indieASSIST LT

HD video assist for Arricam LT

User Manual

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Introduction

This manual gives an overview of the **indieASSIST LT**.

indieASSIST LT is a new standard HD video assist for Arricam LT 35mm film cameras. It provides exceptional image quality for all crew on set, allowing to judge images far better than before. The high-resolution images show true colours and have sharp, high contrast.

Technical Data

Overview

- Dimensions: 150 x 83 x 92mm (5.9" x 3.2" x 3.6")
- Weight: Approx. 800g (1.76lb)

Mounting

The system easily mounts with two captive screws onto the original mounting positions of the Arricam LT and is powered from the Arricam LT internally.

Image Sensor

- Size: 1/1.2"
- Resolution: 1920 x 1080
- Readout: progressive
- Shutter: global
- Pixel size: 5.86 μm
- Sensitivity: ISO 125–12800
- Dynamic range: 12 stops

Image Processing Features

- White balance presets
- Automatic and manual exposure control
- Flicker free

Video Output

- YUV 4:2:2, 10 bit
    - 1080p23.98
    - 1080p24
    - 1080p25
    - 1080p29.97
    - 1080p30

System Functions

- Auto start with last settings
- Store and recall settings
- Embedded time code
- Remote control RS485
- Factory settings

Connectors

indieASSIST LT has 3 connectors at the backside.

SDI BNC outputs

The output is HDSDI with 4:2:2 colour sampling. The HD link speed is selectable between 23.98, 24, 25, 29.97 and 30 fps. The mode is progressive.
The two HDBNC connectors can output different LUTs.

Control connector

The control connector is a Female Lemo 4 pin connector.

indieASSIST LT has 2 connectors on the right side.

On/Off switch

The indieASSIST LT can be switched on and off independently from the film camera, as long as the film camera has power. Turning off the Arricam LT will also shut down the video assist.

Power out connector

The power out connector is a Female Lemo 2 pin connector and outputs 12V 2A. It can be used for powering accessories like an external monitor.

USB-Connector

The USB-Connector is a type USB2.0 Micro-B socket. It can be used to update the internal control unit.

Optical System

Focus

The focus of the indieASSIST LT can be mechanically adjusted by turning the focus screw, using a slot screwdriver.

Iris

Only a small portion of the light, which passes through the film camera's lens, reaches the CMOS chip of the video assist as the light is shared between the viewfinder, the chip and the film. Iris can be mechanically adjusted by turning the rotary knob.

Alignment of the image position: X, Y, front and back

The position of the image on the CMOS chip and its focus can vary slightly from film camera to film camera. The video image on the monitor may appear not centred, rotated or out of focus. Adjustment can be made, by using a slot screwdriver. Do not use force!

