



MARK ROBERTS MOTION CONTROL

# UNIVERSAL CAMERA SYNC ADAPTER



## QUICK START GUIDE

QSG Product Code: MRMC-2143-00

Product Covered: MRMC-2140-00, MRMC-2141-00

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# Universal Camera Sync Adapter Quick Start Guide

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# Chapter 1 **Universal Camera Sync Adapter Panel**

## **Overview**

MRMC's Universal Camera Sync Adapter allows either an ARRI Alexa, or RED /Phantom Camera to output a sync pulse to the camera head.

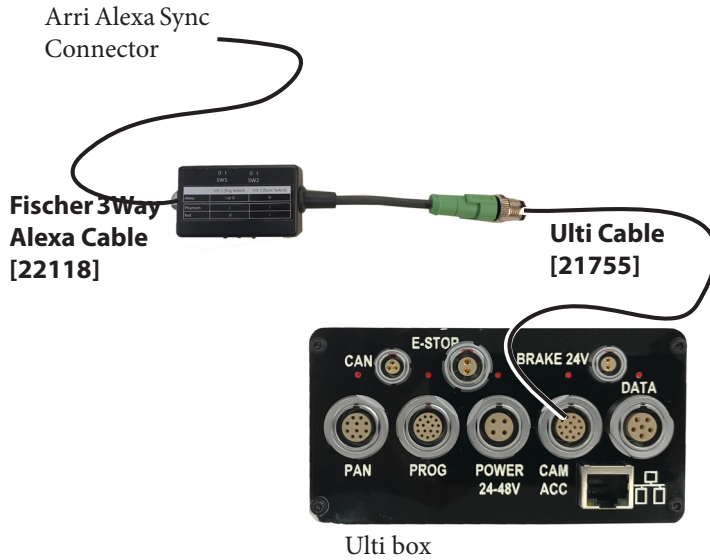
Epic has a directly coupled sync, and separate trigger input. Both camera syncs are opto-isolated.

The Universal Camera Sync Adapter:

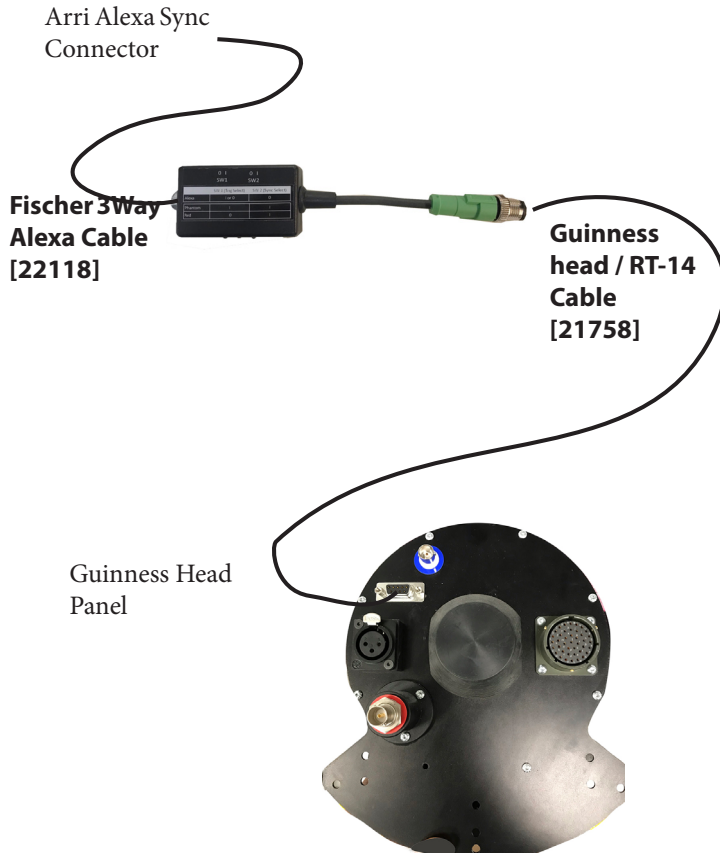
- Uses an edge triggered pulse stretcher, so even at low shutter angles, when the width of the sync pulse gets very narrow – there is a fixed pulse width generated for the Head box.
- Slide switch allows the polarity of the sync output to the head to be inverted.
- Operational over a wide range of frame rates - up to 1000fps for high speed filming.
- Needs to work over a wide range of camera voltages, 12-24V as modern cameras often run on a 14V battery supply. Camera needs to supply power to the opto-isolator input stage.
- Provides opto-isolation of trigger signal between the camera and the head.
- Protected against the most obvious of reverse polarity faults.

