



**DITEK Corporation**

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Thank you for trusting DITEK to protect your valuable Digital Recording equipment and welcome to a growing group of value conscious people who use DITEK Surge Protection products.

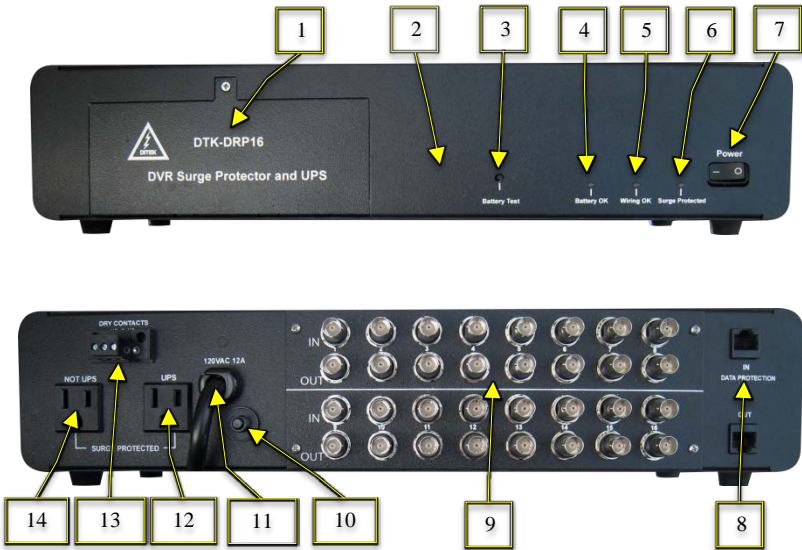
This User Guide explains the features of the DRP16, DRP16C, DRP16B and the DRP16T models.

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# DVR Surge Protector & UPS

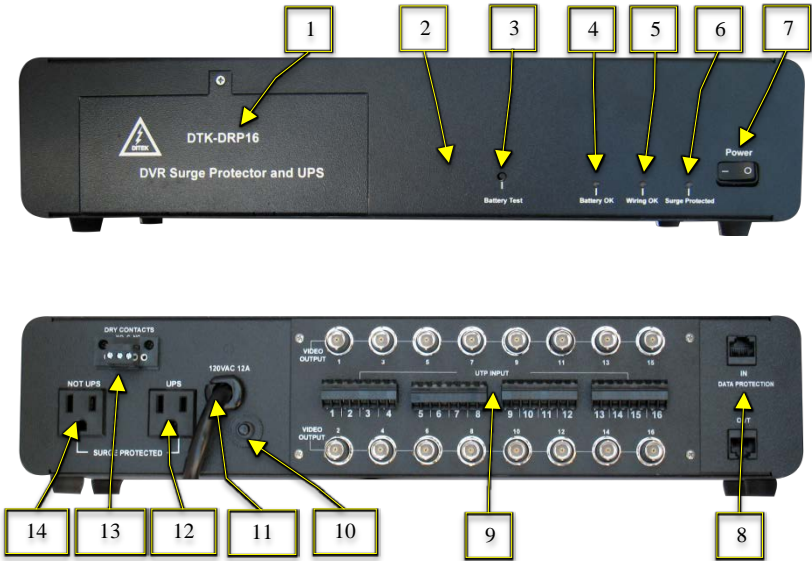
**Catalog Number DTK-DRP16**  
**Catalog Number DTK-DRP16C**



**KEY:**

1. Replaceable Battery
2. Internal Warning Audible Alarm (Inside)
3. Battery Test Switch
4. Battery Functional Indicator
5. Wiring Functional Indicator
6. Surge Protection Functional Indicator
7. On/Off Master Switch
8. 1 set of RJ45 Category 5e Data Jacks – Surge Protected
9. 16 set BNC Video Ports (IN/OUT) - Surge Protected
10. 15A Resettable Circuit Breaker
11. Power Cord
12. Surge Protected Outlet – UPS Protected
13. Dry Contacts
14. Protected Surge Protected Outlet – Not UPS Protected

