


CABLEMATIC

ND1100 Series HD-SDI Repeaters

1. Overview

ND1100 Series HD-SDI Repeaters are a HD SDI repeater for transmission distance extension. Supporting 14 HD formats as SMPTE-292M (1.485Gb/s, 1.485/1.001Gbps), the SD-1645 re-clocks the input signal and distributes two channels. The transmission distance is easily extended 300ft per each box.



Many remote demands have been met by this great tool for needs in very remote locations or event transmissions. When you see this great tool you will be amazed by the solution it will provide to your long transmission needs. Extend HD CCTV links up to 1.0km with power over cable and camera control link over single coax cable. Each unit receives a HD-CCTV signal that may be attenuated by up to 200m of coax cable.

2. Features

The repeater contains three critical components to correct and then retransmit the signal:

- Adaptive Equalizer to return the signal to its original amplitude and modulation.
- Reclocker to resynchronize the signal-bringing it back to its original condition.
- Cable Driver to retransmit the signal with its original characteristics restored.

Furthermore, the repeater design allows for two unique benefits:

- Power can be transmitted from the recorder side to the camera over the coax cable.
- Up to 6 repeaters may be powered from the coax cable; if one or two repeaters are used, the power may also be adequate to power the camera.
- A control signal (RS485) can be transmitted from the recorder side to the camera over the coax cable.

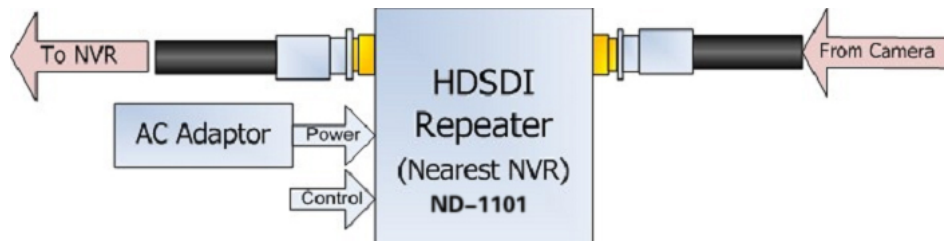
Simultaneous signal transmission, camera control and power over a single cable, allowing full re-use of coax infrastructure.

3. Implementation

Each repeater supports a link of up to 200m with a data-rate of 1.5Gbit/s (depending on cable quality).

Up to 5 repeater units can be daisy-chained together, all powered over the coax cable by power injected to the first repeater.

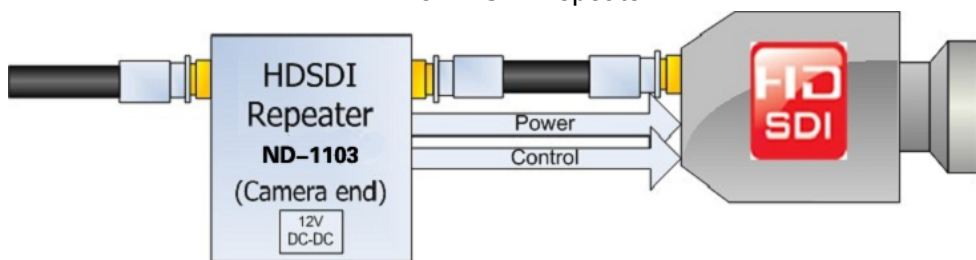
Longer lengths can be supported with lower speed cameras: for example, 720m for SDI cameras.



