ARRI

ARRICAM Studio
Quick Guide

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About, Software, Tools, Safety

About ARRICAM Quick Guides

This Quick Guide (order number K5.58311.0) provides a short introduction to the ARRICAM Studio. Further Quick Guides are dedicated to the ARRICAM Lite (K5.58312.0) and ARRICAM Accessories (K5.58313.0). An overview of all ARRICAM components, a cable overview and Ground Glass overview, is given in the ARRICAM System Guide (K5.58314.0). These guides do not replace the ARRICAM System User's Guide (K5.58508.0). It is essential that you acquaint yourself with the User's Guide before operating the equipment.

These documents can be downloaded from www.arri.com in Acrobat pdf format. The Acrobat Reader can be downloaded free from the Adobe web site at www.adobe.com. A PostScript printer gives best printing results.

Even though all efforts have been made to ensure this guide's accuracy, changes and upgrades to the products described can result in different hardware or behavior. Technical data are subject to change without notice.

Software version

This Quick Guide describes the ARRICAM System with Software Packet 03E. Different software versions can result in different behaviours. Authorized ARRI Service Centers can check and update the ARRICAM software.
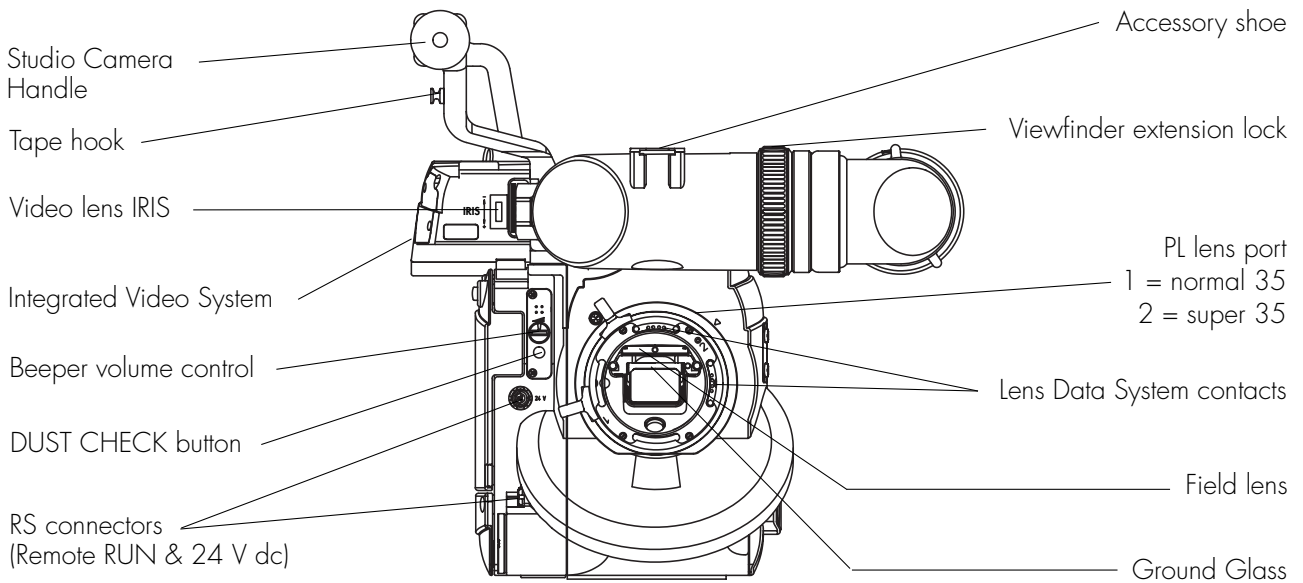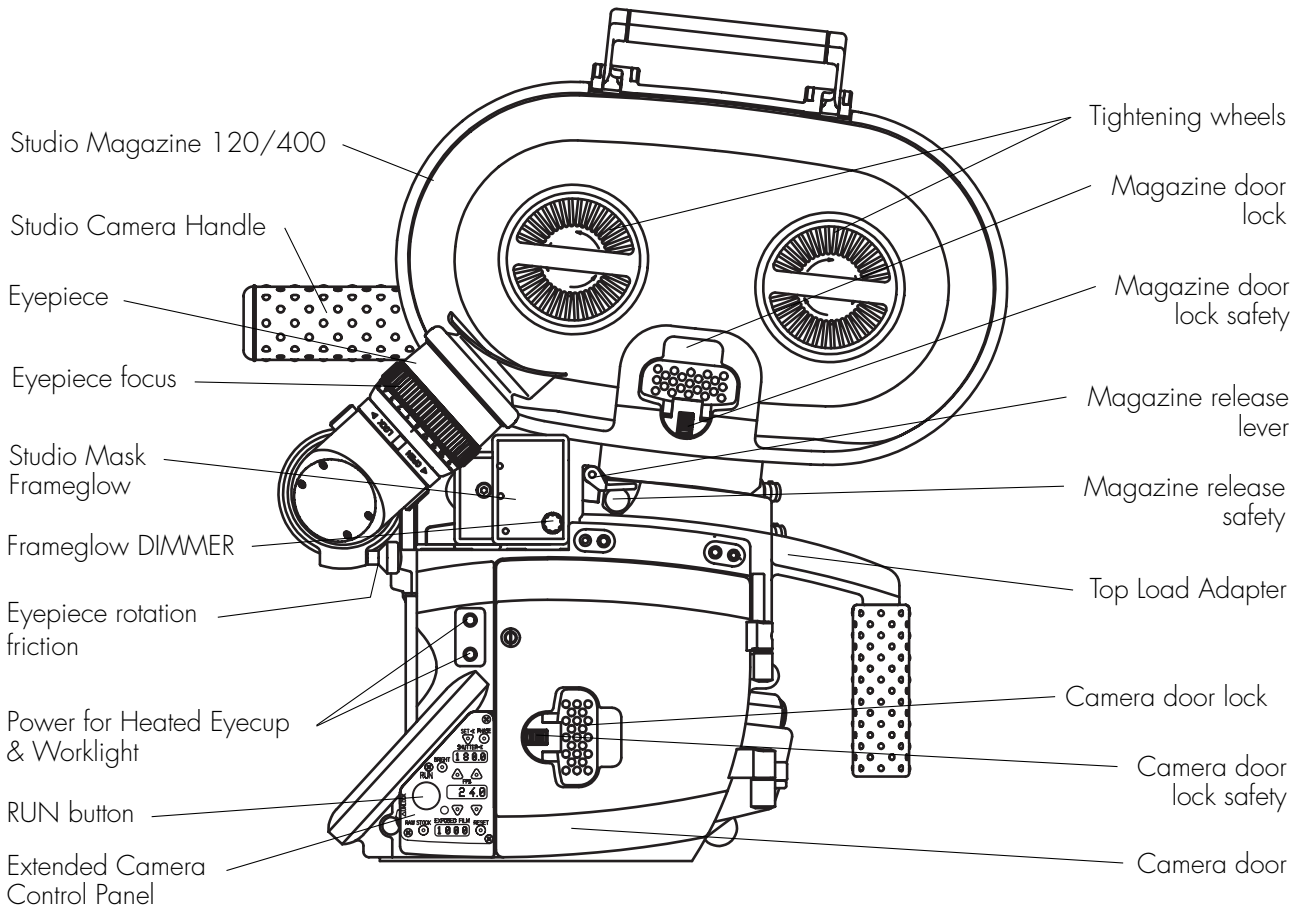
Tools

Anyone operating the ARRICAM system should have these tools:

1. One end of the **ARRICAM Ground Glass Tool** is used to remove the ground glass and the field lens. Use the 1.5 mm metric hex wrench at the other end to adjust the Integrated Video System and Frameglow alignment.
2. A **3 mm metric hex wrench** is used to attach and remove most accessories.
3. A **5 mm metric hex wrench** is used to attach or remove the Camera Handle grips, the 3/8" Accessory Shoe Adapter and the WHA-2 Rosette Bracket.
4. A 8-10mm (5/16") flathead long shaft **screwdriver** is used to attach baseplates, the Magazine Stabilization Bracket and the ARRICAM Shoulder Set. Please note that screwdrivers with a short, stubby shaft will not work with the Shoulder Set.
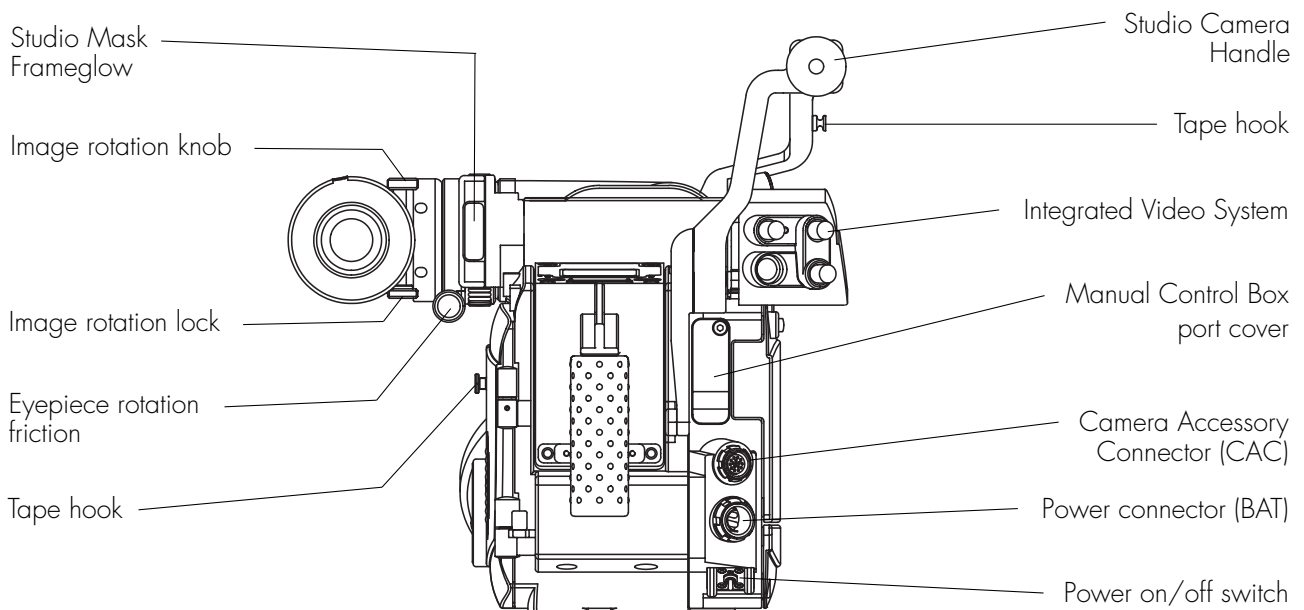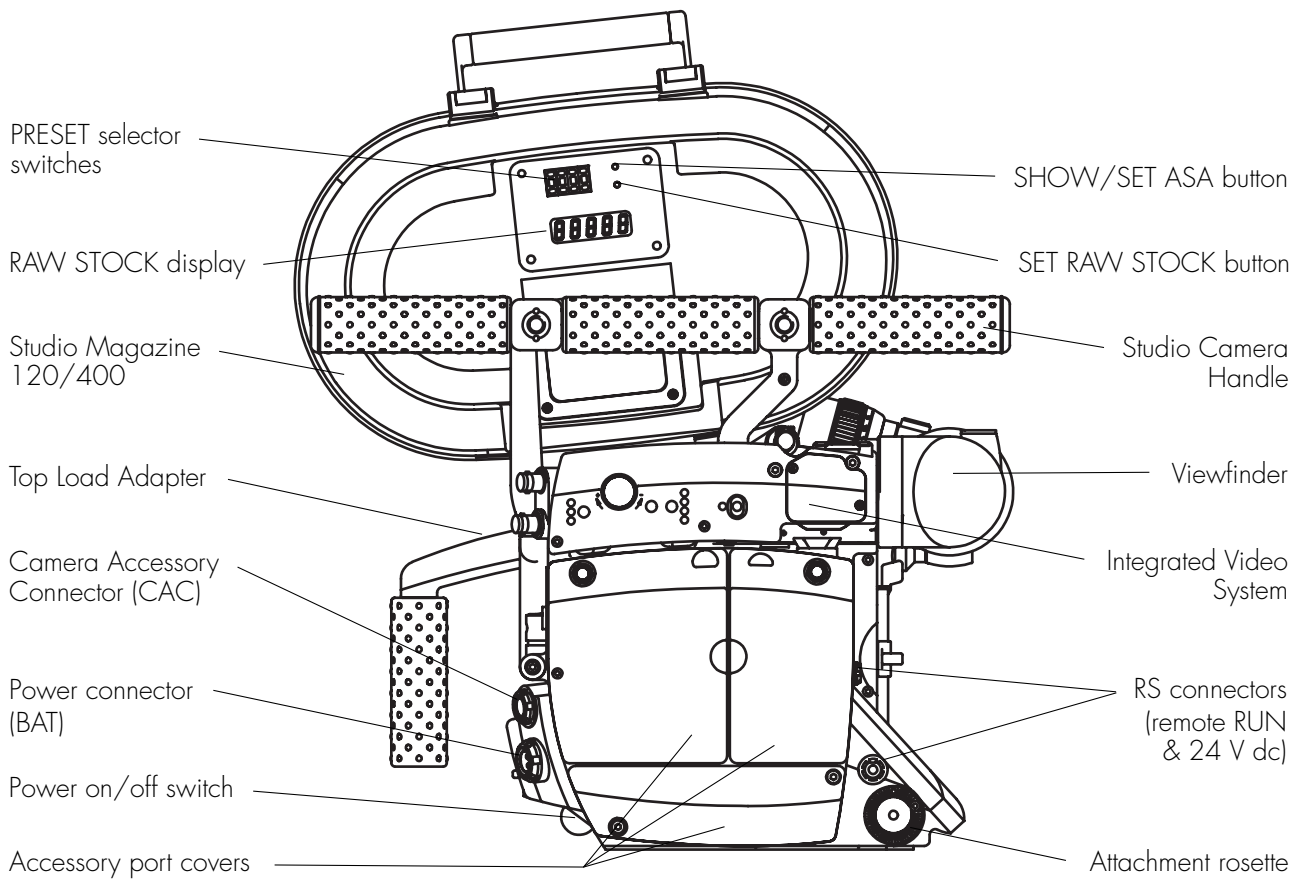
Safety specifications

• The Studio Viewfinder arm (hinge type) can be angled away from the camera to swivel it to the other side of the camera. When this is done, make sure to securely hold the viewfinder arm, as it could otherwise swing out rapidly and might cause pain and damage.
• Never place your hand in the lens port or inside of the camera while it is running.
• Assembly and initial operation should be carried out only by persons who are familiar with the equipment.
• Switch camera power off before making electrical connections (i.e. connecting accessory boxes).
• Never run the camera without a lens or a protective cap mounted in the lens port.
• Never operate the movement locking mechanism while the camera is running.
• Always ensure that the camera is securely mounted.
• Repairs should be carried out only by authorized ARRI Service Centers.
• Use only original ARRI replacement parts and accessories!
• In wet weather conditions the normal safety precautions for handling electrical equipment should be taken.
• Clean optical surfaces only with a lens brush or a clean lens cloth. In case of solid dirt moisten a lens cloth with pure alcohol or a brand name lens cleaner.
• Do not use solvents to clean the film path, plexiglas parts or rubber seals.
• Do not remove any screws which are secured with paint.