## Catalog Number DTK-DRP16B



**KEY:**

1. Replaceable Battery
2. Internal Warning Audible Alarm (Inside)
3. Battery Test Switch
4. Battery Functional Indicator
5. Wiring Functional Indicator
6. Surge Protection Functional Indicator
7. On/Off Master Switch
8. 1 set of RJ45 Category 5e Data Jacks – Surge Protected
9. 16 UTP Input and 16 BNC Output ports - Surge Protected
10. 15A Resettable Circuit Breaker
11. Power Cord
12. Surge Protected Outlet – UPS Protected
13. Dry Contacts
14. Surge Protected Outlet – Not UPS Protected

Thank you for trusting DITEK to protect your valuable Digital Recording equipment and welcome to a growing group of value conscious people who use DITEK Surge Protection products.



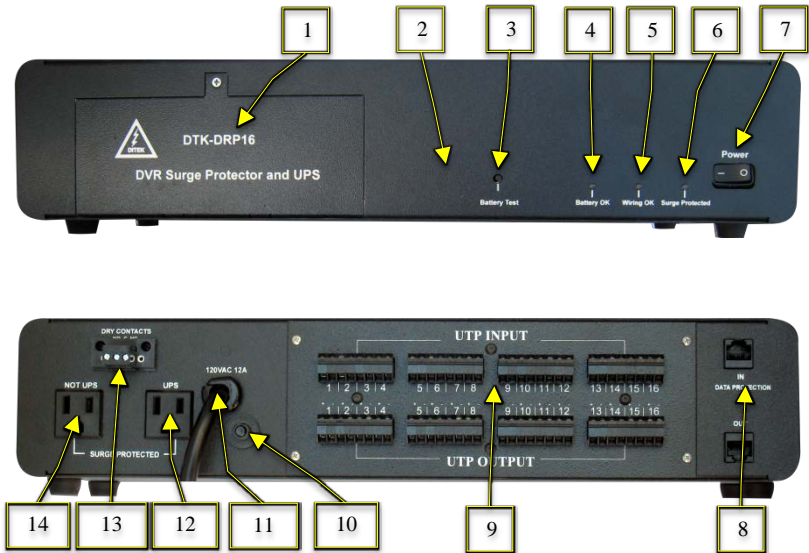
## About DITEK Corporation

Founded in 1988, DITEK Corporation is a premier manufacturer of integrated surge protection solutions for the rapidly growing global electronic security industry. Constant innovation drives DITEK's strong growth and market penetration. Product designs are at the forefront of current technology due to frequent input from industry leaders who design, manufacture, and install video surveillance, fire and intrusion detection, access control, and building automation systems.

DITEK is an ISO 9001 certified manufacturer, and DITEK's Technical Support Team is available 24/7 to answer application or installation questions by phone or Internet live chat. Live and Web-based dealer training, CEU courses, and collateral materials are readily available.

DITEK provides the industry's most comprehensive line of surge protection devices for power, video, voice, and data signals in industrial, commercial, institutional, and residential applications. DITEK's system-specific product designs cover the full spectrum of application requirements, delivering optimum protection and performance.

## Catalog Number DTK-DRP16T



**KEY:**

1. Replaceable Battery
2. Internal Warning Audible Alarm (Inside)
3. Battery Test Switch
4. Battery Functional Indicator
5. Wiring Functional Indicator
6. Surge Protection Functional Indicator
7. On/Off Master Switch
8. 1 set of RJ45 Category 5e Data Jacks – Surge Protected
9. 16 UTP Input and 16 UTP Output ports - Surge Protected
10. 15A Resettable Circuit Breaker
11. Power Cord
12. Surge Protected Outlet – UPS Protected
13. Dry Contacts
14. Surge Protected Outlet – Not UPS Protected

