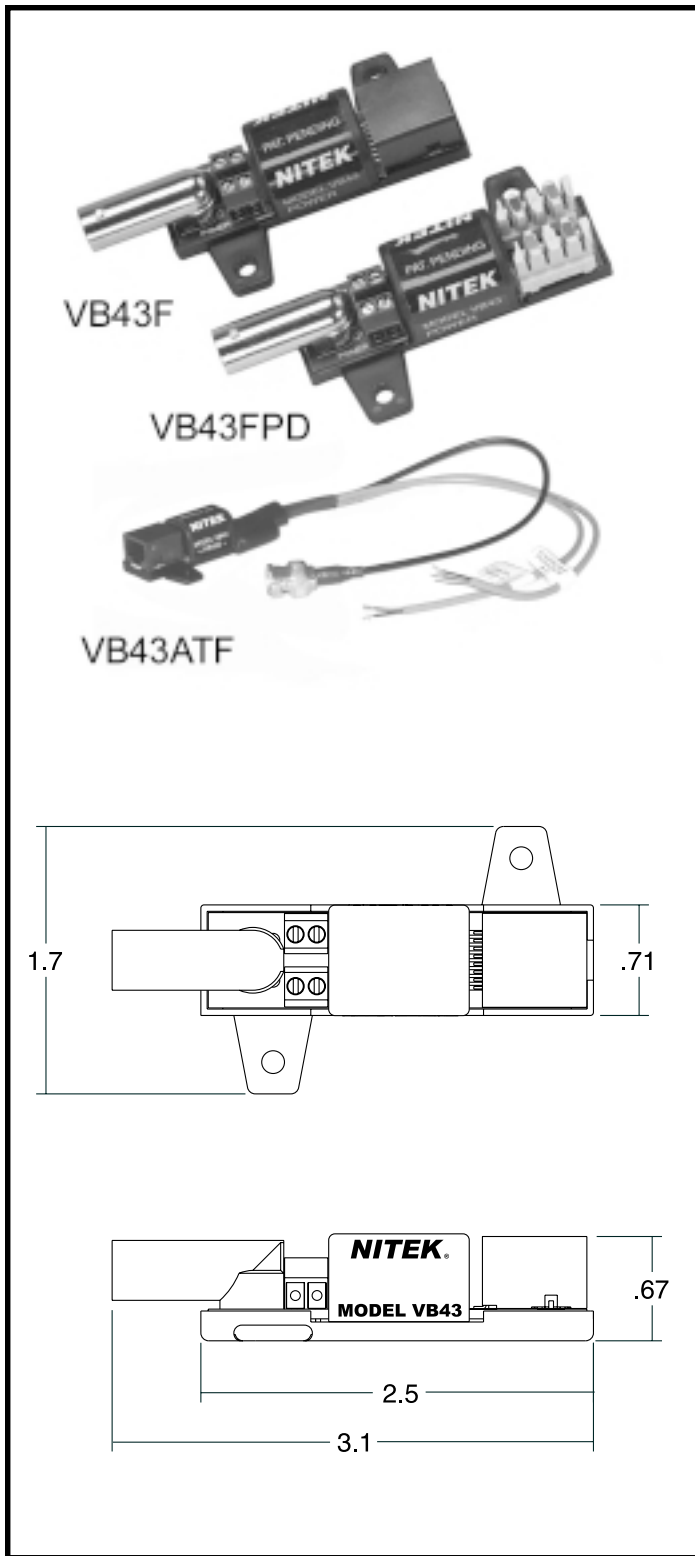


PRODUCT SPECIFICATION

DOCUMENT NUMBER VB0043	MODEL VB43F, VB43FPD & VB43ATF Video Balun-Combiners™ for Twisted Pair up to 1,000 feet (305 meters) (Combine Video, Power and Data over a Single Cat 5 Cable) Components of the UTPLinks™ System
REVISION NUMBER 032205	



Description

Video Balun-Combiners™ for twisted pair up to 1,000 feet (750 feet when used with DVR equipment) in conventional UTP applications, 100 meters in TIA/EIA 568 applications.