Camera Left & Front

Studio Magazine 120/400

Studio Camera Handle

Eyepiece

Eyepiece focus

Studio Mask Frameglow

Frameglow DIMMER

Eyepiece rotation friction

Power for Heated Eyecup & Worklight

RUN button

Extended Camera Control Panel

Tightening wheels

Magazine door lock

Magazine door lock safety

Magazine release lever

Magazine release safety

Top Load Adapter

Camera door lock

Camera door lock safety

Camera door

Studio Camera Handle

Tape hook

Video lens IRIS

Integrated Video System

Beeper volume control

DUST CHECK button

RS connectors (Remote RUN & 24 V dc)

Accessory shoe

Viewfinder extension lock

PL lens port
1 = normal 35
2 = super 35

Lens Data System contacts

Field lens

Ground Glass

Camera Right & Back

PRESET selector switches

RAW STOCK display

Studio Magazine 120/400

Top Load Adapter

Camera Accessory Connector (CAC)

Power connector (BAT)

Power on/off switch

Accessory port covers

SHOW/SET ASA button

SET RAW STOCK button

Studio Camera Handle

Viewfinder

Integrated Video System

RS connectors (remote RUN & 24 V dc)

Attachment rosette

Studio Mask Frameglow

Image rotation knob

Image rotation lock

Eyepiece rotation friction

Tape hook

Studio Camera Handle

Tape hook

Integrated Video System

Manual Control Box port cover

Camera Accessory Connector (CAC)

Power connector (BAT)

Power on/off switch

Accessory shoe

Readout port cover

Eyepiece swivel release

Accessory shoe

Viewfinder extension lock

Image rotation knob

Top Load Adapter

Contrast filter

Eyepiece focus

Eyepiece

Viewfinder

Image rotation lock

3/8"-16 mounting holes

Hole for Shoulder Pad locating pin

Cover for Power Bridgeplate contacts

Studio Camera Handle

Shoulder Pad mounting hole

Power on/off switch

Viewfinder Overview

Studio Viewfinder (spherical viewing only)

Studio Integrated Video System (IVS)

Studio Readout

Studio 100% Video Top

Studio Mask Frameglow

Studio LCD Frameglow

Studio Anamorphic Extension

Studio Eyepiece

Eyecup

Studio Zoom Extension

Studio Medium Extension

Lite Universal Eyepiece

Heated Eyecup

Studio Universal Viewfinder (spherical or anamorphic viewing)

Studio Integrated Video System (IVS)

Studio Readout

Studio 100% Video Top

Studio Mask Frameglow

Studio LCD Frameglow

Studio Anamorphic Extension

Studio Eyepiece

Eyecup

Studio Zoom Extension

Studio Medium Extension

Lite Universal Eyepiece

Heated Eyecup

Quick Specs

Fps Range		1 to 60 fps forward, 1 to 32 fps reverse. Reverse running and 0.001 fps increments can be set by Speed Control Box, Wireless Remote Control or ARRIMOTION.
Mirror Shutter		0° to 180°, electronically adjustable in 0.1° increments (11.2° to 180° for ramps).
Movement		5-link movement with dual registration pins and transport claws. Movements with 4 or 3 perforation pull down are available.
Flange Focal Distance		51.98 mm – 0.01
Temperature Range		–10° to +40° Celsius /+14° to +104° Fahrenheit
Power	24 V BAT	Nominal 24 V dc in (Pin 1: GND, pin 2: 24 V) Input voltage range: 21- 35 V dc.
	RS	(Camera & Power Bridgeplate) Pin 1: GND, pin 2: nominal 24 V dc out. The RS connectors on camera and Power Bridgeplate can supply a combined total of 5 A max. The RS connectors on the Power Bridgeplate have no remote run capability.
	CAC	Pin 1: GND, pin 2: nominal 24 V dc out with 2.5 A max. continuously.
	Work Light/ Heated Eyecup	Outer: GND, inner: nominal 24 V dc out. Work Light/Heated Eyecup connectors together can supply 0.75 A max. continuously.
	On-board Monitor	12 V dc out. This connector (MINI MONITOR) can supply 1.2 A max.

Note: *The combined load of all connectors must not exceed 7 A.*

Contrast Filter	An ND 0.6 filter can be moved into the viewfinder image path.
Magazines	Studio Magazine 120/400, Studio Magazine 300/1000, Top Load Adapter, Back Load Adapter, Dual Port Adapter, Lite Steadicam Magazine, Lite Shoulder Magazine, Lite Mag to Studio Camera Adapter. Use the Magazine Stabilization Bracket while shooting under increased g-force with Studio Magazine 300/1000.
Viewfinders	Studio Viewfinder, Studio Universal Viewfinder, Studio Medium Extension, Studio Zoom Extension, Studio Anamorphic Extension, Studio LCD Frameglow, Studio Mask Frameglow, Studio Eyepiece, Lite Universal Eyepiece, Heated Eyecup, Studio Readout, Integrated Video System, Studio 100% Video Top, 2" and 6.6" Video Monitors.

Note: *The Lite Viewfinders can also be used on the Studio camera, however the Lite Integrated Video System can only be used when the Back Load Adapter is fitted.*

Lens Data System	Studio Lens Data Box, Studio LDB Adapter, Lens Data Displays (LDD & LDD-FP), Lens Data System (LDS) zooms and prime lenses.
Electronic Accessories	Speed Control Box, Manual Control Box, Timing Shift Box, MCB Cable Adapter, Pick-up Unit, Remote Control Station, In-camera Slate Box, Power Bridgeplate, Work Light, Lens Control System, Controlled Lens Motors (CLM-1, CLM-2, CFM-1), Wired Handgrip Attachment, Wireless Main Unit, Wireless Focus Unit, Wireless Zoom Unit, Wireless Remote Control, Focus/Iris Unit, Zoom Main Unit, Iris Control Unit, Remote Switch RS-4, CAC Distribution Box, Accessory Power Box.
Other	ARRICAM Shoulder Set, Studio Camera Handle, Studio Centre Handle, 3/8" Accessory Shoe, Accessory Shoe Expander, Viewfinder Levelling Rod, Universal Low Mode Set, Ground Glasses, Aperture Format Masks, PL mount lenses, Shift & Tilt system, Matte Boxes, Follow Focus systems, Right Camera Handgrip with RUN/STOP button, batteries, power supplies, ARRI Dovetail system, Arrihead 2.

Messages & Warnings

The FPS, SHUTTER ◁ and EXPOSED FILM displays will show messages and warnings. See the ARRICAM System User's Guide for a complete list. The Lens Data Displays (LDD, LDD-FP) and the System Line of the Integrated Video Systems will show similar information. Messages and warnings are as of Software Packet 03E.

FPS display

Bat During run: Input voltage is too low. Camera continues to run. Change battery once the camera is stopped! During standby: Input voltage is too low. The camera is not ready. Change the battery!

Bukl A film guide or buckle trip (upper, lower or rear) has been tripped. The camera is not ready.

Cal Lens calibration in progress. The camera is in Standby.

Covr The Dual Port Adapter cover is not fitted. **Attention:** This does not prevent the camera from running.

DC The DUST CHECK or PHASE button has been pushed while the camera was in Standby to move the shutter 1/2 rotation, so the film is now visible through the lens port for a dust check.

End Less than 6m/20 ft of unexposed film remain in the magazine.

FPS! A speed below or above the permissible fps range has been preset.

Heat The camera and magazine heaters are on. During camera run, heaters are automatically powered down.

Jam A discrepancy between the amount of film leaving and returning to the magazine has been detected, indicating a film jam. Take the magazine off or turn the camera power switch off then on to reset.

Lock While the camera is in Standby, press the UNLOCK button to allow the FPS setting to be changed.

m/ft A magazine with a different unit of measurement to its predecessor has been attached to the camera. The warning will disappear when the camera is running but will reappear when the camera stops. Press the PHASE button to reset the warning. See Loading Lite Magazines section of this Quick Guide for details of how to change the unit of measurement.

MCB The Manual Control Box controls fps. **-MCB** is shown when a reverse frame rate is set.

Movm The movement block is not fully locked in its forward (shooting) position. The camera is not ready.

SCB The Speed Control Box controls fps. **-SCB** is shown when a reverse frame rate is set.

SW Minor software incompatibility. At least one component has old software. Camera run still possible with minor operational restrictions. Press PHASE button to reset the warning; update the software.

!SW! Major software incompatibility. At least one component has old software. The camera is not ready. Remove accessories and restart the camera to see where the incompatibility resides.

Time The camera has stopped after 350m/1150ft of continuous running to prevent it running indefinitely.

TkUp The magazine feed side has tension, but the take-up side runs free. To reset, take the magazine off or turn the camera power switch OFF and ON again.

Wind The magazine is winding up loose film. The camera is not ready until that is finished. This message will also appear for about 25 seconds when an empty magazine has been mounted

SHUTTER display

ChkS During RUN only: The secondary shutter signal is not present. The primary shutter signal shows the shutter angle as correct. During RUN and STANDBY: The secondary shutter signal and preset shutter angle differ. The camera will continue to run until cut, then cannot be restarted. This can be reset temporarily by pushing the PHASE button. In either condition, check the shutter angle manually and proceed with caution as exposure may be incorrect. Consult an ARRI Service Center.

