

**Video • Data • Power**



## **Active UTP Transceiver Hub with Integral Camera Power**

### **Installation Guide**

#### **Models Include:**

#### **HubWayLD8D**

- *UL Listed eight (8) Channel Active UTP Transceiver Hub with Integral Camera Power*

#### **HubWayLD82D**

- *UL Listed eight (8) Channel Active UTP Transceiver Hub with Integral Camera Power*
- *Includes eight (8) UL Listed Accessory HubWayAv Video Balun/Combiners*

#### **HubWayLD83D**

- *UL Listed eight (8) Channel Active UTP Transceiver Hub with Integral Camera Power*
- *Includes eight (8) UL Listed Accessory HubWayDv Video Balun/Combiners*

#### **HubWayLD16D**

- *UL Listed sixteen (16) Channel Active UTP Transceiver Hub with Integral Camera Power*

#### **HubWayLD162D**

- *UL Listed sixteen (16) Channel Active UTP Transceiver Hub with Integral Camera Power*
- *Includes sixteen (16) UL Listed Accessory HubWayAv Video Balun/Combiners*

#### **HubWayLD163D**

- *UL Listed sixteen (16) Channel Active UTP Transceiver Hub with Integral Camera Power*
- *Includes sixteen (16) UL Listed Accessory HubWayDv Video Balun/Combiners*



Rev. 030408



**More than just power.™**

## Overview:

Altronix HubWayLD8D/16D Active UTP Transceiver Hub w/Integral Camera Power transmits UTP video, RS422/RS485 data and power over a single CAT-5 or higher structured cable. Unit provides 8 or 16 camera channels in a space saving 1U EIA 19" rack mount chassis which may be rack, wall or shelf mounted. Video transmission range is up to 3000 ft. max. per channel. Units are compatible with AC and/or DC fixed or PTZ cameras when utilizing Altronix HubWayAv, HubWayDv or HubWayDvi Video Balun/Combiners. In addition, the unit features individually selectable 24VAC or 28VAC PTC protected outputs with surge suppression. An optional HubSat4D Passive UTP Transceiver Hub with Integral Camera Power can be used as an accessory module to transmit video from up to 4 cameras over a single CAT-5 or higher structured cable back to the HubWayLD8D/16D. In addition, the HubSat4D provides power to these cameras locally to eliminate the possibility of voltage drop associated with long cable runs.

## HubWayLD Specifications:

### HubWayLD8D/LD82D/LD83D

#### Input:

- 115VAC 60Hz, 1.5 amp or  
230VAC 50/60Hz, 1 amp.

#### Video:

- Eight (8) channels of video over twisted pair up to a distance of 3000 ft. per channel.
- Eight (8) 75 ohm video outputs.

#### Power:

- Unit provides up to 1 amp max. per channel not to exceed a total of 5 amp (150VA) maximum current.

### HubWayLD16D/LD162D/LD163D

#### Input:

- 115VAC 60Hz, 3 amp or  
230VAC 50/60Hz, 1.5 amp.

#### Video:

- Sixteen (16) channels of video over twisted pair up to a distance of 3000 ft. per channel.
- Sixteen (16) 75 ohm video outputs.

#### Power:

- Unit provides up to 1 amp max. per channel not to exceed a total of 10 amp (300VA) maximum current.

## Common Specifications:

### Agency Listings:

- UL Listed for Commercial CCTV Equipment (UL 2044).

### Data:

- RS422/RS485 data inputs.

### Power:

- Individually selectable 24VAC or 28VAC power outputs with OFF position.
- PTC protected outputs.
- PTCs are rated @ 1 amp per channel.
- Surge suppression.

### Visual Indicators:

- AC input power indicator.
- Video signal and power LED indicators.

### Features:

- Picture and Gain control.
- Illuminated master power disconnect circuit breaker with manual reset.
- IEC 320 - 3-wire grounded line cord (detachable).
- Unit can be rack, wall or shelf mounted.
- 1U rack mount chassis for use in standard EIA 19" rack.

