SONY Z90

CCTV PRODUCER MANUAL - CAMERA BASICS

FULL AUTO SETTINGS

IN THIS MANUAL

MEMORY CARD REQUIREMENTS

SONY z90
SDXC
Class 10 - U3 (or higher)
64 GB **minimum**

INSIDE THE CASE

When you get your camera from CCTV It will come with the following items. You are responsible for each of these items.

1. Camera (with Handle mount & lens cap)
2. Battery - 2 large
3. Shotgun Microphone
4. Wired Remote
5. Headphones
6. AC Adapter

TRIPOD

Follow the instructions for how to set up and use the Tripod.
Be sure to unlock the pan/tilt options when using. You should never have to force the camera to move.

1. Tripod Plate
2. Safety Latch
3. Release Nob
4. Handle
5. Pan Lock
6. Pan Adjust (red)
7. Tilt Lock
8. Tilt Adjust (red)
9. Head Adjust

When Indoors - be sure to check that the rubber feet protectors are screwed out the whole way to cover the spikes. Only use spikes outdoors or in approved places - they can damage floors.

BATTERY & CHARGING

ATTACHING THE BATTERY

The battery goes into the back of the camera under the eye cup. Make sure the arrow is pointing towards the eye cup - place it in the slot and push up to click it into place.
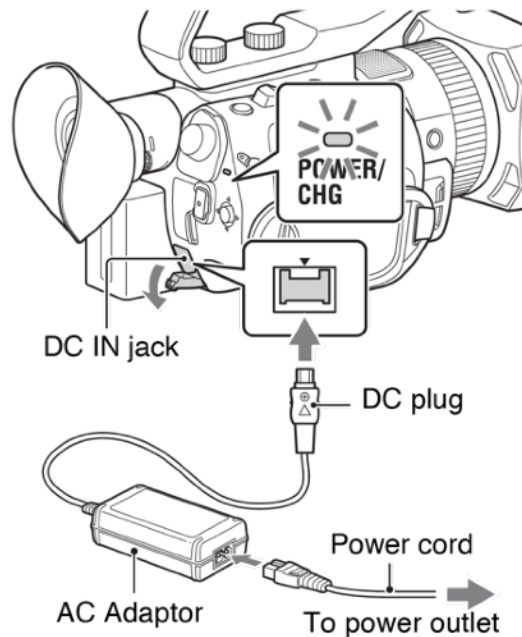
REMOVING THE BATTERY

The battery release is located on the bottom of the camera. Slide the release & pull the battery down to remove it from the camera.

CHARGING THE BATTERY

The battery charges while attached to the camera. You will find a DC IN port to the right of the batter near the bottom of the camera - open this tab and plug in the power adapter.

You can also plug in the camera while recording video however, it will not charge the battery while recording.

SD CARD SETTINGS

INSERTING & REMOVING YOUR SD CARD

Open the LCD display and locate the SD card door. Open the door & insert your SD card. Cards will push in and click into place. To remove the card - push the card in to release and it will pop out.

CARD RECORD SETTINGS

A⬅ By default, the camera will be set to relay record. On the LCD screen you B⬅ will see this icon next to the record settings. When one card gets full, the camera will start recording on the second card - if available.

If you have two cards inserted - you can use the "Slot Select" button (located above the SD cards) to choose which card the camera will record onto.

If you are only using one SD card you will see this icon flashing icon in the middle of your LCD screen, alerting you that it cannot relay record because there is only one card.

FORMATTING YOUR SD CARD

If you are using a new SD card - you should always format it in the camera before using.

If you use an SD card in a new camera (different make or model of cameras) you should format the card to that camera so it can build the correct file managements systems to properly save your media.

If you had any problems with the card, or have deleted files from the card on a computer - it is smart to reformat the card before recording new media as well.

1 Press the MENU button.

2 Select ▦ (OTHERS)   [MEDIA FORMAT].

3 Select the memory card to be formatted.

4 Touch [OK], successively, according to the screen display.

Note
- While [Executing…] is displayed, do not turn off the camcorder, do not operate any buttons on the camcorder, disconnect the AC Adaptor, or remove the memory card from your camcorder. (The access lamp is lit or flashing during formatting.)

SETTING UP THE CAMERA AUDIO

When you set up your camera you will also need to set up the Audio. *As a default setting, if the microphone is not attached NO AUDIO will record.*

ATTACHING THE MICROPHONE

Open the Mic latch & place the microphone into the holder. Make sure the rubber holder is positioned in the camera latch correctly.