Err The primary shutter signal and preset shutter angle differ. If running, the camera stops and will not restart. Consult an ARRI Service Center.

ISB0 The camera is running up or down, and the shutter has been set to 0° for In-camera Slate exposure.

Lock Press UNLOCK button to change the shutter setting – only possible while camera is in Standby.

RUN The camera is running, and no adjustment of the shutter can be done by the Camera Control Panel.

SCB Speed Control Box controls the shutter, so the Camera Control Panel is unable to adjust the shutter.

WRC Wireless Remote Control controls the shutter, so the Camera Control Panel is unable to adjust the shutter.

Basic Camera Operations

Power on/off switch

This is located at the back of the camera, below the power connector (BAT). Characters should be visible in the displays when the camera is on.

Inching

To manually inch the camera, open the camera door and turn the inching knob clockwise. This will rotate the movement only, not the mirror shutter. To electronically inch the camera, hold the PHASE button down while the camera is in Standby – this will rotate both movement and shutter at about 1 fps.

Checking the gate

To check the gate, briefly press the DUST CHECK button while the camera is in Standby. The mirror rotates out of the way, the shutter opens fully, and the FPS display shows DC. The movement will not move. To move the shutter back into the viewing position, briefly press the DUST CHECK button again.

Note: *The DUST CHECK button does not transport the film, but does rotate the shutter. If the shutter angle was reduced, it opens to 180° for the duration of the DUST CHECK, then returns to the previously set angle. The PHASE button however, transports the film and rotates the shutter, leaving the angle unchanged.*

Film Gate and Spacer Plate

* The surfaces of the Film Gate must be meticulously clean. When inserting the Film Gate in the camera, be sure that the locking lever completely returns to its correct resting position, which is flush with the surface of the gate.

* An Aperture Format Mask and a Filter Holder must always be inserted in the Film Gate.

* When removing or installing the Spacer Plate, the movement should be in its rear position. Handle with care.

Camera heating

The camera and magazines are equiped with automatic heaters that switch on in very cold conditions. The heaters can be temporarily de-activated to save power by holding the PHASE button down while switching the camera's power switch on. To activate the automatic heater control again, switch the camera off then on.

Camera Control Panel

On both Studio and Lite cameras, most of the functions can be controlled and monitored by means of the Camera Control Panels. Each camera is fitted with either a Standard or an Extented Camera Control Panel. The Standard Control Panels are equipped with FPS selector switches. On the Extended Camera Control Panels, fps and shutter opening is set by means of buttons. These require the UNLOCK button to be pressed to set the fps or shutter angle.

The remaining raw stock film length will be displayed when the RAW STOCK button is pressed.
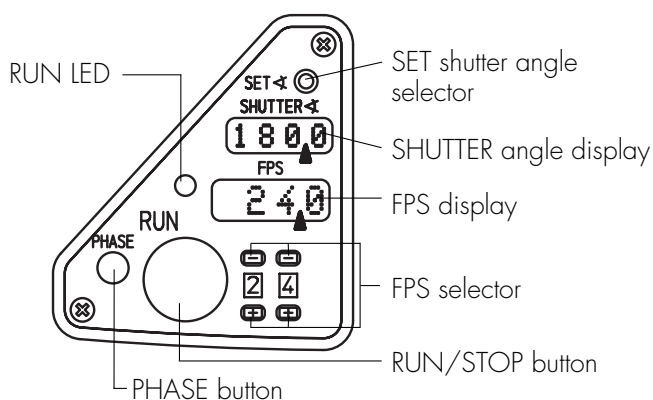
What controls fps?

All frame rates are crystal controlled. Six preset fractional rates like 23.976 fps can be set with the Extended Camera Control Panel. Reverse running and 0.001 fps increments can be set with the Speed Control Box, the Wireless Remote Control and the ARRIMOTION.

When the camera is in standby, the FPS displays show which component controls the frame rate. A minus sign in front of the characters means that the camera is set to reverse run. The following messages might be shown:
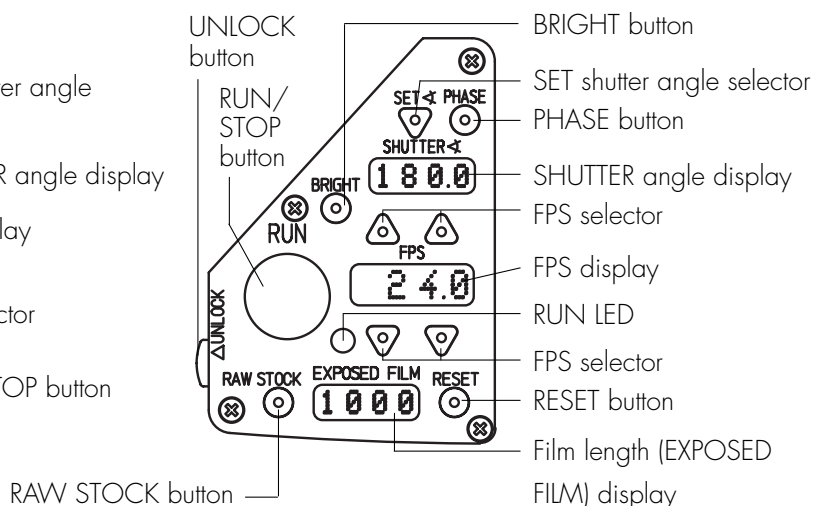
FPS	Controlling item	FPS	Controlling item
0.0	Standard Camera Control Panel	-SCB	Speed Control Box (reverse run)
24.0	Extended Camera Control Panel	WRC	Wireless Remote Control

Basic Camera Operations

Studio Standard Camera Control Panel

Studio Extended Camera Control Panel

RUN LED

SET shutter angle selector

SHUTTER angle display

FPS display

FPS selector

RUN/STOP button

PHASE button

UNLOCK button

RUN/ STOP button

BRIGHT button

SET shutter angle selector

PHASE button

SHUTTER angle display

FPS selector

FPS display

RUN LED

FPS selector

RESET button

RAW STOCK button

Film length (EXPOSED FILM) display

Changing fps

Fps is set on the Standard Camera Control Panel by pushing the FPS selector buttons with a small pointed tool while the camera is in standby. Fps is set on the Extended Camera Control Panel by first pressing and holding the UNLOCK button then using the FPS selector buttons while the camera is in standby.

