# NM-UTPJBOX

## UTP Security Camera

### In-Wall Junction Box Mounted

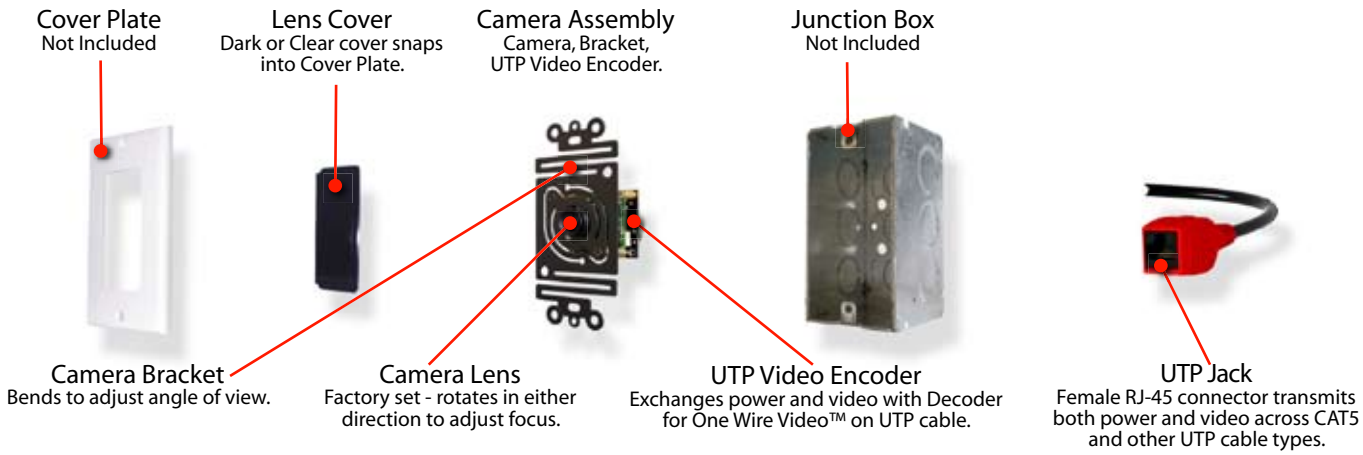
**Color** | **Day/Night Color**

This general purpose surveillance camera utilizes a built-in NetMedia UTP Video Encoder and external UTP Video Decoder to exchange power and video across a single Unshielded Twisted Pair (UTP) cable, such as CAT5. There is no need to run multiple cables to the camera location! It mounts in a typical single gang junction (light switch) box and is viewed with a security monitor or television. To view the camera on a single standard television, use the TV's composite RCA Video Input jack.

**Product Includes:**

1. Camera Assembly (Camera, Camera Bracket, UTP Video Encoder).
2. NetMedia UTP Video Decoder and 24V DC 200mA Power Transformer.
3. Mounting Screws and RCA Video Cable.
4. Two Lens Cover Inserts (Dark Lens Cover, Clear Lens Cover).

| Model | Camera Type |
|---|---|
| NM-UTPJBOX-C | Color |
| NM-UTPJBOX-D | Day/Night Color |




### UTP Video Decoder

## FEATURES

- UTP Video Encoder built into camera
- Includes UTP Video Decoder module
- One Wire Video™ Installation
- Uses one inexpensive UTP cable
- Excellent image quality
- Internally routed cables
- Mounts in standard electrical fixtures
- Mounts in walls and ceilings
- Works in low light conditions
- Adjustable camera angles
- Tamper resistant wiring
- Includes power supply
- One year limited warranty

## SPECIFICATIONS

| | Color | Day/Night Color |
|---|---|---|
| Camera Lens: | 3.7mm | 3.6mm |
| Image Sensor: | 1/4" CCD | 1/3" CCD |
| Resolution: | 470 lines | 540 lines |
| Field of View: | 54° Horizontal | 72° Horizontal |
| Min Illumination: | 0.5 Lux F1.2 | 0.1 Lux |
| Infrared Sensitivity: | No | Yes |
| Camera/Decoder Cable Connector: | Female RJ-45 jack | |
| Camera/Decoder Cable Type: | UTP: CAT5 or better | |
| Camera/Decoder Cable Distance Range: | Up to 1000' | |
| Camera/Decoder Video Signal: | Proprietary | |
| UTP Decoder Video Output: | Composite | |
| UTP Decoder Video Output Connector: | Female RCA | |
| UTP Decoder Power Input: | 24V DC, 200mA | |
| UTP Decoder Power Connector: | 5.5mm OD, 2.1mm ID, center positive | |
| UTP Decoder Size: | 3.2" long, 2.2" wide, 0.9" thick | |
| UTP Decoder Weight: | 3 oz. | |
| Assembly Size: | 4" high, 1.9" wide, 1.5" deep | |
| Assembly Weight: | 3.5 oz. | |

