Model: MHD-61S2S

User Guide

HD-SDI Repeater

GENERAL:

MHD-61S2S is able to extend the HD-SDI signal transmission distance between HD-SDI devices at data rates up to 1.485Gb/s and be compliant with SMPTE 292M, 296M standards. In addition, it allows simultaneous signal transmission, camera control (RS-485) and power over a single cable which is with re-use of coax infrastructure.

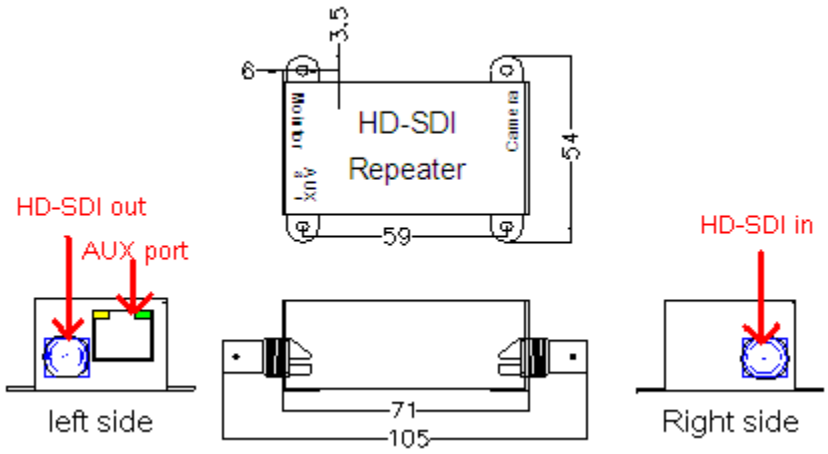
FEATURES:

- Support high-definition HD-SDI digital video at 720p60, 1080i60 and 1080p30 formats at all frame rates.
- HD-SDI standard SMPTE292M, 296M at 1.485Gb/s data rate.
- Integrated cable equalizer for long distance video transmission without loss of quality.
- High quality digital video and audio transmission with near zero latency.
- Re-clocker to resynchronize the signal—bring it back to its original condition.
- Cable Driver to retransmit the signal with its original characteristics restored.
- Support Coaxial-link(C-LINK),
  - Cameras and repeaters' power can be powered by coaxial cable.
  - Camera control signal (RS-485) can be transmitted by coaxial cable.

PACKAGE CONTENT

- Main unit(MHD-61S2S) ---------X1
- User manual----------X1
- AUX cable----------X1

DIMENSION:



I/O INTERFACE:

- HD-SDI out: for connecting HD-camera
- HD-SDI out: for connecting monitor or HD-SDI receiver
- AUX port

  Led indicator:

  Green on: local powering

  Yellow on: power out via to remote device

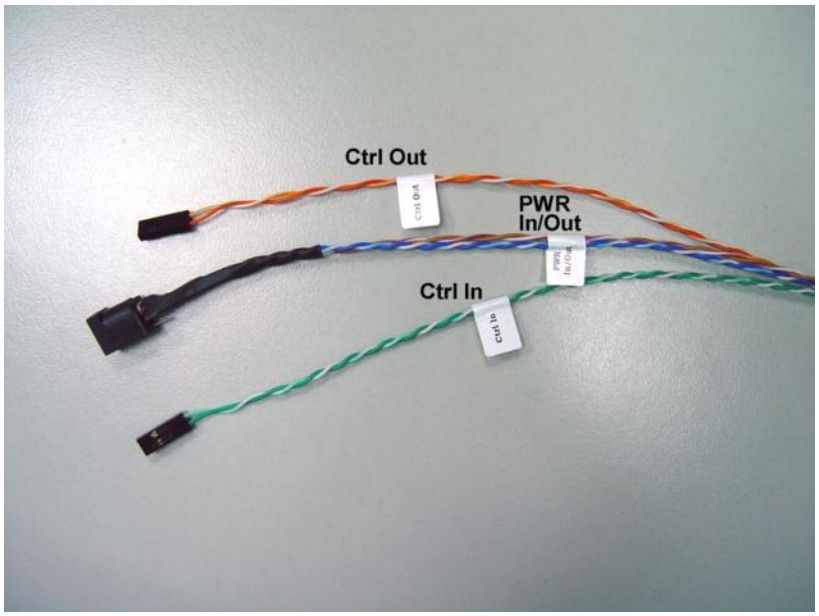
  AUX port cable:

  White/orange: Ctrl out(RS-485), to connect the controlled device

  White/green: Ctrl in(RS-485), to connect the controller for nearest monitor application

  White/blue: DC12~24V, to connect the DC power

  White/brown: GND



SPECIFICATION:

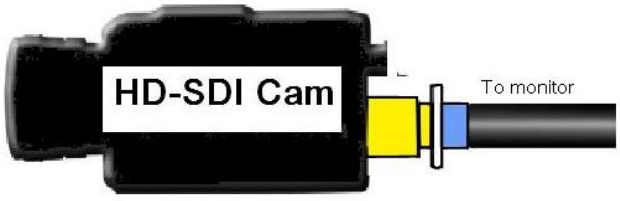
HD-SDI in/out interface	Connectors :BNC 75Ω Cable Impedance:75Ω ± 3Ω Data Throughput:270Mbps – 1.485Gbps (SMPTE 292M)
Aux port	Connector :RJ45 (Cat 3) type Pin definition: RS-485 in (Pair 1 white/green) RS-485 out (Pair 2 white/orange) +24V (Pair 3 white blue)/ Gnd (Pair 4 white/brown)
Power Supply Input (Head End input)	Power in via RJ45(Aux port) 9 ~24V DC, rated current 0.5 – 2A
Power Supply Output (Camera Side output , without PoC camera)	Power out via RJ45(Aux port) V_{IN} @ Head End -1V -Coax DC drop (varies with cable type/length) DC Feed via Coax V_{IN} @ Head End -1V -Coax DC per hop (varies with cable type/length) Maximum 400 mA – 30 mA per repeater
Environmental	Operating Temperature0^0C to 50^0C Relative humidity:Up to 85% non-condensing Storage Temperature:-20^0C to 70^0C
Note: Cameras (model name: MN1/MN2) can be powered if there are only 3 repeaters used in-line. If use more than 3 repeaters, it will not allow sufficient supply for powering the camera. In this case, external power has to be supplied to the camera.	

PERFORMANCE SPECIFICATIONS

Performance by coax type	Max coax length for error free operation @ 1.485 Gbps per unit	Power over cable Budget	
		Max # Repeaters (total length)	DC power after 2 repeaters with POC camera
RG59 (23dB/100m)	Above 100 meters /	5 (500m)	6.5W

CONNECTION DIAGRAM:

Extend HD-CCTV links up to 300 meters with power over cable and camera control links over single coax cable.



HD Camera (model name: MHD-63MN1HP), which is allowing camera powered by coaxial cable and RS-485 control signal over same cable.

In-line HD-SDI Repeater

The repeater of monitor side, which is including DC Power in and RS-485Control in

Each repeater supports a link of over 100m at 1.485Gbit/s, Up to 5 repeater units can be daisy-chained together and all powered over the coax cable by power injected to the first repeater.

Note:

If use 3-5 Repeaters and HD camera, they will be powered via the 1st Repeater

- Limitation of Maximum power consumption is 24V/300mA, if over it, camera power or one of repeater power should be independent supplied
- RJ45 connector should always point towards the DVR
- Camera control is only one-way, from monitor to camera.

System Requirements/Cable Connection:

- The AUX cable can be used at the monitor side to add power to the 1st Repeater.
- The AUX “Ctrl In” line is to connect to a RS-485 uplink from the monitor to the camera.
- Connect HD-SDI camera I/F to HD Camera (MHD-63MN1PH-P) or source (with or without power over coax capability)
- Connect HD-SDI Monitor I/F to HD monitor or the next repeater.
- The AUX “PWR In” is to connect 24V DC Power Supply for Power over coaxial cable application or 12V DC Power Supplies can be used if only 1 Repeater are used and there is no need to power the camera over the coax.
  The center Pin for power supply is VCC.