Note: *Before entering the desired fps on the Camera Control Panel, ensure that no other component has control of the camera, e.g. if the Speed Control Box is attached, its SPEED CONTROL switch has to be set to OFF. Similarly, if the Manual Control Box is connected to the camera, its MANUAL CONTROL switch has to be set to OFF or to SHUTTER ⊲ .*
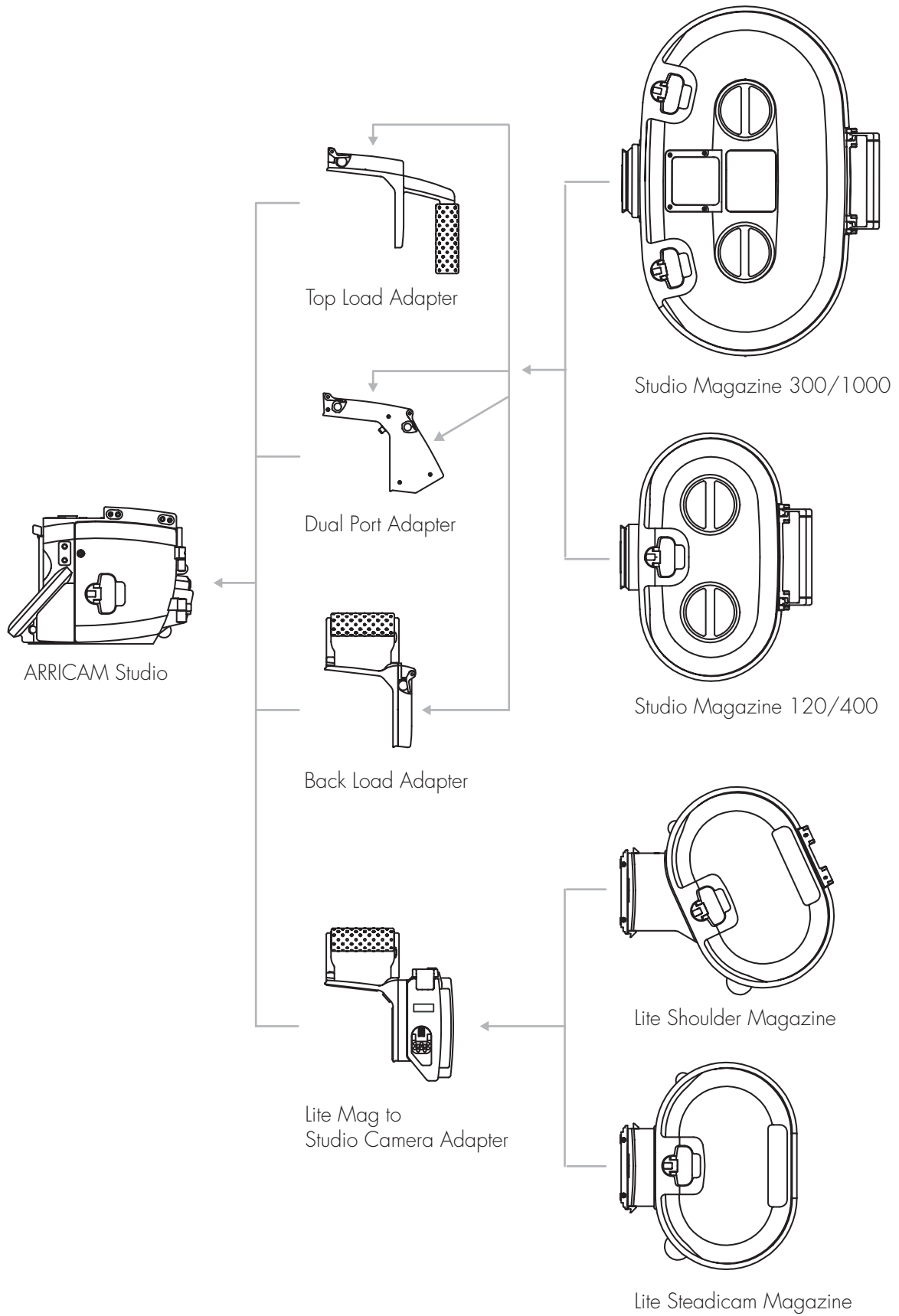
Changing shutter angle

To change the shutter angle with the Standard Camera Control Panel, press the SET shutter angle selector with a small pointed tool. On the Extended Camera Control Panel, it is necessary to press and hold the UNLOCK button while pressing the SET shutter angle button.
With either panel, each pressing of the SET shutter angle button will cycle through following values:
180°, 172.8°, 150°, 144°, 135°, 120°, 105°, 90°, 86.4°, 75°, 60°, 45°, 43.2°, 30°, 22.5°, 11.2°.

Note: *Before entering the desired shutter angle on the Camera Control Panel, ensure that no other component has control of the camera, e.g. if the Manual Control Box is attached to the camera, its MANUAL CONTROL switch has to be set to OFF or to FPS. If the SCB is attached to the camera, make sure that its COMPENSATION switch is set to OFF or to IRIS.*

Magazine Overview

Top Load Adapter

Studio Magazine 300/1000

Dual Port Adapter

ARRICAM Studio

Studio Magazine 120/400

Back Load Adapter

Lite Shoulder Magazine

Lite Mag to
Studio Camera Adapter

Lite Steadicam Magazine

Magazine Configurations

Both Studio and Lite magazines can be used on either Studio or Lite cameras by means of the appropriate adapter. Reverse running is only possible when using Studio magazines. The use of an adapter is always necessary for mounting a magazine on the ARRICAM Studio.
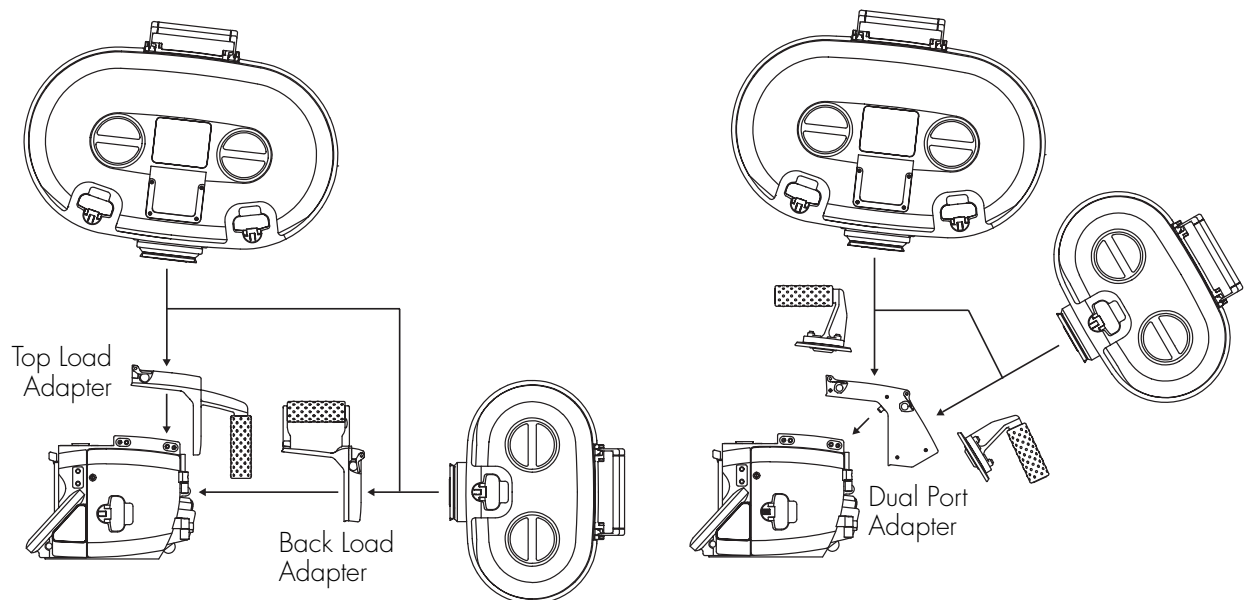
Mounting Studio Magazines

There are three possible positions to mount Studio magazines on the ARRICAM Studio:

1. Top mounted with the Top Load Adapter or with the Dual Port Adapter e.g. for use with a geared/fluid head.

2. Inclined at the rear with the Dual Port Adapter e.g. for shoulder operation or use with a geared/fluid head.

3. Vertically at the rear with the Back Load Adapter e.g. for handheld or Steadicam operation.

Mounting Studio Magazine Adapters

Each Studio Magazine Adapter is secured with six screws tightened by means of a 3mm metric hex wrench.
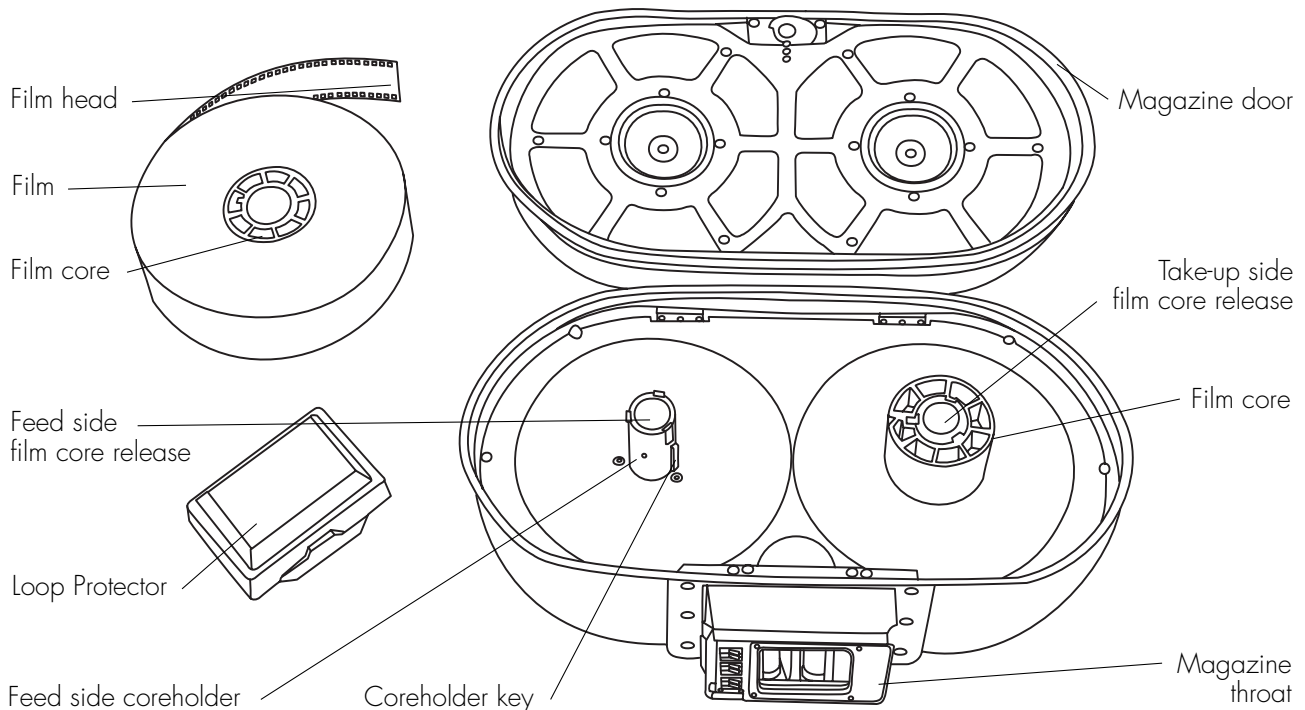

Mounting Lite Magazines

Both the Lite Steadicam Magazine and the Lite Shoulder Magazine may be mounted on the Studio Camera by means of the Lite Mag to Studio Camera Adapter. This is attached to the camera in the same way as the other adapters.
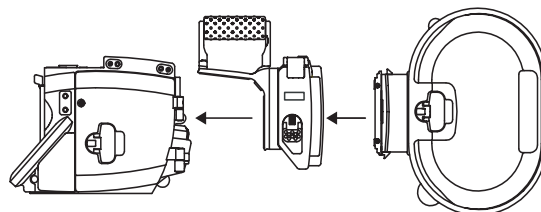
Lite Mag to Studio Camera Adapter

Loading Studio Magazines

The following instructions pertain to the Studio Magazine120/400 and the Studio Magazine 300/1000. Load unexposed film only in absolute darkness (darkroom or changing tent).

Film head

Film

Film core

Feed side
film core release

Loop Protector

Feed side coreholder

Coreholder key

Magazine door

Take-up side
film core release

Film core

Magazine
throat

Step 1: The feed side

Ensure that an empty film core is on the take-up coreholder before starting the loading procedure.

- Studio Magazine 120/400: Push the magazine door lock safety towards the magazine throat, lift the door lock latch and turn it counter-clockwise. Open the door.

  Studio Magazine 300/1000: Push the magazine door lock safeties towards the nearest edge of the magazine. Turn the left lock latch counter-clockwise, the right one clockwise. Open the door.

- Remove the film from the film can.

- Remove the tape from the film head. Ensure that the tape is completely removed and secured out of the way.

- Lay the film roll on the empty can placed to the left of the magazine.

- Push the film head into the left slit on the magazine throat from the inside until it emerges on the outside.

Note: *When attaching a film core to a coreholder, you should hear three distinct clicks (as described below).*

- Press the feed side film core release button (**first click**).

- Place the film on the feed side coreholder and push the film core down as far as it will go. Triggered by the core pushing on the coreholder key, the coreholder clamps onto the core (**second click**).
  If you don't hear the second click, it is possible that the coreholder key slipped into the core's key slot, and thus did not get clamped down securely. Lift the film up from the coreholder, turn it and push down again.

Note: *When placing film on the feed side coreholder, do not push on the film itself, as it could become conical.*

• Hold the coreholder stationary with one hand
(you can grab it at its edges), and use the other
hand to turn the film roll until the coreholder key
engages into the film core's key slot (**third click**).
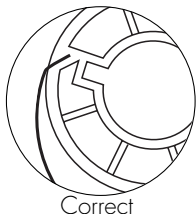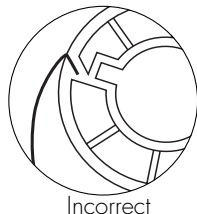Failure to do this can lead to film jams.
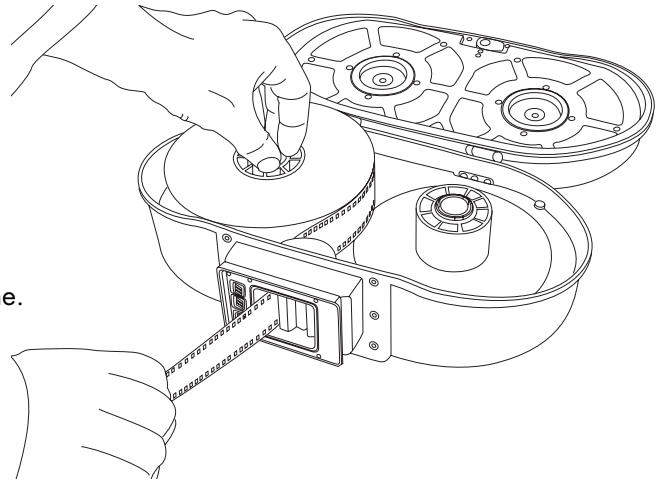
Step 2: The take-up side

• Push the film head gently into the right slit on the
magazine throat until it emerges inside the magazine.

• Place the film head into the film core slot.

*Note: The film head should not stick out above the film
core, as this could lead to jams!*

Inserting the film head into the film core

Correct   Incorrect

• Rotate the take up core clockwise 4 or 5 times until
2 to 3 feet of film is firmly wound up.

• Close the magazine door.
Make sure that the film is not caught in the door.

• Turn the magazine door lock latch(es) to lock the magazine.

*Note: The lock latches on the Studio Magazine
300/1000 will not turn if the door is not fully shut.*

• Pull up on the magazine door to double check that it is properly locked.

Film core

Magazine
throat

Film loop
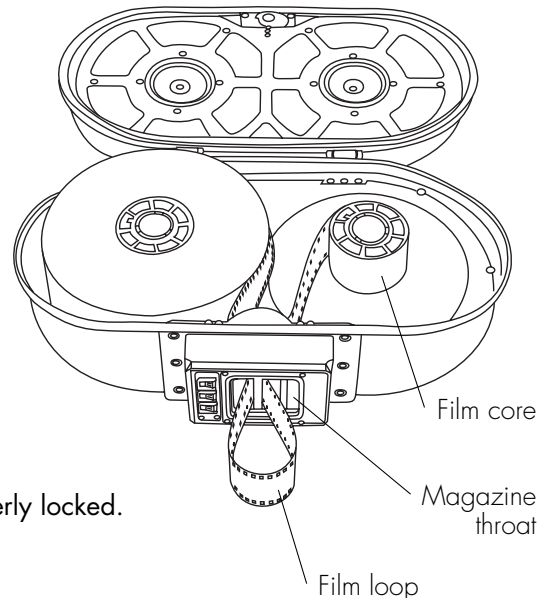
Step 3: Set RAW STOCK and ASA

• Enter the amount of raw stock loaded with the PRESET selector switches.

• Press the SET RAW STOCK button until you see the number from the PRESET selector switches appear in the
RAW STOCK display.

• When using the In-camera Slate system, enter the ASA of the film loaded with the PRESET selector switches.

• Press the SHOW/SET ASA button until you see the number from the PRESET selector switches appearing in
the RAW STOCK display.