### Accessories:

- Video Balun/Combiners:
  - HubWayAv - for use with 24VAC cameras.
  - HubWayDv - for use with 12VDC cameras.
  - HubWayDvi - for use with non-isolated 12VDC cameras.
- Optional HubSat4D allows transmission of up to four (4) video signals over a single CAT-5 or higher structured cable.

### Additional Models:

#### HubWayLD82D

- HubWayLD8D with eight (8) UL Listed Accessory HubWayAv Video Balun/Combiners for 24VAC Cameras.

#### HubWayLD83D

- HubWayLD8D with eight (8) UL Listed Accessory HubWayDv Video Balun/Combiners for 12VDC Cameras.

#### HubWayLD162D

- HubWayLD16D with sixteen (16) UL Listed Accessory HubWayAv Video Balun/Combiners for 24VAC Cameras.

#### HubWayLD163D

- HubWayLD16D with sixteen (16) UL Listed Accessory HubWayDv Video Balun/Combiners for 12VDC Cameras.

**WARNING: To reduce the risk of fire or electric shock, do not expose the unit to rain or moisture. This installation should be made by qualified service personnel and should conform to all local codes.**

## Installation Instructions:

1. Set the input voltage selector switch located on the left side of the HubWayLD8D/LD16D unit (facing front panel) for 115VAC or 230VAC operation (*Fig. 1k, pg. 4*).
2. Attach mounting brackets to HubWayLD unit for rack or wall mount installation (*Figs. 6-7, pg. 8*). Affix rubber pads to HubWayLD for shelf installation (*Fig. 8, pg. 8*).