(subject to change without notice)

NetMedia, Inc., 10940 N. Stallard Place, Tucson, Arizona 85737 (520) 544-4567 Fax: (520) 544-0800 Email: sales@netmedia.com www.netmedia.com

**DO NOT CUT OR SPLICE THE CAMERA'S CABLES. MODIFYING THE UNIT IN ANY WAY WILL VOID THE WARRANTY.**

Installation Procedures:

1. Connect a UTP cable (CAT5 or better) to the UTP jacks of the camera and Video Decoder. Each camera/decoder pair needs a dedicated point-to-point wiring circuit. If attaching your own plugs, wire them for straight-through connections: pin1 to pin1, pin2 to pin2; pin3 to pin3, etc. For standardization, you should also follow the T-568A color specification but it will not affect the camera's function. **Do not connect the UTP cable to computer networks or other UTP video systems! Doing so could damage this product and/or the other attached devices!**
2. Connect a video cable from the viewing device (monitor, Quad, DVR, modulator, etc.) to the Decoder's RCA Video Out jack. Simple adapters, such as RCA to BNC, may be used where appropriate.
3. Connect the 24V DC 200mA Power Transformer from an AC outlet to the Decoder's Power Input Connector.
4. Install Camera Assembly into the Junction Box (not included) and adjust for proper viewing.
5. Snap the dark or clear Lens Cover into the Cover Plate (not included) by pressing all four corners in simultaneously.
6. Attach the Cover Plate to the Junction Box. Silicon or similar sealant may be used as needed.

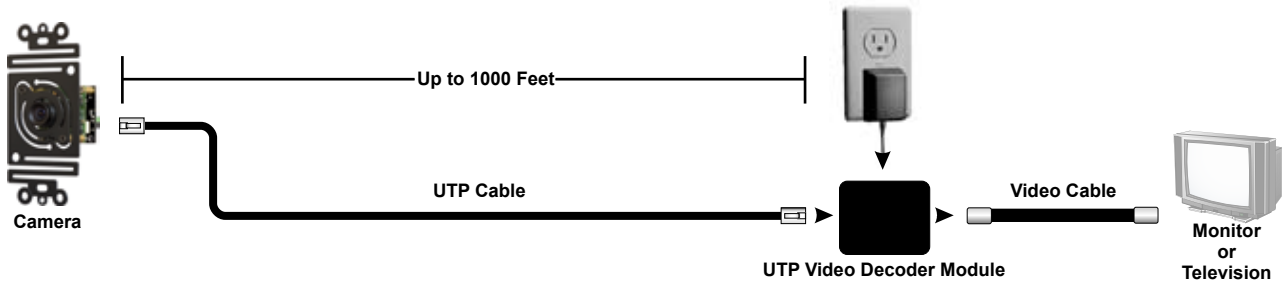



Figure 1 - Connecting the camera to a security monitor or standard television. Use the TV's composite RCA Video In jack and view through its video or line input. The picture will not be available on a channel.

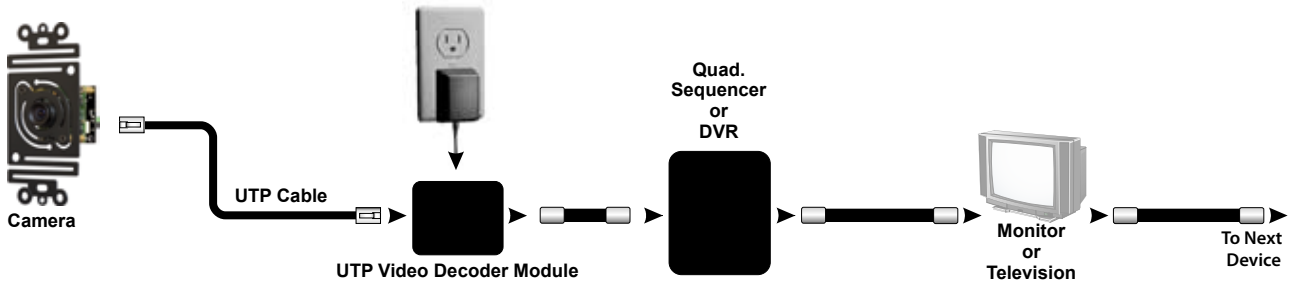



Figure 2 - Connecting the camera to multiple pieces of video equipment. Every piece except the last must have a loopback or video output jack.