**1. Replaceable Battery**

The DRP16 Series is equipped with a replaceable battery. Replacement of the battery should be done with the unit in an off position and unplugged from the wall outlet to ensure no AC voltage exists. The battery has a limited lifespan. Battery duration will decrease with repeated usage and age. If battery duration becomes extremely short, it may be time to replace the battery. The battery must be replaced with a sealed lead acid battery rated to 12V 7AH. Contact your authorized DITEK dealer. (See battery warnings on page 7 of this manual)

**2. Internal Warning Audible Alarm**

When the DRP16 is switched on, the audible alarm will sound once for safety diagnosis. After 15 seconds, the DRP16 will check the strength of the battery. If the battery is weak, the audible alarm will sound. Alarm will sound at any time for battery failure. Contact your authorized DITEK dealer.

**3. Battery Test Switch**

Press this button to test the battery. The battery indicator LED will light up if the voltage of the battery is good.

**4. Battery Functional Indicator**

When the DRP16 is powered up by the master switch, it performs a self-test to determine battery condition. If the audible alarm sounds and the battery LED is flashing, the DRP16 needs to charge for 24 hours. Then, retest the battery by depressing the battery test switch, the indicator should light up. If, after charging, the indicator fails to light when the switch is depressed, the battery needs to be replaced. Contact your authorized DITEK dealer.

**5. Wiring Functional Indicator Light**

This indicator instantly alerts you of incorrect outlet wiring at your facility (either no ground circuit or a reversed polarity in the building wiring). If this light is off, consult a qualified electrician to examine your building wiring.

**6. Surge Protection Functional Indicator Light**

This indicator shows the status of your AC surge protection circuitry. This indicator is lighted when the unit has active surge protection on the AC power circuit. Should one or more of your camera circuits lose surge protection, it will be evidenced by signal degradation appearing on the monitor screen for that particular camera. Should the surge protector self-sacrifice on the data circuit, it will be evidenced by the “noise” on that line.

**7. On/Off Master Switch**

The main power switch controls the power to all of the outlets. “I” means ON and “O” means OFF.

## DRP16T

### Electrical Specifications

Class: Digital Recorder Protector / Battery Back-Up  
Installation Point: Audio-video Point of Use  
Connection Method: 6 Foot Power Cord  
Continuous Current: 12 Amps  
MCOV: 130VAC  
Operating Frequency: 50 – 60 Hz  
AC Protection Modes: L – G, L – N, N - G  
Service Voltage: 125 VAC  
Diagnostics: Surge Protection Active, Line Fault, Dry Contact (120 VAC, 1A Max)  
EMI/RFI Noise Filtering: 100KHz – 100MHz up to 40dB  
Max. Surge Current: 54,000Amps (Peak)  
Connections: 2 AC Outlets, 16 - In / 16 - Out balun, 1in / 1out RJ 45 Connectors  
Battery Backup Rating: 450VA / 250W (Max.)  
Battery Output Voltage: 120VAC +-5%  
Battery Charge Mode: Full Time  
Battery Recharge Time: 12 Hours from total discharge (Typical)  
Battery Life: 3-6 Years (Typical)  
Battery Back up Response Time: 4 mS

### Data Line Protection Specifications

Class: CAT5e Data Line Protector  
Connection Method: Modular Plug RJ45  
Continuous Current: 0.3 Amps  
Response time: <1nSec  
MCOV: 6VDC  
Peak Pulse Power Dissipation: 3KW (10/1000uS)  
Nominal Clamp Voltage: 6.8V  
Data Speed: 1GB/s