The **Video Balun-Combiners™** are unique transmission devices that provide an economical means of sending video, camera power and RS422 over a standard Cat 5 cable. Video is sent over one pair, RS422 over a second pair and camera power can be sent over the two remaining pairs. A female BNC connector provides video input or output on the VB43F and VB43FPD. A mini-coax pigtail with male BNC is used on the VB43ATF. Two 2-screw terminal strips are provided to connect RS422 control and power on the VB43F and VB43FPD. Wires are provided for these connections on the VB43ATF. Connections to the Cat 5 cable are made via RJ45 connectors on the VB43F and VB43ATF and via punchdown terminals on the VB43FPD. The VB43F series Video Baluns provide the same high immunity to noise and interference as all of the *NITEK* baluns.

The unique design of the VB43F balun/combiner allows the combination of video, power and data in a 4-pair Cat 5 cable. This simplified wiring provides a convenient method of powering the camera, allowing for quicker and easier installations. The RJ45 modular jack uses standard 568B wiring so spare network cables can be used.

Features

- Quality video over ordinary twisted pair cable
- Immunity to noise and interference
- Built-in surge suppression
- Passive devices - do not require power
- Convenient connection to Cat 5 cable for video power and RS422
- Removable mounting tabs allow the VB43F to fit into a 1" pipe for use with mini-domes
- Easier to install than coax

Applications

- Intra-building CCTV installations (instead of coaxial cable)
- Structured cabling environments
- Multi-camera applications through conduit (more cameras through a smaller diameter)

VB43F
VB43FPD
VB43ATF

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TECHNICAL SPECIFICATION

Transceiver Unit

Size w/mounting tabs	VB43F & VB43FPD .67"H x 1.7"W x 3.1"D
	VB43ATF .67"H x 1.2"W x 3.1"D
wo/mounting tabs	All Units .67"H x .71"W x 3.1"D
Power Requirements	NONE REQUIRED
Power Pass Through	250mA @ 1,000 feet on 24 AWG 1 Amp @ 100 feet on 24 AWG
Video Input	1 vpp composite video Monochrome or Color
Output	Balanced low voltage current loop
Modular Jack	VB43F & VB43ATF Standard RJ45
Punchdown Terminals	VB43FPD Standard 110 type

System (2 combiners 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	>60 dB typ.
Rejection	
Wire Size	24 to 22 AWG Unshielded Twisted Pair
UTP Category	Unshielded Category Cabling
Temperature Range	0 degrees C to +85 degrees C
Humidity Range	0 to 98%, non-condensing
Twisted Pair Connection	RJ45 modular connector - VB43F Punchdown terminals - VB43FPD
Transient Immunity	Built-in

Ordering Information

PART	DESCRIPTION
VB43F	Video Balun-Combiner™ w/surge suppression; up to 1,000 ft. Connection to Cat 5 cable - RJ45 connector
VB43FPD	Video Balun-Combiner™ w/surge suppression; up to 1,000 ft. Connection to Cat 5 cable - punchdown terminals
VB43ATF	Video Balun-Combiner™ w/surge suppression; up to 1,000 ft. Connection to Cat 5 cable - RJ45 connector
VB43F also works with	
WB42	Video Balun-Combiner™ & Wallplate w/surge suppression; up to 1,000 ft
WB42S	Video Balun-Combiner™ & Security Wallplate w/surge suppression; up to 1,000 ft

SYSTEM COMPONENTS

Two video balun combiner devices (VB43F or WB42 - in any combination) are required for transmission over a Cat 5 cable to provide video, RS422 and power using the RJ45 modular connectors.

Wire and Cable Recommendations

The VB43F is recommended for use with **unshielded twisted pair** (UTP) wiring. The system will operate over wire gauges from 24 AWG through 22 AWG. The VB43F connects most conveniently to a Cat 5, 4-pair cable, but any Category cabling may be used. Individually shielded pairs should be avoided, as they drastically reduce the operating range of the systems. Multi-pair cable (25 pair or more) with an overall shield are 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 punchdown 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 800-528-4343 for technical assistance. More information is also available on the CCTV System Design Guide Sheet.

Recommended Wiring: 568B

