# PRODUCT SPECIFICATION

| DOCUMENT NUMBER | MODEL |
|---|---|
| VB31PT | ***VB31PT*** Video Balun Transceiver for Twisted Pair<br>up to 225 meters with Passive Transceivers<br>up to 1000 meterswith Active Receivers |
| REVISION NUMBER<br>051304 | |




## *Description*

**Video Balun Transceiver with pigtail coax and male BNC for twisted pair operation with other balun transceivers or active receivers.**

The **VB31PT** Video Balun Transceiver is a video transmission device that provides a low cost means of sending live video over unshielded twisted pair, point-to-point wiring for distances of up to 225 m with other passive balun transceivers, up to 500 m with TR515 single channel and model 51 Series hubs, and up to 1000 mwith TR560 and model 56 Series hubs. The VB31PT is compatible with all of the “up-the-coax” control systems. A basic system uses (2) video balun transceivers, one at each end of a twisted pair of wires. These units are intended for use over existing in house telephone wiring, Category 5 wiring or other twisted pair cable runs to provide a convenient, cost-effective alternative to coax. The VB31PT is designed to provide superior immunity from noise and interference even when running next to line power! The VB31PT also provides a unique mounting tab and strain relief.

## *Features*

- Quality video over ordinary twisted pair cable
- Immunity to noise and interference
- Passive devices - do not require power
- Video & P/T/Z over a single pair (with “up-the-coax” systems)
- Mini-coax pigtail for in-camera or dome mounting
- Weather resistant design
- Easier to install than coax
- Compatible with all twisted pair equipped cameras, enclosures and domes
- Video and P/T/Z over a single pair (with “up-the-coax” systems)
- Pigtail coax allows in-camera mounting in most dome cameras

## *Applications*

- Intra-building CCTV installations (instead of coaxial cable)
- Structured cabling (Cat 5) environments
- To eliminate requirement for Plenum Coax
- Multi-camera applications through conduit (more cameras through a smaller diameter)

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# TECHNICAL SPECIFICATION

## Transceiver Unit

| | |
|---|---|
| Size | 2.3cmH x 2.5cmW x 4.4cmD (not including coax) |
| Power Requirements | NONE REQUIRED |
| Input | 1 vpp composite video Monochrome or Color |
| Output | Balanced low voltage current loop |

## System (2 transceivers required)

| | |
|---|---|
| Video Format | RS170, NTSC, PAL, SECAM, CCIR (Color or B/W) |
| Video Input | 1 Vpp composite video Monochrome or Color |
| Operating Frequency | DC to 10 MHz |
| Common Mode Rejection | >60 dB typ. |
| Wire Size | 26 to 12 AWG Unshielded Twisted Pair |
| UTP Category | Unshielded Category 2 or better |
| Temperature Range | -10 degrees C to +85 degrees C |
| Humidity Range | 0 to 98%, non-condensing |
| Twisted Pair Connection | Screw Terminals |

## SYSTEM COMPONENTS

Two VB31PT devices or one VB31PT in combination with any of the other NITEK transceiver or active receiver models are required for transmission over a single UTP.

## Wire and Cable Recommendations

The VB31PT is recommended for use with **unshielded twisted pair** (UTP) wiring. The systems will operate over wire gauges from 26AWG through 12AWG. Category 2, 3, 4 or 5 cable may be used. Individually shielded pairs should be avoided, as they drastically reduce the operating range of the systems. Multi-pair cable with an overall shield is acceptable. Video can be operated in the same communication cable coexistent with telephone, computer, control signals, power voltages and other video signals. While video may be routed through telephone punch down block terminals, any bridge-taps, also called T-taps and any resistive, capacitive or inductive devices MUST BE removed from the pair. For more specific information regarding wire types, gauges and proper installation techniques, please call +31(0)320 - 230005 for technical assistance. More information is also available on the CCTV System Design Guide Sheet.

## Ordering Information

| PART | DESCRIPTION |
|---|---|
| **VB31PT** | *9" Pigtail with Male BNC Connector; up to 225 m* |
| *VB31PT works with the following NITEK equipment* | |
| **VB37M** | *BNC Male Video Balun; up to 350 m* |
| **VB37F** | *BNC Female Video Balun; up to 350 m* |
| **VB39M** | *BNC Male Video Balun w/surge suppression; up to 350 m* |
| **VB39F** | *BNC Female Video Balun w/surge suppression; up to 350 m* |
| **TR515** | *Active Receiver w/surge suppression; up to 500 m* |
| **TR560** | *Active Receiver w/surge suppression; up to 1000 m* |
| **VB41x4** | *4 Balun Card w/surge suppression for Rack; up to 350 m* |
| **TR515x4** | *Active Receiver w/surge suppression for Rack; up to 500 m* |
| **TR560x4** | *Active Receiver w/surge suppression for Rack; up to 1000 m* |
| **VH439** | *4 Port UTP Video Balun Mini-Hub w/surge suppression; up to 350 m* |
| **VH839** | *8 Port UTP Video Balun Hub w/surge suppression; up to 350 m* |
| **VH1639** | *16 Port UTP Video Balun Hub w/surge suppression; up to 350 m* |
| **VH3239** | *32 Port UTP Video Balun Hub w/surge suppression; up to 350 m* |
| **VH451** | *4 Port UTP Video Balun Mini-Hub w/surge suppression; up to 500 m* |
| **VH851** | *8 Port Active UTP Receiver Hub w/surge suppression; up to 500 m* |
| **VH1651** | *16 Port Active UTP Receiver Hub w/surge suppression; up to 500 m* |
| **VH3251** | *32 Port Active UTP Receiver Hub w/surge suppression; up to 500 m* |
| **VH456** | *4 Port UTP Video Balun Mini-Hub w/surge suppression; up to 1000 m* |
| **VH856** | *8 Port Active UTP Receiver Hub w/surge suppression; up to 1000 m* |
| **VH1656** | *16 Port Active UTP Receiver Hub w/surge suppression; up to 1000 m* |
| **VH3256** | *32 Port Active UTP Receiver Hub w/surge suppression; up to 1000 m* |

Specifications subject to change without notice.

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