WizLAN Ltd.

F/O Network Diode
100Base-TX to 100Base-FX

VIT-42/TX & RX

Vector IT

A Vector IT Product

- Fast Ethernet **single-direction** transparent converters - **Network Diodes** for secured unidirectional data transfer
- Approved by the Israeli National Information Security Authorization (**NISA**). *APPROVED*
- Unbreakable, pure hardware, solution compatible with standard 100Base-TX and 100Base-FX link partners
- **VectorIT** software, that runs on the outgoing/incoming endpoint servers, facilitates unidirectionan transfer of certain TCP-based protocols as well as raw files over standard Ethernet interfaces
- **CIP** device, **TXO** - Transmit only and **RXO** - Receive only
- Local or remote connection over multi or single mode fiber (ST or SC connectors) in the range of 0-100Km
- Auto-negotiation, auto MDI, force modes (ext. DIP switch)
- Enhanced Link Verification features (ext. DIP switch):
    - > Propagation Of No Link (PONL)
    - > Far end-Fault Indication (FEFI)
- Available for indoor, outdoor and industrial environments
- Desktop, DIN rail and wall mounting options
- External wide-range power supply

The VIT-42/TX and VIT-42/RX are unique, hardware based, **single-direction** "Transmit Only" and "Receive Only" full featured Fast Ethernet transparent converters providing 3R (Retiming, Reshaping and Regeneration) conversion between 100Base-TX copper media and 100Base-FX fiber media in compliance with IEEE802.3u standards. Data transfer in the opposite directions is completely blocked by both the TX and RX hardware circuitry respectively.

Designed and formally approved for Critical Infrastructure Protection (CIP) connectivity the VIT-42/TX provides fully secured copper to fiber single-direction data transfer over single/dual fiber connection to a standard 100Base-FX link partner, whereas the VIT-42/RX provides fully secured fiber to copper single-direction data transfer over dual fiber connection to a standard 100Base-FX link partner. Protection of the two sides of the link is achieved using a pair of VIT-42/TX and VIT-42/RX connected back to back over single fiber in the range of (0-100Km).

The separation between the pure HW network diodes and the unidirectional VectorIT SW application, installed on the networks endpoint servers, assures unbreakable single-direction solution for protecting networks against intrusion and leakage respectively.
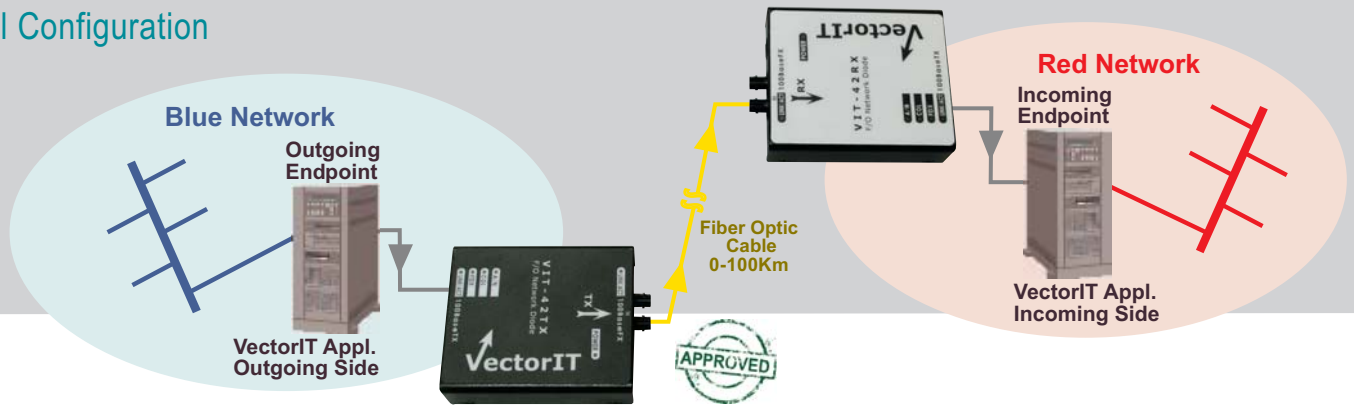
software application facilitates unidirectional transfer of certain TCP-based protocols as well as raw files over standard Ethernet interfaces with utilization of up-to full wire speed. Currently supported protocols are FTP, SMTP TCP and raw files. The software is dedicated to and employs only unidirectional data flow over single or bidirectional link, but has otherwise no relation to data security services.

The VIT-42 is a plug & play device with simple DIP switch configuration and enhanced LED indications that assure fast & easy installation, operation and maintenance.

The VIT-42 is available for indoor, outdoor (/ETR) and industrial (/IND) environments and desktop, DIN rail or wall-mount installations.

