

## FEATURES

- ▷ SMPTE Standard
- ▷ Operate Cameras on Plain Single Mode Fiber
- ▷ Take Advantage of Installed Fiber Backbones
- ▷ Extend Distance Without Sacrificing Performance
- ▷ Plug & Play Operation
- ▷ Carry Less Hybrid Cable
- ▷ Choice of Optical Connectors
- ▷ Choice of Hybrid Connectors
- ▷ Can Provide Power for Cameras Up to 1km
- ▷ Supports Camera Chains from Sony, Ikegami, Hitachi, Panasonic & Grass Valley
- ▷ Optional Optical Repeating/Remapping
- ▷ Rugged Design
- ▷ Designed and Manufactured in New York
- ▷ Optional Remote Camera Shut-Off

## APPLICATIONS

- ▷ Remote Broadcasting
- ▷ Sports
- ▷ Shared Control Rooms
- ▷ Campus Facilities
- ▷ Arenas and Stadiums

## Extend Camera Chains Beyond SMPTE Cable Limitations Via Standard Single Mode Fiber

The **HUT** system frees camera chains from the limitations of hybrid copper and/or fiber cabling permitting cameras to be separated from their CCUs by distances of over 10km using inexpensive, conventional single mode fiber. This has many advantages over SMPTE hybrid cable including:

- Eliminating RF, EMI and grounding issues
- Faster set and strike times saves time and money
- Reduced weight makes for lighter OB trucks, B-units and cable shipments



### CONNECT ANYWHERE EASILY

The plug and play system allows camera chains to connect via a facility's fiber infrastructure or on tactical fiber cable in the field using industry-standard connectors, such as STs, LCs, SCs, or OpticalCON. The HUT system works by "spoofing" (or "tricking") the camera and CCU into seeing a physical copper connection between them when connected only by single mode fiber cable.

### LOCAL OR REMOTE POWER

After a long run of single mode fiber, HUT-enabled camera systems can be configured in one of two ways:

- Power the camera with the HUT-CP over 1Km of hybrid cable. Power is sufficient for hand held cameras or cameras installed in sleds with long lenses and other high-power accessories.
- Power the camera locally with 12VDC

### ROUTE AND MULTIPLEX CAMERAS

Once the hybrid cable is removed, a camera chain can be easily routed through optical routers, such as the LightningSwitch or EOS-5000. Use MultiDynes FiberSaver systems to multiplex up to nine cameras onto just one strand of single mode fiber.

### PASSIVE OR ACTIVE OPTICS

While typically passive to the camera chain optics, the HUT system is also available with active optics, that can be used to:

- Multiplex a camera chain onto a single fiber strand
- Boost the optical range
- Remap the camera & CCU optics to different wavelengths or extended distances of up to 80km. In addition to the below example, signals can be configured to run in either direction on the fiber.



Panasonic	AK-HC3800, AK-HC5000/3000, AK-HC3500 camera chain
Sony*	HDC-1000/2000/3000/4300 series camera chains with SMPTE fiber connections, HDFX-100/200 fiber/triax adapters or HSC series, HKCT950 series cameras, HXC-FB80N/HXCU-FB80N (DC Cameras)
Ikegami	All HDK series camera chains with SMPTE fiber connections
Hitachi	Z-HD, SK-HD, series camera chains with SMPTE fiber connections
Grass Valley*	LDK and LDX series. Base/CCU end only (HUT-B)

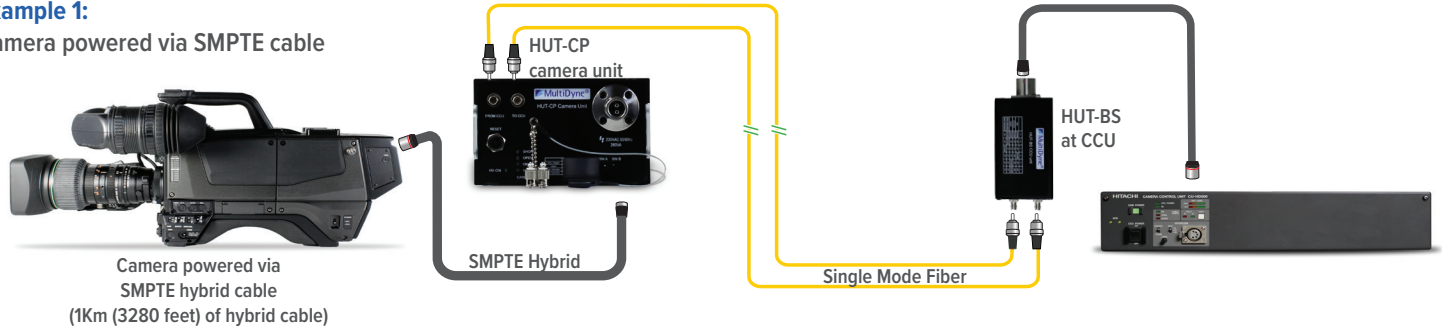
\*Grass Valley, Sony HSC and HXC are separate DC models from the universal model for AC cameras. Camera remote shut off and optical repeater/remapper not available for these units.