## Connecting the Cables

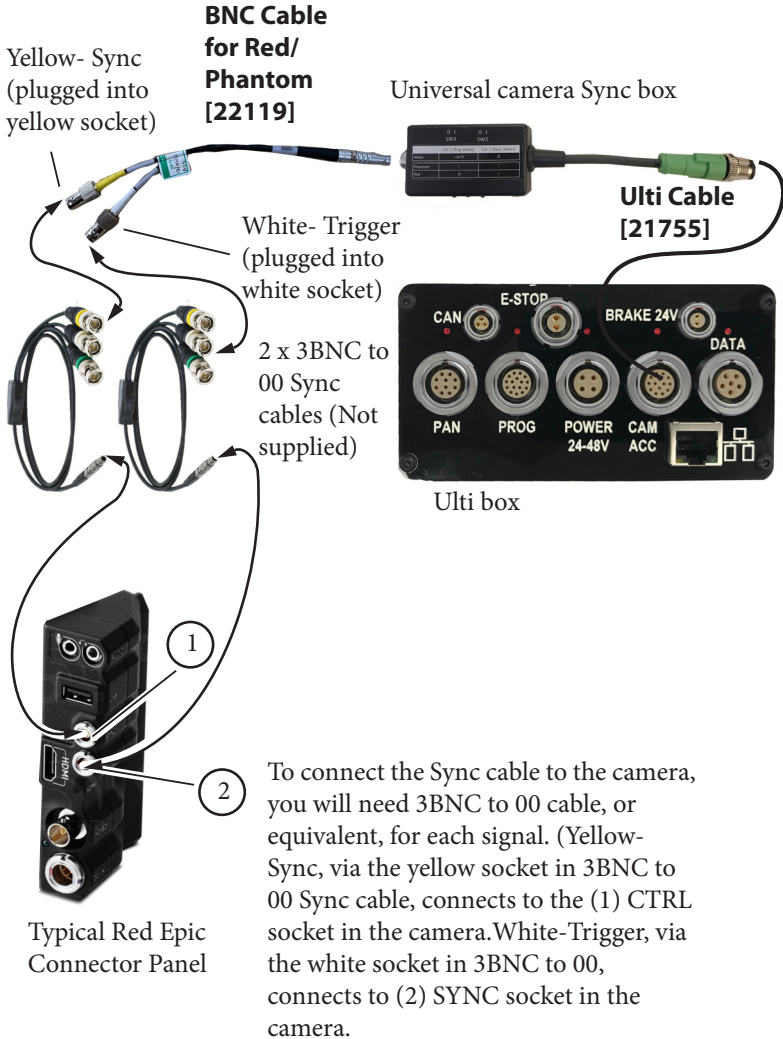
### Alexa - Universal Camera Sync - Ulti connection