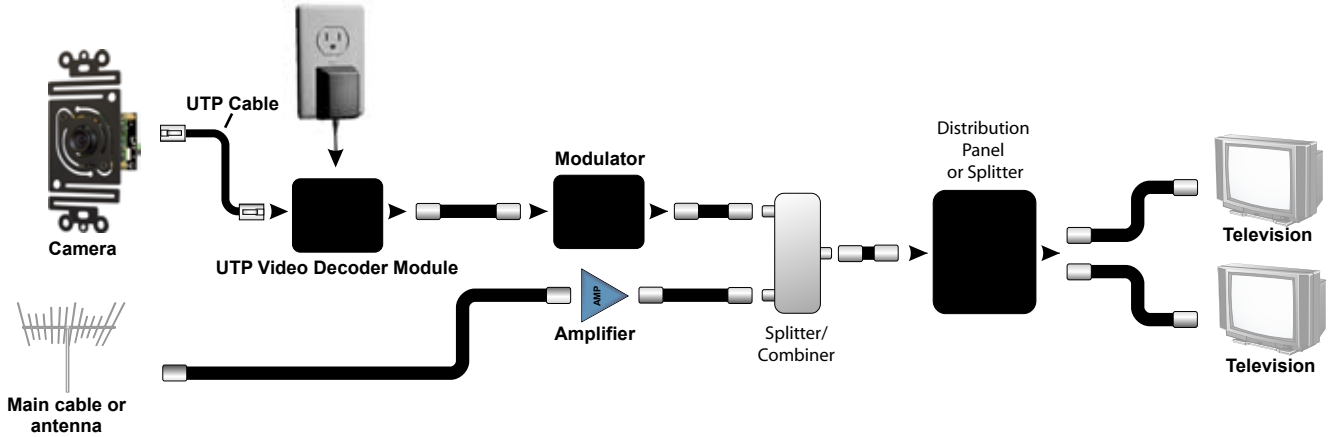



Figure 3 - Connecting the camera to a modulator for whole house distribution and standard television viewing on the modulated channel. The modulator can also be the last piece of equipment in Figure 2.

## UTP Wiring Information:

The UTP cable should be wired for a straight-through connection according to the T-568A specification as shown in Figure 4.

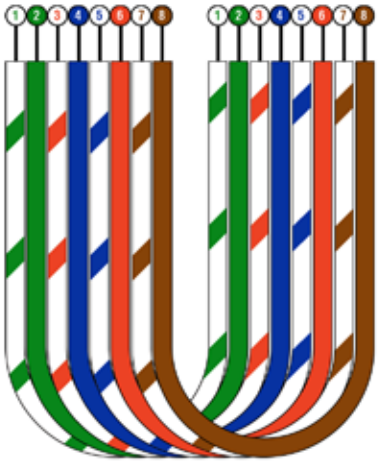


Figure 4 - T-568A standard straight-through wiring diagram. Connect pin1 of each plug together with the same wire. Repeat for all the corresponding pins.

| Pin# | Description | Wire Color |
|---|---|---|
| Pin 1 | Common Negative | White/Green |
| Pin 2 | Common Negative | Green |
| Pin 3 | Video Signal - | White/Orange |
| Pin 4 | Not Used | Blue |
| Pin 5 | Not Used | White/Blue |
| Pin 6 | Video Signal + | Orange |
| Pin 7 | Power Positive | White/Brown |
| Pin 8 | Power Positive | Brown |

## FCC Information (U.S.A.):

Important: This product, when installed as specified below, meets FCC requirements. Modifications not expressly approved by NetMedia may void your authority, granted by the FCC, to use the product. Failure to follow all installation instructions could void your FCC authorization to use the product in the USA.

Security Cameras:
FCC compliance requires that the UTP Decoder module end plates be fastened whenever the unit is in operation.

Compliance Information Statement
(Declaration of Conformity Procedure)

We,
NetMedia, Inc.
10940 N. Stallard Pl.
Tucson, AZ 85737
(520-544-4567)
declare under our sole responsibility that the following products,

Type of Equipment: UTP Security Camera

Model: NM-UTPJBOX-C Model: NM-UTPJBOX-D

to which this declaration relates are in conformity with the Title 47
of the US Code of Federal Regulations, Part 15 covering Class B digital devices.

Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
* Reorient or relocate the receiving antenna.
* Increase the separation between the equipment and receiver.
* Connect the equipment to a different outlet on a circuit other than the one the receiver is connected to.
* Consult the dealer or an experienced radio/TV technician for help.