## APPLICATIONS

Average overall optical budget from camera to CCU of 10dB is approximately 20Km (14.4 miles), dependent on camera and CCU specifications.

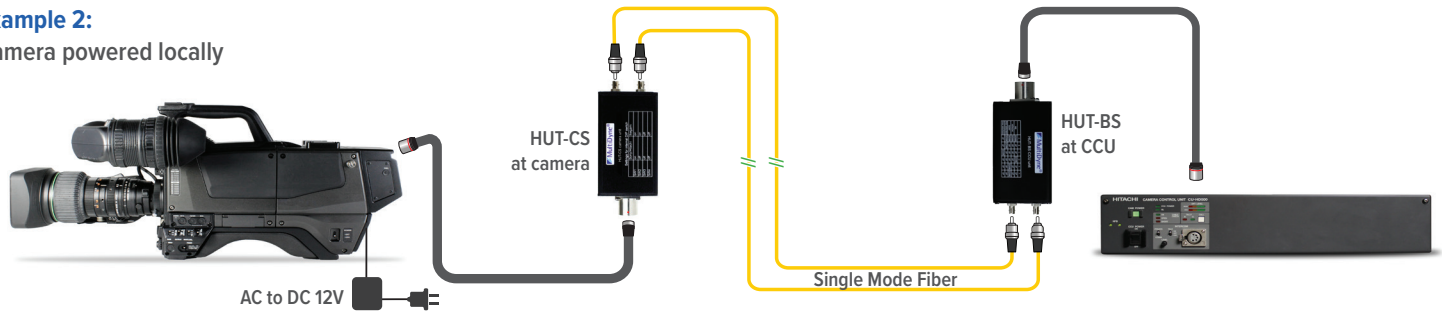
### Example 1:

Camera powered via SMPTE cable



### Example 2:

Camera powered locally



## TECHNICAL SPECIFICATIONS

### Connections

Electrical	IEC 320 (3-pin)
-Hybrid Optical	SMPTE 304M, Fischer FOH2, Tajimi OPS, OpticalCON
-Optical only	ST, SC, SC/APC, MX, OpticalCON
-Optical repeater by request	
HUT-CP Input Voltage	110-240 VAC
Output Max Load	up to 260W
Power Consumption	25W (standby)

Temperature Range	-25°C to +70°C
Humidity Range	0 to 95% non-condensing

### Overall

Dimensions	(LxWxH), Weight
HUT-CP	11.25 x 5.75 x 3.5 inches, 10.3 lbs.
HUT-BS, BA, CS, CA	7 x 2.5 x 2 inches, 0.7 lb.

Note: the length of hybrid cable that can be supported between the powered HUT and the camera is a function of many variables including thickness of the hybrid cable, number of connections, and current draw of camera accessories and lens size/type/servo.

## ORDERING INFORMATION

Part #	Description
HUT-BS-U2-SPR-ST2XXA	HUT - CCU Side, Portable, Hybrid cable SMPTE-304M socket connector, 2 singlemode fibers (ST connectors). For Sony HDC series, Panasonic, Ikegami, and Hitachi cameras
HUT-CP-U2-SPP-ST2XXF	Powered HUT - Camera side, Portable, 2 singlemode fibers (ST connectors), Hybrid cable SMPTE-304M plug connector. For Sony HDC series, Panasonic, Ikegami, and Hitachi cameras
HUT-CP-U2-SPP-D2RXXF	Powered HUT - Camera side, Portable, 2 singlemode fibers (Neutrik opticalCON Duo connector), Hybrid cable SMPTE-304M plug connector. For Sony HDC series, Panasonic, Ikegami, and Hitachi cameras
HUT-CS-U2-SPP-ST2XXA	Passive HUT - Camera Side, Portable, 2 singlemode fibers (ST connectors), SMPTE-304M plug connector. Local power required to provide power to the camera. For Sony HDC series, Panasonic, Ikegami, and Hitachi cameras
HUT-BS-G1-SPR-ST2XXA	HUT - CCU Side, Portable, Hybrid cable SMPTE-304M socket connector, 2 singlemode fibers (ST connectors). For Grass Valley LDK-86 cameras only
HUT-CP-G1-SPP-ST2XXF	Powered HUT - Camera side, Portable, 2 singlemode fibers (ST connectors), Hybrid cable SMPTE-304M plug connector. For Grass Valley LDK-86 cameras only
HUT-BA-NA-SPR-ST2XXA	Passive CCU Side SMPTE Breakout Adaptor, Portable, 2 singlemode fibers (ST connectors), SMPTE-304M socket connector, 2 singlemode fibers (ST connectors). Local power required to provide power to the camera.
HUT-CA-NA-SPP-ST2XXA	Passive Camera Side SMPTE Breakout Adaptor, Portable, 2 singlemode fibers (ST connectors), SMPTE-304M plug connector. Local power required to provide power to the camera.
HUT-CP-S3-SPP-ST2XXF	Powered HUT Camera Unit; SMPTE-304M Plug & 2 ST connectors; For use with Sony HXC-FB80 cameras only
HUT-BS-S3-SPR-ST2XXA	HUT Base/CCU Adaptor, SMPTE 304M receptacle & 2 ST connectors; For use with Sony HXC-FB80 Cameras Only