### DVR Protection Specifications

Designed for baseband video channel signal transmission over UTP cable.  
Can be used for either NTSC, SECAM or PAL video signal.  
Built-in impedance matching device and filter for video signal transmission  
Compatible with qualified cameras with Built-in UTP transmitter.  
Class: UTP Video Protector  
Connection Method: Pluggable Terminal Block  
Wire size: 26-12 AWG  
Peak Pulse Power Dissipation: 4.5KW (10/1000uS) per module  
Nominal Clamp Voltage: 6.8V (L-G) 2.8V (L-L)  
Frequency: DC-10 MHZ  
Typical Insertion Loss: <0.1 dB  
Characteristic Impedance: 100 Ohms  
Mating Transceiver: DTK-DPBP, DTK-PVP-TPV, DTK-DP4P-TPV

# DRP16B

## **Electrical Specifications**

Class: Digital Recorder Protector / Battery Back-Up  
Installation Point: Video Point of Use  
Connection Method: 6 Foot Power Cord  
Continuous Current: 12 Amps  
MCOV: 130VAC  
Operating Frequency: 50 – 60 Hz  
AC Protection Modes: L – G, L – N, N - G  
Service Voltage: 120 VAC  
Diagnostics: Surge Protection Active, Line Fault, Dry Contact (120 VAC, 1A Max)  
EMI/RFI Noise Filtering: 100KHz – 100MHz up to 40dB  
Max. Surge Current: 54,000Amps (Peak)  
Connections: 2 AC Outlets, 16 – In UTP / 16 - Out BNC, 1 In / 1 Out RJ 45 Connectors  
Battery Backup Rating: 450VA / 250W (Max.)  
Battery Output Voltage: 120VAC +-5%  
Battery Charge Mode: Full Time  
Battery Recharge Time: 12 Hours from total discharge (Typical)  
Battery Life: 3-6 Years (Typical)  
Battery Back up Response Time: 4 mS

## **Data Line Protection Specifications**

Class: CAT5e Data Line Protector  
Connection Method: Modular Plug RJ45  
Continuous Current: 0.3 Amps  
MCOV: 6VDC  
Peak Pulse Power Dissipation: 3KW (10/1000uS)  
Nominal Clamp Voltage: 6.8V  
Data Speed: 1GB/s

## **DVR Protection Specifications**

Class: UTP Video Protector  
Connection Method: Terminal Block / BNC  
Peak Pulse Power Dissipation: 3KW (10/1000uS) per module  
Nominal Clamp Voltage: 6.8V  
Frequency: 10 MHZ  
Typical Insertion Loss: <0.1 dB  
Characteristic Impedance: 75 Ohm Input, 100 Ohm Output

**8. Category 5e Data Jacks**

These jacks are marked "IN" and "OUT". Connect the incoming data cable to the jack marked "IN". This connection is rated for up to 1GB/s. Use a Cat 5e patch cable (not supplied) to connect the "OUT" jack to the DVR.

**9a. Video Cable Protection (DRP16 and DRP16C)**

The DRP16 has multiple pairs of BNC connector ports marked "IN" and "OUT". Connect the incoming coaxial cable from camera to the "BNC IN", and coaxial cable from the "BNC OUT" to the DVR

**9b. Video Cable Protection (DRP16B)**

The DRP16B has multiple pairs of UTP connector ports marked "IN" and BNC marked "OUT". Connect the incoming UTP cable from camera to the "UTP IN", and coaxial cable from the "BNC OUT" to the DVR

**10. Dry Contacts – Form C (N/O, N/C, Common)**

The DRP16 is equipped with dry contacts used to remotely monitor the power status of the DVR, surge protection and UPS.

**11. AC Power Cord**

The DRP16 is equipped with a 15A 125VAC rated power cord.

**12. 15 Amp Resettable Circuit Breaker**

If the DRP16 is overloaded, it will trigger this circuit breaker and disconnect the power. If this occurs, the black button will pop out, and AC power will be removed from all outlets. (Battery power will still be provided to UPS protected outlet.) If this happens, unplug at least one piece of equipment and reset the circuit breaker by pressing the button back into place.