NVR side Repeater including Link Power and Control Channel



In-line HDSDI Repeater

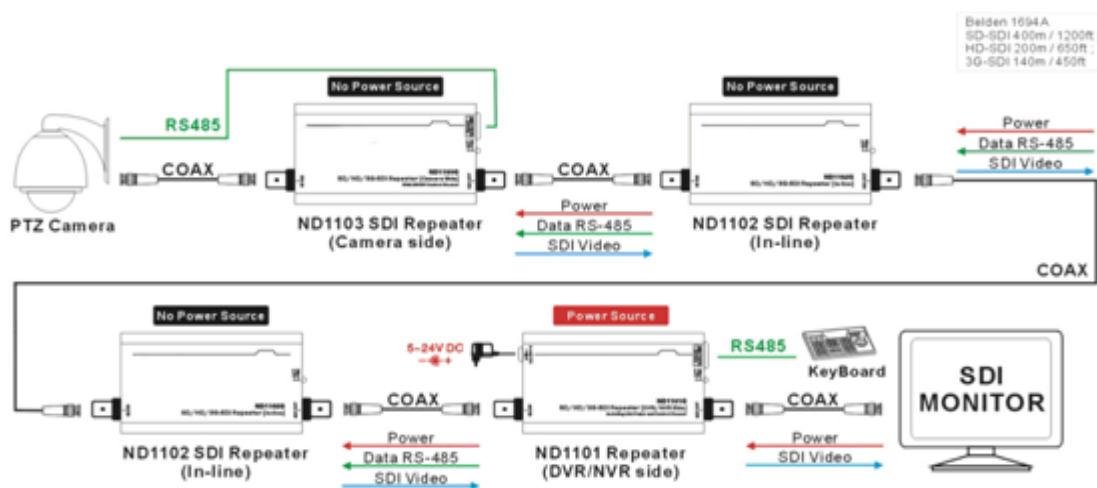


Camera side HDSDI Repeater with Power and Control

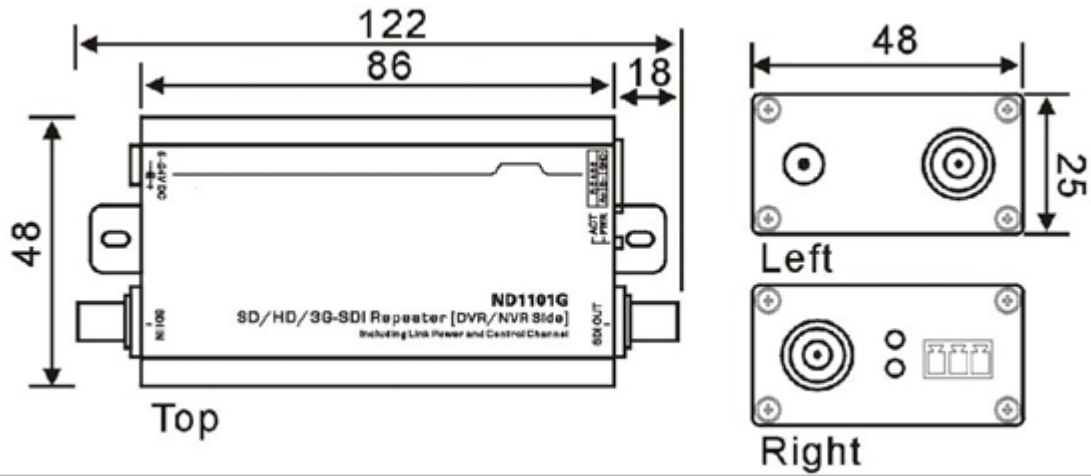
Camera control signals and the system power can be injected at the first repeater (nearest the recorder). Control signals and camera power (if appropriate) can similarly be taken from the repeater nearest to the camera and feed into the camera itself.

The camera control is via RS485, the most commonly used protocol and a control signal bandwidth of up to 40KHz is supported.

