Technical Note
Active Camera Link Cable Options For sCMOS Platforms

This tech note details the accessory required to extend the maximum cable distance between the Neo or Zyla sCMOS camera and the frame grabber card, by using active Camera Link cable. An active cable contains circuitry which is separately powered to augment the carried signals for transfer over long distances.

ACC-ASE-06931 With Zyla 3 Tap

ACC-ASE-06931 With Neo 3 Tap

ACC-ASE-6962 With Zyla 10 Tap

The sCMOS platforms use Camera Link format cable(s) to transfer the image data from the camera head to the PC. The maximum distance which can be achieved with a standard Camera Link cable between the camera and the frame grabber is 5 meters, due to the high bandwidth requirements of the Camera Link protocol. When using an active cable it is possible to extend this distance. Active cables with lengths up to 10 meters have been verified for all the sCMOS camera systems.

Cable Type	Interface Option	Platform	Max. Distance
Standard Camera link cable [ACC-ASE-02992]	3 Tap & 10 Tap	Neo & Zyla	5 meters
Active Camera link cable [ACC-ASE-06931]	3 Tap Only	Neo & Zyla	10 meters
Active Camera link cable [ACC-ASE-06962]	10 Tap Only	Zyla Only	10 meters

Active Cable Setup

The following diagram illustrates the **'BitMaxx'** 10 meter active Camera Link cable used in both **ACC-ASE-06931** and **ACC-ASE-06962**.

Figure 1 – Active Cable used in both ACC-ASE-06962 and ACC-ASE-06962

The cable(s) only require a single power source which can be plugged into the power connector on the PC/Frame Grabber end of each of the cables. A separate power supply unit and mains power lead is provided with the cable(s).

When connecting the cable connectors care should be taken to ensure the correct orientation of the cable, as it has a polarity thus can only operate in one orientation. The cable's end connectors are labelled "Frame Grabber" and "Camera" respectively to indicate correct orientation. They are the same connector format as a standard Camera Link cable. To mount, insert the ends into the appropriate socket and secure in place with their connector screws.

To ensure that the camera and cable operate correctly, the power up sequence below should be followed:-

1. Power up the **active cable/s**.

2. Turn the camera on.

3. Initialise the camera software.

Extended Input/Output BNC Lead.

The standard length of the I/O cable is 3 meters, supplied as standard with the camera system. If required, an optional 10 meter I/O cable is available for both camera types:

Zyla: ACZ-05612_10m

Neo: ACZ-02991_10m

 This cable provides the same connectivity and functionality as the standard 3 meter option.

Ordering Information

Accessory	Cables & Power Unit	Platform, Interface Option
ACC-ASE-06931	1 x 10 meter Active Camera Link Cable & Single PSU	Neo, 3 Tap or Zyla, 3Tap **ONLY**
ACC-ASE-06962	2 x 10 meter Active Camera Link Cable & Single PSU for both cables	Zyla, 10 Tap **ONLY**

Important Notes

The ACC-ASE-06962 is only suitable for the 10 tap Zyla ('X' model) camera systems.

The ACC-ASE-06931 is only suitable for the 3 tap Neo and the 3 Tap Zyla ('V' model) camera systems.

It is not possible to use the active Camera Link cables in a 'daisy chain' configuration.

Additional splitters and repeaters have not been validated with this cable option.