Clip the latch shut & plug the XLR cable into **"INPUT 1".**
Make sure the XLR cable is fully connected, you should hear it click into place.

To remove the cable, hold down the metal tab and pull the cable out.

SINGLE MICROPHONE SETTINGS

When using only the shotgun microphone with automatic settings the audio panel should be set to these settings.

CONTORL OPTIONS
ATT (Attinuation) - Will lower the max recording volume by 10db or 20db.
INPUT - LINE: mix from sound board, MIC: powered mic, MIC +48v: Phantom power for microphone
LOW CUT - cuts out the lowest frequency sounds (cuts wind noise & electric hum)
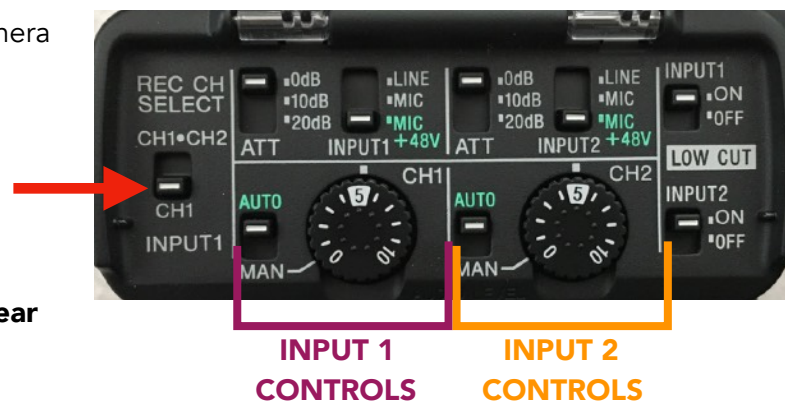**CH VOLUME** - AUTO/MANUAL switch & volume level wheel

DOUBLE MICROPHONE SETTINGS

To have multiple audio sources plugged into the camera you need to change the **REC CH SELECT to CH1.**

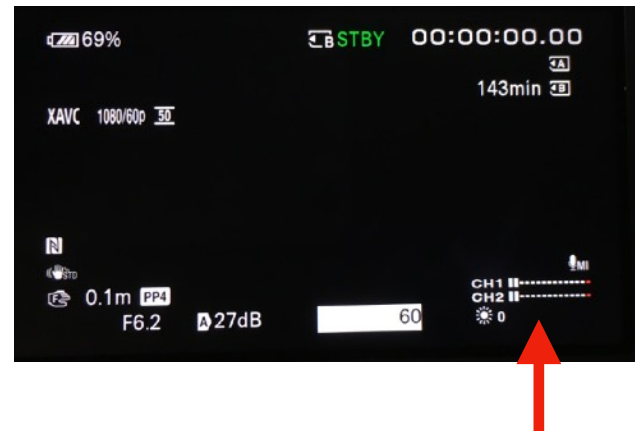This will split the controls and record INPUT 1 and INPUT 2 onto separate channels that you will mix later.

You will hear the audio from **INPUT 1 in your LEFT ear** and the audio from **INPUT 2 in your right ear.**

At this point you can adjust the input settings individually.

CHECKING YOUR AUDIO

If your audio is set up correctly, you will see movement on the audio indicators on the LCD screen. If only one channel is moving, you may have the "REC CH SELECT" set to the wrong setting for the microphones you are using.

USING THE HEADPHONES TO CHECK AUDIO

Always check your audio using headphones. Seeing the audio level indicator move does not guarantee good audio.