3. Secure the unit in a rack, mount unit to a wall or place unit on a shelf as desired (unit should be spaced at least 3" from any video monitors).
4. Set illuminated master power disconnect circuit breaker to the (OFF) position (*Fig. 5, pg. 7*).
5. Plug the grounded AC line cord (included) into the IEC 320 connector of the HubWayLD8D/HubWayLD16D unit (*Fig. 1j, pg. 4*). Insert the plug end of the line cord into a grounded AC receptacle.
6. Set voltage output selector switch of each camera channel for 24VAC or 28VAC (*Fig. 1d, pg. 4*).
7. Connect the BNC video outputs for HubWayLD8D/LD16D Channels 1 - 8 (Channels 1-16) to the corresponding video inputs on the head end equipment (DVR) (*Fig. 1f, pg. 4*).
8. Connect the RS422/RS485 output of the head end equipment (DVR) to the one (1) or both data input terminal blocks of the HubWayLD8D or HubWayLD16D unit (polarity must be observed) (*Fig. 1e, pg. 4*).  
**Note:** The Data input terminals of the HubWayLD8D or HubWayLD16D must be wired in parallel for proper operation. When using fixed cameras disregard this step.
9. Connect Video Balun/Combiner at camera 1 to the HubWayLD8D or HubWayLD16D unit utilizing CAT-5 or higher structured cable. Plug the RJ45 connector at one end of the structured cable into the RJ45 jack marked [Channel 1] of the HubWayLD8D/LD16D (*Fig. 1a, pg. 4*). Plug the RJ45 connector at the opposite end of the structured cable into the RJ45 jack of the Video Balun/Combiner located at camera 1.
  - For 24VAC cameras use Altronix model HubWayAv Video Balun/Combiner (*Figs. 2a, 2b, pg. 5*).
  - For 12VDC cameras use Altronix model HubWayDv Video Balun/Combiner (*Figs. 2c, 2d, pg. 5*).
  - For non-isolated 12VDC cameras use Altronix model HubWayDvi Video Balun/Combiner (*Figs. 2c, 2d, pg. 5*).
 Repeat steps 6-9 for each additional camera (Channels 2-8 or Channels 2-16).  
**Note:** When a particular camera exceeds the maximum distance for power transmission, a local external power source is required. Optionally, an Altronix HubSat4D Passive UTP Transceiver Hub with Integral Camera Power may be utilized (*Fig. 4a, pg. 6*). The combined total cable distance must not exceed 3000 ft. for video transmission between the HubWayLD8D/LD16D and each camera routed through the HubSat4D.
10. Set illuminated master power disconnect circuit breaker to the RESET (ON) position (*Fig. 5, pg. 7*) and measure the output voltage at the power output of each Video Balun/Combiner (*Figs. 2b, 2d, pg. 5*) before powering each camera to insure proper operation and avoid possible damage.
  - HubWayAv - Terminals marked [AC POWER] (*Figs. 2a, 2b, pg. 5*).
  - HubWayDv/HubWayDvi - Terminals marked [- 12VDC +] (*Figs. 2c, 2d, pg. 5*).
11. Set illuminated master power disconnect circuit breaker to the (OFF) position to make the final connections (*Fig. 5, pg. 7*).
12. Connect the power outputs of the HubWayAv, HubWayDv or HubWayDvi Video Balun/Combiners to the power inputs of the cameras (*Figs. 2a-2d, pg. 5*). Polarity must be observed.
13. Connect the terminals marked [+ DATA -] of the HubWayAv, HubWayDv or HubWayDvi Video Balun/Combiners to the data terminals of the cameras for PTZ control (*Figs. 2a-2d, pg. 5*). Polarity must be observed.  
 When using fixed cameras disregard this step.
14. Connect the BNC connectors of the HubWayAv, HubWayDv or HubWayDvi Video Balun/Combiners to the BNC video outputs of the cameras (*Figs. 2a-2d, pg. 5*).
15. Upon completion of wiring set illuminated master power disconnect circuit breaker to the RESET (ON) position (*Fig. 5, pg. 7*).
16. The power LEDs (Red) located on the front of the HubWayLD8CD/LD16CD will illuminate when AC power is present (*Fig. 1c, pg. 4*).  
**Note:** If any of these LEDs are not illuminated either a voltage output selector switch is in the OFF position or the PTC is tripped for that channel.  
 To reset the PTC:
  1. Set the voltage output selector switch for that corresponding channel to the OFF position. Switch must remain in the OFF position for approximately 2 minutes in order for the PTC to reset.
  2. Eliminate the trouble condition (short circuit or overload).
  3. Set the voltage output selector switch for 24VAC or 28VAC (*Fig. 1d, pg. 4*).
17. AC LEDs (Green) of the HubWayAv or DC LEDs (Red) of the HubWayDv/HubWayDvi Video Balun/Combiners will illuminate indicating power is present at the cameras (*Fig. 2b, 2d, pg. 5*).
18. The video signal indicator LEDs (Red) located on the rear of the HubWayLD8CD/LD16CD will illuminate when video signal is present (*Fig. 1i, pg. 4*). If any of these LEDs are not illuminated, no video signal is present for that corresponding channel.
19. Optimize the picture quality for all camera channels by adjusting the corresponding potentiometers marked [Picture] (*Fig. 1g, pg. 4*).
20. Set gain for all camera channels adjusting the corresponding potentiometers marked [Gain] (*Fig. 1h, pg. 4*).

Fig. 1

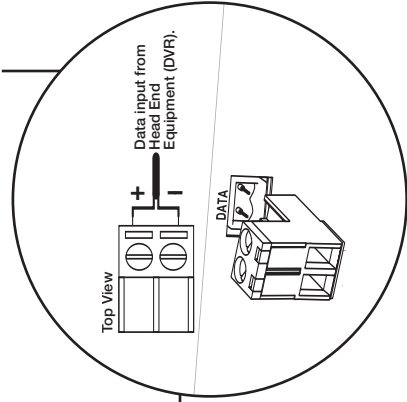
**1e - Data:** Removable terminal blocks for RS422/RS485 input from head end equipment (DVR) for PTZ control.

**1b - Channels 1-4, Channels 5-8, Channels 9-12 & Channels 13-16:** CAT-5 or higher structured cable from optional HubSat4D enables video transmission from up to four (4) cameras.

