WELCOME TO THE PRODUCTION CENTER!
SONY FS-100
HANDS-ON TECH SEMINAR

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PURPOSE

This tech intends to train students on how to build and operate the FS-100 camera.

*NOTE: ALL INFORMATION IS AVAILABLE ON THE NYU WIKI.*
SONY FS-100 QUICK STATS

- Exmor Super 35mm CMOS sensor
- 16:9 native aspect ratio
- 1080p 60/30/24p AVCHD
- Records to removable SD-HC media storage cards
- Touch screen 3.5” LCD monitor – 16:9 – not accurate for exposure evaluation
- Nominal ISO equivalence: 500 daylight
- HDMI out, Component Out, Composite Out
- 2 XLR audio inputs
- Approximate shooting time per 8GB: 43 minutes
FS-100 CAMERA KIT CONTENTS

- Camera
  - on body: E to Nikon adapter, top handle, side handle
- Viewfinder block
- Lenses
  - 21mm, 35mm, 85mm
  - each have back cover, front cover, sunshade, and Tiffen haze filter
- 4x4 Mattebox
  - Filter tray x 2
  - Fabric donut
- Shape Riser System w/ 15mm rods x 2
- Filters (4x4 ND 3, 6, 9, polarizer, 72mm close up set)
- Sekonic Light Meter w/ case
- Sony battery charger/AC with ‘AC to charger’ cable & ‘charger to camera’ cable
- 8GB card
- Batteries Q=2

All contents are listed on side of case. Use list during check out/in!
Be sure all contents are packed in their respective spots for check in.
## FS100 KIT

### CAMERA

**Sony FS100 camera**  
- on body:  
  - E to Nikon adapter  
  - top handle  
  - side handle  
- **Sony FS100 viewfinder block**

### LENSES

**21mm Zeiss - ZF**  
- w/ back cover  
- front cover  
- 82mm haze-1  
- sunshade

**35mm Zeiss - ZF**  
- w/ back cover  
- front cover  
- 58mm haze-1  
- sunshade

**85mm Zeiss - ZF**  
- w/ back cover  
- front cover  
- 72mm haze-1  
- sunshade

### ACCESSORIES

**Genus 4x4 Mattebox**  
- w/ filter tray x 2  
- fabric donut

**Shape Riser System**  
- w/ 15mm rods x 2

**Tiffen filters:**  
- 4x4: ND3, ND6, ND9, & Polarizer  
- 72mm Close-Up: +1, +2, +4

**Sekonic L-308DC DigiCineMate**  
- w/ case

**Sony battery charger/AC**  
- w/ AC to charger cable  
- charger to camera cable

**NOTE:** There are limited emergency rigs of this kit at Todman Center.  
Please call 212-998-1680 in advance.
TRIPOD
TRIPOD

• Use carrying case for transporting tripod.
• Make sure to loosen the arm lock when storing.
• Never carry tripod by the arm.
TRIPOD

Screw down rubber foot
TRIPOD

Steel spike
TRIPOD

Concentric leg locks
TRIPOD

Leg angle adjuster
TRIPOD

Leg angle adjuster (raised)
TRIPOD

Tripod has three leg angle positions:

- Maximum height (leg angle adjustment not required)
- Minimum height (it is recommended that minimum height position is used only with legs at their shortest length)
- Mid position (refers to the mid leg angle position, not necessarily the height of the tripod)
TRIPOD

PLEASE NOTE: The mid position is chosen for optimum stability, but is not recommended if tripod is being used in a crowded situation, due to the wide diameter, or footprint spread, of the extended tripod.
TRIPOD

“Pan handle clamp” – loosen and adjust arm to desired height
Level the fluid head using bubble level and ball leveling feature of fluid head.
TRIPOD

Level the fluid head using bubble level and ball leveling feature of fluid head.
TRIPOD

Pan lock

Pan drag
TRIPOD

Tilt lock

Tilt drag
TRIPOD

Counterbalance control – designed to neutralize the effect of the camera weight when it is tilted.
TRIPOD PLATE

Loosen plate lock and press plate release to remove tripod plate.
TRIPOD PLATE

Attach plate to bottom of camera – note lens position!
TRIPOD PLATE

Use a coin to tighten plate on bottom of camera.
MOUNTING CAMERA ON TRIPOD

• Loosen plate lock.
• Crew member should hold tripod legs steady.
• Stand behind tripod.
• Press yellow plate release button and slide camera forward.
• Lock plate! Do not let go of camera until you are certain it is secure.
BUILDING THE CAMERA
BATTERIES

- To attach battery, tilt camera forward, slide battery to the right.
BATTERIES

• To remove battery, press “BATT RELEASE” and slide battery to the left.
SD CARD
SD CARD
MATTE BOX