## Alexa - Universal Camera Sync - Guinness head/RT-14 connection

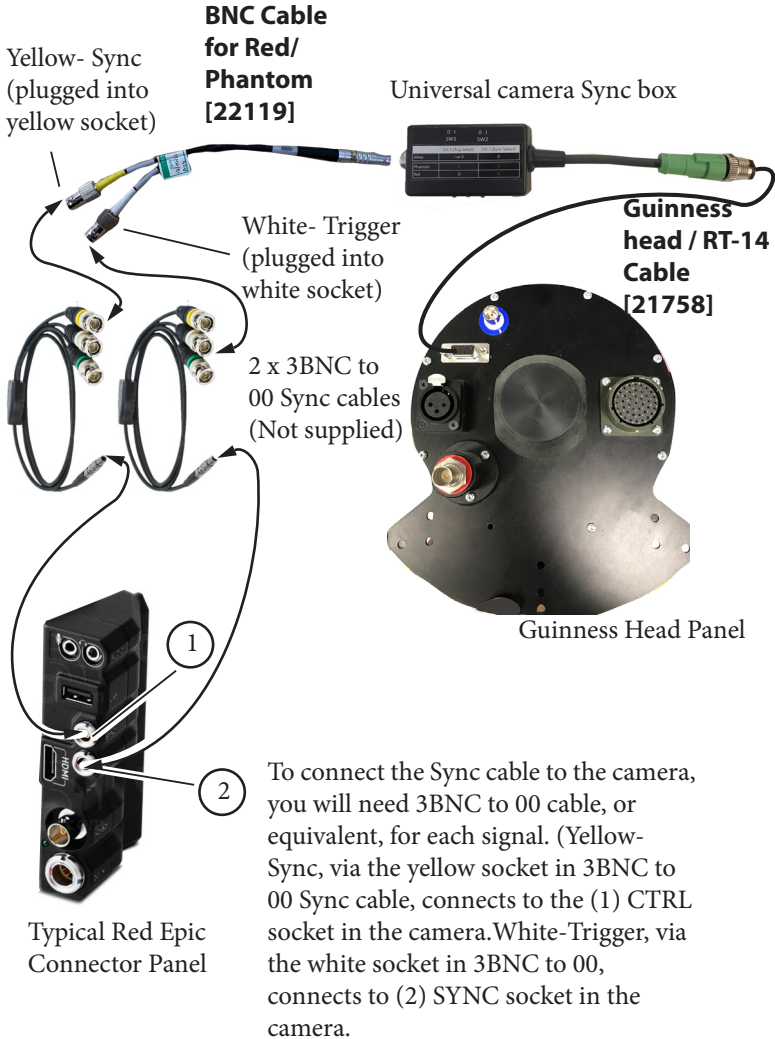


## Red Epic/Phantom- Universal Camera Sync - Ulti connection





## Red Epic/Phantom- Universal Camera Sync - Guinness head/RT-14 connection



## Switch Positions



	Switch 1 (Trigger Select)	Switch 2 (Sync Select)
Arri Alexa	I	O
Phantom	I	I
Red DSMC1	O	I
Red DSMC2	I	I

### Note

While the dip switches work both ways for the Arri camera, use Trigger as I to ensure no voltage is interfering with the camera circuitry.

## Universal Camera Sync LEDs



1. **POWER** LED illuminates when the Universal Camera Sync box is connected to the Camera Accessories port on the robot.
2. **TRIGGER** LED illuminates when the Universal Camera Sync box is receiving Trigger signal from Flair.
3. **SYNC** LED flashes when the Sync box is sending Sync signal from the Camera to Flair.

### Important

Ensure that:

- The dip switches are switched fully to the side, until they click. Do this while it is not plugged in.
- The screw together connector between the universal sync box and the Ultibox is fully mated and screwed together
- The lemo connector on the Ultibox is fully inserted until it clicks on the Ulti **CAM ACC** port.

## Camera Triggering and Synchronisation

This feature in Flair Motion Control Software allows for triggering the camera to make it run and take synchronization pulse at the frame rate of the camera out in order to lock the movement of the rig to the camera. To enable camera triggering and synchronization:

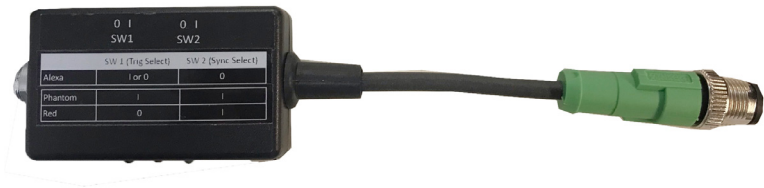
1. Pre-program a move in Flair.
2. Cable together the Universal Camera Sync adapter and the camera, as shown above.

3. Import the job in Flair, if required. and select and apply the desired lens.
4. Enable the robot and home it.
5. Ensure that the Focus axis is enabled and zeroed at infinity.
6. Select **Setup** → **External Camera setup**. The External Camera Setup dialog box will appear. Here you can feed a start and stop signal to the camera and take synchronization pulse from the camera.
7. From the External Cameras drop-down, select **Any**.
8. From the External Control drop-down, select Pulsed. In this example, the camera requires one pulse to start it and a second pulse to stop it. There are other alternatives for external control that can be used with different cameras. Refer to Flair Manual for further detail.
9. Here the pulse length is 16/50th of a second long. In the Ramp Frames box, specify a value for frames that the camera will use to ramp up the speed when the pulse is generated.
10. In the Synch Source drop-down, select **Network Board** if you are using the Ulti Box as the source.
11. Select Synch Node as 1. Camera connected to network board as a sync source at Node 1 should be providing a sync pulse at the rate of 25fps. Click the Test button to check whether Flair is receiving sync pulse at 25fps.
12. Enter a Sync Frame value to synchronise the move.. These are the number of frames that Flair will take to move the position in time to lock to the camera after receiving the synchronization pulse from the camera.
13. Save and apply the settings.
14. Change the camera mode to **Record** from Dummy.
15. Click FWD RUN to come into the move start position.
16. Click SHOOT. This will allow you to start the move, roll the camera, synchronize the move and stop the camera when the move ends.

Notes

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