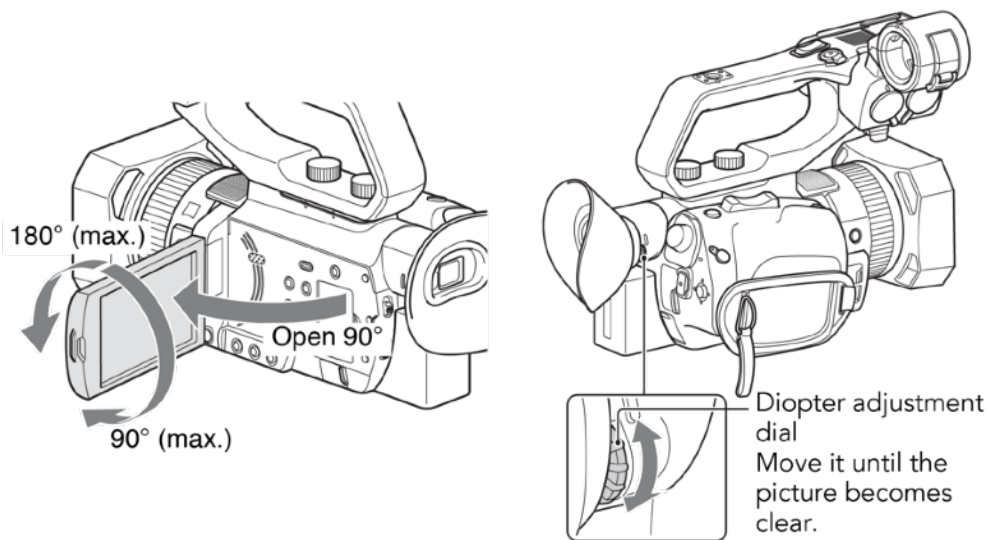The headphone input is found under the SD card slot. Open the door and connect the Headphones.
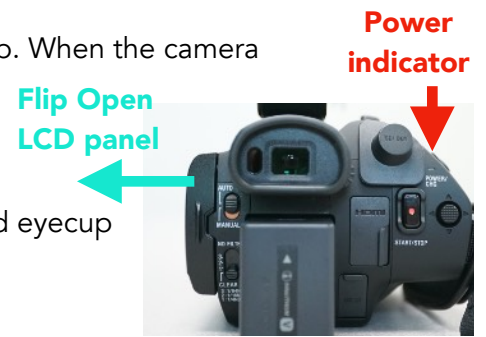
If you're using two microphones you should hear INPUT 1 in your left ear and INPUT 2 in your right ear. If you're using one microphone you should hear it in both ears.

TURNING THE CAMERA ON

You can turn the camera On opening either the LCD display or the Eye Cup. When the camera is on - the Power Indicator will glow green.

Power indicator

Flip Open LCD panel

If the camera is actively recording - you can close both the LCD display and eyecup and the camera will continue to record.

If the LCD display AND eye cup are open - the eyecup will turn on/off via a sensor located on the eye cup - when activated the LCD display will turn off.

Pull Out eyecup

180° (max.)

Open 90°

90° (max.)

Diopter adjustment dial
Move it until the picture becomes clear.

TURNING THE CAMERA OFF

To turn the camera off simply shut the LCD display or eye cup. Make sure the camera is fully off before removing the battery. If the camera is still on the Power Indicator light will be on.

Both the eye cup and the LCD door must be closed for the camera to power off.

LCD SCREEN

1 - Battery life

2 - SD Card status

3 - SD card capacity

4 - Audio Indicators

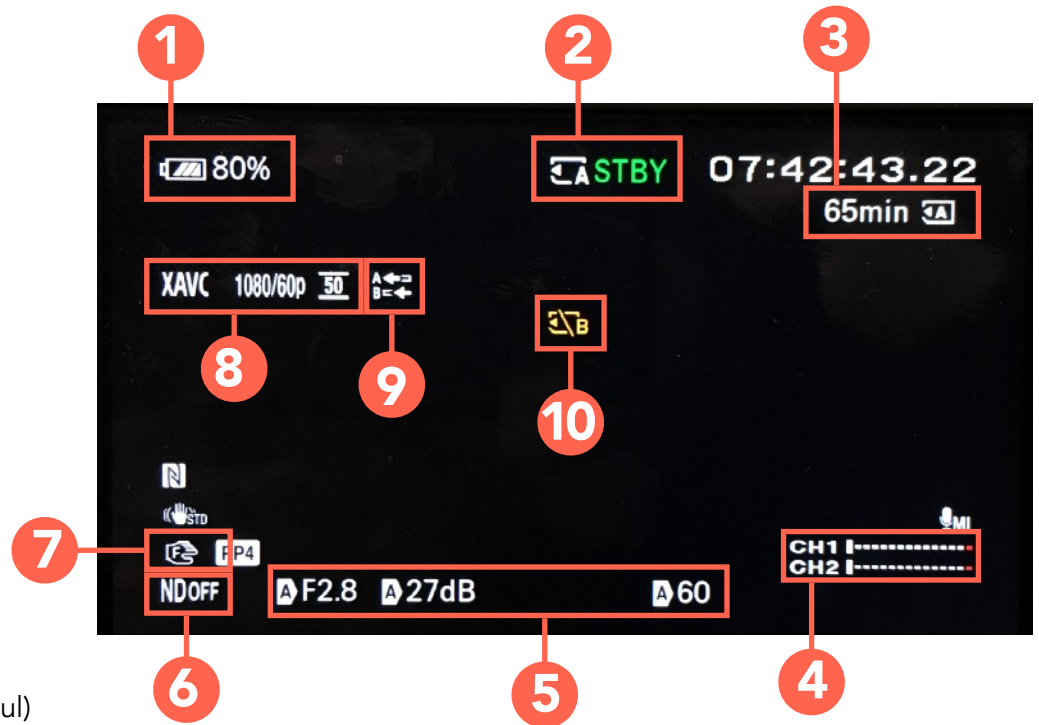5 - Exposure Settings (Iris, Gain, Shutter)