• First remove sunshade from lens!
• Loosen lock on plate riser system.
• Insert matte box rods.
• Tighten lock on plate riser system.
• Slide matte box onto rods.
MATTE BOX

• Secure matte box.
MATTE BOX

• Extend elastic “donut” to fit over lens.
MATTE BOX

• Put lens through donut, then put on lens shade if needed to seal.
  (Do NOT use sunshades for 21 & 85mm lenses, as they are too wide for the donut!)
MATTE BOX - FILTERS

• Loosen side lock to remove filter tray.
MATTE BOX - FILTERS

• Remove filter tray.
MATTE BOX - FILTERS

• To remove a filter tray, first loosen the locking screws on the side of matte box.
• Please note: the two filter trays differ in size! The larger tray goes in front.
• Never force the tray into the matte box; make sure you have loosened the lock.
MATTE BOX - FILTERS

• Be careful when inserting/removing tray. Place hand under filter.
• The rear tray rotates and should be used for the polarizer.
• Test and adjust focus ring on lens to ensure that lens does not damage filter when focusing.
LOADING FILTERS

• Insert 4x4 filter with care!
  – It’s best to do this over the foam inside your camera case so that if the filter falls it lands on something soft.

• To insert filter, pull back release knob on tray.
• Slide filter into tray.
• Once filter is inserted, use lens cloth to remove finger prints.
MATTE BOX - FILTERS

• Make sure filter is secure before attempting to insert in matte box.
MATTE BOX - FILTERS

• Slide filter tray into matte box and lock.
VIEWFINDER

• Adjust tension in LCD hold dial.
VIEWFINDER

• Align viewfinder with LCD screen and lock latches.
VIEWFINDER

IMPORTANT NOTE:
Please loosen LCD Hold Dial when adjusting viewfinder!
POWER ON
FORMATTING SD CARD
FORMATTING SD CARD

• Make sure to format before each shoot!
  – Press Menu
  – Select Others
  – Select Media Format
  – Toggle up and select Yes to confirm formatting

*NOTE: Only use cards provided by NYU.
8GB card = 43 minutes
INTERNAL MENU SETTINGS

• REC SET
  - HD/SD Set – HD
  - HD Rec Format – 1080/24p FX
  - Simultaneous Rec – ON
  - Rec Media Setting – Memory Card
INTERNAL MENU SETTINGS

• CAMERA SET
  – Gain Setup Tab: Low = ISO 500 (0db), Mid = ISO 800 (+3db), High = ISO 1600 (+9db)
  – WB Preset: choose between Outdoor, Indoor, or Manual
  – S&Q Motion: Record Format – 1080/24pFX, Frame Rate – 60fps for slow-mo
  – Color Bar: choose between ON/OFF
INTERNAL MENU SETTINGS

• DISPLAY SET
  – Histogram – On/Off
  – Zebra – On/Off, Level – 80 for skintone, 100 for full exposure
  – Peaking: Set Red, level to Mid.
  – Marker: Set to ON, Center ON, Safety Zone OFF
  – Expanded Focus Mag: x4.0/x8.0
  – Camera display - ON
  – Audio Level Display: OFF
  – Shutter Display: Second
PICTURE PROFILE

Before every shoot you must calibrate and set Picture Profile 1 (PP1) to NYU DEFAULT.
PICTURE PROFILE
NYU DEFAULT (B&W)
PICTURE PROFILE SETTINGS

• Black level: -1
• Gamma: CinemaTone1
• Black Gamma: Range = High, Level = 0
• Knee: Point = 90%, Slope = 0
• Color mode: Type = CinemaTone1, Level = 8
• Color level: -8
• Color phase: +1
• Color depth: R=-2, G=-6, B=-7, C=0, M=+2, Y=+5
• WB shift: All 0
• Detail = Manual Set to Off
ISO/GAIN
ISO/GAIN

Always set to lowest setting possible. Can be used in low light situations, but may introduce noise and blowouts.

- Low = ISO 500 (0db)
- Mid = ISO 800 (+3db)
- High = ISO 1600 (+9db)
WHITE BALANCE
WHITE BALANCE

• Camera should be white balanced manually. NEVER USE AUTO.
• A&B: WB reading storage slots
• Manual white balance procedure: press WHT BAL to enter manual mode, selector switch to A position, hold down READING button. Storage slot A or B will be displayed.
SHUTTER SPEED
SHUTTER SPEED

• Must be set to 48 (1/48) for normal motion rendition
• Press shutter button, dial select wheel to 48, press select wheel
• “48” will be displayed if properly calibrated
S&Q MOTION
S&Q MOTION

• Record format – 1080/24pFX
• Frame Rate – 60fps for slow-mo
• 60fps is default, other frame rates selectable in menu: 1, 2, 4, 8, 15, 30
• Press S&Q button to engage S&Q motion “slow motion” in HD 1080/24p FX at 60fps