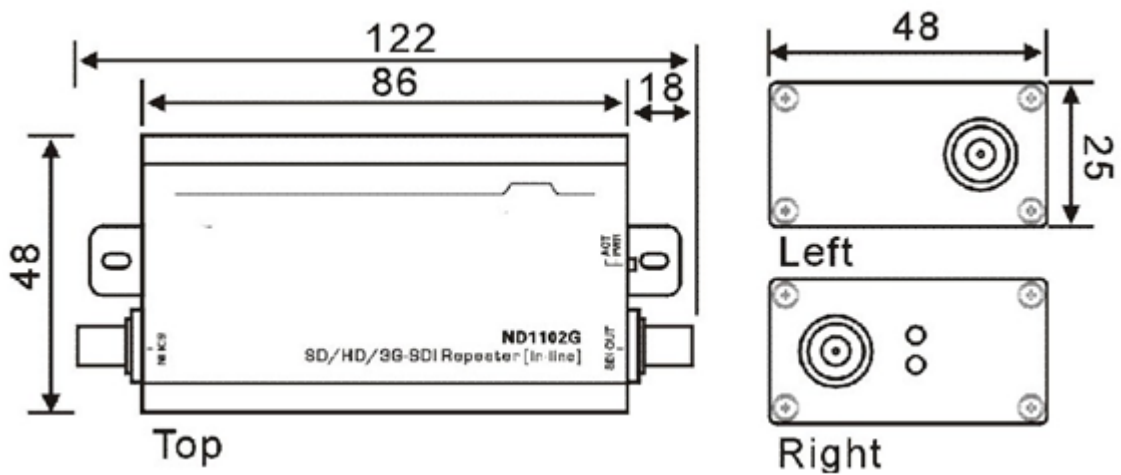
4. Application Diagram



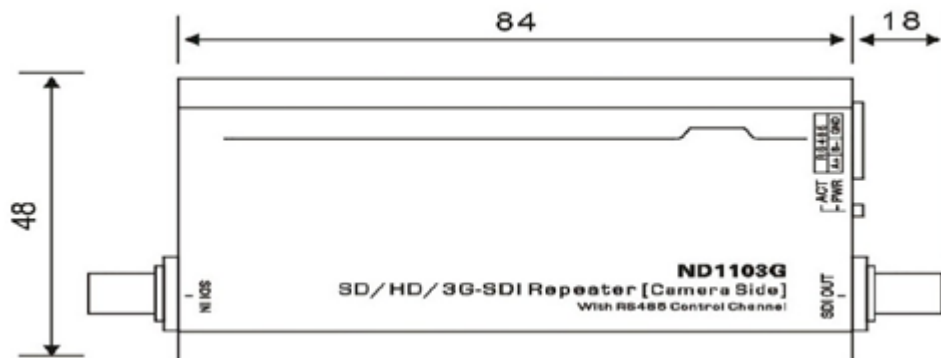
5. Dimensions



ND1101G



ND1102G



ND1103G

6. Specifications

Technical Specifications :

HD-SDI Interface	Connectors	BNC
	Cable Impedance	75Ω
	Connector/coax Return Loss	Return
	Data Throughput	270Mbps , 1.485Gbps , 2.97Gbps
RS485 Interface	Connector (Head End)	Plug-in Terminal Block
	Pitch/ Poles	3.81mm/3P
	Rated Voltage/Current	300V/8A
Power Supply Input (Head End input)	Power	9-24V, plus any concatenated repeaters
	DC Feed via Coax	Min 8V DC
Environmental	Operating Temperature	0°C to 50°C
	Relative humidity	Up to 85% non-condensing
	Storage Temperature	-20°C to 70°C

Performance Specifications :

Performance by coax type	Max coax length for error free operation@1.5Gbps	Cable/Power Budget	
		Max # Repeaters (total length)	DC power after 2 repeaters
RG6 Sample 1 (16dB/100m)(Belden 1694A)	200 meters / 640 feet	5 (1km)	6W
RG6 Sample 2 (16dB/100m)(Carol Brand)	200 meters / 640 feet	3 (1km)	1.8W
5C-HFBT Sample (16dB/100m)(Amphenol)	200 meters / 640 feet	5 (1km)	6W
RG59 Sample (23dB/100m)	140 meters / 450 feet	5 (700m)	6.5W
3C-2V Sample 1 (41dB/100m)	78 meters / 325 feet	5 (390m)	6.5W
RG11 Sample (10dB/100m) (CommCcope F1160BVV)	330 meters / 1050 feet	4 (1.3km)	4W

7. Order Information

Part No	Description of product	Unit
ND1101G	HD-SDI Repeater (nearest DVR/NVR,with AC Adaptor)	Pcs
ND1102G	HD-SDI Repeater(In line)	Pcs
ND1103G	HD-SDI Repeater(camera end)	Pcs