6 - ND filter indicator

7 - Manual focus indicator

8 - Recording Settings

9 - SD Card Settings (Relay / Simul)

10 - NO card indicator

RECORD SETTINGS

The camera should be set to the CCTV Default settings when you receive it (settings can be found in the back of this manual). Double check that the video resolution & quality is correct - or change it to the settings you want to use.

AUTOMATIC CAMERA SETTINGS

For basic shooting make sure the Auto/Manual switch is set to **Auto.**

FOCUS SETTINGS

On your screen (see location below) look and make sure your camera is set to Auto Focus. If you see this icon on the screen you are in Manual Focus.

Press the AF/MF button to change back to Auto Focus (the hand icon will disappear if you are in Auto Focus).

ND Filters

The camera will let you know if you need to turn on or off the ND filters. Check the LCD screen for an indicator. It will flash a number, to tell you which to turn on, or say off to indicate that you need to turn them off.
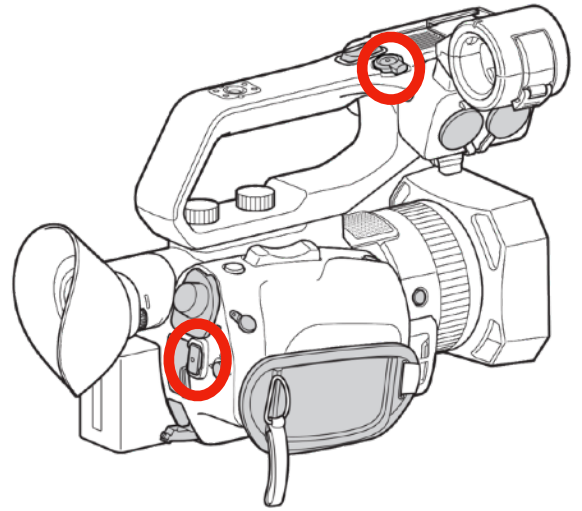
Video Resolution

The video resolution settings are found on the top left of the LCD screen. It should look like the picture below. If not - or if you need to change it from the CCTV default settings you can change the recording quality in the menu under **"Menu > REC/OUT SET > REC SET"**

RECORD & ZOOM BUTTONS

RECORD BUTTONS

There are two record buttons on the Z90 Camera. The main button is located on the back of the camera. The other record button is located on top of the handle. By default these will both control the active SD card.
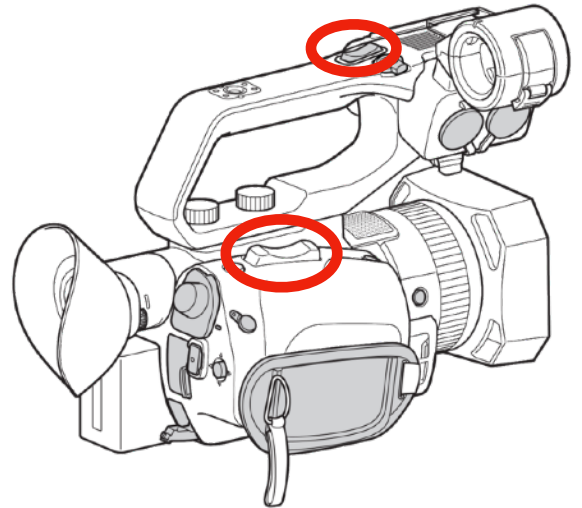
ZOOM BUTTONS

There are two Zoom handles on the camera. One is located on the camera body and one is on the handle.

The camera body zoom handle is set to variable speed (the harder you push, the faster it will zoom).

