image size: 1080 (1920×720) / 720 (1280×720)
- Frame rate: 60/50/30/25/24
- Scanning system: p (progressive) / i (interlaced)
- Bit rate: 50 Mbps/35 Mbps/25 Mbps

AVC HD
- Image size: 1080 (1920×720) / 720 (1280×720)
- Frame rate: 60/50/30/25/24
- Scanning system: i (interlaced) / p (progressive)
- Bit rate
  PS: max. 28 Mbps
  FX: max. 24 Mbps
  FH: approx. 17 Mbps (average)
 HQ: approx. 9 Mbps (average)

Default Recording Format
XAVC HD 1080/60i 50Mbps
- Press Menu, then:
  - 🗐 (SYSTEM) → INITIALIZE,
- camera will reboot in full auto
- you need to reset date + time

Setting Focus

Press the MENU button → select ▣ (DISPLAY SET) with the SEL/SET dial.   → VF/LCD PANEL (LCD PANEL or AUTO)

Default setting is only the LCD display. If you wish to use the viewfinder choose Auto. When you put your eye to the viewfinder, the LCD screen turns off. You need to adjust the viewfinder for your eyes. Use the adjustment knob on the right side of the eyepiece so that the onscreen text is sharp.
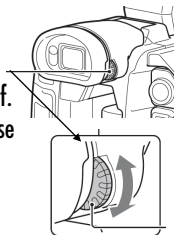
Setting the ISO or Gain

Press the MENU button → select 📷 (CAMERA/PAINT) with the SEL/SET dial.   > ISO/GAIN SEL

- You can choose to control the sensitivity of the camera by adjusting either the ISO or the Gain. To select ISO or Gain:

> ISO SET   • to change the default values of the
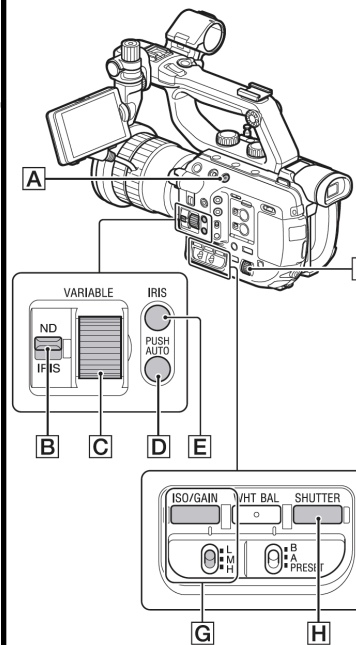> GAIN SET   ISO/ GAIN L,M,H buttons

> AUTO ISO LIMIT   • to change the upper limit for auto
> AGC LIMIT   ISO and Gain.

ADJUSTING EXPOSURE

Iris, Shutter and ISO/Gain controls

A

F

VARIABLE   IRIS
ND
IRIS   PUSH AUTO

B   C   D   E

ISO/GAIN   WHT BAL   SHUTTER
L M H   B A PRESET

G   H

A. Full Auto Button
B. Iris / Neutral Denisty Filter switch
C. Iris /ND manual adjust
D. Push Auto Iris
E. Push this button for full auto Iris
   Ⓐ appears beside F stop on display.
F. Shutter Speed manual adjust
G. ISO/GAIN controls: push button and
   Ⓐ appears beside ISO/GAIN on display
H. Shutter Speed push button and
   Ⓐ appears beside Shutter on display

Using Zebra to adjust exposure

- Press the MENU button → select ▣ (DISPLAY SET) with the SEL/SET dial.   > ZEBRA