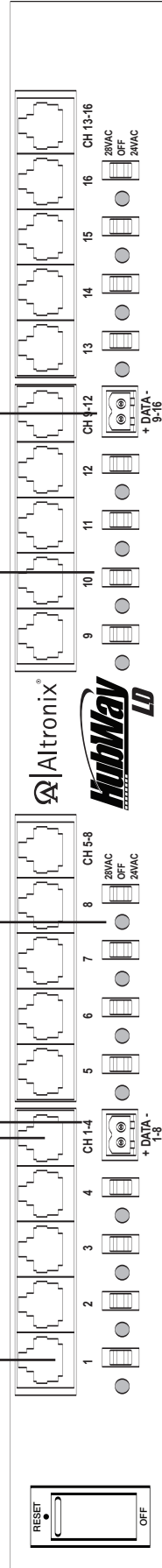
**1a - Channels 1-8 (HubWayLD8) or Channels 1-16 (HubWayLD16):** CAT-5 or higher structured cable to Video/Balun Combiners at cameras 1-8 or 1-16. When using an optional HubSat4D any of the outputs can be utilized for the data transmission to PTZ's.

**1c - LED(s) 1-16:** Power indicators.

**1d - Output voltage switches:** Selects 24VAC/28VAC/OFF for each output.



Front



Rear



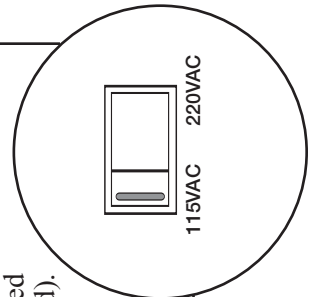
**1f - BNC Connector:** Video outputs to head end equipment (DVR).

**1g - Picture:** Adjusts video quality.

**1h - Gain:** Regulates the output video and sync levels.

**1i - LED(s) 1-16:** Video signal indicators.

**1j - IEC 320 Connector:** 115VAC 60Hz/230VAC 50/60Hz (grounded line cord included).



**1k - Input Voltage Switch:** Selects 115VAC 60Hz/230VAC 50/60Hz (switch is located on the left side of the unit).

## HubWayAv, HubWayDv and HubWayDvi Video Balun/Combiners:

Altronix Model Number	Input Voltage from HubWay unit	Output Voltage to camera	Camera Type	Power LED
<b>HubWayAv</b>	*24VAC/28VAC	*24VAC/28VAC	24VAC cameras	Green
<b>HubWayDv</b>	*24VAC/28VAC	12VDC	12VDC cameras	Red
<b>HubWayDvi</b>	*24VAC/28VAC	12VDC electronically isolated	12VDC cameras without isolation	Red

\*Based on camera load and structured cable length.

Fig. 2

Fig. 2a

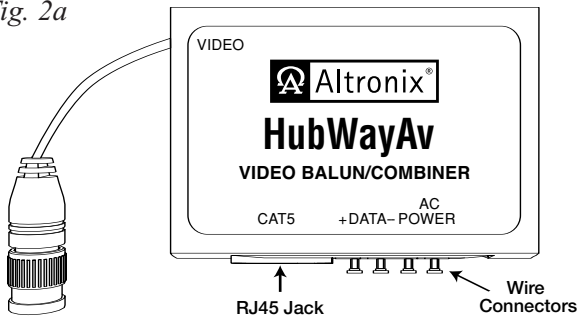
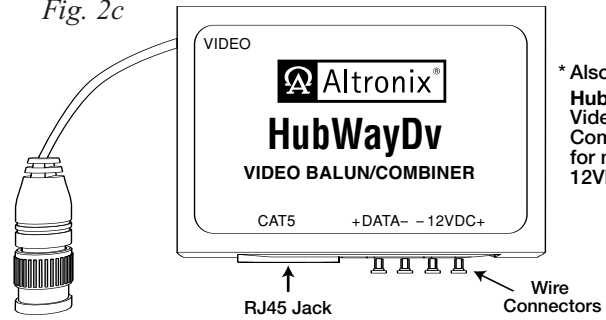


Fig. 2c



\* Also Available as:  
**HubWayDvi**  
Video Balun/  
Combiner  
for non-isolated  
12VDC cameras