The handle zoom has three options that are changed on the handle. Off, Variable, and Fix (set to slow - so no matter how hard you push, it will only go one speed).
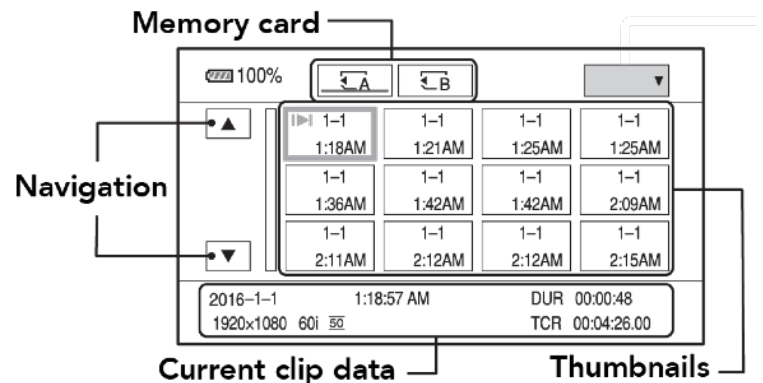
Thumbnail PLAYBACK

When the camera is on and the SD card is inserted. Hit the "Thumbnail" button on the camera to go into playback mode.

SELECTING CLIPS TO PLAYBACK

In playback mode you can use the screen as a touchscreen - or use the menu toggle to navigate through the options.
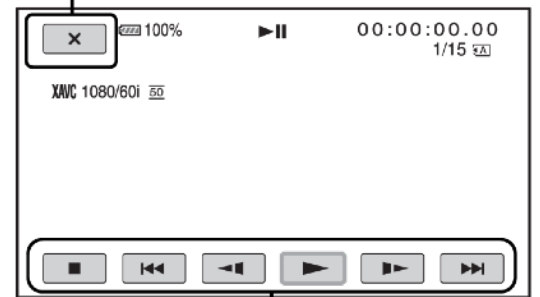
Select the video you want to watch with the menu toggle OR using the touch screen.

Use the keys to play, pause, fast forward, etc. Or hit the X to go back to the previous screen.

When you are done - hit the thumbnail button again to go back to the regular record mode.

ADJUSTING THE PLAYBACK VOLUME

To change the volume press the MENU button and then select 🎵 **Audio Set > Volume**

DELETING A FILE

If you want to delete a file during playback hit the **MENU** button and navigate to the "edit" icon at the bottom - here you will have options to delete or edit clips during playback.

Z90 Default Settings

Each time you get your camera from CCTV it should be set to the following settings.

▶️ CAMERA SET
- ISO/GAIN SEL **> GAIN**
- AUTO ISO LIMIT
- AGC LIMIT **> OFF**
- WB PRESET **> OUTDOOR**
- WB OUTDOOR LEVEL **> 0**
- WB TEMP SET **> 6500K**
- WB SET
- AE SHIFT **> OFF / 0EV**
- D. EXTENDER **> OFF**
- ZOOM SET **>** TYPE: **ON [CLEAR IMAGE ZOOM]**
  - HANDLE ZOOM: **3**
  - SPEED ZOOM: **OFF**
- ▦ STEADYSHOT **> STANDARD**
- FOCUS AREA **> WIDE**
- AF DRIVE SPEED **> 5 [NORMAL]**
- AF SUBJ. TRACK SET **>** DEPTH: **3 [NORMAL]**
  - SWITCH. SENS: **3 [NORMAL]**
- LOCK-ON AF **> OFF**
- FACE DETECTION **> ON**
- SLOW & QUICK
- AUTO MODE SET **> AUTO**
- SCENE SELECTION SET **> PORTRAIT**
- SPOT METER/FOCUS
- SPOT METER
- SPOT FOCUS
- LOW LUX
- AUTO BACK LIGHT **> OFF**
- NIGHTSHOT
- NIGHTSHOT LIGHT **> ON**
- COLOR BAR **> OFF, TONE: OFF**
- PICTURE PROFILE **> PP4**

🔁 REC/OUT SET
- REC SET **>** FILE FORMAT: **XAVC HD**
  - REC FORMAT: **1080/60p 50Mbps,**
  - SIMUL/RELAY: **RELAY**
- VIDEO OUT **> OUTPUT: HDMI**

♪ AUDIO SET
- VOLUME
- AVCHD AUDIO FORMAT
- AUDIO REC LEVEL
- INT MIC WIND
- MIC SELECT **> AUTO**
- AUDIO OUTPUT TIMING **> LIVE**