*Note: The RAW STOCK display normally shows the amount of raw stock left in the magazine. To view the
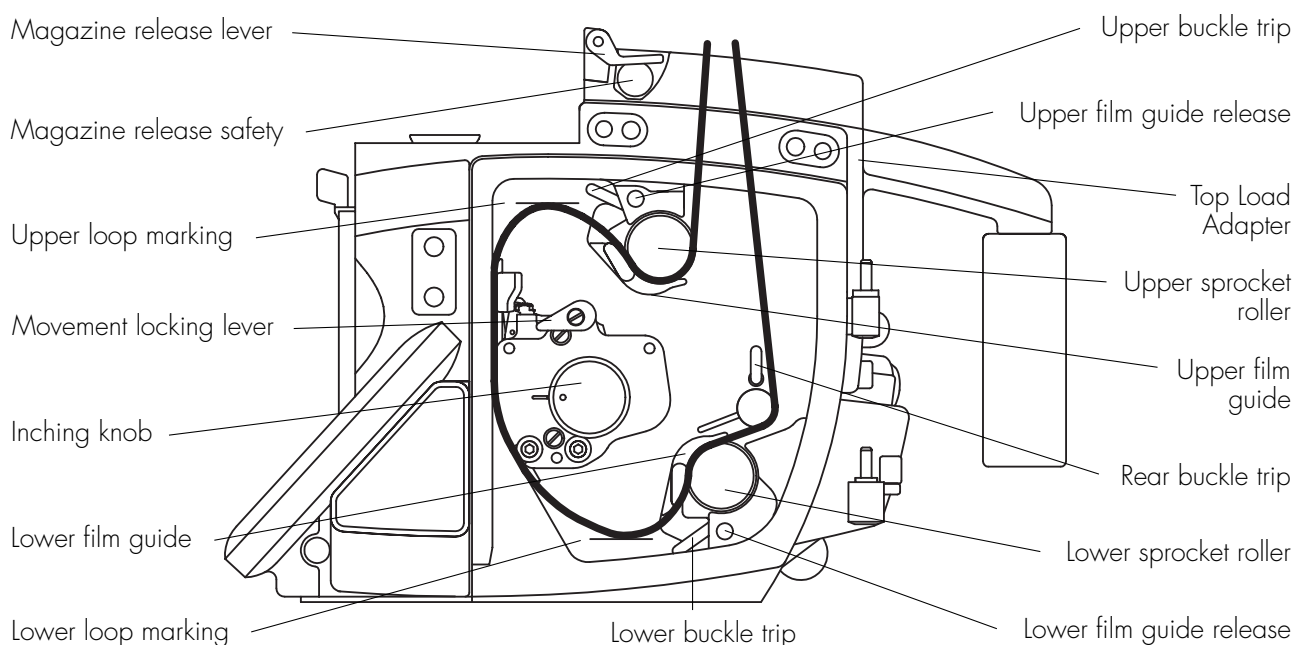currently set ASA, briefly press the SHOW/SET ASA button.*

• In order to change the unit of measurement, depress the SET RAW STOCK and the SHOW/SET ASA buttons
simultaneously for about 3 seconds. This can be done either while the magazine is not mounted or when the
magazine is mounted and the camera is not powered. The displayed unit (m or ft) will affect all film length
displays. If the unit of measurement on a new magazine is different to the previous magazine, then the
camera will display a warning that can be reset by pressing the PHASE button.

Note: Always make sure that a loop protector is on the magazine when it is not on the camera.

Threading

Attaching a Studio Magazine to the camera

- While pressing the silver magazine release safety button, turn the magazine release lever counter-clockwise to remove the magazine port cover.

- Push the camera door lock safety towards the lens, lift the door lock and turn it counter-clockwise.

- Open the Camera Door.

- Turn the movement locking lever clockwise to swing the movement away from the film gate.

- Press the upper and the lower film guide release knobs.

- Pull some film out of the magazine until the loop is about one hand's width long.

- Hold the magazine a little away from the camera and pull the film loop into the camera. Carefully place the magazine onto the magazine port until it locks. Make sure that the film does not get caught between the magazine and adapter!

- Give the magazine a gentle tug to double check that it is properly seated and locked.

Magazine release lever — Upper buckle trip
Magazine release safety — Upper film guide release
Upper loop marking — Top Load Adapter
Movement locking lever — Upper sprocket roller
Inching knob — Upper film guide
Lower film guide — Rear buckle trip
Lower loop marking — Lower sprocket roller
Lower buckle trip — Lower film guide release

Threading the film

- Pull some more film out of the magazine feed side and thread the film as shown in the diagram above.

- Position the film on the lower sprocket roller so the sprocket teeth engage the film perforations. Close the lower film guide by pushing it towards the sprocket wheel. Repeat for the upper sprocket wheel.

Note: *If you cannot easily close a film guide, the sprocket teeth are probably not engaged in the film perforations exactly. Open the film guide and reposition the film. Never force a film guide!*

- Turn the inching knob so the index point is at 12:00 o'clock.

- Place a finger of one hand on the film, just below the gate. With the other hand turn the movement locking lever counter-clockwise to gently slide the movement towards the film gate.

- When you feel the transport claws touch the film, slide the film a little up and down so that the transport claws engage the film perforations. Lock the movement by turning the locking lever fully counter-clockwise.

Threading

- Now turn the inching knob so the index point is at 9:00 o'clock in the position labelled LOOP. Set the upper and lower film loops to their marks by pressing the knob on the end of each sprocket roller and turning.

- To check for proper film transport, turn the inching knob. Then press the PHASE button; the film will start to run at about 1 fps.

*Note:* *The FPS display will show the power supply voltage when the PHASE button is depressed.*

- Run the camera briefly at 24 or 25 fps to check for proper threading. You will be able to hear if there is any problem by the sound of film running through the camera.

- Using the same film stock that you will be using for the shoot, turn the PITCH adjustment with a 3mm metric hex wrench while the camera is running at 24 or 25 fps until you hear the least amount of noise.

Movement locking lever

Inching knob

FWD/REV adjustment

PITCH adjust for quietest running.
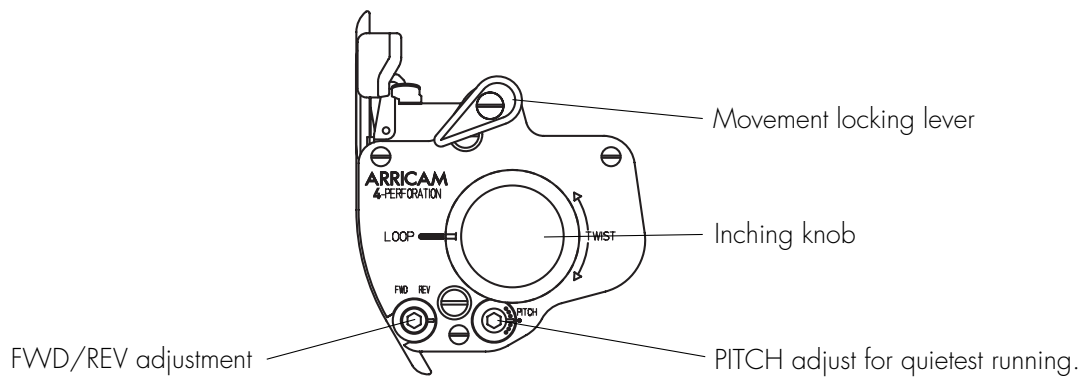
- When the camera is set to run reverse and b/w film is used, the best image quality can be achieved by setting the FWD/REV adjustment to REV (in all other cases set it to FWD).

- Close the camera door.