**13. UPS Protected AC Power Outlets**

This battery power supplied outlet provides surge protection and battery back up. Plug your digital video recorder into this outlet. **IMPORTANT:** Do not plug a laser printer into the UPS protected outlet. Because the power demand is much higher than other peripherals, it may cause the circuit breaker to trip or cause an overload condition.

**14. Non-UPS Protected AC Power Outlets**

This outlet will not supply battery back up. This is for the monitor which does not require battery backup to record images.

## Setting Up the DRP16

- Step 1:** Please note that the battery in DRP16 is expected to lose some charge in shipping and storage. It will recharge completely in approximately 12 hours of normal operation. Do not expect full battery run time during this charging period.
- Step 2:** Plug the DRP16 into an electrical outlet that does not share a circuit with heavy electrical loading (e.g. air conditioner, refrigerator, etc.) If “wiring functional” light does not light up, refer to page 5, Item No.5.
- Step 3:** Plug your DVR power cord into the DRP16 UPS protected outlet. (Not Suitable for Camera Power Supplies)
- Step 4:** Connect the coaxial or UTP cable runs from cameras to the “IN” connectors on the DRP16. Attach patch cords of at least 3 feet in length to the “OUT” connectors on the DRP16 and then to the feed ports on your DVR.
- Step 5:** Connect the incoming data line to the “IN” jack on the DRP16 marked “CAT-5e” Connect patch cord at least 3 feet in length between the “OUT” jack and your DVR. This connection is rated for up to 1 GB/s.
- Step 6:** Switch on the DRP16. It will run a self-test to determine the strength of the battery, then plug in your DVR and switch it on. Refer to page 5, Item No. 2.

## Physical Specifications

Housing: Powder Coated Steel  
Housing Color: Black  
Housing Size: 17.13” W x 7.31” L x 3.5” H  
Weight: 14.00 lbs

## Battery Backup Specifications and Replacement

The DRP16 battery back up is rated at 450VA / 250W. It has an expected battery life of 3 to 6 years dependant on weather and storage. The battery run time for a typical DVR system is 13 to 15 minutes.

Replace battery only with a rechargeable sealed lead acid rated to 12V 7AH. Improper battery might cause premature failure and excessive heat. Servicing of batteries should be performed or supervised by personnel knowledgeable about batteries and required precautions.

**MAKE SURE THE DRP16 IS IN THE OFF POSITION AND UNPLUGGED FROM THE WALL OUTLET.** To replace the battery, remove the Phillips head screw and remove the access panel. Remove the positive and negative leads, pull the battery strap to slide battery out, grab the battery and slide out the remainder of the way. Contact DITEK for battery disposal.

# DRP16C

## **Electrical Specifications**

Class: Digital Recorder Protector / Battery Back-Up  
Installation Point: Video Point of Use  
Connection Method: 6 Foot Power Cord  
Continuous Current: 12 Amps  
MCOV: 130VAC  
Operating Frequency: 50 – 60 Hz  
AC Protection Modes: L – G, L – N, N - G  
Service Voltage: 120 VAC  
Diagnostics: Surge Protection Active, Line Fault, Dry Contact (120 VAC, 1A Max)  
EMI/RFI Noise Filtering: 100KHz – 100MHz up to 40dB  
Max. Surge Current: 54,000Amps (Peak)  
Connections: 2 AC Outlets, 16 - In / 16 - Out BNC, 1 In / 1 Out RJ 45 Connectors  
Battery Backup Rating: 450VA / 250W (Max.)  
Battery Output Voltage: 120VAC +-5%  
Battery Charge Mode: Full Time  
Battery Recharge Time: 12 Hours from total discharge (Typical)  
Battery Life: 3-6 Years (Typical)  
Battery Back up Response Time: 4 mS

## **Data Line Protection Specifications**

Class: CAT5e Data Line Protector  
Connection Method: Modular Plug RJ45  
Continuous Current: 0.3 Amps  
MCOV: 6VDC  
Peak Pulse Power Dissipation: 3KW (10/1000uS)  
Nominal Clamp Voltage: 6.8V  
Data Speed: 1GB/s