▣ DISPLAY SET
- HISTOGRAM **> OFF**
- ZEBRA
- PEAKING
- PHASE AF FRAMES **> OFF**
- PHASE DETECT. AF AREA **> ON**
- MARKER **> OFF, CENTER: ON**
- FOCUS MAG RATIO **> X4.0 / X8.0**
- CAMERA DATA DISPLAY **> ON**
- AUDIO LEVEL DISPLAY **> ON**
- ZOOM DISPLAY **>BAR**
- FOCUS DISPLAY **>METER**
- SHUTTER DISPLAY **> SECOND**
- DATA CODE
- GAMMA DISP ASSIST
- LCD BRIGHT **> NORMAL**
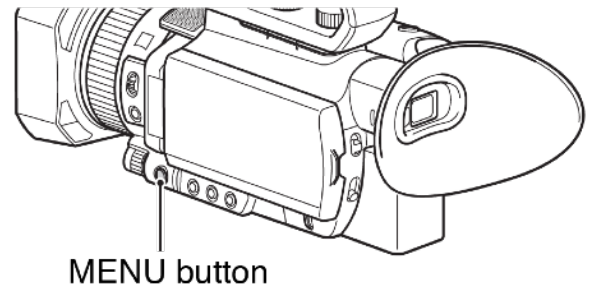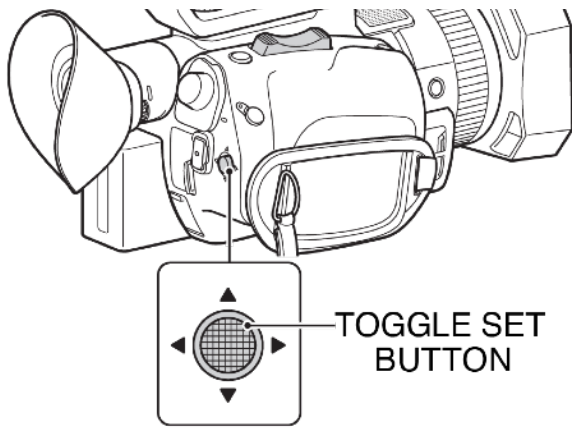- VF COLOR TEMP.
- DISPLAY OUTPUT **> LCD PANEL**

NAVIGATING THE MENU & MAKING CHANGES

Press the MENU button.

You will navigate through the menu with the toggle SET button.

MENU button

TOGGLE SET BUTTON

CAMERA SET
- ISO/GAIN SEL
- AUTO ISO LIMIT
- AGC LIMIT
- WB PRESET
- WB OUTDOOR LEVEL
- WB TEMP SET
- WB SET
- AE SHIFT
- D. EXTENDER
- ZOOM SET
- STEADYSHOT
- FOCUS AREA
- AF DRIVE SPEED
- AF SUBJ. TRACK SET
- LOCK-ON AF
- FACE DETECTION
- SLOW & QUICK
- AUTO MODE SET
- SCENE SELECTION SET
- SPOT METER/FOCUS
- SPOT METER
- SPOT FOCUS
- LOW LUX
- AUTO BACK LIGHT
- NIGHTSHOT
- NIGHTSHOT LIGHT
- COLOR BAR
- PICTURE PROFILE

⇄ REC/OUT SET
- REC SET
- VIDEO OUT

♪ AUDIO SET
- VOLUME
- AVCHD AUDIO FORMAT
- AUDIO REC LEVEL
- INT MIC WIND
- MIC SELECT
- AUDIO OUTPUT TIMING

■ DISPLAY SET
- HISTOGRAM
- ZEBRA
- PEAKING
- PHASE AF FRAMES
- PHASE DETECT. AF AREA
- MARKER
- FOCUS MAG RATIO
- CAMERA DATA DISPLAY
- AUDIO LEVEL DISPLAY
- ZOOM DISPLAY
- FOCUS DISPLAY
- SHUTTER DISPLAY
- DATA CODE
- GAMMA DISP ASSIST
- LCD BRIGHT
- VF COLOR TEMP.
- DISPLAY OUTPUT