Screw ⊣☐⊢ moves the video image on the monitor horizontally (X axis).
Screw ☐ shifts the left side of the image up and down and rotates the image around a point, which is located in the middle of the right image border.
Screw ☐ shifts the right side of the image up and down and rotates the image around a point, which is located in the middle of the left image border. Therefore, screw ☐ and ☐ work as a Y adjustment as well as an adjustment for rotation.
Screw ☐ moves the sensor to the front and to the back.
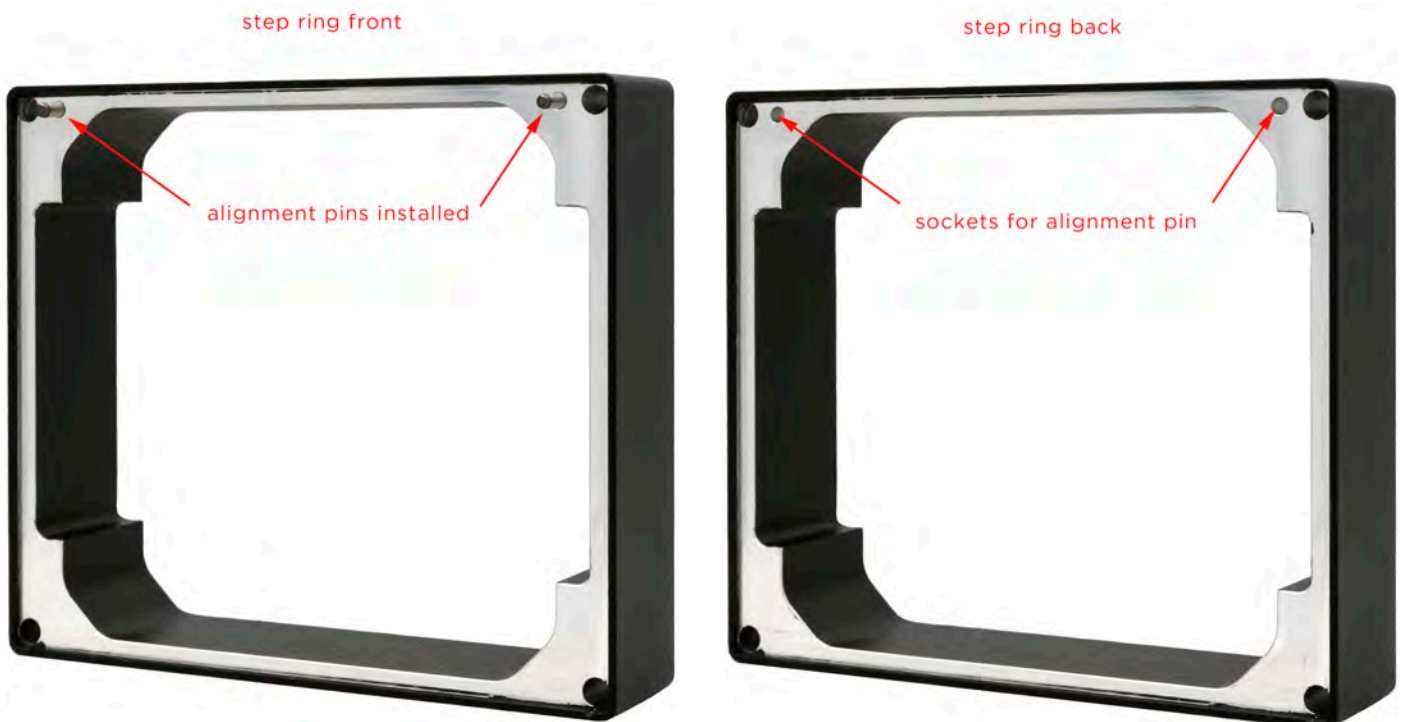
Conversion to 4 perf

The modification from 2/3 to 4 perf has to be done by an experienced technician in an appropriate environment. Please be aware that the modification takes some time and should not be done on set. Please also make sure to use the correct ground glass when in 2/3 perf or 4 perf mode.

In order to convert the indieASSIST LT to use with Arricam LT cameras that are set up for 4 perf, a step ring that is inserted into the chassis of the unit is used.

Make sure to follow the steps below closely for best results and correct optical alignment.

Disassembly
- Make yourself familiar with all parts.
- Locate front and back of the step ring (C):
  - Front: alignment pins installed
  - Back: Sockets for alignment pins visible

step ring front

alignment pins installed

step ring back

sockets for alignment pin

- Place the indieASSIST LT on a stable ESD work surface that is suited for work with electronic components.

- Carefully remove screws A. Make sure not to scratch or damage any surfaces while you loosen screws A.
- Once all screws are removed, separate the back of the chassis (Section 1) from the front of the chassis (Section 2).
    o The fit of the parts can be very tight.
    o Try to apply force in such away, that you are not separating the parts over a large distance. There is internal cabling in place, which can be damaged, if the sections are separated more than 5-8cm (2-3 inches).
- When Section 1 and Section 2 are separated, unplug the cable assembly in Section 1 and remove the cable carefully from the cable-retainer.

indieASSIST LT 2/3 perf
4x A = M3x10

Reassembly

–   Insert screws B into the corresponding holes in Section 2 (this needs to be done first).
–   Thread cable assembly through step ring (C).
–   Align step ring (C) to screws B and slide step ring (C) over screws fitting on Section 2 of the chassis. Make sure the alignment pins in the top part of Section 2 slide correctly into the sockets on the step ring (C).
–   Replug cable-assembly into the corresponding socket in Section 1. Make sure the alignment-pin of the plug is oriented correctly.
–   Apply a drop of mild thread locker onto the tip of each screw B.
–   Carefully mount Section 1 onto the step ring. Make sure that the alignment pins on the step ring (C) slide correctly into the sockets on Section 1.
–   Carefully tighten screws B. Make sure you insert them straight and not angled into the threads of Section 1.
–   Make sure there are no gaps between the step ring and Sections 1 and 2 left.
–   Adjust framing and focus accordingly.

indieASSIST LT 4 perf
4x B = M3x30

Operation

Setting up the HD video assist

To install the indieASSIST LT onto the Arricam LT, first remove the handle and the original IVS or any cover plate, after loosening the captive screws with a hex key. Then, mount the indieASSIST LT on the original mounting points of the Arricam LT, using a hex key. Now the handle can be mounted back on by securing the screws with a hex key. Be careful not to touch or scratch the cover glass.