WizLAN Ltd.
Your Connectivity Partner

Typical Configuration

Blue Network
Outgoing Endpoint
VectorIT Appl. Outgoing Side

Fiber Optic Cable 0-100Km

Red Network
Incoming Endpoint
VectorIT Appl. Incoming Side

Technical Specifications

VIT-42 TX or RX Single-Direction Enhanced 100M Converter

100Base-TX Copper TP port (RJ45)
100Base-TX, auto-negotiation or manual (speed, duplex)
Auto MDI/MDIX and polarity
100meter (330 ft) distance over CAT5 or above TP cables

100Base-FX Fiber Optic Port
Dual fiber (MM range 0-2Km; SM rang 0-100Km):
    Multimode (MM) 1310nm   Connectors: SC, ST
    Singlemode (SM) 1310/1550nm Connectors: SC, ST

LED Indicators
POWER   - Power "ON" indication
LINK/ACT - Link/Activity indication, LED per port
FDX   - Full duplex operation, LED per port
COL   - Collision indication, LED per port
A/N   - Operation in A/N mode, only for copper port

Setup Options (via DIP switch)
Copper (TX) port: A/N or Manual (force) mode
                 FDX(full duplex) or HDX(half duplex) if in Manual mode
Link Verification: FEF On or Off (not applicableis this model)
                 PONL Off or F2C (fiber to copper)
                 PONL Off or C2F (copper to fiber)
Reset: RESET or NORMAL (reset to activate setup change)

Technology
Physical layer 3R transparent repeater (Retiming, Reshaping and Regeneration)
Fully transparent, supports any frame length

Standard Compliance
IEEE802.3u

Environment

	Standard	ETR	IND
Operating Temp (°C):	0 to +45	0 to +60	-20 to +70
Operating Temp (°F):	32 to 113	32 to 140	-4 to 158

Storage: -40 to +85°C (-40 to 185°F)
Humidity: 10% to 90% non-condensing

Safety and Emission
CE, FCC part 15, EN60950

Power
DC input: 5VDC, 0.5A max. consumption, polarity: $+5V-$
External wide-range switching power adaptor (EPS)
  AC input: 90 - 264 VAC 50/60Hz (14 Watts max.)
  DC output: 5VDC 1-2 Amp regulated, polarity: $+5V-$

Module Dimension

	Height	Width	Depth
VIT-42 TX or RX	94.5mm(3.8")	78.5mm(3.1")	27mm(1.06")

Vector IT Software

The software facilitates unidirectional transfer of certain TCP-based protocols as well as raw files over standard Ethernet interface. All data between the two endpoints flows in one direction only, which can be further enforced by the hardware.

Minimum software requirements: any Windows OS from XP in workstations and 2003 in servers, 32/64 bit.

The application runs as a service in the local system account by default. Microsoft .NET framework 4 is optional for UI settings and progress monitoring. All settings can be configured during installation, UI is not required for operation. C++ runtime is installed with the application.
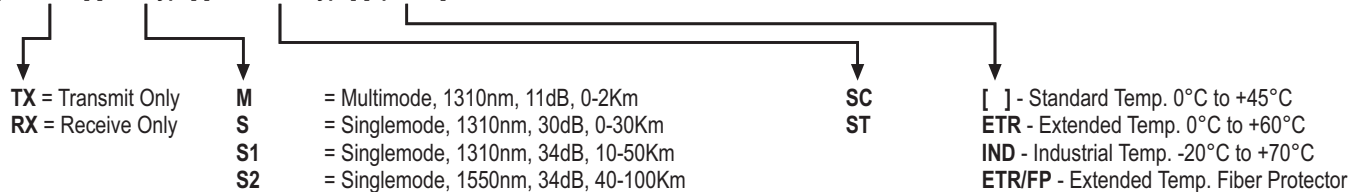
Hardware requirements: Any reasonable WS or Server. A single dedicated NIC is required to connect to the VIT-42 or VIT-400network diodes. A second NIC is required if the machine is also connected to a local LAN.

Ordering Information
VIT-42/__/__/__/__ 100Base-TX to 100Base-FX [direction] transparent A/N converter [fiber type], [connector type], [option], inc VectorIT SW and . EPS.

Ordering terminology
VIT-42/[direction]/[fiber type]/[connector type]/[options]

TX = Transmit Only	**M**	= Multimode, 1310nm, 11dB, 0-2Km	**SC**	**[ ]** - Standard Temp. 0°C to +45°C
RX = Receive Only	**S**	= Singlemode, 1310nm, 30dB, 0-30Km	**ST**	**ETR** - Extended Temp. 0°C to +60°C
	S1	= Singlemode, 1310nm, 34dB, 10-50Km		**IND** - Industrial Temp. -20°C to +70°C
	S2	= Singlemode, 1550nm, 34dB, 40-100Km		**ETR/FP** - Extended Temp. Fiber Protector

Note: for other fiberoptic distances and/or connectors please contact WizLAN representative

Example: **VIT-42/TX/S/ST** 100Base-TX to 100Base-FX transmit only transparent A/N converter (SM, 1310nm, 30dB, 0-30Km, ST) inc. EPS

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