*NOTE: Use a separate card when doing slow-motion shooting. Do not include multiple frame rates on same card!
BASIC OPERATIONS

• Camera AUTO/MANUAL
  – Switch: set to MANUAL

ALWAYS SET YOUR FOCUS, APERTURE, AND WHITE BALANCE MANUALLY!!
BASIC OPERATIONS

• Expanded Focus Mag
  – Focus assist tool
  – Press once for x4.0 magnification (preferred)
  – Twice for x8.0 (sometimes not sharp)
  – Three times to exit expanded focus
  – WARNING: BE SURE TO EXIT EXPANDED FOCUS!
RECORD
PLAYBACK MODE
BASIC OPERATIONS

• Zebra (optional)
  – Warns of potential over-exposure
  – Value is pre-set to 80 for skintone
  – Set to 100 for full exposure
BASIC OPERATIONS

• Histogram (use always)
  – This is a graphic display used to judge exposure.
  – The histogram shows how many pixels there are in different parts of the image. These parts are the shadows, mid-tones, and highlights. The higher the mountain is in a part of the graph the more information there is in that part of the images.
  – The shadow section is on the left side of the graph, the mid-tones are in the middle and the high lights are on the right.
BASIC OPERATIONS

• Marker
  – Center only
  – Useful leveling and composition
BASIC OPERATIONS

• Peaking (Optional)
  – Color graphic overlay indicates what portion of the frame is in focus
  – set Red or Blue for color, level to Mid
BASIC OPERATIONS

• Last scene
  – Recalls last scene shot
DISPLAY

• Press display button twice to remove all data except center mark.
• This is important for composition.
CHANGING LENSES
PLEASE MAKE SURE CAMERA IS OFF WHEN CHANGING LENS!
CAUTION!

• DO NOT PRESS THIS BUTTON. (It is for removing the lens mount!)
CAUTION!

• You will never need to remove the mount!
CHANGING LENSES

- We suggest changing lenses with the camera mounted on the tripod.
CHANGING LENSES

• Note the location of the MTF Release Tab.
CHANGING LENSES

- Press tab and twist lens toward the operator side of the camera.
CHANGING LENSES

• Once lens is removed, replace lens caps – front and back.
CHANGING LENSES

• Remove caps and sun shade from next lens.
• Align red dot on back of lens with marker on camera.
• Carefully twist lens away from operator side of camera and listen for “CLICK.”
• DO NOT walk away from camera until you know lens is secure.

*NOTE: Inspect lens port for debris. Report to equipment area if you see metallic “dust.”
CLOSE-UP FILTERS

• Only use with 85mm lens.
• Remove protective filter.
• Attach directly onto lens.
• Do not stack close up filters.
LIGHT METER SETTINGS

T = 48

f/s = 24

ISO = 500
TRANSFERRING FILES
CAUTION!

• Make a disk image of your SD card when downloading footage. Do not “drag and drop” files.
  – (SEE DMG GUIDE ON WIKI)

• When transferring footage from your camera's 8 gig memory card, it will appear on your desktop as “NO NAME.”

• Please do NOT re-name the card or any files within it and do not move/delete or rearrange the order of the files, as this will potentially harm your footage.
HOW TO CLEAN LENSES
CLEANING LENSES

• First, check to see if the lens is actually dirty. Bring the lens close to your face and while tilting it in your hands, inspect its surface.

• If the lens is not dirty, don’t clean it. Over cleaning lenses wears down the outer coating.
CLEANING LENSES

Look for:

– dirt
– dust
– eyelashes
– fingerprints.

If you find any of these, it’s time to take out your lens cleaning kit.
CLEANING LENSES

• Every camera assistant should carry a blow bulb with a brush, lens cleaning tissues and lens cleaning fluid.

• Never use your t-shirt to simply wipe off a dirty lens. Remember, that the outer coating is very sensitive.

• Use blow bulb first, then tissue, then fluid on tissue. (DO NOT PUT LENS CLEANING FLUID DIRECTLY ON LENS!)
CLEANING LENSES

• It may be necessary to go back over the lens with a fresh, dry tissue to lift any residual cleaning fluid.
IMPORTANT!

• Always calibrate picture profiles to NYU DEFAULT.
• Do not use any tool whatsoever on this camera!
• Memory cards should be carefully stored in their respective case.
• Never use canned air on LCD panel.
• Do not exceed maximum turning radius on LCD panel.
• Cases should be packed for return in the same way they were checked out; neat and orderly.
• Camera body and lens should be protected and covered when not being used.
QUESTIONS?
PACKING UP

• Remove tripod plate from camera.
• Attach to tripod.
• Neatly return camera and accessories to kit.
• Fold up tripod and store in bag with arm lock loose.
• Make sure you signed the attendance sheet.
• Pick up a QUICK REFERENCE GUIDE.

THANK YOU!!