For operation, only the power must be on and one SDI output connected. The indieASSIST LT will automatically start with its last configuration. If the status light at the back blinks green it's currently loading. If it's blinking blue it's ready and all settings are loaded. If the status light is blinking red there is a fault or a firmware update is running.

Please note that when using the Low Mode bracket you will need an additional bracket that physically moves the Low Mode bracket 5mm higher.
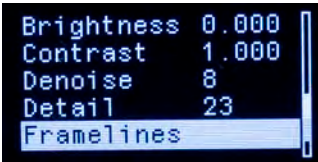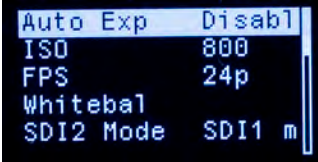
Navigation

Navigate the menus by turning the SELECT knob.
Enter a menu item or confirm your selection by pressing the SELECT knob.
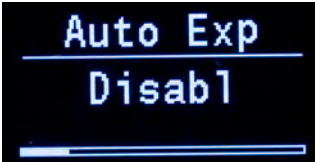Change values by turning the SELECT knob.
Return to previous menu by pressing the BACK button.

Home

In this menu you can select the following settings:

- – Auto Exposure
- – ISO
- – FPS
- – White balance
- – SDI2 Mode
- – LUT
- – Image Flip
- – Hue
- – Saturation
- – Brightness
- – Contrast
- – Denoise
- – Detail
- – Framelines
- – Settings
- – Info

Auto-Exposure

Select *Auto Exp* with the SELECT knob and confirm by pressing the SELECT knob. Choose between disable (Disabl), standard (Std), dark (Dark) or bright (Bright). Standard is for normal scenes, bright for light, high key scenes and dark for dark/night, low-key scenes. Auto-Exposure only changes the ISO, the shutter stays the same. Maximum ISO in Auto-Exposure is 3200.

ISO

Select *ISO* with the SELECT knob and confirm by pressing the SELECT knob. You can choose from the following options:

125	160	200	250	320	400	500
640	800	1000	1250	1600	2000	2500
3200	4000	5000	6400	8000	10000	12800

Be aware that the ISO can only be changed when Auto-Exposure is disabled.
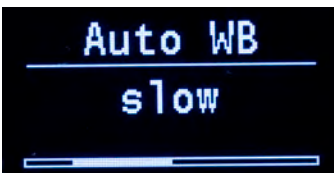
FPS

Select *FPS* with the SELECT knob and confirm by pressing the SELECT knob. You can choose from the following options:

23.98p	24p	25p	29.97p	30p

Adjust the fps of the indieASSIST LT to the fps of the Arricam LT.
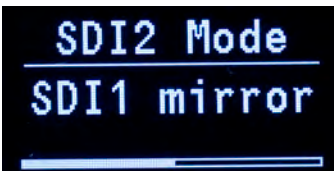
White Balance

Select *Whitebal* with the SELECT knob and confirm by pressing the SELECT knob. You can choose from the following options:

One shot: One time auto white balance

WB Preset: Select a white balance preset ranging from 2200K to 6500 K

RGB Gain: Select RGB Gain manually

Auto WB: Turn the Auto white balance off or change the speed to slow, medium or fast

SDI2 Mode

Select *SDI2 Mode* with the SELECT knob and confirm by pressing the SELECT knob. You can choose between SDI-1 (mirror) and SDI-2 LUT.

LUT

Select a *LUT* with the SELECT knob and confirm by pressing the SELECT knob. You can choose between 2 different LUTs. LUT 1 is REC709 and LUT 2 is a low contrast LUT with higher latitude that displays the entire dynamic range of the sensor. Different LUTs can be selected for the two SDI outputs.
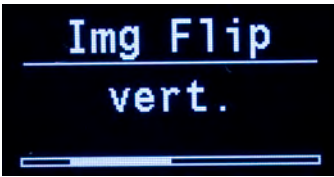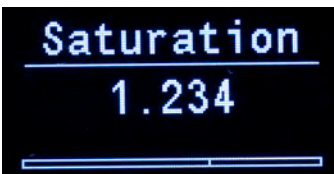
Image Flip

Select *Img Flip* with the SELECT knob and confirm by pressing the SELECT knob. You can flip the image in the following ways:

- – Flip off (off)
- – Flip vertical (vert.)
- – Flip horizontal (hor.)
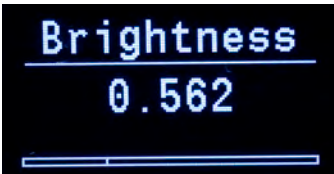- – Flip vertical & horizontal (Vert/hor)

Hue

Select *Hue* with the SELECT knob and confirm by pressing the SELECT knob. The white mark on the horizontal bar is what you want to select. Adjust from –90 to 90 degrees.