Note: *Always make sure that a cover is on the magazine adapter when no magazine is attached.*
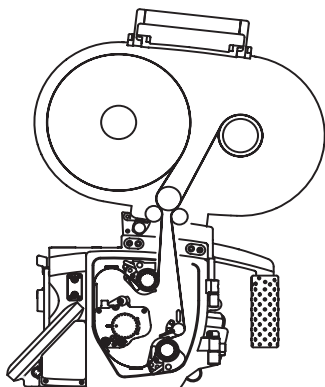
Note: *When using the Dual Port Adapter, remember to cover the unused port with the Dual Port Adapter cover.*
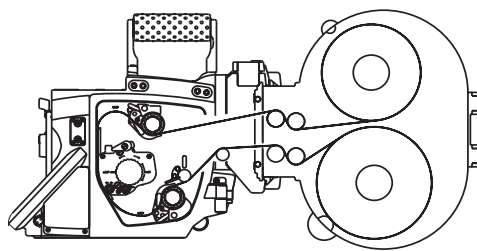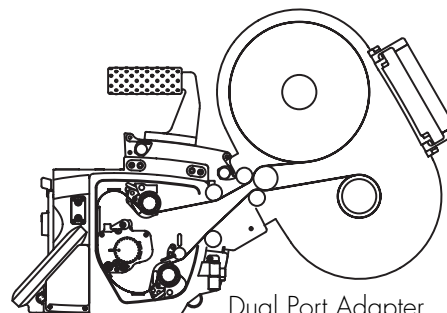

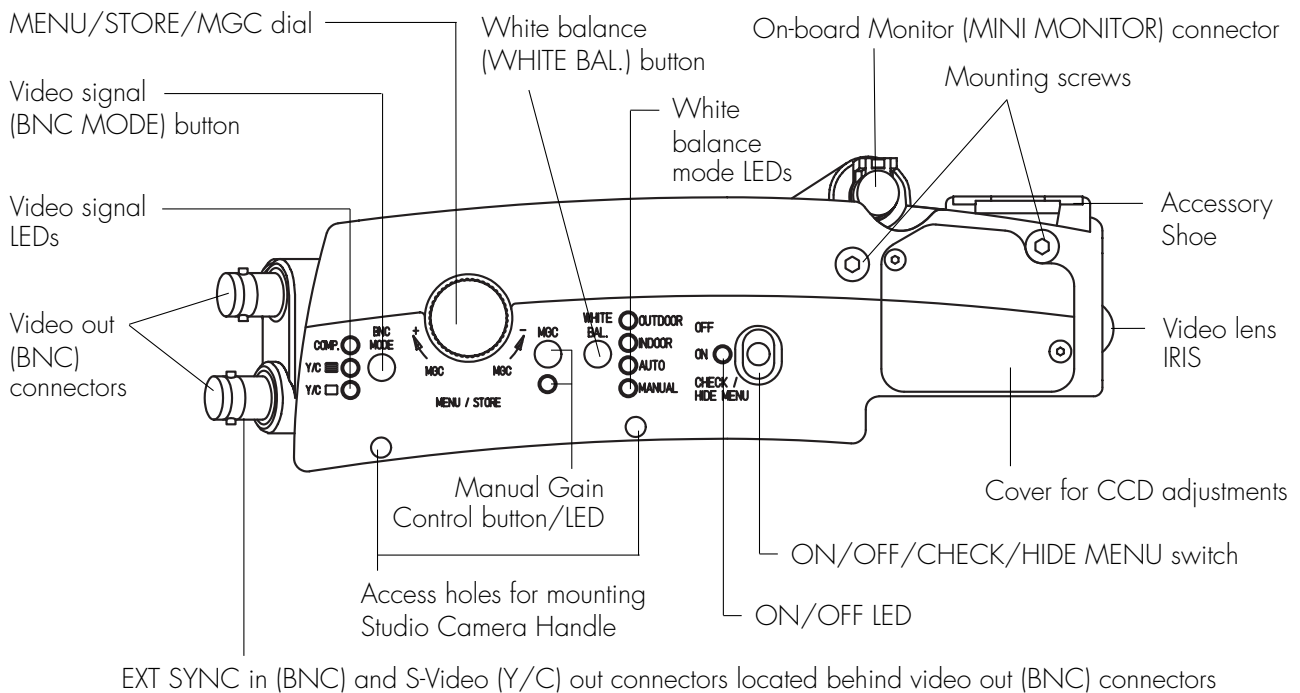Lite Mag to Studio Camera Adapter
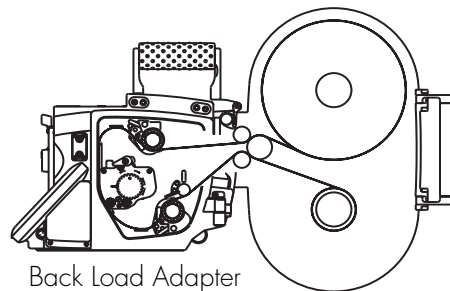
Back Load Adapter

Top Load Adapter

Dual Port Adapter
back mounted

Integrated Video System

MENU/STORE/MGC dial
White balance (WHITE BAL.) button
On-board Monitor (MINI MONITOR) connector
Video signal (BNC MODE) button
Mounting screws
White balance mode LEDs
Video signal LEDs
Accessory Shoe
Video out (BNC) connectors
Video lens IRIS
Manual Gain Control button/LED
Cover for CCD adjustments
Access holes for mounting Studio Camera Handle
ON/OFF/CHECK/HIDE MENU switch
ON/OFF LED
EXT SYNC in (BNC) and S-Video (Y/C) out connectors located behind video out (BNC) connectors

ON/OFF/CHECK/HIDE MENU switch

Make sure that the camera power ON/OFF switch is set to ON. Move the ON/OFF/CHECK/HIDE MENU switch on the Integrated Video System to the ON position. The ON LED will light up.

To display a summary of all menu choices while the on-screen menu is not visible, push the ON/OFF/CHECK/HIDE MENU switch all the way down.

To temporarily hide the on-screen menu while it is visible, push the ON/OFF/CHECK/HIDE MENU switch all the way down. This is useful to check the image while making adjustments in the on-screen menu.

White balance

Press the WHITE BAL. button to cycle through the four white balance settings:

OUTDOOR 5600° K   when the illumination is daylight or HMI and no colour conversion filter is used.

INDOOR 3200° K   when the illumination is tungsten and no colour conversion filter is used.

AUTO   automatic white balance.

MAN   manual white balance as defined in the WB/GAIN sub-menu.

Controlling image brightness

It is recommended to set the video lens iris fully open to allow the Automatic Gain Control (AGC) to work best over many f-stops. Adjust the iris with the IRIS wheel of the Studio Integrated Video System.

Since the Automatic Gain Control averages the image brightness, in some lighting situations e.g. strong back light or if the video image is still too dark, the Manual Gain Control will yield a better video image.

Integrated Video System

Manual Gain Control

- Press the MGC button to toggle between Manual Gain Control (LED on) and Automatic Gain Control (LED off).
- When MGC is on, turn (but do not depress!) the MENU/STORE/MGC dial clockwise to increase or counter-clockwise to decrease gain.

The on-screen menu

The on-screen menu allows the adjustment of the following features: Manual White Balance, Manual Gain Control, video settings (e.g. video sync), Format Marking, Image Compare/Store, Text Inserter (camera status, system status, LDS info, timecode and more), VITC/WHITELINE.

- To display the main menu, depress the MENU/STORE/MGC dial for 3 seconds.
- To select a sub-menu, turn the dial. The left arrow indicates which sub-menu is selected.
- To enter the selected sub-menu, press the dial.
- To go back to the main menu choose EXIT, which can be found at the bottom of each screen.
- To leave all menus depress the dial for 3 seconds.

BNC mode

- Press the BNC MODE button to assign which video signal will be output by the video out (BNC) connectors:

COMP.	Top BNC:	composite video without on-screen data.
	Bottom BNC:	composite video with on-screen data.
Y/C ▤	Top BNC:	C (chrominance) portion of the video signal, with on-screen data
	Bottom BNC:	Y (luminance) portion of the video, with on-screen data.
Y/C ▭	Top BNC:	C (chrominance) portion of the video signal, without on-screen data
	Bottom BNC:	Y (luminance) portion of the video, without on-screen data.

How to get black/white video

- Press the BNC MODE button to Y/C ▤ (on-screen data visible) or to Y/C ▭ (on-screen data not visible).
- Connect the video cable to the bottom video out (BNC) connectors.

How to preview motion blur

When a fast moving object is filmed with a slow frame rate and a wide open shutter angle, the object will appear blurred on film (motion blur). This effect can be previewed with the Integrated Video Systems.

- Remove the magazine from the camera to save film.
- Depress the MENU/STORE/MGC dial 3 seconds to view the on-screen main menu.
- In the VIDEO CONFIG. sub-menu, set FLICKERFREE to ON.
- In the VIDEO CONFIG. sub-menu, set EXPOSURE TIME to FILM.
- Depress the dial 3 seconds to exit the on-screen menu.
- Run the camera. Now you see a close approximation of the motion blur that will be exposed on film.

Varying degrees of motion blur can be achieved by changing fps, shutter angle, lighting contrast and the speed of object and camera movement. Motion blur is most visible at slow fps and wide open shutter angles (e.g. 6 fps and 180° ⊲).

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