## One Year Limited Warranty

NetMedia, Inc. warrants this product to be free from defects in materials and workmanship under normal use and service for One Year from the date of purchase or NetMedia will repair or, at its option, replace the defective product. Please keep your purchase receipt. In the unlikely event that you need warranty service, call NetMedia at 1-520-544-4567 for a Return Material Authorization (RMA) number. Then, return the product, with the RMA number clearly marked on the package, by a traceable method with freight pre-paid and accompanied by a copy of the purchase receipt to:

Attn: Customer Service, NetMedia, Inc. 10940 N. Stallard Place, Tucson, AZ 85737-9527

No expressed or implied warranty is made for any defects in this product which result from accident, abuse, failure to operate the product in accordance with relevant instructions, neglect, immersion in or exposure to chemicals or liquid, extreme climate, excessive wear and tear and defect resulting from other extraneous causes such as unauthorized disassembly, repair and/or modification. Any implied warranty arising from the sale of this product, including implied warranties of merchantability and fitness for a particular purpose, are limited to the warranty stated above. NetMedia shall not be responsible for any loss, damages or expenses, whether direct, consequential or incidental that arise from the use or inability to use this product. Some states do not allow limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.

## Frequently Asked Questions

**Q- Can I connect the camera to a computer network or another UTP video system?**

A- **NO! Do not connect the Camera/Decoder UTP cable to a computer network, or another UTP video system! Doing so could damage this product and/or the other attached devices!** The Decoder ouputs DC voltage on pins 7 and 8 of its UTP connector that the other equipment may not be prepared to handle. Each Camera/Decoder pair needs a dedicated point-to-point circuit; nothing else can share its wires. Regarding computer networks, this is not an IP or Power over Ethernet (PoE) device so it will not work properly with network hubs, switches, or routers. Regarding other UTP systems, the Camera/Decoder video transmission signal is proprietary so no other device will be able to recognize or display it properly.

**Q- How can I see the camera on my TV without using an expensive security monitor?**

A- The composite video signal from the UTP Decoder can be plugged directly into one television's RCA Video Input jack and viewed when that TV is switched to the proper input. Another option is to feed the Decoder signal into a modulator. A modulator, such as NetMedia's MM70, changes the video to a UHF or Cable channel and allows the signal to be distributed to all your TV's along with the existing antenna/cable/satellite service.

**Q- Is there some way I can use UTP cable for other types of cameras? What about their separate power wire requirement?**

A- Yes, the NetMedia UTP Video Encoder and Decoder can be purchased as a set, NM-UTPSET, for use with other popular 12V DC cameras. The Encoder will accept the camera's composite video signal and provide about 150mA of regulated 12V DC power.

**Q- Why do the light areas of the picture look washed out?**

A- The camera's automatic iris must decide how much to open for shadow areas or close for light areas. When a picture has both light and shadow, the camera adjusts the iris based on the percentage of each area in the image. If it decides to open more for the shadow portions then the light areas will be overexposed. In addition, cameras that are designed for low light or infrared sensitivity typically favor the shadow areas and look more washed out under bright conditions. Try adjusting the image field so that more light areas are visible and see if the iris closes to improve the picture. It is normal though, that as the lighting conditions change throughout the day, so will the camera iris and the picture's dark or light areas. With a long cable length, adjusting the UTP Decoder DIP switches as described below may also improve the picture.

**Q- Why are the shadow areas too dark to see much detail?**

A- This is like the washed out question above except opposite. In this case, the camera's automatic iris is opening more for the light areas at the expense of the shadow areas. Try adjusting the image field so that more shadow areas are visible and see if the iris opens to improve the picture. Keep in mind though, that the camera still does need some kind of light in order to see. If necessary, add some lighting to the dark area to improve visibility. Again, with long cable lengths, adjusting the UTP Decoder DIP switches as described below may improve the picture.

**Q- Will the camera work at distances beyond 1000 feet?**

A- Though we do not recommend or support doing so, some people find that the camera functions satisfactorily at distances greater than 1000 feet. At that range, the video quality degrades as the cable length increases but until the power gives out over the next few hundred feet, it may still be acceptable for your application.

**Q- What do the switches inside the "D" Day/Night camera adjust?**

A- The Day/Night camera comes with a switch connected inside to adjust some of its performance characteristics. The switch functions are listed in Figure 5. The default settings (All OFF) are usually best but adjusting these may be helpful under certain conditions. The AGC switch will force the camera to remain in color mode instead of changing into black and white mode when the light level drops below its normal crossover threshold.

Switch 1: BLC
Switch 2: AES
Switch 3: AGC
Switch 4: Unused
Default: All OFF

Figure 5 - Day/Night Camera Switches

**Q- What do the DIP switches inside the UTP Decoder module do?**

A- The switches come preset from the factory in the OFF position. This requires the least amount of intervention for most installations. Some monitoring devices though, are more sensitive to the voltage level of the video signal and will require an adjustment of the switches according to the length of the UTP cable. In those situations, disconnect power from the Decoder and remove one of the end plates. Then locate the switch bank and, starting from #1, set each switch ON until the most satisfactory picture is attained. The longer the cable, the more switches that will need to be ON.

Figure 6 - Decoder Module Switches