## **DVR Protection Specifications**

Class: Coaxial Video Protector  
Connection Method: BNC  
Peak Pulse Power Dissipation: 3KW (10/1000uS) per module  
Nominal Clamp Voltage: 6.8V  
Frequency: 10 MHZ  
Typical Insertion Loss: <0.1 dB  
Characteristic Impedance: 75 Ohm



# DRP16

## **Electrical Specifications**

Class: Digital Recorder Protector / Battery Back-Up  
Installation Point: Video Point of Use  
Connection Method: 6 Foot Power Cord  
Continuous Current: 12 Amps  
MCOV: 130VAC  
Operating Frequency: 50 – 60 Hz  
AC Protection Modes: L – G, L – N, N - G  
Service Voltage: 120 VAC  
Diagnostics: Surge Protection Active, Line Fault, Dry Contact (120 VAC, 1A Max)  
EMI/RFI Noise Filtering: 100KHz – 100MHz up to 40dB  
Max. Surge Current: 54,000Amps (Peak)  
Connections: 2 AC Outlets, 16 - In / 16 - Out BNC, and 1 In / 1 Out RJ 45 Connectors  
Battery Backup Rating: 450VA / 250W (Max.)  
Battery Output Voltage: 120VAC +-5%  
Battery Charge Mode: Full Time  
Battery Recharge Time: 12 Hours from total discharge (Typical)  
Battery Life: 3-6 Years (Typical)  
Battery Back up Response Time: 4 mS

## **Data Line Protection Specifications**

Class: CAT5e Data Line Protector  
Connection Method: Modular Plug RJ45  
Continuous Current: 0.3 Amps  
MCOV: 6VDC  
Peak Pulse Power Dissipation: 3KW (10/1000uS)  
Nominal Clamp Voltage: 6.8V  
Data Speed: 1GB/s

## **DVR Protection Specifications**

Class: Coaxial Video Protector  
Connection Method: BNC  
Peak Pulse Power Dissipation: 3KW (10/1000uS) per module  
Nominal Clamp Voltage: 2.8V  
Frequency: 10 MHZ  
Typical Insertion Loss: <0.1 dB  
Characteristic Impedance: 75 Ohm

To reinstall battery, pull the battery strap and place the battery on top of it, insert the battery making sure the battery strap is on the bottom of the battery, gently slide the battery making sure it is fully seated inside the battery enclosure. Connect the positive and negative leads; once the battery is completely in, install the access panel and reinstall screw.

## Safety Precautions

**CAUTION:** Do not plug DRP16 into a power strip or daisy chain into another surge protector.

**CAUTION:** Risk of Energy Hazard, 12V, 7 Ampere-hour battery. Before replacing batteries, remove conductive jewelry such as chains, wrist watches, and rings. High energy through conductive materials could cause severe burns.

**CAUTION:** Do not dispose of batteries in a fire. The batteries may explode.

**CAUTION:** Do not open or mutilate batteries. Released material is harmful to the skin and eyes. It may be toxic.

**CAUTION:** DRP16 has an internal battery source. When the On/Off switch is on, the battery supplied outlets are energized, even when the unit is not plugged in.

**CAUTION:** Use only indoors and in dry locations.

**CAUTION:** Connect the DRP16 to a NEMA 5 – 15R, grounded outlet. Make sure the branch is protected by a fuse or circuit breaker, and not servicing equipment requiring heavy electricity (e.g. refrigerator, air conditioner, copier, etc.)