Fig. 2b

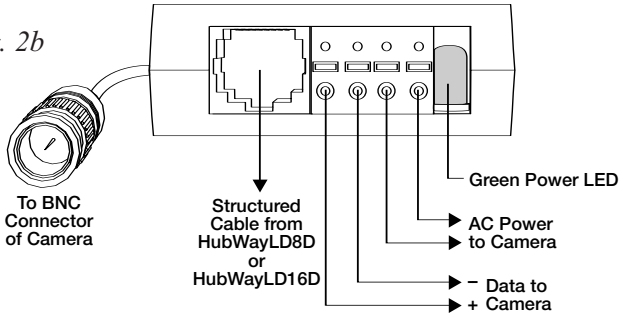
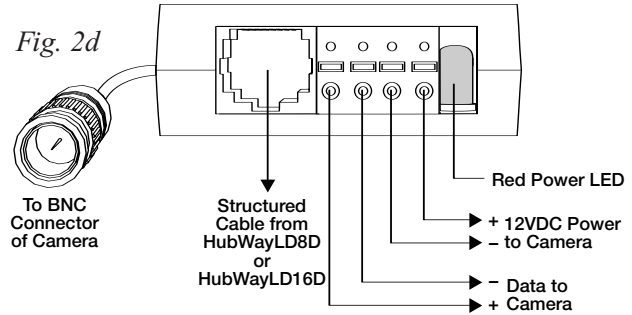


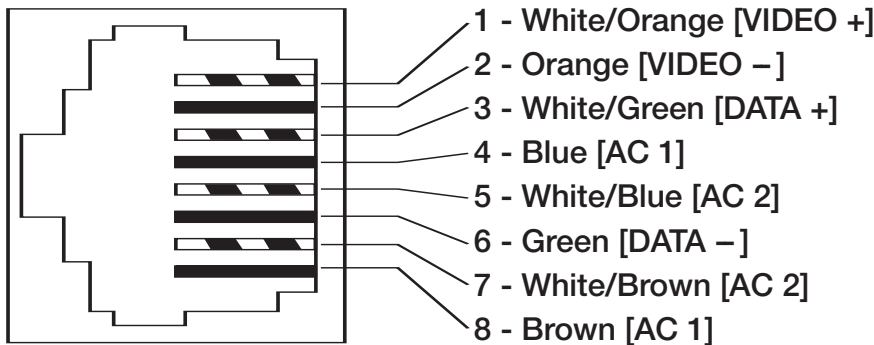
Fig. 2d



HubWayAv passes AC voltage from pins 4, 5, 7, 8 to terminals marked [AC Power] (Fig. 3, pg. 5).

HubWayDv/HubWayDvi converts AC voltage to DC voltage from pins 4, 5, 7, 8 to terminals marked [-12VDC+] (Fig. 3, pg. 5).