Saturation

Select *Saturation* with the SELECT knob and confirm by pressing the SELECT knob. The white mark on the horizontal bar is what you want to select. Saturation can be set in steps of 0.008 from 0.000 to 1.992.
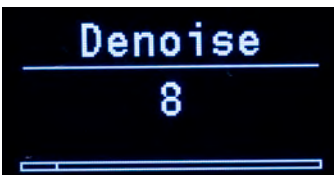
Brightness

Select *Brightness* with the SELECT knob and confirm by pressing the SELECT knob. The white mark on the horizontal bar is what you want to select. Brightness can be set in steps of 0.008 from −1.000 to 0.992.
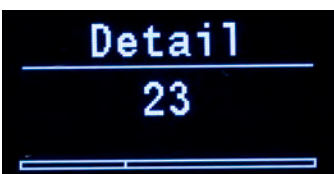
Contrast

Select *Contrast* with the SELECT knob and confirm by pressing the SELECT knob. The white mark on the horizontal bar is what you want to select. Contrast can be set in steps of 0.008 from 0.000 to 1.992.
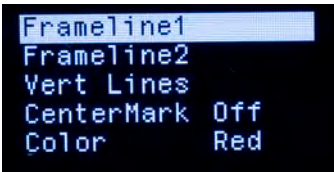
Denoise

Select *Denoise* with the SELECT knob and confirm by pressing the SELECT knob. The white mark on the horizontal bar is what you want to select. Denoise can be set from 0 to 65.

Detail

Select *Detail* with the SELECT knob and confirm by pressing the SELECT knob. The white mark on the horizontal bar is what you want to select. Detail can be set from 0 to 65.
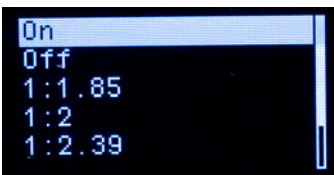
Framelines

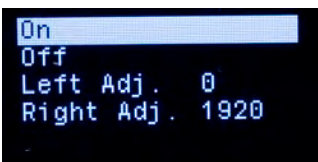Select *Framelines* with the SELECT knob and confirm my pressing SELECT knob.
In the Framelines menu you have the following options:

- – Frameline1
- – Frameline2
- – Vert Lines
- – Center Mark
- – Color

In the *Frameline 1* and *Frameline 2* sub menu you have the following options:

- – On
- – Off
- – 1:1.85 (3 Perf.)
- – 1:2 (3 Perf.)
- – 1:2.39 (2 Perf.)
- – Top (adjust from 0 to 1080 pixel)
- – Bottom (adjust from 0 to 1080 pixel)

In the *Vertical Lines* sub menu you have the following options:

- – On
- – Off
- – Left Adj. (adjust from 0 to 1920 pixel)
- – Right Adj. (adjust from 0 to 1920 pixel)

The *CenterMark* can be disabled (Off) and enabled (On).

The color of the framelines can be changed. In the *Color* menu you have the following options:
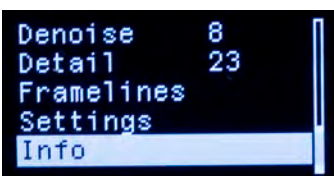
- White
- Red
- Green
- Blue
- Yellow
- Orange
- Violet
- Pink

<u>Settings</u>

In the *Settings* menu you have the following options:

- Autosave
    - o Auto save can be enabled (On) and disabled (Off). If it's enabled every change in the settings is saved automatically.
- Save Settgs
    - o If auto save is disabled and you want to save your settings click on "Save Settgs".
- Load Settgs
    - o Loads the settings that were last saved with "Save Settgs".
- Load preset
    - o You can load up to 5 different presets.

<u>Info</u>

This screen has currently no function. Please do not select this menu item.

Safety Instructions and legal disclaimer

Please always follow the instructions to help ensure against injury to yourself and damage to the system or other objects.

Do not operate the system in high humidity areas or expose it to water or moisture.

Operate the system using only the type of power source indicated in the manual.

Before using the indieASSIST LT be sure to read and understand all relevant instructions. If there are any questions please contact Indiecam for technical support at office@indiecam.com.

Be aware that the indieASSIST LT is a system of assistance. indieASSIST LT records the image of the ground glass. Indiecam is not responsible for any errors like wrong colours, focus, focal depth, ground glass settings etc.

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