- Choose ZEBRA2 LEVEL: 100%, which represents pure white in the scene
- hold a white card in the scene and adjust your exposure so that the zebra stripes just begin to disappear on the white card.
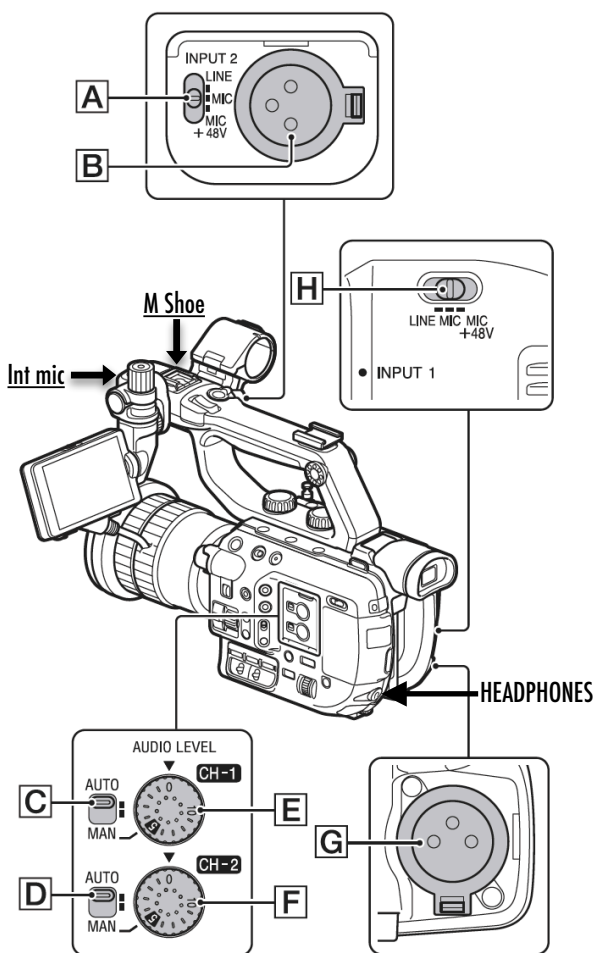- Zebra stripes do not record on the image.

- You can assign the Zebra on/off to an Assign button

  - · Press the MENU button → select 🗐 (SYSTEM) with the SEL/SET dial.   > ASSIGN BUTTON
  - ·

- select the Assign Button to change, press the wheel
- choose Zebra to add to this button

Audio Recording

A./H. Input Selector -

- Line = mixer, CD player, PA system
- Mic = dynamic or self powered microphone
- Mic +48 = camera give power to microphone

B./G XLR plug

C.   Channel 1 Auto / manual audio control switch

D.   Channel 2 Auto / manual audio control switch

E.   Channel 1 manual recording level control

F.   Channel 2 manual recording level control

Audio Recording Input Setup

Press the MENU button → select ♪ (AUDIO SET) with the SEL/SET dial.

- CH1 = LEFT, CH2=RIGHT

> **CH1 INPUT SELECT**

- INT MIC
- INPUT 1 - XLR plug
- M SHOE MIC - special mic that fits to the top shoe.

> **CH2 INPUT SELECT**

- INT MIC
- INPUT 1 - XLR plug
- INPUT 2 - XLR plug
- M SHOE MIC

- If you wish to record with 2 mics on separate tracks
  - set CH1 input to INPUT 1
  - set CH2 input to INPUT 2

- If you wish to record with 1 mic in stereo
  - plug an external XLR mic into INPUT 1
    - set CH1 input to INPUT 1
    - set CH2 input to INPUT 1

- Redundant Mic-ing technique
  - plug an external XLR mic into INPUT 1
  - Set CH1 input to INPUT 1 to record primary audio
  - Set CH2 input to INT MIC to record ambient audio and as a backup in case the external mic fails.

Audio Recording Menu items

Press the MENU button → select ♪ (AUDIO SET) with the SEL/SET dial.

- VOLUME - to control the headphone volume
- AVCHD AUDIO FORMAT - linear PCM or DOLBY DIGITAL
- AUDIO LIMIT - stops clipping when CH1+2 are set to manual.
- HEADPHONE OUT - stereo, mix mono, CH1, CH2
- INT MIC SET - adjust sensitivity and add a wind filter
- XLR SET - adjust AGC (auto gain control), wind filters, trims

Picture Profiles

Press the MENU button → select 📷 (CAMERA/PAINT) with the SEL/SET dial.

> **PICTURE PROFILE**

- PP 1 - standard camera settings
- PP 2 - high contrast, dark shadows and rich colours
- PP 3 - standard gamma curve for HD TV, natural contrast and colours that can be changed in post production.
- PP 4 - standard setting with colours more saturated.
- PP 5 - film-like highlight roll off, less saturated colours works well for bright sunny exteriors
- PP 6 - same as Profile 5, but with a Broadcast Safe highlight filter.
- PP 7 - S-Log2 with S-Gamut
- PP 8 - S-Log3 with S-Gamut3.cine
- PP 9 - S-log3 with S-gamut3

PP 7-9 are for Professional shoots that require extensive post-production colour correction. The image will be flat and washed out.

Charging the battery

- Leave the battery in the camera, turn off the camera and plug the camera into the wall with the AC adapter for about 4 hours.