TC/UB SET
- TC/UB DISPLAY
- TC PRESET
- UB PRESET
- TC FORMAT
- TC RUN
- TC MAKE
- UB TIME REC

NETWORK SET
- CTRL W/SMARTPHONE
- STREAMING
- USTREAM
- NETWORK CLIENT MODE
- WIRELESS TC LINK
- FTP TRANSFER
- WIRED LAN SET
- Wi-Fi SET
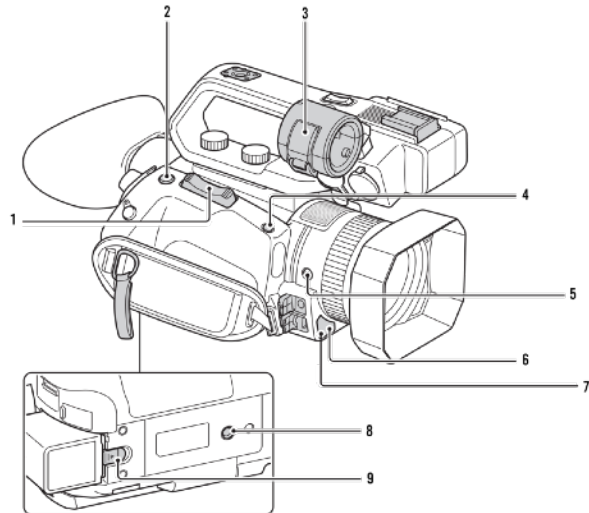- AIRPLANE MODE
- ROOT CERTIFICATE
- NETWORK RESET

OTHERS
- STATUS CHECK
- CAMERA PROFILE
- S&Q BUTTON SETTING
- ASSIGN BUTTON
- CLOCK SET
- AREA SET
- SUMMERTIME
- LANGUAGE
- DATE REC
- BEEP
- REC LAMP
- REMOTE CONTROL
- 60i/50i SEL
- MEDIA FORMAT
- REPAIR IMAGE DB FILE
- USB CONNECT
- USB LUN SET
- OPERATION TIME
- OPTION
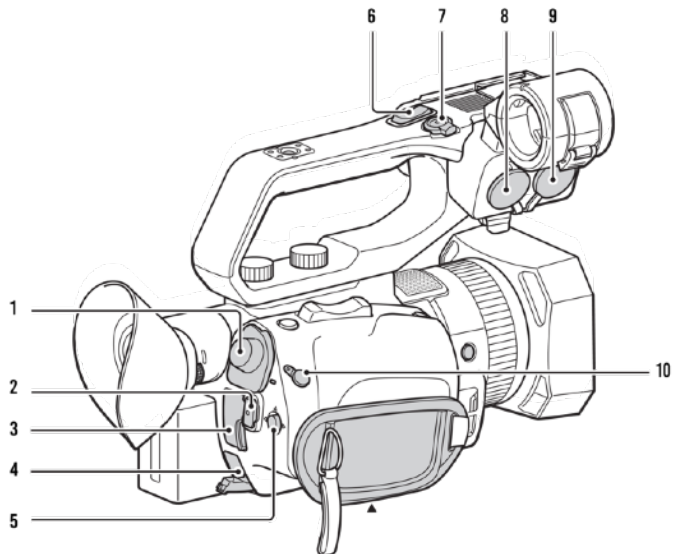- VERSION DISPLAY
- CALIBRATION
- INITIALIZE