**CAUTION:** Never plug the DRP16 into itself; this will cause a short circuit.

**NOTICE:** For use in a controlled environment. Use of the DRP16 in life support applications is NOT recommended.

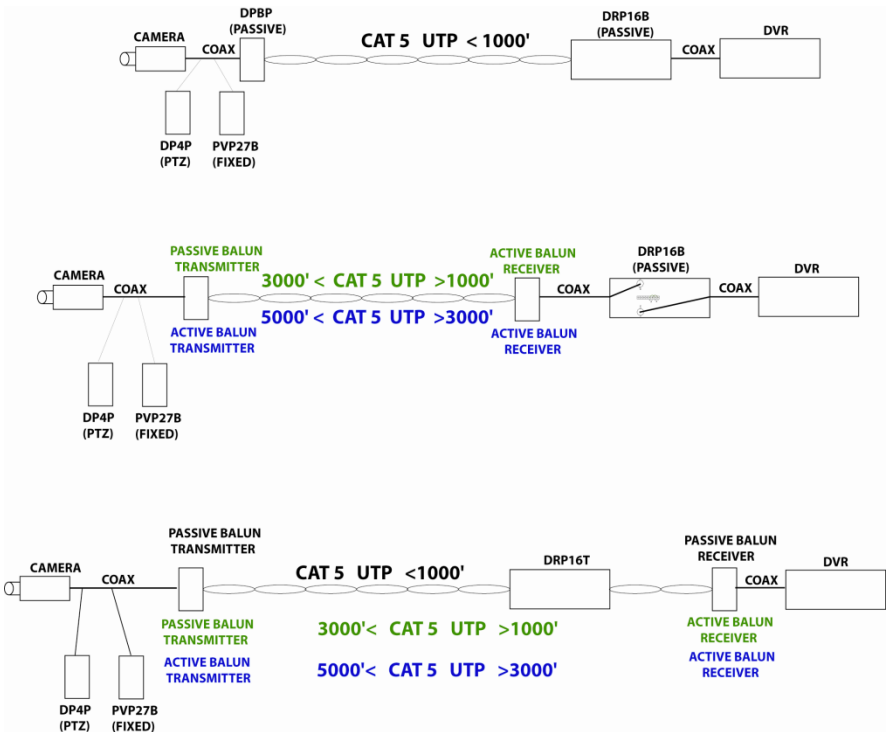
**CAUTION:** Do not plug a power strip into the DRP16

**IMPORTANT SAFETY INSTRUCTIONS**  
**SAVE THESE INSTRUCTIONS**

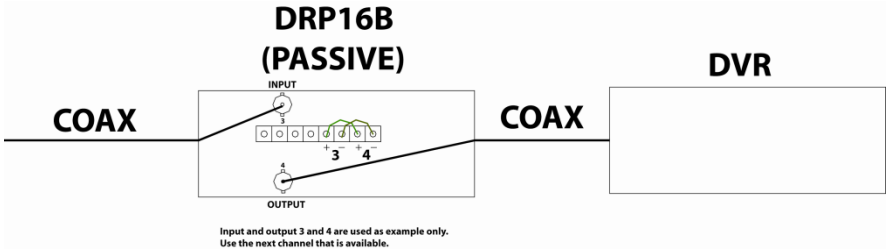
Please note that baluns should be used in the following configurations: Active-to-Active, Passive-to-Passive, or Passive(transmit)-to-Active(receive). Maximum transmission range for Active-to-Active baluns connected through a DRP16-B is 3,000 to 5,000 feet, and up to 1,000 feet using Passive-to-Passive baluns. Passive(transmit)-to-Active(receive) transmission range is 1,000 to 5,000 feet.

Actual transmission ranges may be higher or lower than these distances and will depend upon the baluns being used. Consult the balun manufacturers' specifications for your application. Please refer to the diagram on page 8. If you are connecting an active balun receiver, install the DRP16 between the receiver and DVR and refer to the UTP connection diagram on page 9.

## Typical Connection Methods and Distances



## Balun UTP – Coax Connection – DRP16B



**Note:** Input and output 3 and 4 are used as examples only. Use the next channel that is available.