Fig. 3 - CAT-5 Structured Cable Wiring Color Codes and PIN Configurations



## Typical Applications:

Fig. 4

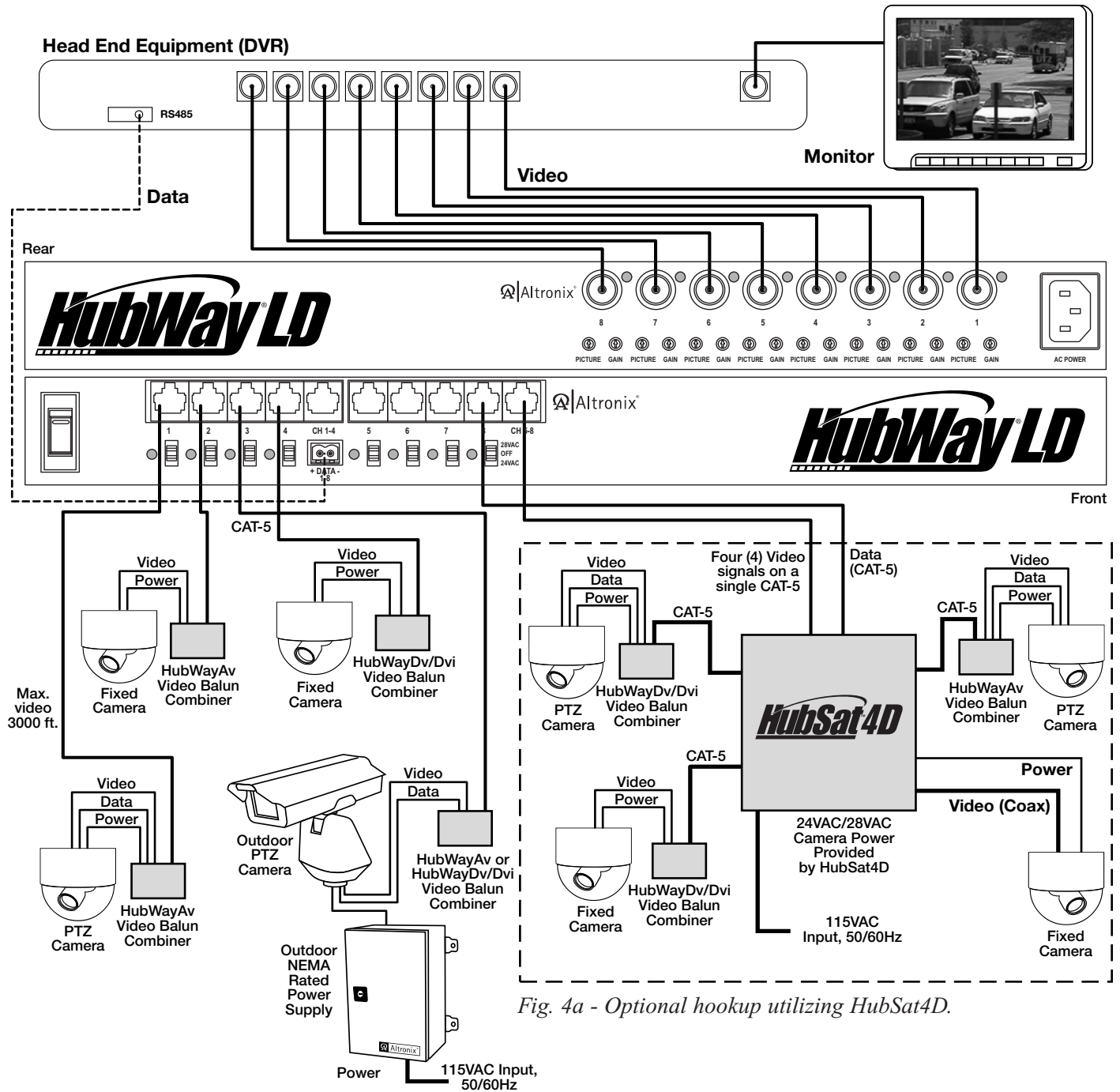


Fig. 4a - Optional hookup utilizing HubSat4D.

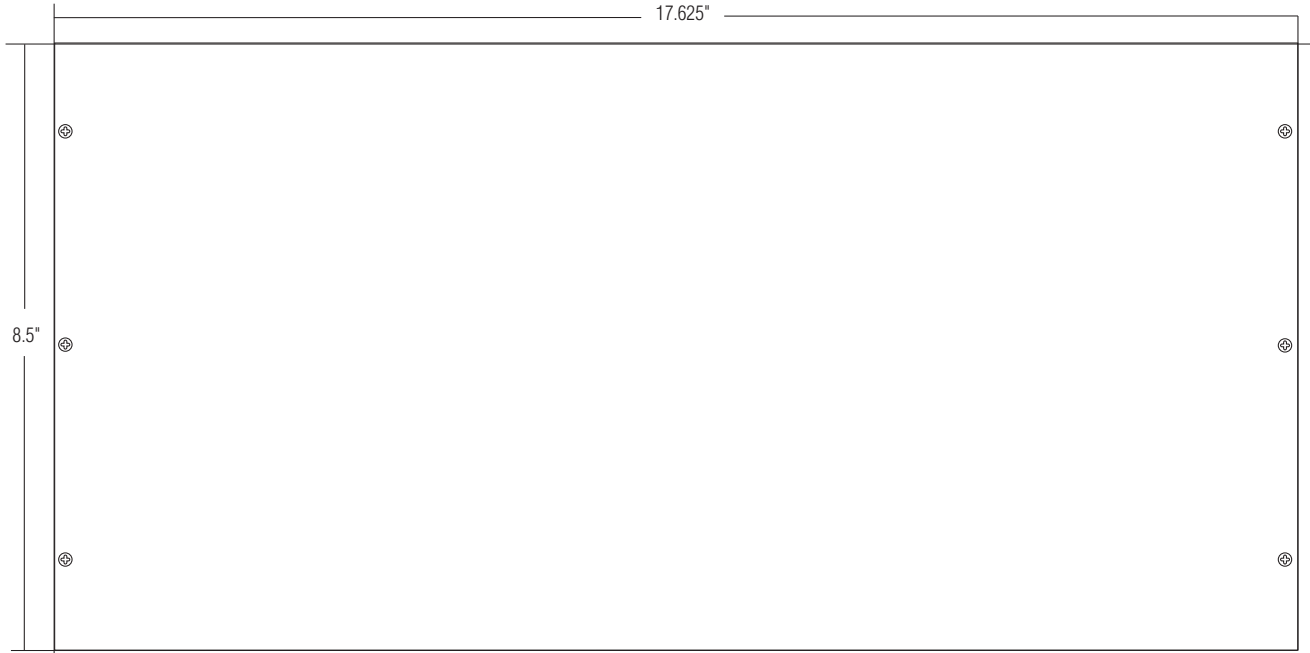
# 1U EIA 19" Rack Mount Chassis Mechanical Drawing & Dimensions:

1.625"H x 19.125"W x 8.5"D

REAR



TOP & BOTTOM



FRONT

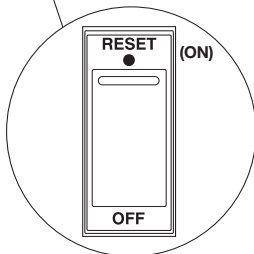
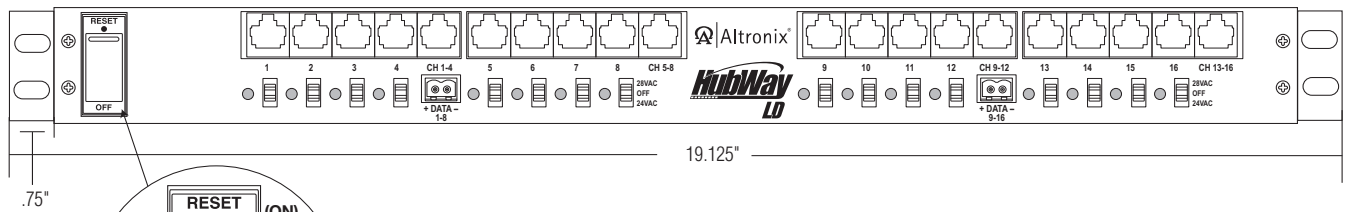


Fig. 5

Illuminated master power disconnect circuit breaker:

- OFF position Circuit breaker tripped – Switch not illuminated.
- RESET (ON) position – Switch illuminated.



The lightning flash with arrow head symbol within an equilateral triangle is intended to alert the user to the presence of an insulated "DANGEROUS VOLTAGE" within the products enclosure that may be of sufficient magnitude to constitute an electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



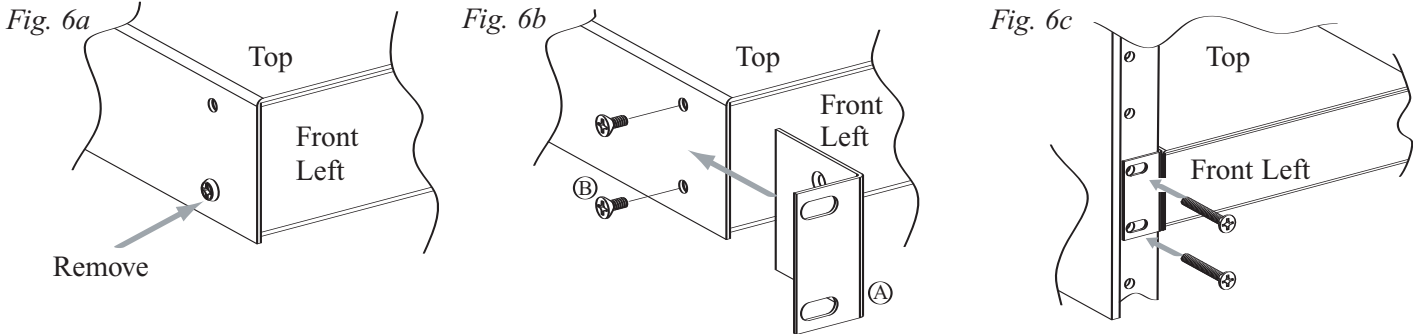
**CAUTION:** To reduce the risk of electric shock do not open enclosure. There are no user serviceable parts inside. Refer servicing to qualified service personnel.