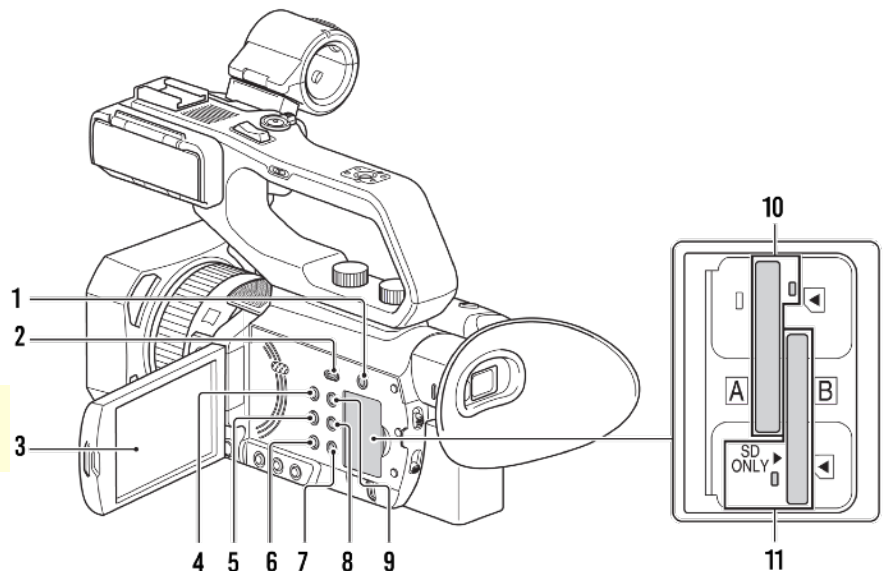## ✎ EDIT
- PROTECT
- DIVIDE
- DELETE

CAMERA BUTTONS

1. Zoom lever
2. ASSIGN 4 - focus magnifier
3. Microphone holder
4. ASSIGN 5 - Iris Push Auto
5. ASSIGN 6 - Zebra
6. Recording lamp - flashes when capacity of memory card or battery becomes low.
7. NightShot light
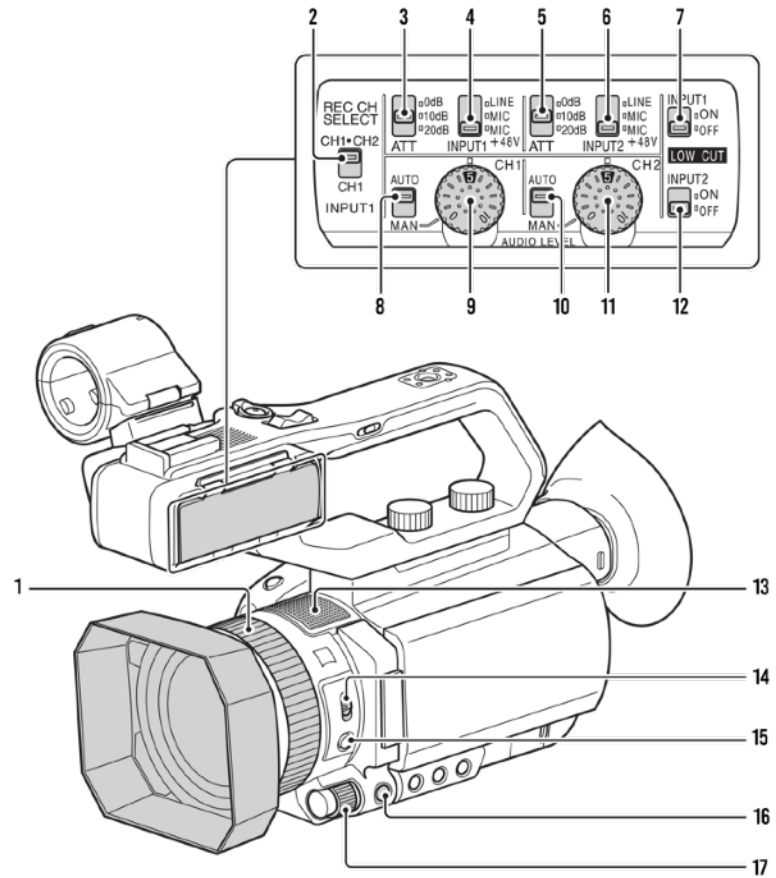8. Tripod mounting screw
9. Battery release

1. SDI OUT Jack
2. Start/Stop record button
3. HDMI OUT jack
4. DC IN jack
5. U/D/L/R - SET toggle buttons
6. Handle zoom lever
7. Handle record button
8. INPUT 2 jack
9. INPUT 1 jack
10. Remote jack

1. Slot Select for SD cards
2. Thumbnail Playback button
3. LCD Screen
4. Power Button
5. White Balance
6. ASSIGN 1 - S&Q button
7. ASSIGN 2 - Status Check
8. ASSIGN 3 - Picture Profile
9. Display Button
10. Memory card slot A
11. Memory card slot B

1. Manual lens ring
2. Record Channel Select
3. ATT switch (INPUT 1)
4. Line/Mic/+48v switch (INPUT 1)
5. ATT switch (INPUT 2)
6. Line/Mic/+48v switch (INPUT 2)
7. Low Cut (INPUT 1)
8. Auto/Manual (CH1)
9. Audio Level (CH1)
10. Auto/Manual (CH2)
11. Audio Level (CH2)
12. Low Cut (INPUT 2)
13. Internal Mic
14. Zoom/Focus switch
15. AF/MF button
16. MENU button
17. MANUAL adjustment dial

1. IRIS button
2. ISO/GAIN button
3. SHUTTER SPEED button
4. Headphone Jack
5. Battery slot
6. ND filter switch
7. AUTO / MANUAL button
8. Eye viewfinder & sensor
9. Handle zoom speed switch