## Mounting Options:

### Rack Mount Installation

- 1- Remove and discard factory installed screws from both sides of rack chassis (Fig. 6a).
- 2- Install mounting brackets (A) on the left and right side of rack chassis using the four (4) flat head screws (B) (included) (Fig. 6b).
- 3- Place unit into desired EIA 19" rack position and secure with mounting screws (not included) (Fig. 6c).

Fig. 6



### Wall Mount Installation

- 1- Install mounting brackets (A) on the left and right side of rack chassis using four (4) flat head screws (B) (included) (Fig. 7a).
- 2- Place unit at desired location and secure with mounting screws (not included) (Fig. 7b).

**Caution:** It is necessary to make sure mounting screws are securely fastened to a beam when installing the unit vertically.

Fig. 7

Fig. 7a

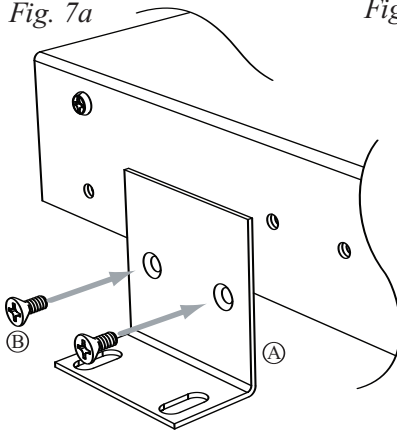
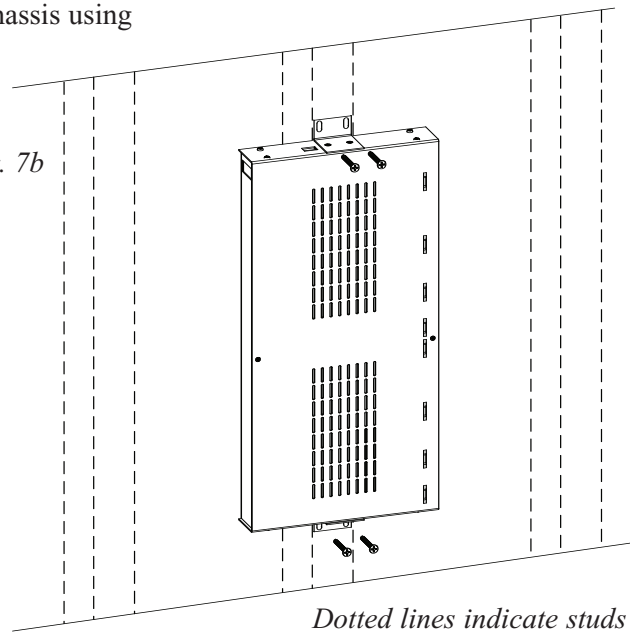


Fig. 7b

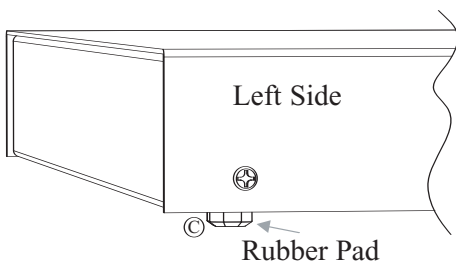


Dotted lines indicate studs behind sheetrock.

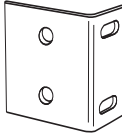


### Shelf Installation

- 1- Position and affix rubber pads (C) (included) at each corner on the bottom of the unit (Fig. 8).
- 2- Place unit in desired location.

Fig. 8



**Mounting Hardware (Included):**

	<b>(A)</b> Two (2) mounting brackets
	<b>(B)</b> Six (6) flat head screws for mounting brackets.
	<b>(C)</b> Four (4) rubber pads.

Altronix is not responsible for any typographical errors.

